RESULTS

OF THE

MAGNETICAL AND METEOROLOGICAL OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1887:

UNDER THE DIRECTION OF

W. H. M. CHRISTIE, M.A., F.R.S.,
ASTRONOMER ROYAL.

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ERRATA.

MAGNETICAL AND METEOROLOGICAL OBSERVATIONS, 1886.

INTRODUCTION.—Page *xx.*, line 21, *for* $(t^2 - 32)$ *read* $(t - 32)^2$, and page *xxxi*, line 1, make the same correction.

INTRODUCTION.—Page *xxxiii*, line 7, *for* $\overline{(1 + 5 + 13 + 17)}$ *read* $\overline{(1 + 5 + 13 + 17}$.

Page (xxxix). Daily Duration of Sunshine on June 7, *for* 12·0 *read* 11·6.

Page (xli). In foot notes. Maximum daily amount of Sunshine, *for* 13·9 hours on July 1 *read* 14·0 hours on July 5.

Page (xlvii). Daily Duration of Sunshine on October 1, *for* 4·6 *read* 6·0. Mean, *for* 2·0 *read* 2·1. In foot notes. Mean proportion of Sunshine, *for* 0·19 *read* 0·20.

Page (xlix). Daily Duration of Sunshine on November 22, *for* 2·3 *read* 2·9. In foot notes. Mean proportion of Sunshine, *for* 0·10 *read* 0·11.

Page (li). Daily Duration of Sunshine on December 10, *for* 0·6 *read* 1·0.

Page (lviii). Table of Total Amount of Sunshine.

June. Under 10^h, *for* 18·4 *read* 18·2. Under 13^h, *for* 21·3 *read* 21·1. Under Total, *for* 213·0 *read* 212·6.

October. Under 8^h, *for* 1·4 *read* 1·7. Under 11^h, *for* 9·5 *read* 10·2. Under Noon, *for* 9·4 *read* 9·8. Under Total, *for* 63·1 *read* 64·5.

November. Under 11^h, *for* 5·7 *read* 6·0. Under 14^h, *for* 3·7 *read* 4·0. Under Total, *for* 29·3 *read* 29·9.

December. Under 11^h, *for* 4·8 *read* 4·9. Under Noon, *for* 3·4 *read* 3·6. Under 13^h, *for* 4·3 *read* 4·4. Under Total, *for* 15·8 *read* 16·2.

In foot note, *for* 1229·2 *read* 1231·2.

Page (lxxviii). Rain Gauge No. 4. Height of receiving surface, *for* 21 ft. 9 in. *read* 21 ft. 6 in., and *for* 176 ft. 7 in. *read* 176 ft. 4 in.

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Page (xxxiii). Daily Duration of Sunshine on March 10, *for* 1·0 *read* 1·4, and on March 24, *for* 2·3 *read* 3·4. Mean, *for* 2·5 *read* 2·6. In foot notes. Mean proportion of Sunshine, *for* 0·21 *read* 0·22.

Page (xxxv). Daily Duration of Sunshine on April 7, *for* 3·0 *read* 4·0, and on April 18, *for* 4·3 *read* 5·9. Mean, *for* 5·4 *read* 5·5. In foot notes. Mean proportion of Sunshine, *for* 0·39 *read* 0·40.

Page (xxxvii). Daily Duration of Sunshine on May 5, *for* 0·7 *read* 2·0, and on May 7, *for* 1·9 *read* 2·2.

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RESULTS

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1887.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS,

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Introduction.

§ 1. *Personal Establishment and Arrangements.*

During the year 1887 the establishment of Assistants in the Magnetical and Meteorological Department of the Royal Observatory consisted of William Ellis, Superintendent, and William Carpenter Nash, Assistant, aided by four Computers. The Computers employed during the year were, Ernest E. McClellan, Edward Finch, Francis H. W. Hope, and Francis H. Letchford.

Mr. Ellis controls and superintends the whole of the work of the Department. Mr. Nash is charged generally with the instrumental adjustments, the determination of the values of instrumental constants, and the more delicate magnetic observations. He also specially superintends the Meteorological Reductions. The routine magnetical and meteorological observations are in general made by the Computers.

§ 2. *General Description of the Buildings and Instruments of the Magnetical and Meteorological Observatory.*

The Magnetical and Meteorological Observatory was erected in the year 1838. Its northern face is distant about 170 feet south-south-east from the nearest point of the South-East Dome, and about 35 feet south from the carpenters' workshop. On its east stands the New Library (erected at the end of the year 1881), in the construction of which non-magnetic bricks were used, and every care was taken to exclude iron. The Magnetical and Meteorological Observatory is based on concrete and built of wood, united for the most part by pegs of bamboo ; no iron was intentionally admitted in its construction, or in subsequent alterations. Its form is that of a cross, the arms of the cross being nearly in the direction of the cardinal magnetic points as they were in 1838. The northern arm is longer than the others, and is separated from them by a partition, and used as a computing room ; the stove which warms this room, and its flue, are of copper. The remaining portion, consisting of the eastern, southern, and western arms, is known as the Upper Magnet Room. The upper declination magnet and its theodolite, for determination of absolute declination, are placed in the southern arm, an opening in the roof allowing circumpolar stars to be observed by the theodolite for determination of its reading for the astronomical meridian. Both the magnet and its theodolite are supported on piers built from the ground. In the eastern arm is placed the Thomson electrometer for photographic record of the variations of atmospheric electricity, its water cistern rests on four glass insulators supported by a platform fixed to the western side of the southern arm, near the ceiling. The Standard barometer is suspended near the junction of the southern and western arms. The sidereal clock, Grimalde and Johnson, is fixed at the junction of the eastern and southern arms, and there is in addition a mean solar chronometer, McCabe No. 649, for general use. A mean solar clock (Molyneux), transferred from the Astronomical Department, was set up in the northern arm during the year 1883.

Until the year 1863 the horizontal and vertical force magnets were also located in the Upper Magnet Room, the upper declination magnet being up to that time employed for photographic record of the variations of declination, as well as for absolute measure of the element. But experience having shown that the horizontal and vertical force magnets were exposed in the upper room to large variations of temperature, a room known as the Magnet Basement (in which the variations of temperature are very much smaller) was excavated in the year 1864 below the Upper Magnet Room, and the horizontal and vertical force magnets, as well as a new declination magnet for photographic record of declination, were mounted therein. The Magnet Basement is of the same dimensions as the Upper Magnet Room. The lower declination magnet and the horizontal force and vertical force magnets, as now located in the Basement, are used entirely for record of the variations of the respective magnetic elements. The declination magnet is suspended in the southern arm, immediately under the upper declination magnet, to avoid mutual interference ; the horizontal and vertical force magnets are placed in the eastern and western arms respectively, in positions nearly underneath those which they occupied when in the Upper Magnet Room. All are mounted on or suspended from supports carried by piers built from the ground. A photographic barometer is fixed to the northern wall of the Basement, and an apparatus for photographic registration of earth currents is placed near the southern wall of the eastern arm. A mean solar clock of peculiar construction for interruption of the photographic traces at each hour is fixed to the pier which supports the upper declination theodolite. Another mean solar clock is attached to the western wall of the southern arm. For better ascertaining the variations of temperature of the Basement a Richard metallic thermograph was added in February, 1886. It is placed on the pier carrying the horizontal force magnet, and gives a continuous register of temperature on a scale of 5° to 1 inch, the scale for time being 24 hours to $5\frac{1}{3}$ inches. On the northern wall, near the photographic barometer, is fixed the Sidereal Standard clock of the Astronomical Observatory, Dent 1906, communicating with the chronograph and with clocks of the Astronomical Department by means of underground wires. This clock is placed in the Magnet Basement, because of its nearly uniform temperature.

The Basement is warmed when necessary by a gas stove (of copper), and ventilated by means of a large copper tube nearly two feet in diameter, which receives the flues from the stove and all gas-lights and passes through the Upper Magnet Room to a revolving cowl above the roof. Each of the arms of the Basement has a well window facing the south, but these wells are usually closely stopped up with bags packed with straw or jute. In January 1886 a line of 9-inch pipes was laid underground from the Basement southward to a distance of about 155 feet, at which point there is an inlet from the atmosphere, for the purpose of ventilating the Basement by air which has acquired the temperature of the soil at a depth of several feet below the surface, and of thus obtaining greater uniformity of temperature. The depth of the line of pipes below the surface varies from five feet at the inlet in the south ground to 11 feet 6 inches at the entrance to the Basement.

A platform erected above the roof of the Magnet House is used for the observation of meteors. The sunshine instrument and a rain gauge are placed on a table on this platform, and there are also thermometers (placed in a louvre-boarded shed or screen, with free circulation of air) for observation of the temperature of the air in an exposed situation at a height of 20 feet above the ground.

An apparatus for naphthalizing the gas used for the photographic registration is mounted in a small detached zinc-built room adjacent to the computing room on its western side.

The Dip instrument and Deflexion apparatus are placed in the New Library. Each instrument rests on a heavy slate slab supported by strong wooden framework rising from brick work built into the ground.

To the south of the Magnet House, in what is known as the Magnet Ground, is an open shed, consisting principally of a roof supported on four posts, under which is placed the old photographic dry-bulb and wet-bulb thermometer apparatus. On the roof of this shed there is fixed an ozone box and a rain gauge, and close to its north-western corner are placed the earth thermometers, the upper portions of which, projecting above the ground, are protected by a small wooden hut. About 25 feet to the west of the photographic thermometers is situated the revolving stand carrying the thermometers used for ordinary eye observations, and adjacent to the thermometer stand on the north side are three rain gauges. Between the rain gauges and the Magnet House are placed the thermometers for solar and terrestrial radiation; they are laid on short grass, and freely exposed to the sky. A little to the east of the thermometer stand is placed a Stevenson screen containing dry bulb, wet bulb, and maximum and minimum thermometers.

The Magnet Ground is bounded on its south side by a range of seven rooms, known as the Magnet Offices. No 1 is used as a general store room, and in it is placed the Watchman's Clock ; Nos. 2, 3, and 4 are used for photographic purposes in connexion with the Photoheliograph, placed in a dome adjoining No. 3, on its south side ; Nos. 5 and 6 are store rooms ; No. 7 forms an ante-room and means of approach to the Lassell dome.

In the ground south of the Magnet Offices (known as the South Ground) a new photographic dry-bulb and wet-bulb thermometer apparatus was mounted in the year 1885 ; it is generally similar to the old apparatus but with some important modifications, of which an account will be found in the proper Section.

Two Anemometers, Osler's, giving continuous record of direction and pressure of wind and amount of rain, and Robinson's, giving continuous record of velocity, are fixed, the former above the north-western turret of the Octagon Room (the ancient part of the Observatory), the latter above the small building on the roof of the Octagon Room.

On 1883 March 3 the iron tube of the Lassell reflecting telescope was brought into the South Ground, and on March 9 the iron supports of the same. On 1883 December 31 the iron work of the dome was brought into the same ground, and on 1884 June 26 the iron gutter of the dome, in 16 pieces, weighing together about 2 tons 6 cwt. A careful examination of the magnetic registers on each of these occasions shows that no disturbance of the declination, horizontal force, or vertical force magnets was caused by the location of these masses of iron in the South Ground, at a distance of more than 100 feet from the magnets.

In order to determine the effect of a mass of iron on the magnets, experiments were made on 1884 July 2, with 4, 8, 12, and 16 pieces of the gutter respectively, placed at a distance of 25 feet from the declination magnet in a direction south-east (magnetic) from it, so that the maximum effect would be produced. The following are the results for the deflexions of the Upper Declination magnet :—

	Mean Deflexion.	
	′	″
With 4 pieces of the iron gutter - - - -	1	4
„ 8 pieces „ - - - -	2	2
„ 12 pieces „ - - - -	3	12
„ 16 pieces „ - - - -	3	40

Each piece weighs nearly 3 cwt.

As the effect of a mass of iron on a magnet varies as the sine of twice its magnetic azimuth divided by the cube of its distance from the magnet, these experiments show that the deflexion caused by the whole of the iron in the Lassell instrument and dome (which is at a distance of 100 feet and very nearly in the magnetic meridian of the declination magnet) would be quite insensible.

Regular observation of the principal magnetical and meteorological elements was commenced in the autumn of the year 1840, and has been continued, with some additions to the subjects of observation, to the present time. Until the end of the year 1847 observations were in general made every two hours, but at the beginning of the year 1848 these were superseded by the introduction of the method of photographic registration, by which means a continuous record of the various elements is obtained.

For information on many particulars concerning the history of the Magnetical and Meteorological Observatory, especially in regard to alterations not recited in this volume, which have been made from time to time, the reader is referred to the Introduction to the Magnetical and Meteorological Observations for the year 1880 and previous years, and to the Descriptions of the Buildings and Grounds, with accompanying Plans, given in the Volumes of Astronomical Observations for the years 1845 and 1862.

§ 3. *Subjects of Observation in the year* 1887.

The observations comprise determinations of absolute magnetic declination, horizontal force, and dip; continuous photographic record of the variations of declination, horizontal force, and vertical force, and of the earth currents indicated in two distinct lines of wire; eye observations of the ordinary meteorological instruments, including the barometer, dry and wet bulb thermometers, and radiation and earth thermometers, and of thermometers placed on the roof of the Magnet House; continuous photographic record of the variations of the barometer, dry and wet bulb thermometers, and electrometer (for atmospheric electricity); continuous automatic record of the direction, pressure, and velocity of the wind, and of the amount of rain; registration of the duration of sunshine, and amount of ozone; observations of some of the principal meteor showers; general record of ordinary atmospheric changes of weather, including numerical estimation of the amount of cloud, and occasional phenomena.

From the beginning of the year 1885, Greenwich civil time, reckoning from midnight to midnight and counting from 0 to 24 hours, has been employed throughout both sections. In previous years the time used throughout the magnetic section was Greenwich astronomical time, reckoning from noon to noon; and generally, in the meteorological section, Greenwich civil time, reckoning from midnight to midnight.

§ 4. *Magnetic Instruments.*

UPPER DECLINATION MAGNET AND ITS THEODOLITE.—The upper declination magnet, employed solely for the determination of absolute declination, is by Meyerstein of Göttingen: it is a bar of hard steel, 2 feet long, $1\frac{1}{2}$ inch broad, and about $\frac{1}{4}$ inch thick, attached by a pinching screw to the magnet carrier, also by Meyerstein, but since altered by Troughton and Simms. To a stalk extending upwards from the magnet carrier is attached the torsion circle, which consists of two circular brass discs, one turning independently of the other on their common vertical axis, the lower and graduated portion being firmly fixed to the stalk of the magnet carrier; to the upper portion carrying the vernier is attached, by a hook, the suspension skein. This is of silk, and consists of several fibres united by juxtaposition, without apparent twist; its length is about 6 feet.

The magnet, with its suspending skein, &c., is carried by a braced wooden tripod stand, whose feet, passing through holes cut in the floor, rest on slates covering brick piers, built from the ground and rising through the Magnet Basement nearly to its ceiling. The upper end of the suspension skein is attached to a short square wooden rod, sliding in the corresponding square hole of a fixed wooden bracket. To the upper end of the rod is fixed a leather strap, which passing over two brass pulleys carried by the upper portion of the tripod stand, is attached to a cord which passes down to a small windlass fixed to the stand. Thus in raising or lowering the magnet, an operation necessary in determinations of its collimation error, no alteration is made in the length of the suspension skein. The magnet is inclosed in a double rectangular wooden box (one box within another), both boxes being covered externally and internally with gilt paper, and having holes at their south and north ends, for illumination of the magnet-collimator and for viewing the collimator with the theodolite telescope respectively. The holes in the outer box are covered with glass. The magnet-collimator is formed by a diagonally placed cobweb cross, and a lens of 13 inches focal length and nearly 2 inches aperture, carried by two sliding frames fixed by pinching screws to the south and north arms of the magnet respectively. The cobweb cross is in the principal focus of the lens, and its image in the theodolite telescope is well seen. From the lower side of the magnet carrier a rod extends downwards, terminating below the magnet box in a horizontal brass bar immersed in water, for the purpose of checking small vibrations of the magnet.

The theodolite, by which the position of the upper declination magnet is observed, is by Troughton and Simms. It is planted about 7 feet north of the magnet. The radius of its horizontal circle is 8·3 inches, and the circle is divided to 5′, and read, by three verniers, to 5″. The theodolite has three foot-screws, which rest in brass channels let into the stone pier placed upon the brick pier which rises from the ground through the Magnet Basement. The length of the telescope is 21 inches, and the aperture of its object glass 2 inches: it is carried by a horizontal transit axis $10\frac{1}{2}$ inches long, supported on Y's carried by the central vertical axis of the theodolite. The eye-piece has one fixed horizontal wire and one vertical wire moved by a micrometer-screw, the field of view in the observation of stars being illuminated through the pivot of the transit-axis on that side of the telescope which carries the micrometer-head. The value of one division of the striding level is considered to be equal to 1″·05. The opening in the roof of the Magnet House permits of observation of circumpolar stars as high as δ Ursæ Minoris above the pole and as low as β Cephei below the pole. A fixed mark, consisting of a small hole in a plate of metal, placed on one of the buildings of the Astronomical Observatory, at a distance of about 270 feet from the theodolite, affords an additional check on its continued steadiness.

The inequality of the pivots of the axis of the theodolite telescope was found from several independent determinations made at different times to be very small. It appears that when the level indicates the axis to be horizontal the pivot at the illuminated end of the axis is really too low by $1^{\text{div}}\cdot3$, equivalent to 1″·4.

The value in arc of one revolution of the telescope-micrometer is 1′. 34″·2.

The reading for the line of collimation of the theodolite telescope was found, by five double observations, 1887 March 2, to be $100^{\text{r}}\cdot279$, and by ten double observations, 1887 December 8, $100^{\text{r}}\cdot309$. The value used throughout the year 1887 was $100^{\text{r}}\cdot294$.

The effect of the plane glass in front of the outer box of the declination-magnet at that end of the box towards the theodolite was determined by ten double observations made on 1885 December 8, which showed that in the ordinary position of the glass the theodolite readings were diminished by 18″·4. Each of two other sets of observations, made on 1886 November 3 and 1887 December 8, gave the value 20″·3. The mean of these, 19″·7 has been added to all readings throughout the year 1887.

The error of collimation of the magnet collimator is found by observing the position of the magnet, first with its collimator in the usual position (above the magnet), then with the collimator reversed (or with the magnet placed in its carrier with the collimator below), repeating the observations several times. The value used during the year 1887 was 26′. 2″·7, being the mean of determinations made on 1883 December 13, 1884 December 12, 1885 December 18, 1886 November 10, and 1887 December 8, giving respectively 25′. 53″·5, 26′. 2″·9, 26′. 4″·3, 26′. 3″·5, and 26′. 9″·5. With the collimator in its usual position, above the magnet, the quantity 26′. 2″·7 has been subtracted from all readings.

The effect of torsion of the suspending skein is eliminated by turning the lower portion of the torsion-circle until a brass bar (of the same size as the magnet, and weighted with lead weights to be also of equal weight), inserted in place of the magnet, rests in the plane of the magnetic meridian. In consequence of the brass bar showing some extremely slight traces of magnetism it was discarded in October 1887, and an oak bar, loaded with lead to be equal in weight to the magnet, was afterwards used. The bar is thus inserted usually about once a month, and whenever the adjustment is found not to have been sufficiently close, the observed positions of the magnet are corrected for displacement of the magnet from the meridian by the torsion of the skein. Such correction is determined experimentally, with the magnet in position, by changing the reading of the torsion-circle by a definite amount, usually 90°, thus giving the skein that amount of azimuthal twist, and observing, with the theodolite, the change in the position of the magnet thereby produced, from which is derived the ratio of the couple due to torsion of the skein to the couple due to the earth's horizontal magnetic force. With the skein at present in use this ratio was, on 1882 September 13, found to be $\frac{1}{126}$, on 1883 December 12, $\frac{1}{137}$, on 1884 December 12, $\frac{1}{132}$, on 1885 December 10, $\frac{1}{137}$, on 1886 November 10, $\frac{1}{146}$, and on 1887 December 8, $\frac{1}{133}$. During the year 1887 the plane in which the suspension skein was free from torsion so nearly coincided with the magnetic meridian, that no correction of the absolute measures of magnetic declination for deviation of the plane of no torsion was at any time required.

The time of vibration of the upper declination magnet under the influence of terrestrial magnetism was found on 1880 December 29 to be $30^s\cdot78$, on 1881 September 9, $31^s\cdot30$, on 1882 September 14, $31^s\cdot20$, on 1883 December 13, $31^s\cdot15$, on 1884 December 11, $31^s\cdot17$, on 1885 December 18, $31^s\cdot15$, on 1886 November 10, $31^s\cdot01$, and on 1887 December 8, $30^s\cdot89$.

The reading of the azimuthal circle of the theodolite corresponding to the astronomical meridian is determined about once in each month by observation of the stars Polaris or δ Ursæ Minoris. The fixed mark is usually observed weekly. The concluded mean reading of the circle for the south astronomical meridian (deduced entirely from the observations of the polar stars), used throughout the year was 27°. 6′. 19″·5.

In regard to the manner of making observations with the upper declination magnet:—The observer on looking into the theodolite telescope sees the image of the diagonal cross of the magnet collimator vibrating alternately right and left. The time of vibration of the magnet being about 30 seconds, he first applies his eye to the telescope about one minute, or two vibrations, before the pre-arranged time of observation, and, with the vertical wire carried by the telescope-micrometer, bisects the magnet-cross at its next extreme limit of vibration, reading the micrometer. He similarly observes the next following extreme vibration, in the opposite direction, and so on, taking in all four readings. The mean of each pair of adjacent readings of the micrometer is taken, giving three means, and the mean of these three is adopted. In practice this is done by adding the first and fourth readings to twice the second and third, and dividing the sum by 6. Should the magnet be nearly free from vibration, two bisections only of the cross are made, one at the vibration next before the pre-arranged time, the other at the vibration following. The verniers of the theodolite-circle are then read. The excess of the adopted micrometer-reading above the reading for the line of collimation of the telescope being converted into arc and applied to the mean circle-reading, and also the corrections for collimation of the magnet and for collimation of the plane glass in front of its box, the concluded circle-reading corresponding to the position of the magnet is found. The difference between this reading and the adopted reading of the circle for the south astronomical meridian gives, when, as is usually the case, no correction for torsion of the skein is necessary, the observed value of absolute declination, afterwards used for determining the value of the photographed base line on the photographic register of the lower declination magnet. The times of observation of the upper declination magnet are usually $9^h. 5^m$, $13^h. 5^m$, $15^h. 5^m$, and $21^h. 5^m$ of Greenwich civil time, reckoning from midnight.

LOWER DECLINATION MAGNET.—The lower declination magnet is used simply for the purpose of obtaining photographic register of the variations of magnetic declination. It is by Troughton and Simms, and is of the same dimensions as the upper declination magnet, being 2 feet long, $1\frac{1}{2}$ inch broad, and $\frac{1}{4}$ inch thick. The magnet is suspended, in the Magnet Basement, immediately below the upper declination magnet, in order that the absolute measure of declination by the upper magnet should not be affected by the proximity of the lower magnet.

The manner of suspension of the magnet is in general similar to that of the upper declination magnet, the suspension pulleys being carried by a small pier built on one of the crossed slates resting on the brick piers rising from the ground. The length of free suspending skein is about 6 feet, but, unlike the arrangement adopted for the upper magnet, the skein is itself carried over the suspension pulleys. The position of the azimuthal plane in which the brass bar rests, when substituted for the magnet, is examined from time to time, and adjustment made as necessary, to keep this plane in or near the magnetic meridian, such exact adjustment as is required for the upper declination-magnet not being necessary in this case.

To destroy the small accidental vibrations to which the magnet would be otherwise liable, it is encircled by a damper consisting of a copper bar, about 1 inch square, which is bent into a long oval form, the plane of the oval being vertical; a lateral bend is made in the upper bar of the oval to avoid interference with the suspension piece of the magnet. The effect of the damper is to reduce the amplitude of the oscillation after every complete or double vibration of the magnet in the proportion of 5 : 2 nearly.

In regard to photographic arrangements, it may be convenient, before proceeding to speak of the details peculiar to each instrument, to remark that the general principle adopted for obtaining continuous photographic record is the same for all instruments. For the register of each indication a cylinder of ebonite is provided, the axis of the cylinder being placed parallel to the direction of the change of indication to be registered. If, as is usually the case, there are two indications whose movements are in the same direction, both may be registered on the same cylinder: thus the movements in the case of magnetic declination and horizontal magnetic force, being both horizontal, can be registered on different parts of one cylinder with axis horizontal: so also can two different galvanic earth currents. The movements in the case of vertical magnetic force, and of the barometer, being both vertical, can similarly be registered on different parts of one cylinder having its axis vertical, as also can the indications of the dry-bulb and wet-bulb thermometers. In the electrometer the movement being horizontal, a horizontal cylinder is provided.

The cylinder is in each case driven by chronometer or accurate clock-work to ensure uniform motion. The pivots of the horizontal cylinders turn on anti-friction wheels: the vertical cylinders rest each on a circular plate turning on anti-friction wheels, the driving mechanism being placed below. A sheet of sensitized paper being wrapped round the cylinder, and held by a slender brass clip, the cylinder thus prepared is placed in position, and connected with the clock-movement: it is then ready to receive the photographic record, the optical arrangements for producing which will be found explained in the special description of each particular instrument. The sheets are removed from the cylinders and fresh sheets supplied every day, usually at noon. On each sheet, a reference line is also photographed, the arrangements for which will be more particularly described in each special case. All parts of the apparatus and all parts of the paths of light are protected, as found necessary, by wood or zinc casings or tubes, blackened on the inside, in order to prevent stray light from reaching the photographic paper.

In June 1882 the photographic process employed for so many years was discarded, and a dry paper process introduced, the argentic-gelatino-bromide-paper, as prepared by Messrs. Morgan and Kidd of Richmond (Surrey), being used with ferrous oxalate development. The greater sensitiveness of this paper permits diminution of the effective surface of the magnet mirrors, and allows also the use of smaller gas flames. In the case of the vertical force magnet the old and comparatively heavy mirror has been replaced by a small and light mirror with manifest advantage, as will be seen in the description of the vertical force magnet. The new paper acts equally well at all seasons of the year, and any loss of register on account of photographic failure is now extremely rare.

Referring now specially to the lower declination magnet, there is attached to the magnet carrier, for the purpose of obtaining photographic register of the motions of the magnet, a concave mirror of speculum metal, 5 inches in diameter (reduced by a stop, on the introduction of the new photographic paper, to an effective diameter of about 1 inch), which thus partakes in all the angular movements of the magnet. The revolving ebonite cylinder is $11\frac{1}{2}$ inches long and $14\frac{1}{4}$ inches in circumference: it is supported, in an approximately east and west position, on brass uprights carried by a metal plate, the whole being planted on a firm wooden platform, the supports of which rest on blocks driven into the ground. The platform is placed midway between the declination and horizontal force magnets, in order that the variations of magnetic declination and horizontal force may both be registered on the same cylinder, which makes one complete revolution in 26 hours.

The light used for obtaining the photographic record is that given by a flame of coal gas, charged with the vapour of coal naphtha. A vertical slit about $0^{in}\cdot3$ long and $0^{in}\cdot01$ wide, placed close to the light, is firmly supported on the pier which carries the magnet. It stands slightly out of the straight line joining the mirror of the magnet and the registering cylinder, and its distance from the mirror is about 25 inches. The distance of the axis of the registering cylinder from the mirror is 134·4 inches. Immediately above the cylinder, and parallel to its axis, are placed two long reflecting prisms (each 11 inches in length) extending from end to end of the cylinder and facing opposite ways towards the mirrors carried by the declination and horizontal force magnets respectively. The front surface of each prism is convex, being a portion of a horizontal cylinder. The light of the declination lamp, after passing through the vertical slit, falls on the concave mirror, and is thence reflected as a converging beam to form an image of the slit on the convex surface of the reflecting prism, by the action of which it is reflected downwards to the paper on the cylinder as a small spot of light. The concave mirror can be so adjusted in azimuth on the magnet that the spot shall fall not at the centre of the cylinder but rather towards its western side, in order that the declination trace shall not interfere with that of horizontal force, which is made to fall towards the eastern side of the cylinder. The special advantage of the arrangement here described is that the registers of both magnets are made at the same part of the circumference of the cylinder, a line joining the two spots being parallel to its axis, so that when the traces on the paper are developed, the parts of the two registers which appear in juxtaposition correspond to the same Greenwich time.

By means of a small prism, fixed near the registering cylinder, the light from another lamp is made to form a spot of light on the cylinder in a fixed position, so that, as the cylinder revolves, a reference or base line is traced out on the paper, from which, in the interpretation of the records, the ordinates are measured.

A clock of special construction, arranged by Messrs. E. Dent and Co., acting upon a small shutter placed near the declination slit, cuts off the light from the mirror two minutes before each hour, and admits it again two minutes after the hour, thus producing at each hour a visible interruption in the trace, and so ensuring accuracy as regards time scale. By means of another shutter the observer occasionally cuts off the light for a few minutes, registering the times at which it was cut off and admitted again. The visible interruptions thus made at definite times in the trace obviate any possibility of error being made by wrong numeration of the hourly breaks.

The usual hour of changing the photographic sheet is noon, but on Sundays, and occasionally on other days, this rule is not strictly followed. To obviate any uncertainty that might arise on such occasions from the interference of the two ends of a trace slightly longer than 24 hours, it has been arranged that one revolution of the cylinder should be made in 26 hours. The actual length of 24 hours on the sheet is about 13·3 inches.

The scale for measurement of ordinates of the photographic curve is thus determined. The distance from the concave mirror to the surface of the cylinder, in the actual path of the ray of light through the prism, is practically the same as the horizontal distance of the centre of the cylinder from the mirror, 134·4 inches. A movement of 1° of the mirror produces a movement of 2° in the reflected ray. From this it is found that 1° of movement of the mirror, representing a change of 1° of magnetic declination, is equal to 4·691 inches on the photographic paper. A small strip of cardboard is therefore prepared, graduated on this scale to degrees and minutes. The ordinates of the curve as referred to the base line being measured for the times at which absolute values of declination were determined by the upper declination magnet, usually four times daily, the apparent value of the base line, as inferred from each observation, is found.

The process assumes that the movements of the upper and lower declination magnets are precisely similar. The separate base line values being divided into groups, usually monthly, a mean base line value is adopted for use through each group. This adopted base line value is written upon every sheet. Then, with the cardboard scale, there is laid down, conveniently near to the photographic trace, a new base line, whose ordinate represents some whole number of degrees or other convenient quantity. Thus every sheet carries its own scale of magnetic measure. From the new base line the hourly ordinates (see page *xxx*) are measured.

On 1887 May 31 the suspension skein of the magnet gave way: it was replaced by a new one, and registration recommenced on June 2.

HORIZONTAL FORCE MAGNET.—The horizontal force magnet, for measure of the variations of horizontal magnetic force, was made by Meyerstein of Göttingen, and like the two declination magnets, is 2 feet long, $1\frac{1}{2}$ inch broad, and about $\frac{1}{4}$ inch thick. For support of its suspension skein the back and sides of its brick pier rise through the eastern arm of the Magnet Basement to the upper Magnet Room, being there covered by a slate slab, to the top of which a brass plate is attached, carrying, immediately above the magnet, two brass pulleys, with their axes in the same east and west line; and at the back of the pier, and opposite to these pulleys, two others, with their axes similarly in an east and west line: these constitute the upper suspension piece, and support the upper portions of the two branches of the suspension skein. The two lower pulleys, having their axes in the same horizontal plane, and their grooves in the same vertical plane, are attached to a small horizontal bar which forms the upper portion of the torsion circle: it carries the verniers for reading the torsion circle, and can be turned independently of the lower and graduated portion of the torsion circle, below which, and in rigid connexion with it, is the magnet carrier.

The suspension skein is led under the two pulleys carried by the upper portion of the torsion circle, its two branches then rise up and pass over the front pulleys of the upper suspension piece, thence to and over the back pulleys, thence descending to a single pulley, round which the two branches are tied: from this pulley a cord goes to a small windlass fixed to the back of the pier. The effective length of each of the two branches of the suspension skein is about $7^{ft}\ 6^{in}$. The distance between the branches of the skein, where they pass over the upper pulleys, is $1^{in}\cdot 14$: at the lower pulleys the distance between the branches is $0^{in}\cdot 80$. The two branches are not intended to hang in one plane, but are to be so twisted that their torsion will maintain the magnet in a direction very nearly east and west magnetic, the marked end being west. In this state an increase of horizontal magnetic force draws the marked end of the magnet towards the north, whilst a diminution of horizontal force allows the marked end to recede towards the south under the influence of torsion. An oval copper bar, exactly similar to that used with the lower declination magnet, is applied also to the horizontal force magnet, for the purpose of diminishing the small accidental vibrations.

Below the magnet carrier there is attached a small plane mirror to which is directed a small telescope for the purpose of observing by reflexion the graduations of a horizontal opal glass scale, attached to the southern wall of the eastern arm of the basement. The magnet, with its plane mirror, hangs within a double rectangular box, covered with gilt paper in the same way as was described for the upper declination magnet. The numbers of the fixed scale increase from east to west, so that when the magnet is inserted in its usual position, with its marked end towards the west, increasing readings of the scale, as seen in the telescope, denote increasing horizontal force. The normal to the scale that meets the centre of the plane mirror is situated at the division 51 of the scale nearly, the distance of the scale from the centre of the plane mirror being 90·84 inches. The angle between the normal to the scale, which coincides nearly with the normal to the axis of the magnet, and the axis of the fixed telescope is about 38°, the plane of the mirror being therefore inclined about 19° to the axis of the magnet.

To adjust the magnet so that it shall be truly transverse to the magnetic meridian, which position is necessary in order that the indications of the instrument may apply truly to changes in the magnitude of horizontal magnetic force, without regard to changes of direction, the time of vibration of the magnet and the reading of the fixed scale are determined for different readings of the torsion circle. In regard to the interpretation of such experiments the following explanation may be premised.

Suppose that the magnet is suspended in its carrier with its marked end in a magnetic westerly direction, not exactly west but in any westerly direction, and suppose that, by means of the fixed telescope, the reading of the scale is taken. The position of the axis of the magnet is thereby defined. Now let the magnet be taken out of its carrier, and replaced with its marked end easterly. The terrestrial magnetic force will now act, as regards torsion, in the direction opposite to that in which it acted before, and the magnet will take up a different position. But by turning the torsion-circle so as to reverse the direction of the torsion produced by the oblique tension of the two branches of the suspending skein, the magnet may be made to take the same position as before but with poles reversed, which will be proved by the reading of the scale, as seen in the fixed telescope, being the same. We thus obtain two readings of the torsion circle corresponding to the same direction of the magnet axis, but with the marked end opposite ways, without however possessing any information as to whether the magnet axis is accurately transverse to the magnetic meridian, inasmuch as the same operation can be performed whether the magnet axis be transverse or not.

But there is another observation which will indicate whether the magnet axis is or is not accurately transverse. Let, in addition, the time of vibration be taken in each position of the magnet. Resolve the terrestrial magnetic forces acting on the poles of the magnet each into two parts, one transverse to the magnet, the other longitudinal. In the two positions of the magnet, marked end westerly and marked end easterly, the magnitude of the transversal force is the same, and the changes which the torsion undergoes in a vibration of given extent are the same, and, if there were no other force, the time of vibration would also be the same. But there is another force, the longitudinal force, and when the marked end is northerly this tends from the centre of the magnet's length, and when it is southerly it tends towards the centre of the magnet's length, and in a vibration of given extent this force, in one case increases that due to the torsion, and in the other case diminishes it. The times of vibration will therefore be different. There is only one exception to this, which is when the magnet axis is transverse to the magnetic meridian, in which case the longitudinal force vanishes, and the times of vibration in both positions of the magnet become the same.

The criterion then of the position truly transverse to the meridian is this. Find the readings of the torsion circle which, with the magnet in reversed positions, will give the same readings of the scale and the same time of vibration for the magnet. With such readings of the torsion circle the magnet is, in either position, transverse to the meridian, and the difference of circle-readings is the difference between the position in which the terrestrial magnetism acting on the magnet twists it one way and the position in which the same force twists it the opposite way, and is therefore double of the angle of torsion of the suspending lines for which, in either position, the force of terrestrial magnetism is neutralized by the torsion.

The present suspension skein was mounted on 1880 December 30. On 1886 December 31 the following observations were made for determination of the angle of torsion :—

1886, Day.	The Marked End of the Magnet.							
	West.				East.			
	Torsion-Circle Reading.	Scale Reading.	Difference of Scale Readings for change of 1° of Torsion-Circle Reading.	Mean of the Times of Vibration.	Torsion-Circle Reading.	Scale Reading.	Difference of Scale Readings for change of 1° of Torsion-Circle Reading.	Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
Dec. 31	145	48·62		21·24	229	48·69		20·52
			8·22				7·16	
	146	56·84		21·02	230	55·85		20·70
			8·22				7·99	
	147	65·06		20·76	231	63·84		20·94

From these observations it appeared that the times of vibration and scale readings were sensibly the same when the torsion circle read 146°. 35′, marked end west, and 230°. 43′, marked end east, the difference being 84°. 8′. Half this distance, or 42°. 4′, is therefore the angle of torsion when the magnet is transverse to the meridian. The value found from another set of observations made on 1887 December 31 was 42°. $2\frac{1}{2}$′. The value adopted in the reduction of the observations during the year 1887 was 42°. 0′.

The adopted reading of torsion-circle, for transverse position of the magnet, the marked end being west, was 146° throughout the year.

The angle through which the magnet turns to produce a change of one division of scale reading, and the corresponding variation of horizontal force in terms of the whole horizontal force, is thus found.

The length of $30^{div}\cdot85$ of the fixed scale is exactly 12 inches, and the distance of the centre of the face of the plane mirror from the scale 90·84 inches ; consequently the angle at the mirror subtended by one division of the scale is 14′. 43″·2, or for change of one division of scale-reading the magnet is turned through an angle of 7′. 21″·6.

The variation of horizontal force, in terms of the whole horizontal force, producing angular motion of the magnet corresponding to change of one division of scale reading = cotan. angle of torsion × value of one division in terms of radius. Using the numbers above given, the change of horizontal force corresponding to change of one division of scale-reading was found to be 0·002378, which value has been used throughout the year 1887 for conversion of the observed scale-readings into parts of the whole horizontal force.

In regard to the manner of making observations with the horizontal force magnet. A fine vertical wire is fixed in the field of view of the observing telescope, across which the graduations of the fixed scale, as reflected by the plane mirror carried by the magnet, are seen to pass alternately right and left as the magnet oscillates, and the scale reading for the extreme points of vibration is easily taken. The hours of observation are usually 9^h, 13^h, 15^h, and 21^h of Greenwich civil time (reckoning from midnight). Remarking that the time of vibration of the magnet is about 20 seconds, and that the observer looks into the telescope about 40 seconds before the pre-arranged time, the manner of making the observation is generally similar to that already described for the upper declination magnet.

A thermometer, the bulb of which reaches considerably below the attached scale, is so planted in a nearly upright position on the outer magnet box that the bulb projects into the interior of the inner box containing the magnet. Readings of this thermometer are usually taken at 9^h, 10^h, 11^h, 12^h, 13^h, 14^h, 15^h, and 21^h, Greenwich civil time. An index correction of — 0°·3, has been applied to all readings.

The photographic record of the movements of the horizontal force magnet is made on the same revolving cylinder as is used for record of the motions of the lower declination magnet. And as described for that magnet, there is also attached to the carrier of the horizontal force magnet a concave mirror, 4 inches in diameter, reduced by a stop (on the introduction of the new photographic paper) to an effective diameter of about 1 inch. The arrangements as regards lamp, slit, and other parts are precisely similar to those for the lower declination magnet already described, and may be perfectly understood by reference to that description (pages *xiii* and *xiv*), in which was incidentally included an explanation of some parts specially referring to register of horizontal force. The distance of the vertical slit from the concave mirror of the magnet is about 21 inches, and the distance of the axis of the registering cylinder from the concave mirror is 136·8 inches, the slit standing slightly out of the straight line joining the mirror and the registering cylinder. The same base line is used for measure of the horizontal force ordinates, and the register is similarly interrupted at each hour by the clock, and occasionally by the observer, for determination of time scale, the length of which is of course the same as that for declination.

The scale for measure of ordinates of the photographic curve is thus constructed. The distance from the concave mirror to the surface of the cylinder, in the actual path of the ray of light through the prism is (as for declination) practically the same as the horizontal distance of the centre of the cylinder from the mirror, or 136·8 inches. But, because of the reflexion at the concave mirror, the double of this measure, or 273·6 inches, is the distance that determines the extent of motion on the cylinder of the spot of light, which, in inches, for a change of 0·01 part of the whole horizontal force will therefore be 273·6 × tan. angle of torsion × 0·01. Taking for angle of torsion 42°. 0′ the movement of the spot of light on the cylinder for a change of 0·01 of horizontal force is thus found to be 2·464 inches, and with this unit the cardboard scale for measure of the ordinates was prepared. The ordinates being measured for the times at which eye observations of the scale were made, combination of the measured ordinates with the observed scale readings converted into parts of the whole horizontal force, gives an apparent value of the base line for each observation. These being divided into groups, mean base line values are adopted, written on the sheets, and new base lines laid down, from which the hourly ordinates (see page *xxx*) are measured, exactly in the same way as described for declination.

The indications of horizontal force are in a slight degree affected by the small changes of temperature to which the Magnet Basement is subject. The temperature coefficient of the magnet was determined by artificially heating the Magnet Basement to different temperatures, and observing the change of position of the magnet thereby produced. This process seems preferable to others in which was observed the effect which the magnet, when enclosed within a copper trough or box and artificially heated by hot water or hot air to different temperatures, produced on another suspended magnet, since the result obtained includes the entire effect of temperature upon all the various parts of the mounting of the magnet, as well as on the magnet itself. Referring to previous volumes for details, it is sufficient here to state that from a series of experiments made between January 3 and February 21 of the year 1868 on the principle mentioned, in temperatures ranging from 48°·2 to 61°·5, it appeared that when the marked end of the horizontal force magnet was to the west (its ordinary position) a change of 1° of temperature (Fahrenheit) produced an apparent change of ·000174 of the whole horizontal force, a smaller number of observations made with the marked end of the magnet east, in temperatures ranging from 49°·0 to 60°·9, indicating that a change of 1° of temperature produced an apparent change of ·000187 of horizontal force, increase of temperature in both cases being accompanied by decrease of magnetic force. It was concluded that an increase of 1° of temperature produces an apparent decrease of ·00018 of horizontal force. In the years 1885 and 1886 further observations on the same general plan were made, with the result that the decrease of horizontal force for increase of 1° of temperature was found to be somewhat greater at the higher than at the lower temperatures. A discussion of all the observations taken in 1885 and 1886, details of which are given at the end of the Introduction for 1886, shows that the correction for reduction to temperature 32° (expressed in terms of the horizontal force) is $(t-32) \times {}\cdot0000936 + (t-32)^2 \times {}\cdot000002074$ in which t is the temperature in degrees Fahrenheit. The decrease of horizontal force for an increase of 1° of temperature (Fahrenheit) would thus be ·00021 at 60°, ·00023 at 65°, and ·00025 at 70°.

VERTICAL FORCE MAGNET.—The vertical force magnet, for measure of the variations of vertical magnetic force, is by Troughton and Simms. It is 1 ft. 6 in. long and lozenge shaped, being broad at the centre and pointed at the ends; it is mounted on a solid brick pier capped with stone, situated in the western arm of the basement, its position being nearly symmetrical with that of the horizontal force magnet in the eastern arm. The supporting frame consists of two pillars, connected at their bases, on whose tops are the agate planes upon which rest the extreme parts of the continuous steel knife edge, attached to the magnet carrier by clamps and pinching screws. The knife edge, eight inches long, passes through an aperture in the magnet. The axis of the magnet is approximately transverse to the magnetic meridian, its marked end being east; its axis of vibration is thus nearly north and south magnetic. The magnet carrier is of iron; at its southern end there is fixed a small plane mirror for use in eye observations, whose plane makes with the vertical plane through the magnet an angle of $52\frac{3}{4}$° nearly. A telescope fixed to the west side of the brick pier supporting the theodolite of the upper declination magnet is directed to the mirror, for observation by reflexion of the divisions of a vertical opal glass scale fixed to the pier that carries the telescope, very near to the telescope itself. The numbers of this fixed scale increase downwards, so that when the magnet is placed in its usual position with the marked end east, increasing readings of the scale, as seen in the telescope, denote increasing vertical force.

The magnet is placed excentrically between the bearing parts of its knife edge, nearer to the southern side, leaving a space of about four inches in the northern part of the iron frame, in which the concave mirror used for the photographic register is planted. Two screw stalks, carrying adjustable screw weights, are fixed to the magnet carrier, near its northern side; one stalk is horizontal, and a change in the position of the weight affects the position of equilibrium of the magnet; the other stalk is vertical, and change in the position of its weight affects the delicacy of the balance, and so varies the magnitude of its change of position produced by a given change in the vertical force of terrestrial magnetism.

In the year 1882 Messrs. Troughton and Simms substituted for the old mirror of 4 inches diameter a much lighter mirror of 1 inch diameter, and also lowered the position of the knife-edge bar with respect to the magnet so as to permit of a diminution of the adjustable counterpoise weights which as well as the mirror appear to largely affect the temperature correction of this balance-magnet. The use of a smaller and much lighter mirror was rendered possible by the much greater sensitiveness of the new photographic paper introduced in 1882 June.

The whole is enclosed in a rectangular box, resting upon the pier before mentioned, and having apertures, covered with glass, opposite to the two mirrors carried by the magnet.

The time of vibration of the magnet in the vertical plane is observed usually about once in each week. From 43 observations made during the course of the year this was found to be $18^{s}\cdot389$.

The time of vibration of the magnet in the horizontal plane is determined by suspending the magnet with all its attached parts from a tripod stand, its broad side being in a plane parallel to the horizon, so that its moment of inertia is the same as when in observation. A telescope, with a wire in its focus, being directed to the plane mirror carried by the magnet, a scale of numbers is placed on the floor, at right angles to the long axis of the magnet, so as to be seen, by reflexion, in the fixed telescope. The magnet is observed only when swinging through a small arc.

Observations made in the way described on 1888 January 3 gave for the time of vibration of the magnet in the horizontal plane, $16^{s}\cdot930$. This value has been used throughout the year 1887.

The length of the normal to the fixed vertical scale that meets the face of the plane mirror is 186·07 inches, and $30^{div}\cdot85$ of the scale correspond to 12 inches. Consequently the angle which one division of the scale subtends, as seen from the mirror, is $7'. 11''\cdot2$, or the angular movement of the normal to the mirror, corresponding to a change of one division of scale reading, is $3'. 35''\cdot6$.

But the angular movement of the normal to the mirror is equal to the angular movement of the magnet multiplied by the sine of the angle which the plane of the mirror makes with a vertical plane through the magnet. This angle, as already stated, is $52\frac{3}{4}^{\circ}$, therefore dividing the result just obtained, $3'. 35''\cdot6$, by Sin. $52\frac{3}{4}^{\circ}$, the angular motion of the magnet corresponding to a change of one division of scale reading is found to be $4'. 30''\cdot9$.

The variation of vertical force, in terms of the whole vertical force, producing angular motion of the magnet corresponding to a change of one division of scale reading = cotan. dip $\times \left(\frac{T'}{T}\right)^2 \times$ value of one division in terms of radius, in which T' is the time of vibration of the magnet in the horizontal plane, and T that in the vertical plane. Assuming $T' = 16^{s}\cdot930$, $T = 18^{s}\cdot389$, and dip $= 67^{\circ}. 26\frac{1}{2}'$, the change of vertical force corresponding to change of one division of scale reading was found to be 0·00046244, and this value has been used throughout the year for conversion of the observed scale readings into parts of the whole vertical force.

The hours of observation of the vertical force magnet are the same as those for the horizontal force magnet, and the method of observation is precisely similar, the time of vertical vibration being substituted for that of horizontal. The wire in the fixed telescope is here horizontal, and as the magnet oscillates the divisions of the scale are seen to pass upwards and downwards in the field of view.

As in the case of the horizontal force magnet a thermometer is provided whose bulb projects into the interior of the magnet box. Readings are taken usually at 9^{h}, 10^{h}, 11^{h}, 12^{h}, 13^{h}, 14^{h}, 15^{h}, and 21^{h}, Greenwich civil time. An index correction of $-0^{\circ}\cdot4$, has been applied to all readings.

The photographic register of the movements of the vertical force magnet is made on a cylinder of the same size as that used for declination and horizontal force, driven also by chronometer movement. The cylinder is here placed vertical instead of horizontal, and the variations of the barometer are also registered on it. The slit is horizontal, and other arrangements are generally similar to those already described for declination and horizontal force. The concave mirror carried by the magnet is

1 inch in diameter, and the slit is distant from it about 22 inches, being placed a little out of the straight line joining the mirror and the registering cylinder. There is a slight deviation in the further optical arrangements. Instead of falling on a reflecting prism (as for declination and horizontal force) the converging horizontal beam from the concave mirror falls on a system of plano-convex cylindrical lenses, placed in front of the cylinder, with their axes parallel to that of the cylinder. The trace is made on the western side of the cylinder, the position of the magnet being so adjusted that the spot of light shall fall on the lower part of the sheet to avoid interference with the barometer trace. A base line is photographed, and the record is interrupted at each hour by the clock, and occasionally by the observer, for establishment of time scale, in the same way as for the other magnets. The length of the time scale is the same as that for the other magnetic registers.

The scale for measure of ordinates of the photographic curve is determined as follows: — The distance from the concave mirror to the surface of the registering cylinder is 100·2 inches. But the double of this measure, or 200·4 inches, is the distance that determines the extent of motion on the cylinder of the spot of light, which, in inches, for a change of 0·01 part of the whole vertical force, will therefore be $= 200 \cdot 4 \times \tan. \text{dip} \times \left(\frac{T}{T'}\right)^2 \times 0 \cdot 01$. Using the values of T, T', and of dip, before given, (page *xxii*), the movement of the spot of light on the cylinder for a change of 0·01 of vertical force is thus found to be, 5·691 inches; and with this unit the scale for measure of the ordinates was constructed for use throughout the year. Base line values were then determined, and written on the sheets, and new base lines laid down, from which the hourly ordinates (see page *xxx*) were measured, exactly in the same way as was described for declination.

In regard to the temperature correction of the vertical force magnet, it is only necessary here to say that, according to a series of experiments made between October 17 and 23, 1882 in a similar manner to those for the horizontal force magnet (page *xx*), and in temperatures ranging from 59°·3 to 64°·9 it appeared that an increase of 1° of temperature (Fahrenheit) produced an apparent increase of 0·00020 of vertical force, a value which succeeding experiments have closely confirmed. The value of the coefficient is thus much less than was found in the old state of the magnet with the large mirror, although still not following the ordinary law of increase of temperature producing loss of magnetic power. In practice a nearly uniform temperature is maintained as far as possible. Further observations made in the years 1885 and 1886, of which particulars are given at the end of the Introduction for 1886, showed that through the range of temperature to which the magnet is usually exposed the increase of vertical force for increase of 1° of temperature is uniformly 0·000212, no term depending on the square of the temperature being here necessary, as in the case of horizontal force. The new value, 0·000212, for 1° of temperature (Fahrenheit), which is in satisfactory agreement with that previously found, has been employed in the reduction of the results for the year 1887.

DIP INSTRUMENT.—The instrument with which the observations of magnetic dip are made is that which is known as Airy's instrument. It was constructed by Messrs. Troughton and Simms, and is mounted in the New Library on a slate slab supported by a braced wooden stand built up from the ground independently of the floor. The plan of the instrument was arranged by Sir G. B. Airy so that the points of the needles should be viewed by microscopes and if necessary observed whilst the needles were in a state of vibration ; that there should be power of employing needles of different lengths ; and that the field of view of each microscope should be illuminated from the side opposite to the observer, in such way that the needle point should form a dark image in the bright field.

The instrument is adapted to the observation of needles of 9 inches, 6 inches, and 3 inches in length. The main portion of the instrument, that in which the needle under observation is placed, consists of a square box made of gun metal (carefully selected to ensure freedom from iron), with back and front of glass. Six microscopes, so planted as to command the points of the three different lengths of needles, turn on a horizontal axis so as to follow the points of the needles in the different positions which in observation they take up. The needle pivots rest on agate bearings. The object glasses and field glasses of the microscopes are within the front glass plate, their eye glasses being outside, and turning with them on the same axis. Upon the plane side of each field glass (the side next the object glass and on which the image of the needle point is formed) a scale is etched by means of which the position of the needle points is noted. And on the inner side of the front glass plate is etched the graduated circle, 9¾ inches in diameter, divided to 10′, and read by two verniers to 10″. The verniers (thin plates of metal, with notches instead of lines, for use with transmitted light) are carried by the horizontal axis, inside the front glass plate, their reading lenses, attached to the same axis, being outside. A suitable clamp with slow motion is provided. The microscopes and verniers can be illuminated by one gas lamp, the light from which falling on eight corresponding prisms is thereby directed to each separate microscope and vernier. The prisms are carried behind the back glass plate on a circular frame in such a way that, on reversion of the instrument in azimuth, the whole set of prisms can at one motion of the frame be shifted so as to bring each one again opposite to its proper microscope or vernier.

Since the instrument has been placed in the New Library artificial light has not been employed in making the observation.

The whole of the apparatus is planted upon a circular horizontal plate, admitting of rotation in azimuth: a graduated circle near the circumference of the plate is read by two fixed verniers.

A brass zenith point needle, having points corresponding in position to the three different lengths of dip needles, is used to determine the zenith point for each particular length of needle.

The instrument carries two levels, one parallel to the plane of the vertical circle, the other at right angles to that plane, by means of which the instrument is adjusted in level from time to time. The readings of the first-mentioned level are also regularly employed to correct the apparent value of dip for any small outstanding error of level: the correction seldom exceeds a very few seconds of arc.

Observations are made only in the plane of the magnetic meridian, and the following is a description of the method of proceeding. The needle to be used is first magnetised by double touch, giving it nine strokes on each of its sides: it is then placed in position in the instrument, the microscope scale readings are taken, and the verniers of the vertical graduated circle are read: the readings of the level parallel to the plane of this circle are also read. The instrument is then reversed in azimuth and a second observation made. The needle pivots are then reversed on the agate bearings, and two observations in reversed positions of the instrument again made. The needle is then removed from the instrument and re-magnetised so as to reverse the direction of its poles, and four more observations are made in the way just described. The mean of the eight partial values of dip thus found, corrected for error of level, gives the final value of dip which appears in the printed results.

The needles in regular use are of the ordinary construction; they are two 9-inch needles, B_1 and B_2, two 6-inch needles, C_1 and C_2, and two 3-inch needles, D_1 and D_2.

DEFLEXION INSTRUMENT.—The observations of deflexion of a magnet in combination with observations of vibration of the deflecting magnet, for determination of the absolute measure of horizontal magnetic force, are made with a unifilar instrument, which, with the exception of some slight modification of the mechanical arrangements, is similar to those issued from the Kew Observatory. It is mounted in the New Library on a slate slab in the same way as the Dip instrument.

The deflected magnet, used merely to ascertain the ratio which the power of the deflecting magnet at a given distance bears to the power of terrestrial magnetism, is 3 inches long, and carries a small plane mirror, to which is directed a telescope fixed to and rotating with the frame that carries also the suspension piece of the deflected magnet: a scale fixed to the telescope is seen by reflexion at the plane mirror. The deflecting magnet is a hollow cylinder 4 inches long, containing in its internal tube a collimator, by means of which in another apparatus its time of vibration is observed. In observations of deflexion the deflecting magnet is placed on the transverse deflexion rod, carried by the rotating frame, at the distances 1·0 foot and 1·3 foot of the engraved scale from the deflected magnet, and with one end towards the deflected magnet. Observations are made at the two distances mentioned, with the deflecting magnet both east and west of the deflected magnet, and also with its poles in reversed positions. The fixed horizontal circle is 10 inches in diameter: it is graduated to 10′, and read by two verniers to 10″.

It will be convenient in this case to include with the description of the instrument an account of the method of reduction employed, in which the Kew precepts and generally the Kew notation are followed. Previous to the establishment of the instrument at the Royal Observatory the values of the various instrumental constants, as determined at the Kew Observatory, were kindly communicated by the late Professor Balfour Stewart, and these have been since used in the reduction of all observations made with the instrument at Greenwich.

The instrumental constants as thus furnished are as follows :—

The increase in the magnetic moment of the deflecting magnet produced by the inductive action of unit magnetic force in the English system of absolute measurement = μ = 0·00015587.

The correction for decrease of the magnetic moment of the deflecting magnet required in order to reduce to the temperature 35° Fahrenheit = c = 0·00013126 $(t-35)$ + 0·000000259 $(t-35)^2$: t representing the temperature (in degrees Fahrenheit) at which the observation is made.

Moment of inertia of the deflecting magnet = K. At temperature 30°, log. K = 0·66643 : at temperature 90°, log. K = 0·66679.

The distance on the deflexion rod from $1^{ft}\cdot0$ east to $1^{ft}\cdot0$ west of the engraved scale, at temperature 62°, is too long by 0·0034 inch, and the distance from $1^{ft}\cdot3$ east to $1^{ft}\cdot3$ west is too long by 0·0053 inch. The coefficient of expansion of the scale for 1° is ·00001.

The adopted value of K was confirmed in the year 1878 by a new and entirely independent determination made at the Royal Observatory, giving log. K at temperature 30° = 0·66727.

Let m = Magnetic moment of deflecting or vibrating magnet.

X = Horizontal component of Earth's magnetic force.

Then, if in the two deflexion observations, r_1, r_2, be the apparent distances of centre of deflecting magnet from deflected magnet, corrected for scale error and temperature (about 1·0 and 1·3 foot).

u_1, u_2 the observed angles of deflexion.

$$A_1 = \tfrac{1}{2} r_1^3 \sin. u_1 \left\{ 1 + \frac{2\mu}{r_1^3} + c \right\}$$

$$A_2 = \tfrac{1}{2} r_2^3 \sin. u_2 \left\{ 1 + \frac{2\mu}{r_2^3} + c \right\}$$

$P = \dfrac{A_1 - A_2}{\dfrac{A_1}{r_1^2} - \dfrac{A_2}{r_2^2}}$ [P being a constant depending on the distribution of magnetism in the deflecting and deflected magnets],

we have, using for reduction of the observations a mean value of P :—

$\frac{m}{X} = A_1 \left(1 - \frac{P}{r_1^2}\right)$, from observation at distance r_1.

$\frac{m}{X} = A_2 \left(1 - \frac{P}{r_2^2}\right)$, from observation at distance r_2.

The mean of these is adopted as the true value of $\frac{m}{X}$.

In calculating the value of P as well as the values of the four factors within brackets, the distances r_1 and r_2 are taken as being equal to 1·0 ft. and 1·3 ft. respectively. The expression for P is not convenient for logarithmic computation, and, in practice, its value for each observation has, since the year 1877, been calculated from the expression

$$\frac{\text{Log. } A_1 - \text{Log. } A_2}{\text{modulus}} \times \frac{r_1^2 \times r_2^2}{r_2^2 - r_1^2} = (\text{Log. } A_1 - \text{Log. } A_2) \times 5{\cdot}64.$$

For determination, from the observed vibrations, of the value of mX :—let T_1 = time of vibration of the deflecting magnet, corrected for rate and arc of vibration,

$\frac{H}{F}$ = ratio of the couple due to torsion of the suspending thread to the couple due to the Earth's magnetic force. [This is obtained from the formula $\frac{H}{F} = \frac{\theta}{90^\circ - \theta}$, where θ = the angle through which the magnet is deflected by a twist of 90° in the thread.]

$$\text{Then } T^2 = T_1^2 \left\{ 1 + \frac{H}{F} + \mu \frac{X}{m} - c \right\}$$

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

The adopted time of vibration is the mean of 100 vibrations observed immediately before, and of 100 vibrations observed immediately after the observations of deflexion.

From the combination of the values of $\frac{m}{X}$ and mX, m and X are immediately found. The computation is made with reference to English measure, taking as units of length and weight the foot and grain, but it is desirable to express X also in metric measure. If the English foot be supposed equal to a times the millimètre, and the grain equal to β times the milligramme, then for reduction to metric measure $\frac{m}{X}$ and mX must be multiplied by a^3 and $a^2\beta$ respectively, or X must be multiplied by $\sqrt{\frac{\beta}{a}}$. Taking the mètre as equal to 39·37079 inches, and the gramme as equal to 15·43249 grains, the factor by which X is to be multiplied in order to obtain X in metric measure is $0·46108 = \frac{1}{2·1689}$. The values of X in metric measure thus derived from those in English measure are given in the proper table. Values of X in terms of the centimètre and gramme, known as the C.G.S. unit (centimètre-gramme-second unit), are readily obtained by dividing those referred to the millimètre and milligramme by 10.

EARTH CURRENT APPARATUS.—For observation of the spontaneous galvanic currents which in some measure are almost always discoverable in the earth, and which are occasionally very powerful, two insulated wires having earth connexions at Angerstein Wharf (on the bank of the River Thames near Charlton) and Lady Well for one circuit; and at the Morden College end of the Blackheath Tunnel and the North Kent East Junction of the South-Eastern Railway for the other circuit, have been employed. The connecting wires, which are special and used for no other purpose, pass from the Royal Observatory to the Greenwich Station of the South-Eastern Railway, and thence, by kind permission of the Directors of the South-Eastern Railway Company, along the lines of the Railway to the respective earths, in each case a copper plate. The direct distance between the earth plates of the Angerstein Wharf—Lady Well circuit is 3 miles, and the azimuth of the line, reckoning from magnetic north towards east, 50°; in the Blackheath—North Kent East Junction circuit the direct distance is 2½ miles, and the azimuth, from magnetic north towards west, 46°. The actual lengths of wire in the circuitous courses which the wires necessarily take in order to reach the Observatory registering apparatus are about 7½ miles and 5 miles respectively. The identity of the four branches is tested from time to time as appears necessary.

In each circuit at the Royal Observatory there is placed a horizontal galvanometer, having its magnet suspended by a hair. Each galvanometer coil contains 150 turns of No. 29 copper wire, or the double coil of each instrument consists of 300 turns of wire, the resistance as found by direct measurements being 7 ohms. For registration of the larger earth currents, a portion only of the current is allowed to pass through the galvanometer, while the greater part flows through a shunt, consisting of a short coil of fine copper wire, the resistance of which is 1·3 ohms. The amplitude of the movement is thus reduced in the ratio of 6·4 to 1. On a few selected days in each month registers on a large scale, for determination of the small diurnal inequality in earth currents, are obtained by removing the shunts, but no discussion of these registers has yet been made. The galvanometers are placed on opposite sides of the registering cylinder which is horizontal. One galvanometer stands towards one end of the cylinder, and the other towards the other end, and each carries, on a light stalk extending downwards from its magnet, a small plane mirror. Immediately above the cylinder are placed two long reflecting prisms which, except that they are each but half the length of the cylinder, and are placed end to end, are generally similar to those used for magnetic declination and horizontal force, the front convex surfaces facing opposite ways, each towards the mirror of its respective galvanometer. In each case the light of a gas lamp, passing through a vertical slit and a cylindrical lens having its axis vertical, falls upon the galvanometer mirror, which reflects the converging beam to the convex surface of the reflecting prism, by whose action it is made to form on the paper on the cylinder a small spot of light ; thus all the azimuthal motions of the galvanometer magnet are registered. The extent of trace for each galvanometer is thus confined to half the length of the cylinder, which is of the same size as those used for the magnetic registers. The arrangements for turning the cylinder, automatically determining the time scale, and forming a base line are similar to those which have been before described. When the traces on the paper are developed the parts of the registers which appear in juxtaposition correspond, as for declination and horizontal force, to the same Greenwich time, and the scale of time is of the same length as for the magnetic registers.

§ 5. *Magnetic Reductions.*

The results given in the Magnetic Section refer to the civil day, commencing at midnight.

Before the photographic records of magnetic declination, horizontal force, and vertical force are discussed, they are divided into two groups ; one including all days on which the traces show no particular disturbance, and which therefore are suitable for the determination of diurnal inequality ; the other comprising days of unusual and violent disturbance, when the traces are so irregular that it appears impossible to treat them except by the exhibition of every motion of each magnet through the day. Following the principle of separation hitherto adopted, there are 2 days in the year 1887 which have been classed as days of great disturbance. These are September 25–26, and November 21–22. Other days of lesser disturbance are February 12–13, 13–14, 14–15, April 4–5, 5–6, 6–7, 7–8, 8–9, August 1–2, 28–29, 29–30, September 26–27, 27–28, October 22–23, 23–24, 26–27. When two days are mentioned it is to be understood that the reference is usually to one set of photographic sheets extending from noon to noon and including the last half and the first half respectively of two consecutive civil days.

Separating the 2 days of great disturbance to be spoken of hereafter, the photographic sheets for the remaining available days, including those of lesser disturbance, were thus treated. Through each photographic trace a pencil line was drawn, representing the general form of the curve, without its petty irregularities. The ordinates of these pencil curves were then measured, with the proper pasteboard scales, at every hour, the measures being entered in a form having double argument, the vertical argument ranging through the 24 hours of the civil day (0^h to 23^h), and the horizontal argument through the days of a calendar month, the means of the numbers standing in the vertical columns giving the mean daily value of the element, and the means of the numbers in the horizontal columns the mean monthly value at each hour of the day. Tables I. and II. contain the results for declination, Tables III. to VI. those for horizontal force, with corresponding tables of temperature, and Tables VII. to X. those for vertical force, with corresponding tables of temperature. In the formation of diurnal inequalities it is unimportant whether a day omitted be a complete civil day, or the parts of two successive civil days making together a whole day, although in the latter case the results are not available for daily values. The omissions actually made on account of disturbed days, or from other causes, in the formation of Tables I. and II., for declination, are May 31, June 1, 2, September 25, 26, November 19, 20, 21 ; in Tables III. to VI. for horizontal force, are September 25, 26, November 19, 20, 21, December 31, and in Tables VII. to X. for vertical force, are September 25, 26, November 21, December 30, 31. Table XI. gives the collected monthly values for declination, horizontal force, and vertical force, and Table XII. the mean diurnal inequalities for the year.

The temperature of the horizontal and vertical force magnets was maintained so nearly uniform through each day that the determination of the diurnal inequalities of horizontal and vertical force should possess great exactitude. It was not possible under the circumstances to maintain similar uniformity of temperature through the seasons, a point however of less importance. In years preceding 1883 the results for horizontal and vertical force have been given uncorrected for temperature, leaving the correction to be applied when the results for series of years are collected for discussion; but from the beginning of the year 1883 it has been considered desirable to add also, in Tables III., V., VII., and IX., results corrected for temperature, in order to render them more immediately available. In Tables XI. and XII., only results corrected for temperature are given. The corrected mean daily and mean hourly values of horizontal force given in Tables III. and V. respectively are obtained by applying to the uncorrected values the correction $(t-32) \times \cdot0000936 + (t-32)^2 \times \cdot000002074$, where t is the temperature in degrees Fahrenheit, and to those of vertical force, Tables VII. and IX., the correction $-(t-32) \times \cdot000212$. The corrections applied are founded on the daily and hourly values of temperature given in Tables IV., VI., VIII., and X.

In regard to the formation of the tables of temperature, the hourly readings of the Richard thermograph, were entered into a form having double arguments, as for the magnets, the mean hourly values deduced therefrom giving for each month the variation through the day, and the mean daily values the variation through the month. To adapt these to represent the temperature within the horizontal and vertical force magnet boxes respectively, the monthly means of the thermograph readings at 9^h, 10^h, 11^h, 12^h, 13^h, 14^h, 15^h, and 21^h, were compared with the corresponding means of the eye readings of the thermometers whose bulbs are within the respective magnet boxes, giving corrections to the thermograph readings at these hours, which were very accordant, and from which by interpolation corrections were obtained for the remaining hours. The eight daily observations gave also the means of reducing the daily thermograph values to the temperature of the interior of the respective magnet boxes. The results are given in Tables IV., VI., VIII., and X.

In order to economise space the daily values as exhibited in Tables III. and VII., both uncorrected and corrected, have been diminished by constants. The division ═══ in these Tables and in Table XI. indicates that the instrument has been disturbed for experiment or adjustment, or that for some reason the continuity of the values has been broken, the constants deducted being different before and after each break. In the interval between two breaks the constant deducted remains the same, and that deducted in Tables III. and VII. from the corrected values differs from that deducted from the uncorrected values by some multiple of 100. In Tables II., V., IX., and XII. the separate hourly values of the different elements have been simply diminished by the smallest hourly value.

The variations of declination are given in the sexagesimal division of the circle, and those of horizontal and vertical force in terms of ·00001 of the whole horizontal and vertical forces respectively taken as units. In Tables XI. and XII. they have been also expressed in terms of ·00001 of Gauss's absolute unit, as referred to the metrical system of the millimètre-milligramme-second.

The factors for conversion from the former to the latter system of measures are as follows :—

For variation of declination, expressed in minutes, the factor is

$$\text{H.F. in metrical measure} \times \sin 1' = 1{\cdot}8175 \times \sin 1' = 0{\cdot}0005287.$$

For variation of horizontal force, the factor is

$$\text{H.F. in metrical measure} = 1{\cdot}8175.$$

and for variation of vertical force

$$\begin{aligned}\text{V. F. in metrical measure} &= \text{H. F. in metrical measure} \times \tan \text{dip},\\ &= 1{\cdot}8175 \times \tan 67^\circ.\,26\tfrac{1}{2}' = 4{\cdot}3752.\end{aligned}$$

The measures as referred to the millimètre-milligramme-second system are convertible into measures on the centimètre-gramme-second (C. G. S.) system by dividing by 10.

Table XIII. exhibits the diurnal range of declination and horizontal force on each separate day, as determined from the 24 hourly ordinates of each element measured from the photographic register (as explained on page *xxx*), and the monthly means of these numbers, the results for horizontal force being corrected for temperature. The first portion of Table XIV. contains the difference between the greatest and least hourly mean values in each month, for declination, horizontal force, and vertical force, as extracted from Table II., and columns *c* of Tables V. and IX. In the second portion of the table there are given for each month the numerical sums of the deviations of the 24 hourly values from the mean, taken without regard to sign.

The magnetic diurnal inequalities of declination, horizontal force, and vertical force, for each month and for the year, have been treated by the method of harmonic analysis, and the results are given in Tables XV. and XVI. The values of the coefficients contained in Table XV. have been thus computed, 0 representing the value at 0^h (midnight), 1 that at 1^h, and so on.

$$m = \frac{1}{24}\,(0+1+2\ldots\ldots22+23).$$

$$\begin{aligned}12\,a_1 = 0-12 &+ (\overline{1+23} - \overline{11+13}) \cos 15^\circ + (\overline{2+22} - \overline{10+14}) \cos 30^\circ\\ &+ (\overline{3+21} - \overline{9+15}) \cos 45^\circ + (\overline{4+20} - \overline{8+16}) \cos 60^\circ\\ &+ (\overline{5+19} - \overline{7+17}) \cos 75^\circ.\end{aligned}$$

$$
\begin{aligned}
12\ b_1 = 6-18 &+ (\overline{5+7} - \overline{17+19}) \sin 75^\circ + (\overline{4+8} - \overline{16+20}) \sin 60^\circ \\
&+ (\overline{3+9} - \overline{15+21}) \sin 45^\circ + (\overline{2+10} - \overline{14+22}) \sin 30^\circ \\
&+ (\overline{1+11} - \overline{13+23}) \sin 15^\circ.
\end{aligned}
$$

$$
\begin{aligned}
12\ a_2 = \overline{0+12} - \overline{6+18} &+ (\overline{1+11+13+23} - \overline{5+7+17+19}) \cos 30^\circ \\
&+ (\overline{2+10+14+22} - \overline{4+8+16+20}) \cos 60^\circ
\end{aligned}
$$

$$
\begin{aligned}
12\ b_2 = \overline{3+15} - \overline{9+21} &+ (\overline{2+4+14+16} - \overline{8+10+20+22}) \sin 60^\circ \\
&+ (\overline{1+5+13+17} - \overline{7+11+19+23}) \sin 30^\circ
\end{aligned}
$$

$$12\, a_3 = \overline{0+8+16} - \overline{4+12+20} + (\overline{1+7+9+15+17+23} - \overline{3+5+11+13+19+21}) \cos 45^\circ.$$

$$12\ b_3 = \overline{2+10+18} - \overline{6+14+22} + (\overline{1+3+9+11+17+19} - \overline{5+7+13+15+21+23}) \sin 45^\circ.$$

$$
\begin{aligned}
12\ a_4 = &\ \overline{0+6+12+18} - \overline{3+9+15+21} \\
&+ (\overline{1+5+7+11+13+17+19+23} - \overline{2+4+8+10+14+16+20+22}) \cos 60^\circ.
\end{aligned}
$$

$$12\ b_4 = (\overline{1+2+7+8+13+14+19+20} - \overline{4+5+10+11+16+17+22+23}) \sin 60^\circ.$$

The values of the coefficients c_1, and of the constant angles α contained in Table XVI., are then determined by means of the following relations :—

$$\frac{a_1}{b_1} = \tan \alpha \qquad\qquad c_1 = \frac{a_1}{\sin \alpha} = \frac{b_1}{\cos \alpha}.$$

Similarly for c_2, β, &c.

Finally, the values of the angles α', β', &c. were thus found. Calling the Sun's hour angle east at mean midnight $= h$, then—

$$
\begin{aligned}
\alpha' &= \alpha + h \\
\beta' &= \beta + 2h \\
\&c. &= \&c.,
\end{aligned}
$$

a mean value of h for the month being employed.

The values of a_5 and b_5 for the diurnal inequalities for the year were also calculated, but could not be conveniently included in Table XV. ; they are as follows :—

1887.	a_5.	b_5.
Declination	′ −0·07	′ −0·01
Horizontal Force......	+0·3	−1·2
Vertical Force	+0·5	−0·1

In order to give some indication of the accuracy with which the results of observation are represented by the harmonic formula, the sums of squares of residuals remaining after the introduction of m and of each successive pair of terms of the expression on page (xii), corresponding to the single terms of the expressions on page (xiii), have been calculated for the mean diurnal inequalities for the year (columns 1, 2, and 3 of Table XII). The respective sums of squares of residuals are as follows :—

SUMS OF SQUARES OF RESIDUALS OF DIURNAL INEQUALITIES.

For the Year 1887.	Declination.	Horizontal Force.	Vertical Force.
Sums of Squares of Observed Values (Table XII.)	205′·36	242585·5	11375·6
Sums of Squares of Residuals after the introduction of m	113·51	39375·9	3046·5
" " a_1 and b_1	37·60	10984·8	1485·1
" " a_2 and b_2	6·77	2282·2	212·4
" " a_3 and b_3	0·76	478·6	27·1
" " a_4 and b_4	0·08	28·4	10·2
" " a_5 and b_5	0·02	10·5	6·5

The unit in the case of horizontal and vertical force being ·00001 of the whole horizontal and vertical forces respectively, it thus appears that there would be no advantage in carrying the approximation (Table XV.) beyond the determination of a_4, b_4.

As regards Magnetic Dip, the result of each complete observation of dip with each of the six needles in ordinary use is given in Table XVII., and in Table XVIII. the concluded monthly and yearly values for each needle.

The results of the observations for Absolute Measure of Horizontal Force contained in Table XIX. require no special remark, the method of reduction and all necessary explanation having been given with the description of the instrument.

No numerical discussion of Earth Current records is contained in the present volume.

In the treatment of disturbed days it was formerly the custom to measure out for each element all salient points of the curves and to print the numerical values. But, since the year 1882, it has been considered preferable to give instead of these tables reduced copies of the actual photographic curves (reproduced by photo-lithography from full-sized tracings of the original photographs), adding thereto copies of the corresponding earth-current curves. The registers thus exhibited are those for the days of great and of lesser disturbance mentioned on page (*xxx*).

The plates are preceded by a brief description of *all* significant magnetic motions (superposed on the ordinary diurnal movement) recorded throughout the year, These, in combination with the plates, give very complete information on magnetic disturbances during the year 1887, affording thereby, it is hoped, facilities for making comparison with solar phenomena.

In regard to the plates, it may be remarked that on each day five distinct registers are usually given, viz. : declination, horizontal force, vertical force, and the two earth-currents, all necessary information for proper understanding of the plates being given in the notes on page (xxvi).

An additional plate (VIII.) exhibits the registers of declination, horizontal force, and vertical force on four quiet days, which may be taken as types of the ordinary diurnal movement at four seasons of the year. These are given for the civil day as exhibiting more clearly the character of the diurnal movement. The earth currents on these days are very small.

The indications of horizontal and vertical force are given precisely as registered ; they are therefore affected, slightly as compared with the amount of motion on disturbed days, by the small recorded changes of temperature of the magnets. The recorded hourly temperatures being inserted on the plates, reference to the temperature coefficients of the magnets, given at page *xix* for horizontal force, and page *xxii* for vertical force, will show the effect produced. Briefly, an increase of about $4\frac{1}{2}^\circ$ of temperature throws the horizontal force curve upward by 0·001 of the whole horizontal force ; an increase of about 5° of temperature throws the vertical force curve downward by 0·001 of the whole vertical force.

The original photographs have been reduced in the proportion of 20 to 11 on the plates, and the corresponding scale values are :—

—	Length in Inches.		
	Of 1° of Declination.	Of 0·01 of Horizontal Force.	Of 0·01 of Vertical Force.
	in.	in.	in.
On the Photographs	4·691	2·464	5·691
On the Plates -	2·580	1·355	3·130

The scales actually attached to the plates are, however, so arranged as to correspond with the tables of the magnetic section, that is to say, the units for horizontal force and vertical force are ·00001 of the whole horizontal and vertical forces respectively.

But the preceding scale values are not immediately comparable for the different elements, and it will therefore be desirable to refer them all to the same unit, say 0·01 of the horizontal force.

Now, the transverse force represented by a variation of 1° of Declination

$$= {\cdot}0175 \text{ of Horizontal Force}$$

$$\text{and Vertical Force} = \text{Horizontal Force} \times \tan. \text{dip } [\text{dip} = 67^\circ.\ 26\tfrac{1}{2}']$$

$$= \text{Horizontal Force} \times 2{\cdot}4073$$

whence we have the following equivalent scale values for the different elements :—

—	LENGTH OF UNIT, EQUIVALENT TO 0·01 OF HORIZONTAL FORCE.		
	For Declination Curve.	For Horizontal Force Curve.	For Vertical Force Curve.
	in.	in.	in.
On the Photographs	2·68	2·46	2·36
On the Plates -	1·47	1·36	1·30

It may be convenient to give also comparative scale values for the different systems of absolute measurement, viz. :—

Foot-grain-second,	or British unit, in terms of which Mean H. F. for 1887	= 3·9419
Millimètre-milligramme-second,	or Metric unit, „ „ „	= 1·8175
Centimètre-gramme-second,	or C. G. S. unit, „ „ „	= 0·18175

Dividing therefore the scale values last given by 3·9419, 1·8175, and 0·18175 respectively, the following comparative scale values for each of the elements on the photographs and on the plates as referred to 0·01 of these units respectively are found :—

UNIT.	LENGTH OF 0·01 OF UNIT.					
	Declination.		Horizontal Force.		Vertical Force.	
	On the Photographs.	On the Plates.	On the Photographs.	On the Plates.	On the Photographs.	On the Plates.
	in.	in.	in.	in.	in.	in.
British - -	0·68	0·37	0·63	0·34	0·60	0·33
Metric - -	1·47	0·81	1·36	0·75	1·30	0·72
C. G. S. - -	14·7	8·1	13·6	7·5	13·0	7·2

The scale values for the earth-current registers have been determined by measurement of the movement on the photographic sheet produced by the current from a standard Daniell cell, through a known resistance in combination with determinations of the resistance of each earth-current circuit by means of an electrical balance. It was thus found (by measures on 1886 Oct. 21 and 1887 Sept. 28 and 29) that 1 inch on the photographic sheet corresponds to a current of ·00062 ampère for the Angerstein Wharf—Ladywell circuit, and to a current of ·00073 ampère for the Blackheath—North Kent East Junction circuit, in both cases without the shunt. The following measures of resistance of the circuits have been made :—

	Angerstein Wharf—Ladywell.	Blackheath—North Kent East Junction.
	Ohms.	Ohms.
1886 Oct. 21	205	245
1887 May 10	285	225
June 9	285	—
Sept. 28	220	230
Dec. 2	225	262
Means ...	244	241

Taking 250 ohms as an approximate value of the resistance in each circuit, we have the following approximate scale-values for a difference of potential of 1 volt between the earth plates of the two earth current circuits :—

—	Length corresponding to 1 Volt.			
	Angerstein Wharf—Ladywell Circuit.		Blackheath—North Kent East Junction Circuit.	
	Without Shunt.	With Shunt.	Without Shunt.	With Shunt.
	in.	in.	in.	in.
On the Photographs - - - -	6·29	0·98	5·32	0·83
On the Plates - - - - -	—	0·54	—	0·46

The earth current registers given on the lithographed plates are in all cases those taken with the shunt in circuit, the effect of this being, as explained on page *xxix*, to reduce the amplitude of the movement in the ratio of 6·4 to 1.

Slight interruptions in the traces on the plates are due to various causes. In the originals there are breaks at each hour for time scale, so slight however that, in the copies, the traces could usually be made continuous without fear of error : in a few cases, however, this could not be done. Further, to check the numeration of hours, the observer interrupts the register at definite times for about five minutes, usually at or near $9^h. 30^m$, $14^h. 30^m$, and $20^h. 30^m$, Greenwich civil time, and at somewhat different times on Sundays. The interruption in the earth-current registers is greater than in the other registers because of the necessity of also temporarily disconnecting the wires for determination of the instrumental zeros. A weekly clearing of the gas pipes also causes a somewhat longer interruption, usually at about 10^h, as on April 9. 10^h. Explanation in regard to other accidental interruptions will be found on page (xxvi).

The original photographic records were first traced on thin paper, the separate records on each day being arranged one under another on the same sheet, and great attention being paid to accuracy as regards the scale of time. Each sheet containing the records for two or more days was then reduced by photo-lithography, in the proportion of 20 to 11, to bring it to a convenient size for insertion in the printed volume.

§ 6. *Meteorological Instruments.*

STANDARD BAROMETER.—The standard barometer, mounted in 1840 on the southern wall of the western arm of the upper magnet room, is Newman No. 64. Its tube is $0^{in}·565$ in diameter, and the depression of the mercury due to capillary action is $0^{in}·002$, but no correction is applied on this account. The cistern is of glass, and the graduated scale and attached rod are of brass ; at its lower end the rod terminates in a point of ivory, which in observation is made just to meet the reflected image of the point as seen in the mercury. The scale is divided to $0^{in}\cdot05$, sub-divided by vernier to $0^{in}\cdot002$.

The readings of this barometer until 1866 August 20 are considered to be coincident with those of the Royal Society's flint-glass standard barometer. It then became necessary to remove the sliding rod, for repair of its slow motion screw, which was completed on August 30. Before the removal of the rod the barometer had been compared with three other barometers, one of which, during repair of the rod, was used for the daily readings. After restoration of the rod a comparison was again made with the same three barometers, from which it appeared that the readings of the standard, in its new state, required a correction of $-\ 0^{in}\cdot006$, all three auxiliary barometers giving accordant results. This correction has been applied to every observation since 1866 August 30.

An elaborate comparison of the standard barometers of the Greenwich and Kew Observatories, made, under the direction of the Kew Committee, by Mr. Whipple, Superintendent of the Kew Observatory, in the spring of the year 1877, showed that the difference between the two barometers (after applying to the Greenwich barometer readings the correction $-\ 0^{in}\cdot006$) did not exceed $0^{in}\cdot001$. (*Proceedings of the Royal Society*, vol. 27, page 76.)

The height of the barometer cistern above the mean level of the sea is 159 feet, being $5^{ft}\ 2^{in}$ above Mr. Lloyd's reference mark in the then transit room, now the Astronomer Royal's official room. (*Philosophical Transactions*, 1831.)

The barometer is usually read at 9^h, 12^h (noon), 15^h, 21^h (civil reckoning). Each reading is corrected by application of the index correction above mentioned, and reduced to the temperature 32° by means of Table II. of the "Report of the Committee of Physics" of the Royal Society. The readings thus found are used to determine the value of the instrumental base line on the photographic record.

PHOTOGRAPHIC BAROMETER.—The barometric record is made on the same cylinder as is used for magnetic vertical force, the register being arranged to fall on the upper half of the cylinder, on its eastern side. A siphon barometer fixed to the northern wall of the Magnet Basement is employed, the bore of the upper and lower extremities of the tube being about 1·1 inch, and that of the intermediate portion 0·3 inch. A metallic float is partly supported by a counterpoise acting on a light lever, leaving a definite part of its weight to be supported by the mercury. The lever carries at its other end a vertical plate of blackened mica, having a small horizontal slit, whose distance from the fulcrum is about eight times that of the point of connexion with the float, and whose vertical movement is therefore about four times that of the ordinary barometric column. The light of a gas lamp, passing through this slit and falling on a cylindrical lens, forms a spot of light on the paper. The barometer can, by screw action, be raised or lowered so as to keep the photographic trace in a convenient part of the sheet. A base line is traced on the sheet, and the record is interrupted at each hour by the clock and occasionally by the observer in the same way as for the magnetic registers. The length of the time scale is also the same.

The barometric scale is determined by experimentally comparing the measured movement on the paper with the observed movement of the standard barometer; one inch of barometric movement is thus found = $4^{in}\cdot 39$ on the paper. Ordinates measured for the times of observation of the standard barometer, combined with the corrected readings of the standard barometer, give apparent values of the base line, from which mean values for each day are formed; these are written on the sheets and new base lines drawn, from which the hourly ordinates (see page *liii*) are measured as for the magnetic registers.

As the diurnal change of temperature in the basement is very small, no appreciable differential effect is produced on the photographic register by the expansion of the column of mercury.

DRY AND WET BULB THERMOMETERS.—The dry and wet bulb thermometers and maximum and minimum self-registering thermometers, both dry and wet, are mounted on a revolving frame planned by Sir G. B. Airy. A vertical axis fixed in the ground, in a position about 35 feet south of the south-west angle of the Magnetic Observatory, carries the frame, which consists of a horizontal board as base, of a vertical board projecting upwards from it and connected with one edge of the horizontal board, and of two parallel inclined boards (separated about 3 inches) connected at the top with the vertical board and at the bottom with the other edge of the horizontal board: the outer inclined board is covered with zinc, and the air passes freely between all the boards. The dry and wet bulb thermometers are mounted near the centre of the vertical board, with their bulbs about 4 feet from the ground; the maximum and minimum thermometers for air temperature are placed towards one side of the vertical board, and those for evaporation temperature towards the other side, with their bulbs at about the same level as those of the dry and wet bulb thermometers. A small roof projecting from the frame protects the thermometers from rain. The frame is turned in azimuth several times during the day (whether cloudy or clear) so as to keep the inclined side always towards the sun. In 1878 September, a circular board 3 feet in diameter was fixed, below the frame, round the supporting post, at a height of 2 feet 6 inches above the ground, with the object of protecting the thermometers from radiation from the ground. In the summer of 1886 experiments were made with the view of determining the effect of the circular board in thus protecting the thermometers, an account of which will be found at the end of the Introduction.

The corrections to be applied to the thermometers in ordinary use (except the earth thermometers) are determined usually once each year for the whole extent of scale actually employed, by comparison with the standard thermometer, No. 515, kindly supplied to the Royal Observatory by the Kew Committee of the Royal Society.

The dry and wet bulb thermometers are Negretti and Zambra, Nos. 45354 and 45355 respectively. The correction $-0^{\circ}\cdot2$ has been applied to dry bulb readings, and $-0^{\circ}\cdot1$ to wet bulb readings throughout.

The self-registering thermometers for temperature of air and evaporation are all by Negretti and Zambra. The maximum thermometers are on Negretti and Zambra's principle, the minimum thermometers are of Rutherford's construction. To the readings of No. 8527 for maximum temperature of the air a correction of $-0^{\circ}\cdot9$ has been applied, and to those of No. 4386, for minimum temperature of the air, a correction of $-0^{\circ}\cdot3$ until July 9, when the thermometer was accidentally broken. From July 12 Negretti and Zambra, No. 38338, requiring a correction of $+0^{\circ}\cdot1$, was used for minimum temperature of the air. The readings of No. 44285 for maximum temperature of evaporation, and those of No. 3627 for minimum temperature of evaporation required corrections of $-0^{\circ}\cdot5$ and $+1^{\circ}\cdot9$ respectively throughout the year.

The dry and wet bulb thermometers are usually read at 9^h, 12^h (noon), 15^h, 21^h (civil reckoning). Readings of the maximum and minimum thermometers are usually taken at 9^h and 21^h. Those of the dry and wet bulb thermometers are employed to correct the indications of the photographic dry and wet bulb thermometers.

In January 1887, three thermometers, a dry-bulb, a maximum, and a minimum, to which a wet-bulb thermometer was added in February, were mounted in a Stevenson screen, with double louvre-boarded sides, of the pattern adopted by the Royal Meteorological Society, which is fully described in the *Quarterly Journal* of the Society, Vol. X, page 92. The screen is planted 11 feet to the eastward of the revolving frame carrying the ordinary dry-bulb and wet-bulb thermometers, and its internal dimensions are, length 18 inches, width 11 inches, and height 15 inches, the bulbs of the thermometers placed in it being at a height of about 4 feet above the ground. The dry-bulb thermometer is Hicks No. 262495 and the wet-bulb Hicks No. 268525, to the readings of which corrections of 0°·0 and + 0°·2 respectively have been applied. The maximum thermometer is Hicks No. 233036 and the minimum thermometer Hicks No. 262739 to the readings of which corrections of + 0°·2 and + 0°·5 respectively have been applied. The observation of these thermometers is omitted on Sundays and a few other days.

Experiments were made in the summer of the year 1887 to determine whether, with the door of the screen open, the thermometers were in any way influenced by radiation from external objects, an account of which will be found at the end of the Introduction.

At the beginning of the year 1886 three thermometers, by Negretti and Zambra, were mounted on the platform above the Magnet House, in a louvre-boarded shed or screen, so constructed as to give free circulation of air with protection from radiation. No. 45356 is for eye observation of the temperature of the air, and required in 1887 a correction of − 0°·1. No. 37467 is a self-registering maximum thermometer, which required a correction of − 0°·4, and No. 38338 is a self-registering minimum thermometer, for which a correction of + 0°·1 was used until July 11, when it was required to replace No. 4386 as before mentioned. On September 7, the thermometer, Hicks No. 342663, was provided in place of Negretti and Zambra, No. 38338, for minimum temperature of the air, and required correction as follows : below 35°. 0°·0, between 35° and 45° + 0°·1, between 45° and 55° + 0°·2, and above 55° + 0°·3. These corrections have been applied to the readings throughout the year 1887. The bulbs of all these thermometers are 4 feet above the platform, and about 20 feet above the ground. The observation of these thermometers is omitted on Sundays and a few other days.

PHOTOGRAPHIC DRY AND WET BULB THERMOMETERS.—During the year 1887, two different arrangements were employed, one the old apparatus, as used for many years, the other a new apparatus devised mainly with the object of obtaining an enlarged time scale. The old apparatus is situated about 28 feet south-south-east of the south-east angle of the Magnetic Observatory and about 25 feet east-north-east of the revolving stand carrying the thermometers for eye observation, under an open shed, 10 feet 6 inches square, standing upon posts 8 feet high, the dry bulb thermometer being placed to the east and the wet bulb towards the west. The bulbs are 8 inches in length and of 0·4 inch internal bore, and their centres are about 4 feet above the ground. A registering cylinder of ebonite, 10 inches long and 19 inches in circumference, is placed with its axis vertical between the stems of the two thermometers. The registers are made simultaneously on opposite sides of the cylinder, and to avoid any accidental overlapping of the two registers the cylinder is made to revolve once in about

52 hours. The thermometer frames are covered by metal plates having longitudinal slits, so that light can pass through the slit only above the surface of the mercury. At each degree a fine cross wire is placed, thicker at the decades of degrees, and also at 32°, 52°, and 72°. A gas lamp is placed about 9 inches from each thermometer (east of the dry-bulb and west of the wet-bulb), and in each case the light shines through the tube above the mercury, and forms a well-defined line of light upon the paper. As the cylinder revolves horizontally under the light passing through the thermometer tube, the paper thus receives a broad sheet of photographic trace, whose breadth, in the direction of the axis of the cylinder, varies with the varying height of the mercury in the thermometer tube. When the sheet is developed the whole of that part of the paper which in each case passed the slit above the mercury will show photographic trace, with thin white lines corresponding to the degrees, the lower part of the paper remaining white; thus the boundary of the photographic trace indicates the varying temperature. The time scale is determined by interruption of the traces made by the observer at registered times, usually three times a day. The length of 24 hours on each of the thermometer traces is about 9 inches. This apparatus was used in 1887 from March 14 to 31, and from May 13 to October 14 during interruption in the working of the new apparatus arising from accidental causes. It has since been retained in position for employment in case of emergency.

The new and improved thermograph was constructed in the year 1884 by Messrs. Negretti & Zambri from designs furnished by me, and was mounted in the year 1885, but from various causes it was not brought into proper working order until the beginning of the year 1886. It was employed during that year only in an experimental way, in order to ascertain that its action was satisfactory, before giving up the use of the old apparatus. On 1887 January 1, the new apparatus was brought into regular use, but from March 14 to 31 the wet-bulb thermometer having been accidentally broken, the old apparatus had to be again employed. Subsequently difficulties arose with the driving clock and in the month of May it became evident that the clock required almost entire reconstruction, which was carried out by Mr. Kullberg. On 1887 October 15, the new apparatus was again brought into use, and no further interruption in its working has since occurred. The new thermograph is placed nearly in the centre of the south ground under a shed 8 feet square standing upon posts about 8 feet high. This shed is open to the north and is generally similar to that provided for the old apparatus, excepting that the roof inclines somewhat towards the south and that the protecting boards (fixed as far as necessary on the eastern, southern and western sides) are double, with spaces between to ensure a free circulation of air while screening the thermometers from the direct rays of the sun. The thermometers are further protected from sky and ground radiation by boards on the thermometer stand as described below. In the new thermograph I have arranged that the dry and wet bulb traces shall fall on the same part of the photographic cylinder, as regards time-scale, a long air bubble in the wet-bulb thermometer column giving the means of registering the indications of the wet bulb as well as of the degrees and decades of its scale just below the trace of the dry bulb thermometer without any interference of the two records, an arrangement which admits of the time-scale being made equal to that of all the other registers. The stems of the thermometers are placed close together, each being covered by a vertical metal plate having a fine vertical slit, so that light passes through only at such parts of the bore of the tube as do not contain mercury. Two gas lamps, each at a distance of 21 inches, are placed at such an angle that the light from each after passing through its corresponding slit and thermometer tube falls on the photographic paper in one and the same vertical line. Degree lines etched upon the thermometer stems and painted interrupt the light sufficiently to produce a clear and sharp indication on the photographic sheet, the line at each tenth degree being thicker than the others as well as those at 32°, 52°, 72°, &c. The length of scale is from 0° to 120° for each thermometer, the length of 1° being about 0·1 inch, and the air bubble in the wet-bulb thermometer is about 12° in length so that it will always include one of the ten-degree lines. The bulbs, which are 2 inches long and of about ½ an inch in internal bore, are separated horizontally by 5 inches, the tubes of the thermometers having a double bend above the bulbs. The thermometers are carried by a vertical frame with independent vertical adjustment for each thermometer so that the register in summer or winter can be brought to a convenient part of the photographic sheet. The ebonite cylinder round which the sheet is wrapped is 11½ inches high and 14¼ inches in circumference and is driven by a pendulum clock contained within the brass case covering the whole apparatus, excepting the thermometer bulbs which project below. The cylinder makes one revolution in 26 hours, and the time-scale is the same as that for all the other registers.

The driving clock of the new apparatus is made to interrupt the light for a short time at each hour, producing on the sheet when devoloped a corresponding sharp white line; the observer also occasionally interrupts the register for a short time for proper identification of the hourly breaks.

The bulbs of the thermometers were at first completely protected from radiation by vertical or inclined boards fixed to the thermometer stand, two on the south side, two on the north side, one at the east end, one at the west end, and one below, but with proper spaces for free circulation of air. Experiments made in the summer of the year 1886, an account of which is given at the end of the present Introduction, showed that the north and south boards were unnecessary, and the two south boards and one north board were in consequence removed in the month of December 1886.

A comparison of the results given by the old and new apparatus will be found at the end of the Introduction.

RADIATION THERMOMETERS.—These thermometers are placed in the Magnet Ground, a little south of the Magnet House. The thermometer for solar radiation is a self-registering mercurial maximum thermometer by Negretti and Zambra, No. 38592 ; its bulb is blackened, and the thermometer is enclosed in a glass sphere from which the air has been exhausted. The thermometer for radiation to the sky is a self-registering spirit minimum thermometer of Rutherford's construction, by Horne and Thornthwaite, No. 3120. The thermometers are laid on short grass ; they require no correction for index error.

EARTH THERMOMETERS.—These thermometers were made by Adie, of Edinburgh, under the superintendence of Professor J. D. Forbes. They are placed at the north-west corner of the photographic thermometer shed.

The thermometers are four in number, placed in one hole in the ground, the diameter of which in its upper half is 1 foot and in its lower half about 6 inches, each thermometer being attached in its whole length to a slender piece of wood. The thermometer No. 1 was dropped into the hole to such a depth that the centre of its bulb was 24 French feet (25·6 English feet) below the surface, then dry sand was poured in till the hole was filled to nearly half its height. Then No. 2 was dropped in till the centre of its bulb was 12 French feet below the surface ; Nos. 3 and 4 till the centres of their bulbs were respectively 6 and 3 French feet below the surface ; and the hole was then completely filled with dry sand. The upper parts of the tubes carrying the scales were left projecting above the surface ; No. 1 by 27·5 inches, No. 2 by 28·0 inches, No. 3 by 30·0 inches, and No. 4 by 32·0 inches. Of these lengths, 8·5, 10·0, 11·0, and 14·5 inches respectively are in each case tube with narrow bore. The length of 1° on the scales is 1·9 inch, 1·1 inch, 0·9 inch, and 0·5 inch in each case respectively. The ranges of the scales are for No. 1, 46°·0 to 55°·5 ; No. 2, 43°·0 to 58°·0 ; No. 3, 44°·0 to 62°·0 ; and for No. 4, 37°·0 to 68°·0.

The bulbs of the thermometers are cylindrical, 10 or 12 inches long, and 2 or 3 inches in diameter. The bore of the principal part of each tube, from the bulb to the graduated scale, is very small ; in that part to which the scale is attached it is larger ; the fluid in the tubes is alcohol tinged red ; the scales are of opal glass.

The ranges of scale having in previous years been found insufficient, fluid has at times been removed from or added to the thermometers as necessary, corresponding alterations being made in the positions of the attached scales. Information in regard to these changes will be found in previous Introductions.

The parts of the tubes above the ground are protected by a small wooden hut fixed to the ground; the sides of the hut are perforated with numerous holes, and it has a double roof; in the north face is a plate of glass, through which the readings are taken. Within the hut are two small thermometers, one, No. 5, with bulb one inch in the ground, another, No. 6, whose bulb is freely exposed in the centre of the hut.

These thermometers are read every day at noon, and the readings are given without correction. The index errors of Nos. 1, 2, 3, and 4 are unknown; No. 5 appears to read too high by 0°·2, and No. 6 by 0°·4, but no corrections have been applied.

THAMES THERMOMETERS.—Observations of the temperature of the water of the river Thames, which had been discontinued in the year 1879 in consequence of inability to find a suitable station after the placing of the police ship "Royalist" on the river bank, were resumed in the year 1883, under the direction of the Corporation of the City of London. The thermometers are placed at the end of one of the jetties of the Foreign Cattle Market at Deptford, and the record includes observations (by means of two Six's self-registering thermometers made by Negretti and Zambra) of the maximum and minimum temperature of the water at a depth of two feet below the surface, and also near the bottom of the river, the thermometers being read daily at 9^h (civil reckoning). By arrangement with the officers of the Corporation a copy of the record is furnished weekly to the Royal Observatory, in order that the readings of the surface thermometers may be included in the tables of "Daily Results of Meteorological Observations," page (xxviii), in which the highest and lowest readings recorded each morning at 9^h are entered to the same civil day. The observations are made by Mr. G. Philcox, Clerk of the Market. The Royal Observatory authorities are however not responsible for the accuracy of the observations. Owing to derangement of the thermometer the observations were interrupted from June 5 to 17.

OSLER'S ANEMOMETER.—This self-registering anemometer, devised by A. Follett Osler, for continuous registration of the direction and pressure of the wind and of the amount of rain, is fixed above the north-western turret of the ancient part of the Observatory. For the direction of the wind a large vane, from which a vertical shaft proceeds down to the registering table within the turret, gives motion, by a pinion fixed at its lower end, to a rack-work carrying a pencil. A collar on the vane shaft bears upon anti-friction rollers, running in a cup of oil, rendering the vane very sensitive to changes of direction in light winds. The pencil marks a paper fixed to a board moved horizontally and uniformly by a clock, in a direction transverse to that of the motion of the pencil. The paper carries lines corresponding to the positions of N., E., S., and W. of the vane, with transversal hour-lines. The vane is 60 feet above the adjacent ground, and 215 feet above the mean level of the sea. A fixed mark on the north-eastern turret, in a known azimuth, as determined by celestial observation, is used for examining at any time the position of the direction plate over the registering table, to which reference is made by means of a direction pointer when adjusting a new sheet on the travelling board.

For the pressure of the wind the construction is as follows: At a distance of 2 feet below the vane there is placed a circular pressure plate (with its plane vertical) having an area of $1\frac{1}{3}$ square feet, or 192 square inches, which, moving with the vane in azimuth, and being thereby kept directed towards the wind, acts against a combination of springs in such way that, with a light wind, slender springs are first brought into action, but, as the wind increases, stiffer springs come into play. For a detailed account of the arrangement adopted the reader is referred to the Introduction for the year 1866. [Until 1866 the pressure plate was a square plate, 1 foot square, for which in that year a circular plate, having an area of 2 square feet, was substituted and employed until the spring of the year 1880, when the present circular plate, having an area of $1\frac{1}{3}$ square feet, was introduced.] A short flexible snake chain, fixed to a cross bar in connexion with the pressure plate, and passing over a pulley in the upper part of the shaft is attached to a brass chain (formerly a copper wire) running down the centre of the shaft to the registering table, just before reaching which the chain communicates with a short length of silk cord, which, led round a pulley, gives horizontal motion to the arm carrying the pressure pencil. The substitution, in the year 1882, of the flexible brass chain for the copper wire has greatly increased the delicacy of movement of the pressure pencil, every small movement of the pressure plate being now registered. The scale for pressure, in lbs. on the square foot, is experimentally determined from time to time as appears necessary; the pressure pencil is brought to zero by a light spiral spring. The record of pressure was interrupted from October 30 to November 30 on account of the breaking of the brass chain.

Whilst the action of the pressure apparatus has been satisfactory for moderate winds, it is believed that the record of occasional very large pressures in years preceding 1882 was due principally to irregular action, in excessive gusts, of the connecting copper wire, but the brass chain being always in tension, the movements of the recording pencil have since been in complete sympathy with those of the pressure plate, and in this condition of the apparatus, that is since the year 1882, no pressure greater than about 30 lbs. has been recorded.

A self-registering rain gauge of peculiar construction forms part of the apparatus: this is described under the heading "Rain Gauges."

A new sheet of paper is applied to the instrument every day at noon. The scale of time is the same as that of the magnetic registers.

ROBINSON'S ANEMOMETER.—This instrument is constructed on the principle described by the late Dr. Robinson in the *Transactions of the Royal Irish Academy*, Vol. XXII., for registration of the horizontal movement of the air, and is mounted above the small building on the roof of the Octagon Room. The motion is given by the pressure of the wind on four hemispherical cups, each 5 inches in diameter, the centre of each cup being 15 inches distant from the vertical axis of rotation. The foot of the axis is a hollow flat cone bearing upon a sharp cone, which rises up from the base of a cup of oil. An endless screw acts on a train of wheels furnished with indices for reading off the amount of motion of the air in miles, and a pinion on the axis of one of the wheels draws upwards a rack, to which is attached a rod passing down to the pencil, which marks the paper placed on the vertical revolving cylinder in the chamber below. A motion of the pencil upwards through a space of one inch represents horizontal motion of the air through 100 miles. The revolving hemispherical cups are 56 feet above the adjacent ground, and 211 feet above the mean level of the sea.

The cylinder is driven by a clock in the usual way, and makes one revolution in 24 hours. A new sheet of paper is applied every day at noon. The scale of time is the same as that of Osler's Anemometer and of the magnetic registers.

It is assumed, in accordance with the experiments made by Dr. Robinson, that the horizontal motion of the air is three times the space described by the centres of the cups. To verify this conclusion experiments were made in the year 1860 in Greenwich Park with the anemometer then in use, not the same as that now employed. The instrument was fixed to the end of a horizontal arm, which was made to revolve round a vertical axis. For more detailed account of these experiments see the Introduction for 1880 and for previous years. With the arm revolving in the direction N., E., S., W., opposite to the direction of rotation of the cups, for movement of the instrument through one mile 1·15 was registered; with the arm revolving in the direction N., W., S., E., in the same direction as the rotation of the cups, 0·97 was registered. This was considered to confirm sufficiently the accuracy of the assumption. The hemispherical cups of the instrument with which the experiments were made were each 3½ inches in diameter, the centre of each cup being 7 inches distant from the vertical axis of rotation.

RAIN GAUGES.—During the year 1887 eight rain-gauges were employed, placed at different elevations above the ground, complete information in regard to which will be found at page (lxxxiv) of the Meteorological Section.

The gauge No. 1 forms part of the Osler Anemometer apparatus, and is self-registering, the record being made on the sheet on which the direction and pressure of the wind are recorded. The receiving surface is a rectangular opening 10 × 20 inches (200 square inches in area). The collected water passes into a vessel suspended by spiral springs, which lengthen as the water accumulates, until 0·25 inch is collected. The water then discharges itself by means of the following modification of the siphon. A vertical copper tube, open at both ends, is fixed in the receiver, with one end just projecting below the bottom. Over this tube a larger tube, closed at the top, is loosely placed. The accumulating water, having risen to the top of the inner tube, begins to flow off into a small tumbling bucket, fixed in a globe placed underneath, and carried by the receiver. When full the bucket falls over, throwing the water into a small exit pipe at the lower part of the globe—the only outlet. The water filling the bore of the pipe creates a partial vacuum in the globe sufficient to cause the longer leg of the siphon to act, and the whole remaining contents of the receiver then run off, through the globe, to a waste pipe. The spiral springs at the same time shorten, and raise the receiver. The gradual descent of the water vessel as the rain falls, and the immediate ascent on discharge of the water, act upon a pencil, and cause a corresponding trace to be made on the paper fixed to the moving board of the anemometer. The rain scale on the paper was determined experimentally by passing a known quantity of water through the receiver. The continuous record thus gives complete information on the rate of the fall of rain.

Gauge No. 2 is a ten-inch circular gauge, placed close to gauge No. 1, its receiving surface being precisely at the same level. The gauge is read daily at 9^h Greenwich civil time.

Gauges Nos. 3, 4, and 5 are eight-inch circular gauges, placed respectively on the roof of the Octagon Room, over the roof of the Magnetic Observatory, and on the roof of the Photographic Thermometer Shed. All are read daily at 9^h Greenwich civil time.

Gauges Nos. 6, 7, and 8 are also eight-inch circular gauges, placed on the ground south of the Magnetic Observatory; No. 6 is the old daily gauge, No. 7 the old monthly gauge, and No. 8 an additional gauge brought into use in July 1881, as a check on the readings of Nos. 6 and 7, the monthly amounts collected by these gauges having occasionally shown greater differences than seemed proper. The positions of these gauges were slightly shifted on April 1, 1884. No. 6 is read daily, usually at 9^h, 15^h and 21^h Greenwich civil time, and Nos. 7 and 8 at 9^h only.

The gauges are also read at midnight on the last day of each calendar month.

ELECTROMETER.—The electric potential of the atmosphere is measured by means of a Thomson self-recording electrometer, constructed by White, of Glasgow.

For a full description of the principle of the electrometer reference may be made to Sir William Thomson's "Report on Electrometers and Electrostatic Measurements," contained in the *British Association Report* for the year 1867. It will be sufficient here to give a general description of the instrument which, with its registering apparatus, is planted in the Upper Magnet Room on the slate slab which carries the suspension pulleys of the Horizontal Force Magnet. A thin flat needle of aluminium carrying immediately above it a small light mirror, is suspended, on the bifilar principle, by two silk fibres from an insulated support within a large Leyden jar. A little strong sulphuric acid is placed in the bottom of the jar, and from the lower side of the needle depends a platinum wire, kept stretched by a weight, which connects the needle with the sulphuric acid, that is with the inner coating of the jar. A positive charge of electricity being given to the needle and jar, this charge is easily maintained at a constant potential by means of a small electric machine or replenisher forming part of the instrument, and by which the charge can be either increased or diminished at pleasure. A gauge is provided for the purpose of indicating at any moment the amount of charge. The needle hangs within four insulated quadrants, which may be supposed to be formed by cutting a circular flat brass box into quarters, and then slightly separating them. The opposite quadrants are placed in metallic connexion.

Sir William Thomson's water-dropping apparatus is used to collect the atmospheric electricity. For this purpose a rectangular cistern of copper, capable of holding above 30 gallons of water, is placed near the ceiling on the west side of the south arm of the Upper Magnet Room. The cistern rests on four pillars of glass, each one encircled and nearly completely enclosed by a glass vessel containing sulphuric acid. A pipe passing out from the cistern, through the south face of the building, extends about six feet into the atmosphere, the nozzle (about ten feet above the ground) having a very small hole, through which the water passes and breaks almost immediately into drops.

The cistern is thus brought to the same electrical potential as that of the atmosphere, near the nozzle, and this potential is communicated by means of a connecting wire to one of the pairs of electrometer quadrants, the other pair being connected to earth. The varying atmospheric potential thus influences the motions of the included needle, causing it to be deflected from zero in one direction or the other, according as the atmospheric potential is greater or less than that of the earth, that is according as it is positive or negative.

The small mirror carried by the needle is used for the purpose of obtaining photographic record of its motions. The light of a gas-lamp falling, through a slit, upon the mirror, is thence reflected, and by means of a plano-convex cylindrical lens is brought to a focus at the surface of a horizontal cylinder of ebonite, nearly 7 inches long and 16 inches in circumference, which is turned by clock-work. A second fixed mirror, by means of the same gas-lamp, causes a reference line to be traced round the cylinder. The actual zero is found by cutting off the cistern communication, and placing the pairs of quadrants in metallic connexion with each other and with earth. The break of register at each hour is made by the driving-clock of the electrometer cylinder itself. Other photographic arrangements are generally similar to those which have been described for other instruments.

The scale of time is the same as that of the magnetic registers.

Interruptions sometimes occur through cobwebs making connexion between the cistern or its pipe and the walls of the building, and, in winter, from the occasional freezing of the water in the exit pipe.

SUNSHINE RECORDER.—Until the end of the year 1886 the instrument with which the record given in the printed volume was made was that presented to the Royal Observatory by the late Mr. J. F. Campbell, by whom this method of record was devised. In this instrument, fully described in the Introductions to previous volumes, the recording strip was placed against the surface of a hemispherical metal bowl. This required a very precise adjustment of the strip, which had to be cut to a curve varying with the time of year. Commencing with the year 1887 the record given in the volume is that of a modification of the Campbell form of instrument, as arranged by Sir G. G. Stokes for use at the observing stations of the Meteorological Office. By employing this instrument, the manipulation of which is more simple, there is also the further advantage that the Greenwich results become strictly comparable with those of the Meteorological Office Stations. A very complete account of the Campbell-Stokes instrument is given in the *Quarterly Journal* of the Royal

Meteorological Society, Vol. VI., page 83. The recording cards are supported by carriers no larger than is required for keeping them in proper position; one straight card serves for the equinoctial periods of the year, and another, curved, for the solstitial periods, the only difference between the summer and winter cards being that the summer cards are the longer: grooves are provided so that the cards are placed in position with great readiness. The daily record is transferred to a sheet of paper specially ruled with equal vertical spaces to represent hours, each sheet containing the record for one calendar month. The daily sums, and sums for each hour (reckoning from *apparent* midnight) through the month, are thus readily formed. The recorded durations are to be understood as indicating the amount of *bright* sunshine, no register being obtained when the sun shines faintly through fog or cloud or when the sun is very near the horizon. The instrument is placed on a table upon the platform above the Magnetic Observatory.

The record with the Campbell-Stokes instrument was commenced on 1886 June 1, and that of the original Campbell instrument was continued until 1887 May 31, thus giving a comparison between the two instruments for one complete year, the particulars of which will be found at the end of the present Introduction.

OZONOMETER.—This apparatus is fixed on the south-west corner of the roof of the Photographic Thermometer shed, at a height of about 10 feet from the ground. The box in which the papers are exposed is of wood: it is about 8 inches square, blackened inside, and so constructed that there is free circulation of air through the box, without exposure of the paper to light. The papers exposed at 9^h, 15^h, and 21^h, are collected respectively at 15^h, 21^h, and 9^h, and the degree of tint produced is compared with a scale of graduated tints, numbered from 0 to 10. The value of ozone for the civil day is determined by taking the degree of tint obtained at each hour of collection as proportional to the period of exposure. Thus to form the values for any given civil day, three-fourths of the value registered at 9^h, the values registered at 15^h and 21^h, and one-fourth of that registered at the following 9^h, are added together, the resulting sum (which appears in the tables of "Daily Results of the Meteorological Observations") being taken as the value referring to the civil day on a scale of 0 to 30. The means of the 9^h, 15^h, and 21^h values, as observed, are also given for each month in the foot notes.

§ 7. *Meteorological Reductions.*

The results given in the Meteorological Section refer to the civil day, commencing at midnight.

All results in regard to atmospheric pressure, temperature of the air and of evaporation with deductions therefrom, and atmospheric electricity, are derived from the photographic records, excepting that the maximum and minimum values of air temperature are those given by eye-observation of the ordinary maximum and minimum thermometers at 9^h and 21^h (civil reckoning), reference being made, however, to the photographic register when necessary to obtain the values corresponding to the civil day from midnight to midnight. The hourly readings of the photographic traces for the elements mentioned are entered into a form having double argument, the horizontal argument ranging through the 24 hours of the civil day (0^h to 23^h) and the vertical argument through the days of a calendar month. Then, for all the photographic elements, the means of the numbers standing in the vertical columns of the monthly forms, into which the values are entered, give the mean monthly photographic values for each hour of the day, the means of the numbers in the horizontal columns giving the mean daily value. It should be mentioned that before measuring out the electrometer ordinates, a pencil line was first drawn through the trace to represent the general form of the curve, in the way described for the magnetic registers (page *xxx*), excepting that no day has been omitted on account of unusual electrical disturbance, as it has been found difficult to decide on any limit of disturbance beyond which it would seem proper, as regards determination of diurnal inequality, to reject the results. In measuring the electrometer ordinates a scale of inches is used, and the values given in the tables which follow are expressed in thousandths of an inch, positive and negative potential being denoted by positive and negative numbers respectively. The scale has not been determined in terms of any electrical unit.

To correct the photographic indications of barometer and dry and wet bulb thermometers for small instrumental error, the means of the photographic readings at 9^h, 12^h (noon), 15^h, and 21^h in each month are compared with the corresponding corrected mean readings of the standard barometer and standard dry and wet bulb thermometers, as given by eye-observation. A correction applicable to the photographic reading at each of these hours is thus obtained, and, by interpolation, corrections for the intermediate hours are found. The mean of the twenty-four hourly corrections in each month is adopted as the correction applicable to each mean daily value in the month, separate daily corrections being determined when both the old and the new thermographs were used in the same month. Thus mean hourly and mean daily values of the several elements are obtained for each month. The process of correction is equivalent to giving photographic indications in terms of corrected standard barometer, and in terms of the standard dry and wet bulb thermometers exposed on the free stand. The barometer results are *not* reduced to sea level.

The mean daily temperature of the dew-point and degree of humidity are deduced from the mean daily temperatures of the air and of evaporation by use of Glaisher's *Hygrometrical Tables*. The factors by which the dew-point given in these tables is calculated were found by Mr. Glaisher from the comparison of a great number of dew-point determinations obtained by use of Daniell's hygrometer, with simultaneous observations of dry and wet bulb thermometers, combining observations made at the Royal Observatory, Greenwich, with others made in India and at Toronto. The factors are given in the following table.

TABLE OF FACTORS by which the DIFFERENCE between the READINGS of the DRY-BULB and WET-BULB THERMOMETERS is to be MULTIPLIED in order to PRODUCE the CORRESPONDING DIFFERENCE between the DRY-BULB TEMPERATURE and that of the DEW-POINT.

Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.
° 10	8·78	° 33	3·01	° 56	1·94	° 79	1·69
11	8·78	34	2·77	57	1·92	80	1·68
12	8·78	35	2·60	58	1·90	81	1·68
13	8·77	36	2·50	59	1·89	82	1·67
14	8·76	37	2·42	60	1·88	83	1·67
15	8·75	38	2·36	61	1·87	84	1·66
16	8·70	39	2·32	62	1·86	85	1·65
17	8·62	40	2·29	63	1·85	86	1·65
18	8·50	41	2·26	64	1·83	87	1·64
19	8·34	42	2·23	65	1·82	88	1·64
20	8·14	43	2·20	66	1·81	89	1·63
21	7·88	44	2·18	67	1·80	90	1·63
22	7·60	45	2·16	68	1·79	91	1·62
23	7·28	46	2·14	69	1·78	92	1·62
24	6·92	47	2·12	70	1·77	93	1·61
25	6·53	48	2·10	71	1·76	94	1·60
26	6·08	49	2·08	72	1·75	95	1·60
27	5·61	50	2·06	73	1·74	96	1·59
28	5·12	51	2·04	74	1·73	97	1·59
29	4·63	52	2·02	75	1·72	98	1·58
30	4·15	53	2·00	76	1·71	99	1·58
31	3·70	54	1·98	77	1·70	100	1·57
32	3·32	55	1·96	78	1·69		

In the same way the mean hourly values of the dew-point temperature and degree of humidity in each month (pages (lvii) and (lviii)) have been calculated from the corresponding mean hourly values of air and evaporation temperatures (pages (lvi) and (lvii)).

The excess of the mean temperature of the air on each day above the average of 20 years, given in the "Daily Results of Meteorological Observations," is found by comparing the numbers contained in column 6 with a table of average daily temperatures found by smoothing the accidental irregularities of the numbers given in Table LXXVII. of the "Reduction of Greenwich Meteorological Observations, 1847–1873," which are similarly deduced from photographic records. The smoothed numbers are given in the following table.

ADOPTED VALUES of MEAN TEMPERATURE of the AIR, deduced from TWENTY-FOUR HOURLY READINGS on each Day, for every Day of the Year, as obtained from the PHOTOGRAPHIC RECORDS for the Period 1849–1868.

Day of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	38.1	40.5	40.3	45.3	48.7	57.5	61.6	62.6	60.1	54.7	47.0	41.5
2	37.9	40.6	40.4	45.7	48.9	57.7	61.5	62.7	60.0	54.4	46.7	41.8
3	37.8	40.7	40.5	46.1	49.1	57.9	61.4	62.7	59.8	54.0	46.4	42.1
4	37.7	40.7	40.5	46.4	49.4	58.1	61.4	62.7	59.7	53.7	46.0	42.4
5	37.6	40.6	40.5	46.6	49.7	58.2	61.5	62.7	59.5	53.4	45.6	42.6
6	37.6	40.4	40.5	46.7	50.0	58.3	61.7	62.7	59.3	53.0	45.2	42.7
7	37.6	40.2	40.6	46.8	50.3	58.4	61.9	62.7	59.0	52.7	44.7	42.8
8	37.7	39.9	40.6	46.8	50.6	58.5	62.2	62.7	58.8	52.5	44.3	42.8
9	37.7	39.6	40.7	46.9	50.8	58.5	62.5	62.7	58.5	52.3	43.8	42.8
10	37.8	39.3	40.7	46.9	51.1	58.6	62.7	62.7	58.3	52.1	43.4	42.7
11	37.9	39.1	40.8	47.0	51.4	58.7	62.9	62.7	58.1	51.9	43.0	42.5
12	38.1	38.9	40.8	47.1	51.8	58.8	63.1	62.6	58.0	51.7	42.6	42.2
13	38.2	38.8	40.9	47.2	52.1	58.9	63.3	62.5	57.8	51.6	42.3	41.8
14	38.3	38.7	41.0	47.4	52.5	59.1	63.4	62.4	57.6	51.4	42.0	41.5
15	38.4	38.7	41.1	47.5	52.9	59.3	63.4	62.3	57.4	51.3	41.8	41.1
16	38.5	38.8	41.2	47.6	53.3	59.5	63.5	62.1	57.3	51.2	41.6	40.8
17	38.6	38.9	41.3	47.8	53.7	59.7	63.5	61.9	57.1	51.1	41.5	40.5
18	38.8	39.0	41.4	47.9	54.1	59.9	63.4	61.8	56.9	51.0	41.5	40.2
19	38.9	39.2	41.4	48.0	54.4	60.2	63.3	61.6	56.8	50.8	41.4	40.0
20	39.1	39.3	41.5	48.1	54.7	60.5	63.2	61.4	56.6	50.6	41.3	39.8
21	39.3	39.5	41.6	48.2	55.0	60.8	63.0	61.3	56.4	50.4	41.2	39.6
22	39.5	39.6	41.7	48.2	55.3	61.1	62.9	61.3	56.2	50.1	41.1	39.4
23	39.6	39.7	41.8	48.3	55.5	61.4	62.8	61.2	56.1	49.7	41.0	39.3
24	39.7	39.8	42.0	48.3	55.7	61.7	62.7	61.1	55.9	49.4	41.0	39.3
25	39.8	39.9	42.3	48.4	55.9	61.9	62.7	61.0	55.8	49.1	40.9	39.2
26	39.9	40.0	42.6	48.4	56.1	62.0	62.7	60.9	55.7	48.8	40.8	39.1
27	40.0	40.1	43.0	48.4	56.3	62.0	62.6	60.8	55.5	48.5	40.8	39.0
28	40.1	40.2	43.4	48.5	56.5	61.9	62.6	60.7	55.4	48.2	40.9	38.8
29	40.2		43.8	48.5	56.8	61.8	62.6	60.6	55.2	47.9	41.0	38.7
30	40.3		44.3	48.6	57.0	61.7	62.6	60.4	54.9	47.6	41.2	38.5
31	40.4		44.8		57.3		62.6	60.3		47.3		38.3
Means	38.7	39.7	41.5	47.5	53.1	59.8	62.6	61.9	57.5	51.0	42.7	40.8

The mean of the twelve monthly values is 49°.7.

The daily register of rain contained in column 18 is that recorded by the gauge No. 6, whose receiving surface is 5 inches above the ground. This gauge is usually read at 9^h, 15^h, and 21^h Greenwich civil time. The continuous record of Osler's self-registering gauge shows whether the amounts measured at 9^h are to be placed to the same, or to the preceding civil day; and in cases in which rain fell both before and after midnight, also gives the means of ascertaining the proper proportion of the 9^h amount which should be placed to each civil day. The number of days of rain given in the foot notes, and in the abstract tables, pages (lv) and (lxxxiv), is formed from the records of this gauge. In this numeration only those days are counted on which the fall amounted to or exceeded $0^{in}\cdot 005$.

The indications of atmospheric electricity are derived from Thomson's Electrometer. Occasionally, during interruption of photographic registration, the results depend on eye-observations.

No particular explanation of the anemometric results seems necessary. It may be understood generally that the greatest pressures usually occur in gusts of short duration. The " Mean of 24 Hourly Measures " was in former years the mean of 24 measures of pressure taken *at* each hour, but commencing with 1887 January 1 it is the mean of measures each one of which is the average pressure during the hour of which the nominal hour is the middle point.

The mean amount of cloud given in a foot note on the right-hand page, and in the abstract table, page (lv), is the mean found from observations made usually at 9^h, 12^h (noon), 15^h, and 21^h, of each civil day.

For understanding the divisions of time under the headings " Clouds and Weather " and " Electricity," the following remarks are necessary :—In regard to Clouds and Weather, the day is divided by columns into two parts (from midnight to noon, and from noon to midnight), and each of these parts is subdivided into two or three parts by colons (:). Thus, when there is a single colon in the first column, it denotes that the indications before it apply (roughly) to the interval from midnight to 6^h, and those following it to the interval from 6^h 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. In regard to Electricity the results are included in one column ; in this case the colons divide the whole period of 24 hours (midnight to midnight).

The notation employed for Clouds and Weather is as follows, it being understood that for clouds Howard's Nomenclature is used. The figure denotes the proportion of sky covered by cloud, an overcast sky being represented by 10.

a	denotes	*aurora borealis*
ci	...	*cirrus*
ci-cu	...	*cirro-cumulus*
ci-s	...	*cirro-stratus*
cu	...	*cumulus*
cu-s	...	*cumulo-stratus*
d	...	*dew*
hy-d	...	*heavy dew*
f	...	*fog*
slt-f	...	*slight fog*
tk-f	...	*thick fog*
fr	...	*frost*
ho-fr	...	*hoar frost*
g	...	*gale*
hy-g	...	*heavy gale*
glm	...	*gloom*
gt-glm	...	*great gloom*
h	...	*haze*
slt-h	...	*slight haze*
hl	...	*hail*
l	...	*lightning*
li-cl	...	*light clouds*
lu-co	...	*lunar corona*
lu-ha	...	*lunar halo*
m	...	*mist*
slt-m	...	*slight mist*
n	...	*nimbus*
p-cl	...	*partially cloudy*
prh	...	*parhelion*
prs	...	*paraselene*
r	...	*rain*
c-r	...	*continued rain*
fr-r	...	*frozen rain*
fq-r	...	*frequent rain*
hy-r	...	*heavy rain*
c-hy-r	...	*continued heavy rain*
m-r	...	*misty rain*
fq-m-r	...	*frequent misty rain*
oc-m-r	denotes	*occasional misty rain*
oc-r	...	*occasional rain*
sh-r	...	*shower of rain*
shs-r	...	*showers of rain*
slt-r	...	*slight rain*
oc-slt-r	...	*occasional slight rain*
th-r	...	*thin rain*
fq-th-r	...	*frequent thin rain*
oc-th-r	...	*occasional thin rain*
hy-sh	...	*heavy shower*
slt-sh	...	*slight shower*
fq-shs	...	*frequent showers*
hy-shs	...	*heavy showers*
fq-hy-shs	...	*frequent heavy showers*
oc-hy-shs	...	*occasional heavy showers*
li-shs	...	*light showers*
oc-shs	...	*occasional showers*
s	...	*stratus*
sc	...	*scud*
li-sc	...	*light scud*
sl	...	*sleet*
sn	...	*snow*
oc-sn	...	*occasional snow*
slt-sn	...	*slight snow*
so-ha	...	*solar halo*
sq	...	*squall*
sqs	...	*squalls*
fq-sqs	...	*frequent squalls*
hy-sqs	...	*heavy squalls*
fq-hy-sqs	...	*frequent heavy squalls*
oc-sqs	...	*occasional squalls*
t	...	*thunder*
t-sm	...	*thunder storm*
th-cl	...	*thin clouds*
v	...	*variable*
vv	...	*very variable*
w	...	*wind*
st-w	...	*strong wind*

The following is the notation employed for Electricity :—

N denotes *negative*		w denotes *weak*	
P ...	*positive*	s ..	*strong*
m ...	*moderate*	v ...	*variable*

The duplication of the letter denotes intensity of the modification described, thus, ss, is very strong; vv, very variable. 0 indicates zero potential, and a dash "—" accidental failure of the apparatus.

The remaining columns in the tables of "Daily Results" seem to require no special remark; all necessary explanation regarding the results therein contained will be found in the notes at the foot of the left-hand page, or in the descriptions of the several instruments given in § 6.

In regard to the comparisons of the extremes and means, &c. of meteorological elements with average values, contained in the foot notes, it may be mentioned that the photographic barometric results are compared with the corresponding barometric results, 1854–1873, and the photographic thermometric results and deductions therefrom with the corresponding thermometric results, 1849–1868 (see "Reduction of Greenwich Meteorological Observations 1847–1873"). Other deductions, from eye observations, are compared with averages for the period 1841–1886.

The tables following the "Daily Results" require no lengthened explanation. They consist of tables giving the highest and lowest readings of the barometer through the year; monthly abstracts of the principal meteorological elements; hourly values in each month of barometer reading, of temperature of air, evaporation, and dew point, and of degree of humidity; sunshine results; observations of thermometers in a Stevenson screen and on the roof of the Magnet House, and of the earth thermometers; changes of direction of the wind; hourly values in each month of the horizontal movement of the air derived from Robinson's Anemometer; results derived from the Thomson Electrometer; rain results; and observations of meteors.

In the tables of mean values of meteorological elements at each hour for the different months of the year, the mean values have, in previous years, been given for the hours 0^h to 23^h only. But since 1886 the mean for the 24th hour (the following midnight) has been added, thus indicating the amount of non-periodic variation. The monthly means have also been given since 1886 for the 24 hours, 1^h to 24^h, as well as for the hours, 0^h (midnight) to 23^h, which were given in former years.

It may be pointed out that the monthly means, 0^h to 23^h, for barometer and temperature of the air and of evaporation contained in these tables, pages (lvi) and (lvii), do not in some cases agree with the monthly means given in the daily results, pages (xxviii) to (l), and in the table on page (lv), in consequence of occasional interruption of the photographic register, at which times daily values to complete the daily results could be supplied from the eye observations, as mentioned in the foot notes, but hourly values, for the diurnal inequality tables, could not be so supplied. In such cases, however, the means given with these tables are the proper means to be used in connexion with the numbers standing immediately above them, for formation of the actual diurnal inequality.

The table "Abstract of the Changes of the Direction of the Wind" as derived from Osler's Anemometer, page (lxxiii), exhibits every change of direction of the wind occurring throughout the year whenever such change amounted to two nautical points or $22\frac{1}{2}°$. It is to be understood that the change from one direction to another during the interval between the times mentioned in each line of the table was generally gradual. All complete turnings of the vane which were evidently of accidental nature, and which in the year 1881 and in previous years had been included, are here omitted. Between any time given in the second column and that next following in the first column no change of direction in general occurred varying from that given by so much as one point or $11\frac{1}{4}°$. From the numbers given in this table the monthly and yearly excess of motion, page (lxxviii), is formed. By direct motion it is to be understood that the change of direction occurred in the order N, E, S, W, N, &c., and by retrograde motion that the change occurred in the order N, W, S, E, N, &c.

In regard to Electric Potential of the Atmosphere, in addition to giving the hourly values in each month, including all available days, the days in each month have been (since the year 1882) further divided into two groups, one containing all days on which the rainfall amounted to or exceeded $0^{in}.020$, the other including only days on which no rainfall was recorded, the values of daily rainfall given in column 18 of the "Daily Results of Meteorological Observations" being adopted in selecting the days. These additional tables are given on pages (lxxxii) and (lxxxiii) respectively.

In regard to the observations of Luminous Meteors, it is simply necessary to say that in general only special meteor showers are watched for, such as those of April, August, and November. The observers of meteors in the year 1887 were Mr. Nash, Mr. McClellan, Mr. Finch, Mr. Hope, and Mr. Letchford; their observations are distinguished by the initials N, M, F, H, and L respectively.

W. H. M. CHRISTIE.

Royal Observatory, Greenwich,
1889 June 27.

EXPERIMENTS TO DETERMINE THE INFLUENCE OF THE CIRCULAR BOARD OF THE REVOLVING FRAME CARRYING THE DRY BULB AND WET BULB THERMOMETERS, AS REGARDS RADIATION FROM THE GROUND.

In the following experiments made in the year 1886 the circular board fixed about 1 foot below the dry bulb and wet bulb thermometers was alternately removed and attached in order to ascertain the effect of the board as regards protection of the thermometers on the stand from the influence of radiation from the ground. On August 30 and 31 simultaneous readings of the Dry Bulb Thermometer on the Roof of the Magnet House were also taken. Days of high temperature and bright sunshine were selected for experiment as likely to give the greatest radiation effect. The observations were made by Mr. Finch.

READINGS OF THE STANDARD DRY BULB AND WET BULB THERMOMETERS ON THE REVOLVING STAND WITH THE CIRCULAR BOARD ALTERNATELY REMOVED AND ATTACHED, AND CORRESPONDING READINGS OF THE DRY BULB THERMOMETER ON THE ROOF OF THE MAGNET HOUSE.

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board: removed. Dry Bulb.	removed. Wet Bulb.	attached. Dry Bulb.	attached. Wet Bulb.	Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
d h m		°	°	°	°	°	°
Aug. 21. 10. 35	R.						
10. 40		69·4	62·7				
10. 45		69·6	63·4				
10. 50	A.						
10. 55				69·8	62·9		
11. 0				71·3	63·9		
11. 5	R.						
11. 10		70·2	63·7				
11. 15		70·9	63·9				
11. 20	A.						
11. 25				71·4	63·9		
11. 30				71·7	64·2		
11. 35	R.						
11. 40		70·5	62·9				
11. 45		71·3	63·6				
Aug. 21. 11. 50	A.						
11. 55				71·4	63·9		
12. 0				70·2	63·5		
12. 5	R.						
12. 10		72·4	65·1				
12. 15		72·9	65·0				
12. 20	A.						
12. 25				72·6	64·6		
12. 30				73·6	65·9		
12. 35	R.						
12. 40		72·2	64·3				
12. 45		71·8	64·4				
12. 50	A.						
12. 55				73·0	64·9		
13. 0				74·0	66·0		

READINGS OF THE STANDARD DRY AND WET BULB THERMOMETERS—*continued.*

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board removed.		attached.		Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
d h m		°	°	°	°		°
Aug. 21. 13. 5	R.						
13. 10		73·3	65·1				
13. 15		73·8	65·9				
Means ...	...	71·5	64·2	71·9	64·4	...	...
Aug. 28. 9. 55	R.						
10. 0		70·5	64·2				
10. 5		68·5	62·9				
10. 5+	A.						
10. 10				69·0	63·1		
10. 15				68·8	63·0		
10. 15+	R.						
10. 20		68·7	62·3				
10. 25		68·2	61·9				
10. 25+	A.						
10. 30				71·0	63·9		
10. 35				70·2	63·3		
10. 35+	R.						
10. 40		68·8	62·2				
10. 45		69·2	63·2				
10. 45+	A.						
10. 50				68·7	62·0		
10. 55				71·5	64·3		
10. 55+	R.						
11. 0		70·8	63·6				
11. 5		69·9	63·3				
11. 5+	A.						
11. 10				69·8	63·0		
11. 15				69·8	62·7		
11. 15+	R.						
11. 20		69·6	62·9				
11. 25		68·7	62·3				
11. 25+	A.						
11. 30				70·0	63·6		
11. 35				69·5	62·9		
11. 35+	R.						
11. 40		68·8	62·2				
11. 45		69·3	62·8				

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board removed.		attached.		Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
d h m		°	°	°	°	°	°
Aug. 28. 11. 45+	A.						
11. 50				70·0	63·1		
11. 55				69·8	63·0		
11. 55+	R.						
12. 0		70·2	63·4				
12. 5		71·2	64·0				
12. 5+	A.						
12. 10				72·1	64·8		
12. 15				73·8	65·3		
12. 15+	R.						
12. 20		73·4	65·1				
12. 25		73·9	65·2				
12. 25+	A.						
12. 30				72·8	64·6		
12. 35				72·4	64·7		
12. 35+	R.						
12. 40		73·9	65·4				
12. 45		73·1	64·9				
12. 45+	A.						
12. 50				72·2	64·1		
12. 55				72·2	64·8		
12. 55+	R.						
13. 0		73·2	65·2				
13. 5		73·9	65·3				
13. 5+	A.						
13. 10				72·2	63·8		
13. 15				72·8	64·1		
13. 15+	R.						
13. 20		74·0	65·5				
13. 25		73·8	65·5				
Means ...	...	71·0	63·8	70·9	63·7	...	...
Aug. 30. 9. 25	R.						
9. 30		75·8	68·0				
9. 35		76·3	68·1				
9. 35+	A.						
9. 40				77·8	68·9		
9. 45				77·8	68·7		

READINGS OF THE STANDARD DRY AND WET BULB THERMOMETERS—*continued.*

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board removed. Dry Bulb.	removed. Wet Bulb.	attached. Dry Bulb.	attached. Wet Bulb.	Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
d h m		°	°	°	°	°	°
Aug. 30. 9. 45+	R.						
9. 50		77·2	68·2				
9. 55		77·9	68·9				
9. 55+	A.						
10. 0				77·9	68·4		
10. 5				79·3	69·8		
10. 5+	R.						
10. 10		79·0	69·0				
10. 15		80·1	70·2				
10. 15+	A.						
10. 20				80·1	69·6		
10. 25				81·1	70·5		
10. 25+	R.						
10. 30		80·8	70·1				
10. 35		82·2	70·9				
10. 35+	A.						
10. 40				81·8	69·5		
10. 45				81·8	69·0		
10. 45+	R.						
10. 50		82·8	70·4				
10. 55		82·7	69·3				
10. 55+	A.						
11. 0				83·0	69·2		
11. 5				83·0	68·9		
11. 5+	R.						
11. 10		82·9	69·3				
11. 15		83·8	70·1				
11. 15+	A.						
11. 20				84·1	70·6		
11. 25				84·9	71·1		
11. 25+	R.						
11. 30		83·7	70·1				
11. 35		84·0	71·1				
11. 35+	A.						
11. 40				84·9	71·3		
11. 45				83·9	70·8		
11. 45+	R.						
11. 50		84·0	71·1				
11. 55		84·3	71·1				
Aug. 30. 11. 55+	A.						
12. 0				84·4	71·0		
12. 2½							81·9
12. 5				84·4	71·3		
12. 5+	R.						
12. 10		84·8	72·0				
12. 12½						82·8	
12. 15		85·2	71·9				
12. 15+	A.						
12. 20				84·8	71·4		
12. 22½							82·7
12. 25				85·0	71·8		
12. 25+	R.						
12. 30		85·7	71·9				
12. 32½						83·8	
12. 35		86·4	72·9				
12. 35+	A.						
12. 40				85·7	71·3		
12. 42½							83·9
12. 45				86·5	72·6		
12. 45+	R.						
12. 50		85·4	71·3				
12. 52½						84·4	
12. 55		85·1	71·2				
12. 55+	A.						
13. 0				86·4	72·0		
13. 2½							83·8
13. 5				85·8	71·9		
13. 5+	R.						
13. 10		85·9	72·2				
13. 12½						83·8	
13. 15		85·9	71·8				
13. 15+	A.						
13. 20				86·3	72·0		
13. 22½							84·6
13. 25				86·9	72·2		
13. 25+	R.						
13. 30		86·0	71·9				
13. 32½						84·6	
13. 35		86·5	72·5				

READINGS OF THE STANDARD DRY AND WET BULB THERMOMETERS—*continued.*

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board removed. Dry Bulb.	removed. Wet Bulb.	attached. Dry Bulb.	attached. Wet Bulb.	Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
d h m		°	°	°	°	°	°
Aug. 30. 13. 35+	A.						
13. 40				85·3	71·5		
13. 42½							84·1
13. 45				85·6	71·6		
13. 45+	R.						
13. 50		86·3	71·9				
13. 52½						84·8	
13. 55		86·3	72·2				
13. 55+	A.						
14. 0				85·2	71·2		
14. 2½							84·8
14. 5				86·1	71·3		
14. 5+	R.						
14. 10		85·8	70·7				
14. 12½						84·3	
14. 15		85·9	71·0				
14. 15+	A.						
14. 20				86·7	71·9		
14. 22½							84·4
14. 25				86·5	71·9		
14. 25+	R.						
14. 30		84·8	70·4				
14. 32½						84·1	
14. 35		85·5	7[illegible]·2				
14. 35+	A.						
14. 40				85·8	71·6		
14. 42½							84·2
14. 45				85·4	71·3		
14. 45+	R.						
14. 50		85·5	71·5				
14. 52½						84·3	
14. 55		85·8	71·9				
Means ...	...	83·5	70·8	83·9	70·8	...	...
Aug. 31. 10. 40	R.						
10. 45		82·6	71·9				
10. 47½						81·3	
10. 50		83·4	72·0				
Aug. 31. 10. 50+	A.						
10. 55				82·8	70·9		
10. 57½							81·5
11. 0				82·8	70·7		
11. 0+	R.						
11. 5		83·7	72·1				
11. 7½						82·8	
11. 10		84·0	71·2				
11. 10+	A.						
11. 15				82·8	70·8		
11. 17½							81·4
11. 20				83·8	71·9		
11. 20+	R.						
11. 25		84·0	72·2				
11. 27½						82·5	
11. 30		84·9	72·9				
11. 30+	A.						
11. 35				84·7	72·7		
11. 37½							82·1
11. 40				84·2	72·3		
11. 40+	R.						
11. 45		84·9	72·7				
11. 47½						82·4	
11. 50		84·8	72·5				
11. 50+	A.						
11. 55				84·1	72·0		
11. 57½							83·1
12. 0				84·1	72·4		
12. 0+	R.						
12. 5		83·6	72·3				
12. 7½						81·4	
12. 10		84·5	73·1				
12. 10+	A.						
12. 15				85·0	73·2		
12. 17½							82·4
12. 20				84·4	72·9		
12. 20+	R.						
12. 25		85·0	73·2				
12. 27½						82·1	
12. 30		85·2	74·2				

READINGS OF THE STANDARD DRY AND WET BULB THERMOMETERS—*concluded*.

Greenwich Civil Time, 1886.	Circular board removed (R.) or attached (A.).	Readings of Thermometers on the revolving stand with the circular board removed. Dry Bulb.	removed. Wet Bulb.	attached. Dry Bulb.	attached. Wet Bulb.	Corresponding Readings of Dry Bulb Thermometer on Roof of Magnet House.	
d h m		°	°	°	°	°	°
Aug. 31. 12. 30+	A.						
12. 35				87·1	75·1		
12. 37½							84·8
12. 40				87·2	74·4		
12. 40+	R.						
12. 45		86·8	73·5				
12. 47½						85·3	
12. 50		86·9	73·2				
12. 50+	A.						
12. 55				85·8	71·6		
12. 57½							83·9
13. 0				86·4	72·9		
13. 0+	R.						
13. 5		86·5	71·6				
13. 7½						85·2	
13. 10		87·8	73·1				
13. 10+	A.						
13. 15				86·9	72·4		
13. 17½							84·8
13. 20				86·7	71·4		
13. 20+	R.						
13. 25		87·0	71·8				
13. 27½						85·1	
13. 30		87·9	73·8				
Aug. 31. 13. 30+	A.						
13. 35				87·7	72·1		
13. 37½							85·8
13. 40				87·9	72·5		
13. 40+	R.						
13. 45		87·4	72·3				
13. 47½						86·4	
13. 50		87·4	71·9				
13. 50+	A.						
13. 55				87·2	72·0		
13. 57½							86·8
14. 0				87·7	72·2		
14. 0+	R.						
14. 5		87·4	70·9				
14. 7½						86·2	
14. 10		87·0	70·9				
14. 10+	A.						
14. 15				88·0	72·3		
14. 17½							86·2
14. 20				86·5	70·1		
14. 20+	R.						
14. 25		86·2	70·1				
14. 27½						86·3	
14. 30		87·7	72·1				
Means ...	...	85·7	72·3	85·6	72·2	83·9	83·9

SUMMARY.

Period of Experiment. 1886.	Mean Readings of the Thermometers on the revolving stand with the circular board of stand removed. Dry Bulb.	removed. Wet Bulb.	attached. Dry Bulb.	attached. Wet Bulb.	Excess of Reading with circular board removed. Dry Bulb.	Wet Bulb.	Corresponding Mean Readings of Dry Bulb Thermometer on roof of Magnet House.		Duration of Experiment.	Duration of bright sunshine.
h. m. h. m.	°	°	°	°	°	°	°	°	h. m.	h. m.
Aug. 21. 10. 35 to 13. 15	71·5	64·2	71·9	64·4	−0·4	−0·2	...	...	2. 40	2. 40
28. 9. 55 " 13. 25	71·0	63·8	70·9	63·7	+0·1	+0·1	...	...	3. 30	2. 0
30. 9. 25 " 14. 55	83·5	70·8	83·9	70·8	−0·4	0·0	...	...	5. 30	5. 30
31. 10. 40 " 14. 30	85·7	72·3	85·6	72·2	+0·1	+0·1	83·9	83·9	3. 50	3. 50
	Mean.	Mean.	Mean.	Mean.	Mean.	Mean.			Sum.	Sum.
	°	°	°	°	°	°			h. m.	h. m.
	77·92	67·77	78·07	67·77	−0·15	0·00	...	...	15. 30	14. 0

It appears from these experiments that the effect of radiation with the circular board removed is insensible.

EXPERIMENTS WITH THE STEVENSON THERMOMETER SCREEN.

The following experiments were made in order to see whether with the door of the Stevenson Screen open the thermometers were in any way influenced by radiation from external objects. Simultaneous readings of the dry bulb and wet bulb thermometers on the revolving stand, and of the dry bulb thermometer on the roof of the Magnet House were also taken. Days of high temperature and bright sunshine were selected for experiment as likely to give the greatest radiation effect. The observations were made by Mr. Finch.

READINGS OF THE DRY BULB AND WET BULB THERMOMETERS IN THE STEVENSON SCREEN WITH THE DOOR OF THE SCREEN ALTERNATELY OPEN AND SHUT, AND CORRESPONDING READINGS OF THE DRY BULB AND WET BULB THERMOMETERS ON THE REVOLVING STAND, AND OF THE DRY BULB THERMOMETER ON THE ROOF OF THE MAGNET HOUSE.

Greenwich Civil Time, 1887.	Door of Stevenson Screen opened (O.) or shut (S.).	Readings of Thermometers in the Stevenson Screen with the door of screen				Corresponding Readings of Thermometers on the revolving stand.				Corresponding Readings of Dry Bulb Thermometer on roof of Magnet House.	
		open.		shut.							
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb,	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
h m		°	°	°	°	°	°	°	°	°	°
July 4. 11. 15	O.										
11. 20		85·2	65·8			87·6	67·1				
11. 25		84·6	65·4			87·4	66·8				
11. 30		86·4	66·5			88·4	67·3				
11. 30+	S.										
11. 35				86·4	66·3			88·1	66·9		
11. 40				87·0	66·5			88·5	67·3		
11. 45				87·4	66·6			88·5	66·9		
11. 45+	O.										
11. 50		87·5	67·0			89·1	67·6				
11. 55		86·6	65·8			89·1	67·7				
12. 0		86·4	66·2			88·8	67·3				
12. 0+	S.										
12. 5				86·3	65·6			87·3	66·3		
12. 10				87·2	66·9			88·9	67·2		
12. 15				86·7	65·8			88·4	66·9		

READINGS OF THE DRY BULB AND WET BULB THERMOMETERS IN THE STEVENSON SCREEN—*continued.*

Greenwich Civil Time, 1887.		Door of Stevenson Screen opened (O.) or shut (S.).	Readings of Thermometers in the Stevenson screen with the door of screen open.		shut.		Corresponding Readings of Thermometers on the revolving stand.				Corresponding Readings of Dry Bulb Thermometer on roof of Magnet House.	
			Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
	h m		°	°	°	°	°	°	°	°	°	°
July 4.	12. 15+	O.										
	12. 20		87·7	66·9			90·2	68·4				
	12. 25		87·1	65·9			88·6	67·3				
	12. 30		87·3	66·5			89·4	67·5				
	12. 30+	S.										
	12. 35				86·9	66·0			87·1	66·9		
	12. 40				87·0	66·8			89·4	68·3		
	12. 45				87·6	67·3			90·2	68·8		
	12. 45+	O.										
	12. 50		88·2	67·1			90·1	67·9				
	12. 55		88·4	66·9			90·3	68·6				
	13. 0		88·3	68·1			90·9	69·5				
	13. 0+	S.										
	13. 5				88·2	67·3			90·9	68·6		
	13. 10				88·3	67·5			90·2	68·6		
	13. 15				88·2	67·3			89·5	68·1		
	13. 15+	O.										
	13. 20		87·0	66·5			88·4	66·7				
	13. 25		87·3	66·7			89·4	68·1			86·4	
	13. 30		88·0	67·6			90·7	69·3			87·3	
	13. 30+	S.										
	13. 35				87·6	67·3			90·3	69·2		86·5
	13. 40				88·0	68·1			90·6	69·0		87·4
	13. 45				88·0	67·8			90·4	69·2		87·5
	13. 45+	O.										
	13. 50		87·0	67·4			88·7	67·6			87·5	
	13. 55		87·6	67·3			89·8	68·3			88·1	
	14. 0		87·3	66·5			89·4	67·8			87·8	
	14. 0+	S.										
	14. 5				87·9	66·8			89·4	67·3		87·6
	14. 10				88·5	67·8			89·5	67·9		88·2
	14. 15				88·0	67·0			89·5	68·3		88·0
	14. 15+	O.										
	14. 20		87·4	66·8			89·1	67·9			88·2	
	14. 25		86·6	66·2			89·2	67·9			88·1	
	14. 30		87·6	67·3			89·8	68·5			88·3	
Means ...	...	...	87·1	66·7	87·5	66·9	89·3	67·9	89·3	67·9	...	...

READINGS OF THE DRY BULB AND WET BULB THERMOMETERS IN THE STEVENSON SCREEN—*continued.*

Greenwich Civil Time, 1887.		Door of Stevenson Screen opened (O.) or shut (S.).	Readings of Thermometers in the Stevenson Screen with the door of screen				Corresponding Readings of Thermometers on the revolving stand.				Corresponding Readings of Dry Bulb Thermometer on roof of Magnet House.	
			open.		shut.							
			Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
	h m		°	°	°	°	°	°	°	°	°	°
Aug. 3.	10. 0	S.			69·5	59·7			70·0	60·6		69·4
	10. 5				68·6	58·9			67·2	58·6		68·2
	10. 10				67·7	58·7			66·5	58·5		67·4
	10. 10+	O.										
	10. 15		69·3	59·6			69·9	61·4			68·9	
	10. 20		69·7	59·6			70·5	60·9			69·3	
	10. 25		70·2	59·8			72·8	62·2			70·1	
	10. 25+	S.										
	10. 30				72·1	61·1			73·5	62·4		71·9
	10. 35				71·1	59·8			71·5	60·5		70·6
	10. 40				70·6	59·4			70·5	59·7		70·2
	10. 40+	O.										
	10. 45		70·6	59·4			70·5	59·7			68·8	
	10. 50		69·7	59·2			70·2	59·9			69·9	
	10. 55		68·6	58·4			68·4	58·9			69·2	
	10. 55+	S.										
	11. 0				69·0	59·2			68·8	58·8		69·2
	11. 5				68·6	58·4			69·3	59·4		69·2
	11. 10				68·3	58·6			68·8	59·6		69·2
Means ...	...	...	69·7	59·3	69·5	59·3	70·4	60·5	69·6	59·8	69·4	69·5
Aug. 4.	10. 0	S.			70·8	59·7			70·7	59·9		70·2
	10. 5				71·2	60·0			71·4	61·2		69·2
	10. 10				71·4	60·4			71·9	61·5		69·9
	10. 10+	O.										
	10. 15		69·8	60·0			69·8	60·0			69·6	
	10. 20		70·5	60·5			71·1	61·4			68·5	
	10. 25		70·4	61·2			70·4	61·1			69·7	
	10. 25+	S.										
	10. 30				71·0	61·2			71·8	62·1		70·5
	10. 35				72·0	60·9			72·1	61·5		70·6
	10. 40				71·1	60·1			71·8	61·0		70·1
	10. 40+	O.										
	10. 45		70·6	59·8			71·2	60·3			70·3	
	10. 50		72·0	60·6			72·8	61·9			71·0	
	10. 55		72·2	60·9			73·2	62·3			70·7	

READINGS OF THE DRY BULB AND WET BULB THERMOMETERS IN THE STEVENSON SCREEN—*continued.*

Greenwich Civil Time, 1887.	Door of Stevenson Screen opened (O.) or shut (S.).	Readings of Thermometers in the Stevenson Screen with the door of screen open. Dry Bulb.	open. Wet Bulb.	shut. Dry Bulb.	shut. Wet Bulb.	Corresponding Readings of Thermometers on the revolving stand. Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Corresponding Readings of Dry Bulb Thermometer on roof of Magnet House.	
h m		°	°	°	°	°	°	°	°	°	°
Aug. 4. 10. 55+	S.										
11. 0				72·8	61·2			72·8	61·5		70·6
11. 5				71·6	60·8			70·8	60·5		70·0
11. 10				71·4	61·2			71·8	61·6		70·7
11. 10+	O.										
11. 15		71·4	61·8			72·2	62·2			69·3	
11. 20		71·7	61·8			72·4	62·1			69·5	
11. 25		69·7	60·8			69·5	60·8			68·5	
11. 25+	S.										
11. 30				70·6	61·3			71·5	62·0		69·4
11. 35				70·6	61·2			71·2	61·6		69·9
11. 40				71·3	61·4			71·0	61·3		69·9
Means	...	70·9	60·8	71·3	60·8	71·4	61·3	71·6	61·3	69·7	70·1
Aug. 6. 10. 0	S.			77·0	67·3			77·4	67·5		75·1
10. 5				77·6	67·8			77·7	67·4		74·9
10. 10				77·3	67·4			78·4	67·5		75·4
10. 10+	O.										
10. 15		78·6	67·0			78·5	66·8			75·8	
10. 20		79·4	66·6			79·1	66·5			78·0	
10. 25		80·6	66·2			81·1	66·2			79·5	
10. 25+	S.										
10. 30				80·1	64·6			80·1	65·0		79·7
10. 35				81·1	65·1			80·6	64·5		79·4
10. 40				80·6	63·9			80·1	63·1		79·8
10. 40+	O.										
10. 45		81·3	63·8			81·4	63·7			80·0	
10. 50		81·1	63·8			80·6	63·5			79·6	
10. 55		80·2	64·2			81·0	64·4			79·5	
10. 55+	S.										
11. 0				81·6	64·4			81·4	64·2		80·9
11. 5				81·6	65·1			81·4	64·5		80·2
11. 10				81·3	63·6			82·9	64·3		79·6
11. 10+	O.										
11. 15		80·7	63·6			83·5	64·9			80·3	
11. 20		83·5	66·4			85·9	67·6			81·9	
11. 25		83·5	65·7			83·7	65·6			81·7	

READINGS OF THE DRY BULB AND WET BULB THERMOMETERS IN THE STEVENSON SCREEN—*concluded.*

Greenwich Civil Time, 1887.	Door of Stevenson Screen opened (O.) or shut (S.).	Readings of Thermometers in the Stevenson Screen with the door of screen open.		Readings of Thermometers in the Stevenson Screen with the door of screen shut.		Corresponding Readings of Thermometers on the revolving stand.				Corresponding Readings of Dry Bulb Thermometer on roof of Magnet House.	
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.		
h m		°	°	°	°	°	°	°	°	°	°
Aug. 6 11.25+	S.										
11.30				83·0	65·1			83·7	66·1		82·2
11.35				83·4	65·5			83·4	65·5		81·7
11.40				82·2	65·5			81·6	65·1		80·6
11.40+	O.										
11.45		82·3	66·4			83·3	67·1			81·2	
11.50		82·4	66·2			83·3	66·6			80·9	
11.55		82·3	65·9			82·9	66·4			80·9	
11.55+	S.										
12. 0				82·2	66·2			84·4	67·8		81·5
12. 5				83·4	67·2			84·4	67·6		81·9
12.10				83·2	66·4			84·3	67·3		81·8
12.10+	O.										
12.15		84·0	64·8			85·6	65·7			82·4	
12.20		84·5	64·4			84·6	64·3			82·3	
12.25		84·4	64·3			85·8	65·4			82·3	
12.25+	S.										
12.30				84·8	64·9			85·5	64·7		82·5
12.35				85·0	64·5			85·8	64·6		82·9
12.40				85·0	64·5			86·4	65·1		82·8
12.40+	O.										
12.45		85·9	65·5			88·0	66·6			84·1	
12.50		84·2	64·2			84·9	64·5			81·1	
12.55		86·3	66·4			88·0	67·2			84·3	
12.55+	S.										
13. 0				86·6	65·8			88·1	66·3		84·7
13. 5				86·8	65·8			87·7	66·2		84·9
13.10				86·0	64·7			85·9	64·4		84·1
13.10+	O.										
13.15		86·3	65·6			87·1	65·3			84·5	
13.20		86·3	65·5			87·2	66·4			84·5	
13.25		86·3	65·6			86·2	64·9			84·6	
13.25+	S.										
13.30				86·7	66·4			87·8	67·4		84·2
13.35				86·2	65·8			86·9	65·6		85·7
13.40				87·0	66·4			87·9	67·0		86·1
Means	...	83·1	65·3	82·9	65·6	83·9	65·7	83·5	65·8	81·4	81·4

It will be understood that the experiments were commenced on August 3, 4, and 6 with the Stevenson Screen closed, its usual state, and not that it had been closed just at the time of taking the first readings.

SUMMARY.

No. of Group.	Period of Experiment, 1887.	Mean Readings of Thermometers in the Stevenson Screen with the door of screen open. Dry Bulb.	open. Wet Bulb.	shut. Dry Bulb.	shut. Wet Bulb.	Excess of Reading with the door of screen open. Dry Bulb.	Wet Bulb	Corresponding Mean Readings of Thermometers on the revolving stand. Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Corresponding Mean Readings of Dry Bulb Thermometer on roof of Magnet House.		Duration of Experi-ment.	Duration of bright sunshine.
	h. m. h. m.	°	°	°	°	°	°	°	°	°	°	°	°	h. m.	h. m.
1	July 4. 11. 15 to 14. 30	87·1	66·7	87·5	66·9	—0·4	—0·2	89·3	67·9	89·3	67·9	...	...	3. 15	3. 15
2	Aug. 3. 10. 0 „ 11. 10	69·7	59·3	69·5	59·3	+0·2	0·0	70·4	60·5	69·6	59·8	69·4	69·5	1. 10	0. 42
3	4. 10. 0 „ 11. 40	70·9	60·8	71·3	60·8	—0·4	0·0	71·4	61·3	71·6	61·3	69·7	70·1	1. 40	1. 40
4	6. 10. 0 „ 13. 40	83·1	65·3	82·9	65·6	+0·2	—0·3	83·9	65·7	83·5	65·8	81·4	81·4	3. 40	3. 40

Results applying to Groups 1 to 4 :—

		Mean.	Mean.	Mean.	Mean.	Mean.	Mean.	Mean.	Mean.	Mean.	Mean.			Sum.	Sum.
		°	°	°	°	°	°	°	°	°	°			h. m.	h. m.
		77·70	63·03	77·80	63·15	—0·10	—0·12	78·75	63·85	78·50	63·70	...	...	9. 45	9. 17

Results applying to Groups 2, 3 and 4 :—

		Mean.		Mean.								Mean.	Mean.	Sum.	Sum.
		°		°		°						°	°	h. m.	h. m.
		74·57	...	74·57	...	0·00	...	...	...	...	...	73·50	73·67	6. 30	6. 2

It appears from these experiments that the effect of radiation with the door of the screen open is insensible.

RADIATION EXPERIMENTS WITH THE NEW THERMOGRAPH.

The following experiments were undertaken in the year 1886 in order to determine the effect produced by the boards provided for protecting the thermometers from the influence of radiation. The boards are attached to the stand carrying the dry and wet bulb thermometers, and consist of two inclined boards on the south side; one upright, with one inclined board below, on the north side; an east end-board; a west end-board; and another, horizontal, below the thermometer bulbs: there being free circulation of air between all the boards.

In the following table radiation boards "attached" indicates that all the boards were in position, and radiation boards "removed" that the two south boards and the two north boards were entirely removed. The temperatures are those of the dry bulb thermometer. For each 20 or 15 minute interval the average thermometric indication for the whole interval was independently determined from the photographic sheets by Messrs. Ellis and Nash respectively, and the mean adopted as the value for the interval. Days of high temperature and bright sunshine were selected for experiment as likely to give the greatest radiation effect.

READINGS OF THE DRY BULB THERMOMETER OF THE NEW THERMOGRAPH WITH RADIATION BOARDS ALTERNATELY ATTACHED AND REMOVED.

Greenwich Civil Time, 1886.		Radiation Boards attached. Dry Bulb Reading.			Radiation Boards removed. Dry Bulb Reading.		
		By E.	By N.	Mean.	By E.	By N.	Mean.
	h. m. h. m.	°	°	°	°	°	°
July 5.	11.40 to 12. 0	76·8	76·6	76·7			
	12. 0 „ 12.20				77·5	77·5	77·5
	12.20 „ 12.40	78·5	78·3	78·4			
	12.40 „ 13. 0				79·2	79·1	79·2
	13. 0 „ 13.20	79·7	79·6	79·7			
	13.20 „ 13.40				79·8	79·7	79·8
	13.40 „ 14. 0	80·0	80·0	80·0			
Means		...	...	78·7	...	...	78·8
	h. m. h. m.	°	°	°	°	°	°
July 7.	12.40 to 13. 0				80·8	81·0	80·9
	13. 0 „ 13.20	81·1	81·0	81·1			
	13.20 „ 13.40				81·7	81·8	81·8
	13.40 „ 14. 0	82·3	82·3	82·3			
	14. 0 „ 14.20				82·7	82·5	82·6
	14.20 „ 14.40	82·5	82·3	82·4			
	14.40 „ 15. 0				81·4	81·5	81·5
Means		...	...	81·9	...	...	81·7

READINGS OF THE DRY BULB THERMOMETER OF THE NEW THERMOGRAPH—*continued.*

Greenwich Civil Time. 1886.		Radiation Boards attached. Dry Bulb Reading. By E.	attached. By N.	attached. Mean.	Radiation Boards removed. Dry Bulb Reading. By E.	removed. By N.	removed. Mean.
	h. m. h. m.	°	°	°	°	°	°
July 20.	10. 0 to 10. 20	67·0	67·0	67·0			
	10. 20 „ 10. 40				67·5	67·4	67·5
	10. 40 „ 11. 0	68·5	68·5	68·5			
	11. 0 „ 11. 20				69·8	69·7	69·8
	11. 20 „ 11. 40	70·5	70·6	70·6			
	11. 40 „ 12. 0				70·4	70·3	70·4
	12. 0 „ 12. 20	70·8	70·7	70·8			
	12. 20 „ 12. 40				71·2	71·2	71·2
	12. 40 „ 13. 0	71·6	71·6	71·6			
	13. 0 „ 13. 20				72·5	72·3	72·4
	13. 20 „ 13. 40	72·8	72·9	72·9			
	13. 40 „ 14. 0				73·1	73·2	73·2
	14. 0 „ 14. 20	73·2	73·2	73·2			
Means		...	...	70·7	...	...	70·7
	h. m. h. m.	°	°	°	°	°	°
July 21.	9. 40 to 10. 0	77·2	77·2	77·2			
	10. 0 „ 10. 20				78·0	77·9	78·0
	10. 20 „ 10. 40	79·0	78·8	78·9			
	10. 40 „ 11. 0				80·2	80·0	80·1
	11. 0 „ 11. 20	81·4	81·6	81·5			
	11. 20 „ 11. 40				82·4	82·4	82·4
	11. 40 „ 12. 0	82·0	82·0	82·0			
	12. 0 „ 12. 20				81·2	81·2	81·2
	12. 20 „ 12. 40	80·6	80·6	80·6			
	12. 40 „ 13. 0				80·2	80·2	80·2
	13. 0 „ 13. 20	80·2	80·4	80·3			
	13. 20 „ 13. 40				81·8	81·9	81·9
	13. 40 „ 14. 0	82·8	82·7	82·8			
	14. 0 „ 14. 20				83·8	83·6	83·7
	14. 20 „ 14. 40	83·9	84·0	84·0			
Means		...	...	80·9	...	...	81·1

READINGS OF THE DRY BULB THERMOMETER OF THE NEW THERMOGRAPH—*concluded.*

GREENWICH CIVIL TIME, 1886.	RADIATION BOARDS					
	attached.			removed.		
	Dry Bulb Reading.			Dry Bulb Reading.		
	By E.	By N.	Mean.	By E.	By N.	Mean.
h. m. h. m.	°	°	°	°	°	°
Sept. 1. 9.45 to 10. 0	73·5	73·5	73·5			
10. 0 „ 10.15				74·5	74·6	74·6
10.15 „ 10.30	75·5	75·5	75·5			
10.30 „ 10.45				76·2	76·3	76·3
10.45 „ 11. 0	77·2	77·2	77·2			
11. 0 „ 11.15				78·3	78·2	78·3
11.15 „ 11.30	79·0	79·0	79·0			
11.30 „ 11.45				79·4	79·2	79·3
11.45 „ 12. 0	79·8	79·9	79·9			
12. 0 „ 12.15				80·2	80·2	80·2
12.15 „ 12.30	80·7	80·8	80·8			
12.30 „ 12.45				81·7	81·5	81·6
12.45 „ 13. 0	82·1	82·1	82·1			
13. 0 „ 13.15				83·0	83·1	83·1
13.15 „ 13.30	83·6	83·5	83·6			
13.30 „ 13.45				83·5	83·7	83·6
13.45 „ 14. 0	83·9	84·0	84·0			
14. 0 „ 14.15				84·2	84·2	84·2
14.15 „ 14.30	84·7	84·6	84·7			
14.30 „ 14.45				84·8	84·8	84·8
14.45 „ 15. 0	84·9	84·9	84·9			
Means	...	...	80·5	...	...	80·6

SUMMARY.

Period of Experiment. 1886.		Mean Reading of Dry Bulb Thermometer, with Radiation Boards attached.	removed.	Excess of Mean Reading with Boards removed.	Duration of Experiment.	Duration of bright Sunshine.
	h. m. h. m.	°	°	°	h. m.	h. m.
July 5.	11.40 to 14. 0	78·7	78·8	+ 0·1	2. 20	2. 20
7.	12.40 „ 15. 0	81·9	81·7	− 0·2	2. 20	2. 14
20.	10. 0 „ 14. 20	70·7	70·7	0·0	4. 20	4. 20
21.	9. 40 „ 14. 40	80·9	81·1	+ 0·2	5. 0	3. 36
Sept. 1.	9. 45 „ 15. 0	80·5	80·6	+ 0·1	5. 15	5. 15
		Mean	Mean	Mean	Sum	Sum
		°	°	°	h. m.	h. m.
		78·54	78·58	+ 0·04	19. 15	17. 45

It appears that the effect of radiation with the north and south boards removed is quite insensible, and the two south boards and the upright north board were consequently permanently removed in 1886 December, previous to the commencement of regular record with the new thermograph.

COMPARISON OF RESULTS DEDUCED FROM THE OLD AND THE NEW THERMOGRAPHS.

During the year 1886 the new thermograph was employed in an experimental way before bringing it into regular use in the year 1887. The following tables give a comparison between the dry bulb and wet bulb thermometer results for the two thermographs for those periods of the year 1886 during which they were concurrently used, the new thermograph being in the South Ground and the old thermograph in its ordinary position in the Magnet Ground, the indications of both being reduced in the usual way (as explained at page *liii* of the Introduction) to those of the dry bulb and wet bulb thermometers on the revolving stand. In some months the number of days available is, it will be observed, small, and in April, June, and July it is not the same for the wet bulb as for the dry bulb. The tables give the mean hourly value in each month. It seemed scarcely necessary to exhibit any comparison of mean daily values which are in good accord.

MEAN READING OF THE DRY BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THERMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	JANUARY.			FEBRUARY.			MARCH.			APRIL.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	35·5	35·4	−0·1	32·6	32·7	+0·1	37·5	37·4	−0·1	43·2	43·2	0·0
1h	35·4	35·3	−0·1	32·3	32·3	0·0	37·1	37·0	−0·1	42·7	42·7	0·0
2	35·3	35·2	−0·1	32·3	32·3	0·0	36·8	36·6	−0·2	42·3	42·2	−0·1
3	35·2	35·0	−0·2	32·0	31·9	−0·1	36·5	36·4	−0·1	42·3	42·3	0·0
4	34·9	34·7	−0·2	32·0	31·8	−0·2	36·4	36·3	−0·1	42·2	42·1	−0·1
5	34·6	34·4	−0·2	31·8	31·5	−0·3	36·4	36·2	−0·2	42·0	42·0	0·0
6	34·5	34·3	−0·2	31·8	31·6	−0·2	36·4	36·2	−0·2	42·0	42·0	0·0
7	34·6	34·4	−0·2	32·0	31·8	−0·2	36·6	36·6	0·0	42·9	43·0	+0·1
8	34·8	34·7	−0·1	32·2	32·1	−0·1	37·9	37·8	−0·1	44·9	45·0	+0·1
9	35·4	35·4	0·0	32·9	32·9	0·0	39·4	39·4	0·0	46·7	46·7	0·0
10	36·5	36·6	+0·1	34·0	34·1	+0·1	41·0	41·1	+0·1	48·6	48·6	0·0
11	37·7	37·6	−0·1	35·0	35·1	+0·1	43·0	43·1	+0·1	49·4	49·5	+0·1
Noon.	38·3	38·3	0·0	35·7	35·7	0·0	44·3	44·3	0·0	50·6	50·6	0·0
13h	38·9	39·0	+0·1	36·3	36·3	0·0	44·8	44·9	+0·1	51·5	51·4	−0·1
14	39·1	39·0	−0·1	36·5	36·5	0·0	45·1	45·1	0·0	51·9	51·7	−0·2
15	38·6	38·6	0·0	36·4	36·4	0·0	44·0	44·0	0·0	51·0	51·0	0·0
16	38·1	38·0	−0·1	35·9	35·9	0·0	43·2	43·1	−0·1	50·6	50·6	0·0
17	37·3	37·2	−0·1	35·3	35·2	−0·1	42·2	42·2	0·0	49·3	49·2	−0·1
18	36·8	36·8	0·0	34·6	34·6	0·0	41·1	41·0	−0·1	48·1	48·2	+0·1
19	36·4	36·4	0·0	34·2	34·3	+0·1	40·0	40·0	0·0	46·5	46·6	+0·1
20	36·0	36·0	0·0	33·9	33·9	0·0	39·4	39·4	0·0	45·3	45·2	−0·1
21	35·6	35·6	0·0	33·5	33·5	0·0	38·8	38·8	0·0	44·4	44·4	0·0
22	35·6	35·5	−0·1	33·2	33·2	0·0	38·3	38·3	0·0	43·8	43·9	+0·1
23	35·4	35·4	0·0	32·8	32·9	+0·1	38·0	38·0	0·0	43·6	43·6	0·0
Means ...	36·27	36·20	−0·07	33·72	33·69	−0·03	39·76	39·72	−0·04	46·07	46·07	0·00
Number of days employed.	31			28			31			14		

MEAN READING OF THE DRY BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THERMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	MAY.			JUNE.			JULY.			AUGUST.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	47·0	47·2	+ 0·2	52·8	52·8	0·0	57·5	57·6	+ 0·1	57·9	58·0	+ 0·1
1h	46·9	47·1	+ 0·2	52·1	52·2	+ 0·1	56·9	56·9	0·0	57·3	57·5	+ 0·2
2	46·7	46·8	+ 0·1	51·7	51·8	+ 0·1	56·4	56·5	+ 0·1	56·8	57·1	+ 0·3
3	46·5	46·6	+ 0·1	51·6	51·7	+ 0·1	55·9	56·1	+ 0·2	56·5	56·8	+ 0·3
4	46·5	46·5	0·0	51·2	51·5	+ 0·3	55·5	55·9	+ 0·4	56·3	56·6	+ 0·3
5	46·5	46·6	+ 0·1	51·6	51·8	+ 0·2	55·9	56·2	+ 0·3	56·3	56·7	+ 0·4
6	47·6	47·6	0·0	53·1	53·2	+ 0·1	57·4	57·5	+ 0·1	57·1	57·3	+ 0·2
7	49·2	49·1	− 0·1	55·3	55·3	0·0	59·9	59·9	0·0	59·1	59·2	+ 0·1
8	50·7	50·8	+ 0·1	58·0	58·1	+ 0·1	62·7	62·7	0·0	61·4	61·4	0·0
9	52·3	52·3	0·0	60·8	60·8	0·0	65·6	65·6	0·0	64·4	64·4	0·0
10	53·3	53·3	0·0	63·0	63·2	+ 0·2	67·2	67·2	0·0	66·7	66·8	+ 0·1
11	54·0	54·0	0·0	64·6	64·6	0·0	68·6	68·5	− 0·1	68·2	68·3	+ 0·1
Noon.	54·7	54·7	0·0	66·1	66·1	0·0	69·8	69·8	0·0	69·1	69·1	0·0
13h	55·1	54·9	− 0·2	67·4	67·3	− 0·1	70·4	70·3	− 0·1	70·3	70·0	− 0·3
14	54·2	54·4	+ 0·2	68·2	68·0	− 0·2	71·2	71·1	− 0·1	71·1	71·0	− 0·1
15	53·8	53·8	0·0	67·9	67·9	0·0	70·9	70·9	0·0	71·0	71·0	0·0
16	53·6	53·6	0·0	66·6	66·9	+ 0·3	70·6	70·8	+ 0·2	70·8	70·7	− 0·1
17	53·2	53·3	+ 0·1	65·2	65·4	+ 0·2	69·2	69·3	+ 0·1	69·0	69·3	+ 0·3
18	52·6	52·6	0·0	63·3	63·3	0·0	67·4	67·5	+ 0·1	67·3	67·6	+ 0·3
19	51·7	51·6	− 0·1	61·0	61·1	+ 0·1	65·5	65·7	+ 0·2	65·0	65·3	+ 0·3
20	50·1	50·2	+ 0·1	57·9	58·1	+ 0·2	63·1	63·3	+ 0·2	62·9	63·0	+ 0·1
21	48·9	48·9	0·0	56·0	56·0	0·0	61·0	61·0	0·0	61·1	61·1	0·0
22	48·5	48·4	− 0·1	54·5	54·6	+ 0·1	59·8	59·9	+ 0·1	59·9	59·9	0·0
23	47·8	47·8	0·0	53·4	53·5	+ 0·1	58·9	59·0	+ 0·1	58·9	59·0	+ 0·1
Means	50·47	50·50	+ 0·03	58·89	58·97	+ 0·08	63·22	63·30	+ 0·08	63·10	63·21	+ 0·11
Number of days employed.	6			23			27			13		

MEAN READING OF THE DRY BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THERMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	55·2	55·2	0·0	56·3	56·5	+ 0·2	42·1	42·3	+ 0·2	35·8	35·8	0·0
1h	55·0	55·1	+ 0·1	56·4	56·5	+ 0·1	42·1	42·1	0·0	35·7	35·7	0·0
2	54·8	54·9	+ 0·1	55·8	56·0	+ 0·2	42·3	42·3	0·0	35·8	35·8	0·0
3	54·9	55·0	+ 0·1	54·9	55·2	+ 0·3	42·2	42·3	+ 0·1	35·7	35·7	0·0
4	54·7	54·9	+ 0·2	54·6	54·8	+ 0·2	42·1	42·2	+ 0·1	35·6	35·7	+ 0·1
5	54·5	54·7	+ 0·2	53·7	54·2	+ 0·5	42·0	42·2	+ 0·2	35·4	35·5	+ 0·1
6	54·4	54·5	+ 0·1	53·3	53·8	+ 0·5	41·9	42·0	+ 0·1	35·4	35·4	0·0
7	55·3	55·3	0·0	53·9	54·4	+ 0·5	41·3	41·4	+ 0·1	35·4	35·5	+ 0·1
8	57·6	57·6	0·0	56·0	56·2	+ 0·2	41·2	41·4	+ 0·2	35·3	35·3	0·0
9	60·4	60·4	0·0	59·7	59·7	0·0	42·1	42·1	0·0	35·8	35·8	0·0
10	62·9	62·8	− 0·1	62·9	63·0	+ 0·1	43·7	43·6	− 0·1	36·5	36·6	+ 0·1
11	64·7	64·6	− 0·1	67·7	67·3	− 0·4	45·1	45·0	− 0·1	37·8	37·9	+ 0·1
Noon.	65·5	65·5	0·0	69·6	69·6	0·0	46·4	46·4	0·0	38·5	38·5	0·0
13h	66·2	66·1	− 0·1	71·1	71·0	− 0·1	47·0	46·9	− 0·1	39·2	39·3	+ 0·1
14	66·3	66·2	− 0·1	70·1	70·1	0·0	47·5	47·5	0·0	39·5	39·6	+ 0·1
15	65·8	65·8	0·0	69·8	69·8	0·0	47·1	47·1	0·0	39·1	39·1	0·0
16	64·5	64·8	+ 0·3	67·4	67·8	+ 0·4	45·9	45·9	0·0	38·3	38·3	0·0
17	62·3	62·8	+ 0·5	65·1	65·5	+ 0·4	45·0	45·0	0·0	37·6	37·7	+ 0·1
18	60·3	60·6	+ 0·3	62·4	62·6	+ 0·2	44·3	44·3	0·0	36·8	36·9	+ 0·1
19	58·3	58·6	+ 0·3	60·2	60·5	+ 0·3	43·9	43·8	− 0·1	36·4	36·5	+ 0·1
20	57·2	57·3	+ 0·1	58·9	58·9	0·0	43·4	43·4	0·0	36·0	36·1	+ 0·1
21	56·1	56·1	0·0	58·0	58·0	0·0	43·0	43·0	0·0	35·5	35·5	0·0
22	55·6	55·5	− 0·1	57·3	57·4	+ 0·1	42·8	42·9	+ 0·1	35·4	35·4	0·0
23	55·0	55·1	+ 0·1	56·7	56·8	+ 0·1	42·4	42·5	+ 0·1	35·1	35·2	+ 0·1
Means	59·06	59·14	+0·08	60·49	60·65	+0·16	43·62	43·65	+0·03	36·57	36·62	+0·05
Number of days employed.	30			6			20			31		

MEAN READING OF THE WET BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THEMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	January.			February.			March.			April.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	34·3	34·4	+0·1	31·8	31·8	0·0	36·1	36·2	+0·1	42·8	42·7	−0·1
1h	34·3	34·4	+0·1	31·6	31·5	−0·1	36·0	35·9	−0·1	42·4	42·3	−0·1
2	34·2	34·2	0·0	31·6	31·4	−0·2	35·7	35·7	0·0	42·0	41·9	−0·1
3	34·1	34·0	−0·1	31·3	31·2	−0·1	35·5	35·4	−0·1	42·1	42·1	0·0
4	33·9	33·8	−0·1	31·3	31·1	−0·2	35·5	35·4	−0·1	42·4	42·3	−0·1
5	33·7	33·5	−0·2	31·1	31·0	−0·1	35·4	35·2	−0·2	42·3	42·3	0·0
6	33·7	33·5	−0·2	31·2	31·1	−0·1	35·5	35·3	−0·2	42·3	42·3	0·0
7	33·6	33·6	0·0	31·4	31·2	−0·2	35·8	35·6	−0·2	42·8	42·8	0·0
8	33·9	33·8	−0·1	31·6	31·5	−0·1	36·8	36·6	−0·2	44·2	44·2	0·0
9	34·4	34·4	0·0	32·1	32·1	0·0	37·7	37·7	0·0	45·2	45·2	0·0
10	35·3	35·3	0·0	32·9	32·8	−0·1	38·7	38·6	−0·1	45·9	45·9	0·0
11	36·0	36·1	+0·1	33·6	33·5	−0·1	39·9	39·9	0·0	45·3	45·6	+0·3
Noon.	36·7	36·7	0·0	34·0	34·0	0·0	40·5	40·5	0·0	45·8	45·8	0·0
13h	37·2	37·1	−0·1	34·4	34·4	0·0	40·8	40·9	+0·1	46·1	46·0	−0·1
14	37·2	37·2	0·0	34·5	34·6	+0·1	40·8	40·8	0·0	45·8	45·8	0·0
15	36·8	36·8	0·0	34·5	34·5	0·0	40·2	40·2	0·0	45·8	45·8	0·0
16	36·3	36·2	−0·1	34·2	34·2	0·0	39·8	39·9	+0·1	45·4	45·4	0·0
17	35·8	35·7	−0·1	33·7	33·7	0·0	39·3	39·4	+0·1	44·9	44·8	−0·1
18	35·5	35·4	−0·1	33·4	33·4	0·0	38·7	38·8	+0·1	44·2	44·2	0·0
19	35·0	35·1	+0·1	33·1	33·1	0·0	38·1	38·2	+0·1	43·4	43·6	+0·2
20	34·7	34·7	0·0	32·8	32·8	0·0	37·7	37·7	0·0	42·8	42·9	+0·1
21	34·3	34·3	0·0	32·5	32·5	0·0	37·2	37·2	0·0	42·7	42·7	0·0
22	34·3	34·4	+0·1	32·2	32·2	0·0	36·8	36·7	−0·1	42·5	42·6	+0·1
23	34·1	34·2	+0·1	31·9	31·9	0·0	36·5	36·5	0·0	42·4	42·5	+0·1
Means ...	34·97	34·95	−0·02	32·61	32·56	−0·05	37·71	37·68	−0·03	43·81	43·82	+0·01
Number of days employed.	31			28			31			10		

MEAN READING OF THE WET BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THERMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	MAY.			JUNE.			JULY.			AUGUST.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	45·9	46·0	+ 0·1	51·4	51·4	0·0	55·3	55·3	0·0	56·3	56·3	0·0
1h	45·9	46·0	+ 0·1	51·0	51·0	0·0	55·0	55·0	0·0	55·8	55·9	+ 0·1
2	45·8	45·9	+ 0·1	50·8	50·9	+ 0·1	54·8	55·0	+ 0·2	55·6	55·6	0·0
3	45·7	45·7	0·0	50·8	50·9	+ 0·1	54·5	54·6	+ 0·1	55·2	55·2	0·0
4	45·7	45·7	0·0	50·5	50·6	+ 0·1	54·1	54·1	0·0	55·1	55·0	− 0·1
5	45·7	45·7	0·0	50·6	50·6	0·0	54·2	54·2	0·0	55·1	55·1	0·0
6	46·7	46·7	0·0	51·5	51·4	− 0·1	54·9	54·9	0·0	55·6	55·5	− 0·1
7	47·8	47·7	− 0·1	52·4	52·3	− 0·1	56·1	56·2	+ 0·1	57·1	56·9	− 0·2
8	48·6	48·5	− 0·1	53·8	53·7	− 0·1	57·3	57·4	+ 0·1	58·5	58·3	− 0·2
9	49·4	49·4	0·0	54·8	54·8	0·0	58·8	58·8	0·0	60·1	60·1	0·0
10	50·1	49·9	− 0·2	55·6	55·6	0·0	59·2	59·4	+ 0·2	61·1	61·2	+ 0·1
11	50·7	50·7	0·0	56·4	56·5	+ 0·1	59·9	60·0	+ 0·1	61·5	61·7	+ 0·2
Noon.	51·1	51·1	0·0	57·3	57·3	0·0	60·4	60·4	0·0	61·9	61·9	0·0
13h	51·5	51·2	− 0·3	57·9	57·7	− 0·2	60·6	60·7	+ 0·1	62·7	62·3	− 0·4
14	51·0	51·1	+ 0·1	58·1	58·1	0·0	61·1	61·1	0·0	62·7	62·6	− 0·1
15	51·1	51·1	0·0	58·1	58·1	0·0	60·9	60·9	0·0	62·3	62·3	0·0
16	50·9	50·9	0·0	57·6	57·5	− 0·1	60·7	60·8	+ 0·1	62·0	62·2	+ 0·2
17	50·2	50·3	+ 0·1	57·0	56·9	− 0·1	60·4	60·5	+ 0·1	61·1	61·2	+ 0·1
18	49·4	49·4	0·0	56·3	56·2	− 0·1	59·5	59·5	0·0	60·6	60·8	+ 0·2
19	48·9	48·8	− 0·1	55·4	55·4	0·0	58·5	58·7	+ 0·2	59·8	60·1	+ 0·3
20	47·8	48·0	+ 0·2	54·0	54·0	0·0	57·7	57·8	+ 0·1	59·0	59·2	+ 0·2
21	47·3	47·3	0·0	53·1	53·1	0·0	57·0	57·0	0·0	58·1	58·1	0·0
22	47·0	47·1	+ 0·1	52·0	52·1	+ 0·1	56·4	56·4	0·0	57·5	57·4	− 0·1
23	46·9	46·9	0·0	51·5	51·5	0·0	56·1	56·1	0·0	56·9	56·9	0·0
Means	48·38	48·38	0·00	54·08	54·07	− 0·01	57·64	57·70	+ 0·06	58·82	58·83	+ 0·01
Number of days employed.	6			20			18			13		

MEAN READING OF THE WET BULB THERMOMETER AT EVERY HOUR OF THE DAY AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS OF THE OLD AND NEW THERMOGRAPHS DURING THE YEAR 1886.

Hour, Greenwich Civil Time.	SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.		
	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.	Old Thermo-graph.	New Thermo-graph.	Excess by New Thermo-graph.
	°	°	°	°	°	°	°	°	°	°	°	°
Midnight.	53·6	53·7	+0·1	55·2	55·3	+0·1	41·4	41·4	0·0	34·5	34·5	0·0
1h.	53·5	53·5	0·0	55·0	55·1	+0·1	41·4	41·3	−0·1	34·5	34·5	0·0
2	53·5	53·4	−0·1	54·5	54·6	+0·1	41·5	41·5	0·0	34·5	34·5	0·0
3	53·5	53·5	0·0	53·7	53·9	+0·2	41·3	41·4	+0·1	34·5	34·5	0·0
4	53·3	53·3	0·0	53·4	53·5	+0·1	41·3	41·4	+0·1	34·5	34·5	0·0
5	53·1	53·2	+0·1	52·7	52·9	+0·2	41·2	41·3	+0·1	34·5	34·5	0·0
6	52·9	52·9	0·0	52·4	52·7	+0·3	41·1	41·1	0·0	34·4	34·4	0·0
7	53·5	53·4	−0·1	53·1	53·2	+0·1	40·6	40·6	0·0	34·6	34·6	0·0
8	55·1	54·9	−0·2	55·0	54·8	−0·2	40·5	40·7	+0·2	34·5	34·5	0·0
9	56·6	56·6	0·0	57·4	57·4	0·0	41·3	41·3	0·0	34·9	34·9	0·0
10	57·9	58·0	+0·1	59·5	59·5	0·0	42·5	42·4	−0·1	35·5	35·5	0·0
11	58·5	58·5	0·0	61·6	61·4	−0·2	43·4	43·5	+0·1	36·2	36·3	+0·1
Noon.	58·8	58·8	0·0	61·9	61·9	0·0	44·3	44·3	0·0	36·7	36·7	0·0
13h.	58·9	58·8	−0·1	62·1	62·2	+0·1	44·6	44·7	+0·1	37·0	37·2	+0·2
14	58·7	58·7	0·0	62·0	61·8	−0·2	44·9	44·9	0·0	37·3	37·3	0·0
15	58·5	58·5	0·0	61·9	61·9	0·0	44·8	44·8	0·0	37·0	37·0	0·0
16	58·0	58·2	+0·2	61·1	61·4	+0·3	44·0	44·0	0·0	36·5	36·6	+0·1
17	57·0	57·3	+0·3	60·1	60·7	+0·6	43·4	43·4	0·0	36·0	36·1	+0·1
18	56·0	56·2	+0·2	59·1	59·3	+0·2	42·9	42·9	0·0	35·5	35·5	0·0
19	55·1	55·3	+0·2	58·0	58·1	+0·1	42·6	42·6	0·0	35·1	35·1	0·0
20	54·6	54·7	+0·1	57·1	57·1	0·0	42·2	42·2	0·0	34·8	34·8	0·0
21	54·1	54·1	0·0	56·8	56·8	0·0	42·0	42·0	0·0	34·3	34·3	0·0
22	53·7	53·8	+0·1	56·3	56·4	+0·1	41·8	41·8	0·0	34·2	34·1	−0·1
23	53·5	53·6	+0·1	55·7	55·7	0·0	41·4	41·4	0·0	34·0	33·9	−0·1
Means ……	55·50	55·54	+0·04	57·32	57·40	+0·08	42·35	42·37	+0·02	35·23	35·24	+0·01
Number of days employed.	30			6			20			31		

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS, DURING THE YEAR 1886 JUNE 1 TO 1887 MAY 31, IN WHICH BOTH INSTRUMENTS WERE CONCURRENTLY EMPLOYED AT THE ROYAL OBSERVATORY, GREENWICH.

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1886.							
JUNE.				JULY.			
Day.	Daily Duration by		Excess of duration by Campbell-Stokes.	Day.	Daily duration by		Excess of duration by Campbell-Stokes.
	Campbell.	Campbell-Stokes.			Campbell.	Campbell-Stokes.	
	h	h	h		h	h	h
1	5·1	5·9	+ 0·8	1	13·9	14·6	+ 0·7
2	5·9	6·3	+ 0·4	2	10·3	11·0	+ 0·7
3	0·0	0·0	0·0	3	10·4	8·6	− 1·8
4	13·8	14·0	+ 0·2	4	12·7	11·9	− 0·8
5	11·2	11·8	+ 0·6	5	14·0	14·2	+ 0·2
6	13·5	13·9	+ 0·4	6	13·9	14·3	+ 0·4
7	11·6	11·4	− 0·2	7	10·8	9·7	− 1·1
8	12·4	11·7	− 0·7	8	1·0	1·3	+ 0·3
9	7·8	8·3	+ 0·5	9	4·2	4·5	+ 0·3
10	0·0	0·0	0·0	10	2·5	2·2	− 0·3
11	7·1	7·7	+ 0·6	11	3·2	3·4	+ 0·2
12	7·1	7·9	+ 0·8	12	0·0	0·0	0·0
13	5·7	6·7	+ 1·0	13	4·7	5·2	+ 0·5
14	4·6	5·2	+ 0·6	14	8·6	9·3	+ 0·7
15	4·9	6·4	+ 1·5	15	5·9	6·6	+ 0·7
16	4·1	4·6	+ 0·5	16	4·6	5·7	+ 1·1
17	2·3	1·9	− 0·4	17	1·3	1·9	+ 0·6
18	0·0	0·0	0·0	18	10·6	11·3	+ 0·7
19	3·9	4·0	+ 0·1	19	2·1	2·6	+ 0·5
20	8·6	8·8	+ 0·2	20	8·3	9·4	+ 1·1
21	0·0	0·0	0·0	21	9·0	9·5	+ 0·5
22	0·6	0·8	+ 0·2	22	13·2	13·5	+ 0·3
23	10·1	10·8	+ 0·7	23	0·0	0·0	0·0
24	11·0	12·1	+ 1·1	24	5·0	5·6	+ 0·6
25	10·3	10·7	+ 0·4	25	0·2	0·3	+ 0·1
26	5·3	5·4	+ 0·1	26	7·5	8·0	+ 0·5
27	9·9	9·9	0·0	27	0·8	0·9	+ 0·1
28	12·0	12·3	+ 0·3	28	8·0	8·1	+ 0·1
29	10·8	11·0	+ 0·2	29	1·3	1·3	0·0
30	13·0	13·4	+ 0·4	30	2·2	2·7	+ 0·5
				31	2·3	2·5	+ 0·2
Sums......	212·6	222·9	+ 10·3	Sums......	192·5	200·1	+ 7·6

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS—*continued.*

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1886.							
AUGUST.				SEPTEMBER.			
Day.	Daily Duration by		Excess of duration by Campbell-Stokes.	Day.	Daily Duration by		Excess of duration by Campbell-Stokes.
	Campbell.	Campbell-Stokes.			Campbell.	Campbell-Stokes.	
	h	h	h		h	h	h
1	5·1	6·2	+ 1·1	1	10·4	10·3	− 0·1
2	3·7	4·6	+ 0·9	2	0·0	0·0	0·0
3	9·5	10·5	+ 1·0	3	2·7	3·0	+ 0·3
4	0·3	0·4	+ 0·1	4	4·0	4·5	+ 0·5
5	4·4	4·8	+ 0·4	5	4·7	5·3	+ 0·6
6	2·9	3·5	+ 0·6	6	10·0	8·9	− 1·1
7	5·1	6·9	+ 1·8	7	6·5	6·3	− 0·2
8	3·7	4·0	+ 0·3	8	6·4	7·2	+ 0·8
9	0·3	0·5	+ 0·2	9	2·5	2·8	+ 0·3
10	0·2	0·6	+ 0·4	10	0·8	1·1	+ 0·3
11	10·7	11·3	+ 0·6	11	8·7	9·6	+ 0·9
12	5·3	6·3	+ 1·0	12	2·5	3·2	+ 0·7
13	5·0	5·9	+ 0·9	13	8·8	9·2	+ 0·4
14	2·1	2·8	+ 0·7	14	9·2	9·5	+ 0·3
15	9·8	10·4	+ 0·6	15	3·7	4·0	+ 0·3
16	7·8	8·4	+ 0·6	16	2·2	3·5	+ 1·3
17	1·1	1·6	+ 0·5	17	9·3	10·8	+ 1·5
18	2·0	2·5	+ 0·5	18	8·4	9·3	+ 0·9
19	0·0	0·0	0·0	19	7·6	8·0	+ 0·4
20	8·2	9·7	+ 1·5	20	2·7	3·8	+ 1·1
21	9·0	10·3	+ 1·3	21	1·8	2·3	+ 0·5
22	6·3	7·2	+ 0·9	22	2·5	3·4	+ 0·9
23	2·3	2·6	+ 0·3	23	4·5	4·9	+ 0·4
24	4·6	5·3	+ 0·7	24	0·1	0·1	0·0
25	6·4	7·0	+ 0·6	25	0·0	0·1	+ 0·1
26	6·5	6·7	+ 0·2	26	0·5	1·1	+ 0·6
27	4·0	4·3	+ 0·3	27	0·0	0·0	0·0
28	7·1	7·8	+ 0·7	28	4·2	5·1	+ 0·9
29	9·2	9·7	+ 0·5	29	4·6	5·9	+ 1·3
30	11·8	11·9	+ 0·1	30	2·3	2·9	+ 0·6
31	11·5	12·0	+ 0·5				
Sums......	165·9	185·7	+19·8	Sums......	131·6	146·1	+14·5

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS—*continued.*

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1886.							
OCTOBER.				NOVEMBER.			
Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.	Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.
	h	h	h		h	h	h
1	6·0	6·5	+0·5	1	1·2	1·8	+0·6
2	7·9	8·4	+0·5	2	2·3	3·1	+0·8
3	1·2	1·7	+0·5	3	1·3	1·8	+0·5
4	5·8	7·2	+1·4	4	5·2	6·1	+0·9
5	6·8	7·4	+0·6	5	0·0	0·1	+0·1
6	1·7	2·4	+0·7	6	0·1	0·4	+0·3
7	0·0	0·1	+0·1	7	0·2	0·1	−0·1
8	0·0	0·0	0·0	8	5·7	6·1	+0·4
9	1·8	2·5	+0·7	9	0·0	0·0	0·0
10	6·8	7·4	+0·6	10	0·0	0·0	0·0
11	4·7	6·0	+1·3	11	0·0	0·0	0·0
12	0·0	0·1	+0·1	12	0·0	0·0	0·0
13	2·7	4·1	+1·4	13	0·9	1·3	+0·4
14	4·2	4·7	+0·5	14	1·7	1·5	−0·2
15	0·0	0·1	+0·1	15	0·1	0·4	+0·3
16	0·0	0·0	0·0	16	1·0	2·2	+1·2
17	0·1	0·3	+0·2	17	0·4	1·0	+0·6
18	0·0	0·1	+0·1	18	1·9	2·4	+0·5
19	0·0	0·5	+0·5	19	0·2	0·5	+0·3
20	0·4	0·8	+0·4	20	0·0	0·0	0·0
21	0·0	0·0	0·0	21	0·0	0·0	0·0
22	6·1	7·8	+1·7	22	2·9	3·8	+0·9
23	0·0	0·0	0·0	23	0·0	0·3	+0·3
24	2·3	4·4	+2·1	24	1·6	1·9	+0·3
25	0·0	0·1	+0·1	25	0·0	0·3	+0·3
26	0·0	0·0	0·0	26	0·0	0·0	0·0
27	0·0	0·0	0·0	27	0·0	0·0	0·0
28	0·8	1·9	+1·1	28	0·0	0·0	0·0
29	4·9	6·0	+1·1	29	0·8	0·9	+0·1
30	0·0	0·0	0·0	30	2·4	2·5	+0·1
31	0·3	0·5	+0·2				
Sums......	64·5	81·0	+16·5	Sums......	29·9	38·5	+8·6

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS—*continued.*

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1886.				1887.			
December.				January.			
Day.	Daily Duration by		Excess of duration by Campbell-Stokes.	Day.	Daily Duration by		Excess of duration by Campbell-Stokes.
	Campbell.	Campbell-Stokes.			Campbell.	Campbell-Stokes.	
	h	h	h		h	h	h
1	2·3	2·6	+0·3	1	0·0	0·0	0·0
2	0·7	0·5	−0·2	2	0·0	0·6	+0·6
3	1·4	1·6	+0·2	3	0·0	0·0	0·0
4	0·0	0·0	0·0	4	0·0	0·0	0·0
5	0·4	0·5	+0·1	5	0·0	0·0	0·0
6	0·0	0·1	+0·1	6	0·0	0·0	0·0
7	1·2	2·3	+1·1	7	1·2	1·3	+0·1
8	1·7	2·5	+0·8	8	1·3	1·1	−0·2
9	0·2	0·4	+0·2	9	0·0	0·0	0·0
10	1·0	2·8	+1·8	10	0·0	0·0	0·0
11	0·0	0·0	0·0	11	0·0	0·0	0·0
12	2·1	3·0	+0·9	12	0·0	0·0	0·0
13	0·0	0·0	0·0	13	0·0	0·0	0·0
14	0·0	0·6	+0·6	14	0·0	0·0	0·0
15	0·0	0·5	+0·5	15	0·0	0·0	0·0
16	0·0	0·0	0·0	16	0·0	0·0	0·0
17	0·0	0·0	0·0	17	2·2	2·7	+0·5
18	0·0	0·6	+0·6	18	0·0	0·0	0·0
19	0·0	0·0	0·0	19	0·2	0·5	+0·3
20	0·0	0·0	0·0	20	4·2	5·0	+0·8
21	0·0	0·0	0·0	21	0·0	0·0	0·0
22	0·0	0·0	0·0	22	0·0	0·2	+0·2
23	0·0	0·0	0·0	23	0·0	0·0	0·0
24	0·0	0·6	+0·6	24	0·0	0·0	0·0
25	2·7	0·6	−2·1	25	3·2	3·8	+0·6
26	0·0	0·0	0·0	26	6·4	6·7	+0·3
27	0·0	0·0	0·0	27	0·0	0·0	0·0
28	0·0	0·0	0·0	28	0·7	1·4	+0·7
29	0·6	0·6	0·0	29	0·0	0·0	0·0
30	0·0	0·0	0·0	30	5·5	5·7	+0·2
31	1·9	2·1	+0·2	31	1·0	1·6	+0·6
Sums......	16·2	21·9	+5·7	Sums......	25·9	30·6	+4·7

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS—*continued.*

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1887.							
FEBRUARY.				MARCH.			
Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.	Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.
	h	h	h		h	h	h
1	0·0	0·0	0·0	1	0·0	0·7	+ 0·7
2	3·0	3·7	+ 0·7	2	1·9	0·7	− 1·2
3	0·0	0·0	0·0	3	0·0	0·0	0·0
4	0·0	0·0	0·0	4	0·0	0·0	0·0
5	3·2	3·7	+ 0·5	5	0·0	0·0	0·0
6	7·1	7·5	+ 0·4	6	2·9	3·3	+ 0·4
7	0·4	0·6	+ 0·2	7	0·0	0·0	0·0
8	5·3	6·1	+ 0·8	8	0·0	0·0	0·0
9	1·2	1·4	+ 0·2	9	0·0	0·0	0·0
10	6·1	6·7	+ 0·6	10	1·6	1·4	− 0·2
11	0·0	0·0	0·0	11	2·0	2·1	+ 0·1
12	5·8	6·6	+ 0·8	12	1·5	2·6	+ 1·1
13	1·7	2·0	+ 0·3	13	5·9	6·4	+ 0·5
14	0·1	0·1	0·0	14	3·8	1·2	− 2·6
15	0·0	0·0	0·0	15	0·0	0·0	0·0
16	6·8	7·0	+ 0·2	16	6·6	6·9	+ 0·3
17	1·6	2·0	+ 0·4	17	0·6	0·5	− 0·1
18	0·0	0·0	0·0	18	5·6	6·3	+ 0·7
19	0·0	0·0	0·0	19	7·5	7·5	0·0
20	0·1	0·1	0·0	20	2·9	2·6	− 0·3
21	3·3	3·8	+ 0·5	21	2·7	2·6	− 0·1
22	0·9	1·0	+ 0·1	22	4·8	5·1	+ 0·3
23	0·3	0·3	0·0	23	4·2	4·9	+ 0·7
24	0·0	0·0	0·0	24	3·8	3·4	− 0·4
25	4·5	4·9	+ 0·4	25	1·6	2·3	+ 0·7
26	7·9	8·6	+ 0·7	26	3·4	3·1	− 0·3
27	7·7	8·3	+ 0·6	27	3·2	3·7	+ 0·5
28	6·8	7·4	+ 0·6	28	4·7	4·1	− 0·6
				29	7·2	7·4	+ 0·2
				30	0·3	0·2	− 0·1
				31	0·0	0·2	+ 0·2
Sums......	73·8	81·8	+ 8·0	Sums......	78·7	79·2	+ 0·5

COMPARISON OF THE RECORDS OF THE CAMPBELL AND CAMPBELL-STOKES SUNSHINE RECORDERS—*concluded.*

The Instruments were placed on the same stand on the roof of the Magnet House, the Campbell-Stokes instrument being a few inches north of the Campbell instrument.

1887.							
APRIL.				MAY.			
Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.	Day.	Daily Duration by Campbell.	Daily Duration by Campbell-Stokes.	Excess of duration by Campbell-Stokes.
	h	h	h		h	h	h
1	0·6	0·8	+ 0·2	1	7·1	8·1	+ 1·0
2	3·7	3·4	− 0·3	2	0·0	0·0	0·0
3	6·5	4·6	− 1·9	3	1·1	1·5	+ 0·4
4	8·3	8·7	+ 0·4	4	0·9	1·4	+ 0·5
5	0·0	0·0	0·0	5	3·6	2·0	− 1·6
6	0·0	0·0	0·0	6	0·0	0·0	0·0
7	3·7	4·0	+ 0·3	7	2·2	2·2	0·0
8	11·0	12·2	+ 1·2	8	8·6	8·1	− 0·5
9	6·0	6·1	+ 0·1	9	4·9	5·1	+ 0·2
10	3·6	3·7	+ 0·1	10	11·0	11·9	+ 0·9
11	8·9	9·4	+ 0·5	11	0·2	0·1	− 0·1
12	8·6	9·0	+ 0·4	12	0·2	0·3	+ 0·1
13	0·0	0·0	0·0	13	3·8	4·8	+ 1·0
14	6·2	6·5	+ 0·3	14	6·5	7·4	+ 0·9
15	2·1	1·3	− 0·8	15	12·2	12·9	+ 0·7
16	9·8	10·6	+ 0·8	16	6·8	7·6	+ 0·8
17	11·0	10·9	− 0·1	17	1·0	0·4	− 0·6
18	7·1	5·9	− 1·2	18	0·0	0·1	+ 0·1
19	2·1	2·3	+ 0·2	19	0·8	1·0	+ 0·2
20	10·9	9·9	− 1·0	20	4·8	5·4	+ 0·6
21	5·1	5·8	+ 0·7	21	5·3	5·9	+ 0·6
22	5·1	5·7	+ 0·6	22	0·5	0·8	+ 0·3
23	7·7	8·7	+ 1·0	23	4·1	5·1	+ 1·0
24	3·7	3·9	+ 0·2	24	0·0	0·0	0·0
25	3·0	3·9	+ 0·9	25	0·5	0·7	+ 0·2
26	8·0	8·3	+ 0·3	26	8·8	10·2	+ 1·4
27	7·2	7·3	+ 0·1	27	0·0	0·0	0·0
28	8·7	8·9	+ 0·2	28	0·0	0·0	0·0
29	0·0	0·0	0·0	29	0·4	0·8	+ 0·4
30	1·8	2·1	+ 0·3	30	1·5	1·6	+ 0·1
				31	7·0	7·3	+ 0·3
Sums......	160·4	163·9	+ 3·5	Sums......	103·8	112·7	+ 8·9

TOTAL AMOUNT OF SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN EACH MONTH, AS DERIVED FROM THE RECORDS OF THE CAMPBELL INSTRUMENT, FOR THE YEAR 1886 JUNE—1887 MAY.

Month.	Registered Duration of Sunshine in the Hour ending																Total registered Duration of Sunshine in each Month.	Corresponding Aggregate Duration of Daylight.	Proportion of Sunshine.	Mean Altitude of the Sun at Noon.
	5h.	6h.	7h.	8h.	9h.	10 .	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.				
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		°
1886, June ...	0·2	7·5	12·1	16·2	16·3	18·2	17·4	18·7	21·1	18·8	17·1	14·7	13·5	11·6	9·0	0·2	212·6	494·5	0·430	62
July ...	0·5	7·1	12·4	14·1	16·3	16·1	16·3	17·4	14·9	16·1	15·1	15·2	13·7	9·4	7·7	0·2	192·5	496·8	0·387	60
August ...	...	1·0	6·1	7·2	10·5	13·2	15·4	14·5	14·8	16·4	17·5	19·1	16·6	11·7	1·9	...	165·9	449·1	0·369	52
September	...	...	1·3	5·8	9·2	12·9	15·0	14·5	14·4	15·3	14·6	14·6	11·3	2·7	...	...	131·6	376·9	0·349	41
October ...	...	...	...	1·7	4·2	7·7	10·2	9·8	10·2	8·7	7·6	3·1	1·3	...	...	...	64·5	328·7	0·196	30
November	...	...	...	...	0·5	4·3	6·0	6·5	5·1	4·0	2·6	0·9	...	...	...	...	29·9	264·4	0·113	20
December	...	...	...	...	...	0·6	4·9	3·6	4·4	1·9	0·8	...	...	...	...	...	16·2	242·7	0·067	16
1887, January...	...	...	...	...	...	1·9	5·1	5·8	5·4	3·5	3·0	1·2	...	...	...	...	25·9	259·1	0·100	18
February	...	...	...	0·3	3·3	9·8	11·7	10·1	11·0	10·0	11·0	6·4	0·2	...	...	...	73·8	277·9	0·266	26
March ...	...	...	0·1	1·8	4·8	5·6	8.9	9·6	11·3	12·1	11·1	7·9	4·9	0·6	...	...	78·7	366·9	0·214	37
April ...	...	1·4	6·7	10·9	13·7	15·1	15·0	16·1	17·1	17·9	15·3	13·2	10·8	7·0	0·2	...	160·4	414·9	0·387	48
May ...	...	1·0	4·8	6·4	6·5	8·6	9·4	9·7	10·6	11·8	10·4	8·6	6·4	6·6	3·0	...	103·8	482·1	0·215	57
For the year 1886 June to 1887 May	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1255·8	4454·0	0·282	...

The hours are reckoned from *apparent* midnight.

In the above and two following tables the aggregate duration of daylight is taken to be the number of hours in the month or year during which the Sun is above the horizon.

TOTAL AMOUNT OF SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN EACH MONTH, AS DERIVED FROM THE RECORDS OF THE CAMPBELL-STOKES INSTRUMENT, FOR THE YEAR 1886 JUNE—1887 MAY.

Month.	Registered Duration of Sunshine in the Hour ending																Total registered Duration of Sunshine in each Month.	Corresponding Aggregate Duration of Daylight.	Proportion of Sunshine.	Mean Altitude of the Sun at Noon.
	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.				
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		°
1886, June ...	0·8	7·4	13·1	16·5	16·4	18·4	17·8	18·9	21·2	19·5	17·5	14·9	14·5	13·1	10·6	2·3	222·9	494·5	0·451	62
July ...	0·8	8·5	12·7	14·3	16·1	15·0	14·1	17·4	15·5	16·2	15·9	16·1	14·1	11·2	9·9	2·3	200·1	496·8	0·403	60
August ...	...	2·4	6·8	8·2	11·5	13·7	16·0	15·6	16·4	18·1	18·5	20·0	18·8	14·4	5·3	...	185·7	449·1	0·413	52
September	...	...	2·3	8·0	10·1	14·2	15·5	15·2	15·4	16·4	15·4	16·0	12·9	4·7	...	...	146·1	376·9	0·388	41
October...	...	...	...	2·9	7·0	9·4	11·1	11·2	11·8	9·7	9·8	5·0	3·0	0·1	...	...	81·0	328·7	0·246	30
November	...	...	...	...	2·0	4·7	6·5	7·6	6·2	5·0	4·9	1·6	...	...	...	...	38·5	264·4	0·146	20
December	...	...	...	...	...	1·6	4·9	3·1	4·7	4·8	2·8	...	...	...	...	...	21·9	242·7	0·090	16
1887, January...	...	...	...	...	0·2	3·1	5·6	6·0	5·4	4·5	4·3	1·5	...	...	...	...	30·6	259·1	0·118	18
February	...	...	...	0·8	5·0	11·3	11·6	10·7	11·0	10·7	11·1	8·4	1·2	...	...	...	81·8	277·9	0·294	26
March ...	...	...	0·2	1·9	4·6	5·6	8·8	9·6	10·8	10·9	11·2	8·5	5·8	1·3	...	...	79·2	366·9	0·216	37
April ...	...	2·8	8·9	11·5	12·3	14·4	14·1	15·3	17·1	18·1	15·6	13·3	11·5	8·2	0·8	...	163·9	414·9	0·395	48
May ...	0·3	3·8	5·6	6·7	7·7	8·8	9·7	10·7	10·2	11·6	10·2	7·1	7·5	7·0	5·5	0·3	112·7	482·1	0·234	57
For the year 1886 June to 1887 May ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1364·4	4454·0	0·306	...

The hours are reckoned from *apparent* midnight.

EXCESS OF AMOUNT OF SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN EACH MONTH BY THE CAMPBELL-STOKES INSTRUMENT ABOVE THAT REGISTERED BY THE CAMPBELL INSTRUMENT.

Month.	Excess of Duration of Sunshine in the Hour ending																Total Excess of Duration by Campbell-Stokes Instrument.	Ratio of Durations Campbell-Stokes to Campbell.	Ratio of Excess by Campbell-Stokes to Aggregate duration of daylight.
	5^h.	6^h.	7^h.	8^h.	9^h.	10^h.	11^h.	Noon.	13^h.	14^h.	15^h.	16^h.	17^h.	18^h.	19^h.	20^h.			
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		
1886, June	+0.6	−0.1	+1.0	+0.3	+0.1	+0.2	+0.4	+0.2	+0.1	+0.7	+0.4	+0.2	+1.0	+1.5	+1.6	+2.1	+10.3	1.048	0.021
July	+0.3	+1.4	+0.3	+0.2	−0.2	−1.1	−2.2	0.0	+0.6	+0.1	+0.8	+0.9	+0.4	+1.8	+2.2	+2.1	+ 7.6	1.039	0.015
August ...	...	+1.4	+0.7	+1.0	+1.0	+0.5	+0.6	+1.1	+1.6	+1.7	+1.0	+0.9	+2.2	+2.7	+3.4	...	+19.8	1.119	0.044
September	...	...	+1.0	+2.2	+0.9	+1.3	+0.5	+0.7	+1.0	+1.1	+0.8	+1.4	+1.6	+2.0	...	...	+14.5	1.110	0.038
October ...	...	...	...	+1.2	+2.8	+1.7	+0.9	+1.4	+1.6	+1.0	+2.2	+1.9	+1.7	+0.1	...	...	+16.5	1.256	0.050
November	...	...	...	...	+1.5	+0.4	+0.5	+1.1	+1.1	+1.0	+2.3	+0.7	...	...	...	...	+ 8.6	1.288	0.033
December	...	...	...	...	...	+1.0	0.0	−0.5	+0.3	+2.9	+2.0	...	...	...	...	...	+ 5.7	1.352	0.023
1887, January...	...	...	...	...	+0.2	+1.2	+0.5	+0.2	0.0	+1.0	+1.3	+0.3	...	...	...	...	+ 4.7	1.181	0.018
February	...	...	...	+0.5	+1.7	+1.5	−0.1	+0.6	0.0	+0.7	+0.1	+2.0	+1.0	...	...	...	+ 8.0	1.108	0.029
March ...	...	...	+0.1	+0.1	−0.2	0.0	−0.1	0.0	−0.5	−1.2	+0.1	+0.6	+0.9	+0.7	...	...	+ 0.5	1.006	0.001
April	...	+1.4	+2.2	+0.6	−1.4	−0.7	−0.9	−0.8	0.0	+0.2	+0.3	+0.1	+0.7	+1.2	+0.6	...	+ 3.5	1.022	0.008
May	+0.3	+2.8	+0.8	+0.3	+1.2	+0.2	+0.3	+1.0	−0.4	−0.2	−0.2	−1.5	+1.1	+0.4	+2.5	+0.3	+ 8.9	1.086	0.018
For the year 1886 June to 1887 May...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	+108.6	1.086	0.024

The hours are reckoned from *apparent* midnight.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

MAGNETICAL OBSERVATIONS

(EXCLUDING THE DAYS OF GREAT MAGNETIC DISTURBANCE).

1887.

TABLE I.—MEAN MAGNETIC DECLINATION WEST FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register.)

1887.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	17°	17°	17°	17°	17°	17°	17°	17°	17°	17°	17°	17°
d	′	′	′	′	′	′	′	′	′	′	′	′
1	51·9	51·2	52·7	51·7	49·6	...	50·3	48·9	48·6	47·5	44·3	44·1
2	51·3	51·9	52·2	50·2	50·0	...	49·8	46·9	48·1	47·7	43·9	44·2
3	51·4	50·6	52·0	51·8	49·2	50·0	50·0	49·7	47·8	47·6	44·5	44·3
4	52·3	51·1	52·0	50·6	49·8	50·7	50·6	48·8	47·8	47·4	44·5	44·3
5	51·8	51·1	51·7	50·7	50·0	51·2	50·0	50·2	47·7	47·7	44·8	44·3
6	52·7	52·1	50·8	51·6	50·4	50·8	50·0	48·5	47·9	47·7	44·5	44·6
7	52·7	53·2	51·5	51·3	50·2	51·2	49·8	48·6	47·5	47·2	44·1	44·2
8	52·3	52·6	51·8	49·9	50·6	50·8	49·6	48·9	47·5	48·0	44·2	44·1
9	52·4	52·2	51·4	51·2	51·1	50·1	49·5	48·8	47·8	47·6	44·1	43·3
10	52·6	51·7	52·1	51·3	51·4	51·5	50·0	49·3	47·7	47·9	45·5	44·6
11	52·6	51·8	51·5	51·8	52·1	51·0	49·8	49·8	46·4	47·2	44·8	44·6
12	51·7	51·1	51·8	50·4	51·3	50·7	50·4	49·2	46·4	47·5	44·9	44·1
13	52·7	50·3	51·6	50·9	50·8	50·4	49·6	50·0	47·3	47·4	44·8	43·5
14	52·0	51·0	52·2	51·2	51·6	50·8	49·0	49·2	47·5	47·1	44·6	43·9
15	52·4	51·3	51·7	51·5	51·8	50·0	49·4	48·4	47·6	47·5	44·9	44·1
16	52·7	51·4	51·2	50·5	51·2	50·5	49·2	50·0	47·7	47·6	45·3	44·6
17	51·9	51·4	51·6	52·0	51·4	49·7	49·0	49·4	47·2	47·9	45·2	44·1
18	51·4	51·0	51·5	51·2	50·9	50·6	48·6	49·4	47·5	47·0	44·8	44·0
19	51·8	51·3	51·3	50·7	50·9	51·1	49·0	48·9	47·6	47·6	...	43·9
20	51·6	51·6	51·6	50·1	50·4	50·1	49·1	49·4	47·7	47·4	...	44·4
21	52·2	52·6	51·7	50·8	50·4	51·1	49·4	48·7	47·9	46·9	...	44·0
22	51·6	52·5	51·6	49·6	50·5	49·7	48·9	48·8	47·4	47·8	44·7	44·2
23	51·8	51·6	51·9	50·0	50·7	50·2	49·3	49·1	46·2	45·2	44·9	44·2
24	51·3	51·6	51·8	49·6	50·6	50·6	50·2	48·9	47·0	47·5	45·1	44·0
25	52·0	51·6	51·9	51·1	51·1	50·3	50·8	49·0	...	47·7	44·8	44·4
26	51·9	51·6	51·6	50·2	49·6	49·7	49·8	48·8	...	48·0	44·2	43·9
27	51·5	52·3	51·5	50·2	48·7	50·6	49·5	48·0	46·4	46·6	44·3	43·8
28	51·6	51·7	51·7	48·8	50·3	50·4	48·6	47·4	47·6	45·7	44·3	43·9
29	51·5		51·4	49·8	49·3	51·0	48·7	48·2	47·1	44·0	44·2	43·6
30	52·0		51·5	49·1	48·2	50·6	48·6	48·6	47·1	45·3	44·5	43·9
31	51·4		51·7		...		48·6	48·1		44·1		44·0

TABLE II.—MONTHLY MEAN DIURNAL INEQUALITY OF MAGNETIC DECLINATION WEST.

(The results in each month are diminished by the smallest hourly value).

1887.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	′	′	′	′	′	′	′	′	′	′	′	′
Midn.	0·6	0·0	0·1	1·5	1·8	3·5	3·0	1·5	0·3	0·4	0·6	0·7
1h	1·0	0·9	0·5	1·5	1·6	3·3	2·9	1·7	1·1	1·0	0·7	1·1
2	1·6	2·0	0·9	1·5	1·5	3·5	2·8	2·1	0·9	1·2	1·1	1·7
3	1·9	2·7	1·1	1·3	1·7	3·5	2·7	1·8	0·3	1·4	1·5	2·4
4	2·2	2·9	1·3	1·5	1·3	2·6	2·1	1·4	0·2	1·3	1·6	2·7
5	2·3	2·9	1·3	1·7	0·7	1·2	1·2	0·8	0·0	1·4	1·5	2·9
6	2·4	3·0	1·3	1·6	0·4	0·5	0·2	0·2	0·1	1·6	1·2	3·0
7	2·2	3·1	0·8	0·7	0·0	0·0	0·0	0·0	0·0	1·3	1·2	3·1
8	1·8	3·0	0·1	0·0	0·3	0·2	0·3	0·3	0·3	1·0	1·2	2·9
9	1·8	2·7	0·3	0·3	1·6	1·5	1·8	2·0	1·8	1·1	1·2	2·6
10	2·4	3·1	1·8	2·5	3·8	3·7	3·7	4·5	4·3	2·3	2·1	3·1
11	3·5	4·5	4·3	5·3	6·5	6·3	6·6	6·9	6·6	4·4	3·9	4·1
Noon.	4·4	6·0	6·5	8·1	8·9	8·6	8·8	8·8	8·2	6·0	4·8	4·9
13h	5·6	7·1	7·4	9·1	9·5	9·7	9·9	9·6	8·5	6·8	5·0	5·6
14	5·4	6·8	7·1	8·7	8·8	9·7	10·2	9·1	6·7	6·5	4·2	5·1
15	4·0	6·2	5·8	7·2	7·6	8·8	9·2	7·4	4·5	5·0	3·2	4·1
16	3·0	4·9	4·1	5·5	6·2	7·6	7·6	5·5	2·7	3·8	2·5	3·5
17	2·5	3·7	2·7	4·1	5·1	6·3	6·1	4·1	1·6	2·9	2·1	2·6
18	1·9	3·1	1·8	2·7	4·0	5·3	4·9	3·4	1·6	1·9	1·6	2·1
19	0·9	1·4	1·3	1·9	3·2	4·6	4·1	2·9	1·3	1·7	1·1	2·0
20	0·4	1·0	1·1	1·4	2·8	4·5	4·0	2·5	0·9	1·2	0·8	1·5
21	0·0	1·1	0·7	1·2	2·2	4·2	3·9	2·0	0·8	0·5	0·2	0·5
22	0·0	0·2	0·1	0·7	1·6	4·0	3·9	1·5	0·6	0·1	0·0	0·0
23	0·2	0·2	0·0	1·0	1·8	3·8	3·6	1·5	0·2	0·0	0·3	0·2
Means	2·17	3·02	2·18	2·96	3·45	4·45	4·31	3·40	2·23	2·28	1·82	2·60

TABLE III.—MEAN HORIZONTAL MAGNETIC FORCE (diminished by a Constant) FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register, expressed in terms of the whole Horizontal Force, the unit in the table being ·00001 of the whole Horizontal Force. The letters u *and* c *indicate respectively values uncorrected for, and corrected for temperature.)*

1887.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*
d																								
1	520	436	501	515	457	464	607	617	577	537	594	619	430	524	449	639	465	632	542	575	595	562	464	471
2	538	428	499	484	495	477	534	536	612	575	608	624	429	559	312	492	463	595	529	566	650	613	498	500
3	525	464	547	543	503	501	512	508	578	560	623	642	358	530	330	515	455	585	560	597	656	627	518	511
4	491	428	570	580	489	499	542	535	585	578	594	608	415	618	283	445	466	616	558	593	624	611	547	525
5	499	434	538	536	455	480	469	462	581	570	447	503	421	624	325	492	488	645	588	625	621	608	542	505
6	498	448	541	521	381	418	468	444	594	594	466	526	381	533	301	502	499	644	554	591	650	630	501	464
7	525	483	555	520	413	429	467	441	561	571	468	521	298	478	275	494	538	670	540	584	649	620	463	409
8	545	487	495	497	385	431	457	437	580	585	525	585	260	463	282	506	548	642	540	582	654	634	530	486
9	527	479	392	404	382	401	456	454	593	614	522	575	263	485	285	533	567	654	543	587	628	619	538	512
10	560	504	439	432	457	469	511	500	590	618	474	539	350	566	268	505	540	653	583	611	551	536	522	485
11	522	487	437	433	459	450	534	503	596	612	481	537	316	551	301	510	513	605	582	562	623	601	523	479
12	526	484	413	395	430	451	541	521	711	725	453	525	272	520	313	485	486	580	565	530	612	586	536	492
13	582	507	356	347	457	442	554	528	628	608	415	507	300	559	367	542	501	573	571	506	597	547	503	463
14	484	432	381	383	470	448	607	565	605	568	413	521	360	595	372	527	565	621	564	516	604	552	546	477
15	412	370	365	393	471	456	529	489	555	529	436	552	461	664	316	444	518	602	583	533	588	540	570	512
16	449	384	410	417	406	404	573	531	508	533	424	561	459	660	363	510	518	605	595	547	568	522	429	425
17	450	371	443	410	462	458	500	454	530	546	473	593	395	588	395	547	549	650	634	608	540	516	403	372
18	427	403	480	467	456	461	507	487	555	565	492	596	448	610	412	559	538	630	603	579	471	460	462	429
19	485	470	494	499	490	486	529	505	608	604	480	596	425	582	393	511	544	631	585	576	...	...	432	374
20	507	474	445	464	463	463	556	543	546	539	431	549	443	631	443	556	537	633	596	585	...	...	483	420
21	454	441	472	477	416	407	525	523	589	547	418	502	388	594	446	552	570	657	636	618	...	...	438	384
22	523	499	499	479	476	467	561	580	572	550	378	460	430	623	395	523	537	619	577	535	371	349	375	304
23	523	488	482	482	527	527	524	534	593	584	420	512	458	664	370	512	511	605	566	520	436	414	455	382
24	516	464	512	514	542	509	552	559	517	517	406	500	416	619	382	559	504	576	558	514	415	415	448	413
25	509	489	520	527	594	552	530	532	528	515	464	551	450	664	425	602	...	...	534	505	459	428	500	442
26	494	485	530	506	577	553	591	578	585	581	490	567	457	660	443	641	...	...	467	447	485	476	432	361
27	502	476	518	485	582	562	645	614	596	585	487	550	488	704	487	680	439	511	474	443	531	518	398	323
28	496	498	498	489	568	555	637	604	597	588	432	533	439	640	473	684	446	485	553	542	541	510	407	344
29	548	535			577	577	511	498	603	592	477	588	482	683	393	615	517	524	601	586	485	454	365	336
30	583	548			577	591	557	548	640	625	447	558	457	650	403	612	531	543	592	563	430	435	383	359
31	583	570			589	585			650	657			464	657	466	649			571	553			...	...

At the end of the year experiments were made for determination of the angle of torsion, thus breaking the continuity of the values.

TABLE IV.—MEAN TEMPERATURE for each CIVIL DAY within the box inclosing the HORIZONTAL FORCE MAGNET.

1887.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d 1	59°·6	64°·1	63°·8	63°·9	61°·7	64°·6	67°·5	71°·4	70°·5	64°·9	62°·0	63°·8
2	58·3	62·8	62·7	63·6	61·8	64·2	69·0	71·0	69·1	65·1	61·8	63·6
3	60·7	63·3	63·4	63·3	62·7	64·3	70·7	71·2	69·0	65·1	62·2	63·2
4	60·6	63·9	63·9	63·2	63·2	64·1	71·9	70·3	69·8	65·0	62·9	62·5
5	60·5	63·4	64·6	63·2	63·0	65·9	71·9	70·5	70·1	65·1	62·9	61·8
6	61·2	62·6	65·1	62·4	63·5	66·1	69·9	71·8	69·6	65·1	62·6	61·8
7	61·6	61·9	64·2	62·3	63·9	65·8	71·0	72·5	69·1	65·4	62·2	61·0
8	60·8	63·6	65·5	62·6	63·7	66·1	71·9	72·7	67·5	65·3	62·6	61·5
9	61·3	64·0	64·3	63·4	64·4	65·8	72·6	73·6	67·2	65·4	63·1	62·3
10	60·9	63·2	64·0	63·0	64·7	66·3	72·4	73·2	68·3	64·7	62·8	61·8
11	61·9	63·3	63·1	62·1	64·2	65·9	73·1	72·1	67·4	62·6	62·5	61·5
12	61·6	62·7	64·4	62·6	64·1	66·6	73·6	70·7	67·5	61·9	62·3	61·5
13	60·0	63·1	62·8	62·3	62·6	67·4	74·0	70·8	66·6	60·5	61·2	61·7
14	61·1	63·6	62·5	61·6	61·8	68·1	73·1	70·0	65·9	61·3	61·1	60·3
15	61·6	64·7	62·8	61·7	62·3	68·4	71·9	68·9	67·1	61·2	61·3	60·8
16	60·5	63·8	63·4	61·6	64·6	69·3	71·8	69·7	67·2	61·3	61·4	63·3
17	59·8	62·0	63·3	61·4	64·2	68·6	71·5	69·9	67·8	62·3	62·4	62·1
18	62·4	62·9	63·7	62·6	63·9	67·9	70·3	69·7	67·4	62·4	63·0	62·0
19	62·8	63·7	63·3	62·4	63·3	68·4	70·1	68·5	67·2	63·1	...	60·8
20	62·0	64·3	63·5	62·9	63·2	68·5	71·3	68·3	67·6	63·0	...	60·6
21	62·9	63·7	63·1	63·4	61·6	67·1	72·0	68·0	67·2	62·7	...	61·0
22	62·4	62·6	63·1	64·3	62·5	67·0	71·5	68·9	67·0	61·6	62·5	60·2
23	61·9	63·5	63·5	63·9	63·1	67·4	72·0	69·5	67·5	61·4	62·5	60·1
24	61·1	63·6	62·0	63·8	63·5	67·5	71·9	70·9	66·6	61·5	63·5	61·9
25	62·6	63·8	61·6	63·6	62·9	67·2	72·3	70·9	...	62·2	62·1	60·8
26	63·1	62·4	62·4	62·9	63·3	66·8	71·9	71·7	...	62·6	63·1	60·2
27	62·3	62·0	62·6	62·1	63·0	66·2	72·4	71·5	66·6	62·1	62·9	60·0
28	63·6	63·1	62·9	62·0	63·1	67·8	71·8	72·2	65·2	63·0	62·1	60·6
29	62·9		63·5	62·9	63·0	68·2	71·8	72·6	63·8	62·8	62·1	62·2
30	61·9		64·1	63·1	62·8	68·2	71·5	72·1	64·0	62·2	63·7	62·4
31	62·9		63·3		63·8		71·5	71·1		62·7		...
Means	61°·51	63°·27	63°·43	62°·80	63°·21	66°·86	71°·62	70°·85	67°·49	63°·08	62°·40	61°·58

TABLE V.—MONTHLY MEAN DIURNAL INEQUALITY OF HORIZONTAL MAGNETIC FORCE.

(The results are expressed in terms of the whole Horizontal Force, diminished in each case by the smallest hourly value, the unit in the table being ·00001 of the whole Horizontal Force. The letters u *and* c *indicate respectively values uncorrected for, and corrected for temperature.)*

1887.

Hour, Greenwich Civil Time.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*
Midnight.	37	50	36	52	107	124	182	197	152	167	150	172	143	172	160	180	143	165	104	119	34	45	15	25
1h	47	60	32	48	110	127	173	188	146	159	141	160	137	160	152	170	147	167	100	115	32	43	18	28
2	53	63	38	49	105	119	161	174	137	148	136	153	141	159	153	168	146	163	101	114	29	38	20	26
3	59	65	45	54	111	120	162	171	127	136	136	148	134	150	153	165	142	157	102	113	35	42	32	38
4	62	68	55	62	115	122	158	165	123	127	136	143	121	134	146	156	141	153	115	121	52	57	47	50
5	77	83	66	70	120	125	168	172	101	103	118	125	116	126	138	145	143	151	120	124	65	68	58	59
6	88	92	82	84	127	130	150	152	76	78	91	96	91	96	112	117	119	127	118	122	71	74	73	72
7	84	88	87	89	126	129	131	131	39	41	58	63	59	62	76	76	81	86	106	108	68	71	78	77
8	70	72	78	78	89	92	91	91	10	10	19	19	30	30	26	23	40	45	68	70	58	58	72	71
9	28	30	49	49	42	45	30	30	0	0	0	0	3	3	3	0	6	9	34	34	24	24	38	35
10	6	8	25	25	5	5	0	0	9	9	3	3	0	0	0	0	0	0	8	8	2	2	12	7
11	0	0	4	2	0	0	0	0	29	29	25	28	14	17	25	25	25	25	0	0	0	0	5	0
Noon.	4	6	0	0	30	30	47	47	60	62	55	60	48	53	72	74	83	86	28	28	20	20	8	3
13h	26	28	8	10	59	59	92	94	99	101	84	91	94	104	117	122	119	122	65	65	38	38	18	15
14	47	51	37	39	101	104	136	140	138	142	127	139	132	145	149	156	135	140	76	78	34	37	13	10
15	53	57	50	54	112	117	158	165	160	166	153	168	161	177	163	173	141	149	82	86	33	36	10	9
16	57	63	41	45	115	120	172	181	176	182	173	188	167	185	173	185	143	153	92	96	37	40	13	12
17	55	61	46	50	113	118	185	194	196	202	184	203	181	202	180	195	150	160	98	104	47	50	5	4
18	44	52	40	47	118	123	195	204	211	217	189	211	193	216	194	209	163	173	98	102	60	65	23	22
19	35	43	46	53	120	125	201	210	212	223	194	216	198	224	204	224	178	190	91	99	52	57	17	18
20	37	45	46	55	124	131	193	202	199	210	193	220	187	216	202	222	178	193	85	93	41	46	4	5
21	38	48	39	48	123	130	188	199	182	193	171	198	173	204	190	213	173	188	100	108	36	43	0	1
22	33	43	27	38	122	131	184	195	163	176	160	189	166	197	185	208	166	183	108	119	30	37	3	6
23	35	48	34	47	112	126	184	199	156	171	150	174	155	186	171	194	154	171	113	126	32	43	10	16
Means corrected for Temperature.	51·0		47·8		102·2		145·9		127·2		132·0		134·1		141·7		131·5		89·7		43·1		25·4	

TABLE VI.—MONTHLY MEAN TEMPERATURE at each HOUR of the DAY within the box inclosing the HORIZONTAL FORCE MAGNET.

1887.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midnight.	61°·8	63°·7	63°·9	63°·2	63°·6	67°·2	72°·1	71°·2	68°·0	63°·5	62°·7	62°·0	65°·24
1h	61·8	63·7	63·9	63·2	63·5	67·1	71·9	71·1	67·9	63·5	62·7	62·0	65·19
2	61·7	63·5	63·8	63·1	63·4	67·0	71·7	71·0	67·8	63·4	62·6	61·8	65·07
3	61·5	63·4	63·6	62·9	63·3	66·8	71·6	70·9	67·7	63·3	62·5	61·8	64·94
4	61·5	63·3	63·5	62·8	63·1	66·6	71·5	70·8	67·6	63·1	62·4	61·7	64·82
5	61·5	63·2	63·4	62·7	63·0	66·6	71·4	70·7	67·4	63·0	62·3	61·6	64·73
6	61·4	63·1	63·3	62·6	63·0	66·5	71·2	70·6	67·4	63·0	62·3	61·5	64·66
7	61·4	63·1	63·3	62·5	63·0	66·5	71·1	70·4	67·3	62·9	62·3	61·5	64·61
8	61·3	63·0	63·3	62·5	62·9	66·3	71·0	70·3	67·3	62·9	62·2	61·5	64·54
9	61·3	63·0	63·3	62·5	62·9	66·3	71·0	70·3	67·2	62·8	62·2	61·4	64·52
10	61·3	63·0	63·2	62·5	62·9	66·3	71·0	70·4	67·1	62·8	62·2	61·3	64·50
11	61·2	62·9	63·2	62·5	62·9	66·4	71·1	70·4	67·1	62·8	62·2	61·3	64·50
Noon.	61·3	63·0	63·2	62·5	63·0	66·5	71·2	70·5	67·2	62·8	62·2	61·3	64·56
13h	61·3	63·1	63·2	62·6	63·0	66·6	71·4	70·6	67·2	62·8	62·2	61·4	64·62
14	61·4	63·1	63·3	62·7	63·1	66·8	71·5	70·7	67·3	62·9	62·3	61·4	64·71
15	61·4	63·2	63·4	62·8	63·2	66·9	71·6	70·8	67·4	63·0	62·3	61·5	64·79
16	61·5	63·2	63·4	62·9	63·2	66·9	71·7	70·9	67·5	63·0	62·3	61·5	64·83
17	61·5	63·2	63·4	62·9	63·2	67·1	71·8	71·0	67·5	63·1	62·3	61·5	64·87
18	61·6	63·3	63·4	62·9	63·2	67·2	71·9	71·0	67·5	63·0	62·4	61·5	64·91
19	61·6	63·3	63·4	62·9	63·4	67·2	72·0	71·2	67·6	63·2	62·4	61·6	64·98
20	61·6	63·4	63·5	62·9	63·4	67·4	72·1	71·2	67·7	63·2	62·4	61·6	65·03
21	61·7	63·4	63·5	63·0	63·4	67·4	72·2	71·3	67·7	63·2	62·5	61·6	65·08
22	61·7	63·5	63·6	63·0	63·5	67·5	72·2	71·3	67·8	63·3	62·5	61·7	65·13
23	61·8	63·6	63·8	63·2	63·6	67·3	72·2	71·3	67·8	63·4	62·7	61·8	65·21

TABLE VII.—MEAN VERTICAL MAGNETIC FORCE (diminished by a constant) FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register, expressed in terms of the whole Vertical Force, the unit in the table being ·00001 of the whole Vertical Force. The letters u *and* c *indicate respectively values uncorrected for, and corrected for temperature.)*

1887.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*
d 1	637	582	711	564	635	497	570	430	544	429	635	455	682	450	715	407	655	356	436	254	339	222	291	136
2	595	567	684	565	612	497	571	424	531	422	649	471	712	447	670	366	636	367	452	284	328	213	293	134
3	631	548	674	544	604	474	582	442	539	405	639	467	758	450	717	411	617	348	457	285	325	199	292	148
4	648	567	682	540	620	478	583	443	575	435	645	473	787	456	682	383	626	338	454	263	338	200	275	156
5	638	562	719	577	630	486	587	451	578	438	706	508	772	460	682	380	634	341	455	262	345	207	268	159
6	642	555	705	579	646	487	568	451	577	428	697	497	743	463	715	384	633	349	457	270	342	208	273	166
7	647	555	677	570	640	489	538	423	577	418	688	486	753	451	743	376	619	339	452	265	340	214	259	169
8	637	552	688	556	647	479	547	426	581	418	682	471	759	436	748	377	578	332	453	260	343	209	240	138
9	640	546	700	551	634	485	573	433	595	417	694	496	782	442	749	382	552	310	460	262	340	198	247	121
10	627	542	663	531	613	462	570	447	615	435	706	483	789	445	737	389	549	292	443	263	365	227	255	146
11	636	531	647	515	597	467	552	437	616	440	702	494	798	444	706	379	543	307	396	256	360	226	237	141
12	649	547	636	515	615	468	557	429	606	434	698	477	796	440	660	354	532	290	368	242	358	230	229	135
13	613	545	638	517	586	469	570	449	580	436	706	479	822	459	633	334	522	303	317	236	332	223	235	128
14	630	543	631	499	561	454	538	440	561	440	745	497	805	461	622	340	492	284	298	191	305	215	225	135
15	648	561	647	490	556	433	533	428	565	427	746	493	768	443	580	319	500	277	304	199	294	196	237	141
16	614	552	645	505	567	437	535	422	604	426	761	492	750	436	571	295	504	272	306	195	274	191	285	143
17	582	529	588	479	563	437	538	425	613	443	754	499	749	441	587	309	543	297	310	184	278	148	285	166
18	636	525	590	462	557	423	538	406	597	434	727	485	727	425	593	319	552	312	323	191	285	149	262	147
19	660	526	621	472	554	424	546	410	578	429	738	483	702	394	575	322	545	313	334	198	277	139	225	133
20	666	553	630	475	552	418	550	414	579	443	738	485	724	393	560	310	532	298	336	200	276	132	213	123
21	680	552	631	480	553	425	563	408	554	443	698	477	740	411	558	312	525	291	345	209	...	...	217	123
22	668	549	615	487	538	402	582	412	551	417	681	460	729	417	573	308	519	292	341	232	285	153	210	120
23	651	551	633	495	542	400	588	420	537	393	688	454	733	412	587	305	526	297	313	204	272	144	206	125
24	623	538	639	501	516	403	576	421	569	410	682	444	730	405	606	300	524	305	301	203	277	135	206	97
25	660	543	645	503	525	416	587	438	576	427	685	456	737	406	617	303	...	...	310	199	265	150	198	113
26	683	551	622	503	540	421	562	432	588	429	663	442	732	409	635	302	...	...	325	206	266	132	177	113
27	672	561	610	510	555	432	535	418	609	454	650	435	735	406	640	313	510	276	295	178	270	128	169	112
28	693	559	622	494	566	440	543	426	611	460	677	429	740	417	667	327	480	272	312	176	268	140	153	83
29	690	562			575	433	542	406	599	455	694	439	734	413	678	340	460	278	334	192	280	154	167	65
30	680	571			586	433	554	418	608	468	697	447	722	412	684	349	436	254	350	220	290	139	...	...
31	678	552			576	442			614	446			711	394	669	359			347	213			...	...

At the end of the year the magnet was readjusted, thus breaking the continuity of the values.

TABLE VIII.—MEAN TEMPERATURE for each CIVIL DAY within the box inclosing the VERTICAL FORCE MAGNET.

1887.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	58·2	62·5	62·1	62·2	61·0	64·1	66·5	70·1	69·7	64·2	61·1	62·9
2	56·9	61·2	61·0	62·5	60·7	64·0	68·1	69·9	68·3	63·5	61·0	63·1
3	59·5	61·7	61·7	62·2	61·9	63·7	70·1	70·0	68·3	63·7	61·5	62·4
4	59·4	62·3	62·3	62·2	62·2	63·7	71·2	69·7	69·2	64·6	62·1	61·2
5	59·2	62·3	62·4	62·0	62·2	64·9	70·3	69·8	69·4	64·7	62·1	60·7
6	59·7	61·5	63·1	61·1	62·6	65·0	68·8	71·2	69·0	64·4	61·9	60·6
7	59·9	60·6	62·7	61·0	63·1	65·1	69·8	72·9	68·8	64·4	61·5	59·8
8	59·6	61·8	63·5	61·3	63·3	65·5	70·8	73·1	67·2	64·7	61·9	60·4
9	60·0	62·6	62·6	62·2	64·0	64·9	71·6	72·9	67·0	64·9	62·3	61·5
10	59·6	61·8	62·7	61·4	64·1	66·1	71·8	72·0	67·7	64·1	62·1	60·7
11	60·5	61·8	61·7	61·0	63·9	65·4	72·3	71·0	66·7	62·2	61·9	60·1
12	60·4	61·3	62·5	61·6	63·7	66·0	72·4	70·0	67·0	61·5	61·6	60·0
13	58·8	61·3	61·1	61·3	62·4	66·3	72·7	69·7	65·9	59·4	60·7	60·6
14	59·7	61·8	60·6	60·2	61·3	67·3	71·8	68·9	65·4	60·6	59·8	59·8
15	59·7	63·0	61·4	60·5	62·1	67·5	70·9	67·9	66·1	60·5	60·2	60·1
16	58·5	62·2	61·7	60·9	64·0	68·3	70·4	68·6	66·5	60·8	59·5	62·3
17	58·1	60·7	61·5	60·9	63·6	67·6	70·1	68·7	67·2	61·5	61·7	61·2
18	60·8	61·6	61·9	61·8	63·3	67·0	69·8	68·5	66·9	61·8	62·0	61·0
19	61·9	62·6	61·7	62·0	62·6	67·6	70·1	67·5	66·5	62·0	62·1	59·9
20	60·9	62·9	61·9	62·0	62·0	67·5	71·2	67·4	66·6	62·0	62·4	59·8
21	61·6	62·7	61·6	62·9	60·8	66·0	71·1	67·2	66·6	62·0	...	60·0
22	61·2	61·6	62·0	63·6	61·9	66·0	70·3	68·1	66·3	60·7	61·8	59·8
23	60·3	62·1	62·3	63·5	62·4	66·6	70·7	68·9	66·4	60·7	61·6	59·4
24	59·6	62·1	60·9	62·9	63·1	66·8	70·9	70·0	65·9	60·2	62·3	60·7
25	61·1	62·3	60·7	62·6	62·6	66·4	71·2	70·4	...	60·8	61·0	59·6
26	61·8	61·2	61·2	61·7	63·1	66·0	70·8	71·3	...	61·2	61·9	58·6
27	60·8	60·3	61·4	61·1	62·9	65·7	71·1	71·0	66·6	61·1	62·3	58·3
28	61·9	61·6	61·5	61·1	62·7	67·3	70·8	71·6	65·4	62·0	61·6	58·9
29	61·6		62·3	62·0	62·4	67·6	70·7	71·5	64·2	62·3	61·5	60·4
30	60·7		62·8	62·0	62·2	67·4	70·2	71·4	64·2	61·7	62·7	...
31	61·5		61·9		63·5		70·5	70·2		61·9		...
Means	60·11	61·84	61·89	61·79	62·63	66·11	70·61	70·05	66·96	62·26	61·59	60·48

TABLE IX.—MONTHLY MEAN DIURNAL INEQUALITY OF VERTICAL MAGNETIC FORCE.

(The results are expressed in terms of the whole Vertical Force, diminished in each case by the smallest hourly value, the unit in the table being ·00001 of the whole Vertical Force. The letters u *and* c *indicate respectively values uncorrected for, and corrected for temperature.)*

1887.

Hour, Greenwich Civil Time.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*	*u*	*c*
Midnight.	15	9	24	8	32	17	35	20	50	35	46	27	40	25	30	14	33	14	24	11	18	5	19	8
1ʰ	10	4	20	4	29	14	29	14	41	28	44	28	37	24	26	12	30	14	23	10	15	2	16	5
2	4	0	13	1	26	13	22	9	35	24	38	26	32	23	23	11	24	10	19	8	12	1	9	2
3	0	0	10	0	24	15	20	11	33	24	37	27	30	23	22	12	22	10	17	9	10	1	7	2
4	2	4	10	4	22	17	20	15	35	28	40	34	31	29	25	19	21	13	14	8	8	1	3	0
5	1	3	10	6	20	17	19	16	37	32	40	36	35	35	23	19	21	17	13	9	9	4	3	3
6	1	5	9	7	21	20	20	19	39	34	40	38	33	35	26	25	25	21	15	11	7	2	4	6
7	1	5	9	7	22	21	25	27	40	38	37	35	32	36	26	27	25	25	17	17	7	5	2	6
8	4	10	9	9	20	19	21	25	36	36	31	33	26	34	22	27	19	19	16	16	6	6	2	6
9	2	8	7	7	12	11	15	19	22	22	22	24	17	25	12	17	12	14	14	16	4	4	0	6
10	5	11	3	3	5	4	6	10	8	8	9	11	9	15	2	7	5	7	7	9	0	0	0	4
11	4	10	0	0	0	1	0	4	0	0	0	0	2	6	0	3	0	0	2	4	0	0	0	4
Noon.	2	6	6	4	1	0	1	0	2	0	5	1	0	0	1	0	6	4	0	0	3	1	2	6
13ʰ	10	12	14	10	12	9	12	9	18	13	22	14	12	7	13	9	19	15	5	3	11	6	8	10
14	21	21	25	19	28	25	29	22	32	25	34	24	25	18	26	20	34	28	16	14	22	17	19	19
15	26	26	34	28	39	34	43	34	48	39	44	32	39	30	48	38	47	41	27	23	26	21	26	26
16	28	26	38	32	46	41	53	42	62	53	57	45	54	43	60	48	50	42	34	30	26	21	28	28
17	25	25	41	35	46	41	59	48	73	64	66	50	64	53	65	51	50	40	35	29	26	21	28	28
18	26	24	41	33	43	38	61	50	79	70	72	53	68	53	64	50	45	35	34	28	25	18	28	28
19	29	25	43	35	43	38	58	47	77	64	72	53	67	50	60	44	43	33	35	27	25	16	26	21
20	29	27	38	28	42	35	52	41	72	59	68	45	61	44	53	37	41	27	36	28	24	15	25	20
21	25	21	35	25	38	31	45	32	65	52	63	40	55	36	48	29	38	24	34	26	23	12	26	21
22	21	17	31	19	35	26	42	29	60	45	59	34	50	31	41	22	31	15	28	17	21	10	23	16
23	20	14	26	12	32	19	38	23	56	39	54	33	44	27	36	20	29	13	23	10	21	6	20	11
Means corrected for Temperature.	13·0		14·0		21·1		23·6		34·7		31·0		29·2		23·4		20·0		15·1		8·1		11·9	

TABLE X.—MONTHLY MEAN TEMPERATURE at each HOUR of the DAY within the box inclosing the VERTICAL FORCE MAGNET.

1887.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.	For the Year.
Midnight.	60°·4	62°·3	62°·4	62°·2	63°·0	66°·5	71°·0	70°·4	67°·5	62°·6	61°·9	60°·9	64°·26
1ʰ	60·4	62·3	62·4	62·2	62·9	66·4	70·9	70·3	67·4	62·6	61·9	60·9	64·22
2	60·3	62·1	62·3	62·1	62·8	66·2	70·7	70·2	67·3	62·5	61·8	60·7	64·08
3	60·1	62·0	62·1	61·9	62·7	66·1	70·6	70·1	67·2	62·4	61·7	60·6	63·96
4	60·0	61·8	61·9	61·7	62·6	65·9	70·4	69·9	67·0	62·3	61·6	60·5	63·80
5	60·0	61·7	61·8	61·6	62·5	65·8	70·3	69·8	66·8	62·2	61·5	60·4	63·70
6	59·9	61·6	61·7	61·5	62·5	65·7	70·2	69·7	66·8	62·2	61·5	60·3	63·63
7	59·9	61·6	61·7	61·4	62·4	65·7	70·1	69·6	66·6	62·0	61·4	60·2	63·55
8	59·8	61·5	61·7	61·3	62·3	65·5	69·9	69·4	66·6	62·0	61·3	60·2	63·46
9	59·8	61·5	61·7	61·3	62·3	65·5	69·9	69·4	66·5	61·9	61·3	60·1	63·43
10	59·8	61·5	61·7	61·3	62·3	65·5	70·0	69·4	66·5	61·9	61·3	60·2	63·45
11	59·8	61·5	61·6	61·3	62·3	65·6	70·1	69·5	66·6	61·9	61·3	60·2	63·47
Noon.	59·9	61·6	61·7	61·5	62·4	65·8	70·3	69·7	66·7	62·0	61·4	60·2	63·60
13ʰ	60·0	61·7	61·8	61·6	62·5	66·0	70·5	69·8	66·8	62·1	61·5	60·3	63·72
14	60·1	61·8	61·8	61·8	62·6	66·1	70·6	69·9	66·9	62·1	61·5	60·4	63·80
15	60·1	61·8	61·9	61·9	62·7	66·2	70·7	70·1	66·9	62·2	61·5	60·4	63·87
16	60·2	61·8	61·9	62·0	62·7	66·2	70·8	70·2	67·0	62·2	61·5	60·4	63·91
17	60·1	61·8	61·9	62·0	62·7	66·4	70·8	70·3	67·1	62·3	61·5	60·4	63·94
18	60·2	61·9	61·9	62·0	62·7	66·5	71·0	70·3	67·1	62·3	61·6	60·4	63·99
19	60·3	61·9	61·9	62·0	62·9	66·5	71·1	70·4	67·1	62·4	61·7	60·6	64·07
20	60·2	62·0	62·0	62·0	62·9	66·7	71·1	70·4	67·3	62·4	61·7	60·6	64·11
21	60·3	62·0	62·0	62·1	62·9	66·7	71·2	70·5	67·3	62·4	61·8	60·6	64·15
22	60·3	62·1	62·1	62·1	63·0	66·8	71·2	70·5	67·4	62·5	61·8	60·7	64·21
23	60·4	62·2	62·3	62·2	63·1	66·6	71·1	70·4	67·4	62·6	62·0	60·8	64·26

TABLE XI.—MEAN MAGNETIC DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE in each MONTH.

(The results for Horizontal Force and Vertical Force are corrected for temperature.)

Month, 1887.	DECLINATION WEST in Arc.	HORIZONTAL FORCE in terms of the whole Horizontal Force (diminished by a Constant).	VERTICAL FORCE in terms of the whole Vertical Force (diminished by a Constant).	DECLINATION diminished by 17° and expressed as Westerly Force. in terms of GAUSS'S METRICAL UNIT.	HORIZONTAL FORCE (diminished by a Constant). in terms of GAUSS'S METRICAL UNIT.	VERTICAL FORCE (diminished by a Constant). in terms of GAUSS'S METRICAL UNIT.
	° ′					
January	17. 52·0	467	551	2749	849	2411
February	17. 51·6	471	517	2728	856	2262
March	17. 51·7	483	449	2733	878	1964
April	17. 50·7	521	428	2681	947	1873
May	17. 50·5	580	432	2670	1054	1890
June	17. 50·6	553	472	2675	1005	2065
July	17. 49·5	597	430	2617	1085	1881
August	17. 48·9	547	344	2585	994	1505
September	17. 47·4	607	307	2506	1103	1343
October	17. 47·1	557	226	2490	1012	989
November	17. 44·6	533	180	2358	969	788
December	17. 44·1	432	132	2332	785	578
	° ′					
Means	17. 49·1	......	......	2594	......	......
Number of Column	1	2	3	4	5	6

The units in columns 2 and 3 are ·00001 of the whole Horizontal and Vertical Forces respectively; in columns 4, 5, and 6 the unit is ·00001 of the Millimètre-Milligramme-Second Unit, or ·000001 of the Centimètre-Gramme-Second (C.G.S.) Unit, in terms of which Units the values of whole Horizontal Force (applicable to columns 4 and 5) are 1·8175 and 0·18175 respectively for the year, and of whole Vertical Force (applicable to column 6) 4·3752 and 0·43752 respectively for the year.

HORIZONTAL FORCE.—At the end of the year experiments were made for determination of the angle of torsion, thus breaking the continuity of the values.

VERTICAL FORCE.—At the end of the year the magnet was readjusted, thus breaking the continuity of the values.

TABLE XII.—MEAN DIURNAL INEQUALITIES OF MAGNETIC DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, for the Year 1887.

(Each result is the mean of the twelve monthly mean values, the annual means for each element being diminished by the smallest hourly value. The results for Horizontal Force and Vertical Force are corrected for temperature.)

Hour, Greenwich Civil Time.	Inequality of			Inequality of		
	DECLINATION WEST in Arc.	HORIZONTAL FORCE in terms of the whole Horizontal Force.	VERTICAL FORCE in terms of the whole Vertical Force.	DECLINATION expressed as WESTERLY FORCE	HORIZONTAL FORCE	VERTICAL FORCE
				in terms of GAUSS'S METRICAL UNIT.		
Midnight.	′ 0·22	116·7	14·3	11·6	212·1	62·6
1h	0·49	113·1	11·4	25·9	205·6	49·9
2	0·78	108·9	8·9	41·2	197·9	38·9
3	0·91	107·7	9·4	48·1	195·7	41·1
4	0·81	107·6	12·5	42·8	195·6	54·7
5	0·54	107·0	14·6	28·5	194·5	63·9
6	0·34	97·7	16·8	18·0	177·6	73·5
7	0·08	79·5	19·0	4·2	144·5	83·1
8	0·00	49·3	18·2	0·0	89·6	79·6
9	0·61	16·0	12·6	32·3	29·1	55·1
10	2·16	0·0	5·6	114·2	0·0	24·5
11	4·29	4·9	0·9	226·8	8·9	3·9
Noon.	6·05	33·5	0·0	319·9	60·9	0·0
13h	6·87	65·1	7·9	363·2	118·3	34·6
14	6·41	92·8	19·2	338·9	168·7	84·0
15	5·13	107·5	29·2	271·2	195·4	127·8
16	3·79	115·2	35·8	200·4	209·4	156·6
17	2·70	123·0	38·6	142·7	223·6	168·9
18	1·91	131·2	38·2	101·0	238·5	167·1
19	1·25	134·6	36·0	66·1	244·6	157·5
20	0·89	130·9	32·0	47·1	237·9	140·0
21	0·49	125·5	27·3	25·9	228·1	119·4
22	0·11	121·2	21·6	5·8	220·3	94·5
23	0·12	119·5	17·1	6·3	217·2	74·8
Means . . .	1′·96	92·0	18·6	103·4	167·2	81·5
Number of Column	1	2	3	4	5	6

The units in columns 2 and 3 are ·00001 of the whole Horizontal and Vertical Forces respectively; in columns 4, 5, and 6 the unit is ·00001 of the Millimètre-Milligramme-Second Unit, or ·000001 of the Centimètre-Gramme-Second (C.G.S.) Unit, in terms of which Units the values of whole Horizontal Force (applicable to columns 4 and 5) are 1·8175 and 0·18175 respectively, and of whole Vertical Force (applicable to column 6) are 4·3752 and 0·43752 respectively.

TABLE XIII.—DIURNAL RANGE OF DECLINATION AND HORIZONTAL FORCE, on each CIVIL DAY, as deduced from the TWENTY-FOUR HOURLY MEASURES of ORDINATES of the PHOTOGRAPHIC REGISTER.

(The Declination is expressed in minutes of arc; the unit for Horizontal Force is ·00001 *of the whole Horizontal Force. The results for Horizontal Force are corrected for temperature.)*

1887.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.
d	′		′		′		′		′		′		′		′		′		′		′		′	
1	2·6	80	12·9	270	6·8	160	9·2	230	6·9	140	...	250	11·0	310	16·4	330	14·2	370	9·0	170	8·2	140	5·4	140
2	3·7	110	5·0	190	6·0	160	12·8	310	10·2	280	...	270	8·2	230	14·1	250	11·1	320	5·0	150	5·0	80	5·1	90
3	7·8	140	13·3	170	8·4	130	14·8	260	10·6	280	9·9	200	11·1	270	11·8	220	13·4	260	5·0	110	9·3	180	3·4	70
4	9·5	210	15·0	250	7·1	170	13·7	260	11·8	330	10·3	160	13·3	330	12·3	320	10·1	300	5·4	130	6·0	90	3·7	70
5	6·6	120	10·0	150	8·9	250	18·3	270	11·0	310	17·1	250	13·3	240	15·0	410	9·4	320	8·3	130	5·5	160	2·8	70
6	4·6	100	6·4	110	15·1	290	14·0	330	10·3	220	8·3	200	11·8	310	8·3	490	10·5	250	8·2	160	5·5	130	7·9	280
7	5·2	120	8·3	150	7·2	170	9·6	350	10·9	310	10·5	310	22·4	570	10·9	420	10·8	230	11·7	260	4·4	150	7·4	150
8	4·5	140	4·5	100	14·1	310	13·8	330	11·9	260	12·6	320	12·0	330	6·7	340	9·4	230	10·4	130	11·6	160	6·1	120
9	4·5	70	7·6	280	15·7	340	8·8	350	10·9	250	9·8	270	8·5	240	10·7	290	12·0	220	7·7	160	12·0	140	6·4	110
10	4·7	90	10·0	150	8·1	230	10·2	280	12·7	230	12·0	420	10·7	330	11·9	220	13·5	170	7·6	120	11·0	420	3·3	100
11	5·7	110	11·1	120	8·3	180	16·2	290	12·5	250	11·4	270	9·5	340	9·7	200	11·6	250	6·9	140	4·9	130	3·7	80
12	6·3	120	15·4	280	7·5	160	12·2	290	11·0	260	11·6	310	7·2	330	8·6	210	11·0	240	8·9	310	6·4	80	6·3	100
13	4·4	90	14·5	210	9·5	190	8·7	250	11·8	310	9·9	330	6·9	210	11·1	240	8·0	160	11·9	190	6·0	150	9·8	300
14	10·3	290	16·1	240	10·8	220	11·8	390	9·2	300	9·0	300	7·6	240	9·9	340	7·2	230	11·1	190	6·3	140	4·7	120
15	10·1	180	12·7	270	14·1	260	12·1	380	8·9	270	6·5	220	10·7	270	14·7	270	11·0	170	8·1	140	5·5	70	4·5	130
16	6·6	250	8·0	150	13·2	140	12·3	160	8·8	290	8·1	230	10·4	220	11·7	200	13·8	190	6·4	150	5·1	80	15·0	400
17	7·3	170	7·4	160	7·4	150	12·2	300	10·8	250	7·1	240	11·2	230	9·8	250	9·1	270	7·4	180	10·6	240	11·5	400
18	8·7	160	4·7	170	7·0	130	7·7	250	11·4	240	11·1	240	12·5	280	11·0	320	9·5	210	6·9	160	4·9	120	10·8	170
19	6·0	180	9·8	140	11·8	140	9·1	280	9·9	260	10·9	310	9·8	380	10·9	220	8·8	150	8·2	140	...	...	10·0	250
20	7·1	190	14·1	300	9·1	290	9·8	200	11·8	200	12·1	270	12·4	330	10·4	330	8·9	220	9·4	220	...	...	5·8	130
21	6·0	150	14·5	290	14·6	260	10·0	260	10·6	240	12·1	270	8·6	250	10·6	260	11·1	180	7·9	160	...	...	11·5	260
22	8·4	310	10·9	180	12·9	290	12·3	310	12·2	190	12·6	440	9·8	220	10·2	260	9·4	400	17·2	310	6·2	240	17·0	260
23	13·7	300	9·4	190	10·7	230	9·0	230	9·6	330	11·3	340	10·8	160	11·1	250	15·0	230	13·8	240	8·1	120	3·6	80
24	10·5	200	6·3	110	15·0	250	8·7	250	15·3	350	12·3	310	12·2	280	9·2	190	14·2	210	4·5	270	4·2	110	5·1	150
25	11·3	240	7·0	110	9·2	210	13·2	390	12·4	320	11·2	300	9·9	240	9·4	230	...	...	6·5	160	4·2	130	5·5	160
26	11·0	190	9·5	120	9·1	210	10·4	260	13·3	390	9·2	200	10·8	240	9·4	310	...	...	16·4	400	3·1	100	12·8	180
27	8·1	110	10·5	180	10·4	210	8·2	230	13·1	250	8·6	190	10·2	210	12·3	270	18·1	260	10·9	230	4·4	110	7·6	110
28	9·5	140	5·7	150	8·0	200	18·7	260	12·1	260	10·1	270	10·6	250	18·7	280	13·5	300	5·2	110	4·4	110	6·5	180
29	8·6	180			8·1	220	9·7	350	7·3	270	8·7	260	11·2	250	20·4	290	10·4	220	6·4	120	7·4	280	5·9	70
30	5·0	120			10·2	160	7·1	200	9·6	240	11·5	210	14·5	250	9·9	270	8·6	270	12·4	260	8·9	120	8·4	100
31	9·0	150			9·9	210			...	190			14·3	230	8·1	320			6·7	130			5·0	...
Means.....	7·3	162	10·0	185	10·1	210	11·5	283	11·0	267	10·6	272	11·1	276	11·5	284	11·2	244	8·8	185	6·6	147	7·2	161

The mean of the twelve monthly values is, for Declination 9′·7, and for Horizontal Force 223.

TABLE XIV.—MONTHLY MEAN DIURNAL RANGE, and SUMS of HOURLY DEVIATIONS from MEAN, for DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, as deduced from the Monthly Mean Diurnal Inequalities, Tables II., V., and IX.

(The Declination is expressed in minutes of arc: the units for Horizontal Force and Vertical Force are ·00001 *of the whole Horizontal and Vertical Forces respectively. The results for Horizontal Force and Vertical Force are corrected for temperature.)*

Month, 1887.	Difference between the Greatest and Least of the 24 Hourly Values.			Sums of the 24 Hourly Deviations from the Mean Value.		
	Declination.	Horizontal Force.	Vertical Force.	Declination.	Horizontal Force.	Vertical Force.
January	5′·6	92	27	27′·8	424	191
February	7·1	89	35	36·5	354	256
March	7·4	131	41	45·4	766	238
April	9·1	210	50	55·0	1267	280
May	9·5	223	70	58·9	1424	356
June	9·7	220	53	53·9	1405	255
July	10·2	224	53	57·5	1432	258
August	9·6	224	51	57·5	1390	283
September	8·5	193	42	51·5	1100	231
October	6·8	126	30	39·0	694	181
November	5·0	74	21	26·4	320	155
December	5·6	77	28	27·6	453	200
Means	7′·8	157	42	44′·7	919	240

TABLE XV.—VALUES of the CO-EFFICIENTS in the PERIODICAL EXPRESSION

$$V_t = m + a_1 \cos t + b_1 \sin t + a_2 \cos 2t + b_2 \sin 2t + a_3 \cos 3t + b_3 \sin 3t + a_4 \cos 4t + b_4 \sin 4t$$

(in which t is the time from Greenwich mean midnight converted into arc at the rate of 15° to each hour, and V_t the mean value of the magnetic element at the time t for each month and for the year, as given in Tables II., V., IX., and XII., the values for Horizontal Force and Vertical Force being corrected for temperature).

The values of the co-efficients for Declination are given in minutes of arc: the units for Horizontal Force and Vertical Force are ·00001 of the whole Horizontal and Vertical Forces respectively.

Month, 1887.	m	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
				DECLINATION WEST.					
	′	′	′	′	′	′	′	′	′
January	2.17	− 1.75	+ 0.07	+ 0.32	+ 1.08	− 0.28	− 0.32	+ 0.19	+ 0.20
February	3.02	− 2.42	− 0.17	+ 0.12	+ 1.32	− 0.34	− 0.43	− 0.05	+ 0.21
March	2.18	− 2.35	− 1.01	+ 0.87	+ 1.46	− 0.74	− 0.67	+ 0.22	+ 0.26
April	2.96	− 2.59	− 1.47	+ 1.26	+ 1.81	− 0.67	− 0.74	+ 0.47	+ 0.18
May	3.45	− 2.73	− 2.11	+ 1.49	+ 1.35	− 0.75	− 0.25	+ 0.25	+ 0.05
June	4.45	− 1.76	− 2.68	+ 1.57	+ 1.59	− 0.71	− 0.27	− 0.03	0.00
July	4.31	− 2.16	− 2.69	+ 1.67	+ 1.54	− 0.62	− 0.45	− 0.07	− 0.04
August	3.40	− 2.82	− 1.77	+ 1.73	+ 1.31	− 0.88	− 0.18	+ 0.08	+ 0.14
September	2.23	− 2.85	− 0.88	+ 1.89	+ 0.63	− 0.99	− 0.13	+ 0.35	+ 0.25
October	2.28	− 2.20	− 0.71	+ 0.71	+ 1.19	− 0.56	− 0.38	+ 0.25	+ 0.32
November	1.82	− 1.59	− 0.21	+ 0.56	+ 0.77	− 0.51	− 0.10	+ 0.27	+ 0.09
December	2.60	− 1.83	+ 0.23	+ 0.04	+ 0.80	− 0.39	− 0.19	+ 0.14	+ 0.28
For the Year	1.96	− 2.25	− 1.12	+ 1.02	+ 1.24	− 0.62	− 0.34	+ 0.17	+ 0.16
				HORIZONTAL FORCE.					
January	51.0	+ 13.6	+ 9.1	− 20.8	+ 11.4	+ 10.0	− 10.7	− 0.1	+ 5.5
February	47.8	+ 12.0	+ 10.3	− 21.5	+ 0.3	+ 10.7	− 7.0	− 2.8	+ 5.9
March	102.2	+ 40.6	− 11.9	− 26.0	+ 14.9	+ 10.5	− 18.7	− 1.0	+ 10.0
April	145.9	+ 68.1	− 40.2	− 31.1	+ 25.8	+ 8.2	− 18.9	+ 4.6	+ 8.9
May	127.2	+ 54.8	− 74.3	− 15.6	+ 27.3	− 6.0	− 3.4	+ 3.5	+ 2.5
June	132.0	+ 59.7	− 67.6	− 20.9	+ 27.8	− 5.9	− 8.5	+ 2.3	+ 0.6
July	134.1	+ 61.0	− 69.8	− 20.5	+ 27.3	− 3.4	− 11.3	+ 0.9	+ 3.8
August	141.7	+ 63.4	− 63.9	− 17.6	+ 30.4	− 10.4	− 17.1	+ 3.8	+ 3.8
September	131.5	+ 56.1	− 42.5	− 13.9	+ 28.0	− 11.1	− 18.9	+ 5.8	+ 7.9
October	89.7	+ 40.5	− 3.4	− 18.3	+ 16.5	+ 7.3	− 16.9	+ 4.2	+ 3.2
November	43.1	+ 10.3	+ 2.4	− 18.6	+ 4.2	+ 2.8	− 8.5	+ 7.2	+ 6.6
December	25.4	+ 3.7	+ 25.2	− 16.3	+ 1.4	+ 6.4	− 5.9	+ 4.5	+ 6.9
For the Year	92.0	+ 40.3	− 27.2	− 20.1	+ 17.9	+ 1.6	− 12.1	+ 2.7	+ 5.5
				VERTICAL FORCE.					
January	13.0	− 2.2	− 11.5	− 3.2	− 1.7	+ 1.3	− 1.2	− 1.7	− 0.4
February	14.0	− 0.3	− 14.7	− 7.7	− 0.5	+ 2.1	− 1.1	− 0.9	+ 0.1
March	21.1	+ 3.6	− 11.7	− 10.6	+ 1.5	+ 3.8	− 2.0	− 2.2	+ 0.6
April	23.6	+ 2.7	− 13.6	− 12.6	− 2.3	+ 5.3	0.0	− 0.8	+ 0.5
May	34.7	+ 10.5	− 15.9	− 17.3	− 2.4	+ 5.7	− 0.8	+ 0.2	+ 1.3
June	31.0	+ 8.5	− 8.0	− 15.0	+ 0.3	+ 4.0	− 1.0	− 0.5	+ 1.1
July	29.2	+ 6.6	− 7.4	− 15.8	− 1.5	+ 4.7	+ 1.2	0.0	− 0.2
August	23.4	+ 1.3	− 12.4	− 15.0	+ 0.6	+ 5.6	− 0.1	− 0.8	− 0.1
September	20.0	− 1.4	− 10.1	− 10.1	+ 3.5	+ 5.4	− 2.4	− 1.4	+ 1.7
October	15.1	+ 1.2	− 8.3	− 7.7	− 1.9	+ 3.3	+ 0.7	− 2.9	+ 0.5
November	8.1	− 1.2	− 8.6	− 4.1	+ 1.4	+ 2.4	− 1.4	− 1.5	+ 0.4
December	11.9	− 1.4	− 11.8	− 4.2	+ 0.5	+ 2.6	− 1.2	− 0.9	− 0.4
For the Year	18.6	+ 2.3	− 11.2	− 10.3	− 0.2	+ 3.9	− 0.8	− 1.1	+ 0.4

TABLE XVI.—VALUES of the CO-EFFICIENTS and CONSTANT ANGLES in the PERIODICAL EXPRESSIONS

$$V_t = m + c_1 \sin(t + \alpha) + c_2 \sin(2t + \beta) + c_3 \sin(3t + \gamma) + c_4 \sin(4t + \delta)$$
$$V_{t'} = m + c_1 \sin(t' + \alpha') + c_2 \sin(2t' + \beta') + c_3 \sin(3t' + \gamma') + c_4 \sin(4t' + \delta')$$

(in which t and t' are the times from Greenwich mean midnight and apparent midnight respectively converted into arc at the rate of 15° to each hour, and V_t, $V_{t'}$ the mean value of the magnetic element at the time t or t' for each month and for the year, as given in Tables II., V., IX., and XII., the values for Horizontal Force and Vertical Force being corrected for temperature).

The values of the co-efficients for Declination are given in minutes of arc: the units for Horizontal Force and Vertical Force are ·00001 of the whole Horizontal and Vertical Forces respectively.

Month, 1887.	m	c_1	α	α'	c_2	β	β'	c_3	γ	γ'	c_4	δ	δ'
						DECLINATION WEST.							
	′	′	° ′	° ′	′	° ′	° ′	′	° ′	° ′	′	° ′	° ′
January	2·17	1·76	272. 15	274. 38	1·13	16. 14	21. 0	0·42	221. 30	228. 39	0·28	43. 33	53. 5
February	3·02	2·43	266. 3	269. 33	1·33	5. 11	12. 11	0·54	218. 21	228. 51	0·22	345. 29	359. 29
March	2·18	2·56	246. 42	248. 52	1·70	30. 42	35. 2	1·00	227 30	234. 0	0·34	40. 52	49. 32
April	2·96	2·97	240. 25	240. 27	2·20	34. 59	35. 3	1·00	222. 4	222. 10	0·50	69. 5	69. 13
May	3·45	3·45	232. 17	231. 25	2·01	47. 42	45. 58	0·79	251. 42	249. 6	0·26	78. 41	75. 13
June	4·45	3·21	213. 19	213. 23	2·23	44. 42	44. 50	0·76	249. 1	249. 13	0·03	270. 0	270. 16
July	4·31	3·45	218. 46	220. 7	2·27	47. 23	50. 5	0·77	233. 35	237. 38	0·08	236. 59	242. 23
August	3·40	3·33	237. 51	238. 48	2·17	52. 54	54. 48	0·90	258. 33	261. 24	0·17	30. 2	33. 50
September	2·23	2·98	252. 51	251. 36	1·99	71. 34	69. 4	1·00	262. 42	258. 57	0·43	53. 52	48. 52
October	2·28	2·31	252. 6	248. 36	1·39	30. 56	23. 56	0·68	235. 56	225. 26	0·41	37. 6	23. 6
November	1·82	1·60	262. 35	258. 55	0·95	35. 50	28. 30	0·52	258. 28	247. 28	0·29	70. 50	56. 10
December	2·60	1·84	277. 7	276. 6	0·80	3. 0	0. 58	0·44	243. 35	240. 32	0·31	26. 1	21. 57
For the Year	1·96	2·51	243. 38	243. 38	1·60	39. 32	39. 32	0·71	240. 59	240. 59	0·24	46. 43	46. 43
						HORIZONTAL FORCE.							
			° ′	° ′		° ′	° ′		° ′	° ′		° ′	° ′
January	51·0	16·4	56. 7	58. 30	23·8	298. 46	303. 32	14·7	136. 56	144. 5	5·5	359. 8	8. 40
February	47·8	15·8	49. 32	53. 2	21·5	270. 48	277. 48	12·8	123. 4	133. 34	6·5	335. 4	349. 4
March	102·2	42·3	106. 21	108. 31	30·0	299. 44	304. 4	21·5	150. 46	157. 16	10·1	354. 4	2. 44
April	145·9	79·1	120. 33	120. 35	40·4	309. 45	309. 49	20·6	156. 38	156. 44	10·1	27. 7	27. 15
May	127·2	92·3	143. 36	142. 44	31·4	330. 13	328. 29	6·9	240. 52	238. 16	4·3	53. 52	50. 24
June	132·0	90·2	138. 34	138. 38	34·8	322. 58	323. 6	10·4	214. 45	214. 57	2·4	76. 9	76. 25
July	134·1	92·7	138. 50	140. 11	34·1	323. 3	325. 45	11·8	196. 41	200. 44	3·9	12. 53	18. 17
August	141·7	90·0	135. 11	136. 8	35·1	330. 1	331. 55	20·1	211. 14	214. 5	5·4	44. 45	48. 33
September	131·5	70·4	127. 12	125. 57	31·2	333. 39	331. 9	21·9	210. 29	206. 44	9·8	35. 54	30. 54
October	89·7	40·7	94. 47	91. 17	24·6	312. 2	305. 2	18·4	156. 28	145. 58	5·3	53. 14	39. 14
November	43·1	10·6	76. 49	73. 9	19·1	282. 39	275. 19	8·9	161. 49	150. 49	9·8	47. 40	33. 0
December	25·4	25·5	8. 22	7. 21	16·4	274. 45	272. 43	8·7	132. 48	129. 45	8·3	33. 1	28. 57
For the Year	92·0	48·6	124. 0	124. 0	26·9	311. 43	311. 43	12·2	172. 34	172. 34	6·1	26. 34	26. 34
						VERTICAL FORCE.							
			° ′	° ′		° ′	° ′		° ′	° ′		° ′	° ′
January	13·0	11·7	190. 44	193. 7	3·6	242. 30	247. 16	1·8	132. 21	139. 30	1·7	255. 26	264. 58
February	14·0	14·7	181. 14	184. 44	7·8	266. 15	273. 15	2·3	117. 18	127. 48	0·9	278. 47	292. 47
March	21·1	12·2	163. 1	165. 11	10·7	278. 14	282. 34	4·3	117. 37	124. 7	2·2	284. 52	293. 32
April	23·6	13·9	168. 41	168. 43	12·9	259. 39	259. 43	5·3	89. 38	89. 44	0·9	302. 42	302. 50
May	34·7	19·1	146. 27	145. 35	17·5	262. 11	260. 27	5·8	98. 6	95. 30	1·3	7. 18	3. 50
June	31·0	11·7	133. 11	133. 15	15·0	271. 11	271. 19	4·1	103. 49	104. 1	1·2	337. 4	337. 20
July	29·2	9·9	138. 7	139. 28	15·9	264. 44	267. 26	4·8	75. 51	79. 54	0·2	190. 53	196. 17
August	23·4	12·5	174. 10	175. 7	15·0	272. 9	274. 3	5·6	90. 56	93. 47	0·8	260. 21	264. 9
September	20·0	10·2	187. 38	186. 23	10·7	289. 5	286. 35	5·9	114. 5	110. 20	2·2	320. 44	315. 44
October	15·1	8·4	171. 27	167. 57	7·9	256. 31	249. 31	3·4	78. 51	68. 21	2·9	280. 2	266. 2
November	8·1	8·7	188. 12	184. 32	4·3	288. 51	281. 31	2·8	120. 26	109. 26	1·5	283. 48	269. 8
December	11·9	11·9	186. 35	185. 34	4·3	276. 18	274. 16	2·8	115. 40	112. 37	0·9	247. 44	243. 40
For the Year	18·6	11·4	168. 9	168. 9	10·3	268. 53	268. 53	3·9	101. 21	101. 21	1·2	290. 50	290. 50

TABLE XVII.—SEPARATE RESULTS of OBSERVATIONS of MAGNETIC DIP made in the Year 1887.

Day and Hour, (Civil Reckoning) 1887.	Needle.	Magnetic Dip.	Observer.	Day and Hour, (Civil Reckoning) 1887.	Needle.	Magnetic Dip.	Observer.	Day and Hour, (Civil Reckoning) 1887.	Needle.	Magnetic Dip.	Observer.
d h		° ′ ″		d h		° ′ ″		d h		° ′ ″	
Jan. 5. 14	C 2	67. 27. 14	N	May 9. 14	B 1	67. 25. 4	N	Sept. 8. 14	B 2	67. 24. 40	N
8. 13	C 1	67. 27. 19	N	13. 12	B 2	67. 27. 25	N	9. 14	C 1	67. 24. 37	N
11. 13	B 1	67. 26. 52	N	13. 14	C 1	67. 27. 57	N	15. 14	C 2	67. 24. 53	N
12. 13	B 2	67. 25. 58	N	20. 13	C 2	67. 26. 17	N	16. 14	D 2	67. 25. 43	N
13. 13	D 1	67. 26. 44	N	20. 14	D 2	67. 26. 21	N	20. 14	B 1	67. 25. 32	N
13. 14	B 1	67. 25. 56	N	21. 13	C 1	67. 25. 32	N	23. 13	B 2	67. 22. 40	N
17. 14	D 2	67. 27. 49	N	25. 13	D 1	67. 27. 25	N	27. 13	C 1	67. 25. 44	N
18. 14	C 1	67. 27. 18	N	26. 13	B 2	67. 26. 51	N	27. 14	B 2	67. 24. 37	N
25. 13	D 1	67. 26. 6	N	26. 14	C 2	67. 24. 44	N	28. 13	D 1	67. 28. 45	N
25. 14	D 2	67. 26. 45	N	30. 12	B 1	67. 26. 37	N	29. 13	D 2	67. 28. 47	N
26. 13	B 2	67. 26. 46	N	30. 13	C 2	67. 26. 24	N	29. 14	C 2	67. 27. 0	N
28. 12	D 1	67. 27. 1	N	31. 14	D 2	67. 27. 7	N	30. 14	D 1	67. 27. 28	N
28. 14	C 1	67. 25. 40	N								
Feb. 3. 14	C 2	67. 27. 18	N	June 7. 14	C 1	67. 27. 56	N	Oct. 5. 14	C 1	67. 26. 49	N
8. 14	D 1	67. 26. 14	N	10. 13	C 2	67. 26. 9	N	14. 13	C 2	67. 25. 35	N
10. 13	B 1	67. 26. 5	N	11. 14	D 2	67. 27. 44	N	14. 14	D 2	67. 27. 7	N
10. 14	B 2	67. 26. 12	N	14. 14	B 1	67. 25. 50	N	20. 14	B 1	67. 25. 1	N
12. 13	C 1	67. 26. 32	N	15. 14	C 1	67. 26. 23	N	21. 13	B 2	67. 22. 50	N
16. 13	D 2	67. 28. 38	N	16. 14	D 1	67. 27. 40	N	21. 14	C 1	67. 23. 55	N
22. 14	D 1	67. 27. 30	N	23. 13	B 2	67. 24. 58	N	26. 14	C 2	67. 27. 23	N
24. 14	C 1	67. 27. 55	N	23. 14	C 2	67. 27. 15	N	28. 13	D 1	67. 27. 40	N
25. 12	D 2	67. 27. 32	N	28. 13	B 2	67. 26. 48	N	28. 14	D 2	67. 28. 6	N
25. 13	C 2	67. 26. 38	N	28. 14	D 2	67. 27. 7	N	31. 14	B 2	67. 26. 41	N
28. 14	B 2	67. 26. 8	N	29. 13	B 1	67. 26. 29	N				
Mar. 7. 14	C 2	67. 27. 18	N	July 7. 14	C 1	67. 25. 53	N	Nov. 8. 14	B 1	67. 26. 2	N
9. 13	B 1	67. 26. 3	N	8. 14	C 2	67. 29. 28	N	11. 14	B 2	67. 25. 47	N
10. 13	B 2	67. 24. 40	N	14. 14	D 1	67. 27. 27	N	14. 15	C 1	67. 23. 40	N
10. 14	D 2	67. 27. 54	N	15. 13	C 2	67. 25. 29	N	17. 14	D 1	67. 24. 47	N
17. 13	C 1	67. 28. 6	N	15. 14	D 2	67. 26. 38	N	21. 14	C 2	67. 26. 20	N
17. 14	C 2	67. 28. 4	N	19. 14	B 1	67. 25. 5	N	22. 13	C 1	67. 26. 26	N
18. 14	D 1	67. 27. 28	N	26. 14	C 1	67. 24. 54	N	24. 13	D 1	67. 28. 19	N
24. 14	B 2	67. 27. 52	N	27. 13	B 2	67. 24. 42	N	25. 13	D 2	67. 27. 28	N
28. 14	B 1	67. 26. 28	N	27. 15	D 1	67. 27. 0	N	25. 14	B 1	67. 25. 55	N
29. 14	C 1	67. 27. 17	N	28. 13	D 2	67. 27. 27	N	30. 13	B 2	67. 25. 54	N
31. 13	D 1	67. 27. 23	N	29. 14	C 2	67. 26. 19	N				
Apr. 6. 14	D 2	67. 25. 57	N	Aug. 1. 13	B 1	67. 25. 27	N	Dec. 2. 14	C 2	67. 24. 58	N
7. 13	B 1	67. 26. 26	N	5. 14	C 1	67. 26. 21	N	9. 13	B 1	67. 26. 20	N
9. 13	C 2	67. 25. 1	N	9. 13	B 2	67. 25. 30	N	9. 14	D 2	67. 27. 2	N
13. 13	C 1	67. 25. 13	N	9. 14	C 2	67. 26. 45	N	14. 14	C 1	67. 26. 46	N
15. 13	B 2	67. 26. 14	N	10. 14	D 1	67. 25. 55	N	15. 14	B 2	67. 26. 19	N
15. 15	D 1	67. 27. 16	N	11. 13	B 1	67. 24. 26	N	17. 13	D 1	67. 28. 50	N
21. 14	C 1	67. 27. 18	N	11. 14	D 2	67. 26. 55	N	21. 13	C 2	67. 28. 22	N
27. 13	C 2	67. 24. 46	N	24. 12	C 1	67. 24. 22	N	21. 14	D 2	67. 27. 50	N
28. 13	D 1	67. 25. 38	N	24. 13	D 1	67. 25. 8	N	23. 13	B 1	67. 25. 33	N
29. 13	B 2	67. 25. 54	N	24. 14	C 2	67. 24. 55	N	23. 14	B 2	67. 25. 11	N
29. 14	D 2	67. 27. 12	N	26. 14	D 2	67. 26. 41	N	29. 13	D 1	67. 27. 39	N
				30. 14	B 1	67. 25. 25	N	29. 14	D 2	67. 28. 46	N
				31. 14	D 1	67. 27. 56	N	30. 13	C 1	67. 26. 2	N

The needles B 1 and B 2 are 9 inches in length ; C 1 and C 2, 6 inches ; and D 1 and D 2, 3 inches.
The initial N is that of Mr. Nash.

TABLE XVIII.—MONTHLY and YEARLY MEANS of MAGNETIC DIP in the YEAR 1887.

Monthly Means of Magnetic Dip.

Month, 1887.	B 1, 9-inch Needle.	Number of Observations.	B 2, 9-inch Needle.	Number of Observations.	C 1, 6-inch Needle.	Number of Observations.
	° ′ ″		° ′ ″		° ′ ″	
January	67. 26. 24	2	67. 26. 22	2	67. 26. 46	3
February	67. 26. 5	1	67. 26. 10	2	67. 27. 13	2
March	67. 26. 16	2	67. 26. 16	2	67. 27. 41	2
April	67. 26. 26	1	67. 26. 4	2	67. 26. 15	2
May	67. 25. 51	2	67. 27. 8	2	67. 26. 44	2
June	67. 26. 10	2	67. 25. 53	2	67. 27. 9	2
July	67. 25. 5	1	67. 24. 42	1	67. 25. 23	2
August	67. 25. 6	3	67. 25. 30	1	67. 25. 22	2
September	67. 25. 32	1	67. 23. 59	3	67. 25. 10	2
October	67. 25. 1	1	67. 24. 46	2	67. 25. 22	2
November	67. 25. 59	2	67. 25. 50	2	67. 25. 3	2
December	67. 25. 57	2	67. 25. 45	2	67. 26. 24	2
Means	67. 25. 50	Sum 20	67. 25. 41	Sum 23	67. 26. 14	Sum 25

Month, 1887.	C 2, 6-inch Needle.	Number of Observations.	D 1, 3-inch Needle.	Number of Observations.	D 2, 3-inch Needle.	Number of Observations.
	° ′ ″		° ′ ″		° ′ ″	
January	67. 27. 14	1	67. 26. 37	3	67. 27. 17	2
February	67. 26. 58	2	67. 26. 52	2	67. 28. 5	2
March	67. 27. 41	2	67. 27. 26	2	67. 27. 54	1
April	67. 24. 54	2	67. 26. 27	2	67. 26. 34	2
May	67. 25. 48	3	67. 27. 25	1	67. 26. 44	2
June	67. 26. 42	2	67. 27. 40	1	67. 27. 26	2
July	67. 27. 5	3	67. 27. 14	2	67. 27. 2	2
August	67. 25. 50	2	67. 26. 20	3	67. 26. 48	2
September	67. 25. 57	2	67. 28. 6	2	67. 27. 15	2
October	67. 26. 29	2	67. 27. 40	1	67. 27. 36	2
November	67. 26. 20	1	67. 26. 33	2	67. 27. 28	1
December	67. 26. 40	2	67. 28. 14	2	67. 27. 53	3
Means	67. 26. 26	Sum 24	67. 27. 6	Sum 23	67. 27. 20	Sum 23

The monthly means have been formed without reference to the hour at which the observation on each day was made.
In combining the monthly results, to form annual means, weights have been given proportional to the number of observations.

COLLECTED YEARLY MEANS of MAGNETIC DIP for each of the NEEDLES, and GENERAL MEAN for the Year 1887.

Lengths of the several Sets of Needles.	Needles.	Number of Observations with each Needle.	Mean Yearly Dip from Observations with each Needle.	Mean Yearly Dip from each Set of Needles.	Mean Yearly Dip from all the Sets of Needles.
			° ′ ″	° ′ ″	° ′ ″
9-inch Needles	B 1	20	67. 25. 50	67. 25. 45	67. 26. 26
	B 2	23	67. 25. 41		
6-inch Needles	C 1	25	67. 26. 14	67. 26. 20	
	C 2	24	67. 26. 26		
3-inch Needles	D 1	23	67. 27. 6	67. 27. 13	
	D 2	23	67. 27. 20		

TABLE XIX.—DETERMINATIONS OF THE ABSOLUTE VALUE OF HORIZONTAL MAGNETIC FORCE IN THE YEAR 1887.

Abstract of the Observations of Deflexion of a Magnet for Absolute Measure of Horizontal Force.

Month and Day (Civil Reckoning), 1887.	Distances of Centres of Magnets.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.
	ft.	°	° ′ ″	s		°	
January 18	1·0 1·3	42·4	10. 27. 33 4. 44. 45	5·688 5·678	100 100	41·5 41·2	N
February 23	1·0 1·3	51·2	10. 26. 12 4. 44. 7	5·698 5·692	100 100	49·8 50·0	N
March 23	1·0 1·3	52·1	10. 25. 24 4. 43. 47	5·693 5·689	100 100	50·2 51·2	N
April 19	1·0 1·3	54·5	10. 25. 10 4. 43. 33	5·685 5·684	100 100	54·6 54·0	N
May 19	1·0 1·3	57·3	10. 24. 34 4. 43. 20	5·685 5·684	100 100	56·0 57·5	N
June 17	1·0 1·3	69·9	10. 21. 15 4. 41. 52	5·689 5·690	100 100	70·0 70·1	N
July 21	1·0 1·3	71·5	10. 22. 5 4. 42. 12	5·697 5·696	100 100	71·2 72·9	N
August 25	1·0 1·3	71·0	10. 21. 29 4. 42. 10	5·693 5·691	100 100	71·3 71·8	N
September 21	1·0 1·3	58·1	10. 22. 35 4. 42. 15	5·687 5·691	100 100	58·0 58·5	N
October 12	1·0 1·3	53·6	10. 23. 59 4. 42. 57	5·693 5·689	100 100	52·0 51·9	N
November 23	1·0 1·3	48·6	10. 23. 57 4. 43. 16	5·690 5·687	100 100	47·3 47·4	N
December 22	1·0 1·3	45·0	10. 25. 10 4. 43. 42	5·687 5·690	100 100	42·8 43·9	N

The deflecting magnet is placed on the east side of the suspended magnet, with its marked pole alternately east and west, and on the west side with its marked pole also alternately east and west: the deflexion given in the table above is the mean of the four deflexions observed in these positions of the magnets.
The initial N is that of Mr. Nash.
In the subsequent calculations every observation is reduced to the temperature 35° Fahrenheit.

Computation of the Values of Horizontal Force in Absolute Measure.

Month and Day (Civil Reckoning), 1887.	In English Measure.									In Metric Measure.
	Apparent Value of A_1.	Apparent Value of A_2.	Apparent Value of P.	Mean Value of P.	Log $\frac{m}{X}$.	Adopted Time of Vibration of Deflecting Magnet.	Log $m\,X$.	Value of m.	Value of X.	Value of X.
						s				
January 18	0·09087	0·09098	−0·00299		8·95955	5·6830	0·14951	0·3585	3·9353	1·8145
February 23	0·09081	0·09091	−0·00276		8·95926	5·6950	0·14824	0·3579	3·9309	1·8125
March 23	0·09071	0·09082	−0·00299		8·95879	5·6910	0·14889	0·3580	3·9360	1·8148
April 19	0·09071	0·09078	−0·00175		8·95872	5·6845	0·15012	0·3584	3·9418	1·8175
May 19	0·09067	0·09075	−0·00237		8·95855	5·6845	0·15030	0·3584	3·9434	1·8182
June 17	0·09039	0·09049	−0·00254	−0·00258	8·95724	5·6895	0·15066	0·3581	3·9510	1·8218
July 21	0·09054	0·09062	−0·00220		8·95792	5·6965	0·14974	0·3580	3·9438	1·8184
August 25	0·09044	0·09060	−0·00417		8·95764	5·6920	0·15043	0·3581	3·9481	1·8204
September 21	0·09040	0·09042	−0·00068		8·95710	5·6890	0·14992	0·3577	3·9483	1·8205
October 12	0·09053	0·09058	−0·00124		8·95779	5·6910	0·14920	0·3577	3·9419	1·8176
November 23	0·09045	0·09060	−0·00417		8·95765	5·6885	0·14926	0·3576	3·9428	1·8179
December 22	0·09057	0·09068	−0·00310		8·95813	5·6885	0·14901	0·3577	3·9395	1·8164
Means	...	...	...	...	...	...	...	...	3·9419	1·8175

The value of X in English Measure is referred to the Foot-Grain-Second unit, and in Metric Measure to the Millimètre-Milligramme-Second unit. To obtain X in the Centimètre-Gramme-Second (C.G.S.) unit, the values in the last column of the table must be divided by 10.

ROYAL OBSERVATORY, GREENWICH.

MAGNETIC DISTURBANCES

AND

EARTH CURRENTS.

1887.

MAGNETIC DISTURBANCES in DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, and EARTH CURRENTS, recorded at the ROYAL OBSERVATORY, GREENWICH, in the Year 1887.

The following notes give a brief description of all magnetic movements (superposed on the ordinary diurnal movement) exceeding 3′ in Declination, 0·001 in Horizontal Force, or 0·0003 in Vertical Force, as taken from the photographic records of the respective Magnetometers. The movements in Horizontal and Vertical Force are expressed in parts of the whole Horizontal and Vertical Forces respectively. When any one of the three elements is not specifically mentioned it is to be understood that the movement, if any, was insignificant. Any failure or want of register is specially indicated.

The term "wave" is used to indicate a movement in one direction and return; "double wave" a movement in one direction and return with continuation in the opposite direction and return; "two successive waves" consecutive wave movements in the same direction; "fluctuations" a number of movements in both directions. The extent and direction of the movement are indicated in brackets, + denoting an increase and − a decrease of the magnetic element. In the case of fluctuations the sign ± denotes positive and negative movements of generally equal extent.

In all cases of marked magnetic movement the earth-current photographs show corresponding earth currents, but it has not been thought necessary to refer to these in detail.

Magnetic movements which do not admit of brief description in this way are exhibited with their corresponding earth currents on accompanying plates.

The time is Greenwich Civil Time (commencing at midnight, and counting the hours from 0 to 24).

1887.

January 3. 15^h to 4. 6^h Fluctuations in Dec. (± 3′): in H.F. (± ·0005): in V.F. small.

4. 17^h to 19^h Fluctuations in Dec. (± 3′): in H.F. (± ·0004). 4. $21\frac{1}{2}^h$ to 5. $0\frac{1}{4}^h$ Wave in Dec. (− 7′): small fluctuations in H.F.

6. $20\frac{1}{2}^h$ to 22^h Fluctuations in Dec. (± 3′): in H.F. small.

7. $18\frac{1}{4}^h$ to $19\frac{1}{2}^h$ Wave in Dec. (− 6′).

10. 23^h to 11. 5^h Fluctuations in Dec. (± 4′): in H.F. (± ·0006): in V.F. small.

11. 18^h to $19\frac{1}{2}^h$ Wave in H.F. (− ·0017).

12. 3^h to 7^h Fluctuations in Dec. (± 3′).

14. 13^h to 16. 2^h Fluctuations in Dec. (± 8′): in H.F. (± ·002): in V.F. (± ·0003).

16. 12^h to 17. 4^h Fluctuations in Dec. (± 7′): in H.F. (± ·0015): in V.F. small.

17. 17^h to 18. 3^h Fluctuations in Dec. (± 4′): in H.F. (± ·0015): in V.F. (± ·0002).

1887.

January 18. $15\frac{1}{4}^h$ to $16\frac{3}{4}^h$ Wave in Dec. (− 7′) : in H.F. (− ·0015). 18. 20^h to 19. 4^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. (± ·0002).

20. 17^h to 21^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

22. 17^h to 23^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

23. 2^h to 10^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0015) : in V.F. (± ·0002). 20^h to 22^h Double crested wave in Dec. (− 8′ and − 12′) : wave in H.F. (− ·0025) : fluctuations in V.F. (± ·0002). 23. 23^h to 24. 3^h Fluctuations in Dec. (± 6′) : wave in H.F. (+ ·003) : wave in V.F. (− ·0007).

24. 19^h to $20\frac{1}{4}^h$ Wave in Dec. (− 15′) : in H.F. (+ ·0025). 24. $23\frac{3}{4}^h$ to 25. 5^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001).

25. 14^h to 26. 6^h Fluctuations in Dec. (± 6′), with wave, 25. $18\frac{1}{2}^h$ to $20\frac{3}{4}^h$ (− 15′) : fluctuations in H.F. (± ·0012) : in V.F. small.

26. 18^h to $20\frac{1}{2}^h$ Two successive waves in Dec. (− 9′ and − 7′) : fluctuations in H.F. (± ·0014) : in V.F. (± ·0002). 26. 23^h to 27. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0008).

27. 18^h to 22^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0007).

28. 18^h to 29. 1^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0007) : in V.F. small.

29. 12^h to 30. 3^h Fluctuations in Dec. (± 3′) : in H.F. and V.F. small.

30. $18\frac{1}{2}^h$ to $19\frac{1}{2}^h$ Wave in Dec. (− 5′).

31. 21^h to $22\frac{1}{2}^h$ Wave in Dec. (− 10′) : fluctuations in H.F. (± ·0008) : in V.F. small.

February 1. 0^h to 10^h Fluctuations in Dec. (± 2′), with waves, $4\frac{1}{4}^h$ to $5\frac{1}{2}^h$ (+ 8′) and 8^h to $9\frac{1}{2}^h$ (+ 8′) : fluctuations in H.F. (± ·0012) : in V.F. small. 16^h to 22^h Fluctuations in Dec. (± 8′) : in H.F. (± ·002) : in V.F. (± ·0002).

2. $0\frac{1}{2}^h$ to 2^h Wave in Dec. (− 5′).

3. 18^h to 20^h Small rapid fluctuations in Dec. H.F. and V.F. 3. 20^h to 4. 3^h Long wave in Dec. (− 18′), with superposed fluctuations (± 3′) : fluctuations in H.F. (± ·001) : in V.F. (± ·0002).

4. 7^h to 11^h Rapid fluctuations in Dec. (± 2′) : in H.F. (± ·001) : in V.F. small. 16^h to 22^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. small.

5. 17^h to $18\frac{1}{2}^h$ Wave in Dec. (− 12′), followed till 6. 5^h by fluctuations (± 3′) : fluctuations in H.F. (± ·001) : in V.F. small.

9. 16^h to 10. 3^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0008) : in V.F. small.

10. 16^h to 11. 5^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0015) : in V.F. small.

11. 13^h to 12. 4^h Fluctuations in Dec. (± 6′) : in H.F. (± ·001) : in V.F. small.

12. 12^h to 15. 12^h See Plate I.

15. 14^h to 16. 3^h Fluctuations in Dec. (± 5′) : in H.F. (± ·001) : in V.F. (± ·0001).

16. 18^h to 17. 2^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

17. 17^h to 18. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001).

19. 17^h to 20. 16^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0015) : in V.F. (± ·0002).

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February 20. 21^h to 21. 16^h Fluctuations in Dec. (± 8′) : in H.F. (± ·0015) : in V.F. small.

21. $19\frac{1}{2}^h$ to $20\frac{1}{4}^h$ Wave in Dec. (− 5′). $21\frac{1}{4}^h$ to 23^h Wave in Dec. (− 10′). $19\frac{3}{4}^h$ to $21\frac{1}{2}^h$ Wave in H.F. (+ ·0025).

22. 1^h to 5^h Fluctuations in Dec. (± 3′). $2\frac{3}{4}^h$ to $4\frac{1}{4}^h$ Wave in H.F. (+ ·002). 16^h to 21^h Fluctuations in Dec. (± 2′), terminating with wave 19^h to 21^h (− 12′) : in H.F. (± ·0015) : in V.F. small.

23. $1\frac{3}{4}^h$ to 3^h Wave in Dec. (+ 5′) : in H.F. (+ ·005) : in V.F. (+ ·0002). 23. 12^h to 24. 3^h Fluctuations in Dec. (± 7′) : in H.F. (± ·0015) : in V.F. small, with wave, 23. 16^h to 18^h (+ ·0003).

26. 20^h to 27. 1^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006).

27. 14^h to 21^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

28. 13^h to 22^h Fluctuations in Dec. (± 2′) : in H.F. (± ·0005) : in V.F. small.

March 5. 18^h to 6. 4^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. small.

6. 17^h to 7. 0^h Fluctuations in Dec. (± 5′) : in H.F. (± ·001) : in V.F. small.

7. $21\frac{3}{4}^h$ to 23^h Wave in Dec. (− 5′).

8. 6^h to 12^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small. 8. 17^h to 9. 5^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

9. 12^h to 23^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0012) : in V.F. small.

10. 12^h to 15^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0008). $19\frac{1}{4}^h$ to $20\frac{1}{4}^h$ Wave in Dec. (− 6′) : in H.F. (− ·0018). 19^h to $19\frac{3}{4}^h$ Wave in V.F. (− ·0002).

11. $19\frac{3}{4}^h$ to $20\frac{1}{4}^h$ Wave in Dec. (+ 6′) : in H.F. (+ ·003) : in V.F. (+ ·0002).

13. 18^h to 20^h Wave in Dec. (− 6′).

15. 22^h to 16. 2^h Wave in Dec. (− 13′), with superposed fluctuations (± 3′), followed till 7^h by fluctuations (± 3′) : fluctuations in H.F. (± ·0025) : in V.F. small.

16. 15^h to 23^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006) : in V.F. small.

19. $20\frac{1}{2}^h$ to 23^h Wave in Dec. (− 11′), followed till 20. 7^h by fluctuations (± 3′). 19. 17^h to 20. 7^h Fluctuations in H.F. (± ·001) : in V.F. small.

20. 7^h to 11^h Small rapid fluctuations in Dec., H.F. and V.F. 16^h to 22^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. small.

21. 0^h to 5^h Fluctuations in Dec. (± 3′). 15^h to 20^h Two successive waves in Dec. (− 6′ and − 15′) : fluctuations in H.F. (± ·0015) : in V.F. small.

22. $0\frac{3}{4}^h$ to 2^h Wave in Dec. (+ 6′) : in H.F. (+ ·001) : in V.F. (+ ·0002). 17^h to 23^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. small.

23. 22^h to 24. 20^h Fluctuations in Dec. (± 4′) : in H.F. (± ·002). 23. 23^h to 24. 0^h Decrease of V.F. (− ·0008).

26. 13^h to 23^h Fluctuations in Dec. (± 2′) : in H.F. (± ·0006).

April 1. 23^h to 2. 6^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

2. 20^h to 3. 8^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0008) : in V.F. small.

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April 3. 12^h to 18^h Fluctuations in H.F. (± ·001).

4. 12^h to 9. 12^h. See Plates II. and III.

9. 13^h to 17^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001) : in V.F. small.

10. 1^h to 8^h Fluctuations in Dec. (± 2′) : in H.F. (± ·0007). 16^h to 21^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001).

11. 6^h to 19^h Fluctuations in Dec. (± 2′) : in H.F. (± ·0012) : in V.F. small.

12. $0\frac{1}{2}^h$ to $3\frac{3}{4}^h$ Wave in Dec. (− 9′). 0^h to $2\frac{1}{2}^h$ Wave in H.F. (+ ·002). 0^h to 2^h Decrease of V.F. (− ·0006). 18^h to 21^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. small.

14. 22^h to 15. 20^h Fluctuations in Dec. (± 5′) : in H.F. (± ·002) : in V.F. (± ·0004).

16. $0\frac{1}{2}^h$ to 3^h Fluctuations in Dec. (± 2′). 16. 15^h to 17. 2^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006) : in V.F. small.

17. 11^h to 17^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. (± ·0002).

18. 21^h to 19. 4^h Fluctuations in Dec. (± 3′).

19. 21^h to 23^h Wave in Dec. (− 4′). $21\frac{1}{2}^h$ to $22\frac{1}{2}^h$ Wave in H.F. (+ ·002).

22. 10^h to 23. 1^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0012), with wave, 22. $21\frac{1}{2}^h$ to 23^h (+ ·004). 22. $21\frac{1}{2}^h$ to $23\frac{3}{4}^h$ Wave in V.F. (− ·0005).

23. 20^h to 24. 6^h Fluctuations in Dec. (± 5′) : in H.F. (± ·001) : in V.F. (± ·0002).

28. 12^h to 29. 2^h Fluctuations in Dec. (± 7′) : in H.F. (± ·002). 28. 12^h to $21\frac{1}{2}^h$ Long wave in V.F. (+ ·001).

29. 23^h to 30. 6^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0007).

May 1. 14^h to 20^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

2. $5\frac{1}{2}^h$ to 9^h Wave in Dec. (+ 13′) : fluctuations in H.F. (± ·0012). 2. 12^h to 3. 7^h Fluctuations in Dec. (± 5′) : in H.F. (± ·002) : in V.F. (± ·0003).

3. 15^h to 4. 4^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

4. 13^h to 5. 5^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

5. 19^h to 6. 4^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

7. $2\frac{1}{2}^h$ to 4^h Wave in Dec. (+ 5′). 20^h to 22^h Wave in Dec. (− 5′).

12. 2^h to 13. 1^h Fluctuations, at first rapid, in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. (± ·0002).

13. 13^h to 14. 2^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0012) : in V.F. small.

14. 12^h to 15. 6^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. small.

17. 23^h to 18. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006) : in V.F. small.

19. 2^h to 4^h Wave in Dec. (+ 12′). 2^h to 7^h Fluctuations in H.F. (± ·001). $2\frac{1}{2}^h$ to 4^h Decrease of V.F. (− ·0008).

23. 14^h to 24. 8^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

24. 13^h to 25. 4^h Fluctuations in Dec. (± 6′) : in H.F. (± ·0015) : in V.F. (± ·0003).

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May 26. 18^h to 27. 1^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0015) : in V.F. small.

27. 19^h to 28. 6^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0007).

29. 20^h to 30. 2^h Fluctuations in Dec. (± 2′) : in H.F. (± ·0006).

31. 1^h to 7^h Fluctuations in H.F. (± ·001) : in V.F. small. No register of Dec. 31. 16^h to June 1. 4^h Fluctuations in H.F. (± ·0012) : in V.F. (± ·0002). No register of Dec.

June 5. $2\frac{1}{4}^h$ to 20^h Fluctuations in Dec., sometimes rapid, (± 3′) : in H.F. (± ·001). 11^h to 23^h Long wave in V.F. (+ ·0015).

9. 4^h to 8^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006). 9. 21^h to 10. 19^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

12. 23^h to 13. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001).

17. 19^h to 18. 2^h Fluctuations in H.F. (± ·001).

18. 13^h to 14^h Fluctuations in Dec. (± 2′). $13\frac{1}{4}^h$ to $14\frac{1}{4}^h$ Double pointed wave in H.F. (+ ·002 and + ·0035). 13^h to 14^h Small fluctuations in V.F.

19. 12^h to 16^h Fluctuations in H.F. (± ·002).

20. 21^h to 21. 0^h Fluctuations in Dec. (± 2′). 20. $21\frac{3}{4}^h$ to $23\frac{3}{4}^h$ Wave in H.F. (+ ·0025). 20. 22^h to 23^h Decrease of V.F. (− ·0004).

21. 22^h to $23\frac{3}{4}^h$ Double wave in Dec. (− 8′ to + 12′) : in V.F. (+ ·0004 to − ·0004). 21. 14^h to 22. 3^h Fluctuations in H.F. (± ·0012).

22. 12^h to 23. 4^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. small.

23. 12^h to 24. 1^h Fluctuations in H.F. (± ·001).

July 4. 16^h to 5. 2^h Fluctuations in H.F. (± ·001).

6. 14^h to 7. 6^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

7. 12^h to 8. 7^h Fluctuations in Dec. (± 6′) : in H.F. (± ·003). 7. 12^h to 23^h Long wave in V.F. (+ ·002), with small superposed fluctuations.

8. 20^h to 9. 4^h Fluctuations in Dec. (± 6′). 8. 12^h to 9. 4^h Fluctuations in H.F. (± ·002) : in V.F. (± ·0002).

10. 13^h to 11. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0015) : in V.F. small.

11. 12^h to 17^h Fluctuations in H.F. (± ·001).

12. 1^h to 5^h Fluctuations in Dec. (± 3′).

13. 13^h to 14. 9^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

15. 12^h to 21^h Fluctuations in H.F. (± ·001).

16. 3^h to $4\frac{1}{2}^h$ Wave in Dec. (+ 6′).

18. $18\frac{1}{2}^h$ to $20\frac{1}{2}^h$ Wave in Dec. (− 10′), followed till 19. 7^h by fluctuations (± 3′). 18. 15^h to 19. 6^h. Fluctuations in H.F. (± ·0015) : in V.F. (± ·0001).

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July 19. 18^h to 20. 5^h Fluctuations in Dec. (± 2′). 19. 14^h to 20. 5^h Fluctuations in H.F. (± ·0012).

20. 14^h to 19^h Fluctuations in Dec. (± 2′): in H.F. (± ·0008). $21\frac{1}{2}^h$ to $23\frac{1}{2}^h$ Wave in Dec. (+ 5′). $21\frac{1}{2}^h$ to 23^h Wave in H.F. (+ ·002).

21. 1^h to $2\frac{1}{4}^h$ Wave in Dec. (+ 5′).

August 1. 8^h to 2. 8^h. See Plate III.

2. $18\frac{1}{4}^h$ to 20^h Wave in Dec. (− 16′). $21\frac{1}{2}^h$ to $23\frac{1}{4}^h$ Wave in Dec. (− 9′). 2. 14^h to 23^h Fluctuations in H.F. (± ·002): in V.F. small.

3. 4^h to 4. 5^h Fluctuations in Dec. (± 5′): in H.F. (± ·0015). 3. 12^h to 23^h Long wave in V.F. (+ ·0012).

4. 23^h to 5. 6^h Fluctuations in Dec. (± 4′). 4. 14^h to 5. 6^h Fluctuations in H.F. (± ·001): in V.F. small.

5. 12^h to 17^h Fluctuations in H.F. (± ·0012). 5. 20^h to 6. 2^h Fluctuations in Dec. (± 4′).

6. 18^h to 7. 2^h Fluctuations in Dec. (± 4′). 6. 14^h to 21^h Fluctuations in H.F. (± ·0015): in V.F. (± ·0002).

7. 19^h to 8. 8^h Fluctuations in Dec. (± 3′): in H.F. (± ·0007).

8. 18^h to 9. 2^h Fluctuations in Dec. (± 3′): in H.F. (± ·0006).

14. 20^h to 15. 5^h Fluctuations in Dec. (± 4′). 14. 13^h to 15. 5^h Fluctuations in H.F. (± ·001), with wave, 14. $21\frac{1}{2}^h$ to $22\frac{3}{4}^h$ (+ ·0035): in V.F. (± ·0003).

15. 14^h to 16. 6^h Fluctuations in Dec. (± 4′): in V.F. small. 15. 14^h to 16. 0^h Fluctuations in H.F. (± ·001).

25. $1\frac{1}{4}^h$ Sharp movement in Dec. (+ 2′): in H.F. (+ ·0015): in V.F. (+ ·0002). 13^h to 15^h Fluctuations in Dec. (± 3′): in H.F. (± ·002): in V.F. small.

28. 12^h to 30. 12^h. See Plate IV.

30. $17\frac{1}{4}^h$ to 19^h Wave in Dec. (− 10′). 30. 21^h to 31. 4^h Fluctuations in Dec. (± 4′). 30. 13^h to 31. 8^h Fluctuations in H.F. (± ·0015): in V.F. (± ·0002).

31. 18^h to September 1. 8^h Fluctuations in Dec. (± 4′): in H.F. (± ·0015): in V.F. small.

September 1. 13^h to 2. 5^h Fluctuations in Dec. (± 5′): in H.F. (± ·0012), with wave, 1. $21\frac{1}{2}^h$ to 23^h (+ ·003): in V.F. (± ·0002).

2. 14^h to 3. 5^h Fluctuations in Dec. (± 3′): in H.F. (± ·0015): in V.F. (± ·0002).

9. $22\frac{1}{4}^h$ to 10. 1^h Wave in Dec. (− 7′). 9. 13^h to 10. 0^h Fluctuations in H.F. (± ·0008).

10. 5^h to 11. 3^h Fluctuations in Dec., sometimes rapid, (± 3′): in H.F. (± ·0015), with wave, 10. $20\frac{1}{2}^h$ to $22\frac{1}{4}^h$ (+ ·003): in V.F. small.

11. 13^h to 12. 1^h Fluctuations in Dec. (± 4′): in H.F. (± ·0015).

15. 15^h to 16. 4^h Fluctuations in Dec. (± 3′): in H.F. (± ·0012). 16. $0\frac{1}{2}^h$ to 2^h Decrease of V.F. (− ·0006).

17. $19\frac{1}{2}^h$ to $20\frac{1}{2}^h$ Wave in Dec. (− 5′).

22. 3^h to 9^h Fluctuations in Dec. (± 4′): in H.F. (± ·0015).

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September 23. $18\frac{1}{2}^h$ to 24. $1\frac{1}{4}^h$ Long wave in Dec. (— 9′), with small superposed fluctuations. 23. 18^h to 24. 1^h Fluctuations in H.F. (± ·001) : in V.F. small.

25. 12^h to 28. 12^h. See Plates V. and VI.

28. 12^h to 29. 1^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001).

29. 13^h to 30. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

30. 17^h to October 1. 3^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0008).

October 6. 20^h to 7. 6^h Fluctuations in Dec. (± 3′).

7. 21^h to 8. 4^h Fluctuations in Dec. (± 4′).

11. $2\frac{3}{4}^h$ to $4\frac{1}{4}^h$ Wave in Dec. (+ 4′) : in H.F. (+ ·001) : Decrease of V.F. (— ·0004).

12. 20^h to 13. 4^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0008) : in V.F. (± ·0002).

13. 17^h to 14. 5^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0015) : in V.F. small.

15. $20\frac{3}{4}^h$ to $22\frac{1}{4}^h$ Wave in Dec. (— 5′) : in H.F. (+ ·0008).

17. $22\frac{1}{2}^h$ to $23\frac{1}{2}^h$ Wave in H.F. (+ ·001).

22. 12^h to 24. 12^h. See Plates VI. and VII.

26. 6^h to 27. 6^h. See Plate VII.

27. 14^h to 28. 2^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006).

30. $17\frac{1}{2}^h$ to 19^h Wave in Dec. (— 18′) : fluctuations in H.F. (± ·0015) : in V.F. small. 30. 22^h to 31. 1^h Fluctuations in Dec. (± 2′). 30. $22\frac{3}{4}^h$ to 31. 0^h Wave in H.F. (+ ·0025).

November 1. 19^h to 2. 5^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0006).

3. 20^h to 4. 0^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001) : in V.F. small.

4. 20^h to 23^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0007) : in V.F. small.

8. $16\frac{1}{4}^h$ to $17\frac{1}{2}^h$ Wave in Dec. (— 6′). $15\frac{3}{4}^h$ to 17^h Wave in H.F. (— ·0016). 8. $21\frac{3}{4}^h$ to 9. 1^h Irregular wave in Dec. (— 12′). 8. $21\frac{3}{4}^h$ to 9. 0^h Double wave in H.F. (— ·002 to + ·0025) : fluctuations in V.F. (± ·0002).

9. 16^h to 10. 3^h Fluctuations in Dec. (± 3′) : in H.F. (± ·0007) : in V.F. small.

10. 13^h to 15^h Wave in Dec. (— 8′) : in H.F. (— ·0025) : in V.F. (+ ·0003).

14. 20^h to 22^h Wave in Dec. (— 4′). $20\frac{1}{2}^h$ to $21\frac{1}{2}^h$ Wave in H.F. (+ ·0007).

17. 20^h to 18. 3^h Fluctuations in Dec. (± 5′) : in H.F. (± ·001). 18. 0^h to 1^h Decrease of V.F. (— ·0004).

19. 14^h to 20. 11^h No register of Dec. or H.F. 20. 2^h to 3^h Decrease of V.F. (— ·0004).

20. $15\frac{1}{4}^h$ to $16\frac{3}{4}^h$ Wave in Dec. (— 9′). 20. 18^h to $19\frac{1}{2}^h$ Wave in Dec. (— 17′), followed till 21. 3^h by fluctuations (± 3′). 20. 13^h to 16^h Fluctuations in H.F. (± ·0006). 20. 18^h to 19^h Wave in H.F. (— ·003), followed till 21. 1^h by small fluctuations. 20. 15^h to 20^h Fluctuations in V.F. (± ·0003).

21. 6^h to 22. 6^h. See Plate VII.

22. $17\frac{1}{2}^h$ to 23. 8^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0013) : in V.F. small.

1887.

November 23. 15^h to 23^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0006) : in V.F. small.

29. 7^h to 30. 6^h Fluctuations in Dec. (± 6′) : in H.F. (± ·0015) : in V.F. small.

30. $18\frac{3}{4}^h$ to 20^h Wave in Dec. (− 9′). 21^h to 22^h Wave in Dec. (− 8′). 17^h to 22^h Fluctuations in H.F. (± ·001).

December 1. 18^h to 23^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001).

6. 17^h to 7. 2^h Fluctuations in Dec. (± 2′) : in H.F. (± ·001).

7. 14^h to 16^h Wave in Dec. (− 6′). $17\frac{1}{2}^h$ to $18\frac{3}{4}^h$ Wave in Dec. (− 10′). 7. $20\frac{1}{2}^h$ to 8. 5^h Fluctuations in Dec. (± 3′). 7. 14^h to 23^h Fluctuations in H.F. (± ·001) : in V.F. small.

8. 23^h to 9. 2^h Fluctuations in Dec. (± $1\frac{1}{2}$′) : in H.F. (± ·001).

13. 19^h to 14. $2\frac{1}{2}^h$ Fluctuations in Dec. (± 3′), terminating with wave, 14. 1^h to $2\frac{1}{2}^h$ (+ 8′) : fluctuations in H.F. (± ·0006), terminating with wave 14. 1^h to $2\frac{1}{2}^h$ (+ ·002). 14. $1\frac{1}{2}^h$ to 2^h Decrease of V.F. (− ·0005).

16. 13^h to 18^h Fluctuations in Dec. (± 2′), with wave $16\frac{1}{4}^h$ to $17\frac{1}{2}^h$ (− 12′). 20^h to 22^h Wave in Dec. (− 9′). 13^h to 23^h Fluctuations in H.F. (± ·001).

17. 5^h to 18. 6^h Fluctuations in Dec. (± 4′), with waves 17. $17\frac{1}{2}^h$ to $18\frac{1}{2}^h$ (− 12′), and 17. $21\frac{1}{2}^h$ to $22\frac{1}{2}^h$ (− 12′) : fluctuations in H.F. (± ·0015) : in V.F. (± ·0002).

18. 14^h to 19. 2^h Fluctuations in Dec. (± 5′) : in H.F. (± ·0015) : in V.F. (± ·0002).

19. 7^h to 16^h Fluctuations in Dec. (± 3′) : in H.F. (± ·001). 19. 21^h to 20. 5^h Fluctuations in Dec. (± 3′).

20. 16^h to 21. 6^h Fluctuations in Dec. (± 3′) : in H.F. small.

21. 15^h to 22. 18^h Fluctuations in Dec. (± 8′) : in H.F. (± ·0015) : in V.F. (± ·0002).

25. 20^h to 26. 5^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. small.

26. 13^h to 22^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001) : in V.F. small.

27. 16^h to 28. $1\frac{1}{2}^h$ Fluctuations in Dec. (± 5′) : in H.F. (± ·002), terminating with wave 28. $0\frac{1}{2}^h$ to $1\frac{1}{2}^h$ (+ ·003) : in V.F. (± ·0002).

28. 20^h to 29. 8^h Fluctuations in Dec. (± 4′) : in H.F. (± ·0006) : in V.F. small.

30. 16^h to 23^h Fluctuations in Dec. (± 4′) : in H.F. (± ·001).

EXPLANATION OF THE PLATES.

The magnetic motions figured on the Plates are—

(1.) Those for days of great disturbance—September 25–26, November 21–22.

(2.) Those for days of lesser disturbance—February 12–13, 13–14, 14–15, April 4–5, 5–6, 6–7, 7–8, 8–9, August 1–2, 28–29, 29–30, September 26–27, 27–28, October 22–23, 23–24, 26–27.

(3.) Those for four quiet days, January 2, April 27, August 12, November 25, which are given as types of the ordinary diurnal movement at four seasons of the year. The earth currents on these days are very small.

The time is Greenwich Civil Time (commencing at midnight, and counting the hours from 0 to 24).

The magnetic declination, horizontal force, and vertical force are indicated by the letters D., H., and V. respectively; the declination (west) is expressed in minutes of arc, the units for horizontal and vertical force are ·00001 of the whole horizontal and vertical forces respectively, the corresponding scales being given on the sides of each diagram. Equal changes of amplitude in the several registers correspond nearly to equal changes of absolute magnetic force.

Downward motion indicates increase of declination and of horizontal and vertical force.

The earth current register E_1 is that of the line Angerstein Wharf—Lady Well, making an angle of 50° with the magnetic meridian, reckoning from north to east. The E_2 register is that of the line Blackheath—North Kent East Junction, making an angle of 46° with the magnetic meridian, reckoning from north to west. Zero E_1 and Zero E_2 indicate the respective instrumental zeros. On February 12–13, 13–14, 14–15, October 22–23, 23–24, 26–27, November 21–22, the earth current motions are not given, as the apparatus was arranged on those days to record on a much larger scale for determination of the diurnal inequality.

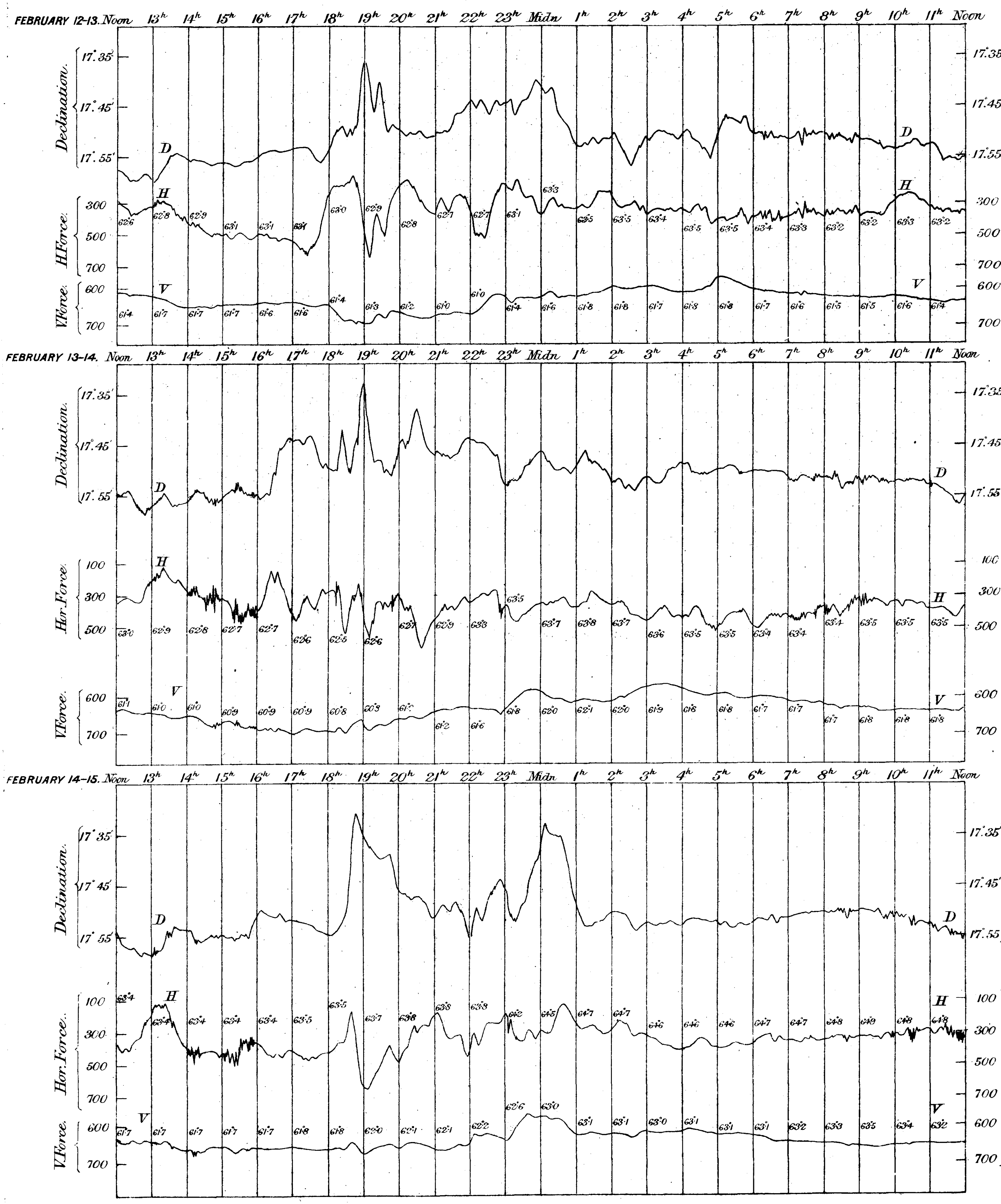
Downward motion of earth current register indicates in the E_1 circuit the passage of a current, corresponding to that from the copper pole of a battery, in the direction Angerstein Wharf to Lady Well (N.E. to S.W. magnetic), and in the E_2 circuit to the passage of a similar current in the direction Blackheath to North Kent East Junction (S.E. to N.W. magnetic.)

An arrow (↑) indicates that the register was out of range of registration in the direction of the arrow head.

The temperatures (Fahrenheit) of the horizontal and vertical force magnets at each hour are given in small figures on the Diagrams.

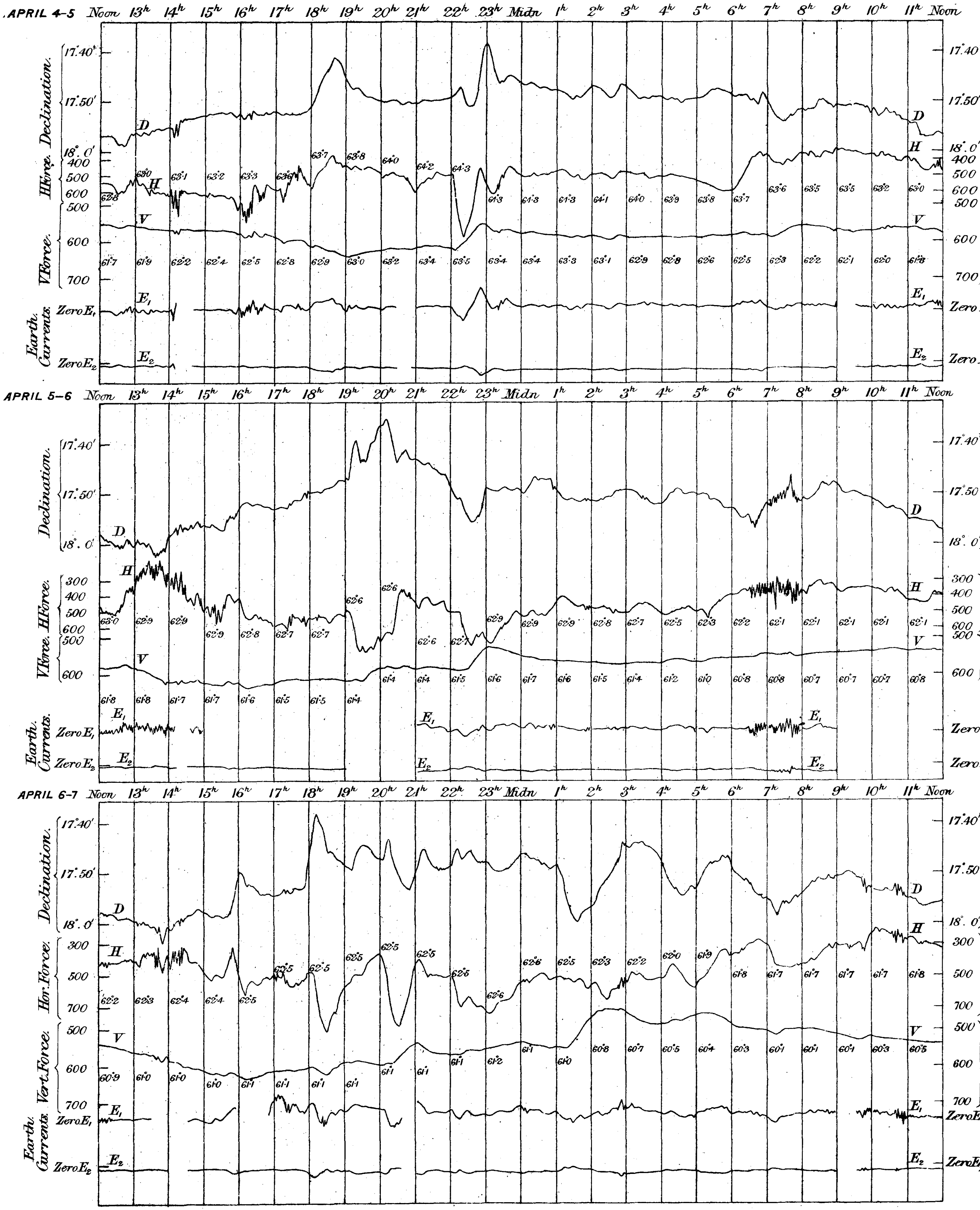
There are occasional small interruptions in the earth current registers not requiring any special notice.

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



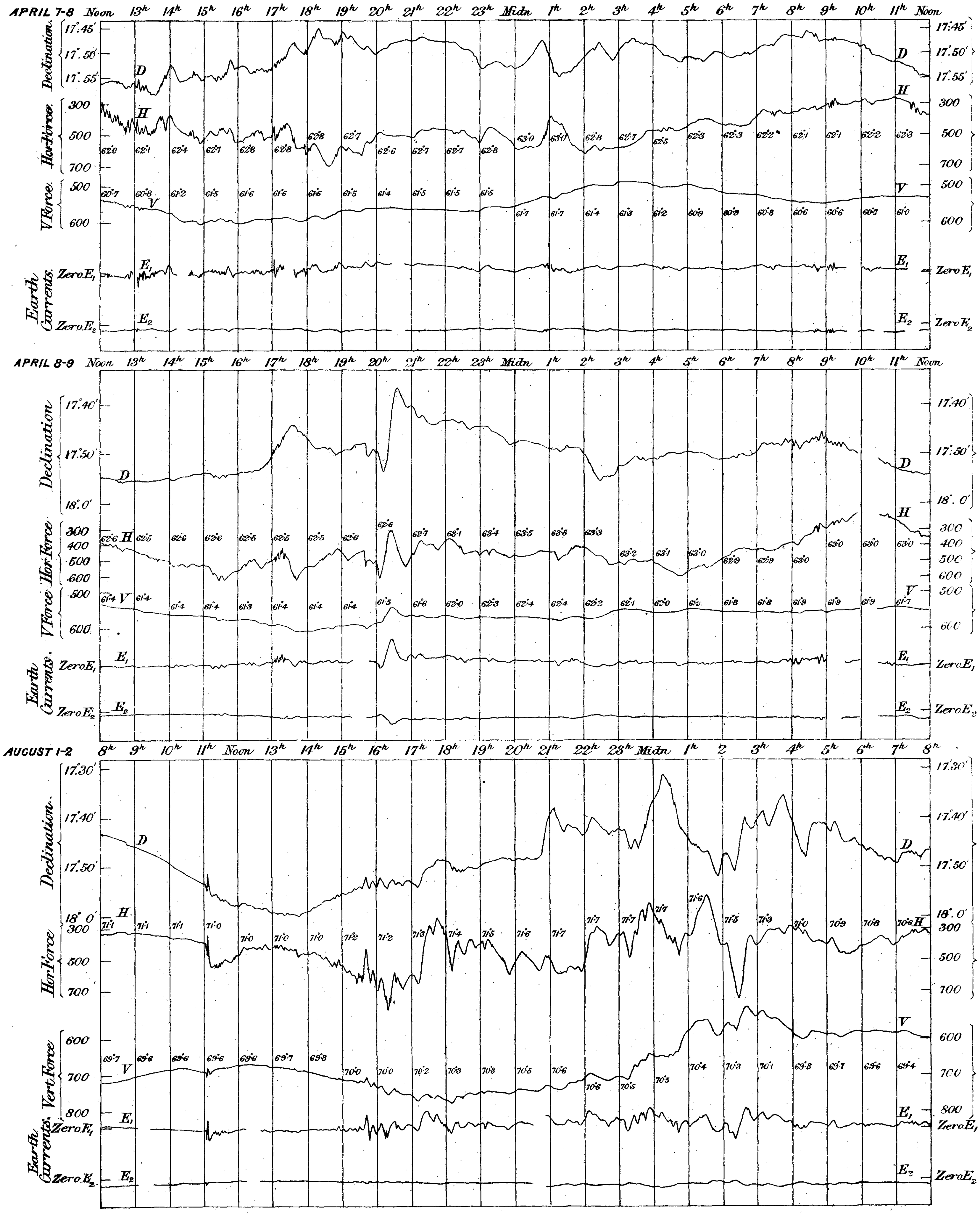
DANGERFIELD LITH. 22, BEDFORD ST COVENT GARDEN 3/89 17831

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



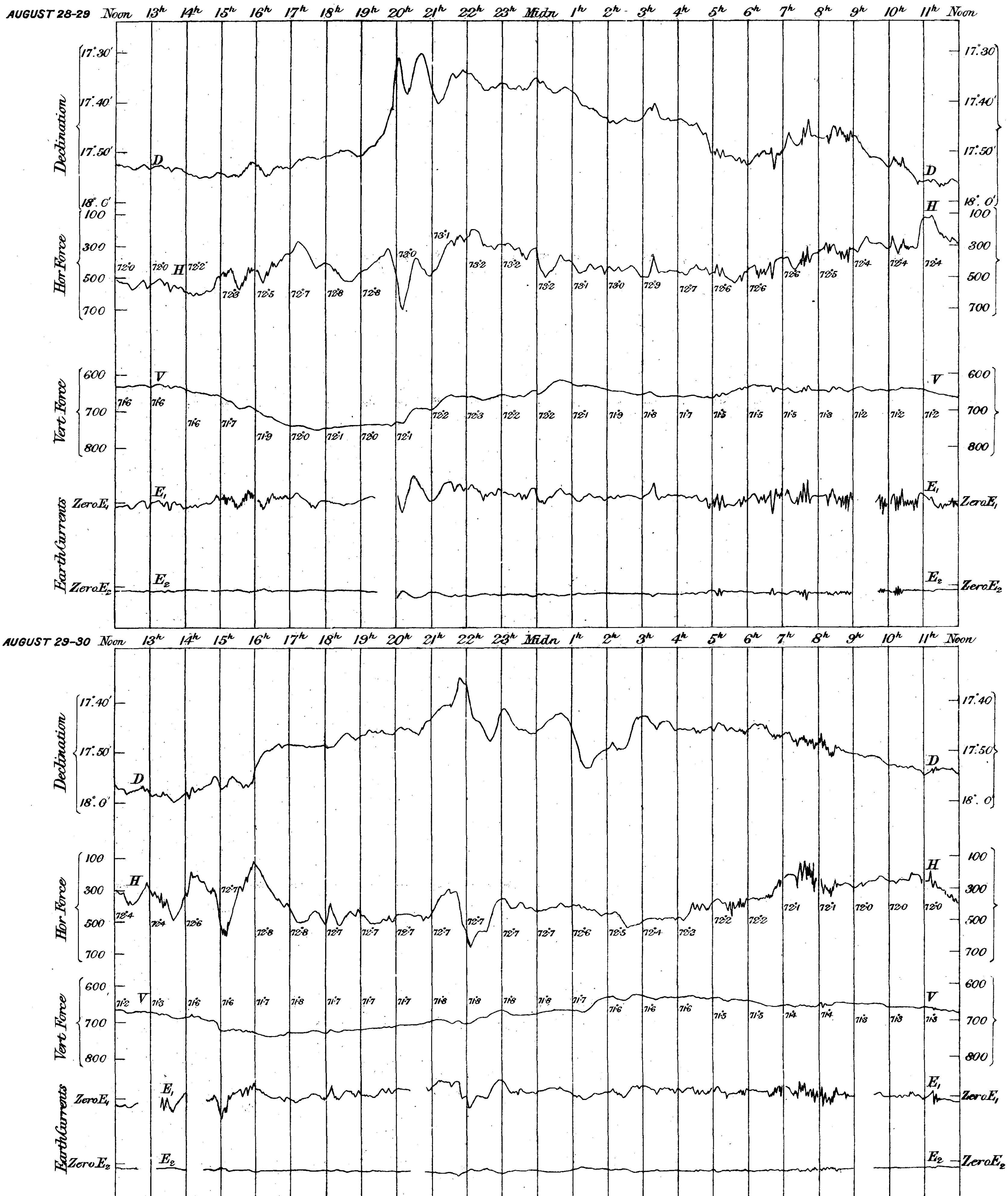
DANGERFIELD LITH 22 BEDFORD ST COVENT GARDEN 3/89.17831.

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



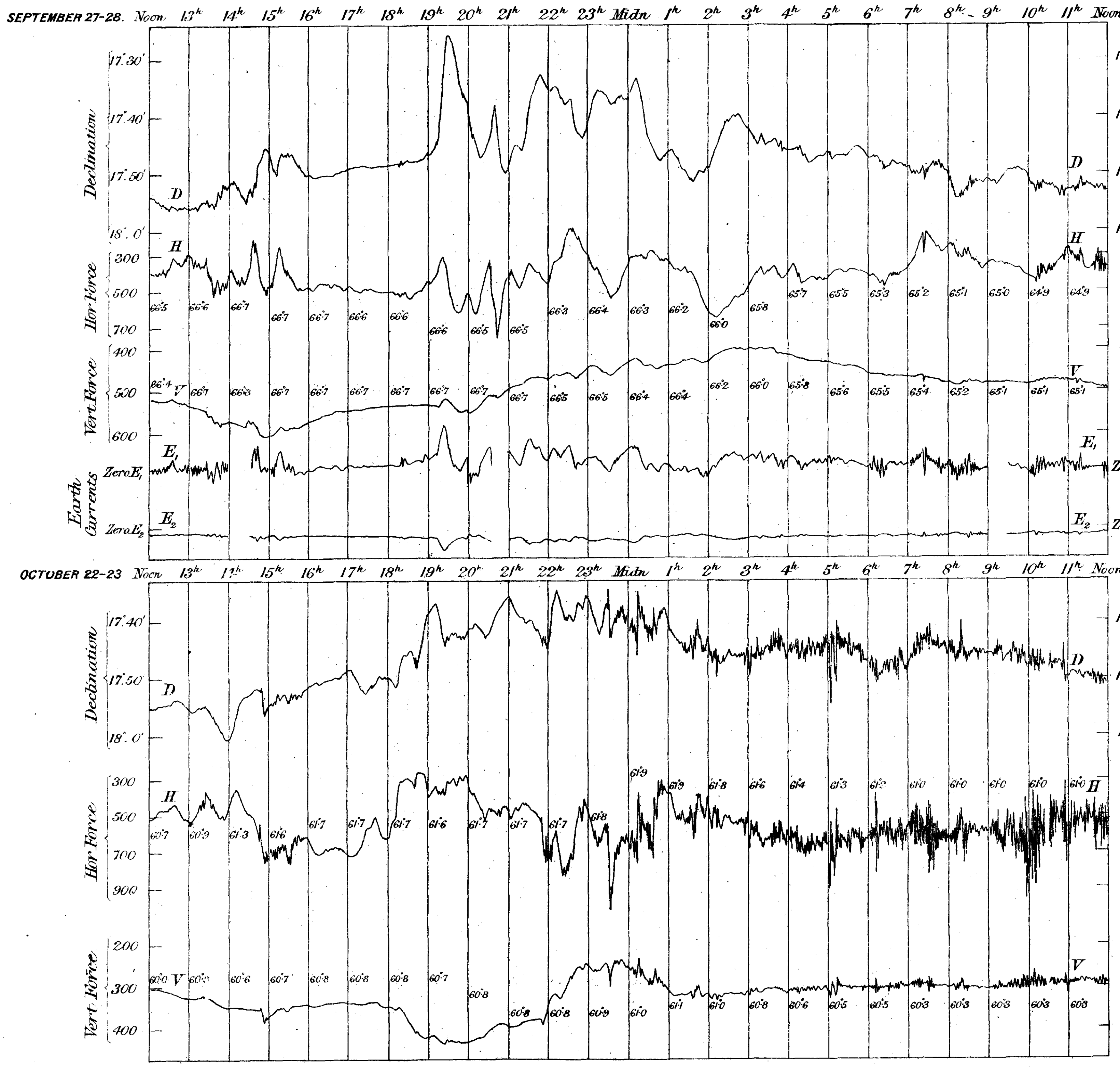
DANGERFIELD LITH 22 BEDFORD ST COVENT GARDEN

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



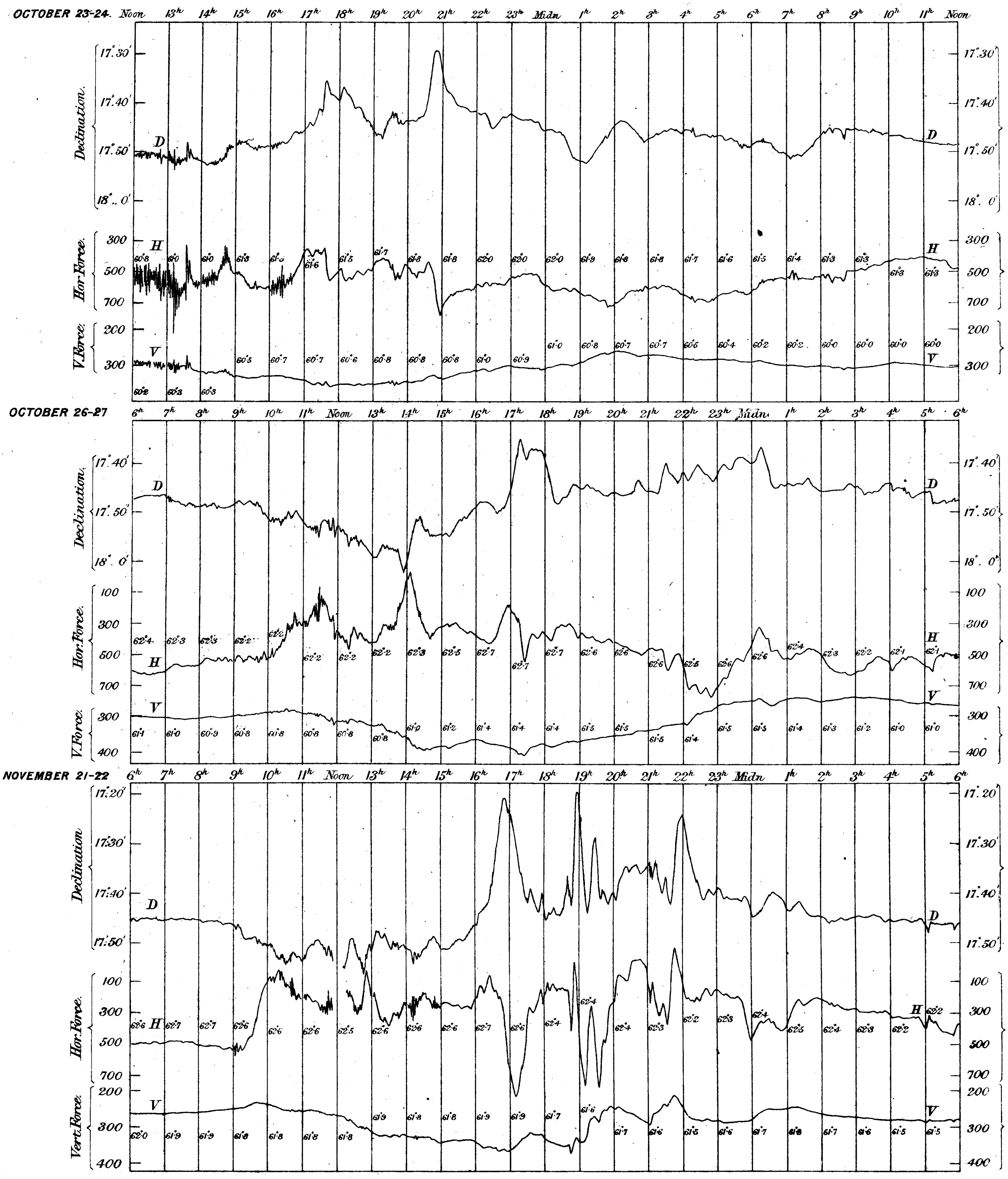
Dangerfield Lith 22, Bedford St Covent Garden. 3/89. 17831.

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



Dangerfield, Lith. 22, Bedford St. Covent Garden. 3/89. 17832.

Magnetic Disturbances and Earth Currents recorded at the Royal Observatory, Greenwich, 1887.



Dangerfield Lith 22, Bedford St Covent Garden. 3/89/7832.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS.

1887.

MONTH and DAY, 1887.	Phases of the Moon	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Jan. 1	...	30·214	26·0	18·5	7·5	23·0	−15·1	23·0	23·0	0·0	0·8	0·0	100	29·4	18·0	34·8	33·2	0·000	0·0	ssP
2	In Equator: First Quarter	29·962	32·4	15·5	16·9	23·8	−14·1	23·7	23·1	0·7	2·8	0·0	97	38·0	14·9	34·8	31·7	0·006	2·0	ssP : ...
3	...	29·519	38·2	32·2	6·0	36·0	− 1·8	35·1	33·7	2·3	3·6	0·8	92	41·5	28·7	32·8	31·7	0·112	14·0	mP : vN, wP : vN
4	...	29·193	34·3	25·4	8·9	30·0	− 7·7	29·5	27·9	2·1	4·1	0·0	91	43·0	21·9	33·8	32·2	0·304	6·0	vP, ssN : ssP
5	...	28·754	38·5	26·7	11·8	33·1	− 4·5	31·9	29·6	3·5	6·2	0·5	87	46·0	25·7	34·6	32·7	0·120	5·0	ssP, vN : ssP
6	...	28·745	34·6	27·0	7·6	32·1	− 5·5	31·3	29·5	2·6	5·0	1·4	90	38·6	26·0	33·8	32·7	0·005	0·0	ssP
7	...	28·828	38·6	28·0	10·6	33·9	− 3·7	33·2	31·9	2·0	3·4	0·0	92	68·7	27·0	34·6	32·9	0·032	4·0	ssP : vN, vP
8	...	28·910	38·3	32·5	5·8	35·1	− 2·6	34·0	32·3	2·8	5·5	0·6	89	49·8	31·0	34·3	33·7	0·127	5·0	vN, mP : ssP, sN
9	Greatest Dec. N Full	29·146	35·2	29·8	5·4	33·2	− 4·5	32·9	32·3	0·9	2·0	0·0	96	40·2	27·0	34·8	33·7	0·106	0·0	mP : ssP, vN
10	...	29·619	35·6	27·9	7·7	32·6	− 5·2	31·7	29·9	2·7	4·7	0·8	89	40·5	24·8	34·8	33·7	0·000	1·5	ssP
11	...	29·735	40·3	29·5	10·8	36·8	− 1·1	35·4	33·5	3·3	8·3	1·1	88	44·7	24·7	34·6	33·5	0·009	9·5	sP
12	Perigee	30·060	40·8	30·2	10·6	37·7	− 0·4	36·5	34·9	2·8	5·5	0·0	90	42·3	24·6	35·8	33·7	0·067	0·0	mP : ssP
13	...	30·214	35·0	27·8	7·2	31·4	− 6·8	31·4	31·4	0·0	1·4	0·0	100	35·0	22·3	35·1	34·5	0·002	0·0	ssP : sP
14	...	30·130	34·1	28·8	5·3	31·1	− 7·2	30·9	30·4	0·7	4·6	0·0	97	39·0	27·6	35·8	35·1	0·004	1·2	ssP
15	In Equator	30·049	34·6	29·5	5·1	31·3	− 7·1	29·7	25·7	5·6	8·2	2·5	78	35·2	29·5	36·8	34·2	0·002	3·8	sP
16	Last Qr.	29·836	30·5	24·8	5·7	28·8	− 9·7	27·3	21·7	7·1	14·8	2·6	74	34·3	19·6	34·6	32·7	0·001	0·0	mP : sP
17	...	29·825	36·1	18·9	17·2	28·5	−10·1	26·7	19·8	8·7	13·6	3·1	69	65·4	16·7	33·8	32·7	0·002	3·0	sP
18	...	29·798	41·7	33·9	7·8	37·9	− 0·9	37·6	37·1	0·8	1·9	0·0	97	45·1	32·6	32·8	32·2	0·074	3·0	mN, wP : ssP
19	...	29·872	52·5	40·0	12·5	47·8	+ 8·9	46·4	44·9	2·9	6·2	0·2	90	66·3	37·7	35·0	32·7	0·097	0·0	mP : sP, wN
20	...	30·225	48·0	31·9	16·1	39·9	+ 0·8	37·6	34·6	5·3	8·4	1·5	81	68·7	27·9	37·8	32·6	0·060	0·0	mN, sP : ssP
21	...	30·463	41·3	33·8	7·5	37·9	− 1·4	36·8	35·2	2·7	4·1	1·1	90	57·0	29·7	37·8	34·7	0·000	5·2	ssP
22	Greatest Declination S.	30·350	43·0	39·4	3·6	41·4	+ 1·9	39·3	36·7	4·7	6·2	3·9	84	44·8	38·0	37·8	36·2	0·000	0·8	sP
23	...	30·295	41·3	38·7	2·6	40·1	+ 0·5	38·2	35·7	4·4	5·3	1·8	85	42·2	37·4	38·3	37·7	0·000	1·2	mP : sP
24	New	30·097	38·8	34·7	4·1	36·2	− 3·5	35·0	33·2	3·0	3·6	1·7	89	44·0	34·0	38·5	37·7	0·000	4·0	mP : ssP
25	...	30·040	49·7	36·5	13·2	41·2	+ 1·4	39·7	37·8	3·4	7·5	1·4	88	88·7	33·9	38·9	38·2	0·000	3·8	sP : ssP
26	...	30·133	50·8	35·9	14·9	42·4	+ 2·5	40·7	38·5	3·9	8·8	0·5	87	85·9	29·1	39·2	37·5	0·000	0·0	sP : ssP
27	...	30·167	42·1	29·6	12·5	35·2	− 4·8	35·2	35·2	0·0	1·2	0·0	100	46·5	27·3	40·0	38·5	0·000	0·0	ssP : ssP : vP
28	Apogee	30·220	48·4	30·9	17·5	42·3	+ 2·2	41·9	41·4	0·9	3·1	0·0	97	65·0	29·1	40·0	38·7	0·009*	0·2	ssP : mP : sP
29	In Equator	30·287	48·8	39·4	9·4	45·8	+ 5·6	45·0	44·1	1·7	2·7	0·0	94	54·1	36·9	40·3	38·7	0·000	0·8	mP : sP
30	...	30·099	45·4	31·1	14·3	38·9	− 1·4	38·1	37·0	1·9	6·9	0·0	94	85·0	29·4	40·8	39·2	0·000	3·0	ssP : sP
31	...	29·923	51·0	41·0	10·0	45·7	+ 5·3	44·1	42·2	3·5	5·9	1·5	88	68·7	36·3	42·0	40·7	0·014	1·2	wP : mP : sP
Means	...	29·829	40·2	30·6	9·6	35·8	− 2·9	34·8	33·0	2·8	5·4	0·9	89·8	51·4	28·0	36·4	34·8	Sum. 1·153	2·5	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 18). The amount entered on January 28 was derived from moisture deposited during a dense wetting fog.

The mean reading of the *Barometer* for the month was 29in·829, being 0in·100 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 52°·5 on January 19; the lowest in the month was 15°·5 on January 2; and the range was 37°·0.
The mean of all the highest daily readings in the month was 40°·2, being 2°·9 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 30°·6, being 3°·0 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 9°·6, being 0°·1 *greater* than the average for the 46 years, 1841–1886.
The mean for the month was 35°·8, being 2°·9 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Jan. 1	0·0	7·9	Variable : calm	SW	0·0	0·0	0·00	69	10, tk.-f, fr : 10, tk.-f	10, tk.-f : f, ho.-fr
2	0·6	7·9	SW	S	0·0	0·0	0·00	146	f, ho.-fr : 0, f, h	f : p.-cl, lu.-ha : v, slt.-sn
3	0·0	7·9	S : SSW	SSW : S	9·3	0·0	1·66	521	p.-cl : 10, oc.-r	10, w : 10, fq.-slt.-r, st.-w
4	0·0	7·9	SSE : E	E : SSW	3·9	0·0	0·16	175	10, r, sn : 10, sn : p.-cl, sn	10 : 10
5	0·0	7·9	SSE : S : W	W : WSW	7·0	0·0	0·58	412	10 : 10,oc.-sn,sl,r : 10, sl, r	9,cu.-s,th.-cl : v : 1, li.-cl, fr
6	0·0	8·0	SW	W : WSW	0·0	0·0	0·00	207	0, fr : p.-cl,sn,r : 10, slt.-sn	10, glm : p.-cl : 1,th.-cl,lu.-ha,h
7	1·3	8·0	SW : SSE : S	SSW : S : SSE	2·0	0·0	0·04	235	p.-cl : p.-cl	10, r, sl : p.-cl, shs.-r
8	1·1	8·0	SSE : SW	S : SSE	2·1	0·0	0·14	264	10, hy.-r : 10 : p.-cl	6,ci.-cu,ci.-s,th.-cl : p.-cl,shs.-r : v, li.-cl
9	0·0	8·1	SSE : SW	WSW	0·0	0·0	0·00	177	p.-cl, slt.-sn : 10	10, glm : 10, slt.-r, sn : 10, sn
10	0·0	8·1	WNW : WSW	SW : S	0·3	0·0	0·00	232	p.-cl : p.-cl	2, th.-cl, h : 0 : 1,li.-cl,fr,lu.-ha
11	0·0	8·1	SSE : S	S	7·5	0·0	1·14	414	p.-cl, li.-cl, fr : 10, fr.-r	10, sc, oc.-slt.-r, w : 10, slt.-r
12	0·0	8·2	SSW : WSW : NNE	NNE	0·6	0·0	0·00	195	10, r : 10, glm, r	10 : p.-cl : 0, ho.-fr
13	0·0	8·2	NNE	N : calm	0·0	0·0	0·00	97	v, ho.-fr : 10, f	10, f, glm : 10, f
14	0·0	8·2	SW	NE	0·0	0·0	0·00	118	10, f, fr : 10, f	9,slt.-f,so.-ha : v : 10
15	0·0	8·3	ENE : E	E : ESE	4·3	0·0	0·55	379	10 : 10 : 10, slt.-sn	10, oc.-sn : 10
16	0·0	8·3	SE : NNE	ENE : NNE	0·6	0·0	0·01	169	10 : 10 : 10, sn	p.-cl, sn : v, fr
17	2·7	8·3	Variable : SW	S : SSE	1·7	0·0	0·11	214	p.-cl : 1, th.-cl, m	6, th.-cl : 10 : 10, r, sn
18	0·0	8·4	S : SW	SW : SE : S	2·8	0·0	0·16	241	10, r : 10 : 10	10, f : 10, slt.-r
19	0·5	8·4	SSW : SW	SW	6·2	0·0	0·53	414	10, r : 10 : p.-cl	8,ci.-cu,cu.-s,li.-cl : p.-cl, th.-r
20	5·0	8·5	N	N : SW	7·2	0·0	0·55	302	v, r : p.-cl : 0	0, h : 0, slt.-f, ho.-fr
21	0·0	8·5	SW : WSW	WSW	1·0	0·0	0·05	255	0, ho.-fr : 0, ho.-fr : p.-cl	8, th.-cl : 10
22	0·2	8·6	WSW : W	W : WNW : NNW	2·0	0·0	0·15	284	10 : 10	10, glm : 10
23	0·0	8·6	NW : SW	SW : SSE	0·0	0·0	0·00	98	10 : 10	10 : 10 : 10, m.-r
24	0·0	8·7	SSE : S	SSW	0·1	0·0	0·00	191	10 : 10	9,cu.-s,li.-cl : 10 : 10
25	3·8	8·7	SSW : S	S : SSE	1·1	0·0	0·04	229	10 : 10 : p.-cl, ci.-cu	4, ci, ci.-cu : 0, d
26	6·7	8·8	SSE : SSW	SW	1·0	0·0	0·02	185	p.-cl, li.-cl, ho.-fr : 4, li.-cl, ho.-fr	3, li.-cl : 0, f, ho.-fr
27	0·0	8·8	Calm	Calm : SW	0·0	0·0	0·00	70	f, ho.-fr : 10, tk.-f	7, f : 0, tk.-f
28	1·4	8·9	SW	SW	1·0	0·0	0·03	287	f : 6, li.-cl, cu.-s	10 : v : 10
29	0·0	8·9	WSW : SW	SW	1·0	0·0	0·03	228	10 : 10	10 : 10, m : 10, f
30	5·7	9·0	Calm : SE	SSE : SSW	1·3	0·0	0·02	163	f : f : 0, tk.-f	0 : v
31	1·6	9·0	SSW : SW	SW	4·0	0·0	0·37	401	10 : 10	p.-cl,cu.-s, r : p.-cl : vv, slt.-r
Means	1·0	8·4	......	......	...	...	0·20	238		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 34°·8, being 2°·6 *lower* than the average for the 20 years, 1849–1868.
The mean *Temperature of the Dew Point* for the month was 33°·0, being 2°·4 *lower* than the average for the 20 years, 1849–1868.
The mean *Degree of Humidity* for the month was 89·8, being 2·5 *greater* than the average for the 20 years, 1849–1868.
The mean *Elastic Force of Vapour* for the month was 0in·188, being 0in·019 *less* than the average for the 20 years, 1849–1868.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs·1, being 0gr·3 *less* than the average for the 20 years, 1849–1868.
The mean *Weight of a Cubic Foot of Air* for the month was 558 grains, being 6 grains *greater* than the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·6.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·12. The maximum daily amount of *Sunshine* was 6·7 hours on January 26.

The highest reading of the *Solar Radiation Thermometer* was 88°·7 on January 25; and the lowest reading of the *Terrestrial Radiation Thermometer* was 14°·9 on January 2.

The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 1·3; for the 6 hours ending 15h. was 0·2; and for the 6 hours ending 21h. was 1·0.

The *Proportions of Wind* referred to the cardinal points were N. 3, E. 3, S. 14, and W. 9. Two days were calm.

The *Greatest Pressure of the Wind* in the month was 9·3 lbs. on the square foot on January 3. The mean daily *Horizontal Movement of the Air* for the month was 238 miles; the greatest daily value was 521 miles on January 3; and the least daily value was 69 miles on January 1.

Rain fell on 14 days in the month, amounting to 1in·153, as measured by gauge No. 6 partly sunk below the ground; being 0in·901 *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Feb. 1	First Qr.	29·741	50·5	32·3	18·2	43·4	+ 2·9	41·6	39·5	3·9	6·7	2·5	86	56·6	29·0	43·6	41·7	0·065	3·8	wP : mN, sP
2	...	29·792	46·2	29·1	17·1	38·2	− 2·4	36·4	34·0	4·2	8·6	1·3	85	88·3	26·3	43·8	41·7	0·209	3·5	ssP : vP, vN
3	...	29·836	52·1	40·8	11·3	48·5	+ 7·8	46·1	43·5	5·0	6·6	3·1	83	61·3	35·8	42·8	41·7	0·000	12·5	mP : wP : mP
4	...	30·158	52·1	45·6	6·5	50·1	+ 9·4	48·4	46·6	3·5	4·8	2·0	88	59·0	40·0	43·8	42·7	0·000	6·0	wP : mP
5	Greatest Declination N.	30·220	54·9	42·5	12·4	47·0	+ 6·4	45·8	44·5	2·5	6·0	0·0	92	85·7	36·5	45·6	43·3	0·000	0·0	mP
6	...	30·476	45·2	31·4	13·8	38·2	− 2·2	36·8	34·9	3·3	9·9	0·0	88	86·0	25·1	45·4	43·7	0·000	0·0	sP
7	...	30·550	41·2	30·2	11·0	34·5	− 5·7	33·8	32·7	1·8	6·9	0·0	93	67·0	24·6	45·8	43·9	0·000	0·0	sP
8	Full	30·536	39·1	26·6	12·5	32·4	− 7·5	30·5	26·4	6·0	10·1	2·5	78	87·6	24·6	43·8	42·7	0·000	2·2	sP
9	Perigee	30·479	36·2	31·4	4·8	33·2	− 6·4	31·1	27·0	6·2	7·8	2·6	78	63·2	28·8	43·6	41·2	0·000	0·8	mP : vP
10	...	30·282	34·8	27·9	6·9	32·0	− 7·3	30·1	25·7	6·3	11·1	1·4	76	83·8	25·4	42·6	39·7	0·000	0·0	mP : vP
11	In Equator	30·177	37·9	31·5	6·4	34·1	− 5·0	32·7	30·3	3·8	6·0	0·3	85	42·8	30·8	41·3	38·5	0·000	0·0	mP : vP
12	...	30·262	43·5	30·5	13·0	36·0	− 2·9	33·7	30·2	5·8	12·5	2·7	80	89·5	26·6	40·2	37·7	0·000	0·3	mP : sP
13	...	30·227	41·4	30·5	10·9	35·1	− 3·7	32·8	29·2	5·9	8·7	2·9	78	68·6	27·6	39·6	37·2	0·000	3·2	mP : sP
14	...	30·067	39·0	30·6	8·4	35·2	− 3·5	33·5	30·8	4·4	7·0	3·8	84	51·2	28·1	39·6	37·2	0·000	1·5	mP : sP
15	Last Qr.	30·156	38·1	29·0	9·1	36·1	− 2·6	34·4	31·9	4·2	5·3	2·0	85	42·9	23·0	38·8	36·7	0·000	0·0	mP : sP
16	...	30·252	41·7	23·5	18·2	31·6	− 7·2	30·1	26·5	5·1	9·5	0·6	80	85·3	16·7	39·0	36·7	0·000	0·0	sP : ssP
17	...	30·188	42·0	19·7	22·3	28·6	−10·3	27·6	23·9	4·7	11·0	0·0	82	91·4	13·7	38·8	36·7	0·000	0·0	ssP
18	Greatest Declination S.	29·865	42·2	26·7	15·5	37·2	− 1·8	36·5	35·5	1·7	7·6	0·0	94	44·2	19·5	38·6	36·9	0·203	0·0	sP : wP, wN : vP
19	...	30·011	43·1	37·5	5·6	40·4	+ 1·2	38·4	35·8	4·6	8·3	1·8	84	61·0	33·6	37·8	36·7	0·002	0·2	vP, wN : sP
20	...	29·956	43·8	36·5	7·3	40·1	+ 0·8	37·9	35·1	5·0	7·3	3·1	82	54·3	35·7	38·0	36·7	0·000	0·8	mP : ssP
21	...	29·869	48·1	34·7	13·4	41·3	+ 1·8	39·1	36·4	4·9	11·1	0·2	83	84·7	30·0	38·5	36·7	0·049	0·0	vP
22	New	29·950	47·2	33·2	14·0	40·3	+ 0·7	38·7	36·7	3·6	7·4	0·3	87	74·4	29·2	39·8	37·7	0·000	1·0	sP
23	...	29·961	51·0	45·2	5·8	47·0	+ 7·3	44·9	42·6	4·4	7·1	1·8	85	74·3	39·9	40·7	38·1	0·000	9·8	wP : mP
24	Apogee	29·906	49·3	43·7	5·6	46·4	+ 6·6	43·7	40·6	5·8	7·6	4·8	81	59·5	42·0	41·8	39·1	0·000	7·0	wP : mP : sP
25	In Equator	29·964	53·0	36·0	17·0	47·2	+ 7·3	42·8	37·9	9·3	17·8	2·1	71	96·2	29·0	43·0	40·7	0·000	5·2	mP : vP
26	...	30·350	53·1	28·1	25·0	39·5	− 0·5	36·1	31·6	7·9	16·2	0·4	74	104·0	23·1	43·8	41·7	0·000	3·0	ssP
27	...	30·443	51·2	28·8	22·4	38·0	− 2·1	36·4	34·2	3·8	12·2	0·0	86	104·8	23·8	43·8	41·6	0·000	0·0	ssP
28	...	30·382	52·7	26·7	26·0	37·5	− 2·7	35·2	32·0	5·5	16·6	0·0	81	109·0	21·1	43·8	41·5	0·000	0·0	ssP
Means	...	30·145	45·4	32·5	12·9	38·9	− 0·8	37·0	34·1	4·8	9·2	1·5	83·2	74·2	28·2	41·7	39·7	Sum 0·528	2·2	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9 and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16. and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 30in·145, being 0in·313 *higher* than the average for the 20 years, 1854-1873.

TEMPERATURE OF THE AIR.

The highest in the month was 54°·9 on February 5; the lowest in the month was 19°·7 on February 17; and the range was 35°·2.
The mean of all the highest daily readings in the month was 45°·4, being 0°·1 *lower* than the average for the 46 years, 1841-1886.
The mean of all the lowest daily readings in the month was 32°·5, being 2°·0 *lower* than the average for the 46 years, 1841-1886.
The mean of the daily ranges was 12°·9, being 1°·9 *greater* than the average for the 46 years, 1841-1886.
The mean for the month was 38°·9, being 0°·8 *lower* than the average for the 20 years, 1849-1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. OSLER'S. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	ROBINSON'S. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Feb. 1	0·0	9·1	SSW	N : NW	6·7	0·0	0·84	431	p.-cl : 10, oc.-r	10, fq.-r : p.-cl : 0,ho.-fr,m
2	3·7	9·2	SW : S	SSW : WSW	11·9	0·0	1·05	406	p.-cl, ho.-fr : 8, li.-cl	9, cu.-s, li.-cl, w : v, cu.-s, li.-cl, hy-shs, hl, w
3	0·0	9·2	SW	SW	9·2	0·0	2·22	647	p.-cl : 10, w	10, w : 10, slt.-r, w
4	0·0	9·3	SW	SSW	5·3	0·0	0·59	400	10 : 10	10, slt.-r : th.-cl
5	3·7	9·3	SSW : SW	SW : N	1·5	0·0	0·04	262	p.-cl, li.-cl : 6, li.-cl	9, th.-cl : v, lu.-ha : v, lu.-ha
6	7·5	9·4	N : NE	ENE : ESE	1·0	0·0	0·01	186	v, ho.-fr : 0, m	0 : 0 : v, ho.-fr
7	0·6	9·4	N : NE	ENE : E	2·5	0·0	0·06	193	p.-cl : 10, f : 10, f	8,li.-cl,ci.-cu,slt.-f : 0, ho.-fr
8	6·1	9·5	E : ESE	E : ENE	3·3	0·0	0·10	238	0, ho.-fr : 0, ho.-fr	p.-cl,cu,cu.-s : v : 10
9	1·4	9·6	ENE	ENE	3·4	0·0	0·34	359	10 : 10	p.-cl, cu.-s, li.-cl : 10
10	6·7	9·6	NE : ENE	NE : ENE	7·6	0·0	0·70	444	10 : v, cu.-s	v, cu.-s, li.-cl : 10
11	0·0	9·7	NE	NE : ENE : ESE	7·3	0·0	0·64	421	10 : 10	10, slt.-r : 10
12	6·6	9·8	NE	NE	3·4	0·0	0·35	396	p.-cl : p.-cl, cu.-s	1, li.-cl : 0 : v
13	2·0	9·8	NE	NE	11·0	0·0	0·82	489	10 : 10 : 9, ci.-cu, cu.-s	p.-cl : v, li.-cl
14	0·1	9·9	NNE : NE	ENE	2·1	0·0	0·09	303	10 : 10	p.-cl : v : 10
15	0·0	9·9	NE : ENE	ENE : NE	2·1	0·0	0·07	292	10 : 10	10 : p.-cl : 1,li.-cl,m
16	7·0	10·0	NE	ENE : E	0·0	0·0	0·00	157	0, ho.-fr : 0, h, ho.-fr	1, li.-cl : 0 : 0, ho.-fr
17	2·0	10·1	Calm : Variable	ESE : S : SSW	0·0	0·0	0·00	123	ho.-fr : p.-cl.,ho.-fr.,tk.-f	3, li.-cl : 0, slt.-f : 0, ho.-fr
18	0·0	10·1	SW : SSW	WSW : N	2·6	0·0	0·04	236	v, ho.-fr : 10, r	10, slt.-r,glm,slt.-f : 10, slt.-r, slt.-f
19	0·0	10·2	N : NNE	NNE	2·3	0·0	0·08	266	10 : 10	10 : 10
20	0·1	10·3	WSW	WSW : SSW	0·0	0·0	0·00	171	10 : 10, slt.-f	10 : 10
21	3·8	10·3	SW : W : N	N : SW	0·3	0·0	0·00	174	10, fq.-shs : p.-cl, slt.-r, h	2,li.-cl,cu.-s,h : p.-cl, slt.-f : 2,li.-cl,slt.-f
22	1·0	10·4	SW	SW	2·4	0·0	0·05	284	p.-cl : 10, f	10 : p.-cl : 10
23	0·3	10·5	SW	SW	6·8	0·0	0·98	535	10 : 10, w : 10, w	10 : 10, oc.-slt.-r
24	0·0	10·5	SSW	SSW	4·7	0·0	0·63	514	10 : 10	10 : p.-cl : v
25	4·9	10·6	SW : WNW	NW : NNW	6·8	0·0	0·73	452	10 : 10 : 5, cu	3,ci.-cu,cu.-s,li.-cl : 0, m, h, d
26	8·6	10·7	SW : SE	SSW : SE	0·0	0·0	0·00	151	0 : 0, ho.-fr, slt.-f	0 : 0
27	8·3	10·7	SE : E	ESE : ENE	0·4	0·0	0·01	173	0 : 0, f	0 : 0, d
28	7·4	10·8	ENE : SE	ESE : SE	0·0	0·0	0·00	111	0, tk.-f, ho.-fr : 1, li.-cl, slt.-f	0 : 0, slt.-f
Means	2·9	9·9	...	...	...	...	0·37	315		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 37°·0, being 0°·9 *lower* than
The mean *Temperature of the Dew Point* for the month was 34°·1, being 1°·3 *lower* than
The mean *Degree of Humidity* for the month was 83·2, being 1·6 *less* than
The mean *Elastic Force of Vapour* for the month was $0^{in}\cdot196$, being $0^{in}\cdot011$ *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was $2^{grs}\cdot3$, being $0^{gr}\cdot1$ *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 560 grains, being 6 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·2.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·29. The maximum daily amount of *Sunshine* was 8·6 hours on February 26.

The highest reading of the *Solar Radiation Thermometer* was 109°·0 on February 28; and the lowest reading of the *Terrestrial Radiation Thermometer* was 13°·7 on February 17.

The mean daily distribution of *Ozone* for the 12 hours ending 9^h. was 1·5; for the 6 hours ending 15^h. was 0·4; and for the 6 hours ending 21^h. was 0·3.

The *Proportions of Wind* referred to the cardinal points were N. 6, E. 9, S. 7, and W. 6.

The *Greatest Pressure of the Wind* in the month was 11·9 lbs. on the square foot on February 2. The mean daily *Horizontal Movement of the Air* for the month was 315 miles; the greatest daily value was 647 miles on February 3; and the least daily value was 111 miles on February 28.

Rain fell on 4 days in the month amounting to $0^{in}\cdot528$, as measured by gauge No. 6 partly sunk below the ground; being $0^{in}\cdot984$ *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	Barometer. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Temperature. Of the Air. Highest.	Temperature. Of the Air. Lowest.	Temperature. Of the Air. Daily Range.	Temperature. Of the Air. Mean of 24 Hourly Values.	Temperature. Of the Air. Excess above Average of 20 Years.	Temperature. Of Evaporation. Mean of 24 Hourly Values.	Temperature. Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Difference between the Air Temperature and Dew Point Temperature. Greatest.	Difference between the Air Temperature and Dew Point Temperature. Least.	Degree of Humidity (Saturation = 100).	Temperature. Of Radiation. Highest in Sun's Rays.	Temperature. Of Radiation. Lowest on the Grass.	Temperature. Of the Water of the Thames at Deptford. Highest.	Temperature. Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Mar. 1	...	30·399	38·8	26·9	11·9	34·0	− 6·3	33·4	32·3	1·7	4·4	0·0	93	58·9	20·4	44·0	42·5	0·000	0·0	ssP
2	...	30·428	42·9	29·7	13·2	34·5	− 5·9	33·7	32·4	2·1	6·8	0·0	92	62·8	23·0	44·2	42·2	0·000	0·0	ssP : vP, wN : wP
3	First Qr.	30·381	45·0	28·4	16·6	35·6	− 4·9	34·8	33·6	2·0	6·6	0·0	93	57·9	21·3	43·6	41·6	0·000	0·0	ssP
4	...	30·273	38·6	29·1	9·5	33·6	− 6·9	33·6	33·6	0·0	1·7	0·0	100	54·3	25·0	42·8	41·5	0·000	2·2	vP, wN : ssP
5	Greatest Declination N.	30·110	40·3	32·0	8·3	36·1	− 4·4	35·5	34·6	1·5	3·9	0·0	95	53·5	32·0	41·8	41·5	0·010	14·2	sP
6	...	30·011	50·1	33·5	16·6	39·3	− 1·2	37·4	34·9	4·4	12·8	0·2	85	98·6	29·7	41·0	38·7	0·000	4·8	mP : sP
7	...	30·072	43·1	34·4	8·7	38·8	− 1·8	36·2	32·7	6·1	11·0	1·9	80	61·2	30·5	41·0	37·5	0·000	2·2	mP
8	...	29·969	41·5	36·8	4·7	39·3	− 1·3	37·4	34·9	4·4	6·2	2·8	85	51·2	35·0	40·8	39·5	0·000	4·5	wP : mP
9	Full: Perigee.	29·857	41·9	35·0	6·9	38·9	− 1·8	36·0	32·1	6·8	9·9	2·9	78	47·1	33·0	40·8	38·7	0·000	0·0	vP : vP, wN
10	...	29·907	47·2	31·2	16·0	39·2	− 1·5	37·2	34·6	4·6	11·5	1·4	84	87·0	24·0	40·8	38·9	0·000	0·0	mP : sP
11	In Equator	29·799	47·1	26·7	20·4	36·0	− 4·8	34·3	31·7	4·3	12·1	0·0	85	96·0	19·0	39·6	38·9	0·000	2·0	mP : sP, wN : vP
12	...	29·707	40·6	27·3	13·3	35·3	− 5·5	33·6	31·0	4·3	9·9	0·9	84	60·6	21·0	39·0	38·7	0·277	0·0	wP, vN : vP, wN : sP
13	...	29·931	42·0	22·1	19·9	31·6	− 9·3	29·0	22·7	8·9	14·0	2·8	68	95·3	14·6	39·8	38·7	0·003	0·0	sP
14	...	29·743	39·4	22·3	17·1	30·5	−10·5	27·9	20·5	10·0	13·3	2·0	65	67·0	15·9	41·6	39·5	0·000	1·0	ssP : vP, wN : mN, vP
15	...	29·620	34·3	27·2	7·1	31·3	− 9·8	31·2	30·9	0·4	2·0	0·0	98	39·3	21·6	41·0	39·2	0·457	0·0	vP, vN : vP, vN : vP
16	Last Qr.	29·772	39·9	26·8	13·1	32·6	− 8·6	30·9	27·3	5·3	11·5	0·0	81	93·8	21·2	40·6	38·7	0·039	0·0	vP
17	Greatest Declination S.	29·922	35·3	24·9	10·4	30·7	−10·6	28·8	23·5	7·2	9·2	4·6	73	65·8	20·1	40·4	38·3	0·000	1·5	ssP : vP, wN : sP
18	...	30·045	41·1	25·8	15·3	32·5	− 8·9	30·4	26·0	6·5	13·3	1·5	75	98·1	18·0	39·8	37·9	0·000	1·5	sP
19	...	30·094	40·4	23·6	16·8	32·0	− 9·4	30·1	25·7	6·3	11·5	1·1	76	102·0	17·9	39·8	37·3	0·000	1·2	sP
20	...	29·909	39·0	28·5	10·5	32·7	− 8·8	31·3	28·4	4·3	9·0	0·0	84	95·0	23·4	39·6	36·9	0·000	7·8	sP
21	...	29·625	41·3	24·7	16·6	33·0	− 8·6	30·9	26·7	6·3	15·2	0·0	77	87·2	17·9	39·0	36·5	0·000	3·5	ssP : vP, wN : vP
22	...	29·328	53·3	34·5	18·8	43·6	+ 1·9	40·8	37·5	6·1	15·2	0·2	79	103·8	32·0	38·8	36·2	0·040	13·8	vP, wN : vP, mN
23	Apogee	29·174	52·4	39·7	12·7	46·4	+ 4·6	42·7	38·5	7·9	17·4	0·0	75	103·0	34·4	38·8	36·0	0·150	8·2	sN, wP : vP
24	New	29·417	51·1	36·1	15·0	41·6	− 0·4	39·3	36·4	5·2	12·4	1·6	83	91·3	33·0	38·6	35·7	0·096	4·7	mP : vP, vN
25	In Equator	29·462	51·7	35·5	16·2	43·4	+ 1·1	40·7	37·5	5·9	12·8	1·8	79	86·9	32·8	39·6	37·7	0·071	0·8	vP, vN : vP : vN, vP
26	...	29·881	53·3	38·9	14·4	45·6	+ 3·0	42·1	38·1	7·5	14·4	2·3	75	95·7	34·0	40·8	39·7	0·000	1·0	mP : vP
27	...	29·805	57·2	41·5	15·7	48·2	+ 5·2	44·9	41·3	6·9	16·0	1·1	77	104·0	34·0	42·2	41·7	0·107	10·2	vP, vN : wP, vN : mP
28	...	29·936	55·3	37·7	17·6	46·5	+ 3·1	42·5	38·0	8·5	16·2	3·9	73	107·0	30·3	43·0	42·7	0·000	0·8	mP : vP, wN
29	...	30·114	54·4	39·6	14·8	45·4	+ 1·6	41·9	37·8	7·6	13·8	3·3	75	106·0	33·6	43·8	43·5	0·000	0·0	mP : vP
30	...	30·113	52·7	35·1	17·6	44·4	+ 0·1	41·9	38·9	5·5	13·4	0·2	81	103·5	28·0	46·6	44·5	0·000	0·0	vP
31	...	29·850	53·5	30·2	23·3	42·2	− 2·6	40·2	37·7	4·5	11·8	0·0	85	83·8	25·5	46·2	45·0	0·103	5·0	mP : wP : sN, vP
Means	...	29·892	45·3	31·2	14·2	37·9	− 3·7	35·8	32·6	5·3	10·9	1·2	81·7	81·2	25·9	41·3	39·5	Sum 1·353	2·9	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The results for March 17 and 18 for Barometer, and for March 14 for Air and Evaporation Temperatures, are deduced from eye-observations, on account of failure of the photographic registers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·892, being 0in·170 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 57°·2 on March 27; the lowest in the month was 22°·1 on March 13; and the range was 35°·1.
The mean of all the highest daily readings in the month was 45°·3, being 4°·6 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 31°·2, being 3°·9 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 14°·2, being 0°·6 *less* than the average for the 46 years, 1841–1886.
The mean for the month was 37°·9, being 3°·7 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Mar. 1	0·7	10·8	WSW	WSW : W	0·0	0·0	0·00	175	o, ho.-fr : tk.-f : 10, f	v, slt.-f : 10, f
2	0·7	10·9	WSW	W : Calm	0·0	0·0	0·00	119	10, tk.-f : 10, tk.-f	v, li.-cl, h : o, h : o, slt.-f, h
3	0·0	11·0	WSW	WSW : Calm	0·0	0·0	0·00	122	o, tk.-f, fr : v, tk.-f : 10, th.-cl	7, th.-cl, h : o, f : o, tk.-f, ho.-fr
4	0·0	11·1	Calm : ESE : E	E : ESE	0·0	0·0	0·00	114	tk.-f : 10, tk.-f	10, f : 10, f
5	0·0	11·1	E	ENE : E	1·6	0·0	0·04	270	10, slt.-f, m.-r : 10	10 : 10
6	3·3	11·2	ENE	ESE : E : ENE	2·7	0·0	0·05	286	10 : 10	p.-cl, so.-ha : o : v, li.-sc, cu.-s
7	0·0	11·2	ENE : NE	ENE : E	4·6	0·0	0·16	400	10 : 10	10 : 10
8	0·0	11·3	E : ENE	E : ESE	4·0	0·0	0·07	225	10 : 10	10 : 10
9	0·0	11·4	Calm : SW : W	NW : N	0·8	0·0	0·03	179	10 : 10, slt.-f, glm	10, glm : 10
10	1·0	11·4	N : SW : NE	ENE : E : ESE	2·3	0·0	0·08	151	10 : p.-cl, tk.-f, glm	9, ci.-cu : v : v, li.-cl
11	2·1	11·5	ESE : E	Variable	0·5	0·0	0·01	131	v, ho.-fr : p.-cl, tk.-f, ho.-fr	7, cu.-s, li.-cl, glm : p.-cl : v, cu.-s, li.-cl, m
12	2·6	11·6	SW : NE	NE	7·3	0·0	0·55	421	10, hy.-r : 10, r, sn, w	9, cu.-s, cu, li.-cl, sn, w : v, cu.-s, li.-cl, ho.-fr
13	6·4	11·6	NE : N	N	1·6	0·0	0·06	211	o, ho.-fr : o, ho.-fr : 1, li.-cl, slt.-h	1, slt.-sn : o, ho.-fr, m
14	1·2	11·7	N : WSW : NW	NW : W : WSW	1·0	0·0	0·02	173	o, ho.-fr, m : o, ho.-fr, m, h : 1, th.-cl, h, f	p.-cl, cu.-s, h : 9, slt.-f, glm
15	0·0	11·8	SW : Calm	NE	0·0	0·0	0·00	102	10, slt.-sn, glm : 10, sn : 10, f, glm, sn	10, sn : 10, sn
16	6·9	11·8	NE : ESE	E : NE	2·1	0·0	0·12	211	10, sn : 10 : p.-cl	1, li.-cl : o : o, ho.-fr
17	0·5	11·9	NNE	NE : NNE	6·4	0·0	0·80	436	o, fr : v, th.-cl, so.-ha	10, slt.-sn : v, li.-cl, slt.-m, slt.-sn, fr
18	6·3	12·0	NNE : NE	NE : ESE	3·0	0·0	0·32	273	fr : o : p.-cl, cu.-s, slt.-sn	7, cu.-s : v : o, slt.-m, ho.-fr
19	7·5	12·0	N : NE : E	E	1·0	0·0	0·03	156	o, ho.-fr : v, th.-cl, h, slt.-sn	p.-cl, cu, cu.-s, oc.-slt.-sn : v, ho.-fr
20	2·6	12·1	NE : N : E	E : NE	2·3	0·0	0·09	196	10 : 10 : 9, cu.-s	p.-cl, cu.-s : p.-cl
21	2·6	12·2	NNE : SW	SW : SE	1·2	0·0	0·00	123	p.-cl, ho.-fr : p.-cl, ho.-fr : 10, glm, f	v, li.-cl : v, li.-cl, h
22	5·1	12·2	SE : WSW	WSW : SSW	10·2	0·0	1·03	507	10, slt.-r : 10 : 9, slt.-r, w	6, ci.-cu, cu.-s, li.-cl, w : 10 : v, shs.-r
23	4·9	12·3	S : SW : W	WSW : SW	19·0	0·0	2·72	829	10, fq.-r, w : 10, g : p.-cl, g	7, ci.-cu, cu.-s, st.-w : 1, li.-cl
24	2·3	12·4	SW	SW	11·7	0·0	0·56	470	o : o : p.-cl., ci.-cu, cu.-s, slt.-r	so.-ha, shs.-r, w : 10, shs.-r, hl : o
25	2·3	12·4	WSW : W	W : WNW	9·4	0·0	1·02	572	v, shs.-r : 9, cu.-s, slt.-r, w	9, cu.-s, w : v, slt.-r
26	3·1	12·5	NW	NW : W : WSW	2·3	0·0	0·22	367	p.-cl : 9, cu.-s	8, cu, cu.-s : v, th.-cl, h, m
27	3·7	12·6	WSW	NW : W	8·4	0·0	0·97	526	p.-cl, r : 10, oc.-slt.-r	v, oc.-slt.-r, w : 3, li.-cl
28	4·1	12·6	W : WNW : NNW	NNW : NNE	6·0	0·0	0·70	442	o : p.-cl, cu.-s	9, cu.-s : v
29	7·4	12·7	NNE : NE	NE : SW	2·1	0·0	0·07	211	10 : 10 : v	o : o, h : v
30	0·2	12·8	WSW : NNE	NNE : SE	1·4	0·0	0·05	190	10 : 10	9 : v, li.-cl, d
31	0·2	12·8	SSE : SW	WSW : WNW : NNW	12·0	0·0	0·52	331	v, th.-cl, m, ho.-fr : 7, th.-cl, m, so.-ha	10 : 10 : v, shs.-r, w
Means	2·5	11·8	...	...	...	...	0·33	288		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 35°·8, being 3°·2 *lower* than
The mean *Temperature of the Dew Point* for the month was 32°·6, being 3°·4 *lower* than
The mean *Degree of Humidity* for the month was 81·7, being 0·8 *greater* than
The mean *Elastic Force of Vapour* for the month was $0^{in}\cdot185$, being $0^{in}\cdot027$ *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was $2^{grs}\cdot2$, being $0^{gr}\cdot3$ *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 557 grains, being 7 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·8.
The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·21. The maximum daily amount of *Sunshine* was 7·5 hours on March 19.
The highest reading of the *Solar Radiation Thermometer* was 107°·0 on March 28 ; and the lowest reading of the *Terrestrial Radiation Thermometer* was 14°·6 on March 13.
The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1·8 ; for the 6 hours ending 15^h was 0·5 ; and for the 6 hours ending 21^h was 0·6.
The *Proportions of Wind* referred to the cardinal points were N. 8, E. 10, S. 4, and W. 8. One day was calm.
The *Greatest Pressure of the Wind* in the month was 19·0 lbs. on the square foot on March 23. The mean daily *Horizontal Movement of the Air* for the month was 288 miles ; the greatest daily value was 829 miles on March 23 ; and the least daily value was 102 miles on March 15.
Rain fell on 10 days in the month, amounting to $1^{in}\cdot353$, as measured by gauge No. 6 partly sunk below the ground ; being $0^{in}\cdot074$ *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
	Greatest Declination N.	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
April 1	First Qr.	29·470	46·7	33·1	13·6	39·9	− 5·4	38·2	36·0	3·9	7·2	0·0	86	84·0	31·3	48·8	45·7	0·195	0·0	vP, vN : sN, vP
2	...	29·756	54·7	33·7	21·0	43·4	− 2·3	40·5	37·1	6·3	13·8	1·1	78	108·7	28·7	48·3	45·7	0·000	0·0	vP, vN : vP
3	...	29·893	54·4	35·4	19·0	44·7	− 1·4	42·7	40·4	4·3	9·8	1·0	85	82·1	30·8	47·1	45·5	0·000	1·2	mP
4	...	29·587	59·0	35·7	23·3	46·7	+ 0·3	43·3	39·5	7·2	14·6	0·2	77	109·0	32·3	46·8	45·3	0·000	8·8	mP : vP, wN
5	...	29·374	44·0	37·3	6·7	40·6	− 6·0	39·3	37·7	2·9	5·5	1·4	90	56·7	36·5	47·6	45·6	0·101	0·3	vP : vP, vN : vP
6	...	29·612	44·4	37·6	6·8	39·9	− 6·8	37·2	33·7	6·2	10·6	2·2	78	65·2	35·9	47·8	45·9	0·017	2·2	wP
7	Perigee: In Equator.	29·761	52·1	35·6	16·5	41·9	− 4·9	37·5	32·1	9·8	17·4	5·0	69	103·0	33·0	48·0	44·9	0·000	11·3	wP : mP
8	Full	29·918	52·0	32·4	19·6	41·8	− 5·0	37·2	31·6	10·2	18·4	2·1	67	109·8	29·1	48·2	44·5	0·000	5·2	mP : sP
9	...	29·995	52·3	33·9	18·4	42·0	− 4·9	38·9	35·1	6·9	16·0	1·0	77	113·3	29·2	47·6	43·7	0·000	1·8	mP
10	...	30·032	49·1	35·8	13·3	41·4	− 5·5	39·3	36·7	4·7	9·5	0·5	84	105·0	29·0	49·8	43·7	0·000	9·2	mP : sP
11	...	29·940	58·0	32·2	25·8	44·9	− 2·1	41·7	38·0	6·9	17·5	0·0	77	115·7	26·5	48·6	43·3	0·000	0·0	mP
12	...	29·840	64·9	33·5	31·4	47·1	0·0	43·2	38·8	8·3	24·5	0·0	74	119·3	28·5	46·5	42·9	0·000	0·5	vP
13	Greatest Declination S.	29·906	47·2	37·2	10·0	40·9	− 6·3	38·9	36·4	4·5	9·7	1·4	85	65·8	35·0	47·6	44·9	0·000	1·5	vP : mN, vP
14	...	30·105	47·2	31·7	15·5	38·1	− 9·3	34·4	29·4	8·7	16·1	1·5	70	104·3	26·9	46·4	45·1	0·008	0·0	sP : vP, vN : vP
15	Last Qr.	30·209	52·5	28·2	24·3	40·0	− 7·5	36·0	30·8	9·2	19·0	0·0	69	87·8	19·1	45·8	44·7	0·000	0·0	sP : vP, wN : wN, vP
16	...	30·377	51·1	31·3	19·8	41·8	− 5·8	37·5	32·2	9·6	17·4	2·5	70	119·5	23·0	47·2	44·3	0·000	0·5	mP
17	...	30·484	53·9	25·3	28·6	40·8	− 7·0	36·1	30·1	10·7	19·4	0·5	66	107·0	19·9	46·8	45·1	0·000	1·5	sP : mP
18	...	30·306	62·5	31·0	31·5	47·0	− 0·9	40·7	33·7	13·3	22·4	4·8	60	100·0	25·0	46·8	45·2	0·000	0·0	sP: wN, vP: vP
19	...	30·103	67·2	42·2	25·0	53·4	+ 5·4	44·4	35·5	17·9	29·0	10·1	51	105·4	31·0	47·4	45·3	0·000	0·0	sP: wN, vP: vP
20	Apogee	29·924	65·5	36·9	28·6	51·7	+ 3·6	45·5	39·2	12·5	21·6	4·1	62	115·6	26·7	46·8	45·7	0·000	0·0	sP : vP, wN
21	In Equator	29·703	64·1	36·9	27·2	49·3	+ 1·1	44·7	39·8	9·5	18·4	1·8	70	117·2	31·9	47·8	46·5	0·000	5·5	vP : wN, mP
22	...	29·409	63·3	43·7	19·6	50·9	+ 2·7	47·1	43·1	7·8	17·1	1·7	75	112·7	35·6	53·6	47·0	0·040	11·5	vP, wN : vP, sN
23	New	29·214	61·4	43·6	17·8	50·3	+ 2·0	46·2	41·9	8·4	19·2	1·9	74	122·3	38·5	56·8	47·6	0·000	13·0	mP : wP, wN : mP
24	...	29·252	56·4	38·8	17·6	45·8	− 2·5	43·6	41·1	4·7	15·4	1·1	84	110·6	34·9	50·8	48·6	0·602	7·5	vP, ssN
25	...	29·584	54·2	37·3	16·9	43·8	− 4·6	41·9	39·7	4·1	11·0	0·9	85	103·5	32·5	54·4	48·6	0·197	9·2	mP, vN : ssN : sP
26	...	29·712	55·3	33·4	21·9	44·0	− 4·4	40·4	36·2	7·8	18·3	2·0	73	117·0	28·8	53·8	48·8	0·170	10·0	sP : mP : sN, mP
27	...	29·716	54·4	36·1	18·3	42·3	− 6·1	39·2	35·4	6·9	16·6	2·1	77	117·8	32·1	53·8	48·6	0·122	7·5	mP : vP, vN
28	Greatest Declination N.	29·788	59·8	33·5	26·3	45·5	− 3·0	41·2	36·3	9·2	19·4	0·4	71	128·4	28·8	52·8	48·4	0·251	8·3	sP : mP, sN
29	...	29·729	49·2	37·7	11·5	42·6	− 5·9	40·8	38·7	3·9	8·4	0·2	86	77·0	31·1	53·6	49·1	0·044	1·5	wN, vP : vP
30	First Qr.	29·893	54·5	36·6	17·9	44·0	− 4·6	41·4	38·3	5·7	13·8	1·4	80	109·8	29·0	53·2	49·6	0·000	7·5	mP
Means	...	29·820	55·0	35·3	19·8	44·2	− 3·2	40·6	36·5	7·7	15·9	1·8	75·0	103·1	30·0	49·3	46·0	Sum 1·747	4·2	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The results on April 14 and 15, for Barometer, and on April 15 for Air and Evaporation Temperatures, are deduced from eye-observations, on account of failure of the photographic registers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·820, being 0in·017 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 67°·2 on April 19; the lowest in the month was 25°·3 on April 17; and the range was 41°·9.
The mean of all the highest daily readings in the month was 55°·0, being 2°·5 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 35°·3, being 3°·8 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 19°·8, being 1°·4 *greater* than the average for the 46 years, 1841–1886.
The mean for the month was 44°·2, being 3°·2 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
April 1	0·8	12·9	NW : N : NNE	NNE	17·5	0·0	3·44	612	p.-cl, st.-w : v, r, sn, w	p.-cl,shs.-r,w : 10,fq.-slt.-r,w : 10
2	3·4	13·0	N : NNW	NNE : NE : SSW	1·4	0·0	0·03	185	10 : v, th.-cl, h, m	10 : v : 10
3	4·6	13·0	SW : WSW	WNW : W : SSW	0·0	0·0	0·00	207	10, m : p.-cl, slt.-f, h	0, h, m : 1, h, slt.-f : 0, h, lu.-co
4	8·7	13·1	SW : WSW	WSW	3·0	0·0	0·26	303	0 : 3, li.-cl	2, li.-cl : 9, li.-cl
5	0·0	13·2	WSW : N	N : NNE	2·3	0·0	0·30	281	10 : 10, oc.-slt.-r	10, fq.-th.-r : 10,fq.-th.-r : 10
6	0·0	13·2	NNE : NE	NE	20·5	0·4	4·33	764	10 : 10, fq.-th.-r,st.-w	10, fq.-th.-r, st.-w : 10, w
7	3·0	13·3	NE	NE	11·8	0·5	3·95	719	p.-cl, w : v, li.-cl, w	8,ci.-s,th.-cl,so.-ha,w : 1, th.-cl, w
8	12·2	13·4	NE : ENE	ENE : NE	7·5	0·0	1·47	512	0 : 0	0 : 0
9	6·1	13·4	NE : NNE : ENE	ENE	6·3	0·0	0·73	396	0 : p.-cl, cu.-s	4, cu.-s : 2 : 10
10	3·7	13·5	ENE	ENE : E	3·3	0·0	0·10	322	10 : 10, slt.-r	10 : 1, h : v
11	9·4	13·6	NE : ENE	E : NE	2·8	0·0	0·21	300	p.-cl, ho.-fr : v, cu.-s	0 : 0
12	9·0	13·6	NNE : NE	ESE : E : NNE	0·9	0·0	0·00	229	v,th.-cl,m,h,ho.-fr : p.-cl, m	0 : 0 : p.-cl
13	0·0	13·7	NNE : NE	NE : NNE	4·5	0·0	0·27	411	10 : 10	10 : 10, slt.-r : 10
14	6·5	13·7	N : NNE	NNE : N	8·0	0·0	0·97	422	10, slt.-sn : p.-cl, slt.-sn	8, cu.-s, sn : v, th.-cl
15	1·3	13·8	N : WSW : NNW	NW : N	2·0	0·0	0·07	214	p.-cl : 9, f	7, cu.-s : 10 : v
16	10·6	13·9	N : ENE	ESE	1·9	0·0	0·14	242	p.-cl : v, ci.-cu, cu	5, cu, cu.-s : 0
17	10·9	13·9	NE	NE : SE : SW	0·0	0·0	0·00	93	0, ho.-fr : 0 : v, th.-cl, h	0, h : 0 : 2,th.-cl,h,slt.-m
18	4·3	14·0	SSW : NW	NW	0·2	0·0	0·00	162	0, ho.-fr : 0, h, f	1, li.-cl, h : 0, f, h
19	2·3	14·1	W : WSW : NW	NW : NNW	1·7	0·0	0·10	241	p.-cl, m : 10 : v,th.-cl,m	p.-cl, cu.-s, li.-cl, h : 0, slt.-m
20	9·9	14·1	WSW : W	W : WNW	2·4	0·0	0·15	291	0, d : 0, m, h	0 : 0
21	5·8	14·2	SW	SW	1·3	0·0	0·08	244	0, d : p.-cl,ci.-s,s : 10, cu.-s	5,ci.-cu,li.-cl : th.-cl,so.-ha : v, th.-cl
22	5·7	14·2	SW	SW : SSW	5·1	0·0	0·47	418	10, sh.-r : p.-cl,cu,cu.-s,slt.-r	9, cu, cu.-s, so.-ha : 10, r
23	8·7	14·3	SSW : SW	SW : S	7·8	0·0	0·98	450	10 : 10 : 8, cu.-s	5,ci.-cu,cu,cu.-s,w : v, li.-cl
24	3·9	14·4	SSW : WSW	SW : SSW	8·7	0·0	0·45	373	10, hy.-r : 10, r : p.-cl, hy.-r	p.-cl, cu.-s, fq.-r : v,cu.-s,fq.-hy.-shs
25	3·9	14·4	SW : SSW	SW : SSW : WSW	7·5	0·0	0·31	320	p.-cl, hy.-sh : 10, li.-cl : 10,cu.-s,fq.-r	10, fq.-r : v, li.-cl
26	8·3	14·5	WSW : SW	SSW : WSW	10·5	0·0	1·12	469	0 : 7, cu, cu.-s, w	9, cu, cu.-s, w : v, hy.-sh, hl
27	7·3	14·5	WSW	SW	7·5	0·0	0·54	424	p.-cl : 6, cu.-s	7, fq.-r, hl, w : v, li.-cl
28	8·9	14·6	SW	S : SSE : E : NE	0·5	0·0	0·01	198	0, ho.-fr : 4, cu.-s	7,cu.-s,li.-cl,so.-ha : 10, r
29	0·0	14·7	N : NNE	N : NNE : NE	1·1	0·0	0·04	235	10, r : 10 : 10	10 : v
30	2·1	14·7	NE	ENE : E : ESE	2·4	0·0	0·08	255	v : 10 : 10	9,cu.-s,slt.-r : p.-cl : 1
Means	5·4	13·8	......	......	...	...	0·69	343		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 40°·6, being 3°·3 *lower* than
The mean *Temperature of the Dew Point* for the month was 36°·5, being 3°·8 *lower* than
The mean *Degree of Humidity* for the month was 75·0, being 1·9 *less* than
The mean *Elastic Force of Vapour* for the month was 0^{in}·216, being 0^{in}·034 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2^{grs}·5, being 0^{gr}·4 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 548 grains, being 4 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·8.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·39. The maximum daily amount of *Sunshine* was 12·2 hours on April 8.

The highest reading of the *Solar Radiation Thermometer* was 128°·4 on April 28; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19°·1 on April 15.

The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 2·4; for the 6 hours ending 15^h was 1·0; and for the 6 hours ending 21^h was 0·8.

The *Proportions of Wind* referred to the cardinal points were N. 10, E. 7, S. 6, and W. 7.

The *Greatest Pressure of the Wind* in the month was 20·5 lbs. on the square foot on April 6. The mean daily *Horizontal Movement of the Air* for the month was 343 miles; the greatest daily value was 764 miles on April 6; and the least daily value was 93 miles on April 17.

Rain fell on 11 days in the month, amounting to 1^{in}·747, as measured by gauge No. 6 partly sunk below the ground; being 0^{in}·092 *greater* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	TEMPERATURE. Of the Air. Lowest.	TEMPERATURE. Of the Air. Daily Range.	TEMPERATURE. Of the Air. Mean of 24 Hourly Values.	TEMPERATURE. Of the Air. Excess above Average of 20 Years.	TEMPERATURE. Of Evaporation. Mean of 24 Hourly Values.	TEMPERATURE. Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Difference between the Air Temperature and Dew Point Temperature. Greatest.	Difference between the Air Temperature and Dew Point Temperature. Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	TEMPERATURE. Of Radiation. Lowest on the Grass.	TEMPERATURE. Of the Water of the Thames at Deptford. Highest.	TEMPERATURE. Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
May 1	...	29·877	53·3	32·3	21·0	43·4	− 5·3	39·8	35·5	7·9	14·6	0·0	74	114·7	23·3	52·8	49·2	0·000	9·0	mP
2	...	29·472	46·7	40·3	6·4	43·6	− 5·3	43·2	42·7	0·9	3·1	0·0	97	59·6	36·4	53·8	48·6	0·152	4·5	mP, wN: wP
3	...	29·381	61·9	41·9	20·0	51·2	+ 2·1	49·6	48·0	3·2	8·6	0·0	89	116·3	41·9	51·6	49·0	0·187	0·0	wP : vP, vN
4	In Equator	29·411	55·3	44·0	11·3	48·7	− 0·7	46·1	43·3	5·4	12·2	0·4	82	106·9	41·0	50·4	49·4	0·013	5·0	vP, wN : mP, ssN
5	Perigee	29·568	56·8	44·0	12·8	49·9	+ 0·2	47·0	43·9	6·0	12·0	1·5	81	90·4	37·0	52·8	48·6	0·000	0·0	mP : wN, wP : mP
6	...	29·700	50·9	41·8	9·1	47·3	− 2·7	46·2	45·0	2·3	3·8	1·5	92	58·7	35·0	51·8	49·6	0·168	0·0	mP : vN : mP
7	Full	30·000	60·4	42·7	17·7	50·1	− 0·2	46·7	43·1	7·0	15·0	1·7	78	115·4	38·9	54·8	49·9	0·025	2·0	vP : wP, wN
8	...	30·213	69·3	42·6	26·7	56·4	+ 5·8	50·8	45·6	10·8	23·6	1·3	67	107·6	35·2	56·0	50·6	0·000	0·0	vP
9	...	30·192	69·4	46·9	22·5	56·3	+ 5·5	52·0	48·0	8·3	16·0	1·3	73	115·4	39·7	54·4	51·0	0·000	1·0	vP : wN, vP
10	...	30·180	66·3	42·4	23·9	55·7	+ 4·6	48·5	41·7	14·0	17·8	7·6	60	116·2	31·0	56·0	51·6	0·000	2·0	sP, wN : wP, wN
11	Greatest Declination S.	30·055	58·0	45·7	12·3	52·0	+ 0·6	47·9	43·7	8·3	15·8	1·8	73	92·2	36·7	56·8	50·8	0·038	2·0	sP, wN : vP, mN
12	...	29·934	56·6	43·7	12·9	52·4	+ 0·6	49·8	47·2	5·2	10·6	2·0	83	81·3	39·5	58·6	53·2	0·064	0·0	mP, wN : mP, vN
13	...	30·027	52·6	40·6	12·0	45·4	− 6·7	41·9	37·8	7·6	15·5	1·1	75	109·0	36·0	59·6	53·6	0·073	3·0	sP : sP, wN
14	Last Qr.	30·158	59·2	38·2	21·0	47·6	− 4·9	43·8	39·6	8·0	14·8	1·8	74	126·1	33·1	60·4	52·1	0·000	0·0	mP
15	...	30·128	62·6	35·7	26·9	49·7	− 3·2	44·4	38·7	11·0	20·3	1·6	66	133·0	28·3	61·1	51·9	0·000	0·0	sP
16	...	29·971	61·7	44·0	17·7	51·5	− 1·8	47·7	43·8	7·7	13·9	3·3	75	124·7	38·1	55·6	52·4	0·000	2·0	mP
17	Apogee	29·819	57·7	45·3	12·4	49·4	− 4·3	46·9	44·2	5·2	9·3	2·1	83	93·5	39·3	59·1	53·0	0·000	0·0	mP, wN : wN, vP
18	In Equator	29·714	57·3	43·0	14·3	51·8	− 2·3	48·4	45·0	6·8	15·4	1·0	78	86·7	32·5	59·4	54·0	0·087	0·0	vP, wN
19	...	29·631	61·6	42·9	18·7	50·8	− 3·6	48·2	45·5	5·3	11·4	2·3	83	106·0	32·3	61·6	53·6	0·084	7·2	vP, wN : mP, ssN
20	...	29·306	55·1	39·0	16·1	47·6	− 7·1	43·8	39·6	8·0	14·8	1·6	75	119·0	31·5	59·8	53·4	0·271	8·8	vN, wP : vP, vN
21	...	29·547	57·1	35·5	21·6	43·1	−11·9	40·6	37·6	5·5	14·6	0·5	81	131·2	29·2	57·0	52·6	0·138	0·0	sP : sP, ssN
22	New	29·636	54·4	35·9	18·5	45·5	− 9·8	42·0	38·0	7·5	15·8	0·5	75	100·8	29·1	58·8	52·6	0·068	0·0	sP : vP, vN
23	...	29·867	59·3	38·5	20·8	49·3	− 6·2	44·8	40·0	9·3	16·7	1·6	70	121·9	30·2	54·4	51·8	0·000	1·0	mP : wP, wN : mP
24	...	30·027	60·7	44·4	16·3	51·7	− 4·0	48·8	45·9	5·8	11·6	2·1	83	87·3	38·3	56·4	51·6	0·008	0·0	mP : mP, wN
25	Greatest Declination N.	30·019	58·4	44·4	14·0	49·8	− 6·1	46·5	43·0	6·8	12·7	2·4	78	103·0	42·6	54·8	52·4	0·000	1·3	mP
26	...	29·962	65·4	44·7	20·7	54·0	− 2·1	49·0	44·1	9·9	20·7	2·1	69	123·0	41·5	57·3	52·2	0·047	0·7	vN, mP : mP
27	...	29·788	53·1	44·7	8·4	49·0	− 7·3	47·9	46·7	2·3	6·5	0·6	92	74·1	43·2	54·8	52·6	0·211	0·0	vP, vN : mP
28	...	29·736	58·1	47·0	11·1	51·7	− 4·8	50·2	48·7	3·0	6·8	0·8	90	99·5	47·0	58·0	52·8	0·067	1·2	wP : wN, vP
29	...	29·756	60·4	44·4	16·0	49·6	− 7·2	47·6	45·5	4·1	9·7	0·0	86	112·3	44·3	57·4	52·9	0·006	9·8	wP
30	First Qr.	29·808	62·1	46·6	15·5	52·6	− 4·4	51·0	49·4	3·2	6·7	1·0	89	103·6	46·0	55·2	53·0	0·020	0·0	wP : mP
31	...	29·874	67·5	48·2	19·3	56·8	− 0·5	52·4	48·4	8·4	19·3	1·3	73	128·7	44·0	55·8	53·2	0·000	8·0	mP
Means	...	29·831	59·0	42·3	16·7	50·1	− 3·0	46·9	43·5	6·6	13·2	1·4	78·8	105·1	36·8	56·3	51·7	Sum 1·727	2·2	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The results on May 1 and 2 for Air and Evaporation Temperatures are deduced from eye-observations on account of failure of the photographic registers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·831, being 0in·054 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 69°·4 on May 9; the lowest in the month was 32°·3 on May 1; and the range was 37°·1.
The mean of all the highest daily readings in the month was 59°·0, being 5°·2 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 42°·3, being 1°·4 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 16°·7, being 3°·8 *less* than the average for the 46 years, 1841–1886.
The mean for the month was 50°·1, being 3°·0 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
May 1	8·1	14·8	NE : E	E : ENE	6·7	0·0	0·37	349	0, ho.-fr : 5, ci.-cu, cu	v, ci.-cu, li.-cl : v, th.-cl
2	0·0	14·8	ENE	E : SE	2·2	0·0	0·19	284	10, r : 10, fq.-r	10, oc.-th.-r : 10
3	1·5	14·9	SE : E	NE : N	1·0	0·0	0·01	106	10 : 10, r	v, hy.-sh, t : v, li.-cl
4	1·4	14·9	NNE : SW	SSW	2·1	0·0	0·16	245	10 : 10	10, slt.-r : p.-cl : 10, slt.-r
5	0·7	15·0	WSW : W : NE	NE : ESE	0·7	0·0	0·03	180	10 : 10	6, li.-cl, m : v, li.-cl, h, m
6	0·0	15·1	NE	NE : NNE	0·7	0·0	0·03	196	10 : 10 : 10, fq.-r	10, c.-r : 10 : 10
7	1·9	15·1	NNE : N	NNW : WSW	2·5	0·0	0·02	159	10 : 10 : 8, ci.-cu, li.-cl	8, ci.-cu, cu.-s, slt.-r : 10, slt.-f, sh.-r
8	8·1	15·2	WSW : NNE	NW : WSW	0·1	0·0	0·00	158	10 : v, h	p.-cl : 1, li.-cl
9	5·1	15·2	W	WNW : NNW	3·3	0·0	0·12	283	v : 10 : v, cu.-s, li.-cl	v, ci, cu.-s, li.-cl, so.-ha : v
10	11·9	15·3	NNW	NNW : N	1·8	0·0	0·10	243	0 : 0 : 1, li.-cl	4, cu.-s, h : 1
11	0·1	15·3	NW : WSW : WNW	NW : WSW	2·1	0·0	0·07	247	v : p.-cl, m : 10, slt.-r	10, slt.-r, glm : 10, fq.-th.-r
12	0·3	15·4	W : N	SE : N : ENE	3·2	0·0	0·09	209	10, hl : 10, slt.-r, glm	10, t : 10, fq.-r
13	4·8	15·4	NNE : E	N : NNE	9·4	0·0	2·14	495	10, hy.-r : p.-cl, w : 10, slt.-r, hl, w	9, cu.-s, shs.-r, hl, w : v : v, li.-cl, sh.-r
14	7·4	15·5	N : NNE	NNE	6·4	0·0	1·29	416	p.-cl : 9, cu.-s	7, cu.-s : 1, ci.-s
15	12·9	15·5	NNE	NE	4·0	0·0	0·25	312	0 : 1, li.-cl	2 : 1, pr.-h : v
16	7·6	15·6	NE	NNE : NE	3·9	0·0	0·29	360	p.-cl, cu.-s : 8, ci.-cu, cu.-s	8, cu.-s : 10
17	0·4	15·6	NE : Calm	NW : SW	0·4	0·0	0·00	147	10 : 10, glm	9, ci.-cu, cu.-s : 6, cu.-s, li.-cl
18	0·1	15·7	WSW : W : N	NNW	1·4	0·0	0·06	229	p.-cl : 10, oc.-slt.-r, glm	10, fq.-r : v : v, li.-cl
19	1·0	15·7	WSW	SW	8·7	0·0	0·60	427	v : p.-cl : 10, shs.-r	10, r : 10, fq.-slt.-r : 10, oc.-slt.-r, w
20	5·4	15·8	WSW : W	W : NW	14·6	0·0	3·85	715	10, fq.-r, st.-w : 10, cu.-s, slt.-r, st.-w	v, hy.-r, hl, w : v, cu.-s
21	5·9	15·8	WSW	WSW : W	9·4	0·0	0·47	359	v : p.-cl, cu.-s, li.-cl, r, hl	10, fq.-r : v, oc.-r, m
22	0·8	15·9	WNW : NNW	NNW : N	7·3	0·0	0·57	337	p.-cl : 10	p.-cl, sh.-r : 10, oc.-r
23	5·1	15·9	NNW : N	N : NW	1·9	0·0	0·18	231	10 : 9, cu.-s	8, ci.-cu, cu, cu.-s : 4, th.-cl, h
24	0·0	16·0	W : NNE	NNE : N	1·3	0·0	0·11	235	v : 9, cu.-s, th.-cl	10 : 10, fq.-th.-r
25	0·7	16·0	NNE	NNE	3·0	0·0	0·41	348	10 : 10	9, cu.-s : 9 : 9, r
26	10·2	16·0	NNE : NE	E : NE	9·2	0·0	1·12	486	10, r : p.-cl, cu.-s, w	4, cu, cu.-s, w : v, th.-cl, h
27	0·0	16·1	NNE	NE : E	3·1	0·0	0·30	304	v, r : 10, r : 10, fq.-r	10, fq.-th.-r : 10, fq.-th.-r
28	0·0	16·1	NE : N	NNE	0·6	0·0	0·00	137	10 : 10, glm	10 : 10 : 10, fq.-r
29	0·8	16·1	NE : ENE	ENE : ESE : E	1·0	0·0	0·02	249	10, slt.-r : 10 : 10	p.-cl : 10, slt.-r : 10, slt.-r
30	1·6	16·2	NE	NNE : E : NE	0·0	0·0	0·00	182	10 : 10 : 10, sh.-r	p.-cl, slt.-r : p.-cl : 10
31	7·3	16·2	NE : ENE : E	E : ENE	5·3	0·0	0·40	318	p.-cl : p.-cl, cu.-s	3, th.-cl : p.-cl, cu.-s
Means	3·6	15·6	...	...	...	...	0·43	289		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 46°·9, being 2°·0 *lower* than
The mean *Temperature of the Dew Point* for the month was 43°·5, being 1°·6 *lower* than
The mean *Degree of Humidity* for the month was 78·8, being 3·4 *greater* than
The mean *Elastic Force of Vapour* for the month was 0in·283, being 0in·018 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3grs·3, being 0gr·1 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 542 grains, being 4 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·8.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·23. The maximum daily amount of *Sunshine* was 12·9 hours on May 15.

The highest reading of the *Solar Radiation Thermometer* was 133°·0 on May 15; and the lowest reading of the *Terrestrial Radiation Thermometer* was 23°·3 on May 1.

The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 0·7; for the 6 hours ending 15h. was 0·9; and for the 6 hours ending 21h. was 0·6.

The *Proportions of Wind* referred to the cardinal points were N. 14, E. 8, S. 2, and W. 7.

The *Greatest Pressure of the Wind* in the month was 14·6 lbs. on the square foot on May 20. The mean daily *Horizontal Movement of the Air* for the month was 289 miles; the greatest daily value was 715 miles on May 20; and the least daily value was 106 miles on May 3.

Rain fell on 19 days in the month, amounting to 1in·727, as measured by gauge No. 6 partly sunk below the ground; being 0in·298 *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
June 1	In Equator	29.715	65.6	48.2	17.4	55.8	− 1.7	53.2	50.8	5.0	8.5	1.9	84	122.6	44.0	56.0	54.9	0.003	0.0	wP, wN : wP
2	Perigee	29.518	59.6	47.5	12.1	52.5	− 5.2	50.9	49.3	3.2	6.5	0.0	89	74.8	42.5	59.8	54.7	0.546	0.0	wP : wN : —
3	...	29.486	55.4	50.8	4.6	53.2	− 4.7	52.7	52.2	1.0	2.4	0.0	96	65.6	50.0	60.0	55.0	0.605	0.0	— : wN, vP
4	...	29.769	71.2	46.8	24.4	57.9	− 0.2	55.0	52.4	5.5	12.2	0.6	82	132.3	43.3	60.2	54.7	0.000	1.3	mP
5	Full	29.919	71.3	50.5	20.8	59.6	+ 1.4	55.3	51.5	8.1	17.1	1.2	75	125.0	46.5	...	...	0.000	1.7	mP
6	...	29.946	71.7	51.5	20.2	58.5	+ 0.2	55.8	53.4	5.1	11.9	0.2	83	132.6	45.0	...	...	0.000	1.0	mP
7	Greatest Declination S.	29.863	68.5	51.8	16.7	59.6	+ 1.2	56.5	53.8	5.8	11.3	2.8	82	114.8	45.4	...	...	0.003	8.2	mP
8	...	29.874	77.0	54.8	22.2	62.7	+ 4.2	59.6	57.0	5.7	14.0	0.4	82	139.7	50.7	...	...	0.072	0.8	mP
9	...	29.995	73.6	48.7	24.9	60.9	+ 2.4	55.4	50.6	10.3	22.3	0.8	68	131.8	43.9	...	...	0.000	3.0	mP : vP, wN
10	...	30.205	70.7	46.3	24.4	58.6	0.0	53.1	48.2	10.4	20.3	2.6	68	133.7	40.0	...	...	0.000	5.0	mP
11	...	30.196	76.0	43.4	32.6	61.2	+ 2.5	54.5	48.7	12.5	23.0	0.0	64	137.5	37.9	...	...	0.000	0.8	mP : wP, wN : mP
12	...	29.996	79.0	50.0	29.0	65.2	+ 6.4	58.4	52.9	12.3	22.9	2.3	64	133.9	44.0	...	...	0.000	8.2	sP : wP
13	Last Qr.	29.964	82.4	50.1	32.3	66.6	+ 7.7	58.9	52.7	13.9	27.4	0.6	62	139.5	43.4	...	...	0.000	3.0	sP : vP
14	Apogee: In Equator.	30.044	80.4	52.5	27.9	65.9	+ 6.8	58.4	52.3	13.6	25.7	1.5	61	122.2	43.0	...	...	0.000	1.0	sP : wN : mP
15	...	30.112	83.7	50.5	33.2	68.6	+ 9.3	60.0	53.3	15.3	28.7	1.6	58	140.6	42.7	...	...	0.000	0.0	mP : wN, wP
16	...	30.160	77.7	53.6	24.1	64.8	+ 5.3	59.2	54.5	10.3	18.4	2.7	70	136.2	44.8	...	...	0.000	0.0	mP
17	...	30.164	74.3	52.4	21.9	63.5	+ 3.8	57.4	52.3	11.2	21.6	1.6	67	139.1	46.7	...	...	0.000	6.0	mP
18	...	30.116	78.0	47.9	30.1	64.1	+ 4.2	57.3	51.7	12.4	23.8	2.7	64	144.8	40.0	71.8	66.3	0.000	6.0	mP
19	...	30.058	82.4	49.8	32.6	66.3	+ 6.1	58.7	52.5	13.8	26.0	5.2	62	157.2	40.6	70.0	66.1	0.000	1.5	mP
20	...	30.145	73.2	46.5	26.7	60.6	+ 0.1	54.5	49.2	11.4	22.3	3.8	66	139.0	38.0	68.2	66.3	0.000	6.5	mP
21	New	30.155	73.3	44.0	29.3	60.3	− 0.5	49.3	39.7	20.6	28.5	0.2	46	141.3	35.6	68.5	66.1	0.000	0.0	sP : vN : sP
22	Greatest Declination N.	30.104	74.5	48.5	26.0	60.0	− 1.1	52.8	46.4	13.6	23.8	4.2	61	144.5	39.3	67.6	66.4	0.000	4.0	mP : vP
23	...	30.064	79.7	51.6	28.1	61.5	+ 0.1	55.9	51.1	10.4	26.5	3.2	69	147.4	42.1	66.2	66.1	0.000	0.5	mP
24	...	30.075	66.5	51.7	14.8	57.7	− 4.0	54.2	51.0	6.7	12.2	4.4	79	122.3	51.7	66.0	65.7	0.000	1.8	mP
25	...	30.051	70.5	51.5	19.0	58.3	− 3.6	55.0	52.0	6.3	14.8	1.9	79	124.3	51.5	65.2	64.9	0.000	2.3	mP
26	...	30.067	61.9	47.2	14.7	55.7	− 6.3	52.5	49.5	6.2	9.9	1.9	81	83.2	47.2	64.8	64.7	0.000	4.5	mP
27	...	30.009	83.5	42.5	41.0	63.6	+ 1.6	56.8	51.1	12.5	25.7	1.5	64	139.3	33.2	64.3	64.1	0.000	0.0	sP : wP, wN : mP
28	Perigee: First Qr. In Equator.	30.068	74.1	53.4	20.7	63.7	+ 1.8	57.2	51.8	11.9	20.6	4.2	65	136.0	46.7	64.6	63.3	0.000	0.0	mP
29	...	30.232	76.8	55.5	21.3	64.2	+ 2.4	58.4	53.6	10.6	18.0	3.8	68	146.5	50.0	65.0	63.8	0.000	3.0	mP
30	...	30.251	68.8	52.2	16.6	60.4	− 1.3	56.1	52.4	8.0	14.4	2.4	75	116.8	42.9	65.6	63.5	0.000	0.0	mP
Means	...	30.011	73.4	49.7	23.7	61.0	+ 1.3	55.8	51.3	9.8	18.7	2.0	71.1	128.8	43.8	...	...	Sum 1.229	2.3	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The results on June 11, 12, and 21 for Air and Evaporation Temperatures are deduced from eye-observations on account of failure of the photographic registers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers. The Thames thermometers were out of order from June 5 to 17.

The mean reading of the *Barometer* for the month was 30in·011, being 0in·183 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 83°·7 on June 15; the lowest in the month was 42°·5 on June 27; and the range was 41°·2.
The mean of all the highest daily readings in the month was 73°·4 being 2°·6 *higher* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 49°·7, being 0°·1 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 23°·7, being 2°·7 *greater* than the average for the 46 years, 1841–1886.
The mean for the month was 61°·0, being 1°·3 *higher* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
June 1	1·2	16·2	NE : E	ENE	0·5	0·0	0·01	228	10 : 10	9, ci.-cu, cu.-s : v, ci.-cu
2	0·0	16·3	NE : NNE	NNE	2·6	0·0	0·15	313	v : 10 : 10	10 : 10, fq.-hy.-r
3	0·0	16·3	NNE : N : NNW	NW : W	1·0	0·0	0·03	240	10 : 10 : 10, r	10, c.-r, m : 10, c.-r, m : 10, oc.-slt.-r
4	6·7	16·3	WSW	WSW	0·6	0·0	0·04	254	p.-cl : p.-cl, m	9, cu.-s, li.-cl : v, ci.-cu, cu.-s
5	7·8	16·4	WSW : W	WSW : W : SW	1·0	0·0	0·06	228	p.-cl : p.-cl, cu.-s	p.-cl, cu.-s : v, cu.-s, li.-cl
6	0·7	16·4	WSW	WSW : SW	1·2	0·0	0·03	210	v : 10	9, ci.-cu, cu.-s: p.-cl : v,ci.-cu,li.-cl
7	3·6	16·4	SSW : SW	SW	5·2	0·0	0·60	340	p.-cl,lu.-ha,li.-sh: 9, cu.-s, th.-cl, li.-sh	9, cu.-s : 4 : v, cu.-s, li.-cl
8	6·0	16·4	WSW	WSW	5·8	0·0	0·41	334	10 : 10 : p.-cl	7,cu.-s,th.-cl,sh.-r: 0
9	11·7	16·4	WSW : W	W : WNW	7·3	0·0	0·79	387	0 : 0	2, cu, li.-cl : p.-cl : v, cu, th.-cl
10	13·0	16·5	NNW : N : NNE	NE : ESE	1·8	0·0	0·10	215	v : 6, cu.-s, li.-cl	6, ci.-cu, cu.-s : 0
11	11·7	16·5	WSW	W : WSW	3·2	0·0	0·15	248	0 : 2, li.-cl	6, cu.-s, li.-cl : v, th.-cl
12	9·6	16·5	WSW : W	NW : WSW	2·3	0·0	0·12	259	1, s : 7, th.-cl, h, m	6, li.-cl : 4, cu.-s : 0
13	15·0	16·5	WSW : W	WNW: W: WSW	1·5	0·0	0·07	253	0 : 0, h, m	0 : 0
14	11·6	16·5	WNW: ENE: SE	NE : ESE	1·0	0·0	0·00	134	0 : 0, h, m	0, h : 0, h
15	12·6	16·5	Calm : WSW	N : NNE : NE	0·6	0·0	0·00	105	0 : 0, h	1,li.-cl,cu.-s,so.-ha : 1, th.-cl : 0
16	10·0	16·5	ENE	ESE : E	1·1	0·0	0·05	189	0 : 1,th.-cl,h,m : 2, li.-cl	7,th.-cl,so.-ha : 7, th.-cl : v, s, th.-cl, h
17	13·1	16·6	ENE : E	E	3·2	0·0	0·36	260	0,h,m,d : 2,li.-cl,m : 1, li.-cl	0 : 1, li.-cl : 0
18	12·3	16·6	NE : ENE	E : ESE	2·0	0·0	0·14	241	0, d : p.-cl : 1, li.-cl	0 : 0
19	14·3	16·6	ENE	ENE : ESE	2·1	0·0	0·09	239	0 : 0 : 1, li.-cl	2, li.-cl : 0
20	12·2	16·6	NE : ENE	ESE : NE	3·3	0·0	0·35	336	v : p.-cl,ci.-cu,cu-s : v, cu.-s	2, ci : 0
21	13·7	16·6	NE : NNE	NNE	8·0	0·0	1·06	362	p.-cl : p.-cl : 0, w	1, w : 1, ci
22	8·5	16·6	NE	NE	2·4	0·0	0·24	234	p.-cl : v, cu.-s	1, ci : p.-cl : v, ci.-cu, cu.-s, th.-cl
23	9·2	16·6	NNE : NE : ENE	NE : E : ESE	2·9	0·0	0·20	245	10 : 10 : p.-cl	0 : v, cu.-s, th.-cl
24	0·1	16·6	NE	NE	1·8	0·0	0·39	321	10 : 10	10 : 10
25	3·4	16·6	NE	NE : E	1·5	0·0	0·13	240	10 : 10	10 : v : 10
26	0·0	16·5	NE	NE : NNE	1·5	0·0	0·21	265	10 : 10	10 : 10 : v
27	10·7	16·5	Variable	NW : SW : N	1·3	0·0	0·05	155	0 : 1,h,th.-cl : 0, h	0, h : p.-cl : v,ci.-cu,cu.-s,li.-cl,h,m
28	3·5	16·5	NNW : NNE	NNE : E	0·9	0·0	0·05	168	0, h, m : p.-cl,ci.-cu,cu.-s : p.-cl, cu.-s	7, cu, cu.-s : 7 : 10
29	5·6	16·5	NE : E	E : ESE	0·7	0·0	0·02	157	10 : 10, s : p.-cl	8,ci.-cu,cu.-s : v : v
30	2·6	16·5	E : NE	NE : ESE	0·9	0·0	0·05	169	10 : 10 : 10, cu.-s	10 : v : 0
Means	7·7	16·5	......	......	...	...	0·20	244		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 55°·8, being 0°·6 *higher* than
The mean *Temperature of the Dew Point* for the month was 51°·3, being 0°·1 *higher* than
The mean *Degree of Humidity* for the month was 71·1, being 2·2 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·378, being 0in·001 *greater* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4grs·2, being *the same as*
The mean *Weight of a Cubic Foot of Air* for the month was 533 grains, being 2 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·0.
The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·47. The maximum daily amount of *Sunshine* was 15·0 hours on June 13.
The highest reading of the *Solar Radiation Thermometer* was 157°·2 on June 19; and the lowest reading of the *Terrestrial Radiation Thermometer* was 33°·2 on June 27.
The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 0·9; for the 6 hours ending 15h. was 0·8; and for the 6 hours ending 21h. was 0·6.
The *Proportions of Wind* referred to the cardinal points were N. 8, E. 10, S. 3, and W. 8. One day was calm.
The *Greatest Pressure of the Wind* in the month was 8·0 lbs. on the square foot on June 21. The mean daily *Horizontal Movement of the Air* for the month was 244 miles; the greatest daily value was 387 miles on June 9; and the least daily value was 105 miles on June 15.
Rain fell on 3 days in the month, amounting to 1in·229, as measured by gauge No. 6 partly sunk below the ground; being 0in·770 *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
July 1	...	30·143	80·4	47·3	33·1	65·4	+ 3·8	58·1	52·2	13·2	23·6	1·6	62	151·7	39·8	65·0	62·1	0·000	1·0	vP : wP
2	...	30·063	85·2	51·8	33·4	69·6	+ 8·1	61·2	54·7	14·9	28·1	2·8	58	146·0	43·9	65·6	64·1	0·000	0·5	wP, wN : wP
3	...	29·997	92·0	55·6	36·4	73·4	+12·0	63·7	56·5	16·9	32·3	4·2	56	155·8	47·8	65·8	64·3	0·000	4·5	mP
4	...	29·787	92·2	57·0	35·2	74·6	+13·2	63·6	55·7	18·9	34·2	4·6	52	151·7	48·7	67·6	65·9	0·000	0·0	sP : wP, wN
5	Greatest Dec. S. Full	29·757	71·4	52·6	18·8	63·4	+ 1·9	56·4	50·5	12·9	20·7	4·2	63	125·2	43·5	68·6	66·1	0·041	1·0	wP, ssN : wN, mP
6	...	29·946	77·4	50·9	26·5	62·0	+ 0·3	55·1	49·2	12·8	25·2	2·6	62	138·5	41·5	68·0	65·7	0·000	1·8	mP : wN, mP
7	...	29·949	86·2	57·3	28·9	69·6	+ 7·7	62·1	56·3	13·3	25·0	5·3	62	150·5	50·2	68·0	65·9	0·000	4·2	mP
8	...	29·839	86·5	53·7	32·8	71·6	+ 9·4	60·1	51·4	20·2	32·6	6·1	49	152·5	46·0	68·2	65·9	0·000	8·2	mP
9	...	29·719	83·7	60·0	23·7	68·9	+ 6·4	60·6	54·2	14·7	26·5	4·7	59	153·4	58·5	69·0	65·4	0·000	3·5	mP : wN, mP
10	...	29·619	83·2	56·5	26·7	68·2	+ 5·5	62·1	57·3	10·9	28·1	2·7	68	148·8	55·6	69·2	65·9	0·015	9·2	mP
11	...	29·725	82·3	58·5	23·8	68·7	+ 5·8	62·8	58·2	10·5	22·1	3·2	68	152·2	53·0	68·8	66·0	0·000	9·0	mP : vP, wN
12	Apogee: In Equator.	29·804	84·3	59·2	25·1	69·1	+ 6·0	63·0	58·2	10·9	21·4	4·0	68	150·0	53·0	69·2	65·9	0·000	5·0	mP
13	Last Qr.	29·661	88·0	57·9	30·1	69·8	+ 6·5	63·5	58·6	11·2	24·5	3·0	67	153·5	52·4	69·0	66·0	0·000	6·5	mP
14	...	29·827	76·9	57·5	19·4	65·6	+ 2·2	60·1	55·6	10·0	18·5	2·8	71	127·7	51·0	69·7	66·1	0·067	7·5	mP
15	...	29·930	82·7	55·0	27·7	64·8	+ 1·4	59·1	54·3	10·5	27·7	1·5	69	152·0	48·2	69·0	67·3	0·145	4·0	mP : vP : sN, wP
16	...	30·004	77·0	55·8	21·2	64·8	+ 1·3	59·2	54·5	10·3	19·2	1·7	70	142·6	50·5	68·8	66·6	0·033	2·0	wP, wN : vP, vN
17	...	30·049	72·8	50·0	22·8	59·7	− 3·8	55·4	51·6	8·1	21·1	1·9	75	146·1	44·5	68·5	66·5	0·483	3·0	mP : mP, sN
18	...	30·053	71·2	45·6	25·6	58·7	− 4·7	51·9	45·8	12·9	25·6	3·2	63	134·5	40·0	68·0	66·1	0·000	0·0	mP
19	Greatest Declination N.	30·073	80·1	44·8	35·3	62·6	− 0·7	55·4	49·2	13·4	28·1	1·9	62	147·2	37·3	68·0	66·9	0·000	2·0	vP
20	New	30·086	80·9	50·1	30·8	66·3	+ 3·1	59·6	54·2	12·1	23·0	2·2	65	146·2	41·1	68·0	66·5	0·000	1·0	sP : mP
21	...	30·057	77·0	52·0	25·0	64·7	+ 1·7	58·5	53·3	11·4	21·3	2·3	67	147·1	44·0	68·0	67·1	0·000	1·0	mP
22	...	29·884	77·7	48·3	29·4	65·1	+ 2·2	59·3	54·6	10·5	23·5	1·2	69	122·9	40·4	67·8	67·1	0·000	0·0	sP, wN : wN, wP
23	...	29·940	81·5	57·4	24·1	68·6	+ 5·8	59·6	52·6	16·0	27·0	7·0	56	132·6	51·4	67·6	66·7	0·000	3·0	mP : wN, wP
24	Perigee	29·780	82·1	53·1	29·0	67·1	+ 4·4	60·7	55·6	11·5	19·4	4·0	66	149·6	46·1	68·0	67·6	0·000	2·3	mP
25	In Equator	29·644	72·5	58·9	13·6	65·4	+ 2·7	62·2	59·6	5·8	11·0	1·7	82	127·1	55·0	68·4	68·3	0·369	0·7	mP, sN : mP
26	...	29·539	79·2	55·1	24·1	66·3	+ 3·6	60·5	55·8	10·5	19·9	1·8	69	145·8	51·1	68·5	68·1	0·067	4·8	mP
27	First Qr.	29·551	78·2	58·9	19·3	68·3	+ 5·7	62·8	58·5	9·8	20·1	1·8	70	141·7	55·0	68·5	68·1	0·020	9·2	mP : mP, wN
28	...	29·873	79·7	54·9	24·8	65·6	+ 3·0	59·6	54·7	10·9	20·7	2·1	69	143·7	50·9	68·8	68·5	0·000	7·8	mP
29	...	29·829	77·7	55·8	21·9	65·1	+ 2·5	60·8	57·3	7·8	16·5	2·2	77	134·3	47·5	68·7	68·6	0·050	2·2	vP
30	...	29·902	79·5	51·7	27·8	63·7	+ 1·1	57·8	52·9	10·8	23·0	1·9	68	131·0	43·0	68·2	68·1	0·000	2·0	sP, wN : wP, wN
31	...	29·861	76·6	54·1	22·5	64·4	+ 1·8	58·6	53·8	10·6	21·1	2·5	68	125·7	48·7	68·4	68·1	0·000	2·0	mP : vP
Means	...	29·867	80·5	54·1	26·4	66·5	+ 3·9	59·8	54·4	12·1	23·6	3·0	65·5	142·8	47·7	68·2	66·5	Sum 1·290	3·5	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·867, being 0in·058 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 92°·2 on July 4; the lowest in the month was 44°·8 on July 19; and the range was 47°·4.
The mean of all the highest daily readings in the month was 80°·5, being 6°·3 *higher* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 54°·1, being 1°·0 *higher* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 26°·4, being 5°·3 *greater* than the average for the 46 years, 1841–1886.
The mean for the month was 66°·5, being 3°·9 *higher* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
July 1	11·0	16·5	NE	NE : SE : SW	0·4	0·0	0·00	104	0 : th.-cl,m,h : 1, h	6, cu, cu.-s : v, li.-cl
2	10·8	16·5	SW : W	SE : SW	0·4	0·0	0·00	136	1, li.-cl : 0, h, m : 0, h	3, cu.-s, li.-cl, h : 1, li.-cl
3	13·6	16·4	SW : S : SE	SW	0·4	0·0	0·00	128	0 : 0	0 : 1, th.-cl : 0
4	13·4	16·4	SSW : WSW	SW : W : NNE	5·0	0·0	0·09	203	0 : 3, th.-cl, h	1, cu.-s, li.-cl : 1, cu.-s, li.-cl
5	3·4	16·4	N : NNW	NW : NNE	4·0	0·0	0·51	312	v : 10, shs.-r : p.-cl	8, cu.-s : p.-cl : 4,cu.-s,li.-cl
6	9·2	16·4	NE	SW	2·7	0·0	0·16	202	p.-cl : v, cu.-s	5, ci.-cu, cu.-s : p.-cl : v
7	10·9	16·3	WSW	SW : SSW	1·7	0·0	0·17	276	p.-cl : v : 3, cu.-s	5, cu, cu.-s : 0
8	13·9	16·3	S	SSE : S	5·0	0·0	0·32	238	0 : 3, li.-cl	4, li.-cl, so.-ha : p.-cl : v,cu.-s,li.-cl
9	5·7	16·3	SW : WSW	SW : SSW	4·3	0·0	0·60	354	10 : p.-cl, w	6,ci.-cu,cu,cu.-s,w : p.-cl, w
10	7·8	16·3	SSW : SW	WSW : SW	8·7	0·0	0·72	435	10, slt.-r : p.-cl, cu.-s, w	1, li.-cl, w : p.-cl, li.-shs : v, cu.-s
11	7·1	16·2	WSW : SW	W : WSW	7·6	0·0	0·59	430	1, li.-cl : p.-cl : 10, th.-r	7, cu, cu.-s, w : 2, th.-cl, w
12	11·0	16·2	WSW : SW	SW : SE	2·8	0·0	0·25	329	0 : v, cu.-s	0 : 1, cu.-s, li.-cl
13	9·6	16·2	SE : SW	SW : SSW	6·3	0·0	0·38	324	0 : 0 : 4, cu, th.-cl	7, ci.-cu, cu.-s, li.-cl, w : 3, s, li.-cl
14	5·3	16·1	SW	SW	2·6	0·0	0·15	294	v : 10 : 10	p.-cl,cu.-s,hy.-shs : 1, cu.-s
15	5·1	16·1	SW	SW : W	1·6	0·0	0·03	187	li.-cl : 9, ci.-cu	8, ci.-cu, cu, cu.-s : 10, r, l, t : 10
16	9·3	16·1	W : NNW : N	N : NE : ENE	2·3	0·0	0·04	191	10, l : p.-cl : v, cu.-s, h	9, cu.-s : p.-cl, r, l, t
17	8·0	16·0	NE : ENE	NE : NNE	4·6	0·0	0·03	223	p.-cl : p.-cl, ci.-cu, cu	p.-cl, hy.-r : 1, li.-cl
18	13·9	16·0	N	NE : SE	3·6	0·0	0·12	258	0 : 1, li.-cl	0 : 0
19	11·5	16·0	SW : NNE	NNE : ESE	2·1	0·0	0·04	178	0 : 0	3, cu.-s, th.-cl : p.-cl : 0
20	11·8	15·9	NNE : NE	ESE : E : ENE	1·3	0·0	0·02	183	0 : p.-cl : 1	3, ci.-cu, cu.-s : v : 0
21	12·3	15·9	NE : ENE	ENE : ESE	1·7	0·0	0·08	256	v : p.-cl : 0	0 : 0
22	6·5	15·8	Calm	SE : NE : NNW	1·7	0·0	0·00	91	0, d : p.-cl, h, f : 0, h, m	0, h, m : v, li.-cl : 7, ci.-cu, cu.-s
23	12·8	15·8	NNW	SW	2·2	0·0	0·07	223	p.-cl, ci.-s, cu.-s : 1, th.-cl : 1, h	0 : 6, th.-cl, s
24	7·3	15·7	S : SW	SW	3·3	0·0	0·33	316	p.-cl, ci.-s, cu.-s, li.-cl : p.-cl, ci.-cu	p.-cl, cu.-s : v, cu.-s
25	1·5	15·7	SW : NE	NE : SE : SW	0·4	0·0	0·00	163	10, slt.-r : 10, hy.-r : 10	10, glm : v : v, li.-cl
26	6·7	15·7	SW	SSW	5·4	0·0	0·56	313	10 : 10 : 10, oc.-slt.-r	7, cu.-s, li.-cl, w : v : 10, fq.-r
27	10·7	15·6	SW	SW	8·7	0·0	1·66	485	10, sh.-r : p.-cl : 8, ci.-cu, cu.-s, slt.-sh, w	4, ci.-cu, cu, cu.-s, w : p.-cl, w : 3, th.-cl
28	9·9	15·6	SSW : SW	SW : S	4·4	0·0	0·40	312	0 : 7, ci.-cu, cu	7, ci.-cu, cu, cu.-s : p.-cl : 2, cu.-s, li.-cl
29	5·3	15·5	S : SW	SW	4·0	0·0	0·35	298	1, li.-cl : 9, cu.-s, th.-cl	10, fq.-r : 3, li.-cl : 2, li.-cl
30	6·9	15·5	WSW	Variable	0·0	0·0	0·00	118	0 : 2, s, th.-cl, h : 7, th.-cl, m, h, so.-ha	8, ci.-cu, cu.-s, th.-cl, h, slt.-m, so.-ha : 6, cu.-s, m
31	4·9	15·4	Calm : NNE	NW : NNE	1·0	0·0	0·02	130	p.-cl : 7, th.-cl, m	9, m : p.-cl,cu.-s : v, l
Means	8·9	16·0	...	...	...	...	0·25	248		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 59°·8, being 2°·1 *higher* than the average for the 20 years, 1849–1868.
The mean *Temperature of the Dew Point* for the month was 54°·4, being 0°·7 *higher* than the average for the 20 years, 1849–1868.
The mean *Degree of Humidity* for the month was 65·5, being 7·5 *less* than the average for the 20 years, 1849–1868.
The mean *Elastic Force of Vapour* for the month was 0in·424, being 0in·011 *greater* than the average for the 20 years, 1849–1868.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4grs·7, being 0gr·1 *greater* than the average for the 20 years, 1849–1868.
The mean *Weight of a Cubic Foot of Air* for the month was 524 grains, being 4 grains *less* than the average for the 20 years, 1849–1868.
The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 4·6.
The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·56. The maximum daily amount of *Sunshine* was 13·9 hours on July 8 and 18.
The highest reading of the *Solar Radiation Thermometer* was 155°·8 on July 3; and the lowest reading of the *Terrestrial Radiation Thermometer* was 37°·3 on July 19.
The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 1·6; for the 6 hours ending 15h. was 1·2; and for the 6 hours ending 21h. was 0·7.
The *Proportions of Wind* referred to the cardinal points were N. 6, E. 5, S. 10, and W. 9. One day was calm.
The *Greatest Pressure of the Wind* in the month was 8·7 lbs. on the square foot on July 10 and 27. The mean daily *Horizontal Movement of the Air* for the month was 248 miles; the greatest daily value was 485 miles on July 27; and the least daily value was 91 miles on July 22.
Rain fell on 10 days in the month, amounting to 1in·290, as measured by gauge No. 6 partly sunk below the ground; being 1in·078 *less* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Aug. 1	Greatest Declination S.	30·060	77·1	49·0	28·1	62·0	− 0·6	55·3	49·5	12·5	23·1	2·2	64	132·0	40·0	68·6	67·4	0·000	2·0	mP : vN, sP
2	...	30·089	76·4	49·2	27·2	62·9	+ 0·2	54·9	48·1	14·8	25·8	4·2	58	136·9	40·9	68·0	67·1	0·000	1·0	mP, wN : wP, wN
3	Full	30·175	74·6	46·3	28·3	61·5	− 1·2	55·1	49·6	11·9	22·4	2·4	66	139·1	40·5	67·8	67·6	0·000	4·0	mP
4	...	30·152	76·3	47·6	28·7	61·7	− 1·0	55·5	50·2	11·5	23·1	2·2	67	138·8	37·7	67·7	67·5	0·000	0·0	mP
5	...	30·037	77·8	48·6	29·2	63·9	+ 1·2	57·3	51·8	12·1	27·5	1·2	65	141·0	39·2	67·6	67·5	0·000	0·0	mP : mP, wN
6	...	29·921	89·5	52·8	36·7	70·6	+ 7·9	60·4	52·6	18·0	37·2	0·9	52	147·4	44·4	67·8	66·1	0·000	0·0	mP
7	...	29·929	84·4	57·4	27·0	69·6	+ 6·9	59·5	51·7	17·9	24·8	11·6	53	139·8	44·4	68·0	67·9	0·000	0·0	sP : wP, wN
8	In Equator	30·027	88·1	50·8	37·3	69·7	+ 7·0	59·5	51·6	18·1	32·3	6·6	52	145·2	39·7	68·0	67·7	0·000	2·0	sP : vP, wN
9	Apogee	29·953	83·1	56·4	26·7	69·2	+ 6·5	60·6	53·9	15·3	25·7	5·5	58	136·4	47·6	68·6	68·1	0·000	1·5	mP : wP, wN : mP
10	...	29·910	75·0	56·1	18·9	64·8	+ 2·1	55·9	48·7	16·1	28·1	7·4	56	137·0	48·6	68·0	67·9	0·000	1·5	mP, wN : wP, wN
11	Last Qr.	29·878	72·5	54·4	18·1	61·0	− 1·7	53·4	46·8	14·2	23·9	7·0	60	137·6	47·6	68·0	67·9	0·000	0·0	vP : wN, vP
12	...	29·769	74·6	52·8	21·8	61·1	− 1·5	54·2	48·2	12·9	20·0	5·2	63	130·5	45·0	67·8	67·6	0·000	0·2	wP : wP, wN
13	...	29·646	71·0	52·3	18·7	59·9	− 2·6	53·6	48·1	11·8	18·9	4·9	65	134·2	47·5	67·5	67·1	0·000	1·5	vP, wN : vP
14	...	29·808	68·2	46·5	21·7	58·1	− 4·3	51·4	45·4	12·7	24·3	3·4	63	127·9	39·0	66·8	66·1	0·000	2·2	vP
15	Greatest Declination N.	29·812	74·3	41·0	33·3	57·8	− 4·5	50·4	43·7	14·1	27·5	3·5	59	141·9	33·4	66·0	65·3	0·000	0·0	mP
16	...	29·619	64·1	53·3	10·8	59·1	− 3·0	55·5	52·3	6·8	11·3	3·0	79	83·9	46·0	65·6	65·1	0·031	1·0	mP, mN : mP, vN
17	...	29·599	69·7	52·3	17·4	58·5	− 3·4	56·0	53·8	4·7	14·4	0·6	84	135·7	51·0	65·0	64·3	1·074	7·0	vP, sN
18	...	29·686	66·2	50·5	15·7	58·3	− 3·5	53·7	49·6	8·7	15·3	1·6	73	105·0	43·5	64·2	63·5	0·000	0·0	mP : vP, wN
19	New	29·737	67·1	46·3	20·8	55·5	− 6·1	51·6	47·9	7·6	18·5	1·9	76	116·3	39·0	63·8	62·3	0·003	0·0	sP : wP, wN : —
20	...	29·739	65·0	49·5	15·5	55·7	− 5·7	53·1	50·7	5·0	12·1	1·8	84	117·0	42·0	63·4	62·1	0·066	0·0	— : vP, vN
21	Perigee	29·909	71·5	45·9	25·6	57·5	− 3·8	52·3	47·6	9·9	22·1	1·3	69	121·0	38·0	63·2	62·0	0·000	0·0	vP
22	In Equator	29·924	78·8	46·3	32·5	61·2	− 0·1	54·5	48·7	12·5	24·0	2·3	64	138·9	38·1	63·0	61·1	0·000	0·0	mP
23	...	29·898	78·7	47·0	31·7	62·5	+ 1·3	55·2	49·0	13·5	25·5	2·3	61	136·8	40·1	63·0	62·9	0·000	0·0	mP
24	...	29·816	78·3	51·4	26·9	64·6	+ 3·5	57·3	51·3	13·3	28·1	2·3	62	137·8	41·8	63·8	63·3	0·000	0·0	vP
25	First Qr.	29·727	86·9	52·1	34·8	66·5	+ 5·5	59·1	53·1	13·4	29·8	0·4	62	142·3	43·1	64·2	63·9	0·000	0·0	mP
26	...	29·611	80·4	55·8	24·6	65·8	+ 4·9	60·1	55·4	10·4	20·9	3·6	69	129·3	46·2	64·6	64·1	0·071	2·2	mP : wP, ssN
27	...	29·619	75·3	60·1	15·2	64·7	+ 3·9	61·0	57·9	6·8	17·3	1·7	79	128·6	55·9	65·8	64·1	0·005	1·5	mP
28	Greatest Declination S.	29·567	76·5	58·9	17·6	65·3	+ 4·6	62·2	59·6	5·7	13·9	0·9	83	131·3	54·2	65·4	64·7	0·248	3·7	wP, wN : sP
29	...	29·515	75·4	57·1	18·3	64·7	+ 4·1	60·7	57·4	7·3	17·7	1·6	77	134·6	51·7	65·2	65·1	0·091	8·2	mP, vN : mP
30	...	29·525	72·9	58·4	14·5	63·2	+ 2·8	60·1	57·5	5·7	17·5	1·1	82	135·9	53·7	65·8	65·3	0·384	8·3	wP : mP : wN
31	...	29·386	69·9	56·3	13·6	61·3	+ 1·0	58·1	55·4	5·9	13·1	0·9	81	122·5	52·0	65·4	64·3	0·372	7·5	vN, wP : vP, vN
Means	...	29·808	75·5	51·7	23·8	62·5	+ 0·7	56·4	51·2	11·3	22·1	3·1	67·3	131·7	44·3	66·1	65·4	Sum 2·345	1·7	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·808, being 0in·009 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 89°·5 on August 6; the lowest in the month was 41°·0 on August 15; and the range was 48°·5.
The mean of all the highest daily readings in the month was 75°·5, being 2°·6 *higher* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 51°·7, being 1°·4 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 23°·8, being 4°·0 *greater* than the average for the 46 years, 1841–1886.
The mean for the month was 62°·5, being 0°·7 *higher* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Aug. 1	9·0	15·3	SW : NNW	NNW : SW	0·3	0·0	0·00	123	0 : 4, li.-cl, h, m	6, cu, cu.-s : 6 : v
2	8·9	15·3	NNW	NNW : N	1·9	0·0	0·10	182	0 : 2, li.-cl : 2, ci.-cu, cu.-s, h, m	8,ci.-cu,cu.-s: v : 0
3	8·5	15·2	Calm : SE	ESE : SSE	2·0	0·0	0·05	123	0, d :v,ci.-cu,li.-cl,m,d: v	5, cu.-s : 3, li.-cl
4	11·3	15·2	E : SE	E : ENE : ESE	2·0	0·0	0·17	172	2, th.-cl : 0,h,m,d : 0	1, li.-cl : 0
5	10·7	15·1	E	E : ESE	2·0	0·0	0·25	188	1, s, m : 3,li.-cl,m,d: 2, li.-cl	1, li.-cl : 3,ci.-s,th.-cl,lu.-co
6	10·3	15·1	E : NE : SE	S : SW	0·7	0·0	0·03	133	p -cl,ci.-s,th.-cl,m,d: 4,ci.-cu,ci.-s,li.-cl,m	1, li.-cl : 5, th.-cl
7	8·0	15·0	SW : WSW : WNW	NW : NNE	2·1	0·0	0·20	235	0 : p.-cl : 6, li.-cl	6, li.-cl : 0 : 0
8	8·9	15·0	N : WSW	WSW : W	5·0	0·0	0·34	281	1, s, li.-cl : 7, th.-cl	6, ci, ci.-cu : v, li.-cl : 0
9	11·8	14·9	SW : WNW	NW	5·0	0·0	0·55	358	0 : 1, s : 0, slt.-m	2,ci,cu,th.-cl,slt.-h: v
10	11·3	14·9	NW : NNW	N : NE	6·8	0·0	0·50	322	10, slt.-r :4,cu.-s,li.-cl : 6, cu.-s	1, li.-cl : 1, li.-cl : v,cu.-s,li.-cl
11	4·2	14·8	ENE : NE	NNE : SE : S	1·3	0·0	0·06	182	10 : 10 : p.-cl	7, cu, cu.-s : p.-cl : 10
12	2·5	14·7	SW : W	SW : SSW	1·7	0·0	0·06	177	10 : 10 : p.-cl	7,ci.-cu,cu.-s: 10 : 10
13	1·8	14·7	SSE : NE	NNE	1·3	0·0	0·08	201	10 : 9, ci.-s, slt.-r	8,ci.-cu,cu,cu.-s : 10 : 10, slt.-r
14	6·7	14·6	N	N : NNW	1·2	0·0	0·13	191	10 : 7, cu.-s	9, cu.-s : v : 0
15	10·7	14·6	Calm : Variable	SE	0·9	0·0	0·02	105	0 : 0 : 2, li.-cl, h	3, cu, cu.-s : v, cu.-s, li.-cl, m
16	0·0	14·5	ENE : E	E : SE : S	1·2	0·0	0·02	183	10, slt.-r : 10, slt.-r	10, oc.-slt.-r : 10, r
17	2·4	14·4	SW : ESE	ESE : E : NNE	0·4	0·0	0·00	154	10, r : 10, hy.-r : 10, slt.-r	8, cu.-s : 10, t.-sm, hy.-r, hl
18	3·3	14·4	N : NNW	NW : N	2·3	0·0	0·20	292	v, m : p.-cl	9 : v
19	1·7	14·3	WSW : WNW	NW : W : SW	1·0	0·0	0·00	154	1, s, ci.-s, th.-cl : v, h	9, cu.-s : p.-cl, slt.-f, l
20	2·3	14·3	N : NE	ENE : NE	3·2	0·0	0·07	191	10 : 10 : 10, r	9, oc.-slt.-r : p.-cl,oc.-slt.-r : v
21	5·4	14·2	WSW : W : NNW	NNW : SW	0·4	0·0	0·00	148	v : p.-cl, m : 5, li.-cl, m	8,ci.-cu,cu.-s: p.-cl : 1, li.-cl
22	12·1	14·1	SW : WSW	SW : SSW	0·4	0·0	0·01	198	0 : 0 : 3, cu, cu.-s	6, cu.-s, cu : p.-cl : 0
23	9·7	14·1	SSW : WSW	SW : S : SE	0·0	0·0	0·00	122	0 : 3, li.-cl, m	5, li.-cl : 1, m, h
24	11·1	14·0	ENE : E	E : SE	1·1	0·0	0·04	163	0 :p.-cl,s,th.-cl : 1, li.-cl	0 : 0, slt.-f
25	5·9	13·9	E : Calm : S	SW : SSE	0·6	0·0	0·00	125	0, d, tk.-f : 5, ci.-cu, li.-cl, slt.-f	6, li.-cl : p.-cl : 1, li.-cl
26	1·7	13·9	S : SSW	SSW : SSE	0·3	0·0	0·01	183	v, li.-cl, m : p.-cl	10, slt.-r : 10, r : 10
27	3·2	13·8	S : SW	SSW : S	1·0	0·0	0·01	164	10 : 10 : 10, oc.-slt.-r	7, ci.-cu, li.-cl : 10
28	3·2	13·8	SE : SSW	SSW : SW	0·3	0·0	0·01	163	10 : v, hy.-r	p.-cl, cu.-s, r : 10
29	7·6	13·7	SSW : SW	SW : SSW	7·1	0·0	0·61	358	10 : v, hy.-r, t	7, ci.-cu, cu, cu.-s : 10
30	4·6	13·7	SW	SW : SSW	6·4	0·0	0·73	416	p.-cl : 6,ci.-cu,cu.-s,w	p.-cl, r : 10, r : 10, c.-hy.-r
31	8·7	13·6	SW : WSW	SW	8·6	0·0	1·67	529	10, hy.-r : p.-cl, cu.-s, w	4,li.-cl,cu,cu.-s: p.-cl,slt.-r,l,t : 0, l
Means	6·7	14·5	...	...	...	...	0·19	210		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 56°·4, being 1°·5 *lower* than
The mean *Temperature of the Dew Point* for the month was 51°·2, being 3°·2 *lower* than
The mean *Degree of Humidity* for the month was 67·3, being 9·2 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·377, being 0in·047 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4grs·2, being 0gr·5 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 528 grains, being *the same as*
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·46. The maximum daily amount of *Sunshine* was 12·1 hours on August 22.

The highest reading of the *Solar Radiation Thermometer* was 147°·4 on August 6; and the lowest reading of the *Terrestrial Radiation Thermometer* was 33°·4 on August 15.

The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 1·1; for the 6 hours ending 15h. was 0·4; and for the 6 hours ending 21h. was 0·2.

The *Proportions of Wind* referred to the cardinal points were N. 7, E. 6, S. 9, and W. 8. One day was calm.

The *Greatest Pressure of the Wind* in the month was 8·6 lbs. on the square foot on August 31. The mean daily *Horizontal Movement of the Air* for the month was 210 miles; the greatest daily value was 529 miles on August 31; and the least daily value was 105 miles on August 15.

Rain fell on 9 days in the month, amounting to 2in·345, as measured by gauge No. 6 partly sunk below the ground; being 0in·017 *greater* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Sept. 1	...	29·473	65·6	54·3	11·3	58·6	− 1·5	56·0	53·7	4·9	9·5	1·7	83	96·0	49·1	64·9	64·7	0·197	15·7	mP : vN, mP
2	Full	29·269	62·7	54·5	8·2	58·2	− 1·8	55·3	52·7	5·5	9·7	2·1	82	100·8	50·0	64·2	63·6	0·304	16·5	mN, wP : wN, wP
3	...	29·633	68·8	51·8	17·0	59·5	− 0·3	55·6	52·1	7·4	13·9	2·8	77	124·3	45·6	63·3	62·9	0·176	12·0	wP
4	In Equator	29·502	70·7	54·2	16·5	59·6	− 0·1	56·4	53·6	6·0	12·8	1·9	81	134·5	51·7	63·0	62·3	0·179	9·0	vP, vN : sP
5	Apogee	29·345	69·1	53·0	16·1	59·6	+ 0·1	56·6	54·0	5·6	12·5	1·2	83	103·7	50·0	62·8	62·1	0·060	9·8	wP, wN : wP
6	...	29·377	69·1	54·5	14·6	60·1	+ 0·8	55·4	51·3	8·8	15·1	4·2	73	120·1	48·8	62·6	61·7	0·000	12·7	wP
7	...	29·602	63·7	47·1	16·6	55·0	− 4·0	52·8	50·7	4·3	8·7	1·6	86	103·4	38·0	62·2	61·5	0·392	3·8	wP, wN : mP, sN : mP
8	...	30·167	64·2	40·7	23·5	52·0	− 6·8	47·8	43·5	8·5	17·1	2·9	73	118·1	31·1	62·0	61·3	0·004	1·0	sP : wP, wN
9	...	30·022	68·0	44·1	23·9	55·7	− 2·8	51·4	47·3	8·4	16·0	2·9	74	126·3	38·0	61·8	60·7	0·000	0·7	wP : mP
10	Last Qr.	29·829	65·1	49·0	16·1	57·3	− 1·0	52·4	47·9	9·4	18·2	1·7	71	119·4	43·5	61·6	60·4	0·035	2·3	wP : sP
11	...	29·714	65·8	46·2	19·6	55·5	− 2·6	51·7	48·1	7·4	13·5	2·3	77	122·3	40·6	61·5	60·4	0·015	3·0	mP
12	Greatest Declination N.	29·564	61·7	48·6	13·1	54·8	− 3·2	50·1	45·6	9·2	17·1	2·5	71	112·5	39·0	61·0	60·4	0·011	0·0	vP
13	...	29·649	58·0	43·1	14·9	50·6	− 7·2	46·8	42·8	7·8	14·4	2·6	76	120·7	34·0	60·8	59·9	0·003	0·0	vP
14	...	29·719	62·6	44·1	18·5	52·2	− 5·4	48·2	44·1	8·1	14·6	3·4	74	119·4	33·8	59·5	58·5	0·003	3·0	mP
15	...	29·769	63·7	49·1	14·6	54·7	− 2·7	51·4	48·2	6·5	14·3	1·6	78	127·9	44·8	59·0	57·0	0·071	0·0	wP : mP, vN
16	...	29·893	66·6	48·8	17·8	56·8	− 0·5	53·9	51·2	5·6	12·8	1·5	82	123·3	42·8	58·8	58·1	0·038	0·0	wP
17	New	29·951	58·7	52·2	6·5	56·0	− 1·1	55·3	54·7	1·3	2·8	0·2	95	68·8	50·0	58·6	58·4	0·407	0·0	wP
18	Perigee: In Equator	30·175	65·1	47·3	17·8	54·2	− 2·7	51·3	48·5	5·7	13·3	1·5	81	126·0	39·0	58·2	57·0	0·000	0·0	wP : mP
19	...	30·262	60·3	46·9	13·4	53·7	− 3·1	50·8	48·0	5·7	10·5	1·7	81	111·0	37·9	59·0	58·0	0·000	0·0	wP : mP
20	...	30·156	63·9	44·2	19·7	53·9	− 2·7	51·1	48·4	5·5	11·0	1·5	81	110·2	36·3	58·1	58·0	0·004	0·0	mP
21	...	30·143	59·9	50·1	9·8	54·3	− 2·1	51·3	48·4	5·9	10·5	2·0	80	93·0	49·7	58·2	57·8	0·000	0·0	wP : mP
22	...	30·129	64·1	49·0	15·1	55·5	− 0·7	51·7	48·1	7·4	13·5	3·0	77	120·6	39·0	58·1	58·0	0·000	0·0	wP : mP
23	...	30·229	61·1	43·3	17·8	53·8	− 2·3	50·8	47·9	5·9	11·4	0·8	80	83·0	32·3	58·6	58·0	0·000	3·0	wP : mP
24	First Quarter: Greatest Dec. S	30·261	54·0	48·2	5·8	51·8	− 4·1	48·0	44·2	7·6	10·2	3·2	75	69·7	39·4	58·2	58·0	0·000	0·0	mP
25	...	30·065	61·3	39·1	22·2	50·9	− 4·9	47·5	43·9	7·0	12·7	2·1	78	93·8	28·0	57·6	57·0	0·000	0·0	mP
26	...	29·640	59·0	47·7	11·3	54·8	− 0·9	52·7	50·7	4·1	7·4	1·4	86	71·8	39·1	57·3	56·4	0·047	3·0	— : wN, mP
27	...	29·246	62·3	46·3	16·0	52·8	− 2·7	49·9	47·1	5·7	15·0	1·0	81	121·6	39·0	57·0	53·9	0·084	0·0	wN, wP : mP, vN
28	...	29·114	56·0	39·0	17·0	47·2	− 8·2	44·4	41·3	5·9	13·6	1·8	81	94·7	32·0	56·7	53·2	0·000	0·0	mP : vP, wN
29	...	29·248	58·1	33·6	24·5	44·6	− 10·6	42·5	40·0	4·6	13·6	0·0	84	105·2	27·0	56·3	55·0	0·017	0·0	wP : vP, wN
30	...	29·610	58·5	36·1	22·4	48·1	− 6·8	46·7	45·2	2·9	9·7	0·0	90	113·1	28·1	55·4	54·5	0·167	0·0	mP : vP, vN
Means	...	29·759	62·9	46·9	16·1	54·4	− 3·1	51·2	48·1	6·3	12·5	1·9	79·7	108·5	39·9	59·9	59·0	Sum 2·214	3·2	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29^{in}·759, being 0^{in}·028 *lower* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 70°·7 on September 4; the lowest in the month was 33°·6 on September 29; and the range was 37°·1.
The mean of all the highest daily readings in the month was 62°·9, being 4°·5 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 46°·9, being 2°·3 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 16°·1, being 2°·2 *less* than the average for the 46 years, 1841–1886.
The mean for the month was 54°·4, being 3°·1 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Sept. 1	0·0	13·5	SW : SSW	SSW : SSE : S	7·3	0·0	0·56	375	v, cu.-s, s: p.-cl : 10, fq.-shs	10, fq.-r : 10, fq.-r
2	0·9	13·4	SSW	SW	19·5	0·0	...	650	10, hy.-r : 10, oc.-slt.-r, w : 10, st.-w, fq.-r	10, fq.-r, w : v, th.-cl
3	7·1	13·4	SW : WSW	SSW : S	...	0·0	...	359	v, li.-cl : p.-cl, ci.-cu : p.-cl, sh.-r	9, ci.-cu, cu.-s, sh.-r: v, ci.-cu, cu.-s, hy.-r
4	6·1	13·3	SSW : SW	SW	6·5	0·0	0·98	372	10, fq.-hy.-r : p.-cl, ci.-cu, cu.-s	p.-cl, sh.-r : 10, oc.-r
5	2·1	13·2	WSW : SW	SW : WSW	11·3	0·0	2·25	479	p.-cl, r : th.-cl : 10, fq.-th.-r	9, cu.-s, w : v, th.-cl, w
6	4·0	13·2	SW	SW	8·0	0·0	1·42	414	p.-cl : 9, ci.-cu	7, cu, cu.-s, slt.-r : v, slt.-sh
7	2·4	13·1	SSW:WSW:NW	N	6·7	0·0	0·30	236	v, hy.-shs : v, r	10, hy.-sh, hl : v : o, d
8	9·6	13·0	N : SE	SW : S	0·3	0·0	0·01	125	o, hy.-d : 2, li.-cl, h, slt.-f	1, ci.-cu, li.-cl : o, d
9	5·5	13·0	S : SSW	SW	5·4	0·0	0·71	320	v : 10 : v, so.-ha	7, ci.-cu, cu.-s, li.-cl : p.-cl, slt.-r: 10
10	3·9	12·9	SW : NNW	NW : W	5·1	0·0	0·60	308	10, r : 10, slt.-r : 9, cu.-s, th.-cl	7, cu.-s : v, cu.-s, m
11	3·5	12·9	WSW	WSW	9·3	0·0	0·94	363	v : p.-cl, cu.-s	10 : 10, r
12	3·6	12·8	NW	NW : WSW	3·7	0·0	0·30	269	10, sh.-r : p.-cl, m : 10, slt.-r	7, ci.-cu, cu.-s : v, li.-cl, d
13	3·3	12·7	WSW : NNW	NNW : NW	4·5	0·0	0·68	299	o : v : 10, slt.-r	9, cu.-s : v, th.-cl, m, d
14	2·6	12·7	WSW	WSW : SW	2·7	0·0	0·25	269	v : 10	8, ci.-cu, cu.-s, li.-cl: 10 : 10, slt.-r
15	2·8	12·6	SW	WSW : SW	8·0	0·0	0·84	349	10, slt.-r : p.-cl, ci.-s, s, cu.-s, slt.-r	9, cu.-s, slt.-r : 10, th.-r : v, r
16	3·4	12·6	WSW	SW	2·6	0·0	0·27	258	p.-cl : 8, ci.-cu, li.-cl	8, ci.-cu, cu.-s, li.-cl: 10, fq.-r
17	0·0	12·5	SW	SSW : NE	0·8	0·0	0·03	125	10, fq.-r : 10, c.-r : 10, c.-r	10, fq.-slt.-r, glm, f : 10, oc.-slt.-r
18	6·8	12·4	NNE	NNE : N	5·3	0·0	0·55	304	10 : p.-cl, cu.-s	p.-cl, cu.-s : v : o, d
19	1·4	12·3	N : NNE	NNE	2·0	0·0	0·32	208	v : p.-cl	10 : v, m
20	1·8	12·3	N: W	NNE	5·0	0·0	0·48	241	p.-cl : 8, th.-cl, h, d	9, cu.-s : 10 : 10, slt.-r
21	0·3	12·2	NNE : NE	NE : ENE	2·3	0·0	0·26	254	10 : 9, cu.-s	10 : 10 : p.-cl
22	7·5	12·2	ENE : NE	ESE : E	1·5	0·0	0·10	217	p.-cl : p.-cl, cu.-s	6, ci.-cu, cu.-s : v, th.-cl : p.-cl
23	1·2	12·1	NE	NE	2·4	0·0	0·13	202	10 : 10	p.-cl, cu.-s : 10
24	0·0	12·0	NNE	NNE	2·7	0·0	0·42	295	v, s : p.-cl : 10	10 : 10
25	4·6	11·9	NNW : WSW	WSW : SW	0·3	0·0	0·02	164	v : o, m, h : v, ci.-cu, cu.-s	p.-cl : o : o, m
26	0·0	11·9	SW	SW	3·9	0·0	0·46	309	v : 10 : 10	10, slt.-r : 10, shs.-r
27	5·5	11·8	WSW	SW : WSW	2·7	0·0	0·08	195	10, r : p.-cl, m : 6, ci.-cu	7, cu, cu.-s : p.-cl, sh.-r: 10
28	3·3	11·7	NNW: WSW: W	WSW : SSW	0·7	0·0	0·02	171	v, m : o, m, d : v, li.-cl, h, m	5, ci.-cu, li.-cl, h : v, li.-cl, h, m, d
29	2·4	11·7	NE	NE : NW : S	1·4	0·0	0·03	135	o, m, d : o, m, h, d : v, h, so.-ha	9, cu.-s, th.-cl: p.-cl, fq.-r: v, ci.-cu, cu.-s
30	1·8	11·6	NE : NNE	NNE	2·6	0·0	0·22	229	p.-cl, m, d : 9, ci.-cu, m	10, fq.-r : 10, shs.-r
Means	3·2	12·6	...	...	...	...	(28 days) 0·47	283		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 51°·2, being 3°·1 *lower* than
The mean *Temperature of the Dew Point* for the month was 48°·1, being 3°·3 *lower* than
The mean *Degree of Humidity* for the month was 79·7, being 0·4 *less* than
The mean *Elastic Force of Vapour* for the month was 0^{in}·336, being 0^{in}·043 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3^{grs}·8, being 0^{gr}·4 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 536 grains, being 4 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·25. The maximum daily amount of *Sunshine* was 9·6 hours on September 8.

The highest reading of the *Solar Radiation Thermometer* was 134°·5 on September 4; and the lowest reading of the *Terrestrial Radiation Thermometer* was 27°·0 on September 29.

The mean daily distribution of *Ozone* for the 12 hours ending 9^h. was 1·7; for the 6 hours ending 15^h. was 0·7; and for the 6 hours ending 21^h. was 0·8.

The *Proportions of Wind* referred to the cardinal points were N. 9, E. 3, S. 8, and W. 10.

The *Greatest Pressure of the Wind* was 19·5 lbs. on the square foot on September 2. The mean daily *Horizontal Movement of the Air* for the month was 283 miles; the greatest daily value was 650 miles on September 2; and the least daily value was 125 miles on September 8 and 17.

Rain fell on 16 days in the month, amounting to 2^{in}·214, as measured by gauge No. 6 partly sunk below the ground; being 0^{in}·118 *less* than the average fall for the 46 years, 1841-1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Oct. 1	...	29·929	61·3	44·8	16·5	51·5	− 3·2	48·9	46·3	5·2	11·4	1·7	82	120·6	36·9	55·2	53·9	0·000	0·0	wP : mP
2	Full : In Equator : Apogee.	30·116	57·1	43·8	13·3	50·5	− 3·9	48·3	46·0	4·5	9·5	1·1	85	78·1	39·4	55·4	54·1	0·000	0·0	wP
3	...	30·195	57·2	48·6	8·6	51·9	− 2·1	48·9	45·9	6·0	10·3	2·7	80	74·7	43·8	55·5	53·9	0·000	0·0	wP : mP
4	...	30·187	58·9	48·8	10·1	52·2	− 1·5	48·2	44·1	8·1	11·8	5·9	74	82·0	46·8	54·9	53·9	0·000	0·0	mP
5	..	30·118	54·5	49·0	5·5	51·6	− 1·8	48·1	44·6	7·0	9·0	5·0	77	65·6	47·9	54·7	53·7	0·000	0·0	mP : sP
6	...	29·968	56·0	48·0	8·0	50·8	− 2·2	47·3	43·6	7·2	12·0	3·1	77	89·6	43·9	53·9	53·7	0·000	0·0	mP
7	...	29·844	57·0	47·3	9·7	51·6	− 1·1	48·2	44·8	6·8	10·8	3·8	78	81·0	45·9	54·1	53·5	0·000	0·0	mP, wN
8	...	29·720	64·1	46·8	17·3	53·0	+ 0·5	49·3	45·6	7·4	17·9	2·5	76	113·0	42·6	53·7	53·3	0·000	2·0	mP
9	Greatest Declination N.	29·471	54·2	46·3	7·9	49·4	− 2·9	47·9	46·3	3·1	6·8	0·6	89	69·3	42·0	53·5	53·2	0·094	0·0	mP : mP, wN
10	Last Qr.	29·297	48·4	39·8	8·6	45·9	− 6·2	44·4	42·7	3·2	7·1	1·0	89	59·7	32·5	53·4	52·7	0·167	0·0	wP : vN, sP
11	...	29·508	48·2	33·9	14·3	40·9	−11·0	37·8	33·9	7·0	13·7	2·6	77	92·2	25·0	53·3	52·7	0·000	0·0	sP : vP
12	...	29·483	44·0	30·0	14·0	36·6	−15·1	34·6	31·7	4·9	13·2	0·3	83	73·0	24·7	51·9	51·7	0·049	0·0	sP, wN : vP, wN
13	...	29·620	48·2	25·3	22·9	37·4	−14·2	36·0	34·1	3·3	5·7	1·0	88	60·9	21·6	51·5	50·9	0·014	0·0	sP : sP, vN
14	...	29·665	48·1	35·0	13·1	39·8	−11·6	38·1	35·9	3·9	5·9	2·1	86	62·3	29·1	50·7	49·9	0·032	0·0	sP : vN, sP
15	...	29·891	49·4	34·5	14·9	40·7	−10·6	38·5	35·7	5·0	8·0	2·8	83	90·4	27·2	49·9	47·9	0·008	0·0	sP : sP, vN
16	In Equator : Perigee : New	30·226	51·1	36·0	15·1	42·8	− 8·4	40·3	37·3	5·5	10·9	0·7	82	83·0	30·2	48·9	46·9	0·000	0·0	sP
17	...	30·375	54·5	37·4	17·1	45·4	− 5·7	42·9	40·0	5·4	11·0	0·4	82	94·4	29·0	48·8	46·9	0·000	0·0	sP : vP
18	...	30·393	50·2	36·2	14·0	44·2	− 6·8	42·2	39·8	4·4	8·8	0·0	84	66·6	26·2	48·5	47·1	0·000	0·0	mP
19	...	30·291	48·0	38·5	9·5	44·8	− 6·0	41·8	38·3	6·5	8·8	2·8	78	56·2	28·5	48·1	46·9	0·000	0·0	mP, wN : sP
20	...	30·195	53·9	36·9	17·0	46·6	− 4·0	44·7	42·6	4·0	7·0	0·5	87	71·2	26·5	48·0	46·9	0·000	0·0	sP : mP
21	...	30·295	52·6	33·3	19·3	42·7	− 7·7	40·8	38·6	4·1	9·8	0·0	86	85·3	24·6	48·5	46·9	0·000	0·0	mP : sP
22	Greatest Declination S.	30·370	51·6	26·8	24·8	38·0	−12·1	36·9	35·4	2·6	10·6	0·0	90	92·6	21·4	47·9	46·9	0·000	2·0	sP
23	First Qr.	30·065	52·9	31·3	21·6	42·8	− 6·9	40·7	38·2	4·6	11·4	0·0	84	72·0	24·3	47·4	46·5	0·000	1·2	sP
24	...	29·905	46·7	33·2	13·5	41·7	− 7·7	38·0	33·4	8·3	12·1	1·3	74	81·9	25·5	47·1	45·9	0·030	3·8	mP, sN : sP
25	...	30·299	45·1	30·7	14·4	37·1	−12·0	34·1	29·8	7·3	11·7	3·5	75	82·5	22·8	46·9	45·7	0·000	0·0	sP
26	...	30·301	48·5	25·9	22·6	37·4	−11·4	34·9	31·4	6·0	15·3	0·5	79	89·0	18·0	45·6	44·7	0·000	3·3	sP
27	...	29·920	49·2	38·9	10·3	44·7	− 3·8	42·1	39·1	5·6	8·6	1·5	81	66·2	33·7	45·4	43·9	0·033	1·2	mP : sN, sP
28	...	29·576	58·1	42·0	16·1	50·2	+ 2·0	47·7	45·1	5·1	12·9	0·4	83	80·5	32·0	45·2	43·9	0·048	1·5	mP : sP
29	In Equator : Apogee	29·477	58·9	40·9	18·0	49·0	+ 1·1	46·5	43·8	5·2	13·3	0·4	82	100·7	29·6	45·2	44·3	0·182	2·5	mP : vP, vN
30	...	29·155	51·7	39·8	11·9	46·7	− 0·9	44·4	41·8	4·9	11·0	0·2	84	92·4	36·4	46·0	45·1	0·373	1·5	vN, vP : sP
31	Full	29·408	50·8	37·3	13·5	43·2	− 4·1	40·5	37·3	5·9	11·1	3·0	80	96·4	29·9	45·6	44·1	0·000	3·0	sP
Means	...	29·912	52·6	38·3	14·3	45·2	− 5·8	42·7	39·8	5·4	10·6	1·7	81·8	81·4	31·9	50·2	49·1	Sum 1·030	0·7	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·912, being 0in·192 *higher* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 64°·1 on October 8; the lowest in the month was 25°·3 on October 13; and the range was 38°·8.
The mean of all the highest daily readings in the month was 52°·6, being 5°·3 *lower* than the average for the 46 years, 1841–1886.
The mean of all the lowest daily readings in the month was 38°·3, being 5°·2 *lower* than the average for the 46 years, 1841–1886.
The mean of the daily ranges was 14°·3, being 0°·1 *less* than the average for the 46 years, 1841–1886.
The mean for the month was 45°·2, being 5°·8 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. OSLER'S. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	ROBINSON'S. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Oct. 1	4·9	11·6	NNE	NNE : N	3·8	0·0	0·53	311	p.-cl, li.-cl : v, cu.-s, li.-cl	v, cu, cu.-s, sh.-r : v, li.-cl
2	0·0	11·5	N	N	1·9	0·0	0·14	201	p.-cl : 10	10 : 10
3	0·0	11·4	N	NNE	2·4	0·0	0·23	249	10 : 10	10 : 10
4	0·0	11·4	N : NNE	NE : NNE	2·3	0·0	0·12	208	10 : 10	10 : 10
5	0·0	11·3	NNE	NNE	1·6	0·0	0·11	217	10 : 10	10 : 10
6	1·3	11·2	NNE : N	N : NNW	1·2	0·0	0·07	163	10 : p.-cl, cu.-s: 10	v, cu.-s, li.-cl : 10
7	0·3	11·2	WSW	WNW : WSW	0·7	0·0	0·03	177	10 : p.-cl, cu.-s, slt.-f	6, cu.-s, h, m : 10
8	3·3	11·1	SW : WSW	WSW : SSW	0·6	0·0	0·01	165	10 : 10, m : v, th.-cl	6,ci.-cu, cu : 10, slt.-r : 10
9	0·0	11·0	SSW : SE	NE : N	0·7	0·0	0·01	132	10 : 10	10, r : 10, r
10	0·0	11·0	N : NW : W	NNW	8·6	0·0	1·07	362	10 : 10, m, r, glm	10, r, w : v, w : 0, l
11	4·2	10·9	WNW : WSW	NW : WNW	2·5	0·0	0·46	314	1, li.-cl: 0,ho.-fr, m: 4, th.-cl, h, m	5, cu.-s, th.-cl : 0, m
12	2·0	10·9	W : WSW : NW	NNW : SW	1·0	0·0	0·04	153	v, ho.-fr, sn : 2, th.-cl, h, m	4, th.-cl, h : f, ho.-fr
13	0·2	10·8	SW : WSW	NNW : N	5·7	0·0	0·64	260	0, ho.-fr : 10, f, slt.-r, glm	10, slt.-r : v, slt.-r : 0, d
14	0·0	10·7	NNW : WSW : W	WNW : NNW	8·0	0·0	1·15	369	0, d : p.-cl : 10, oc.-slt.-r	10, fq.-slt.-r, hl, glm : v : 0
15	3·7	10·7	NW : NNW	N	8·6	0·0	2·04	391	0 : p.-cl, cu.-s, th.-cl, w	v, cu.-s, oc.-slt.-r, w : v, cu.-s
16	1·4	10·6	N : NW	NNW : N	2·1	0·0	0·12	194	0 : 2, th.-cl, h, slt.-f	p.-cl : 10 : 10
17	3·3	10·5	NNW : N	N : WSW	1·0	0·0	0·02	146	10 : p.-cl, cu.-s, m	v, ci.-cu, cu.-s, slt.-h : 0,slt.-h,slt.-f : 10, f
18	0·2	10·5	WSW : W	NNW	1·0	0·0	0·05	195	10, f : 10, f, glm	9, cu.-s, slt.-f : 10
19	0·1	10·4	NNW : W	WSW : SW	0·5	0·0	0·02	179	10 : 10, f, glm	v, cu.-s, slt.-h : 0, slt.-h
20	0·0	10·3	WSW : W	NNW	0·7	0·0	0·05	220	0, d : v : 10, slt.-f	10 : v, h : v, th.-cl
21	4·1	10·3	NW : N	NNE : NE	1·2	0·0	0·04	148	v, m : 0,h,f,ho.-fr: 0, h, slt.-f	4, ci.-cu, cu, cu.-s : 0, slt.-f
22	4·3	10·2	Calm	WSW : S	0·1	0·0	0·00	104	0,f, ho.-fr : tk.-f,ho.-fr: 0, f	3, th.-cl, slt.-f : 2, li.-cl
23	1·3	10·2	S : SW	WSW	3·2	0·0	0·18	220	0 : v : 10, cu.-s	p.-cl, th.-cl : v, th.-cl, oc.-r, lu.-ha
24	4·1	10·1	WSW : NNW	NNW	9·3	0·1	3·17	517	v, oc.-r, w : p.-cl, ci.-cu, cu.-s, w	7, ci.-cu, cu.-s, w : 0, w
25	6·6	10·0	NNW : N	N	7·7	0·0	1·68	330	0, w : 2, li.-cl, w	4, ci.-cu, cu.-s, li.-cl : v : 0,slt.-f,ho.-fr
26	6·1	10·0	SW	SSW : S	1·3	0·0	0·07	194	0, f, ho.-fr : 0, f, ho.-fr	1, li.-cl : 2, li.-cl : 10
27	0·0	9·9	S: SSW	SSW	4·0	0·0	0·73	337	v : v, th.-cl, slt.-r	10, fq.-slt.-r : 10, fq.-slt.-r
28	2·3	9·8	SSW : SW : NW	WSW : SW	4·0	0·0	0·68	314	10 : 10, sh.-r : p.-cl, ci.-cu, ci.-s	v, cu -s, li.-cl : v, th.-cl
29	5·3	9·8	SSW : SW : WSW	SW : SSW : SE	3·0	0·0	0·49	290	0, d : 2, s : 3, ci.-s	v, cu, cu.-s, so.-ha : 10, r
30	4·8	9·7	SE : WNW : WSW	WSW : SW	17·2*	...	...	535	10, hy.-r, w : 10, slt.-r, g	v, st.-w, slt.-r : v,th.-cl,lu.-ha,lu.-co
31	3·2	9·7	SW	WSW : SW : S	...	...	...	320	v : v, th.-cl	v, cu, cu.-s, th.-cl : 0, lu.-co, d
Means	2·2	10·6	...	...	...	...	(29 days) 0·48	255		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 42°·7, being 6°·2 *lower* than
The mean *Temperature of the Dew Point* for the month was 39°·8, being 7°·0 *lower* than
The mean *Degree of Humidity* for the month was 81·8, being 4·3 *less* than
The mean *Elastic Force of Vapour* for the month was 0^{in}·245, being 0^{in}·076 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2^{grs}·8, being 0^{gr}·8 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 549 grains, being 10 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·21. The maximum daily amount of *Sunshine* was 6·6 hours on October 25.

The highest reading of the *Solar Radiation Thermometer* was 120°·6 on October 1; and the lowest reading of the *Terrestrial Radiation Thermometer* was 18°·0 on October 26.

The mean daily distribution of *Ozone* for the 12 hours ending 9^h. was 0·3; for the 6 hours ending 15^h. was 0·1; and for the 6 hours ending 21^h. was 0·3.

The *Proportions of Wind* referred to the cardinal points were N. 13, E. 2, S. 6, and W. 9. One day was calm.

The *Greatest Pressure of the Wind* in the month was 17·2 lbs. on the square foot on October 30. The mean daily *Horizontal Movement of the Air* for the month was 255 miles; the greatest daily value was 535 miles on October 30; and the least daily value was 104 miles on October 22.

Rain fell on 11 days in the month, amounting to 1^{in}·030, as measured by gauge No. 6 partly sunk below the ground; being 1^{in}·864 *less* than the average fall for the 46 years, 1841–1886.

* The pressure apparatus of Osler's Anemometer became deranged during the gale of October 30, but the period of greatest severity, during which the pressure of 17·2 lbs. occurred, was duly recorded.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Difference. Greatest.	Difference. Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Nov. 1	...	29·178	47·9	37·8	10·1	43·5	− 3·5	41·9	40·0	3·5	7·8	1·3	88	52·8	30·2	45·0	44·1	0·204	9·5	mP, mN : ssN, mP
2	...	29·077	54·1	39·1	15·0	44·7	− 2·0	43·3	41·7	3·0	8·8	0·2	89	97·7	31·7	44·9	44·4	0·024	6·2	mP : mP, vN : sP
3	...	28·721	51·0	42·2	8·8	48·2	+ 1·8	46·2	44·0	4·2	10·5	0·8	86	81·4	39·2	45·2	44·9	1·007	8·5	vP, vN
4	...	28·851	55·4	41·0	14·4	47·9	+ 1·9	45·4	42·6	5·3	11·0	1·7	83	96·3	34·5	45·3	45·1	0·117	3·8	vN, wP : wP, mN : sP
5	Greatest Declination N.	29·278	53·1	38·2	14·9	45·9	+ 0·3	43·9	41·6	4·3	10·8	0·5	86	95·7	31·0	45·6	43·8	0·096	4·0	mP : mP : —
6	...	29·195	54·4	40·1	14·3	46·7	+ 1·5	44·6	42·3	4·4	10·4	1·3	85	97·7	32·5	45·6	44·7	0·015	3·0	— : mP : mP
7	...	29·293	49·0	39·1	9·9	44·7	0·0	44·1	43·4	1·3	3·4	0·0	95	52·8	32·5	45·8	44·9	0·408	0·0	mP : mP, sN
8	Last Qr.	29·609	50·4	45·3	5·1	47·2	+ 2·9	46·0	44·7	2·5	4·8	0·8	92	64·0	41·7	46·0	44·9	0·013	0·0	wP : mP
9	...	29·727	47·9	44·8	3·1	46·2	+ 2·4	46·0	45·8	0·4	1·9	0·2	99	52·0	42·2	46·2	45·9	0·482	0·0	wP, wN : vN : mP
10	...	29·670	47·1	44·5	2·6	45·9	+ 2·5	45·4	44·9	1·0	2·2	0·2	97	53·0	40·0	46·4	45·9	0·048	0·0	wP, wN : mP
11	...	29·815	49·6	40·4	9·2	43·9	+ 0·9	43·1	42·1	1·8	3·6	0·4	94	76·3	33·8	46·6	46·2	0·029	0·0	mN, mP : sP, sN
12	In Equator	30·004	46·8	39·1	7·7	42·5	− 0·1	40·7	38·5	4·0	7·8	1·4	86	68·0	35·4	46·2	45·9	0·001	0·0	sP, vN : sP
13	...	29·859	42·0	37·8	4·2	40·1	− 2·2	38·1	35·5	4·6	6·4	3·4	84	47·2	36·0	46·0	45·1	0·002	0·8	mP
14	Perigee	29·559	44·8	35·5	9·3	39·4	− 2·6	37·5	35·0	4·4	9·5	2·0	85	70·4	27·5	45·2	44·7	0·020	2·2	wP : sP, sN
15	New	29·976	37·5	28·1	9·4	34·0	− 7·8	33·5	32·6	1·4	3·6	0·0	94	62·0	18·0	45·6	43·9	0·000	0·0	sP
16	...	30·173	29·2	21·7	7·5	26·4	−15·2	26·4	26·4	0·0	1·3	0·0	100	30·7	15·5	44·6	42·9	0·000	0·0	sP : vP, vN
17	...	29·835	37·1	22·5	14·6	29·1	−12·4	28·6	26·9	2·2	7·2	0·0	91	71·6	19·6	43·6	42·1	0·000	0·0	sP
18	Greatest Declination S.	29·228	34·9	30·5	4·4	32·5	− 9·0	32·1	31·3	1·2	3·9	0·0	96	37·2	25·0	43·0	41·9	0·512	0·0	sP, ssN : vN, vP
19	...	29·130	45·2	29·7	15·5	36·5	− 4·9	34·8	32·3	4·2	11·0	0·4	86	88·4	26·3	42·8	41·3	0·000	0·0	sP
20	...	29·361	39·1	33·1	6·0	35·5	− 5·8	35·3	35·0	0·5	2·2	0·0	98	57·6	32·9	42·6	39·9	0·093	0·0	vP, vN : sP
21	...	29·414	36·3	31·3	5·0	33·7	− 7·5	33·7	33·7	0·0	0·0	0·0	100	44·4	31·3	42·8	40·1	0·000	0·0	sP, wN : sP
22	First Qr.	29·557	44·2	32·8	11·4	39·2	− 1·9	38·8	38·3	0·9	3·3	0·0	97	49·2	32·8	42·0	39·9	0·112	4·0	vP, wN : mP, vN
23	...	29·776	42·7	33·0	9·7	38·9	− 2·1	38·1	37·1	1·8	4·1	0·7	94	55·6	26·0	41·5	39·8	0·100	0·0	vN, mP : sP
24	...	29·698	39·6	33·0	6·6	36·7	− 4·3	36·1	35·3	1·4	4·1	0·6	95	44·7	26·0	41·2	39·1	0·010	0·0	sP, ssN : sP
25	In Equator	29·582	44·4	33·1	11·3	39·1	− 1·8	37·9	36·3	2·8	5·0	1·6	90	53·2	28·6	40·8	38·9	0·000	0·2	sP
26	Apogee	29·605	52·0	39·0	13·0	47·7	+ 6·9	45·1	42·2	5·5	8·4	1·6	82	57·6	33·6	40·6	38·9	0·000	2·0	mP
27	...	29·608	51·4	41·0	10·4	46·0	+ 5·2	44·2	42·1	3·9	6·4	1·7	87	59·9	34·5	40·8	39·9	0·026	3·7	wP : sP
28	...	29·783	51·4	39·0	12·4	45·5	+ 4·6	43·4	41·0	4·5	8·8	1·0	85	73·2	32·0	41·0	40·5	0·131	0·0	mP, sN : sP, vN
29	...	29·505	43·8	35·2	8·6	40·1	− 0·9	39·5	38·7	1·4	3·1	0·0	95	53·4	28·2	41·2	40·3	0·325	0·0	sN, vP : sP, vN
30	Full	29·726	40·2	32·4	7·8	36·3	− 4·9	35·4	34·1	2·2	7·6	0·6	92	42·2	24·5	42·0	40·9	0·000	0·0	sP
Means	...	29·526	45·4	36·0	9·4	40·8	− 1·9	39·6	38·2	2·6	6·0	0·7	91·0	62·9	30·8	43·9	42·7	Sum 3·775	1·6	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The results on November 27 and 28 for Air and Evaporation Temperatures are deduced from eye-observations, on account of failure of the photographic registers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·526, being 0in·245 *lower* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 55°·4 on November 4; the lowest in the month was 21°·7 on November 16; and the range was 33°·7.

The mean of all the highest daily readings in the month was 45°·4, being 3°·4 *lower* than the average for the 46 years, 1841–1886.

The mean of all the lowest daily readings in the month was 36°·0, being 1°·4 *lower* than the average for the 46 years, 1841–1886.

The mean of the daily ranges was 9°·4, being 2°·0 *less* than the average for the 46 years, 1841–1886.

The mean for the month was 40°·8, being 1°·9 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Nov. 1	0.0	9.6	SSE : S	S : SSE	...	...	...	445	2, d : p.-cl : 10, sc, r, w	10, fq.-r : 10,oc.-th.-r: v, th.-cl
2	3.2	9.5	SSE : SSW	SW : S	...	...	...	307	v : v, shs.-r	6, ci.-cu, ci.-s, cu.-s, li.-cl, li.-shs : 1, li.-cl : v
3	2.6	9.5	S : SW	SW : SSW	...	...	...	558	v, hy.-r : 10, hy.-r, w	v,cu.-s,li.-cl,shs.-r: v,cu.-s,li.-cl,hy.-r,w
4	6.1	9.4	SSW : SW	SSW : WNW : WSW	...	...	...	441	10, fq.-r : v : 1	v, cu.-s, r : v, li.-cl
5	5.6	9.4	SW : WSW	SW : SSE	...	...	...	334	v, d : p.-cl : v, ci.-cu	2, ci.-cu, cu.-s, li.-cl : p.-cl : 10, r
6	5.8	9.3	SW : SSW	S : SE : E	...	...	...	252	10, r : v	v, slt.-r : 7, th.-cl
7	0.0	9.2	ENE : NE	NE : E	...	...	...	371	v : 10 : 10,oc.-slt.-r	10, fq.-r : 10, r
8	0.1	9.2	E	ENE : NE	...	...	...	326	10, r : 10	10 : 10
9	0.0	9.1	NE	NNE	...	...	...	293	10, r : 10, c.-r	10, c.-r : 10, oc.-th.-r
10	0.0	9.1	NNE : NE	ENE	...	...	...	239	10 : 10, oc.-shs	10, oc.-slt.-r : 10 : 10
11	0.3	9.0	NE : NNE	NNE : N	...	...	...	210	10 : 10	p.-cl, fq.-r, glm : v
12	0.2	9.0	NNE	NE : ENE	...	...	...	141	p.-cl : p.-cl, m, m.-r	9, cu.-s : 10 : 10
13	0.0	8.9	E	E : NE	...	...	...	161	10 : 10 : 10,glm,th.-r	10, oc.-slt.-r : 10
14	0.5	8.9	NNE	NNE	...	...	...	380	10 : 10, slt.-r	v, cu.-s : v, th.-cl, sh.-r
15	1.6	8.8	NNE : NE	E : NNE	...	...	...	179	v, th.-cl : p.-cl, ho.-fr : 8, cu.-s, fr.-r	v, li.-cl, slt.-r, slt.-sn : 0, m, ho.-fr
16	0.0	8.8	Calm	SE	...	...	...	59	slt.-f : tk.-f,glm,ho.-fr	10, tk.-f : 10, tk.-f, ho.-fr
17	4.2	8.7	E : ENE	ENE : ESE	...	...	...	146	f, ho.-fr : 0, f, ho.-fr	0 : 1, li.-cl : v, ho.-fr
18	0.0	8.7	ENE : Calm	Calm : NNW : WSW	...	...	...	81	10 : 10, slt.-f, glm : 10, hy.-r	10, gt.-glm, r, sn : 10, sn
19	4.7	8.6	SW : SE	E : ENE	...	...	...	173	10 : p.-cl,ho.-fr,m : 7, ci.-s	v : 10, slt.-r : v
20	0.0	8.6	NE : NNE	N : NW	...	...	...	141	10, r : 10, r : v,cu.-s,li.-cl,m	v, h, slt.-f : 10, f : 10, f
21	0.0	8.5	NW : SW : ESE	E : NE	...	...	...	101	10, f : 10, f	10, f : 10, f
22	0.0	8.5	NE : E	ENE : NE	...	...	...	329	10, slt.-r : 10, r	10 : 10,fq.-th.-r: 10, th.-r
23	0.2	8.4	NE	NNE : NE	...	...	...	387	10, r : 10	9, cu.-s : p.-cl : 2, th.-cl
24	0.0	8.4	NE	NNE : N : NW	...	...	...	174	v, slt.-r : 10 : 10	10 : 10
25	0.0	8.3	WSW	WSW	...	...	...	303	v : 10 : v	1,li.-cl,slt.-h: 1,li.-cl,h,lu.-ha : 0, lu.-ha, lu.-co
26	0.0	8.3	WSW	SW	...	...	...	586	p.-cl : 10	10 : 10, th.-r
27	0.0	8.2	SW	SW	...	...	...	529	10 : 10 : 10,sh.-r,glm	v, cu.-s : 0 : 1, li.-cl
28	2.1	8.2	SSW	SSW : SE	...	...	...	291	0 : p.-cl : v, cu.-s, r	2, ci.-cu, li.-cl, so.-ha : p.-cl : 10, r
29	0.2	8.2	NE : NW : WSW	SW : WSW	...	...	...	272	10, c.-hy.-r : 10, r : 10,slt.-f,glm	10, r, glm : v, li.-cl, m
30	0.0	8.1	WSW	WNW : SW	...	...	...	222	0, ho.-fr : p.-cl,m,ho.-fr : 0, h, slt.-f	1, li.-cl : 0 : v, ho.-fr
Means	1.2	8.8	...	...	...	...	...	281		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 39°.6, being 1°.6 *lower* than
The mean *Temperature of the Dew Point* for the month was 38°.2, being 1°.1 *lower* than
The mean *Degree of Humidity* for the month was 91.0, being 3.7 *greater* than
The mean *Elastic Force of Vapour* for the month was 0in.231, being 0in.009 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs.7, being 0gr.1 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 547 grains, being 2 grains *less* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7.1.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.14. The maximum daily amount of *Sunshine* was 6.1 hours on November 4.

The highest reading of the *Solar Radiation Thermometer* was 97°.7 on November 2 and 6; and the lowest reading of the *Terrestrial Radiation Thermometer* was 15°.5 on November 16.

The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 1.0; for the 6 hours ending 15h. was 0.4; and for the 6 hours ending 21h. was 0.2.

The *Proportions of Wind* referred to the cardinal points were N. 7, E. 9, S. 7, and W. 5. Two days were calm.

The apparatus for recording the *Pressure of the Wind* was not in action throughout the month of November. The mean daily *Horizontal Movement of the Air* for the month was 281 miles; the greatest daily value was 586 miles on November 26; and the least daily value was 59 miles on November 16.

Rain fell on 20 days in the month, amounting to 3in.775, as measured by gauge No. 6 partly sunk below the ground; being 1in.530 *greater* than the average fall for the 46 years, 1841–1886.

MONTH and DAY, 1887.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. Excess above Average of 20 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Of Radiation. Lowest on the Grass.	Of the Water of the Thames at Deptford. Highest.	Of the Water of the Thames at Deptford. Lowest.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	°	in.		
Dec. 1	...	30·079	49·3	34·5	14·8	44·1	+ 2·6	42·8	41·2	2·9	4·2	1·6	90	53·4	25·8	41·8	40·9	0·003	0·0	sP
2	...	30·261	49·6	44·3	5·3	46·4	+ 4·6	43·7	40·6	5·8	9·0	3·1	81	67·9	38·3	42·0	40·9	0·000	1·0	sP
3	Greatest Declination N.	30·012	49·0	42·8	6·2	44·7	+ 2·6	42·5	39·9	4·8	6·5	3·3	84	64·0	40·8	42·2	41·4	0·000	3·2	mP : sP
4	...	29·694	46·3	41·7	4·6	44·4	+ 2·0	42·4	40·0	4·4	6·3	0·2	85	51·6	37·5	42·0	40·9	0·077	0·8	sP
5	...	29·783	41·7	34·0	7·7	38·2	− 4·4	37·0	35·3	2·9	7·1	0·9	90	47·0	26·9	42·0	41·1	0·102	0·2	vN, sP : sP
6	...	29·393	43·4	33·8	9·6	38·9	− 3·8	36·9	34·2	4·7	6·6	2·4	84	51·3	28·0	42·6	41·4	0·025	0·8	sP : mN, sP
7	...	29·504	39·4	31·9	7·5	34·7	− 8·1	33·0	30·2	4·5	7·0	2·9	83	52·0	25·3	42·8	40·9	0·000	0·0	sP
8	Last Qr.	29·430	53·4	34·7	18·7	42·6	− 0·2	41·6	40·4	2·2	5·2	0·5	92	53·4	30·0	42·0	40·9	0·268	1·0	vP, wN : mP, wN
9	In Equator	29·280	54·1	41·0	13·1	49·4	+ 6·6	46·1	42·6	6·8	11·1	3·2	77	64·2	34·0	42·0	39·9	0·000	3·0	mP
10	...	29·702	41·1	30·5	10·6	37·7	− 5·0	35·2	31·8	5·9	12·4	2·1	80	49·6	21·0	42·0	39·9	0·000	0·0	mP, wN : vP
11	...	29·849	40·1	27·4	12·7	34·4	− 8·1	33·4	31·7	2·7	5·7	0·2	89	40·2	18·5	42·4	40·9	0·080	0·0	vP
12	Perigee	29·867	41·5	30·5	11·0	34·7	− 7·5	34·3	33·8	0·9	3·1	0·0	96	47·8	30·3	41·6	40·5	0·126	1·5	sP
13	...	29·344	50·1	42·6	7·5	47·3	+ 5·5	46·3	45·2	2·1	5·0	0·4	93	56·1	38·0	41·6	40·7	0·198	6·5	wN, wP : wP
14	New	29·308	48·1	35·5	12·6	41·1	− 0·4	39·5	37·5	3·6	7·1	2·1	87	66·4	28·7	41·2	40·7	0·301	1·3	sP : vP, vN
15	...	29·250	45·9	39·0	6·9	42·2	+ 1·1	40·4	38·2	4·0	7·3	1·6	86	48·8	32·0	41·2	39·9	0·020	7·2	mP, vN : vP
16	Greatest Declination S.	29·305	52·4	42·1	10·3	48·5	+ 7·7	46·5	44·3	4·2	8·2	1·5	86	60·1	36·3	42·0	40·3	0·083	4·5	vP, wN : mP
17	...	29·567	45·2	37·0	8·2	41·4	+ 0·9	38·9	35·8	5·6	8·6	1·7	81	64·3	31·0	42·0	41·5	0·004	0·0	sP
18	...	29·524	43·6	34·2	9·4	37·9	− 2·3	36·3	34·2	3·7	6·9	1·2	86	65·3	28·7	41·8	40·9	0·127	0·0	sP : sP, vN
19	...	29·354	36·8	31·3	5·5	34·5	− 5·5	33·0	30·5	4·0	6·0	1·6	85	39·0	25·2	41·2	40·1	0·007	0·0	sP : vP, wN
20	...	29·372	36·9	28·6	8·3	33·6	− 6·2	33·1	32·2	1·4	3·4	0·4	95	36·9	21·5	40·8	39·9	0·016	0·0	sP, wN : vP, wN
21	...	29·489	35·7	31·9	3·8	34·2	− 5·4	33·2	31·5	2·7	4·2	0·6	89	39·0	30·2	40·0	39·1	0·000	0·0	sP
22	First Qr.	29·779	34·2	29·3	4·9	32·3	− 7·1	31·9	31·1	1·2	3·1	0·0	95	37·6	27·7	40·0	39·3	0·000	0·0	sP
23	In Equator	29·808	38·0	28·9	9·1	33·5	− 5·8	32·5	30·7	2·8	5·8	0·4	89	40·4	25·6	39·6	38·9	0·000	0·0	ssP, vN : ssP
24	Apogee	29·727	40·8	33·4	7·4	37·8	− 1·5	36·2	34·0	3·8	5·5	1·4	86	46·7	28·0	39·2	38·9	0·015	0·0	sP, vN : sP
25	...	29·731	37·4	30·0	7·4	34·5	− 4·7	33·3	31·3	3·2	5·3	2·2	88	37·4	20·9	39·0	38·5	0·000	0·0	sP
26	...	29·811	36·0	26·5	9·5	31·1	− 8·0	29·5	25·3	5·8	9·5	0·5	77	63·2	18·2	39·0	38·1	0·000	0·0	sP
27	...	29·903	32·0	24·0	8·0	27·7	−11·3	27·0	24·1	3·6	8·1	0·0	86	40·3	16·7	38·0	36·9	0·000	0·0	ssP
28	...	29·821	34·5	27·0	7·5	31·5	− 7·3	29·9	26·0	5·5	10·8	2·1	79	40·5	21·0	36·1	35·7	0·011	0·0	sP
29	...	30·017	34·7	28·1	6·6	31·2	− 7·5	29·4	24·8	6·4	10·5	2·2	75	57·0	19·6	36·0	35·3	0·000	0·0	sP
30	Full: Greatest Declination N.	30·015	37·7	31·3	6·4	34·2	− 4·3	33·4	32·0	2·2	6·1	0·3	91	49·5	27·8	35·6	34·9	0·005	0·0	sP
31	...	29·956	35·3	28·9	6·4	33·4	− 4·9	32·5	30·8	2·6	6·7	0·3	90	36·7	24·5	36·0	34·3	0·000	0·0	sP
Means	...	29·675	42·1	33·4	8·6	38·0	− 2·8	36·5	34·2	3·8	6·8	1·3	86·3	50·6	27·7	40·5	39·5	Sum 1·468	1·0	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is that determined from the reduction of the photographic records from 1849 to 1868. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers.

The values given in Columns 3, 4, 5, 14, 15, 16, and 17 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·675, being 0in·116 *lower* than the average for the 20 years, 1854–1873.

TEMPERATURE OF THE AIR.

The highest in the month was 54°·1 on December 9; the lowest in the month was 24°·0 on December 27; and the range was 30°·1

The mean of all the highest daily readings in the month was 42°·1, being 2°·2 *lower* than the average for the 46 years, 1841–1886.

The mean of all the lowest daily readings in the month was 33°·4, being 1°·6 *lower* than the average for the 46 years, 1841–1886.

The mean of the daily ranges was 8°·6, being 0°·7 *less* than the average for the 46 years, 1841–1886.

The mean for the month was 38°·0, being 2°·8 *lower* than the average for the 20 years, 1849–1868.

MONTH and DAY, 1887.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Least.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	CLOUDS AND WEATHER. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	lbs.	miles.		
Dec. 1	0·0	8·1	WSW	SW : WSW	1·2	0·0	0·07	270	p.-cl : 10	p.-cl,cu.-s,th.-cl: 10 : 10
2	3·2	8·1	SW : WSW	SW : WSW	1·9	0·0	0·06	265	10 : 10, glm : v, li.-cl	v, li.-cl : 10
3	1·9	8·0	SW	SW	4·5	0·0	0·75	438	10 : 10 : p.-cl	6,ci.-cu,cu.-s: 10 : 10
4	0·0	8·0	WSW	SW : WSW : N	2·5	0·0	0·26	319	10 : 10	10 : 10, r
5	0·0	8·0	NNE : N	WNW:SW:SSW	1·3	0·0	0·04	231	10, r : p.-cl,cu.-s,li.-cl,h,slt.-f	2,li.-cl,h,ho.-fr,slt.-f: 0,slt.-f,lu.-ha,ho.-fr
6	0·3	8·0	SSW : S	SW : WSW	6·9	0·0	0·84	405	0, lu.-ha :8,ci.-cu,ci.-s,cu.-s,oc.-slt.-r,w	10,oc.-slt.-r,w: 1, li.-cl : 0, ho.-fr
7	0·6	7·9	WSW	WSW	6·3	0·0	0·46	378	0, ho.-fr : 0, ho.-fr : v, li.-cl	7, cu.-s, th.-cl, slt.-sn, sl: 0 : v, ho.-fr
8	0·0	7·9	WSW : SW : SSE	SSW : SW	6·3	0·0	0·57	397	10 : 10, r : 10, c.-r	10, fq.-r : 10, fq.-r, w
9	2·0	7·9	WSW	WSW : W	7·4	0·0	2·95	598	v, w : v, li.-cl, w	v, cu.-s, li.-cl, w : v
10	0·0	7·9	WSW : NE	NE : SW	0·6	0·0	0·01	153	v : 10 : 10	10 : p.-cl : 0, f, ho.-fr
11	0·0	7·8	SW : SSE	WSW : N	1·2	0·0	0·02	174	0, f : p.-cl : 10, sn	10, r, glm : v, slt.-f : 10
12	0·0	7·8	NE : E : SE	ESE : SE : SSE	2·3	0·0	0·09	174	10 : 10 : p.-cl	9, th.-cl : v : 10, hy.-r
13	0·0	7·8	S	SSW : WSW	5·8	0·0	1·39	482	10, hy.-r : 10, slt.-r	10,sc,glm,oc.-slt.-r: 10, fq.-th.-r : p.-cl,sh.-r
14	2·9	7·8	SW : SSW : SSE	SSW	7·3	0·0	0·54	376	p.-cl : v, ho.-fr	v, li.-shs : v, li.-cl, hy.-r, w
15	0·0	7·8	SSW: SW: WSW	WNW : SW	5·1	0·0	0·49	387	10, shs.-r : p.-cl,cu.-s, shs.-r	9,cu.-s,slt.-r: 1 : v
16	0·9	7·8	SW	SW : WSW	7·4	0·0	2·22	582	v,th.-cl,shs.-r,w: p.-cl, sc, fq.-r, w	6,cu.-s,li.-cl,slt.-sh: 0 :v, cu.-s, r
17	2·0	7·7	WSW	WSW	6·4	0·0	1·57	515	v, li.-shs : 2, li.-cl	v, cu.-s, th.-cl : 0
18	1·9	7·7	WSW	WSW	7·3	0·0	1·05	490	0 : 0, ho.-fr : 2, th.-cl	p.-cl : 10, fq.-r : v
19	0·0	7·7	WSW : NW : WNW	W : NNW : NW	3·3	0·0	0·15	309	v, ho.-fr : p.-cl, h, ho.-fr	9,cu.-s,m,glm,slt.-r: 10, fq.-r : v, th.-cl, m
20	0·0	7·7	WNW : WSW	NW : NNW	0·7	0·0	0·02	219	ho.-fr :10,glm,slt.-f,m.-r	10, glm, slt.-f, fq.-m.-r : 10, fq.-m.-r
21	0·0	7·7	NNW	NNW : N	0·9	0·0	0·03	203	10 : 10, slt.-sn	10 : 10
22	0·0	7·7	N : NNE	NNW : W	0·7	0·0	0·03	206	10, sn : 10, glm : 10	10 : 10
23	0·0	7·7	WSW : NW	NNW : SW	0·3	0·0	0·00	215	10 : 10,slt.-f,glm,slt.-sn,m.-r	5, th.-cl : p.-cl : 10
24	0·0	7·7	W : NW : N	NNW	1·8	0·0	0·18	299	10, li.-shs : 10, sc	10,glm,slt.-r: 10 : v
25	0·0	7·7	NNW : WSW	W : NW : NE	1·5	0·0	0·04	255	p.-cl : v, f	10,slt.-f,slt.-sn: 10, slt.-f : 10, th.-r
26	3·8	7·8	NE	NE : N	1·1	0·0	0·06	223	10, slt.-sn : v,ci.-cu,li.-cl,ho.-fr	1, li.-cl : 0 : 0, ho.-fr
27	0·2	7·8	NNE : N	N : NW	2·2	0·0	0·10	226	0, ho.-fr : 0, ho.-fr	1, li.-cl, h : 0, h : 0, h, ho.-fr
28	0·6	7·8	W : NW : N	NNE : NE	1·8	0·0	0·14	301	v, slt.-sn : p.-cl	v, li.-cl : v
29	1·4	7·8	NE	N : NW	0·8	0·0	0·01	171	v, slt.-sn : v, slt.-sn	1, li.-cl, h, f: v : 10
30	0·2	7·8	WSW : N	N	1·7	0·0	0·07	191	10 : p.-cl, fr.-r	p.-cl,ci.-cu,li.-cl,slt.-r : 10
31	0·0	7·8	SW	SW : SE	0·0	0·0	0·00	94	10 : 10, f, glm	10, slt.-f : 10, slt.-f : v, slt.-f
Means	0·7	7·8	...	...	...	...	0·46	308		
Number of Column for Reference.	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 36°·5, being 2°·8 *lower* than
The mean *Temperature of the Dew Point* for the month was 34°·2, being 3°·2 *lower* than
The mean *Degree of Humidity* for the month was 86·3, being 1·5 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·197, being 0in·027 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs·3, being 0gr·3 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 553 grains, being 2 grains *greater* than
} the average for the 20 years, 1849–1868.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·0.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·09. The maximum daily amount of *Sunshine* was 3·8 hours on December 26.

The highest reading of the *Solar Radiation Thermometer* was 67°·9 on December 2; and the lowest reading of the *Terrestrial Radiation Thermometer* was 16°·7 on December 27.

The mean daily distribution of *Ozone* for the 12 hours ending 9h. was 0·8; for the 6 hours ending 15h. was 0·1; and for the 6 hours ending 21h. was 0·1.

The *Proportions of Wind* referred to the cardinal points were N. 8, E. 2, S. 9, and W. 12.

The *Greatest Pressure of the Wind* in the month was 7·4 lbs. on the square foot on December 9 and 16. The mean daily *Horizontal Movement of the Air* for the month was 308 miles; the greatest daily value was 598 miles on December 9; and the least daily value was 94 miles on December 31.

Rain fell on 16 days in the month, amounting to 1in·468, as measured by gauge No. 6 partly sunk below the ground; being 0in·356 *less* than the average fall for the 46 years, 1841–1886.

HIGHEST and LOWEST READINGS of the BAROMETER, reduced to 32° Fahrenheit, as extracted from the PHOTOGRAPHIC RECORDS.

MAXIMA.			MINIMA.			MAXIMA.			MINIMA.		
Greenwich Civil Time, 1887.		Reading.	Greenwich Civil Time, 1887.		Reading.	Greenwich Civil Time, 1887.		Reading.	Greenwich Civil Time, 1887.		Reading.
	d h m	in.		d h m	in.		d h m	in.		d h m	in.
January	4. 17. 0	29·258	January	4. 4. 47	29·132	April	26. 9. 0	29·775	April	24. 8. 40	29·131
	6. 23. 0	28·855		5. 12. 0	28·639		28. 8. 0	29·847		26. 19. 45	29·611
	10. 20. 50	29·800		8. 2. 12	28·757	May	1. 7. 0	29·963		29. 4. 10	29·663
	13. 8. 50	30·251		11. 14. 43	29·680		8. 8. 50	30·246	May	3. 18. 0	29·315
	17. 8. 50	29·885		16. 13. 30	29·805		10. 7. 35	30·218		9. 16. 30	30·147
	19. 10. 20	29·927		18. 4. 30	29·706		14. 22. 30	30·205		12. 4. 35	29·898
	21. 23. 50	30·504		19. 22. 35	29·783		18. 23. 0	29·753		18. 4. 15	29·684
	26. 23. 5	30·207		25. 3. 30	30·005		21. 6. 56	29·617		20. 6. 0	29·095
	28. 21. 40	30·327		28. 3. 55	30·134		24. 22. 5	30·058		21. 15. 55	29·479
February	2. 0. 0	29·932	February	1. 11. 35	29·586		31. 8. 10	29·909		28. 6. 0	29·717
	4. 22. 0	30·254		2. 19. 20	29·573	June	6. 10. 45	29·975	June	3. 2. 10	29·367
	7. 11. 20	30·565		5. 14. 35	30·180		10. 22. 50	30·314		7. 17. 35	29·820
	12. 0. 10	30·280		11. 14. 57	30·111		17. 12. 0	30·182		13. 17. 40	29·944
	16. 21. 5	30·277		14. 13. 35	30·018		20. 23. 40	30·204		19. 18. 0	30·026
	19. 21. 0	30·069		18. 15. 30	29·781		23. 23. 30	30·096		23. 14. 20	30·034
	23. 18. 0	29·981		21. 4. 25	29·791		26. 12. 10	30·097		25. 18. 10	30·004
	27. 9. 45	30·503		25. 2. 50	29·778		29. 22. 20	30·294		27. 17. 35	29·925
March	2. 9. 0	30·464		28. 16. 15	30·338	July	6. 11. 0	29·980	July	4. 19. 0	29·691
	7. 11. 10	30·103	March	6. 16. 50	29·982		9. 10. 0	29·746		9. 1. 58	29·685
	10. 11. 30	29·939		9. 16. 30	29·839		12. 7. 0	29·835		10. 7. 25	29·561
	13. 6. 0	29·981		12. 5. 40	29·505		16. 22. 20	30·086		13. 12. 45	29·598
	19. 9. 45	30·130		15. 16. 0	29·590		20. 2. 0	30·139		17. 14. 0	30·019
	22. 18. 40	29·429		22. 6. 40	29·194		21. 10. 15	30·096		20. 16. 56	30·027
	24. 5. 50	29·493		23. 7. 20	28·817		23. 9. 58	29·992		22. 18. 20	29·794
	26. 15. 15	29·945		24. 17. 25	29·330		28. 7. 58	29·910		27. 3. 40	29·407
	29. 10. 0	30·174		27. 13. 45	29·713		30. 8. 25	29·944		29. 10. 0	29·795
April	3. 10. 0	29·944	April	1. 4. 15	29·295	August	3. 8. 30	30·207		31. 3. 10	29·828
	10. 10. 0	30·059		5. 5. 0	29·309		8. 7. 37	30·071	August	6. 17. 0	29·865
	15. 9. 0	30·250		12. 17. 0	29·793		10. 21. 17	29·947		10. 3. 5	29·873
	17. 7. 35	30·539		15. 17. 0	30·170		14. 23. 0	29·891		13. 14. 39	29·614

HIGHEST and LOWEST READINGS of the BAROMETER reduced to 32° Fahrenheit, as extracted from the PHOTOGRAPHIC RECORDS—*continued.*

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.	
Greenwich Civil Time, 1887.	Reading.	Greenwich Civil Time, 1887.	Reading.	Greenwich Civil Time, 1887.	Reading.	Greenwich Civil Time, 1887.	Reading.
d h m	in.	d h m	in.	d h m	in.	d h m	in.
August 16. 23. 17	29·651	August 16. 8. 58	29·592	November 3. 18. 30	28·722	November 3. 11. 10	28·634
19. 9. 0	29·770	17. 16. 30	29·551	5. 10. 51	29·365	4. 3. 0	28·627
22. 9. 35	29·951	20. 5. 0	29·667	9. 9. 0	29·759	6. 0. 45	29·068
27. 13. 0	29·654	26. 21. 50	29·567	12. 20. 40	30·043	10. 6. 30	29·640
30. 10. 58	29·580	29. 5. 45	29·490	16. 9. 0	30·216	14. 9. 0	29·486
September 1. 7. 30	29·558	31. 6. 30	29·288	23. 19. 0	29·840	19. 5. 0	29·104
3. 10. 41	29·681	September 2. 7. 40	29·105	25. 23. 35	29·656	25. 7. 30	29·540
6. 8. 25	29·419	5. 13. 40	29·283	28. 10. 20	29·842	27. 7. 20	29·530
8. 10. 0	30·229	6. 18. 20	29·334	December 2. 10. 20	30·317	29. 6. 20	29·421
10. 20. 0	29·853	10. 5. 2	29·780	5. 10. 25	29·836	December 4. 16. 40	29·648
13. 23. 0	29·760	12. 16. 0	29·545	7. 23. 0	29·680	6. 15. 33	29·173
19. 9. 10	30·302	14. 16. 0	29·690	11. 9. 0	29·904	8. 22. 35	29·106
24. 10. 0	30·285	22. 4. 0	30·105	12. 10. 0	29·956	11. 14. 20	29·791
October 3. 20. 30	30·216	28. 5. 0	29·097	14. 6. 20	29·389	13. 18. 50	29·178
11. 8. 25	29·531	October 10. 5. 20	29·225	15. 20. 45	29·488	15. 3. 25	29·092
14. 0. 45	29·766	12. 15. 0	29·462	17. 10. 58	29·657	16. 14. 0	29·255
18. 8. 55	30·430	14. 13. 20	29·523	19. 22. 50	29·430	19. 3. 50	29·269
22. 8. 37	30·416	20. 15. 50	30·169	22. 22. 30	29·888	20. 13. 30	29·342
25. 23. 20	30·395	24. 2. 55	29·695	25. 2. 23	29·806	24. 6. 0	29·675
28. 21. 0	29·593	28. 6. 0	29·535	27. 10. 20	29·938	25. 20. 30	29·658
31. 21. 10	29·540	30. 5. 15	28·653	29. 10. 8	30·072	28. 5. 58	29·753
November 2. 18. 0	29·120	November 1. 15. 40	29·039	30. 21. 0	30·080	30. 4. 10	29·972

The readings in the above table are accurate, but the times are occasionally liable to uncertainty, as the barometer will sometimes remain at its extreme reading without sensible change for a considerable interval of time. In such cases the time given is the middle of the stationary period. On April 15d. 9h. the eye-reading is employed, on account of temporary interruption of photographic registration.

The time is expressed in civil reckoning, commencing at midnight and counting from 0h. to 24h.

HIGHEST AND LOWEST READINGS of the BAROMETER in each Month for the YEAR 1887.
[Extracted from the preceding Table.]

MONTH, 1887.	Readings of the Barometer.		Range.
	Highest.	Lowest.	
	in.	in.	in.
January	30·504	28·639	1·865
February	30·565	29·573	0·992
March	30·464	28·817	1·647
April	30·539	29·131	1·408
May	30·246	29·095	1·151
June	30·314	29·367	0·947
July	30·139	29·407	0·732
August	30·207	29·288	0·919
September	30·302	29·097	1·205
October	30·430	28·653	1·777
November	30·216	28·627	1·589
December	30·317	29·092	1·225

The highest reading in the year was $30^{in}·565$ on February 7. The lowest reading in the year was $28^{in}·627$ on November 4.
The range of reading in the year was $1^{in}·938$.

MONTHLY RESULTS of METEOROLOGICAL ELEMENTS for the YEAR 1887.

MONTH, 1887.	Mean Reading of the Barometer.	Temperature of the Air. Highest.	Lowest.	Range in the Month.	Mean of all the Highest.	Mean of all the Lowest.	Mean of the Daily Ranges.	Monthly Mean.	Excess of Mean above Average of 20 Years.	Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	Mean Degree of Humidity. (Saturation = 100.)
	in.	°	°	°	°	°	°	°	°	°	°	
January ...	29·829	52·5	15·5	37·0	40·2	30·6	9·6	35·8	− 2·9	34·8	33·0	89·8
February...	30·145	54·9	19·7	35·2	45·4	32·5	12·9	38·9	− 0·8	37·0	34·1	83·2
March	29·892	57·2	22·1	35·1	45·3	31·2	14·2	37·9	− 3·7	35·8	32·6	81·7
April	29·820	67·2	25·3	41·9	55·0	35·3	19·8	44·2	− 3·2	40·6	36·5	75·0
May.........	29·831	69·4	32·3	37·1	59·0	42·3	16·7	50·1	− 3·0	46·9	43·5	78·8
June	30·011	83·7	42·5	41·2	73·4	49·7	23·7	61·0	+ 1·3	55·8	51·3	71·1
July.........	29·867	92·2	44·8	47·4	80·5	54·1	26·4	66·5	+ 3·9	59·8	54·4	65·5
August	29·808	89·5	41·0	48·5	75·5	51·7	23·8	62·5	+ 0·7	56·4	51·2	67·3
September.	29·759	70·7	33·6	37·1	62·9	46·9	16·1	54·4	− 3·1	51·2	48·1	79·7
October ...	29·912	64·1	25·3	38·8	52·6	38·3	14·3	45·2	− 5·8	42·7	39·8	81·8
November.	29·526	55·4	21·7	33·7	45·4	36·0	9·4	40·8	− 1·9	39·6	38·2	91·0
December..	29·675	54·1	24·0	30·1	42·1	33·4	8·6	38·0	− 2·8	36·5	34·2	86·3
Means	29·840	Highest. 92·2	Lowest. 15·5	Annual Range. 76·7	56·4	40·2	16·3	47·9	− 1·8	44·8	41·4	79·3

MONTH, 1887.	Mean Elastic Force of Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean Weight of a Cubic Foot of Air.	Mean Amount of Ozone.	Mean Amount of Cloud. (0–10.)	Rain. Number of Rainy Days.	Amount collected in Gauge No. 6 whose receiving Surface is 5 inches above the Ground.	Wind. From Osler's Anemometer. Number of Hours of Prevalence of each Wind referred to different Points of Azimuth. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Number of Calm or nearly Calm Hours.	Mean Daily Pressure on the Square Foot.	From Robinson's Anemometer. Mean Daily Horizontal Movement of the Air.
	in.	grs.	grs.				in.	h	h	h	h	h	h	h	h	h	lbs.	miles.
January ...	0·188	2·1	558	2·5	7·6	14	1·153	54	39	29	54	198	235	78	14	43	0·20	238
February...	0·196	2·3	560	2·2	6·2	4	0·528	56	170	110	36	54	197	25	18	6	0·37	315
March	0·185	2·2	557	2·9	6·8	10	1·353	96	135	135	43	28	125	108	54	20	0·33	288
April	0·216	2·5	548	4·2	5·8	11	1·747	128	178	72	14	41	176	69	36	6	0·69	343
May.........	0·283	3·3	542	2·2	7·8	19	1·727	188	209	82	15	7	68	93	70	12	0·43	289
June	0·378	4·2	533	2·3	5·0	3	1·229	79	207	126	37	8	107	119	25	12	0·20	244
July.........	0·424	4·7	524	3·5	4·6	10	1·290	77	89	43	45	82	291	60	30	27	0·25	248
August ...	0·377	4·2	528	1·7	5·7	9	2·345	103	61	87	84	64	188	66	58	33	0·19	210
September.	0·336	3·8	536	3·2	7·7	16	2·214	118	119	15	5	52	281	78	41	11	0·47*	283
October ...	0·245	2·8	549	0·7	6·7	11	1·030	251	43	3	17	56	168	95	98	13	0·48*	255
November.	0·231	2·7	547	1·6	7·1	20	3·775	83	185	95	34	80	162	36	7	38	...	281
December..	0·197	2·3	553	1·0	7·0	16	1·468	154	58	7	15	60	258	134	53	5	0·46	308
Sums	...	...	...	...	...	143	19·859	1387	1493	804	399	730	2256	961	504	226	...	...
Means	0·271	3·1	545	2·3	6·5	...	...	...	...	...	...	...	...	...	...	...	...	275

The greatest recorded daily horizontal movement of the air in the year was 829 miles on March 23.
The least recorded daily horizontal movement of the air „ „ 59 miles on November 16.

* The mean daily pressures of the wind for September and October are derived from the results for 28 and 29 days respectively.

MONTHLY MEAN READING of the BAROMETER at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1887. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Midnight	29·837	30·149	29·914	29·806	29·835	30·011	29·881	29·821	29·759	29·923	29·529	29·680	29·845
1h.	29·830	30·148	29·908	29·801	29·829	30·009	29·877	29·816	29·755	29·915	29·522	29·675	29·840
2	29·829	30·145	29·898	29·795	29·824	30·005	29·874	29·812	29·752	29·906	29·518	29·676	29·836
3	29·823	30·139	29·887	29·789	29·822	30·004	29·870	29·808	29·748	29·895	29·511	29·674	29·831
4	29·819	30·135	29·881	29·785	29·821	30·005	29·869	29·804	29·745	29·891	29·505	29·671	29·828
5	29·815	30·136	29·877	29·787	29·824	30·009	29·872	29·804	29·745	29·887	29·505	29·672	29·828
6	29·814	30·137	29·877	29·793	29·831	30·015	29·877	29·810	29·751	29·889	29·506	29·674	29·831
7	29·819	30·142	29·879	29·800	29·836	30·019	29·880	29·814	29·758	29·901	29·513	29·677	29·837
8	29·828	30·148	29·885	29·801	29·840	30·024	29·883	29·818	29·763	29·915	29·522	29·685	29·843
9	29·838	30·151	29·892	29·803	29·841	30·025	29·882	29·820	29·768	29·922	29·529	29·691	29·847
10	29·845	30·153	29·898	29·804	29·843	30·025	29·879	29·820	29·769	29·925	29·534	29·697	29·849
11	29·845	30·155	29·900	29·803	29·842	30·024	29·876	29·818	29·766	29·926	29·533	29·692	29·848
Noon	29·839	30·152	29·898	29·800	29·838	30·020	29·873	29·814	29·762	29·919	29·528	29·682	29·844
13h.	29·828	30·142	29·889	29·794	29·837	30·012	29·866	29·808	29·759	29·910	29·522	29·671	29·836
14	29·824	30·134	29·881	29·786	29·832	30·006	29·859	29·802	29·754	29·904	29·516	29·663	29·830
15	29·826	30·129	29·873	29·781	29·825	30·001	29·852	29·797	29·750	29·901	29·519	29·663	29·826
16	29·828	30·127	29·867	29·778	29·822	29·997	29·846	29·793	29·750	29·902	29·522	29·665	29·825
17	29·830	30·133	29·868	29·778	29·819	29·992	29·843	29·790	29·751	29·909	29·528	29·666	29·826
18	29·830	30·141	29·875	29·782	29·819	29·992	29·844	29·790	29·757	29·918	29·537	29·669	29·830
19	29·832	30·144	29·879	29·790	29·822	29·996	29·847	29·797	29·763	29·923	29·544	29·671	29·834
20	29·834	30·150	29·882	29·801	29·830	30·004	29·857	29·805	29·769	29·926	29·547	29·672	29·840
21	29·834	30·158	29·883	29·810	29·837	30·014	29·866	29·810	29·771	29·928	29·550	29·673	29·844
22	29·831	30·162	29·884	29·813	29·837	30·020	29·872	29·809	29·770	29·925	29·548	29·674	29·845
23	29·827	30·165	29·882	29·815	29·836	30·025	29·875	29·810	29·769	29·920	29·548	29·676	29·846
24	29·820	30·168	29·877	29·814	29·831	30·023	29·874	29·807	29·768	29·913	29·545	29·674	29·843
Means 0h.–23h.	29·829	30·145	29·886	29·796	29·831	30·011	29·867	29·808	29·759	29·912	29·526	29·675	29·837
Means 1h.–24h.	29·829	30·146	29·884	29·796	29·831	30·011	29·867	29·807	29·759	29·911	29·527	29·675	29·837
Number of Days employed.	31	28	29	28	31	30	31	31	30	31	30	31	...

MONTHLY MEAN TEMPERATURE of the AIR at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1887. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	34·9	37·2	35·4	40·3	46·6	55·0	59·5	57·1	51·9	43·2	39·1	37·0	44·8
1h.	34·7	36·9	35·4	39·9	46·2	54·5	59·0	56·1	51·4	42·6	39·2	36·7	44·4
2	34·7	36·6	35·2	39·1	45·9	53·9	58·5	55·7	50·8	42·3	39·1	36·7	44·0
3	34·6	36·4	34·9	38·7	45·6	53·1	57·9	55·0	50·3	42·2	38·9	36·7	43·7
4	34·5	36·1	34·7	38·4	45·3	52·7	57·4	54·5	50·1	42·0	38·8	36·7	43·4
5	34·4	36·1	34·8	38·1	45·4	53·2	57·6	54·5	49·9	41·7	38·7	36·7	43·4
6	34·3	36·1	34·8	38·4	46·2	54·6	59·5	55·4	50·0	41·5	38·6	36·8	43·9
7	34·4	36·0	35·0	40·1	47·5	56·8	62·5	57·3	50·8	41·5	38·7	36·9	44·8
8	34·4	36·2	36·2	42·3	49·0	59·5	65·8	60·6	52·6	42·3	39·1	36·8	46·2
9	34·8	37·6	37·8	44·8	51·1	62·1	69·4	63·9	55·4	44·3	39·9	37·1	48·2
10	35·7	39·3	39·3	46·9	52·7	64·4	72·2	67·0	57·3	46·6	41·1	37·9	50·0
11	36·6	41·5	40·8	48·9	54·0	66·5	73·9	69·0	58·8	48·8	42·4	38·9	51·7
Noon	37·5	42·7	41·9	50·7	54·9	68·1	75·0	70·3	59·2	49·9	43·3	39·9	52·8
13h.	37·9	43·5	43·3	52·0	55·9	69·6	75·9	71·7	59·7	50·7	43·6	40·1	53·7
14	38·3	43·7	43·4	52·6	56·3	70·3	76·1	71·9	59·7	50·7	43·6	40·2	53·9
15	38·2	43·7	43·5	51·7	56·5	69·6	75·9	71·5	59·7	50·0	43·0	39·9	53·6
16	37·7	42·7	42·8	50·9	56·4	69·1	75·0	70·4	58·6	48·9	42·1	39·4	52·8
17	37·1	41·1	41·2	49·5	55·1	68·2	73·6	68·8	57·3	47·5	41·3	38·8	51·6
18	36·5	39·8	39·7	47·5	54·1	66·4	71·2	66·7	55·8	46·4	40·7	38·6	50·3
19	36·0	39·1	38·4	45·5	52·5	63·6	68·7	64·2	54·4	45·5	40·4	38·4	48·9
20	35·9	38·6	37·5	44·0	50·9	60·4	65·6	61·8	53·7	44·7	40·3	38·5	47·7
21	35·6	38·1	36·7	42·4	49·5	58·2	63·2	60·0	53·0	44·2	39·8	38·2	46·6
22	35·7	37·5	36·2	41·6	48·6	56·8	61·7	58·9	52·7	43·7	39·6	37·8	45·9
23	35·7	37·1	35·9	40·6	47·8	55·5	60·6	57·9	52·1	43·2	39·3	37·3	45·2
24	35·5	36·7	35·5	40·1	46·8	54·8	59·6	57·1	51·7	42·8	39·4	36·8	44·7
Means 0h.–23h.	35·8	38·9	38·1	44·4	50·6	60·9	66·5	62·5	54·4	45·2	40·4	38·0	48·0
Means 1h.–24h.	35·9	38·9	38·1	44·4	50·6	60·9	66·5	62·5	54·4	45·2	40·5	38·0	48·0
Number of Days employed.	31	28	30	29	29	27	31	31	30	31	28	31	...

MONTHLY MEAN TEMPERATURE of EVAPORATION at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1887. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	34·2	35·8	34·3	38·5	45·0	52·7	57·0	54·2	50·0	41·5	38·3	35·7	43·1
1h.	33·9	35·7	34·3	38·1	44·7	52·4	56·6	53·6	49·6	41·1	38·5	35·4	42·8
2	33·9	35·5	34·2	37·8	44·5	52·0	56·1	53·4	49·1	40·8	38·4	35·5	42·6
3	33·9	35·3	34·1	37·3	44·3	51·5	55·5	52·9	48·8	40·8	38·3	35·6	42·4
4	33·9	35·1	34·0	37·0	44·0	51·1	55·3	52·5	48·6	40·5	38·2	35·7	42·2
5	33·8	35·0	34·1	36·9	44·0	51·4	55·5	52·3	48·4	40·3	38·0	35·7	42·1
6	33·6	35·0	34·1	37·2	44·5	52·3	56·6	52·9	48·4	40·3	38·0	35·8	42·4
7	33·6	35·1	34·2	38·5	45·4	53·7	58·3	54·1	48·9	40·1	38·1	35·7	43·0
8	33·6	35·2	35·1	40·0	46·3	55·2	60·0	55·9	50·2	40·9	38·4	35·6	43·9
9	34·0	36·2	36·1	41·4	47·7	56·8	61·3	57·6	51·7	42·3	39·0	35·8	45·0
10	34·6	37·5	37·1	42·5	48·6	57·9	62·2	58·8	52·9	43·9	40·0	36·3	46·0
11	35·5	38·8	37·8	43·6	49·3	58·9	62·8	59·4	53·6	45·1	40·9	37·0	46·9
Noon	36·1	39·5	38·4	44·6	49·7	59·8	63·2	59·9	53·7	45·8	41·3	37·8	47·5
13h.	36·5	40·1	38·9	45·1	50·2	60·5	63·6	60·2	54·0	46·2	41·5	38·0	47·9
14	36·7	40·2	39·1	45·2	50·6	60·6	63·6	60·1	54·0	46·0	41·4	37·9	48·0
15	36·6	40·0	39·1	44·6	50·8	60·5	63·5	60·0	54·0	45·6	41·0	37·8	47·8
16	36·2	39·5	38·8	44·4	50·6	60·5	63·2	59·4	53·6	45·0	40·5	37·5	47·4
17	35·8	38·5	38·1	43·5	49·9	59·8	62·9	58·8	52·9	44·2	40·0	37·2	46·8
18	35·4	37·6	37·2	42·6	49·4	59·1	61·9	58·1	52·2	43·4	39·7	37·0	46·1
19	34·9	37·2	36·4	41·6	48·5	57·9	61·0	57·2	51·6	43·0	39·4	36·9	45·5
20	34·9	36·8	35·9	40·8	47·5	56·4	59·9	56·2	51·1	42·4	39·2	37·0	44·8
21	34·7	36·3	35·2	39·9	46·8	54·8	58·9	55·4	50·8	42·1	38·8	36·8	44·2
22	34·8	35·9	34·8	39·4	46·2	54·0	58·2	55·0	50·5	41·6	38·6	36·4	43·8
23	34·9	35·6	34·6	38·8	45·7	53·1	57·6	54·6	50·1	41·4	38·4	36·0	43·4
24	34·9	35·3	34·4	38·3	45·0	52·6	57·0	54·3	49·9	41·1	38·4	35·5	43·1
Means 0h.–23h.	34·8	37·0	36·1	40·8	47·3	56·0	59·8	56·4	51·2	42·7	39·3	36·5	44·8
Means 1h.–24h.	34·9	37·0	36·1	40·8	47·3	56·0	59·8	56·4	51·2	42·7	39·3	36·5	44·8
Number of Days employed	31	28	30	29	29	27	31	31	30	31	28	31	...

MONTHLY MEAN TEMPERATURE of the DEW POINT at every HOUR of the DAY, as deduced by GLAISHER'S TABLES from the corresponding AIR and EVAPORATION TEMPERATURES.

Hour, Greenwich Civil Time.	1887. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	33·1	33·9	32·6	36·2	43·2	50·5	54·8	51·5	48·1	39·5	37·3	33·9	41·2
1h.	32·6	34·1	32·6	35·8	43·0	50·3	54·4	51·2	47·8	39·3	37·6	33·6	41·0
2	32·6	34·0	32·6	36·1	42·9	50·1	53·9	51·2	47·3	39·0	37·5	33·8	40·9
3	32·8	33·7	32·8	35·4	42·8	49·9	53·3	50·9	47·2	39·1	37·5	34·0	40·8
4	32·9	33·6	32·9	35·1	42·5	49·5	53·4	50·6	47·0	38·6	37·4	34·3	40·6
5	32·9	33·4	33·0	35·2	42·4	49·6	53·6	50·2	46·8	38·5	37·1	34·3	40·6
6	32·4	33·4	33·0	35·6	42·6	50·1	54·0	50·5	46·7	38·8	37·2	34·4	40·7
7	32·3	33·7	32·9	36·4	43·1	50·8	54·7	51·2	46·9	38·3	37·3	34·0	41·0
8	32·3	33·7	33·5	37·2	43·4	51·4	55·3	51·8	47·8	39·2	37·5	33·9	41·4
9	32·7	34·3	33·8	37·5	44·2	52·2	55·0	52·4	48·2	39·9	37·8	34·0	41·8
10	32·9	35·2	34·2	37·6	44·5	52·5	54·7	52·2	48·9	40·8	38·6	34·2	42·2
11	34·0	35·4	34·1	37·9	44·7	52·8	54·7	51·9	48·9	41·1	39·1	34·4	42·4
Noon	34·2	35·6	34·1	38·2	44·7	53·3	54·7	51·9	48·8	41·5	38·9	35·1	42·6
13h.	34·6	36·1	33·6	38·1	44·9	53·5	54·9	51·5	48·9	41·5	39·0	35·3	42·7
14	34·5	36·1	34·0	37·8	45·3	53·1	54·8	51·2	48·9	41·1	38·8	34·9	42·5
15	34·4	35·6	33·9	37·4	45·5	53·5	54·7	51·2	48·9	41·0	38·6	35·1	42·5
16	34·2	35·6	34·0	37·6	45·2	53·8	54·7	50·9	49·2	40·8	38·5	35·0	42·5
17	34·0	35·2	34·2	37·1	44·9	53·2	55·1	51·0	48·9	40·5	38·3	35·0	42·3
18	33·8	34·7	33·9	37·2	44·8	53·2	54·9	51·2	48·8	40·0	38·5	34·8	42·2
19	33·3	34·7	33·7	37·1	44·5	53·2	55·0	51·4	48·9	40·1	38·1	34·8	42·1
20	33·4	34·4	33·7	37·1	43·9	52·9	55·2	51·4	48·6	39·7	37·8	35·0	41·9
21	33·3	33·9	33·1	36·8	43·9	51·7	55·3	51·4	48·6	39·6	37·5	34·9	41·7
22	33·4	33·7	32·7	36·7	43·4	51·4	55·2	51·5	48·3	39·2	37·3	34·5	41·4
23	33·7	33·5	32·6	36·5	43·4	50·8	55·0	51·7	48·1	39·3	37·2	34·2	41·3
24	34·0	33·3	32·6	36·0	43·0	50·5	54·7	51·7	48·1	39·1	37·1	33·7	41·1
Means 0h.–23h.	33·3	34·5	33·4	36·8	43·9	51·8	54·6	51·3	48·2	39·8	37·9	34·5	41·7
Means 1h.–24h.	33·4	34·5	33·4	36·8	43·9	51·8	54·6	51·3	48·2	39·8	37·9	34·5	41·7

MONTHLY MEAN DEGREE of HUMIDITY (Saturation = 100) at every HOUR of the DAY, as deduced by GLAISHER'S TABLES from the corresponding AIR and EVAPORATION TEMPERATURES.

Hour, Greenwich Civil Time.	1887.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	93	88	90	86	89	85	85	82	87	87	94	89	88
1h.	92	90	90	86	89	86	86	84	88	88	94	89	88
2	92	91	90	90	90	87	85	86	88	88	94	90	89
3	93	91	92	89	90	89	85	86	90	89	95	90	90
4	94	91	93	88	90	90	86	86	90	89	95	91	90
5	94	90	93	90	89	88	86	85	89	90	94	91	90
6	93	90	93	90	88	84	83	84	89	91	95	91	89
7	92	92	92	87	86	80	76	80	87	89	95	89	87
8	92	91	90	83	81	75	69	73	84	89	94	89	84
9	92	88	85	75	78	71	60	66	77	85	93	89	80
10	90	86	82	71	75	65	54	59	73	81	91	87	76
11	91	80	77	65	71	62	51	54	70	75	88	85	72
Noon	88	77	75	63	68	59	50	52	69	73	84	83	70
13h.	88	75	69	60	67	56	48	49	67	72	84	83	68
14	87	74	69	58	67	54	48	49	67	71	83	82	67
15	87	73	69	58	67	56	48	49	67	72	84	83	68
16	87	77	72	60	66	58	50	50	71	74	88	85	70
17	89	80	77	62	69	58	52	52	73	77	90	87	72
18	91	82	80	68	71	63	56	58	78	79	92	87	75
19	90	85	84	73	75	69	61	63	81	82	92	87	79
20	90	85	86	76	78	76	70	69	83	83	91	88	81
21	92	85	87	81	82	79	76	73	85	84	92	88	84
22	92	86	88	84	83	82	80	77	85	84	92	88	85
23	93	87	88	86	85	85	82	80	86	86	93	89	87
24	94	88	89	86	87	85	84	82	87	86	92	89	87
Means { 0h.–23h.	91	85	84	76	79	73	68	69	80	82	91	87	80
Means { 1h.–24h.	91	85	84	76	79	73	68	69	80	82	91	87	80

TOTAL AMOUNT of SUNSHINE registered in each HOUR of the DAY in each MONTH, as derived from the RECORDS of the CAMPBELL-STOKES SELF-REGISTERING INSTRUMENT, for the YEAR 1887.

Month, 1887.	Registered Duration of Sunshine in the Hour ending																Total registered Duration of Sunshine in each Month.	Corresponding aggregate Period during which the Sun was above Horizon.	Mean Altitude of the Sun at Noon.
	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.			
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	°
January ...	...	...	...	...	0·2	3·1	5·6	6·0	5·4	4·5	4·3	1·5	...	...	...	...	30·6	259·1	18
February ...	...	...	...	0·8	5·0	11·3	11·6	10·7	11·0	10·7	11·1	8·4	1·2	...	...	...	81·8	277·9	26
March	...	...	0·2	1·9	4·6	5·6	8·8	9·6	10·8	10·9	11·2	8·5	5·8	1·3	...	...	79·2	366·9	37
April.........	...	2·8	8·9	11·5	12·3	14·4	14·1	15·3	17·1	18·1	15·6	13·3	11·5	8·2	0·8	...	163·9	414·9	48
May	0·3	3·8	5·6	6·7	7·7	8·8	9·7	10·7	10·2	11·6	10·2	7·1	7·5	7·0	5·5	0·3	112·7	482·1	57
June	1·8	7·6	13·1	13·8	14·0	16·5	17·6	17·7	18·4	18·9	16·0	15·7	18·5	19·6	16·9	4·3	230·4	494·5	62
July	2·1	12·0	17·7	18·6	20·2	22·8	23·1	20·9	22·0	21·6	21·4	20·5	20·9	17·2	14·2	1·9	277·1	496·8	60
August	...	4·3	9·2	14·6	16·1	18·1	19·2	18·2	20·0	19·2	19·5	16·9	15·6	12·4	4·2	...	207·5	449·1	52
September ..	...	...	1·6	3·7	7·4	12·0	15·6	12·2	9·0	8·3	8·8	10·8	6·2	1·8	...	...	97·4	376·9	41
October......	...	...	...	...	1·2	6·2	8·7	11·0	12·5	12·8	10·5	3·9	0·2	...	...	...	67·0	328·7	30
November...	...	...	...	...	1·1	3·0	4·7	6·3	6·9	6·8	5·7	2·9	...	...	...	...	37·4	264·4	20
December...	...	...	...	...	...	2·0	2·6	5·0	6·1	4·5	1·7	...	...	...	...	...	21·9	242·7	16

The hours are reckoned from *apparent* midnight.

The total registered duration of sunshine during the year was 1406·9 hours; the corresponding aggregate period during which the Sun was above the horizon was 4454·0 hours; the mean proportion for the year (constant sunshine = 1) was therefore 0·316.

READINGS of DRY-BULB THERMOMETERS placed in a STEVENSON'S SCREEN near the Ordinary Stand, and of those mounted in a louvre-boarded shed on the ROOF of the MAGNET HOUSE at an elevation of 20 feet above the GROUND; and EXCESS of the READINGS above those of the corresponding THERMOMETERS on the ORDINARY STAND, in the YEAR 1887.

(The readings of the maximum and minimum thermometers apply to the twenty-four hours ending at 21h.)

[No observations have been made on Sundays and a few other days.]

JANUARY.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...
22	42·9	39·4	41·0	42·1	42·6	42·9	−0·1	0·0	+0·1	+0·2	−0·1	+0·2
24	41·1	34·9	35·4	36·3	37·5	35·9	+1·3	+0·2	+0·1	−0·4	+0·2	+0·1
25	49·1	35·5	38·7	46·3	47·9	41·3	−0·6	−0·1	+0·2	−0·3	+0·4	+0·9
26	50·5	37·8	41·4	49·2	50·1	38·5	−0·3	+1·9	+0·6	+0·2	+0·6	+0·5
27	41·5	29·7	31·9	37·2	41·5	33·0	−0·6	+0·1	0·0	−0·2	−0·5	−0·6
28	48·0	32·5	41·5	47·9	47·5	43·2	−0·4	+1·6	0·0	−0·2	+0·1	+0·5
29	47·9	41·6	47·2	47·3	47·2	42·1	−0·9	−0·2	+0·2	−0·1	0·0	+0·1
31	50·5	40·2	46·8	49·2	50·4	42·5	−0·5	−0·3	+0·1	+0·1	−0·3	+0·5
Means	46·4	36·4	40·5	44·4	45·6	39·9	−0·3	+0·4	+0·2	−0·1	0·0	+0·3

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	26·0	18·7	24·2	24·1	22·0	19·3	0·0	+0·2	−0·4	+0·1	−0·2	+0·3
3	39·2	31·3	38·3	37·2	38·2	38·0	+1·0	+0·9	+0·9	+0·7	+1·1	+0·8
4	38·1	26·1	30·3	31·5	29·9	27·9	+0·8	+0·7	+0·2	+0·4	+0·1	+0·8
5	38·9	27·1	34·1	36·8	38·8	32·9	+0·4	+0·4	+0·5	+0·7	+1·0	+0·8
6	35·1	28·9	34·3	34·1	35·1	31·8	+0·5	+1·9	+1·4	+0·3	+0·8	+0·5
7	40·0	29·1	31·7	37·9	36·9	37·1	+1·4	+1·1	+0·1	+0·9	+1·8	+0·5
8	38·9	32·9	33·9	34·9	35·6	34·7	+0·6	+0·4	+0·7	+0·2	+0·4	−0·1
10	36·6	30·3	32·5	34·2	36·0	30·9	+1·0	+1·6	+0·4	+0·3	+1·1	+1·1
11	40·0	30·1	37·3	38·1	37·9	40·0	+0·8	+2·2	+0·5	+0·7	+0·7	+1·0
12	42·9	33·8	37·9	39·0	39·2	33·9	+2·1	+1·8	+0·4	+0·3	+0·3	+0·5
13	34·6	30·1	31·7	32·3	32·5	31·4	−0·4	+2·3	+0·2	+0·2	−0·1	−0·2
14	33·7	28·7	29·3	31·3	33·7	32·4	−0·4	−0·1	−0·6	−0·3	−0·1	−0·1
15	34·8	29·9	31·9	31·3	30·9	30·3	+0·2	−0·1	+0·1	+0·3	+0·1	0·0
17	36·9	19·1	21·3	29·4	31·2	36·4	+0·8	+0·2	−0·1	0·0	−0·1	+0·5
18	42·6	34·5	40·1	40·7	39·4	40·9	+0·9	+0·6	+1·9	+1·5	+1·1	+1·5
19	52·6	39·9	48·6	51·9	52·1	49·9	+0·1	+1·1	+1·0	+0·7	+0·4	+0·7
20	49·9	34·0	37·6	41·2	42·0	34·1	+0·4	+1·7	+0·6	−0·6	+0·5	+1·2
21	42·0	33·7	36·6	38·4	40·3	41·9	+0·9	+1·8	+0·7	+0·4	+0·4	+0·9
22	43·3	39·8	41·4	42·4	42·9	43·2	+0·3	+0·4	+0·5	+0·5	+0·2	+0·5
24	40·5	34·8	35·3	37·2	38·7	36·4	+0·7	+0·1	0·0	+0·5	+1·4	+0·6
25	49·6	36·3	39·6	46·3	47·9	41·3	−0·1	+0·7	+1·1	−0·3	+0·4	+0·9
26	51·2	37·8	41·8	49·7	50·9	39·9	+0·4	+1·9	+1·0	+0·7	+1·4	+1·9
27	42·4	29·4	31·9	37·8	42·2	33·5	+0·3	−0·2	0·0	+0·4	+0·2	−0·1
28	48·8	33·2	42·0	47·9	47·9	44·1	+0·4	+2·3	+0·5	−0·2	+0·5	+1·4
29	48·3	41·9	47·4	47·5	47·5	42·2	−0·5	+0·1	+0·4	+0·1	+0·3	+0·2
31	51·0	40·6	47·5	49·7	51·0	42·8	0·0	+0·1	+0·8	+0·6	+0·3	+0·8
Means	41·5	32·0	36·1	38·6	39·3	36·4	+0·5	+0·9	+0·5	+0·4	+0·5	+0·6

FEBRUARY.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	49·8	36·5	48·2	46·1	38·5	37·0	−0·7	+1·1	+0·1	+0·3	−0·1	+0·5
2	46·5	29·9	35·3	42·5	42·9	46·2	+0·3	+0·8	+0·2	−0·1	+0·1	+0·6
3	51·6	41·7	49·0	51·0	50·9	50·1	−0·5	+0·9	+0·2	+0·2	+0·1	0·0
4	51·8	46·8	51·3	50·6	50·3	47·5	−0·3	+0·5	+0·2	−0·2	−0·2	+0·4
5	53·6	43·5	46·1	51·5	52·5	45·7	−1·3	+0·5	0·0	−0·2	+0·1	+0·4
7	41·0	31·4	32·5	33·8	40·9	33·0	−0·2	−0·2	−0·2	−0·4	−0·1	−0·5
8	38·8	27·9	32·1	38·7	35·4	32·0	−0·3	+1·3	0·0	+0·3	−0·1	+0·2
9	35·8	31·4	33·2	34·7	34·8	32·6	−0·4	0·0	+0·1	0·0	+0·2	−0·2
10	34·9	28·3	30·0	33·5	34·1	32·5	+0·1	+0·4	−0·1	+0·1	−0·1	−0·3
11	37·7	31·5	34·0	36·0	37·5	34·4	−0·2	0·0	−0·1	0·0	−0·2	+0·1
12	43·1	31·7	35·2	41·1	42·4	32·2	−0·4	+0·5	0·0	−0·1	−0·1	+0·2
14	41·2	30·7	34·7	38·1	38·5	35·5	+2·2	+0·2	−0·1	−0·1	0·0	0·0
15	38·2	33·9	36·9	37·6	37·2	33·9	+0·1	+0·8	+0·1	+0·1	−0·4	+0·2
16	41·5	24·5	29·0	38·4	41·2	28·2	−0·2	+1·0	+0·2	−0·2	+0·1	+0·2
17	42·1	19·6	22·2	31·3	42·1	31·1	+0·1	−0·1	−0·7	−1·7	+0·4	−0·1
18	41·9	27·5	37·1	40·0	40·9	41·9	0·0	+0·8	+0·1	+0·1	−0·1	0·0
19	42·8	37·7	39·0	41·5	42·6	40·6	−0·3	+0·2	−0·1	−0·1	−0·1	−0·1
21	47·2	37·6	41·1	46·3	45·4	38·3	−0·9	−0·1	0·0	−0·5	+0·1	0·0
22	46·9	33·0	33·5	44·6	46·2	44·8	−0·3	−0·2	−0·2	−0·1	−0·2	−0·1
23	50·2	44·3	47·8	50·0	49·0	46·7	−0·8	+0·2	−0·1	+0·1	−0·1	+0·7
24	48·4	43·7	45·6	48·1	48·3	47·7	−0·9	0·0	0·0	−0·3	−0·2	+0·4
25	52·4	42·3	47·2	48·9	50·8	43·2	−0·6	+1·0	−0·2	0·0	+0·2	+1·0
26	52·4	28·8	39·5	50·8	51·3	37·1	−0·7	+0·7	+1·7	+0·1	−0·3	+0·1
28	52·3	26·5	33·5	50·0	51·7	35·2	−0·4	−0·2	+0·3	+0·1	−0·1	0·0
Means	45·1	33·8	38·1	42·7	43·6	38·6	−0·3	+0·4	+0·1	−0·1	0·0	+0·2

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	50·6	37·0	48·8	45·2	38·4	37·3	+0·1	+1·6	+0·7	−0·6	−0·2	+0·8
2	47·5	30·5	35·9	42·9	43·3	47·1	+1·3	+1·4	+0·8	+0·3	+0·5	+1·5
3	51·6	42·4	49·2	51·1	51·2	50·3	−0·5	+1·6	+0·4	+0·3	+0·4	+0·2
4	51·9	47·1	51·5	51·2	50·8	47·7	−0·2	+0·8	+0·4	+0·4	+0·3	+0·6
5	53·9	44·0	47·3	51·8	53·1	46·4	−1·0	+1·0	+1·2	+0·1	+0·7	+1·1
7	41·2	31·6	33·1	34·3	41·1	32·9	0·0	0·0	+0·4	+0·1	+0·1	−0·6
8	39·3	27·6	33·1	38·5	36·2	31·9	+0·2	+1·0	+1·0	+0·1	+0·7	+0·1
9	36·6	31·5	33·3	35·2	35·0	32·9	+0·4	+0·1	+0·2	+0·5	+0·4	+0·1
10	34·9	28·3	30·2	33·2	33·7	32·8	+0·1	+0·4	+0·1	−0·2	−0·5	0·0
11	37·8	31·8	34·0	36·3	37·8	34·7	−0·1	+0·3	−0·1	+0·3	+0·1	+0·4
12	43·3	31·8	35·4	40·5	42·4	32·2	−0·2	+0·6	+0·2	−0·7	−0·1	+0·2
14	39·3	31·1	34·9	38·5	38·7	35·8	+0·3	+0·6	+0·1	+0·3	+0·2	+0·3
15	38·2	34·1	36·9	37·8	37·6	34·1	+0·1	+1·0	+0·1	+0·3	0·0	+0·4
16	42·5	24·7	28·7	38·8	42·2	28·9	+0·8	+1·2	−0·1	+0·2	+1·1	+0·9
17	42·5	19·4	22·9	30·6	42·5	33·9	+0·5	−0·3	0·0	−2·4	+0·8	+2·7
18	43·2	28·3	38·0	40·9	41·9	43·0	+1·3	+1·6	+1·0	+1·0	+0·9	+1·1
19	43·6	38·1	38·9	41·7	42·7	41·0	+0·5	+0·6	−0·2	+0·1	0·0	+0·3
21	46·8	38·1	41·2	45·2	45·5	39·5	−1·3	+0·4	+0·1	−1·6	+0·2	+1·2
22	47·5	33·2	33·8	44·9	46·6	44·9	+0·3	0·0	+0·1	+0·2	+0·2	0·0
23	50·5	44·7	47·9	50·1	49·4	46·3	−0·5	+0·6	0·0	+0·2	+0·3	+0·3
24	48·9	44·2	46·0	48·5	48·9	48·1	−0·4	+0·5	+0·4	+0·1	+0·4	+0·8
25	52·0	43·1	47·3	48·9	50·4	43·6	−1·0	+1·8	−0·1	0·0	−0·2	+1·4
26	52·5	30·2	40·5	50·3	51·6	37·8	−0·6	+2·1	+2·7	−0·4	0·0	+0·8
28	53·4	26·4	33·7	48·4	52·9	35·5	+0·7	−0·3	+0·5	−1·5	+1·1	+0·3
Means	45·4	34·1	38·4	42·7	43·9	39·1	0·0	+0·8	+0·4	−0·1	+0·3	+0·6

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*continued.*

MARCH.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	40.0	28.3	33.9	35.7	37.6	33.9	+1.2	+1.4	−0.1	−0.4	−0.1	−0.1
2	42.6	29.5	30.9	35.1	42.4	33.5	−0.3	−0.2	−0.2	−0.5	+0.1	−0.5
3	44.8	28.8	33.8	37.8	44.8	35.4	−0.2	+0.4	−0.4	−0.5	0.0	−0.3
4	38.3	28.7	30.0	33.8	37.7	35.7	−0.3	−0.4	+0.1	−0.7	−0.2	−0.1
5	39.8	32.1	34.4	37.3	39.8	36.8	−0.5	+0.1	−0.1	−0.5	0.0	0.0
7	42.4	34.1	38.0	42.3	41.6	39.6	−0.7	+0.6	−0.2	−0.3	−0.2	−0.2
8	41.1	37.3	39.3	40.3	40.4	37.6	−0.4	+0.2	−0.1	−0.2	−0.4	0.0
9	41.5	35.5	37.5	40.0	41.2	39.2	−0.4	+0.5	−0.1	−0.1	+0.2	+0.4
10	46.3	35.4	38.0	46.1	46.0	35.7	−0.9	+0.5	−0.2	−0.3	+0.1	−0.3
11	46.3	27.5	34.1	45.7	42.7	35.0	−0.8	+0.8	+0.3	+0.8	−0.1	+0.2
12	40.5	29.3	34.0	35.0	36.0	30.0	−0.1	0.0	0.0	−0.2	0.0	−0.2
14	39.0	23.2	27.3	35.7	38.8	30.5	−0.4	+0.9	−0.1	+0.2	+0.1	−0.1
15	33.2	27.5	31.2	32.4	32.1	31.1	−1.1	+0.7	+0.1	−0.1	+0.1	+0.1
16	37.6	27.8	31.2	36.9	37.3	28.3	−2.3	+1.0	−0.7	−0.2	−0.8	0.0
17	34.3	25.5	31.9	33.0	34.0	31.4	−1.0	+0.6	−0.2	−0.2	−0.2	+0.1
18	39.5	27.3	34.6	36.0	37.2	28.5	−1.6	+0.6	0.0	0.0	−0.4	−0.3
19	39.0	24.6	34.9	38.0	38.3	30.0	−1.4	+1.0	+0.3	+0.1	−0.2	+0.2
21	41.0	25.4	29.7	33.1	40.5	32.9	−0.3	+0.7	−0.1	−0.3	−0.2	+0.1
22	52.3	31.7	46.0	49.7	51.4	44.2	−1.0	+0.2	+0.4	−1.1	−0.4	+0.3
23	51.3	41.1	45.4	50.3	49.8	41.7	−1.1	+0.9	+0.2	−0.9	0.0	+0.7
24	49.9	37.5	46.1	45.4	45.2	38.8	−1.2	+0.6	−0.4	−0.2	−0.2	0.0
25	50.5	35.9	45.3	48.7	49.3	42.7	−1.2	+0.4	−0.7	−0.4	+0.1	+0.5
26	52.1	39.8	45.0	50.4	50.4	44.7	−1.2	+0.9	+0.2	+0.3	−0.1	−0.1
28	54.0	38.5	46.2	50.2	52.4	47.3	−1.3	+0.8	+0.3	0.0	−0.2	+0.1
29	53.9	39.3	41.1	49.8	53.5	42.4	−0.5	−0.3	−0.3	+1.1	+0.2	−0.4
30	51.2	38.5	46.3	50.5	50.4	38.6	−1.5	+1.0	−0.4	−0.3	−0.4	−0.2
31	52.2	30.7	44.7	51.1	51.5	43.0	−1.3	+0.5	−0.4	−0.3	−0.3	−0.2
Means	44.2	31.9	37.4	41.5	43.0	36.6	−0.8	+0.5	−0.1	−0.2	−0.1	0.0

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	38.5	29.2	34.1	36.0	37.3	33.9	−0.3	+2.3	+0.1	−0.1	−0.4	−0.1
2	43.6	28.6	31.2	36.2	43.2	35.8	+0.7	−1.1	+0.1	+0.6	+0.9	+1.8
3	46.4	29.6	34.5	37.8	45.1	36.7	+1.4	+1.2	+0.3	−0.5	+0.3	+1.0
4	39.1	29.1	30.7	34.9	38.6	35.9	+0.5	0.0	+0.8	+0.4	+0.7	+0.1
5	40.6	32.3	34.6	37.2	40.2	36.9	+0.3	+0.3	+0.1	−0.6	+0.4	+0.1
7	43.4	33.9	38.3	43.2	42.1	39.9	+0.3	+0.4	+0.1	+0.6	+0.3	+0.1
8	41.6	37.1	39.7	41.0	40.9	37.7	+0.1	0.0	+0.3	+0.5	+0.1	+0.1
9	42.0	35.5	37.7	40.6	41.7	39.1	+0.1	+0.5	+0.1	+0.5	+0.7	+0.3
10	47.7	35.1	38.5	46.4	46.9	35.6	+0.5	+0.2	+0.3	0.0	+1.0	−0.4
11	46.6	27.4	33.6	43.6	43.1	35.1	−0.5	+0.7	−0.2	−1.3	+0.3	+0.3
12	40.6	29.4	33.0	33.7	34.2	29.9	0.0	+0.1	−1.0	−1.5	−1.8	−0.3
14	39.6	23.2	28.1	35.8	39.2	31.0	+0.2	+0.9	+0.7	+0.3	+0.5	+0.4
15	33.7	29.0	31.2	32.8	32.2	31.1	−0.6	+2.2	+0.1	+0.3	+0.2	+0.1
16	38.5	28.1	31.1	35.1	37.7	28.2	−1.4	+1.3	−0.8	−2.0	−0.4	−0.1
17	34.9	26.2	31.0	33.6	34.8	31.6	−0.4	+1.3	−1.1	+0.4	+0.6	+0.3
18	40.2	27.5	33.7	35.5	37.9	28.1	−0.9	+0.8	−0.9	−0.5	+0.3	−0.7
19	40.6	24.6	34.0	37.9	38.0	30.0	+0.2	+1.0	−0.6	0.0	−0.5	+0.2
21	41.8	25.9	30.0	33.6	41.0	32.7	+0.5	+1.2	+0.2	+0.2	+0.3	−0.1
22	52.8	32.1	46.3	49.1	51.9	44.5	−0.5	+0.6	+0.7	−1.7	+0.1	+0.6
23	51.4	41.5	45.6	49.5	48.9	42.0	−1.0	+1.3	+0.4	−1.7	−0.9	+1.0
24	49.9	37.6	46.0	45.4	45.6	38.8	−1.2	+0.7	−0.5	−0.2	+0.2	0.0
25	50.2	36.0	45.2	48.6	49.6	41.6	−1.5	+0.5	−0.8	−0.5	+0.4	−0.6
26	51.5	40.6	44.9	49.1	50.6	44.9	−1.8	+1.7	+0.1	−1.0	+0.1	+0.1
28	54.0	39.1	46.1	50.2	52.7	47.6	−1.3	+1.4	+0.2	0.0	+0.1	+0.4
29	54.2	39.5	42.1	46.9	53.2	44.6	−0.2	−0.1	+0.7	−1.8	−0.1	+1.8
30	50.6	37.5	46.7	49.9	50.1	38.3	−2.1	0.0	0.0	−0.9	−0.7	−0.5
31	52.6	30.7	45.2	51.8	51.8	43.2	−0.9	+0.5	+0.1	+0.4	0.0	0.0
Means	44.7	32.1	37.5	41.3	43.3	36.8	−0.4	+0.7	0.0	−0.4	+0.1	+0.2

APRIL.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	45.4	33.0	34.0	45.0	43.4	40.7	−1.3	−0.1	0.0	−0.4	−0.4	−0.1
2	52.2	34.5	42.4	52.2	49.2	43.9	−2.5	+0.8	+0.3	+0.3	−0.3	+0.4
4	57.1	36.2	45.6	52.8	57.1	46.6	−1.9	+0.5	−1.3	−0.2	+0.2	+0.6
5	47.1	37.0	40.1	39.7	40.0	40.0	+0.8	−0.3	0.0	−0.4	+0.1	+0.2
6	44.2	37.5	40.3	42.6	43.0	38.7	−0.2	−0.1	−0.1	−0.2	−0.2	+0.1
7	51.2	35.5	44.7	48.0	49.4	38.9	−0.9	−0.1	+0.2	−0.3	−0.4	+0.1
9	50.7	34.9	40.1	47.8	50.2	39.7	−1.6	+1.0	−0.4	−0.3	0.0	−0.1
11	57.2	33.4	46.0	55.7	56.9	43.1	−0.8	+1.2	−0.8	−0.1	+0.1	−0.1
12	63.8	34.2	43.0	60.2	63.6	41.9	−1.1	+0.7	−0.1	−0.5	−0.6	+0.3
13	46.3	37.4	39.8	42.3	46.0	39.7	−0.9	−0.1	0.0	−0.2	0.0	−0.1
14	45.2	32.4	39.0	42.0	45.2	36.3	−2.0	+0.7	−0.7	−0.2	−0.7	+0.1
15	51.0	29.4	36.3	46.3	51.0	43.8	−1.5	+1.2	−0.2	+0.2	−0.1	+0.2
16	48.3	35.5	46.0	46.5	48.0	35.5	−2.8	+0.7	+0.6	−1.0	−1.0	+0.2
18	61.4	31.8	45.9	55.1	61.3	50.4	−1.1	+0.8	−0.1	−0.7	−0.1	+0.6
19	65.8	42.5	54.2	60.0	62.0	53.2	−1.4	+0.3	−0.6	0.0	0.0	+0.9
20	63.7	38.2	50.0	60.6	63.6	51.6	−1.8	+1.3	+0.1	−0.2	−0.7	+1.0
21	61.8	37.8	48.5	60.2	61.0	47.6	−2.3	+0.9	0.0	−1.5	+0.2	+0.8
22	61.0	44.0	53.6	52.6	59.0	48.4	−2.3	+0.3	−1.1	+0.3	−0.5	+0.1
23	59.2	46.1	51.1	59.0	57.0	46.6	−2.2	+1.3	+0.1	−0.9	−0.2	+0.4
25	52.3	39.4	48.4	46.1	44.9	39.9	−1.9	+0.8	−0.1	−0.5	+0.1	+0.2
26	54.2	34.5	48.0	52.8	49.8	42.3	−1.1	+1.1	−1.8	+0.1	−0.2	+0.3
27	52.0	36.6	43.9	51.1	42.0	39.6	−2.4	+0.5	+0.1	−0.9	−0.4	+0.4
28	57.1	34.3	48.2	55.8	54.0	42.9	−2.7	+0.8	0.0	+0.2	+0.2	−0.1
29	47.7	37.6	41.2	45.9	45.2	41.5	−1.5	−0.1	−0.1	−0.1	−0.6	0.0
30	52.5	38.4	44.5	48.7	47.5	41.2	−2.0	+0.7	−0.2	−0.3	−0.3	+0.3
Means	53.9	36.5	44.6	50.8	51.6	43.0	−1.6	+0.6	−0.2	−0.3	−0.2	+0.3

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	45.4	32.8	33.2	45.4	41.2	39.9	−1.3	−0.3	−0.8	0.0	−2.6	−0.9
2	51.5	34.5	41.9	51.2	48.7	44.0	−3.2	+0.8	−0.2	−0.7	−0.5	+0.5
4	57.4	36.3	45.0	51.7	56.9	46.1	−1.6	+0.6	−1.9	−1.3	0.0	+0.1
5	46.6	36.3	39.9	39.5	39.3	39.1	+0.3	−1.0	−0.2	−0.6	−0.6	−0.7
6	43.6	37.8	40.4	42.6	43.2	38.8	−0.8	+0.2	0.0	−0.2	0.0	+0.2
7	51.6	35.7	43.2	48.0	49.9	39.0	−0.5	+0.1	−1.3	−0.3	+0.1	+0.2
9	51.9	34.6	40.2	48.4	51.5	39.7	−0.4	+0.7	−0.3	+0.3	+1.3	−0.1
11	58.4	33.6	46.9	55.9	56.9	42.7	+0.4	+1.4	+0.1	+0.1	+0.1	−0.5
12	65.8	34.3	42.8	58.9	65.2	41.5	+0.9	+0.8	−0.3	−1.8	+1.0	−0.1
13	46.7	37.2	39.7	42.8	45.9	39.5	−0.5	−0.3	−0.1	+0.3	−0.1	−0.3
14	43.8	32.4	38.0	40.7	43.3	36.8	−3.4	+0.7	−1.7	−1.5	−2.6	+0.6
15	50.6	29.3	36.6	45.1	49.3	43.9	−1.9	+1.1	+0.1	−1.0	−1.8	+0.3
16	49.7	35.1	45.0	46.2	47.7	35.4	−1.4	+0.3	−0.4	−1.3	−1.3	+0.1
18	61.6	32.4	45.8	55.5	61.1	52.9	−0.9	+1.4	−0.2	−0.3	−0.3	+3.1
19	65.1	43.1	54.9	58.9	61.5	55.0	−2.1	+0.9	+0.1	−1.1	−0.5	+2.7
20	63.2	38.8	49.6	58.5	61.8	51.9	−2.3	+1.9	−0.3	−2.3	−2.5	+1.3
21	61.8	37.8	50.2	59.8	60.9	47.1	−2.3	+0.9	+1.7	−1.9	+0.1	+0.3
22	61.2	44.1	52.8	52.9	58.9	48.4	−2.1	+0.4	−1.9	+0.6	−0.6	+0.1
23	58.0	45.6	51.9	57.2	56.4	46.8	−3.4	+0.8	+0.9	−2.7	−0.8	+0.6
25	52.5	39.4	48.8	46.9	44.9	39.9	−1.7	+0.8	+0.3	+0.3	+0.1	+0.2
26	53.0	34.4	47.2	51.9	50.0	42.3	−2.3	+1.0	−2.6	−0.8	0.0	+0.3
27	52.2	36.8	43.7	50.1	42.3	39.9	−2.2	+0.7	−0.1	−1.9	−0.1	+0.7
28	58.0	34.9	48.8	54.2	53.3	42.8	−1.8	+1.4	+0.6	−1.4	−0.5	−0.2
29	47.7	37.1	39.3	45.7	46.0	41.8	−1.5	−0.6	−2.0	−0.3	+0.2	+0.3
30	54.2	38.1	44.7	49.5	48.0	41.0	−0.3	+0.4	0.0	+0.5	+0.2	+0.1
Means	54.1	36.5	44.4	50.3	51.4	43.0	−1.5	+0.6	−0.4	−0.8	−0.5	+0.4

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*continued.*

MAY.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
2	46·1	40·5	43·7	45·8	45·3	45·2	−0·6	+0·2	−0·1	−0·1	−0·1	+0·1
3	60·2	41·7	50·0	59·0	59·4	51·5	−1·7	−0·2	0·0	−0·7	−0·6	+0·1
4	54·0	43·9	50·3	54·0	52·6	46·5	−1·3	−0·1	+0·1	−0·8	−1·5	+0·1
5	55·8	45·5	48·8	52·7	55·5	47·6	−1·0	−0·1	0·0	−0·2	−0·2	+0·3
6	50·3	42·4	47·1	49·6	49·6	47·6	−0·6	+0·6	−0·2	−0·1	+0·2	+0·1
7	59·1	42·6	49·0	55·9	56·0	50·9	−1·3	−0·1	+0·2	−0·6	+0·2	0·0
9	67·0	47·4	53·0	64·0	64·9	57·6	−2·4	+0·5	+0·2	−0·7	0·0	+0·4
10	64·3	43·7	57·6	61·2	63·6	55·6	−2·0	+1·3	0·0	+0·1	−0·8	+0·8
11	56·8	44·5	56·0	56·0	53·5	51·1	−1·2	−1·2	−0·4	−0·1	0·0	−0·1
12	57·1	49·9	54·3	52·8	52·3	51·1	+0·5	−0·2	−0·3	0·0	−0·5	+0·4
13	51·3	41·6	44·8	47·9	48·8	42·5	−1·3	+0·5	0·0	−0·3	−0·2	+0·3
14	57·3	38·7	47·7	53·4	56·2	46·1	−1·9	+0·5	−0·2	−0·8	−0·3	+0·3
16	60·0	44·6	51·4	52·9	59·0	48·4	−1·7	+0·6	−0·3	0·0	−0·6	−0·1
17	56·2	45·3	47·3	48·0	55·7	49·8	−1·5	0·0	+0·1	−0·1	0·0	+0·8
18	56·9	48·6	52·7	52·4	53·9	52·1	−0·4	+0·9	+0·1	+0·1	−0·5	+0·6
19	59·8	43·8	50·0	55·1	59·2	51·3	−1·8	+0·9	−0·1	+0·1	0·0	+0·1
20	52·8	41·0	48·2	45·0	52·6	42·3	−2·3	−0·2	−0·3	+0·2	−0·4	+0·5
21	54·4	35·9	50·0	47·8	43·0	39·4	−2·7	+0·4	−1·1	−0·2	−0·6	+0·6
23	57·3	39·4	48·7	53·4	56·0	51·0	−2·0	+0·9	0·0	−0·4	+0·2	+1·0
24	59·2	44·8	55·5	59·2	57·0	49·0	−1·5	+0·4	−0·3	−0·4	−0·2	+0·2
25	56·5	44·6	49·1	54·0	56·1	47·4	−1·9	+0·2	−0·3	+0·1	−0·7	−0·1
26	63·4	44·5	56·2	61·9	63·4	53·0	−2·0	−0·2	−0·6	−0·3	−0·4	+0·5
27	54·3	44·5	47·0	51·2	51·1	50·8	+1·2	−0·2	−0·1	+0·1	+0·2	0·0
28	56·3	48·2	50·7	52·2	56·0	51·9	−1·8	+0·2	+0·4	−0·3	0·0	+0·1
30	61·1	46·5	49·8	53·9	58·9	55·0	−1·0	−0·1	0·0	−0·5	+0·5	−0·1
31	66·2	48·7	57·8	65·9	64·0	53·0	−1·3	+0·5	−0·2	−0·5	−0·8	+0·1
Means	57·4	44·0	50·6	54·0	55·5	49·5	−1·4	+0·2	−0·1	−0·2	−0·3	+0·3

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
2	46·5	40·3	43·1	46·1	45·7	45·2	−0·2	0·0	−0·7	+0·2	+0·3	+0·1
3	61·6	41·8	50·7	60·7	59·6	51·9	−0·3	−0·1	+0·7	+1·0	−0·4	+0·5
4	55·1	43·6	50·9	55·1	53·5	46·9	−0·2	−0·4	+0·7	+0·3	−0·6	+0·5
5	57·2	45·6	49·2	53·2	56·5	47·1	+0·4	0·0	+0·4	+0·3	+0·8	−0·2
6	50·3	42·3	47·0	49·4	49·3	47·6	−0·6	+0·5	−0·3	−0·3	−0·1	+0·1
7	59·1	42·6	48·7	56·4	56·1	51·3	−1·3	−0·1	−0·1	−0·1	+0·3	+0·4
9	67·8	47·1	53·4	63·4	64·5	57·5	−1·6	+0·2	+0·6	−1·3	−0·4	+0·3
10	63·9	45·4	55·7	59·0	63·8	55·7	−2·4	+3·0	−1·9	−2·1	−0·6	+0·9
11	56·6	46·6	56·0	55·8	53·7	51·5	−1·4	+0·9	−0·4	−0·3	+0·2	+0·3
12	56·3	50·1	54·0	52·6	52·1	51·3	−0·3	0·0	−0·6	−0·2	−0·7	+0·6
13	51·4	41·4	44·4	47·9	48·6	42·4	−1·2	+0·3	−0·4	−0·3	−0·3	+0·2
14	56·3	38·7	47·6	52·2	55·6	46·1	−2·9	+0·5	−0·3	−2·0	−0·9	+0·3
16	60·0	44·5	50·2	53·2	58·0	48·3	−1·7	+0·5	−1·5	+0·3	−1·6	−0·2
17	56·7	45·0	47·3	48·2	54·7	50·1	−1·0	−0·3	+0·1	+0·1	−1·0	+1·1
18	57·3	47·7	52·9	52·5	54·6	52·7	0·0	0·0	+0·3	+0·2	+0·2	+1·2
19	60·6	44·1	50·3	55·0	58·9	51·6	−1·0	+1·2	+0·2	0·0	−0·3	+0·4
20	52·8	38·6	47·5	44·7	51·6	42·7	−2·3	−2·6	−1·0	−0·1	−1·4	+0·9
21	53·9	35·9	50·0	47·1	42·4	39·4	−3·2	+0·4	−1·1	−0·9	−1·2	+0·6
23	57·6	39·6	49·8	53·1	55·9	51·1	−1·7	+1·1	+1·1	−0·7	+0·1	+1·1
24	59·9	45·1	55·7	59·5	57·1	48·5	−0·8	+0·7	−0·1	−0·1	−0·1	−0·3
25	56·3	44·2	48·6	53·2	56·0	47·6	−2·1	−0·2	−0·8	−0·7	−0·8	+0·1
26	65·0	43·6	55·9	61·7	65·0	53·0	−0·4	−1·1	−0·9	−0·5	+1·2	+0·5
27	53·6	43·8	46·4	49·5	49·8	50·7	+0·5	−0·9	−0·7	−1·6	−1·1	−0·1
28	55·7	47·7	50·7	52·4	55·5	51·7	−2·4	−0·3	+0·4	−0·1	−0·5	−0·1
30	62·5	46·1	49·9	54·0	58·9	55·0	+0·4	−0·5	+0·1	−0·4	+0·5	−0·1
31	67·4	48·7	58·1	65·9	64·0	52·9	−0·1	+0·5	+0·1	−0·5	−0·8	0·0
Means	57·7	43·8	50·5	53·9	55·4	49·6	−1·1	+0·1	−0·2	−0·4	−0·4	+0·3

JUNE.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	63·4	48·2	56·1	58·8	62·9	54·8	−2·2	0·0	−1·5	−0·1	−0·7	+0·6
2	58·9	47·5	50·7	56·1	58·9	51·3	−0·7	0·0	−0·1	−0·2	0·0	−0·1
3	56·2	50·3	54·9	55·0	54·1	51·8	+0·8	−0·6	+0·2	0·0	−0·3	0·0
4	68·9	47·4	57·4	67·2	64·9	58·0	−2·3	+0·6	−0·2	−0·9	−0·4	+0·1
6	68·6	52·3	59·9	63·8	65·6	57·1	−3·1	+0·8	−0·3	−0·4	−0·4	+0·3
7	66·8	52·3	64·4	64·7	62·9	57·9	−1·7	+0·5	−0·7	−0·6	−0·1	+0·5
8	74·2	55·4	64·2	70·2	71·9	58·9	−2·8	+0·6	−0·2	−0·7	−0·2	+0·3
9	71·5	49·2	62·8	68·5	70·7	61·2	−2·1	+0·5	−0·3	−0·7	−0·6	+0·6
10	68·6	52·0	59·9	65·5	64·0	52·2	−2·1	+0·8	+0·4	−0·3	0·0	+0·1
11	75·5	44·3	62·9	71·4	72·3	61·3	−0·5	+0·9	−0·9	−1·4	−0·8	−0·3
13	80·1	50·5	69·4	76·5	80·1	68·1	−2·3	+0·4	−0·4	−0·9	−1·0	+0·7
14	78·2	54·5	72·5	76·2	76·5	57·2	−2·2	+1·4	0·0	+0·2	+0·1	+0·1
15	81·5	51·5	74·4	80·4	80·0	68·6	−2·2	+1·0	−0·4	−0·3	0·0	+1·1
16	75·2	54·6	66·9	74·1	72·0	58·9	−2·5	+1·0	−0·1	−0·9	−0·5	0·0
17	71·8	53·0	68·4	70·1	71·2	58·5	−2·5	+0·6	−0·1	−1·1	−0·8	+0·4
18	75·7	48·9	67·4	75·1	75·6	60·3	−2·3	+1·0	−0·3	−0·6	−0·8	0·0
20	71·1	53·2	61·3	68·0	69·0	55·0	−2·1	+0·1	−1·4	−0·5	−0·3	+0·2
22	72·2	49·2	57·8	66·2	71·3	55·3	−2·3	+0·7	0·0	−1·3	−1·5	+0·3
23	77·5	52·5	56·3	71·6	75·6	54·8	−2·2	+0·9	+0·1	−1·2	+0·1	−0·1
24	64·0	51·7	55·0	61·7	61·9	57·5	−2·5	0·0	0·0	−0·4	−0·4	0·0
25	69·3	51·4	53·8	59·1	65·4	54·7	−1·2	−0·1	−0·1	−0·5	−0·4	+0·1
27	81·3	43·4	62·1	74·0	80·1	69·8	−2·2	+0·9	−0·7	−0·8	−0·7	+0·1
28	72·2	53·8	62·0	68·1	70·2	65·0	−1·9	+0·4	−0·5	0·0	−1·2	−0·1
29	73·8	57·5	65·9	71·7	73·1	58·3	−3·0	+0·2	−0·3	−0·4	+0·1	+0·2
30	67·3	53·1	60·9	63·2	65·6	57·7	−1·5	+0·9	−0·2	−0·4	−0·5	+0·4
Means	71·4	51·1	61·9	67·9	69·4	58·6	−2·0	+0·5	−0·3	−0·6	−0·5	+0·2

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maxi-mum.	Mini-mum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	65·1	47·7	56·7	59·1	63·8	54·6	−0·5	−0·5	−0·9	+0·2	+0·2	+0·4
2	59·0	47·1	50·6	55·8	58·9	50·9	−0·6	−0·4	−0·2	−0·5	0·0	−0·5
3	55·6	50·1	54·2	55·0	54·3	51·8	+0·2	−0·8	−0·5	0·0	−0·1	0·0
4	70·2	47·0	57·0	67·1	64·9	58·1	−1·0	+0·2	−0·6	−1·0	−0·4	+0·2
6	70·3	51·9	61·0	63·7	66·3	57·3	−1·4	+0·4	+0·8	−0·5	+0·3	+0·5
7	67·6	52·2	64·8	64·9	62·9	57·1	−0·9	+0·4	−0·3	−0·4	−0·1	−0·3
8	74·9	55·1	64·9	69·6	71·9	58·5	−2·1	+0·3	+0·5	−1·3	−0·2	−0·1
9	71·9	48·7	61·5	68·4	70·4	61·6	−1·7	0·0	−1·6	−0·8	−0·9	+1·0
10	68·8	51·2	60·2	64·1	63·9	51·9	−1·9	0·0	+0·7	−1·7	−0·1	−0·2
11	74·7	43·8	62·7	70·7	72·8	61·9	−1·3	+0·4	−1·1	−2·1	−0·3	+0·3
13	81·4	50·4	69·3	75·9	78·9	68·8	−1·0	+0·3	−0·5	−1·5	−2·2	+1·4
14	79·4	55·0	72·5	76·4	76·6	56·8	−1·0	+1·9	0·0	+0·4	+0·2	−0·3
15	83·3	51·4	74·9	79·5	81·8	70·6	−0·4	+0·9	+0·1	−1·2	+1·8	+3·1
16	76·6	54·9	66·7	74·7	72·7	58·9	−1·1	+1·3	−0·3	−0·3	+0·2	0·0
17	72·4	52·8	67·7	68·3	70·4	58·5	−1·9	+0·4	−0·8	−2·9	−1·6	+0·4
18	75·9	48·6	66·0	73·2	74·9	60·5	−2·1	+0·7	−1·7	−2·5	−1·5	+0·2
20	70·6	52·9	60·6	66·5	69·5	54·9	−2·6	−0·2	−2·1	−2·0	+0·2	+0·1
22	72·2	48·8	59·6	64·2	70·1	55·0	−2·3	+0·3	+1·8	−3·3	−2·7	0·0
23	75·4	52·0	56·2	69·6	73·2	54·6	−4·3	+0·4	0·0	−3·2	−2·3	−0·3
24	63·6	51·2	54·8	60·7	61·7	57·1	−2·9	−0·5	−0·2	−1·4	−0·6	−0·4
25	69·1	50·9	53·6	59·5	65·3	54·5	−1·4	−0·6	−0·3	−0·1	−0·5	−0·1
27	82·4	43·4	62·6	72·5	80·3	70·2	−1·1	+0·9	−0·2	−2·3	−0·5	+0·5
28	72·8	53·5	62·8	66·9	70·9	64·9	−1·3	+0·1	+0·3	−1·2	−0·5	−0·2
29	74·8	57·3	66·3	70·7	72·3	57·9	−2·0	0·0	+0·1	−1·4	−0·7	−0·2
30	67·8	53·0	60·5	63·2	65·7	57·7	−1·0	+0·8	−0·6	−0·4	−0·4	+0·4
Means	71·8	50·8	61·9	67·2	69·4	58·6	−1·5	+0·3	−0·3	−1·3	−0·5	+0·2

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*continued.*

JULY.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	77.8	48.0	70.7	77.2	75.8	64.3	−2.6	+0.7	−0.1	−0.4	−0.2	+0.5
2	82.8	52.4	75.6	78.7	82.4	68.3	−2.4	+0.6	−0.3	−0.4	0.0	+0.5
4	89.0	58.2	79.5	86.4	89.0	71.8	−3.2	+1.2	−1.1	−2.4	−1.6	+0.1
5	72.4	56.3	62.0	65.6	67.7	60.0	+0.5	−0.2	−0.8	−0.7	−1.4	+0.1
6	73.4	51.9	62.0	65.5	70.8	62.4	−4.0	+1.0	−0.8	−0.2	+0.3	0.0
7	82.3	57.8	72.3	79.9	82.0	66.0	−3.9	+0.5	−1.8	−1.1	−2.4	+0.1
8	84.0	54.5	75.0	81.9	83.1	69.8	−2.5	+0.8	−2.1	−1.6	−0.7	+0.3
9	80.1	63.3	66.1	75.5	75.0	63.9	−3.6	+0.2	−0.3	−2.1	−0.8	0.0
11	79.4	58.9	67.7	71.4	77.4	67.4	−2.9	+0.4	+0.7	−0.4	−1.8	+0.1
12	80.6	59.6	72.0	80.1	77.4	64.5	−3.7	+0.4	−1.0	−1.5	−0.9	+0.2
13	84.7	58.5	79.3	82.2	72.6	63.2	−3.3	+0.6	−1.7	−2.3	−1.0	+0.2
14	74.5	58.1	70.0	69.7	71.7	62.3	−2.4	+0.3	−0.7	−0.5	−0.2	+0.2
15	78.3	55.7	67.1	74.7	74.0	60.6	−4.4	+0.7	−0.5	−1.2	−2.3	+0.3
16	74.4	56.5	66.0	71.8	71.3	59.8	−2.6	+0.7	−0.6	+0.2	+0.3	−0.1
18	70.0	45.9	59.5	66.1	70.0	55.1	−1.2	+0.3	−0.4	0.0	−0.8	0.0
19	77.9	45.4	66.4	74.5	74.0	57.8	−2.2	+0.6	−0.7	−0.9	−0.9	+0.6
20	78.3	50.8	71.8	76.4	78.2	62.9	−2.6	+0.7	0.0	−0.8	+0.1	+0.2
21	75.0	54.9	68.3	72.0	75.0	57.6	−2.0	+0.7	−0.2	−0.1	−0.1	+0.3
22	77.3	49.5	64.4	70.2	76.7	65.3	−0.4	+1.2	−0.4	−0.2	−0.2	0.0
25	70.5	58.2	60.4	69.4	68.9	64.2	−2.0	−0.7	−0.6	−0.5	−0.2	+0.4
26	76.3	55.9	65.5	67.1	74.0	67.4	−2.9	+0.8	−0.3	−1.0	−0.8	0.0
27	76.0	62.1	69.0	74.8	73.6	63.4	−2.2	+0.3	−0.8	−0.4	−0.6	+0.3
28	76.1	55.4	69.1	75.5	72.0	62.0	−3.6	+0.5	−0.3	−1.4	−0.5	+0.2
29	75.4	58.2	73.4	68.3	65.4	60.7	−2.3	+0.9	+0.4	−0.3	−0.5	+0.4
30	76.0	52.3	63.2	71.3	74.4	62.9	−3.5	+0.6	0.0	−0.9	−0.6	+0.2
Means	77.7	55.1	68.7	73.8	74.9	63.3	−2.6	+0.6	−0.6	−0.8	−0.7	+0.2

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	79.3	48.1	71.0	74.9	75.8	64.7	−1.1	+0.8	+0.2	−2.7	−0.2	+0.9
2	83.5	52.3	76.0	78.9	81.9	68.9	−1.7	+0.5	+0.1	−0.2	−0.5	+1.1
4	90.0	58.4	78.9	85.0	88.6	71.4	−2.2	+1.4	−1.7	−3.8	−2.0	−0.3
5	71.7	55.8	62.0	67.0	67.2	59.9	−0.2	−0.7	−0.8	+0.7	−1.9	0.0
6	74.7	51.3	60.3	65.3	71.5	62.4	−2.7	+0.4	−2.5	−0.4	+1.0	0.0
7	82.7	57.7	70.5	78.3	81.6	66.1	−3.5	+0.4	−3.6	−2.7	−2.8	+0.2
8	83.3	55.1	76.0	80.5	81.3	71.4	−3.2	+1.4	−1.1	−3.0	−2.5	+1.9
9	78.0	63.0	65.9	73.1	74.5	63.8	−5.7	−0.1	−0.5	−4.5	−1.3	−0.1
11	79.0	58.9	67.9	71.3	78.9	67.2	−3.3	+0.4	+0.9	−0.5	−0.3	−0.1
12	79.8	...	70.4	76.9	76.0	64.1	−4.5	...	−2.6	−4.7	−2.3	−0.2
13	83.7	...	78.4	79.9	72.4	63.0	−4.3	...	−2.6	−4.6	−1.2	0.0
14	75.4	...	69.2	69.9	72.0	62.5	−1.5	...	−1.5	−0.3	+0.1	+0.4
15	78.9	...	67.3	74.2	74.9	60.2	−3.8	...	−0.3	−1.7	−1.4	−0.1
16	74.3	...	66.0	71.6	70.0	59.7	−2.7	...	−0.6	0.0	−1.0	−0.2
18	68.5	...	58.3	63.9	67.3	54.7	−2.7	...	−1.6	−2.2	−3.5	−0.4
19	76.6	...	64.5	72.1	74.1	57.1	−3.5	...	−2.6	−3.3	−0.8	−0.1
20	78.0	...	69.2	74.9	76.9	62.7	−2.9	...	−2.6	−2.3	−1.2	0.0
21	73.6	...	64.9	69.6	72.4	57.4	−3.4	...	−3.6	−2.5	−2.7	+0.1
22	77.3	...	64.8	70.1	76.2	65.6	−0.4	...	0.0	−0.3	−0.7	+0.3
25	72.6	...	60.9	70.2	69.1	64.5	+0.1	...	−0.1	+0.3	0.0	+0.7
26	76.9	...	66.3	67.8	73.9	67.6	−2.3	...	+0.5	−0.3	−0.9	+0.2
27	76.2	...	67.9	73.3	73.9	63.6	−2.0	...	−1.9	−1.9	−0.3	+0.5
28	76.1	...	69.1	74.7	71.9	61.6	−3.6	...	−0.3	−2.2	−0.6	−0.2
29	74.9	...	72.7	68.8	66.2	61.1	−2.8	...	−0.3	+0.2	+0.3	+0.8
30	78.3	...	63.3	72.2	76.0	63.2	−1.2	...	+0.1	0.0	+1.0	+0.5
Means	77.7	55.6	68.1	73.0	74.6	63.4	−2.6	+0.5	−1.2	−1.7	−1.0	+0.2

AUGUST.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	73.4	49.3	63.0	70.4	71.5	61.0	−3.7	+0.3	0.0	−0.4	+0.2	+0.1
2	73.9	50.4	65.0	72.9	69.1	60.4	−2.5	+1.2	−1.2	−0.9	−0.5	+0.6
3	73.3	47.3	66.3	70.8	72.7	58.2	−1.3	+1.0	+0.2	−0.8	−0.3	+0.2
4	74.2	49.0	67.3	72.2	72.6	57.8	−2.1	+1.4	−0.4	−0.4	+0.5	+0.2
5	75.8	49.7	66.5	75.0	75.8	60.9	−2.0	+1.1	+0.2	−0.2	+0.5	0.0
6	86.9	54.2	69.9	82.2	85.8	70.5	−2.6	+1.4	−0.3	−2.2	−1.0	+0.5
8	85.2	51.6	68.8	79.5	85.2	71.4	−2.9	+0.8	−1.3	−1.3	−0.6	+0.5
9	80.5	57.2	69.3	77.5	79.8	67.2	−2.6	+0.8	−0.9	−1.7	−1.0	+0.2
10	72.7	56.4	60.0	69.5	72.7	62.0	−2.3	+0.3	−0.7	−1.3	−1.1	+0.2
11	70.2	54.9	58.3	64.1	70.0	57.7	−2.3	+0.5	−0.4	−0.8	−1.4	0.0
12	70.8	53.8	59.3	66.1	66.3	60.5	−3.8	+1.0	+0.4	−1.6	−0.1	+0.1
13	69.1	52.9	61.0	66.6	65.1	58.1	−1.9	+0.6	−0.4	−0.2	−0.5	+0.1
15	71.6	41.7	63.0	68.1	71.2	57.3	−2.7	+0.7	+0.1	−0.7	+0.5	+0.3
16	63.2	53.9	58.7	60.8	63.0	58.3	−0.9	+0.6	0.0	−0.3	0.0	−0.1
17	67.6	52.4	56.9	62.5	64.8	54.6	−2.1	+0.1	−0.2	−0.3	−0.2	+0.2
18	65.0	51.7	59.7	61.4	63.1	57.0	−1.2	+0.4	−0.1	−0.5	+0.1	+0.1
19	64.9	47.3	55.1	62.7	64.2	54.7	−2.2	+1.0	−0.5	−0.3	+0.7	+0.3
20	63.3	50.5	54.7	57.5	63.0	55.0	−1.7	+0.4	−0.3	−0.3	−0.4	−0.3
22	76.0	47.5	64.3	71.6	75.0	57.6	−2.8	+1.2	+0.1	−0.3	−0.6	+0.7
23	76.4	47.5	67.8	74.5	76.1	59.5	−2.3	+0.5	+1.2	+0.7	+0.3	+0.5
24	77.2	52.8	71.0	76.7	77.1	59.3	−1.1	+1.4	+1.0	−0.9	+0.3	+0.3
25	84.0	53.0	66.7	81.1	79.6	64.5	−2.9	+0.9	−0.9	−0.4	−0.9	+0.2
26	77.3	56.5	70.5	76.1	71.2	62.3	−3.1	+0.7	+0.1	−1.0	−0.1	+0.3
27	73.4	60.7	61.8	64.5	72.5	64.2	−1.9	+0.6	+0.2	−0.3	+0.5	+0.2
29	74.1	57.8	65.1	71.0	71.0	62.2	−1.3	+0.7	−0.4	−0.5	−0.5	+0.1
30	71.0	58.9	66.6	70.1	63.9	60.3	−1.9	+0.5	−0.9	−0.1	+0.3	+0.2
31	68.3	56.7	62.8	60.3	64.1	59.3	−1.6	+0.4	0.0	+1.0	−0.9	+0.5
Means	73.3	52.4	63.7	69.8	71.3	60.4	−2.2	+0.8	−0.2	−0.6	−0.2	+0.2

Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°
1	75.4	...	63.3	70.3	70.9	61.3	−1.7	...	+0.3	−0.5	−0.4	+0.4
2	74.6	...	64.9	71.8	69.5	61.9	−1.8	...	−1.3	−2.0	−0.1	+2.1
3	73.9	...	66.7	69.3	72.3	58.3	−0.7	...	+0.6	−2.3	−0.7	+0.3
4	72.9	...	66.9	70.8	70.2	57.7	−3.4	...	−0.8	−1.8	−1.9	+0.1
5	75.5	...	65.9	72.0	74.8	60.9	−2.3	...	−0.4	−3.2	−0.5	0.0
6	87.6	...	69.7	81.5	84.9	71.2	−1.9	...	−0.5	−2.9	−1.9	+1.2
8	85.8	...	68.2	78.9	85.3	71.5	−2.3	...	−1.9	−1.9	−0.5	+0.6
9	80.8	...	68.2	78.1	79.4	67.4	−2.3	...	−2.0	−1.1	−1.4	+0.4
10	71.8	...	60.1	69.9	71.8	61.9	−3.2	...	−0.6	−0.9	−2.0	+0.1
11	69.1	...	58.2	64.7	68.2	57.8	−3.4	...	−0.5	−0.2	−3.2	+0.1
12	71.0	...	59.3	67.4	65.8	60.7	−3.6	...	+0.4	−0.3	−0.6	+0.3
13	67.8	...	60.2	66.2	65.3	57.9	−3.2	...	−1.2	−0.6	−0.3	−0.1
15	72.7	...	63.0	68.5	70.8	57.0	−1.6	...	+0.1	−0.3	+0.1	0.0
16	63.7	...	58.9	61.2	62.8	57.9	−0.4	...	+0.2	+0.1	−0.2	−0.5
17	67.9	...	57.7	63.1	65.4	54.3	−1.8	...	+0.6	+0.3	+0.4	−0.1
18	64.5	...	59.2	62.0	63.4	56.9	−1.7	...	−0.6	+0.1	+0.4	0.0
19	66.6	...	55.2	62.9	64.1	55.0	−0.5	...	−0.4	−0.1	+0.6	+0.6
20	63.8	...	54.9	57.9	63.1	55.1	−1.2	...	−0.1	+0.1	−0.3	−0.2
22	77.2	...	63.6	71.6	75.9	58.7	−1.6	...	−0.6	−0.3	+0.3	+1.8
23	77.8	...	67.6	73.8	77.0	61.2	−0.9	...	+1.0	0.0	+1.2	+2.2
24	76.6	...	71.4	75.7	75.7	59.2	−1.7	...	+1.4	−1.9	−1.1	+0.2
25	85.2	...	67.3	79.7	80.5	66.5	−1.7	...	−0.3	−1.8	0.0	+2.2
26	77.7	...	71.4	75.9	71.7	62.7	−2.7	...	+1.0	−1.2	+0.4	+0.7
27	75.0	...	62.3	65.0	72.5	64.2	−0.3	...	+0.7	+0.2	+0.5	+0.2
29	73.9	...	64.5	70.3	71.4	62.3	−1.5	...	−1.0	−1.2	−0.1	+0.2
30	70.9	...	66.5	69.4	64.2	60.4	−2.0	...	−1.0	−0.8	+0.6	+0.3
31	69.1	...	62.8	59.0	64.2	59.3	−0.8	...	0.0	−0.3	−0.8	+0.5
Means	73.7	...	63.6	69.5	71.2	60.7	−1.9	...	−0.3	−0.9	−0.4	+0.5

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*continued.*

SEPTEMBER.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground.						Excess above readings of Thermometers on ordinary stand, 4 feet above the ground.						Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground.						Excess above readings of Thermometers on ordinary stand, 4 feet above the ground.					
	Maximum.	Minimum.	9h	Noon	15h	21h	Maximum.	Minimum.	9h	Noon	15h	21h		Maximum.	Minimum.	9h	Noon	15h	21h	Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°	d	°	°	°	°	°	°	°	°	°	°	°	°
1	64·8	54·9	61·7	63·1	60·0	59·0	−0·8	+0·6	−0·1	+0·3	−0·1	+0·2	1	65·3	...	62·2	63·2	59·7	59·3	−0·3	...	+0·4	+0·4	−0·4	+0·5
2	61·4	55·5	60·2	57·8	60·0	55·6	−1·3	+1·0	+0·1	−0·4	+0·2	+0·2	2	62·1	...	59·9	58·7	60·2	55·8	−0·6	...	−0·2	+0·5	+0·4	+0·4
3	67·1	52·7	62·5	63·7	67·1	57·5	−1·7	+0·9	+0·2	−0·2	−0·1	+0·5	3	67·7	...	61·7	64·6	67·0	57·7	−1·1	...	−0·6	+0·7	−0·2	+0·7
5	67·5	53·3	57·7	63·0	66·6	59·8	−1·6	+0·3	−0·2	−0·4	−0·3	+0·7	5	68·8	...	58·0	63·6	67·3	59·9	−0·3	...	+0·1	+0·2	+0·4	+0·8
6	68·4	55·1	60·4	63·8	67·3	58·8	−0·7	+0·6	0·0	0·0	0·0	0·0	6	68·5	...	60·5	64·6	66·9	58·8	−0·6	...	+0·1	+0·8	−0·4	0·0
7	61·9	52·2	58·9	58·6	56·1	52·4	−1·8	+0·9	−0·2	+0·1	−0·3	+0·4	7	63·8	50·8	58·9	59·1	56·6	52·2	+0·1	−0·5	−0·2	+0·6	+0·2	+0·2
8	62·4	41·7	53·4	60·4	62·2	49·8	−1·8	+1·0	+0·1	−0·4	+0·7	+0·7	8	63·5	40·4	53·2	61·2	62·8	49·7	−0·7	−0·3	−0·1	+0·4	+1·3	+0·6
9	66·2	44·8	56·4	64·3	65·0	57·0	−1·8	+0·7	−0·2	+0·1	−0·8	0·0	9	66·7	44·4	57·2	64·6	65·5	56·9	−1·3	+0·3	+0·6	+0·4	−0·3	−0·1
10	62·9	54·2	57·1	60·3	59·7	54·3	−2·2	+0·8	−0·5	−0·6	−0·1	+0·5	10	63·9	53·5	56·8	60·6	60·0	54·4	−1·2	+0·1	−0·8	−0·3	+0·2	+0·6
12	60·1	51·9	53·7	56·5	57·5	53·2	−1·6	+0·7	+0·2	−0·1	+0·1	+0·7	12	60·8	51·2	53·7	56·8	57·6	53·0	−0·9	0·0	+0·2	+0·2	+0·2	+0·5
13	56·5	43·7	49·7	56·3	55·7	50·7	−1·5	+0·6	+0·2	+0·3	−0·3	+0·9	13	57·0	42·1	49·8	55·8	55·6	52·1	−1·0	−1·0	+0·3	−0·2	−0·4	+2·3
14	61·0	44·4	51·5	56·5	61·0	52·6	−1·6	+0·3	−0·1	+0·3	−0·4	−0·1	14	61·7	43·3	51·9	56·0	61·7	52·8	−0·9	−0·8	+0·3	−0·2	+0·3	+0·1
15	61·5	49·5	54·8	59·6	58·5	53·0	−2·2	+0·4	0·0	0·0	−0·4	0·0	15	62·2	48·9	54·9	58·8	58·9	53·2	−1·5	−0·2	+0·1	−0·8	0·0	+0·2
16	64·8	49·5	59·4	61·4	64·4	56·4	−1·8	+0·7	0·0	−0·4	−0·1	+0·1	16	66·1	48·3	60·0	61·7	65·0	56·6	−0·5	−0·5	+0·6	−0·1	+0·5	+0·3
17	58·4	54·5	55·9	57·2	56·0	55·5	−0·3	+0·4	−0·1	0·0	0·0	0·0	17	58·7	54·0	56·4	57·9	56·6	55·6	0·0	−0·1	+0·4	+0·7	+0·6	+0·1
19	59·0	47·8	53·0	57·2	58·9	53·6	−1·3	+0·9	−0·1	−0·2	−0·3	+0·2	19	59·1	46·5	53·1	57·2	59·0	54·2	−1·2	−0·4	0·0	−0·2	−0·2	+0·8
20	62·5	45·3	55·4	61·1	58·8	53·2	−1·4	+1·1	−0·3	−0·6	−0·1	0·0	20	61·6	44·1	55·8	60·9	58·7	52·9	−2·3	−0·1	+0·1	−0·8	−0·2	−0·3
21	58·4	50·5	56·4	57·8	57·0	53·8	−1·5	+0·4	−0·2	−0·1	0·0	+0·2	21	58·7	49·4	55·9	58·2	56·9	53·7	−1·2	−0·7	−0·7	+0·3	−0·1	+0·1
22	62·2	50·2	58·0	61·5	62·0	51·8	−1·9	+0·8	+0·5	−1·6	−0·6	0·0	22	63·1	49·4	57·3	61·9	62·4	52·2	−1·0	0·0	−0·2	−1·2	−0·2	+0·4
23	60·1	44·5	55·0	57·9	59·1	54·9	−1·0	+1·2	−0·2	+0·1	−0·3	+0·2	23	60·2	43·8	54·9	58·0	58·9	54·9	−0·9	+0·5	−0·3	+0·2	−0·5	+0·2
24	54·9	49·7	51·3	52·1	52·6	50·0	−0·2	+0·7	0·0	+0·1	−0·1	+0·2	24	55·0	49·2	51·5	52·0	52·8	50·1	−0·1	+0·2	+0·2	0·0	+0·1	+0·3
26	58·2	48·5	56·5	58·1	56·5	55·0	−0·8	+0·8	−0·1	0·0	−0·2	+0·2	26	58·8	48·4	57·0	58·8	56·6	54·9	−0·2	+0·7	+0·4	+0·7	−0·1	+0·1
27	60·9	46·4	54·5	60·9	57·2	46·7	−1·4	−0·3	−0·4	+0·1	−0·1	−0·3	27	61·0	45·3	53·7	59·6	57·3	46·8	−1·3	−1·4	−1·2	−1·2	0·0	−0·2
28	54·0	41·5	45·9	50·2	54·0	43·2	−2·0	+0·3	−0·3	0·0	−0·5	+0·6	28	55·8	40·1	45·8	50·1	55·5	43·9	−0·2	−1·1	−0·4	−0·1	+1·0	+1·3
29	56·5	34·3	45·0	55·3	53·3	43·4	−1·6	+0·7	−1·3	−0·7	−0·1	+0·3	29	56·3	33·5	44·4	54·6	53·2	43·2	−1·8	−0·1	−1·9	−1·4	−0·2	+0·1
30	56·7	37·0	49·1	54·1	53·8	51·2	−1·8	+0·9	−1·0	−0·4	+0·4	+0·1	30	56·1	36·4	49·8	53·9	53·5	51·6	−2·4	+0·3	−0·3	−0·6	+0·1	+0·5
Means	61·1	48·2	55·1	58·8	59·2	53·2	−1·4	+0·7	−0·2	−0·2	−0·1	+0·2	Means	61·6	45·9	55·2	58·9	59·5	53·3	−0·9	−0·2	−0·1	0·0	+0·1	+0·4

OCTOBER.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground.						Excess above readings of Thermometers on ordinary stand, 4 feet above the ground.						Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground.						Excess above readings of Thermometers on ordinary stand, 4 feet above the ground.					
	Maximum.	Minimum.	9h	Noon	15h	21h	Maximum.	Minimum.	9h	Noon	15h	21h		Maximum.	Minimum.	9h	Noon	15h	21h	Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°	d	°	°	°	°	°	°	°	°	°	°	°	°
1	59·7	45·7	53·3	57·8	55·8	50·1	−1·6	+0·9	−0·3	+0·2	−0·2	+0·2	1	58·8	44·7	52·1	56·2	56·1	50·1	−2·5	−0·1	−1·5	−1·4	+0·1	+0·2
3	56·2	49·1	52·0	55·0	55·6	51·8	−1·0	+0·5	−0·2	−0·4	0·0	+0·2	3	56·3	48·2	52·0	55·3	55·7	51·9	−0·9	−0·4	−0·2	−0·1	+0·1	+0·3
4	57·5	49·3	51·4	57·0	54·8	51·5	−1·4	+0·5	−0·1	−0·2	0·0	−0·2	4	57·6	49·0	51·9	56·7	54·8	51·6	−1·3	+0·2	+0·4	−0·5	0·0	−0·1
5	53·8	50·2	52·1	53·1	53·8	50·7	−0·7	+0·4	0·0	−0·2	−0·1	+0·5	5	53·9	50·0	52·1	53·3	53·8	51·0	−0·6	+0·2	0·0	0·0	−0·1	+0·8
6	54·8	48·3	50·3	54·4	54·0	50·6	−1·2	+0·3	−0·1	−0·1	−0·1	+0·2	6	55·0	48·1	50·8	53·9	53·6	50·9	−1·0	+0·1	+0·4	−0·6	−0·5	+0·5
7	56·2	47·7	50·1	53·8	56·2	52·9	−0·8	+0·4	+0·1	−0·3	0·0	+0·4	7	56·8	47·3	50·2	53·4	56·7	53·2	−0·2	0·0	+0·2	−0·7	+0·5	+0·7
8	62·0	47·2	52·6	60·7	59·1	51·9	−2·1	+0·4	−0·2	+0·3	−0·4	+0·1	8	64·2	46·6	53·1	59·6	59·2	51·7	+0·1	−0·2	+0·3	−0·8	−0·3	−0·1
10	48·8	41·9	46·2	46·7	48·0	42·4	−0·2	+0·4	+0·1	+0·1	+0·1	+0·4	10	49·0	41·1	46·1	46·6	47·2	42·3	0·0	−0·4	0·0	0·0	−0·7	+0·3
11	47·8	35·3	40·0	45·1	45·8	38·8	−0·4	+1·4	−0·2	+0·3	+0·2	+0·4	11	47·7	33·0	39·9	44·8	45·8	38·6	−0·5	−0·9	−0·3	0·0	+0·2	+0·2
12	44·0	31·5	34·5	42·4	43·1	32·7	0·0	−0·4	−0·1	+0·2	+0·1	0·0	12	43·6	30·7	34·2	42·1	42·9	32·7	−0·4	−1·2	−0·4	−0·1	−0·1	0·0
13	47·4	26·1	33·6	40·3	46·4	41·3	−0·8	+0·8	−0·4	0·0	+0·1	+0·5	13	48·1	24·6	33·9	40·7	46·8	41·1	−0·1	−0·7	−0·1	+0·4	+0·5	+0·3
14	47·6	35·3	40·0	46·0	41·6	37·9	−0·5	+0·3	0·0	+0·2	0·0	+0·5	14	48·0	34·5	40·3	46·3	40·9	37·6	−0·1	−0·5	+0·3	+0·5	−0·7	+0·2
15	48·8	35·2	40·7	44·7	45·3	40·4	−0·6	+0·7	+0·1	+0·4	+0·2	+0·3	15	49·4	34·3	40·5	44·7	43·9	40·7	0·0	−0·2	−0·1	+0·4	−1·2	+0·6
17	54·3	38·6	45·6	53·0	53·1	42·9	−0·2	+1·2	−0·2	+0·7	+0·2	−0·3	17	54·8	38·7	45·7	51·9	53·3	44·2	+0·3	+1·3	−0·1	−0·4	+0·4	+1·0
18	50·3	36·5	41·8	48·3	50·0	46·7	−0·6	+0·3	−0·3	+0·1	+0·1	+0·6	18	51·2	36·1	42·2	48·9	50·3	46·6	+0·3	−0·1	+0·1	+0·7	+0·4	+0·5
19	47·2	40·2	45·8	46·9	47·1	41·2	−0·8	+0·9	−0·2	+0·1	+0·2	+0·2	19	47·7	40·3	45·9	47·1	47·6	42·0	−0·3	+1·0	−0·1	+0·3	+0·7	+1·0
20	53·5	37·4	46·4	51·8	53·2	49·2	−0·4	+0·5	−0·4	+0·1	+0·3	+0·4	20	53·9	36·8	47·3	52·4	53·4	49·5	0·0	−0·1	+0·5	+0·7	+0·5	+0·7
21	52·2	34·4	38·8	50·2	50·7	39·3	−0·4	+1·1	−0·2	−0·1	0·0	+0·4	21	51·6	33·9	39·4	49·2	50·4	39·9	−1·0	+0·6	+0·4	−1·1	−0·3	+1·0
22	52·2	26·8	30·4	49·7	49·1	41·0	+0·6	0·0	−0·2	−0·3	+0·2	+0·6	22	51·7	26·1	31·1	49·2	48·9	40·3	+0·1	−0·7	+0·5	−0·8	0·0	−0·1
24	47·7	36·3	41·0	42·4	43·1	36·4	+1·0	+0·8	+0·1	0·0	+0·1	+0·5	24	46·9	35·6	40·8	42·2	43·2	36·6	+0·2	+0·1	−0·1	−0·2	+0·2	+0·7
25	44·9	31·0	35·4	43·9	43·8	36·4	−0·2	+0·3	+0·1	+0·3	−0·2	+0·8	25	44·2	30·1	35·1	42·7	43·3	37·1	−0·9	−0·6	−0·2	−0·9	−0·7	+1·5
26	48·2	26·5	34·1	47·3	47·1	39·7	−0·3	+0·6	+0·8	+0·5	+0·3	−0·1	26	49·2	26·0	35·5	46·9	48·0	39·9	+0·7	+0·1	+2·2	+0·1	+1·2	+0·1
27	48·4	38·9	47·0	48·1	45·3	44·4	−0·8	0·0	0·0	+0·1	0·0	−0·4	27	49·0	38·3	47·5	48·4	45·7	44·8	−0·2	−0·6	+0·5	+0·4	+0·4	0·0
28	57·7	44·2	51·8	56·0	56·1	45·9	−0·4	+0·4	0·0	+0·5	+0·1	+0·5	28	58·4	44·1	52·2	55·9	57·0	46·3	+0·3	+0·3	+0·4	+0·4	+1·0	+0·9
29	57·6	42·2	50·2	55·3	53·5	48·3	−1·3	+1·3	+0·2	+0·3	+0·2	+0·1	29	57·9	42·5	50·5	54·9	53·2	48·6	−1·0	+1·6	+0·5	−0·1	−0·1	+0·4
31	49·9	37·9	40·9	47·6	47·9	40·3	−0·9	+0·6	+0·1	−0·2	+0·4	+0·1	31	50·8	38·1	41·5	47·2	48·2	39·9	0·0	+0·8	+0·7	−0·6	+0·7	−0·3
Means	51·9	39·0	44·1	49·9	50·0	44·0	−0·6	+0·6	−0·1	+0·1	+0·1	+0·3	Means	52·1	38·4	44·3	49·6	50·0	44·2	−0·3	0·0	+0·2	−0·2	+0·1	+0·4

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*concluded.*

NOVEMBER.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°	d	°	°	°	°	°	°	°	°	°	°	°	°
1	47.6	38.5	46.8	45.2	44.2	43.0	−0.3	+0.7	+0.2	0.0	−0.1	+0.2	1	47.9	38.1	47.0	45.8	44.5	43.1	0.0	+0.3	+0.4	+0.6	+0.2	+0.3
2	52.6	39.8	45.0	52.6	50.1	43.1	−1.5	+0.7	+0.1	−0.1	+0.4	+0.3	2	52.7	39.5	45.3	52.7	49.9	42.7	−1.4	+0.4	+0.4	0.0	+0.2	−0.1
3	50.0	42.7	48.2	49.3	49.8	45.6	−1.0	+0.5	+0.1	−0.1	+0.6	+0.3	3	50.9	42.7	49.2	49.6	49.7	45.6	−0.1	+0.5	+1.1	+0.2	+0.5	+0.3
4	54.9	42.3	49.3	54.5	52.8	42.8	−0.5	+0.9	+0.4	+0.3	+0.3	+0.7	4	55.4	41.2	49.4	54.1	53.1	42.7	0.0	−0.2	+0.5	−0.1	+0.6	+0.6
5	52.6	38.7	42.9	51.7	51.2	49.3	−0.5	+0.5	0.0	0.0	+0.1	−0.4	5	53.4	38.1	43.6	51.6	51.7	49.7	+0.3	−0.1	+0.7	−0.1	+0.6	0.0
7	48.7	39.7	43.6	46.4	46.3	48.2	−0.3	+0.6	0.0	−0.2	+0.2	+0.2	7	48.8	38.9	43.7	46.4	46.2	46.9	−0.2	−0.2	+0.1	−0.2	+0.1	−1.1
8	50.0	45.5	47.8	49.3	47.3	46.6	−0.4	+0.2	−0.1	+0.3	−0.2	+0.2	8	50.2	45.2	47.9	49.4	47.6	46.5	−0.2	−0.1	0.0	+0.4	+0.1	+0.1
9	47.4	45.3	46.3	47.4	46.7	46.0	−0.5	+0.5	−0.1	−0.1	−0.1	+0.1	9	47.7	44.6	46.2	47.7	46.2	45.5	−0.2	−0.2	−0.2	+0.2	−0.6	−0.4
10	46.9	45.0	45.8	46.8	46.6	45.2	−0.2	+0.4	−0.1	0.0	−0.2	−0.4	10	47.1	44.1	45.5	46.7	46.6	45.4	0.0	−0.5	−0.4	−0.1	−0.2	−0.2
11	48.6	40.7	41.6	45.1	44.8	42.5	−1.0	+0.3	0.0	0.0	0.0	+0.2	11	47.9	40.0	41.6	45.2	44.8	42.6	−1.7	−0.4	0.0	+0.1	0.0	+0.3
12	45.9	39.6	41.4	45.6	45.0	42.1	−0.9	+0.5	−0.4	+0.1	+0.2	0.0	12	45.8	39.0	41.8	45.1	44.7	41.9	−1.0	−0.1	0.0	−0.4	−0.1	−0.2
14	44.2	35.9	40.6	43.0	42.9	36.4	−0.6	+0.4	0.0	−0.1	+0.1	+0.1	14	44.9	35.4	40.6	44.9	42.9	36.4	+0.1	−0.1	0.0	+1.8	+0.1	+0.1
15	37.7	31.4	33.6	36.8	35.6	31.6	+0.2	+1.2	−0.1	0.0	+0.1	+0.1	15	37.9	30.2	34.3	36.8	35.9	32.1	+0.4	0.0	+0.6	0.0	+0.4	+0.6
16	33.0	21.9	27.3	28.5	28.8	25.0	+1.3	+0.2	−0.2	0.0	−0.2	+0.1	16	32.9	21.4	27.4	28.5	29.1	25.1	+1.2	−0.3	−0.1	0.0	+0.1	+0.2
17	37.2	22.5	24.6	32.5	37.0	31.8	+0.1	0.0	−0.3	0.0	+0.4	+0.1	17	37.7	22.2	25.2	31.2	35.4	31.7	+0.6	−0.3	+0.3	−1.3	−1.2	0.0
18	34.5	29.5	32.5	33.2	34.2	32.2	−0.4	+0.2	−0.1	+0.1	+0.3	+0.1	18	34.9	29.4	33.1	33.4	34.3	32.3	0.0	+0.1	+0.5	+0.3	+0.4	+0.2
19	45.5	30.0	32.4	44.4	42.9	37.8	+0.3	+0.3	+0.3	+0.7	+0.4	0.0	19	45.8	29.8	34.7	44.1	43.2	37.9	+0.6	+0.1	+2.6	+0.4	+0.7	+0.1
21	35.9	31.8	32.0	34.2	35.1	34.4	−0.4	+0.1	0.0	−0.2	+0.1	−0.3	21	36.6	31.1	32.1	34.5	35.3	34.6	+0.3	−0.6	+0.1	+0.1	+0.3	−0.1
22	43.9	31.3	39.3	43.4	42.8	40.3	−0.3	0.0	+0.2	+0.4	+0.1	−0.1	22	43.9	30.8	39.1	42.6	41.9	40.2	−0.3	−0.5	0.0	−0.4	−0.8	−0.2
23	42.1	35.9	39.8	41.7	41.2	36.1	−0.6	+0.4	+0.2	−0.2	+0.1	+0.3	23	42.2	34.8	38.8	41.2	41.1	35.9	−0.5	−0.7	−0.8	−0.7	0.0	+0.1
24	39.2	33.3	36.3	37.7	39.0	38.0	−0.4	+0.3	−0.2	−0.2	+0.1	−0.2	24	39.2	32.6	36.6	37.9	38.9	38.0	−0.4	−0.4	+0.1	0.0	0.0	−0.2
25	44.5	33.4	38.4	42.1	44.0	40.1	+0.1	+0.3	0.0	+0.1	+0.3	+0.3	25	44.9	32.9	38.8	42.1	44.2	40.2	+0.5	−0.2	+0.4	+0.1	+0.5	+0.4
26	51.2	39.7	47.9	50.6	51.0	50.2	−0.8	+0.7	+0.2	+0.5	+0.2	+0.2	26	51.6	39.1	48.1	50.5	51.2	50.4	−0.4	+0.1	+0.4	+0.4	+0.4	+0.4
28	51.5	39.8	45.2	50.0	48.5	44.6	+0.1	+0.8	+0.1	+0.7	+0.4	+0.2	28	51.9	39.8	45.8	49.9	49.0	44.9	+0.5	+0.8	+0.7	+0.6	+0.9	+0.5
29	45.9	37.4	40.0	40.5	42.6	37.8	+0.9	+0.7	+0.2	+0.1	+0.1	+0.6	29	45.6	36.7	39.6	40.0	42.1	37.9	+0.6	0.0	−0.2	−0.4	−0.4	+0.7
30	40.9	32.8	33.7	37.7	40.4	34.5	+0.7	+0.4	+0.2	−0.1	+0.9	+0.7	30	42.5	32.1	33.9	38.7	41.8	35.0	+2.3	−0.3	+0.4	+0.9	+2.3	+1.2
Means	45.1	36.3	40.1	43.5	43.5	40.2	−0.3	+0.5	0.0	+0.1	+0.2	+0.1	Means	45.4	35.8	40.4	43.5	43.5	40.2	0.0	−0.1	+0.3	+0.1	+0.2	+0.1

DECEMBER.

Days of the Month.	Readings of Thermometers in Stevenson's Screen, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Days of the Month.	Readings of Thermometers on the Roof of the Magnet House, 20 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h	Excess above readings of Thermometers on ordinary stand, 4 feet above the ground. Maximum.	Minimum.	9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°	°	°	°	°	d	°	°	°	°	°	°	°	°	°	°	°	°
1	49.1	33.8	44.7	47.0	48.5	47.1	−0.2	+0.7	+0.2	+0.2	+0.6	+0.1	1	49.1	33.2	44.9	46.9	48.7	46.9	−0.2	+0.1	+0.4	+0.1	+0.8	−0.1
2	49.5	44.7	46.1	49.1	48.2	46.2	−0.1	+0.4	+0.1	+0.3	+0.8	+0.4	2	49.9	44.6	46.2	49.0	48.4	46.2	+0.3	+0.3	+0.2	+0.2	+1.0	+0.4
3	48.3	43.2	44.3	47.7	46.4	43.8	−0.7	+0.4	+0.1	0.0	+0.1	0.0	3	48.6	43.0	44.4	47.7	46.6	43.9	−0.4	+0.2	+0.2	0.0	+0.3	+0.1
5	46.4	34.7	36.3	38.2	40.0	37.0	+0.2	+0.7	+0.2	+0.5	+0.7	+0.4	5	46.7	34.7	36.6	38.3	40.9	36.9	+0.5	+0.7	+0.5	+0.6	+1.6	+0.3
6	43.1	34.7	40.1	43.0	41.2	37.0	−0.3	+0.3	+0.2	+0.1	+0.4	+0.6	6	43.6	36.0	40.8	43.4	41.5	37.0	+0.2	+1.6	+0.9	+0.5	+0.7	+0.6
7	38.5	32.5	33.3	36.2	38.1	34.7	−0.9	+0.6	+0.1	+0.2	0.0	+0.4	7	38.9	31.7	33.8	36.3	38.5	34.9	−0.5	−0.2	+0.6	+0.3	+0.4	+0.6
8	50.9	34.2	37.8	43.4	46.9	50.9	0.0	+1.0	0.0	−0.1	+0.2	+0.1	8	51.3	33.5	37.9	44.1	47.5	51.3	+0.4	+0.3	+0.1	+0.6	+0.8	+0.5
9	53.9	45.1	49.0	50.2	49.2	45.2	−0.2	+1.0	+0.3	+0.2	+0.3	+0.2	9	54.3	44.7	49.7	50.3	49.6	45.7	+0.2	+0.6	+1.0	+0.3	+0.7	+0.7
10	45.9	32.6	38.8	37.7	37.2	32.6	+0.8	+0.6	0.0	−0.3	−0.9	+0.2	10	45.7	32.9	38.9	38.1	38.4	32.9	+0.6	+0.9	+0.1	+0.1	+0.3	+0.5
12	41.3	30.5	30.7	34.4	35.7	41.3	−0.2	0.0	−0.3	+0.2	+0.1	+0.2	12	41.3	30.0	30.9	35.3	35.7	41.3	−0.2	−0.5	−0.1	+1.1	+0.1	+0.2
13	50.1	41.0	48.6	48.8	49.0	50.1	0.0	0.0	+0.1	0.0	+0.3	+0.2	13	50.5	40.9	48.9	49.1	49.3	50.3	+0.4	−0.1	+0.4	+0.3	+0.6	+0.4
14	50.2	36.5	38.2	47.5	41.9	43.7	+0.1	+1.0	+0.4	+0.2	+0.5	+0.3	14	50.3	36.0	38.6	48.3	42.1	43.9	+0.2	+0.5	+0.8	+1.0	+0.7	+0.5
15	45.5	39.6	42.3	44.3	45.3	41.0	−0.4	+0.6	+0.3	+0.1	+0.2	−0.1	15	45.9	39.1	43.0	44.4	45.8	40.9	0.0	+0.1	+1.0	+0.2	+0.7	−0.2
16	52.1	40.6	51.4	52.0	50.4	46.7	−0.3	+0.3	+0.2	+0.2	+0.4	+0.7	16	52.4	39.1	51.9	51.8	50.6	46.9	0.0	−1.2	+0.7	0.0	+0.6	+0.9
17	48.0	38.5	40.1	43.4	42.6	39.0	+1.6	+0.5	0.0	0.0	+0.2	+0.2	17	47.0	37.8	40.6	43.8	42.9	39.0	+0.6	−0.2	+0.5	+0.4	+0.5	+0.2
19	37.5	31.8	32.5	36.4	35.2	34.1	+0.2	+0.5	+0.1	+0.2	0.0	+0.2	19	37.4	31.1	33.0	36.5	35.5	34.3	+0.1	−0.2	+0.6	+0.3	+0.3	+0.4
20	36.9	28.9	33.1	35.4	36.7	35.6	0.0	+0.3	+0.1	0.0	+0.1	+0.2	20	37.2	28.0	33.4	36.2	36.9	35.6	+0.3	−0.6	+0.4	+0.8	+0.3	+0.2
21	36.0	32.1	33.3	34.8	35.4	35.1	+0.1	+0.2	−0.2	0.0	0.0	+0.1	21	36.0	31.7	33.6	34.9	35.7	35.1	+0.1	−0.2	+0.1	+0.1	+0.3	+0.1
22	35.2	31.3	32.2	32.3	32.6	32.3	−0.1	+0.1	+0.1	−0.1	−0.2	+0.1	22	35.7	30.8	32.1	32.3	32.5	32.0	+0.4	−0.4	0.0	−0.1	−0.3	−0.2
23	38.2	28.9	32.0	36.0	37.8	35.0	+0.2	0.0	+0.1	+0.1	+0.1	−0.2	23	38.7	28.2	32.2	35.9	37.9	35.1	+0.7	−0.7	+0.3	0.0	+0.2	−0.1
24	42.2	33.9	39.9	40.0	36.9	36.2	+1.4	+0.5	+0.2	+0.1	−0.1	+0.2	24	40.8	33.4	39.9	40.1	36.6	36.1	0.0	0.0	+0.2	+0.2	−0.4	+0.1
26	37.2	28.0	28.6	33.2	33.1	28.1	0.0	+0.9	−0.1	−0.6	+0.3	+0.1	26	37.6	27.0	28.9	33.6	32.9	28.9	+0.4	−0.1	+0.2	−0.2	+0.1	+0.9
27	32.3	24.3	25.0	30.4	31.1	28.3	+0.3	+0.3	−0.5	−0.7	+0.2	+0.1	27	31.9	24.0	25.6	30.9	31.1	28.6	−0.1	0.0	+0.1	−0.2	+0.2	+0.4
28	35.9	27.1	33.8	33.1	33.2	31.2	+1.4	+0.1	+0.1	−0.3	+0.1	+0.2	28	34.2	26.7	33.9	33.4	33.2	31.3	−0.3	−0.3	+0.2	0.0	+0.1	+0.3
29	34.9	28.6	29.9	33.8	33.5	33.2	+0.2	+0.5	−0.2	+0.1	+0.5	+0.2	29	35.2	27.7	30.2	33.8	33.5	33.3	+0.5	−0.4	+0.1	+0.1	+0.5	+0.3
30	38.0	31.5	34.7	36.3	37.1	34.0	+0.3	+0.2	+0.1	0.0	+0.4	+0.2	30	37.6	31.2	34.9	36.5	37.0	34.1	−0.1	−0.1	+0.3	+0.2	+0.3	+0.3
31	34.8	32.0	32.9	34.0	34.8	32.7	−0.5	+0.2	+0.1	−0.1	−0.1	+0.2	31	35.7	31.6	33.3	34.8	35.7	32.9	+0.4	−0.2	+0.5	+0.7	+0.8	+0.4
Means	42.7	34.1	37.4	39.9	39.9	38.2	+0.1	+0.4	+0.1	0.0	+0.2	+0.2	Means	42.7	33.7	37.7	40.2	40.2	38.3	+0.2	0.0	+0.4	+0.3	+0.5	+0.3

READINGS of the WET-BULB THERMOMETER placed in a STEVENSON'S SCREEN near the Ordinary Stand; and EXCESS of the READINGS above those of the corresponding THERMOMETER on the ORDINARY STAND, in the YEAR 1887.

[No observations have been made on Sundays and a few other days.]

JANUARY.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...
Means	...	...	...	...	...	...	...	...

FEBRUARY.

Days of the Month.	Readings 9h	Noon	15h	21h	Excess 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...
8	...	34.2	32.4	...	...	+ 0.3	+ 0.2	...
9	...	31.9	31.9	30.6	...	+ 0.3	+ 0.2	+ 0.3
10	27.4	30.1	30.7	30.3	0.0	+ 0.2	− 0.2	− 0.1
11	32.2	34.0	35.2	33.2	+ 0.1	+ 0.1	+ 0.3	+ 0.3
12	34.2	37.5	37.4	31.4	+ 0.3	+ 0.1	+ 0.4	+ 0.4
14	33.4	35.5	36.2	34.2	− 0.2	+ 0.3	+ 0.2	+ 0.3
15	35.2	35.6	35.4	33.3	+ 0.2	+ 0.2	0.0	+ 0.4
16	28.7	35.8	37.4	27.1	+ 0.1	− 0.1	+ 0.2	0.0
17	22.2	30.2	37.2	29.2	− 0.7	− 0.9	+ 0.4	+ 0.1
18	36.7	39.7	40.7	41.8	+ 0.1	0.0	− 0.1	0.0
19	37.9	38.8	40.0	37.3	− 0.1	− 0.1	+ 0.1	+ 0.1
21	38.6	41.4	40.5	36.6	− 0.1	− 0.7	+ 0.1	+ 0.1
22	33.4	41.5	42.8	43.1	− 0.2	− 0.2	− 0.1	+ 0.1
23	45.9	46.5	46.2	44.9	0.0	+ 0.2	+ 0.3	+ 0.6
24	43.2	45.0	45.5	45.4	+ 0.2	+ 0.3	+ 0.4	+ 0.5
25	44.4	44.3	42.2	37.5	− 0.3	+ 0.2	− 0.1	+ 0.5
26	35.4	42.3	43.7	34.2	+ 0.7	− 0.1	− 0.2	− 0.2
28	33.5	43.2	44.9	34.2	+ 0.3	+ 0.4	− 0.1	+ 0.2
Means	35.1	38.2	38.9	35.5	0.0	0.0	+ 0.1	+ 0.2

MARCH.

Days of the Month.	Readings 9h	Noon	15h	21h	Excess 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	33.9	35.2	36.2	33.9	− 0.1	0.0	0.0	− 0.1
2	30.9	34.8	39.6	33.3	− 0.2	0.0	0.0	− 0.4
3	33.8	37.2	42.0	35.2	− 0.4	0.0	+ 0.3	− 0.1
4	30.0	33.5	37.5	35.7	+ 0.1	− 0.8	− 0.2	− 0.1
5	34.3	36.5	36.7	35.5	− 0.1	− 0.4	− 0.2	+ 0.2
7	35.4	37.9	37.1	37.3	− 0.4	0.0	+ 0.2	− 0.2
8	37.8	38.2	38.2	36.2	0.0	0.0	− 0.2	+ 0.2
9	35.0	37.4	37.3	37.2	− 0.1	+ 0.1	+ 0.3	+ 0.3
10	37.4	40.9	41.2	35.2	− 0.3	− 0.2	0.0	+ 0.1
11	34.0	40.0	39.2	33.3	+ 0.2	− 0.1	− 0.1	+ 0.1
12	33.4	33.2	33.8	29.3	+ 0.1	− 0.1	0.0	− 0.3
14	25.8	31.2	33.2	29.2	− 0.1	+ 0.4	+ 0.3	0.0
15	31.2	32.3	32.1	31.0	+ 0.1	+ 0.2	+ 0.2	+ 0.1
16	30.2	34.2	32.0	26.1	− 0.7	− 0.8	− 0.9	+ 0.2
17	29.3	30.3	30.0	28.4	− 0.6	− 0.1	− 0.5	+ 0.2
18	30.5	31.3	31.9	27.3	− 0.7	− 0.4	0.0	− 0.1
19	32.0	34.0	33.9	28.2	0.0	− 0.2	− 0.1	+ 0.1
21	29.3	30.2	34.3	30.3	+ 0.1	+ 0.3	− 0.1	+ 0.2
22	42.9	44.1	43.1	42.1	+ 0.3	− 0.9	− 0.4	+ 0.2
23	42.3	43.5	42.7	38.2	0.0	− 0.5	− 0.2	+ 0.2
24	41.8	41.7	42.4	37.9	− 0.6	− 0.5	− 0.4	0.0
25	42.1	44.0	43.2	40.7	− 0.5	− 0.5	0.0	+ 0.3
26	41.4	44.4	43.9	42.4	+ 0.1	− 0.2	− 0.4	− 0.3
28	42.0	44.4	47.0	45.2	+ 0.2	+ 0.1	0.0	+ 0.3
29	38.7	44.4	46.8	40.7	− 0.4	+ 0.5	+ 0.1	− 0.1
30	43.9	44.4	45.0	38.0	− 0.1	− 0.5	− 0.3	− 0.1
31	42.6	45.5	47.0	42.1	− 0.3	− 0.1	+ 0.2	+ 0.2
Means	35.6	38.0	38.8	35.2	− 0.2	− 0.2	− 0.1	0.0

APRIL.

Days of the Month.	Readings 9h	Noon	15h	21h	Excess 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	34.0	42.2	42.0	39.1	+ 0.1	− 0.5	+ 0.1	+ 0.3
2	39.2	45.3	44.3	41.9	+ 0.3	+ 0.7	+ 0.5	+ 0.4
4	42.5	46.2	49.1	44.2	− 1.2	+ 0.1	+ 0.2	+ 0.6
5	38.5	38.5	39.1	38.7	+ 0.2	− 0.5	+ 0.2	+ 0.4
6	37.6	39.2	37.8	36.0	+ 0.5	+ 0.3	− 0.4	0.0
7	39.5	41.7	41.4	35.2	0.0	− 0.2	− 0.5	+ 0.3
9	38.5	42.0	42.8	37.6	− 0.4	− 0.3	0.0	− 0.3
11	43.7	48.4	48.4	41.2	− 1.0	− 0.8	+ 0.6	+ 0.2
12	41.5	52.4	51.1	41.2	− 0.3	− 0.6	+ 0.2	+ 0.3
13	38.2	40.4	42.1	37.8	+ 0.1	− 0.2	0.0	− 0.1
14	35.8	36.2	38.2	33.0	− 0.7	− 0.1	− 0.2	+ 0.4
15	33.6	39.1	41.6	40.2	− 0.1	− 0.1	− 0.5	− 0.1
16	39.4	39.3	40.0	33.1	+ 0.2	− 0.6	− 0.5	+ 0.2
18	41.2	47.3	49.6	43.1	+ 0.4	− 0.2	+ 0.4	+ 0.5
19	46.5	48.8	48.2	45.0	− 0.2	+ 0.5	+ 0.4	+ 0.5
20	45.2	50.2	52.5	46.9	+ 0.1	+ 0.2	− 0.5	+ 1.0
21	44.9	51.6	51.2	44.1	+ 0.1	− 0.4	+ 0.5	+ 0.8
22	49.8	49.6	50.4	46.4	− 0.2	+ 0.3	− 0.6	+ 0.1
23	48.3	49.7	48.8	44.8	− 0.2	− 0.5	− 0.5	− 0.1
25	44.0	44.3	43.1	39.1	− 0.2	+ 0.1	+ 0.5	+ 0.2
26	43.1	45.5	41.0	41.0	− 0.7	+ 0.4	− 0.3	0.0
27	39.9	44.2	41.0	38.3	0.0	− 0.1	− 0.4	+ 0.1
28	44.8	47.2	44.9	42.3	+ 0.5	+ 0.5	+ 0.2	− 0.2
29	39.9	43.0	42.1	40.2	− 0.2	− 0.2	− 0.6	+ 0.3
30	41.4	43.5	44.0	39.9	− 0.1	− 0.2	− 0.2	+ 0.6
Means	41.2	44.6	44.6	40.4	− 0.1	− 0.1	− 0.1	+ 0.3

READINGS of the WET-BULB THERMOMETER in a STEVENSON'S SCREEN—*continued.*

MAY.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
2	43.2	45.0	44.5	44.8	0.0	0.0	− 0.1	+ 0.2
3	49.4	54.8	57.0	50.4	− 0.1	− 0.1	0.0	+ 0.3
4	46.6	49.2	49.9	45.5	0.0	+ 0.2	− 0.6	+ 0.7
5	46.8	49.2	50.6	45.8	0.0	+ 0.1	+ 0.7	+ 0.8
6	46.2	48.9	49.1	46.8	+ 0.2	+ 0.1	+ 0.2	+ 0.3
7	46.0	49.2	50.4	49.3	+ 0.8	− 0.7	+ 0.6	+ 0.2
9	50.2	57.1	57.4	54.1	+ 0.3	+ 0.3	+ 0.5	+ 1.1
10	50.4	52.3	54.4	47.9	+ 0.5	+ 0.1	− 0.5	+ 0.7
11	50.5	48.9	49.0	50.2	+ 0.4	+ 0.1	+ 0.1	+ 0.4
12	51.5	51.0	49.7	47.2	+ 0.1	+ 0.4	− 0.5	+ 0.2
13	40.2	42.1	42.5	40.1	− 0.4	− 0.7	− 0.5	0.0
14	44.0	47.3	48.9	42.5	− 0.2	− 0.9	− 0.6	+ 0.1
16	47.1	49.8	52.2	46.3	− 0.8	− 0.2	− 0.8	− 0.3
17	45.2	46.0	50.9	47.4	− 0.4	− 0.1	− 0.5	+ 0.1
18	50.6	48.6	49.0	45.9	− 0.4	− 0.3	− 0.8	+ 0.5
19	47.4	51.0	54.5	50.1	− 0.3	− 0.1	0.0	+ 0.2
20	43.9	40.9	45.5	39.5	− 0.2	− 0.1	− 0.1	+ 0.3
21	44.2	44.2	42.2	38.4	− 0.3	− 0.2	− 0.5	+ 0.2
23	44.4	46.6	47.1	47.1	− 0.5	− 0.1	+ 0.2	+ 0.3
24	51.6	53.5	51.2	47.5	− 0.6	− 0.7	− 0.6	0.0
25	45.8	48.4	49.6	45.2	− 0.3	+ 0.3	− 0.3	+ 0.2
26	51.9	53.5	53.3	48.0	− 0.1	− 0.4	− 0.1	+ 0.3
27	46.3	49.8	50.1	50.0	− 0.2	+ 0.3	+ 0.2	+ 0.1
28	49.2	50.4	52.6	51.2	+ 0.3	+ 0.1	+ 0.2	+ 0.2
30	48.5	52.1	55.3	53.7	− 0.3	− 0.6	+ 0.4	− 0.1
31	55.1	57.2	54.8	49.9	− 0.1	− 0.5	− 0.1	+ 0.3
Means	47.5	49.5	50.4	47.1	− 0.1	− 0.1	− 0.1	+ 0.3

JUNE.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	54.1	56.0	58.7	52.8	− 0.8	− 0.2	− 0.4	+ 0.7
2	49.6	53.6	55.6	51.1	0.0	− 0.2	0.0	+ 0.1
3	54.2	54.6	53.4	51.3	+ 0.2	− 0.1	− 0.3	− 0.1
4	54.7	60.9	59.6	56.2	− 0.2	− 0.8	− 0.6	0.0
6	57.0	59.4	59.5	54.8	− 0.2	− 0.4	+ 0.1	0.0
7	59.2	60.8	59.6	55.2	− 0.7	− 0.1	− 0.3	+ 0.1
8	60.4	64.2	64.3	57.8	− 0.6	− 0.6	− 0.2	− 0.1
9	57.0	57.7	59.1	57.2	0.0	− 0.7	− 0.2	+ 0.3
10	53.2	55.9	57.1	48.9	+ 0.3	− 0.3	− 0.1	+ 0.1
11	55.2	61.5	61.1	57.1	− 0.1	− 0.1	− 0.1	+ 0.2
13	60.9	65.1	65.7	59.3	− 0.3	− 0.7	− 0.3	+ 0.5
14	59.8	62.0	62.6	55.6	− 0.1	+ 0.7	+ 0.1	0.0
15	64.6	64.9	66.4	59.9	0.0	− 0.3	− 0.1	+ 0.5
16	61.7	64.4	62.9	56.2	− 0.3	− 0.7	− 0.4	0.0
17	61.0	59.3	59.4	54.2	+ 0.2	− 0.7	− 0.6	+ 0.2
18	60.7	62.5	62.2	55.2	− 0.4	− 0.3	− 1.0	+ 0.1
20	54.5	58.2	57.2	49.4	− 1.1	− 0.2	− 0.1	− 0.2
22	50.6	55.0	57.5	53.2	0.0	− 0.8	− 0.7	+ 0.3
23	53.5	62.2	64.0	53.2	+ 0.2	− 0.6	0.0	− 0.1
24	52.9	56.4	56.2	54.2	0.0	− 0.2	− 0.8	0.0
25	52.2	55.2	59.5	53.7	0.0	− 0.5	− 0.4	− 0.2
27	55.6	63.5	66.5	60.5	− 0.4	− 0.7	− 0.6	− 0.4
28	56.8	59.5	59.2	58.1	− 0.4	+ 0.3	− 0.7	− 0.1
29	58.5	62.5	63.6	54.6	− 0.4	− 0.3	− 0.2	0.0
30	56.2	56.7	58.8	54.3	− 0.4	− 0.5	− 0.1	+ 0.1
Means	56.6	59.7	60.4	55.0	− 0.2	− 0.4	− 0.3	+ 0.1

JULY.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	59.2	62.2	61.6	57.8	− 0.6	+ 0.3	− 1.1	− 0.2
2	63.4	65.3	65.3	62.0	− 0.2	− 0.7	− 0.2	+ 0.1
4	66.2	66.2	67.2	65.0	− 0.7	− 1.1	− 0.6	0.0
5	55.9	55.7	57.1	54.6	− 0.6	− 0.1	− 0.9	0.0
6	53.3	55.7	58.0	57.5	− 0.9	− 0.2	+ 0.4	− 0.4
7	64.9	66.9	68.2	61.2	+ 0.3	− 0.1	− 0.6	+ 0.3
8	63.0	64.9	63.3	60.9	− 0.4	+ 0.1	+ 0.1	+ 0.5
9	60.2	63.0	62.2	58.6	0.0	− 0.8	− 0.5	+ 0.1
11	64.2	66.2	67.2	62.3	+ 0.2	+ 0.7	− 0.4	+ 0.4
12	65.0	67.9	67.2	61.3	− 0.5	+ 0.1	+ 0.3	+ 0.5
13	69.3	71.7	64.8	60.6	− 0.7	− 0.3	0.0	+ 0.3
14	63.1	63.4	63.9	58.7	− 0.2	0.0	0.0	+ 0.5
15	60.5	63.2	63.2	57.6	− 0.3	+ 0.4	+ 0.3	− 0.3
16	58.3	60.8	61.4	58.5	− 0.8	+ 0.1	− 0.2	− 0.6
18	52.3	54.7	57.2	52.4	0.0	− 0.1	− 1.0	− 0.1
19	56.6	60.6	62.4	55.2	− 0.9	+ 0.5	+ 0.6	+ 0.6
20	61.5	65.5	67.2	59.1	0.0	− 0.4	− 0.4	+ 0.4
21	60.4	61.0	63.1	54.5	− 0.4	− 0.1	+ 0.1	+ 0.2
22	59.4	63.0	62.0	61.7	− 0.5	+ 0.5	− 0.5	0.0
25	59.5	64.2	64.3	61.5	− 0.2	− 0.5	+ 0.1	+ 0.1
26	60.2	62.4	62.2	62.2	+ 0.3	− 0.8	− 0.7	0.0
27	62.9	63.9	63.8	60.6	− 0.7	− 0.7	− 0.5	+ 0.3
28	61.7	63.2	61.0	57.5	− 0.2	− 0.3	− 0.5	+ 0.1
29	64.0	63.5	64.0	57.5	+ 0.3	+ 0.2	− 0.2	+ 0.3
30	58.4	60.4	61.5	57.6	− 0.3	− 0.3	+ 0.2	+ 0.2
Means	60.9	63.0	63.2	59.1	− 0.3	− 0.1	− 0.2	+ 0.1

AUGUST.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	57.2	58.1	58.1	54.0	+ 0.1	− 0.8	+ 0.2	− 0.6
2	56.2	59.2	57.0	54.2	− 1.1	− 0.7	− 0.3	+ 0.5
3	58.0	59.9	59.7	54.2	− 0.3	− 0.7	− 0.7	+ 0.2
4	58.4	61.5	60.0	54.9	− 0.7	− 0.4	+ 0.1	+ 0.2
5	58.6	61.2	63.3	58.6	+ 0.2	+ 0.3	+ 0.9	+ 0.3
6	64.8	66.2	65.1	60.2	− 0.3	− 1.6	+ 0.1	+ 0.6
8	60.3	63.2	67.2	63.9	+ 0.1	− 0.7	+ 0.1	0.0
9	59.7	63.7	64.7	60.3	− 0.2	− 1.2	− 0.8	+ 0.4
10	52.2	55.3	58.3	54.7	− 0.3	− 1.2	0.0	+ 0.2
11	52.6	54.0	55.3	50.5	− 0.4	− 1.0	− 1.2	+ 0.2
12	53.6	56.2	56.2	52.1	+ 0.4	− 1.5	− 0.1	+ 0.1
13	54.7	58.0	56.1	54.2	− 0.2	+ 0.6	+ 0.5	+ 0.3
15	54.2	55.2	56.4	51.1	+ 0.5	+ 0.1	+ 0.9	+ 1.1
16	55.9	57.0	56.4	55.8	+ 0.5	+ 0.5	+ 0.2	+ 0.6
17	55.2	58.2	58.0	53.8	− 0.1	+ 0.1	0.0	+ 0.3
18	54.9	55.6	56.2	52.2	+ 0.1	+ 0.3	+ 0.3	+ 0.3
19	52.4	55.1	56.4	52.6	− 0.2	0.0	+ 0.7	+ 0.3
20	52.8	55.0	57.1	53.1	− 0.3	+ 0.1	− 0.1	+ 0.2
22	57.2	60.2	62.8	53.2	+ 0.6	+ 0.3	+ 0.1	+ 0.9
23	58.9	61.4	59.7	53.4	+ 1.3	+ 1.0	+ 0.1	− 0.2
24	59.5	61.0	60.4	56.1	0.0	− 1.1	− 0.3	+ 0.2
25	61.7	64.3	63.6	57.9	− 0.6	− 0.7	− 0.8	+ 0.1
26	62.1	65.2	64.0	59.9	+ 0.3	− 0.5	0.0	+ 0.2
27	59.4	59.9	62.0	62.4	0.0	− 0.3	+ 0.2	+ 0.1
29	60.9	64.2	62.6	61.2	− 0.4	0.0	− 0.5	+ 0.2
30	60.3	60.4	59.2	60.0	− 0.4	0.0	+ 0.3	+ 0.2
31	58.2	57.8	62.1	57.2	0.0	+ 0.6	− 0.4	+ 0.5
Means	57.4	59.5	59.9	56.0	− 0.1	− 0.3	0.0	+ 0.3

READINGS of the WET-BULB THERMOMETER in a STEVENSON'S SCREEN—*concluded.*

SEPTEMBER.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	58·3	59·1	56·5	57·6	+ 0·1	+ 0·2	− 0·3	+ 0·2
2	56·2	57·2	56·1	54·1	+ 0·1	0·0	+ 0·1	+ 0·5
3	56·5	56·3	60·3	56·2	+ 0·3	0·0	+ 0·2	+ 0·6
5	55·5	61·1	62·6	54·6	0·0	− 0·1	+ 0·2	+ 0·5
6	56·0	58·1	59·2	56·4	+ 0·6	+ 0·5	+ 0·3	− 0·1
7	55·3	55·2	54·7	49·2	− 0·7	+ 0·2	+ 0·1	+ 0·6
8	48·4	52·0	53·8	47·3	− 0·5	+ 0·1	+ 1·1	+ 0·5
9	52·3	56·2	58·0	53·7	− 0·2	− 0·1	− 0·9	− 0·2
10	52·6	53·2	50·9	49·5	− 0·8	− 0·7	0·0	+ 0·3
12	49·0	50·0	49·3	48·9	− 0·3	− 0·1	− 0·2	+ 0·4
13	46·8	48·7	49·0	47·2	+ 0·2	+ 0·2	− 0·3	+ 0·4
14	47·8	50·2	53·9	50·4	− 0·2	0·0	− 0·4	− 0·1
15	50·9	53·0	53·5	52·2	0·0	0·0	− 0·2	+ 0·1
16	54·0	55·2	57·8	55·8	0·0	− 0·6	− 0·3	+ 0·1
17	55·5	56·7	55·5	55·0	0·0	− 0·2	− 0·1	+ 0·1
19	50·1	51·9	53·3	51·2	− 0·1	− 0·2	− 0·1	+ 0·2
20	52·4	55·9	53·6	51·3	− 0·2	0·0	+ 0·4	+ 0·1
21	52·5	52·1	52·5	51·2	− 0·2	+ 0·3	0·0	+ 0·3
22	52·6	55·4	55·2	50·0	+ 0·4	− 0·8	+ 0·2	+ 0·3
23	51·2	52·2	53·7	53·1	− 0·3	+ 0·3	+ 0·3	+ 0·2
24	47·1	47·7	48·0	46·2	+ 0·3	+ 0·4	+ 0·6	+ 0·4
26	53·7	54·3	53·2	53·7	+ 0·3	+ 0·1	+ 0·2	+ 0·1
27	51·4	53·4	50·2	45·5	− 0·7	− 0·2	0·0	− 0·1
28	44·2	45·9	47·3	41·1	0·0	+ 0·1	− 0·6	+ 0·4
29	43·4	48·6	47·9	42·9	− 0·7	− 0·8	+ 0·2	+ 0·2
30	47·1	50·2	52·2	50·2	− 0·6	− 0·2	+ 0·2	+ 0·3
Means	51·6	53·5	53·8	50·9	− 0·1	− 0·1	0·0	+ 0·2

OCTOBER.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	50·0	51·5	51·8	48·2	− 0·2	− 0·1	− 0·3	+ 0·2
3	49·2	50·2	50·8	48·4	− 0·2	− 0·4	− 0·1	+ 0·2
4	48·0	50·9	50·8	47·8	+ 0·1	− 0·1	− 0·1	− 0·1
5	47·9	49·2	49·3	47·5	+ 0·2	− 0·6	− 0·1	+ 0·2
6	47·5	48·6	48·0	46·9	− 0·3	− 0·2	− 0·4	+ 0·2
7	47·6	50·6	51·1	50·2	+ 0·1	0·0	− 0·1	+ 0·2
8	49·6	52·8	51·3	49·1	− 0·1	+ 0·1	− 0·6	+ 0·1
10	45·3	45·7	45·7	39·7	+ 0·1	0·0	− 0·2	+ 0·1
11	37·9	40·6	39·2	37·2	− 0·3	− 0·2	0·0	+ 0·4
12	34·2	37·2	37·9	31·9	0·0	+ 0·1	+ 0·2	0·0
13	32·3	39·5	43·4	39·6	− 0·2	− 0·1	0·0	+ 0·4
14	38·2	43·1	40·4	35·5	+ 0·1	+ 0·2	0·0	+ 0·4
15	38·1	42·2	42·5	39·1	+ 0·2	+ 0·3	+ 0·1	+ 0·4
17	43·2	47·8	48·2	42·3	− 0·4	+ 0·2	+ 0·3	0·0
18	41·4	45·7	45·7	43·1	+ 0·1	+ 0·3	+ 0·4	+ 0·5
19	43·0	43·2	43·6	39·8	0·0	+ 0·2	+ 0·2	+ 0·4
20	44·9	48·4	50·2	46·7	0·0	0·0	+ 0·2	+ 0·2
21	38·5	46·3	45·2	38·3	+ 0·1	− 0·2	+ 0·1	+ 0·5
22	30·4	45·6	44·1	39·2	− 0·2	0·0	+ 0·5	+ 0·3
24	37·8	37·0	37·6	32·4	− 0·1	− 0·3	− 0·4	+ 0·4
25	33·2	39·3	39·2	34·8	+ 0·1	− 0·3	− 0·2	+ 0·7
26	32·7	40·9	40·2	37·2	+ 0·5	0·0	− 0·5	0·0
27	43·0	43·8	42·5	43·5	− 0·2	− 0·1	− 0·3	− 0·3
28	51·6	48·9	50·0	44·1	− 0·1	0·0	− 0·1	+ 0·2
29	47·5	49·2	48·0	48·1	− 0·2	− 0·2	− 0·1	0·0
31	39·2	43·8	43·5	39·2	0·0	− 0·4	+ 0·1	+ 0·2
Means	42·0	45·5	45·4	41·9	0·0	− 0·1	− 0·1	+ 0·2

NOVEMBER.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	43·6	43·1	42·6	42·2	− 0·2	0·0	− 0·3	+ 0·1
2	43·9	48·7	46·9	42·2	− 0·1	0·0	+ 0·2	+ 0·3
3	47·4	46·8	44·9	44·9	− 0·2	− 0·2	− 0·2	0·0
4	46·6	49·2	48·9	41·7	− 0·1	− 0·2	+ 0·1	+ 0·3
5	41·8	47·3	46·8	47·3	0·0	− 0·1	− 0·1	− 0·5
7	43·0	45·4	46·1	46·4	+ 0·2	+ 0·1	+ 0·2	0·0
8	47·0	47·2	45·5	45·9	0·0	+ 0·1	− 0·1	+ 0·3
9	46·2	47·0	46·3	45·5	− 0·1	0·0	0·0	+ 0·2
10	45·2	45·9	46·1	44·7	0·0	0·0	0·0	− 0·2
11	41·4	44·2	43·6	41·5	0·0	0·0	− 0·2	0·0
12	40·5	42·5	42·1	40·2	− 0·2	0·0	+ 0·2	+ 0·2
14	39·2	40·2	40·2	35·5	− 0·1	0·0	+ 0·3	+ 0·3
15	33·2	36·0	34·4	31·1	+ 0·3	+ 0·5	+ 0·2	+ 0·1
16	27·3	28·5	28·8	25·0	− 0·2	0·0	− 0·2	+ 0·1
17	24·6	31·2	33·3	29·9	− 0·3	0·0	+ 0·5	+ 0·3
18	31·6	33·2	34·2	32·2	− 0·1	+ 0·2	+ 0·3	+ 0·2
19	31·5	39·4	39·0	36·2	+ 0·3	+ 0·2	+ 0·2	+ 0·3
21	32·0	34·2	35·1	34·4	0·0	− 0·2	+ 0·1	− 0·3
22	39·2	42·0	40·9	38·8	+ 0·2	0·0	+ 0·1	− 0·1
23	38·5	39·5	39·0	35·3	0·0	− 0·2	0·0	+ 0·3
24	35·7	36·7	38·0	36·6	+ 0·1	− 0·1	+ 0·1	− 0·2
25	37·5	40·5	42·2	39·3	0·0	0·0	+ 0·3	+ 0·3
26	45·1	46·3	47·4	47·6	+ 0·2	0·0	+ 0·2	+ 0·2
28	42·8	46·2	45·8	43·2	− 0·1	+ 0·1	+ 0·3	+ 0·2
29	39·5	39·7	41·2	37·2	− 0·1	0·0	+ 0·1	+ 0·4
30	33·5	36·7	37·4	33·9	+ 0·2	+ 0·1	+ 0·7	+ 0·9
Means	39·1	41·4	41·4	39·2	0·0	0·0	+ 0·1	+ 0·1

DECEMBER.

Days of the Month.	Readings of the Wet-bulb Thermometer in Stevenson's Screen, 4 feet above the ground. 9h	Noon	15h	21h	Excess above readings of the Thermometer on ordinary stand, 4 feet above the ground. 9h	Noon	15h	21h
d	°	°	°	°	°	°	°	°
1	43·8	46·1	47·3	45·6	+ 0·1	+ 0·1	+ 0·3	+ 0·1
2	43·5	45·2	44·8	43·6	+ 0·1	+ 0·3	+ 0·4	+ 0·2
3	42·5	44·9	44·2	42·3	0·0	0·0	0·0	− 0·2
5	35·9	37·2	36·8	35·3	+ 0·2	+ 0·3	+ 0·5	+ 0·3
6	37·7	40·6	39·4	35·4	+ 0·2	0·0	+ 0·1	+ 0·3
7	31·9	33·9	36·0	33·0	+ 0·1	+ 0·3	+ 0·1	+ 0·4
8	37·5	43·0	46·3	50·2	− 0·1	0·0	+ 0·1	+ 0·2
9	45·3	46·5	45·2	42·8	+ 0·3	+ 0·3	+ 0·6	+ 0·3
10	36·5	34·0	34·8	30·0	− 0·1	0·0	+ 0·1	+ 0·4
12	30·6	33·7	35·2	40·6	0·0	+ 0·1	+ 0·2	+ 0·1
13	47·9	47·2	47·2	48·8	0·0	− 0·1	+ 0·1	+ 0·1
14	36·6	43·6	40·6	41·5	+ 0·2	+ 0·2	+ 0·3	0·0
15	40·6	42·8	42·7	40·0	+ 0·1	+ 0·2	+ 0·1	+ 0·1
16	50·3	49·8	47·0	45·2	+ 0·2	+ 0·1	+ 0·3	+ 0·3
17	37·3	40·0	40·0	38·2	+ 0·2	+ 0·1	+ 0·4	+ 0·3
19	30·7	33·8	34·5	33·3	+ 0·2	+ 0·3	+ 0·1	+ 0·3
20	32·7	34·7	35·4	34·9	+ 0·1	− 0·1	+ 0·1	+ 0·2
21	32·7	33·5	34·1	33·6	0·0	0·0	+ 0·1	+ 0·2
22	32·0	31·9	32·2	31·6	+ 0·1	0·0	+ 0·1	+ 0·1
23	31·5	35·4	35·8	34·1	0·0	+ 0·1	0·0	+ 0·1
24	38·2	37·6	35·3	34·5	+ 0·2	+ 0·1	+ 0·1	+ 0·3
26	27·2	30·3	29·7	27·4	+ 0·1	− 0·5	+ 0·2	+ 0·1
27	24·7	28·7	29·4	27·3	− 0·4	− 0·2	+ 0·2	+ 0·3
28	32·0	30·6	29·5	29·1	+ 0·1	− 0·3	+ 0·1	+ 0·3
29	27·9	30·2	29·3	29·6	− 0·1	− 0·1	+ 0·5	+ 0·4
30	34·0	35·0	35·1	33·5	0·0	+ 0·1	+ 0·3	+ 0·1
31	32·8	33·6	32·6	31·6	+ 0·1	− 0·1	0·0	+ 0·3
Means	36·1	37·9	37·8	36·8	+ 0·1	0·0	+ 0·2	+ 0·2

(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 of the Year.

1887.

Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	52·20	51·46	50·45	49·53	48·86	48·52	48·65	49·38	50·55	51·62	52·27	52·34
2	52·17	51·42	50·42	49·52	48·83	48·51	48·66	49·42	50·58	51·64	52·31	52·34
3	52·20	51·40	50·38	49·48	48·82	48·51	48·68	49·45	50·63	51·68	52·32	52·33
4	52·16	51·38	50·36	49·47	48·81	48·52	48·69	49·49	50·67	51·71	52·34	52·33
5	52·15	51·34	50·32	49·43	48·79	48·52	48·70	49·52	50·70	51·74	52·35	52·29
6	52·14	51·28	50·30	49·40	48·77	48·52	48·72	49·56	50·75	51·76	52·36	52·27
7	52·13	51·24	50·27	49·39	48·76	48·51	48·75	49·60	50·78	51·78	52·36	52·26
8	52·10	51·20	50·23	49·36	48·75	48·54	48·77	49·64	50·81	51·83	52·37	52·26
9	52·04	51·15	50·20	49·34	48·74	48·52	48·78	49·67	50·86	51·84	52·37	52·26
10	52·06	51·11	50·17	49·32	48·72	48·52	48·80	49·70	50·90	51·85	52·37	52·24
11	52·05	51·08	50·13	49·30	48·70	48·52	48·82	49·74	50·94	51·88	52·38	52·20
12	52·04	51·06	50·10	49·28	48·69	48·52	48·84	49·77	50·96	51·88	52·38	52·19
13	51·99	51·02	50·06	49·23	48·67	48·53	48·86	49·81	51·01	51·90	52·38	52·21
14	51·97	50·97	50·03	49·21	48·66	48·54	48·87	49·85	51·04	51·94	52·38	52·18
15	51·95	50·94	50·00	49·19	48·65	48·54	48·90	49·87	51·08	51·96	52·37	52·16
16	51·91	50·90	49·97	49·17	48·64	48·54	48·93	49·93	51·13	51·98	52·36	52·16
17	51·87	50·84	49·95	49·15	48·62	48·54	48·95	49·96	51·15	52·04	52·36	52·13
18	51·87	50·83	49·92	49·14	48·61	48·55	48·97	50·00	51·19	52·04	52·36	52·10
19	51·88	50·80	49·89	49·12	48·61	48·55	49·00	50·04	51·23	52·07	52·37	52·07
20	51·84	50·77	49·86	49·09	48·58	48·55	49·03	50·06	51·25	52·10	52·36	52·05
21	51·80	50·74	49·82	49·07	48·57	48·56	49·05	50·10	51·30	52·11	52·36	52·03
22	51·77	50·70	49·81	49·04	48·57	48·56	49·08	50·16	51·34	52·13	52·38	52·02
23	51·75	50·69	49·78	49·02	48·56	48·57	49·12	50·20	51·37	52·15	52·37	52·00
24	51·71	50·65	49·76	48·98	48·56	48·57	49·14	50·25	51·38	52·16	52·36	51·98
25	51·68	50·61	49·73	48·97	48·55	48·58	49·16	50·28	51·42	52·17	52·36	51·95
26	51·67	50·58	49·71	48·96	48·55	48·60	49·20	50·33	51·46	52·19	52·38	51·93
27	51·62	50·53	49·68	48·93	48·53	48·60	49·23	50·36	51·50	52·22	52·37	51·90
28	51·60	50·51	49·66	48·92	48·54	48·62	49·26	50·40	51·50	52·25	52·37	51·88
29	51·57		49·63	48·89	48·52	48·64	49·30	50·44	51·55	52·26	52·34	51·87
30	51·52		49·60	48·87	48·52	48·64	49·32	50·48	51·59	52·26	52·32	51·85
31	51·51		49·57		48·53		49·35	50·51		52·28		51·82
Means	51·90	50·97	49·99	49·19	48·65	48·55	48·95	49·93	51·09	51·98	52·36	52·12

The mean of the twelve monthly values is 50°·47.

(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 Noon on every Day of the Year.

1887.

Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	50·38	47·31	46·27	45·37	45·88	47·56	50·60	54·39	56·37	56·40	54·51	51·82
2	50·32	47·25	46·23	45·36	45·92	47·60	50·73	54·50	56·34	56·38	54·41	51·71
3	50·18	47·20	46·20	45·32	45·96	47·66	50·89	54·60	56·40	56·37	54·30	51·61
4	50·01	47·18	46·18	45·33	46·02	47·73	51·03	54·70	56·46	56·33	54·23	51·54
5	49·91	47·11	46·15	45·30	46·07	47·80	51·10	54·80	56·47	56·30	54·12	51·44
6	49·81	47·02	46·12	45·30	46·10	47·85	51·22	54·93	56·50	56·28	54·06	51·35
7	49·71	47·02	46·12	45·31	46·15	47·90	51·42	55·01	56·51	56·20	53·92	51·24
8	49·59	46·96	46·09	45·32	46·21	48·02	51·54	55·09	56·52	56·21	53·83	51·19

(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 Noon on every Day of the Year—*concluded*.

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
9	49·47	46·91	46·08	45·35	46·25	48·07	51·66	55·15	56·60	56·14	53·71	51·11
10	49·34	46·90	46·03	45·36	46·29	48·12	51·79	55·19	56·59	56·02	53·63	51·01
11	49·25	46·88	46·01	45·37	46·32	48·21	51·90	55·24	56·61	56·00	53·54	50·90
12	49·12	46·88	45·98	45·38	46·38	48·30	52·02	55·30	56·60	55·92	53·47	50·84
13	49·00	46·85	45·97	45·39	46·40	48·40	52·19	55·39	56·62	55·87	53·35	50·80
14	48·89	46·81	45·93	45·40	46·46	48·49	52·27	55·45	56·61	55·87	53·29	50·73
15	48·76	46·80	45·90	45·41	46·51	48·57	52·41	55·55	56·68	55·80	53·18	50·63
16	48·64	46·78	45·90	45·42	46·57	48·69	52·53	55·59	56·68	55·75	53·07	50·59
17	48·51	46·70	45·88	45·46	46·61	48·77	52·66	55·68	56·64	55·76	53·01	50·48
18	48·47	46·70	45·85	45·49	46·68	48·88	52·77	55·73	56·66	55·68	52·94	50·39
19	48·40	46·69	45·81	45·52	46·75	48·98	52·93	55·79	56·64	55·62	52·90	50·31
20	48·29	46·64	45·80	45·53	46·80	49·08	53·09	55·85	56·65	55·60	52·81	50·21
21	48·18	46·62	45·77	45·57	46·87	49·20	53·20	55·91	56·62	55·49	52·72	50·14
22	48·10	46·58	45·73	45·60	46·93	49·30	53·30	56·06	56·64	55·40	52·67	50·09
23	48·00	46·55	45·70	45·61	47·01	49·45	53·45	56·10	56·61	55·26	52·58	50·01
24	47·91	46·50	45·69	45·62	47·07	49·56	53·58	56·20	56·55	55·21	52·50	49·97
25	47·81	46·43	45·63	45·66	47·13	49·69	53·68	56·24	56·53	55·12	52·41	49·88
26	47·72	46·40	45·60	45·70	47·21	49·82	53·79	56·30	56·53	55·08	52·34	49·80
27	47·64	46·34	45·55	45·71	47·23	50·00	53·90	56·26	56·52	55·00	52·23	49·70
28	47·58	46·32	45·52	45·77	47·32	50·13	54·01	56·32	56·43	54·91	52·13	49·68
29	47·50		45·47	45·79	47·36	50·30	54·11	56·32	56·44	54·85	52·01	49·58
30	47·42		45·43	45·84	47·42	50·40	54·20	56·37	56·43	54·70	51·88	49·52
31	47·40		45·40		47·51		54·30	56·32		54·61		49·43
Means	48·75	46·80	45·87	45·49	46·63	48·75	52·52	55·56	56·55	55·68	53·19	50·57

The mean of the twelve monthly values is 50°·53.

(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 Noon on every Day of the Year.

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	45·83	44·10	44·14	43·88	46·87	50·07	57·04	61·22	61·07	58·33	52·64	48·78
2	45·76	44·19	44·21	44·03	46·91	50·20	57·21	61·30	61·15	58·14	52·48	48·73
3	45·70	44·27	44·20	44·15	46·99	50·37	57·40	61·30	61·21	58·00	52·36	48·69
4	45·50	44·33	44·22	44·27	47·03	50·71	57·56	61·31	61·22	57·81	52·03	48·62
5	45·30	44·39	44·18	44·33	47·11	50·90	57·59	61·30	61·11	57·68	52·01	48·56
6	45·12	44·47	44·10	44·41	47·20	51·01	57·79	61·35	61·07	57·54	52·00	48·54
7	45·00	44·59	44·07	44·53	47·33	51·17	58·12	61·33	60·92	57·42	51·92	48·52
8	44·80	44·70	44·02	44·66	47·50	51·40	58·31	61·34	60·87	57·38	51·77	48·50
9	44·53	44·73	44·01	44·71	47·59	51·58	58·48	61·41	60·82	57·25	51·70	48·38
10	44·42	44·78	44·00	44·74	47·70	51·80	58·63	61·42	60·68	57·10	51·50	48·23
11	44·38	44·72	44·01	44·81	47·86	52·09	58·85	61·50	60·53	57·02	51·50	48·10
12	44·26	44·68	44·01	44·88	48·04	52·32	59·11	61·61	60·40	56·89	51·52	48·08
13	44·12	44·57	44·03	44·98	48·21	52·61	59·35	61·72	60·27	56·71	51·49	48·00
14	44·12	44·46	44·02	45·09	48·40	52·89	59·48	61·80	60·16	56·57	51·45	47·87
15	44·10	44·38	43·98	45·21	48·56	53·16	59·70	61·89	60·07	56·30	51·35	47·61

(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 Noon on every Day of the Year—*concluded.*

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
16	44·06	44·29	43·90	45·33	48·68	53·46	59·90	61·83	59·93	55·99	51·25	47·58
17	44·01	44·31	43·81	45·40	48·77	53·71	60·03	61·86	59·77	55·73	51·16	47·51
18	43·91	44·11	43·69	45·49	48·88	54·02	60·16	61·86	59·67	55·40	51·00	47·48
19	43·88	44·02	43·55*	45·53	49·03	54·30	60·29	61·73	59·54	55·12	50·68	47·48
20	43·77	43·92	43·40*	45·59	49·12	54·57	60·37	61·61	59·49	54·91	50·40	47·43
21	43·69	43·82	43·30*	45·67	49·23	54·88	60·37	61·52	59·38	54·66	50·11	47·37
22	43·70	43·76	43·25*	45·76	49·31	55·20	60·35	61·50	59·32	54·45	49·90	47·29
23	43·72	43·72	43·20*	45·90	49·41	55·49	60·44	61·37	59·19	54·28	49·69	47·12
24	43·75	43·72	43·20*	46·07	49·45	55·70	60·54	61·30	59·05	54·02	49·50	47·00
25	43·80	43·77	43·25*	46·24	49·48	55·94	60·62	61·20	58·99	53·87	49·35	46·88
26	43·82	43·83	43·25*	46·46	49·52	56·20	60·70	61·11	58·94	53·70	49·24	46·70
27	43·89	43·91	43·30*	46·60	49·52	56·50	60·83	60·98	58·84	53·51	49·10	46·58
28	43·91	44·06	43·35*	46·70	49·62	56·62	60·94	61·08	58·65	53·30	48·99	46·43
29	43·96		43·40*	46·73	49·71	56·80	61·01	61·09	58·58	53·11	48·88	46·29
30	43·98		43·54	46·82	49·81	56·83	61·09	61·12	58·47	52·90	48·78	46·11
31	44·03		43·70		49·99		61·20	61·09		52·76		45·92
Means	44·35	44·24	43·75	45·30	48·48	53·42	59·47	61·42	59·98	55·74	50·86	47·63
The mean of the twelve monthly values is 51°·22.												

The symbol * indicates that the reading was estimated in consequence of the fluid having gone out of range of the scale.

(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 Noon on every Day of the Year.

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	40·07	41·30	41·60	42·80	46·32	51·56	61·93	65·21	63·55	56·50	49·07	44·63
2	39·85	41·58	41·44	42·76	46·33	52·20	61·92	65·02	63·18	56·23	48·82	44·41
3	39·62	41·42	41·18	42·70	46·50	52·55	62·21	64·78	62·80	56·14	48·38	44·60
4	39·30	41·61	40·84	42·83	46·70	52·81	62·66	64·53	62·41	56·10	48·31	44·86
5	39·11	42·12	40·62	43·00	47·06	52·87	63·05	64·42	62·19	56·03	48·51	45·03
6	39·03	42·50	40·51	43·31	47·33	53·33	63·46	64·66	62·10	56·00	48·56	45·02
7	39·00	42·53	40·75	43·21	47·51	53·87	63·60	65·02	61·96	55·94	48·56	44·63
8	38·79	42·30	40·81	43·11	47·73	54·43	63·80	65·45	61·69	55·92	48·33	44·17
9	38·76	41·72	41·05	43·12	48·12	54·97	64·07	65·61	61·20	55·84	48·40	43·83
10	38·80	41·31	41·09	43·30	48·66	55·44	64·60	65·72	60·80	55·70	48·38	44·16
11	38·82	41·00	41·11	43·60	49·13	56·00	64·83	65·90	60·76	55·38	48·41	44·20
12	38·71	40·72	41·00	43·83	49·50	56·37	65·20	65·91	60·60	54·63	48·53	43·83
13	38·94	40·56	40·91	44·27	49·53	56·90	65·50	65·80	60·44	53·70	48·32	43·51
14	38·97	40·40	40·55	44·60	49·50	57·50	65·64	65·51	60·01	52·89	48·15	43·64
15	38·87	40·31	40·15	44·46	49·40	58·12	65·81	65·31	59·70	52·17	47·74	43·63
16	38·78	40·24	39·72	44·20	49·40	58·45	65·60	64·83	59·48	51·50	47·33	43·67
17	38·60	39·98	39·50	44·30	49·76	58·83	65·35	64·52	59·37	51·18	46·53	43·84
18	38·31	39·61	39·28	44·38	50·04	59·35	65·00	64·03	59·42	51·00	45·79	43·92
19	38·36	39·41	39·03	44·54	50·12	59·90	64·62	63·64	59·32	50·91	44·96	43·62
20	38·84	39·52	39·00	44·82	50·03	60·32	64·47	63·20	59·19	50·84	44·63	43·22

(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 Noon on every Day of the Year—*concluded.*

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
21	39·31	39·73	38·97	45·21	50·02	60·83	64·52	62·81	59·00	50·62	44·49	42·73
22	39·40	40·02	38·98	45·72	49·70	61·00	64·83	62·60	58·94	50·44	44·42	42·47
23	39·66	40·24	39·27	46·18	49·58	61·20	65·05	62·45	58·83	50·10	44·41	42·21
24	39·91	40·70	39·88	46·58	49·52	61·49	65·19	62·52	58·66	49·70	44·47	41·96
25	40·00	41·20	40·29	46·89	49·66	61·56	65·40	62·78	58·50	49·60	44·33	41·80
26	40·10	41·72	40·51	46·76	49·92	61·41	65·47	63·10	58·22	49·18	44·26	41·62
27	40·35	41·79	40·90	46·41	50·20	61·30	65·52	63·20	58·00	48·75	44·40	41·30
28	40·33	41·70	41·42	46·22	50·53	61·03	65·69	63·50	57·76	48·60	44·84	40·90
29	40·34		41·74	46·10	50·63	61·36	65·73	63·60	57·53	48·85	44·93	40·50
30	40·71		42·20	46·30	50·80	61·60	65·73	63·71	56·93	48·96	44·90	40·20
31	41·03		42·62		51·12		65·40	63·71		49·17		39·96
Means	39·38	40·97	40·55	44·52	49·04	57·62	64·58	64·29	60·08	52·53	46·71	43·16

The mean of the twelve monthly values is 50°·29.

(V.)—Reading of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, at Noon on every Day of the Year.

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	31·2	45·0	38·0	41·6	46·3	58·0	65·6	64·9	62·7	53·8	45·4	42·0
2	28·8	39·1	36·9	42·6	46·4	57·0	67·6	65·0	60·1	53·1	46·0	44·0
3	34·8	44·2	36·8	43·0	49·2	55·0	70·0	64·8	60·2	54·0	47·2	45·0
4	32·1	47·2	35·9	44·7	50·0	56·2	71·9	65·1	61·2	54·2	47·3	44·2
5	34·0	45·0	37·7	43·0	49·3	58·0	66·2	66·0	60·7	54·0	46·0	41·4
6	33·7	41·0	39·3	42·0	49·2	59·0	65·0	69·3	62·0	54·0	47·1	41·2
7	33·6	39·0	40·2	43·0	50·0	60·6	70·0	71·1	60·0	53·0	45·2	37·4
8	35·0	36·9	40·6	43·1	52·2	62·8	70·8	69·3	55·9	54·6	47·2	39·4
9	35·0	36·4	39·3	43·7	54·0	60·3	71·2	70·0	58·3	54·1	47·0	45·2
10	33·2	35·1	40·3	44·0	54·0	61·1	70·1	67·0	59·3	51·0	47·0	41·2
11	35·5	35·0	39·0	46·0	53·3	61·0	70·4	66·9	59·0	46·9	46·8	37·6
12	38·7	37·8	37·1	47·0	53·2	63·3	71·3	66·0	58·0	43·8	45·0	37·3
13	34·0	37·3	35·1	44·7	49·1	64·8	74·0	65·1	55·7	42·0	43·5	43·0
14	33·4	38·3	33·5	42·5	50·1	65·8	69·8	63·9	56·0	44·3	43·3	41·7
15	33·4	37·5	33·4	41·7	51·0	66·3	69·6	62·9	58·0	44·0	39·2	41·5
16	33·2	35·7	35·3	44·6	53·6	66·4	67·0	62·6	58·0	43·9	35·0	46·0
17	31·1	31·3	33·8	43·0	51·2	65·3	65·7	62·0	58·4	46·7	35·3	42·0
18	34·4	37·0	35·0	44·2	52·6	66·1	61·6	60·8	58·0	45·2	36·8	39·5
19	40·6	38·5	35·0	49·1	47·2	67·4	64·3	59·2	56·7	46·9	37·3	37·2
20	39·2	39·2	35·5	49·0	49·5	66·0	67·6	59·0	57·6	47·1	39·0	36·3
21	37·0	40·4	33·6	49·7	49·0	64·0	68·0	59·6	57·2	45·2	37·9	36·7
22	39·0	39·1	41·3	51·2	48·0	64·0	67·0	61·6	58·4	43·1	40·8	36·2
23	38·2	44·4	43·1	50·7	49·2	65·0	68·3	63·0	57·1	45·0	41·1	36·0
24	36·7	44·2	42·8	47·7	52·5	64·0	70·0	65·3	55·3	44·3	39·4	38·4
25	41·1	45·2	42·2	47·0	51·5	61·5	68·4	66·0	54·0	42·0	40·0	35·7

(V.)—Reading of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, at Noon on every Day of the Year—*concluded.*

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
26	41·8	41·2	43·0	46·2	54·2	61·1	68·1	68·3	56·4	41·0	44·1	34·0
27	38·0	40·0	45·2	45·7	52·0	63·0	69·4	64·8	56·2	45·3	46·3	32·2
28	40·0	39·1	44·2	45·3	51·9	65·4	69·0	67·0	52·1	49·3	44·1	34·0
29	43·2		44·2	45·5	52·3	68·4	69·6	65·8	51·0	48·8	42·1	33·0
30	41·1		46·2	46·3	52·9	65·0	65·2	66·4	53·0	47·2	39·4	35·3
31	43·9		45·0		56·7		68·4	63·0		45·4		34·7
Means	36·3	39·6	39·0	45·3	51·0	62·7	68·4	64·9	57·5	47·8	42·7	39·0

The mean of the twelve monthly values is 49°·52.

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

1887.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	25·8	48·8	37·3	43·5	52·3	61·2	75·6	68·9	64·7	58·6	46·1	46·2
2	22·8	42·3	34·8	48·6	46·6	57·2	75·4	72·0	58·4	55·0	51·4	48·0
3	36·2	49·7	38·7	46·4	57·4	55·8	83·7	71·0	63·3	55·7	48·0	46·8
4	32·8	51·3	34·9	52·8	54·3	65·3	84·9	73·2	66·0	57·1	52·9	45·3
5	36·1	50·8	38·0	40·6	52·0	64·2	67·7	74·8	62·6	54·0	51·5	38·6
6	34·0	43·2	42·1	42·8	51·3	64·3	67·8	81·0	65·3	55·3	52·5	42·9
7	36·4	35·4	42·7	48·6	56·6	66·4	80·3	81·1	60·7	53·4	46·4	35·5
8	34·2	39·0	41·2	50·6	61·8	71·4	81·8	78·6	60·0	60·5	49·2	42·5
9	34·8	35·2	39·3	48·0	62·8	68·0	76·4	77·1	65·0	54·6	48·0	49·1
10	33·8	35·0	44·4	45·2	61·2	66·2	76·1	70·1	62·5	47·8	47·0	38·7
11	36·7	36·8	43·9	55·8	56·5	71·0	74·2	69·0	61·8	46·8	45·2	37·0
12	38·2	41·1	34·8	57·9	55·8	73·0	80·2	68·2	58·2	41·3	45·5	34·6
13	33·2	38·9	36·4	43·8	49·3	75·3	84·3	68·0	56·6	40·0	42·6	48·7
14	30·9	38·2	33·0	43·3	54·7	74·1	72·9	64·9	59·0	45·0	43·6	45·4
15	31·7	38·0	33·0	44·3	59·0	79·1	75·0	69·2	63·0	46·0	37·5	44·4
16	30·6	38·2	39·4	50·0	55·2	75·2	73·3	62·0	63·0	45·0	30·0	50·9
17	27·8	29·0	34·2	49·0	50·0	72·2	69·8	64·4	59·0	51·7	33·2	43·0
18	39·1	40·3	38·0	52·4	54·0	74·6	65·9	63·2	62·8	46·8	34·0	40·4
19	50·4	41·2	39·0	58·7	56·3	78·6	72·6	60·3	58·7	46·9	43·0	35·2
20	40·9	40·3	36·3	59·5	47·2	70·4	76·0	58·8	63·8	51·3	38·7	34·8
21	38·9	45·2	32·0	58·8	51·5	70·7	73·0	62·0	58·9	48·5	35·1	34·5
22	41·4	43·9	48·3	56·3	49·0	68·8	70·9	70·7	63·4	47·8	42·9	33·3
23	39·6	49·5	48·1	56·3	54·3	71·2	73·7	73·0	59·4	48·8	41·4	36·0
24	36·7	48·2	48·3	48·0	59·4	64·9	77·0	75·8	54·0	44·0	37·8	39·1
25	45·6	49·0	48·0	47·0	54·9	60·9	71·7	77·3	56·0	45·0	41·5	33·8
26	48·3	48·3	49·0	52·4	63·4	60·2	71·7	77·0	58·4	46·2	49·2	32·6
27	36·2	47·0	50·0	51·2	52·0	71·7	74·1	66·5	61·0	48·4	50·0	29·0
28	46·8	46·0	50·3	53·5	52·2	70·6	74·2	73·0	50·3	53·0	48·3	34·0
29	47·2		49·5	46·5	54·7	75·1	71·9	72·0	54·9	56·4	41·1	32·7
30	42·6		51·4	49·7	54·9	65·8	69·3	72·2	57·0	49·8	36·9	36·6
31	48·4		51·1		66·4		73·8	63·0		48·6		34·0
Means	37·4	42·5	41·5	50·1	55·1	68·8	74·7	70·3	60·3	50·0	43·7	39·5

The mean of the twelve monthly values is 52°·82.

ABSTRACT of the CHANGES of the DIRECTION of the WIND, as derived from the Records of OSLER'S ANEMOMETER in the Year 1887.

(It is to be understood that the direction of the wind was nearly constant in the intervals between the times given in the second column and those next following in the first column.)

Note.—The time is expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
				°	°
January.					
d h	d h				
1. 0¾	1. 1	S.S.E.	N.N.E.		135
1. 2½	1. 3	N.N.E.	S.W.		157½
1. 4	1. 5	S.W.	W.	45	
1. 10	1. 13	W.	S.W.		45
2. 12	2. 15½	S.W.	S.		45
3. 5	3. 6	S.	S.S.W.	22½	
3. 20	4. 8	S.S.W.	E.		112½
4. 17	4. 22	E.	S.S.W.	112½	
4. 23	5. 2	S.S.W.	S.S.E.		45
5. 6	5. 9½	S.S.E.	W.	112½	
5. 13	5. 14	W.	W.S.W.		22½
6. 0	6. 7	W.S.W.	S.S.W.		45
6. 8	6. 13½	S.S.W.	W.	67½	
6. 19	7. 0	W.	S.S.W.		67½
7. 5	7. 6	S.S.W.	S.		22½
7. 12	7. 13	S.	S.S.W.	22½	
7. 14½	7. 15	S.S.W.	S.		22½
7. 20	8. 0	S.	S.S.E.		22½
8. 2	8. 6	S.S.E.	S.W.	67½	
8. 10	8. 17	S.W.	S.S.E.		67½
9. 8	9. 11½	S.S.E.	W.S.W.	90	
9. 21	9. 23	W.S.W.	N.W.	67½	
9. 23½	10. 5	N.W.	W.S.W.		67½
10. 12	10. 18	W.S.W.	S.		67½
10. 22	10. 23	S.	S.S.E.		22½
11. 3	11. 9	S.S.E.	S.	22½	
11. 20	12. 0	S.	S.S.W.	22½	
12. 1	12. 6	S.S.W.	N.N.E.	180	
13. 22½	13. 23	N.N.E.	S.S.W.		180
14. 4	14. 5	S.S.W.	W.S.W.	45	
14. 9	14. 10	W.S.W.	S.		67½
14. 11	14. 12	S.	N.N.E.	202½	
14. 18	14. 20	N.N.E.	N.E.	22½	
15. 0	15. 1	N.E.	E.N.E.	22½	
15. 20	15. 22	E.N.E.	E.S.E.	45	
16. 1	16. 5	E.S.E.	S.E.	22½	
16. 8¾	16. 9	S.E.	N.N.E.		112½
16. 12	16. 13	N.N.E.	E.N.E.	45	
16. 16	16. 19	E.N.E.	N.N.E.		45
17. 0½	17. 2	N.N.E.	W.S.W.		135
17. 3	17. 6	W.S.W.	S.S.W.	315	
17. 12	17. 15	S.S.W.	S.S.E.		45
17. 17	18. 5	S.S.E.	S.S.W.	45	
18. 9½	18. 10	S.S.W.	S.W.	22½	
18. 14	18. 16	S.W.	S.E.	270	
18. 17	18. 22	S.E.	S.S.W.	67½	
19. 2	19. 3	S.S.W.	S.W.	22½	
19. 22	20. 0	S.W.	N.N.W.	112½	
20. 2	20. 5	N.N.W.	N.	22½	
20. 20	20. 21	N.	S.W.		135
21. 5	21. 6	S.W.	W.S.W.	22½	
22. 8	22. 10	W.S.W.	W.	22½	
22. 17½	22. 19	W.	N.N.W.	67½	
22. 23	23. 1	N.N.W.	N.W.		22½
23. 6½	23. 7	N.W.	S.W.		90
23. 16	23. 17	S.W.	S.S.E.		67½
Jan.—*cont.*					
24. 7	24. 8	S.S.E.	S.	22½	
24. 11	24. 12	S.	S.S.W.	22½	
25. 7	25. 9	S.S.W.	S.		22½
26. 10½	26. 12	S.	S.W.	45	
27. 0	27. 2	S.W.	S.E.		450
27. 12	27. 13½	S.E.	S.W.	90	
27. 14	27. 15	S.W.	E.S.E.		112½
27. 18	27. 22	E.S.E.	S.S.W.	90	
28. 4	28. 5	S.S.W.	S.W.	22½	
29. 23½	30. 1½	S.W.	N.E.		180
30. 8	30. 10	N.E.	S.E.	90	
30. 12	30. 16	S.E.	S.S.W.	67½	
			Sums	2677½	2632½
February.					
1. 11½	1. 12½	S.S.W.	N.	157½	
1. 15	2. 6	N.	S.		180
2. 9¾	2. 10¼	S.	S.S.W.	22½	
2. 19	2. 19½	S.S.W.	W.S.W.	45	
2. 21	3. 1	W.S.W.	S.W.		22½
4. 7	4. 12	S.W.	S.S.W.		22½
5. 16	5. 17	S.S.W.	S.W.	22½	
5. 20	5. 21½	S.W.	N.	135	
6. 3	6. 4	N.	N.N.E.	22½	
6. 8	6. 11	N.N.E.	E.N.E.	45	
6. 15	6. 18	E.N.E.	E.S.E.	45	
7. 1	7. 3	E.S.E.	N.		112½
7. 4	7. 12	N.	E.N.E.	67½	
7. 21	7. 21½	E.N.E.	E.	22½	
8. 7½	8. 8	E.	E.S.E.	22½	
8. 11½	8. 12	E.S.E.	E.		22½
9. 2	9. 3	E.	E.N.E.		22½
9. 23	10. 4	E.N.E.	N.E.		22½
10. 8	10. 9	N.E.	E.N.E.	22½	
10. 12	10. 13	E.N.E.	N.E.		22½
11. 13	11. 21	N.E.	E.S.E.	67½	
11. 23	12. 3	E.S.E.	N.E.		67½
14. 10	14. 11	N.E.	E.N.E.	22½	
15. 18	15. 19	E.N.E.	N.E.		22½
16. 16	16. 16½	N.E.	E.	45	
16. 20	16. 20½	E.	N.E.		45
17. 3½	17. 5	N.E.	S.W.		180
17. 10	17. 12½	S.W.	E.S.E.		112½
17. 14½	17. 17	E.S.E.	S.S.W.	90	
18. 10	18. 14	S.S.W.	W.S.W.	45	
18. 20	18. 22	W.S.W.	N.	112½	
19. 10	19. 11	N.	N.N.E.	22½	
19. 21	19. 23½	N.N.E.	W.S.W.		135
20. 18	20. 22	W.S.W.	S.S.W.		45
21. 3	21. 8	S.S.W.	N.	157½	
Feb.—*cont.*					
21. 19¼	21. 20¼	N.	S.W.		135
23. 21	23. 23	S.W.	S.S.W.		22½
24. 22	25. 3	S.S.W.	S.W.	22½	
25. 7	25. 12	S.W.	W.N.W.	67½	
25. 15	25. 15¼	W.N.W.	N.N.W.	45	
25. 23	25. 23½	N.N.W.	W.S.W.		90
26. 4¾	26. 7¼	W.S.W.	S.E.		112½
26. 9¾	26. 10½	S.E.	S.S.W.	67½	
26. 16	26. 18	S.S.W.	S.S.E.		45
27. 3	27. 4	S.S.E.	E.		67½
27. 10	27. 10¼	E.	E.S.E.	22½	
27. 21	27. 22¼	E.S.E.	E.N.E.		45
28. 10	28. 10¼	E.N.E.	S.E.	67½	
28. 13	28. 14	S.E.	E.S.E.		22½
28. 19	28. 23¼	E.S.E.	S.S.W.	90	
			Sums	1575	1575
March.					
1. 0	1. 0½	S.S.W.	W.S.W.	45	
1. 12	1. 14	W.S.W.	W.	22½	
1. 17	1. 18	W.	W.S.W.		22½
2. 10	2. 12	W.S.W.	W.N.W.	45	
2. 13	2. 13¼	W.N.W.	W.		22½
2. 16¾	2. 17	W.	N.E.	135	
2. 17½	2. 20	N.E.	S.S.W.		202½
2. 21¼	2. 22	S.S.W.	W.S.W.	45	
3. 15	3. 17	W.S.W.	S.S.W.		45
4. 0¼	4. 4	S.S.W.	E.S.E.	270	
4. 12	4. 13	E.S.E.	E.		22½
5. 10	5. 13	E.	E.N.E.		22½
5. 18	5. 19	E.N.E.	E.	22½	
6. 0¼	6. 1	E.	E.N.E.		22½
6. 11	6. 13	E.N.E.	E.S.E.	45	
6. 15	6. 20	E.S.E.	E.N.E.		45
7. 20	8. 0	E.N.E.	E.	22½	
8. 12	8. 14	E.	E.S.E.	22½	
9. 0	9. 0¼	E.S.E.	S.	67½	
9. 1¾	9. 12	S.	N.W.	135	
9. 17	9. 21	N.W.	N.	45	
10. 4½	10. 5	N.	S.S.W.		157½
10. 8¼	10. 9	S.S.W.	N.E.	202½	
10. 11	10. 16	N.E.	E.S.E.	67½	
11. 2¾	11. 3	E.S.E.	E.N.E.		45
11. 7	11. 7½	E.N.E.	E.S.E.	45	
11. 13	11. 13½	E.S.E.	N.N.E.	270	
11. 15	11. 21	N.N.E.	S.W.	202½	
12. 5	12. 11	S.W.	N.E,	180	
13. 1	13. 4	N.E.	N.		45
14. 2½	14. 7	N.	W.S.W.		112½
14. 8	14. 10	W.S.W.	N.W.	67½	

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
				°	°
Mar.—cont.					
d h	d h				
14. 13½	14. 14	N.W.	W.		45
14. 18	15. 0	W.	S.W.		45
15. 8	15. 8¼	S.W.	N.E.	180	
15. 9½	15. 10¼	N.E.	E.S.E.	67½	
15. 13	15. 14	E.S.E.	N.E.		67½
16. 3	16. 4	N.E.	N.N.E.		22½
16. 7	16. 8	N.N.E.	E.S.E.	90	
16. 9½	16. 10	E.S.E.	N.E.		67½
16. 12	16. 12½	N.E.	E.	45	
16. 17	16. 22	E.	N.N.E.		67½
17. 9	17. 11	N.N.E.	N.E.	22½	
17. 17	17. 22	N.E.	N.N.E.		22½
18. 8	18. 10	N.N.E.	N.E.	22½	
18. 15¾	18. 16	N.E.	E.S.E.	67½	
18. 20	18. 22¼	E.S.E.	N.N.E.		90
18. 23	19. 0¼	N.N.E.	S.W.		157½
19. 2¼	19. 2½	S.W.	N.	135	
19. 6	19. 7	N.	N.E.	45	
19. 10	19. 11¼	N.E.	E.	45	
19. 23½	20. 3½	E.	N.		90
20. 5	20. 7	N.	E.S.E.	112½	
20. 7½	20. 8	E.S.E.	E.		22½
20. 12¾	20. 13	E.	E.N.E.		22½
20. 14¾	20. 16½	E.N.E.	E.S.E.	45	
20. 20	20. 23	E.S.E.	N.N.E.		90
21. 4	21. 4¼	N.N.E.	N.		22½
21. 6¼	21. 7	N.	W.S.W.	247½	
21. 7¼	21. 10	W.S.W.	S.S.W.		45
21. 11	21. 12	S.S.W.	N.N.E.		180
21. 12½	21. 14	N.N.E.	S.S.W.		180
21. 17	22. 0	S.S.W.	S.E.		67½
22. 2	22. 9	S.E.	W.S.W.	112½	
22. 15	23. 1½	W.S.W.	S.S.E.		90
23. 2	23. 11	S.S.E.	W.	112½	
23. 14	23. 16	W.	W.S.W.		22½
23. 20	23. 21	W.S.W.	S.W.		22½
24. 17	24. 22	S.W.	W.S.W.	22½	
25. 6	25. 9	W.S.W.	W.	22½	
25. 14	25. 15	W.	W.N.W.	22½	
25. 21	26. 1	W.N.W.	N.W.	22½	
26. 14½	26. 19	N.W.	W.S.W.		67½
27. 9	27. 14	W.S.W.	W.N.W.	45	
27. 20	27. 22	W.N.W.	W.		22½
28. 4	28. 10	W.	N.N.W.	67½	
28. 21	28. 23	N.N.W.	N.N.E.	45	
29. 4¾	29. 6	N.N.E.	N.E.	22½	
29. 19¼	29. 19½	N.E.	S.S.W.	157½	
29. 21	29. 22½	S.S.W.	W.S.W.	45	
30. 2	30. 5	W.S.W.	N.N.E.	135	
30. 16¼	30. 17	N.N.E.	S.E.	112½	
31. 1	31. 2	S.E.	S.S.E.	22½	
31. 5¾	31. 7	S.S.E.	S.W.	67½	
31. 12	31. 16¾	S.W.	W.N.W.	67½	
31. 17¾	31. 20	W.N.W.	W.S.W.		45
31. 21¼	31. 22¼	W.S.W.	N.	112½	
31. 22½	31. 24	N.	N.N.W.		22½
			Sums	4297½	2362½

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
				°	°
April.					
d h	d h				
1. 1¼	1. 2	N.N.W.	W.N.W.		45
1. 3	1. 6	W.N.W.	N.	67½	
1. 9½	1. 11	N.	N.N.E.	22½	
1. 22	2. 5	N.N.E.	N.N.W.		45
2. 12	2. 13	N.N.W.	N.N.E.	45	
2. 16	2. 17	N.N.E.	N.E.	22½	
2. 20¾	2. 21	N.E.	S.S.W.	157½	
3. 0	3. 4	S.S.W.	W.S.W.	45	
3. 11½	3. 12	W.S.W.	W.	22½	
3. 20¼	3. 20½	W.	S.S.W.		67½
4. 0	4. 2	S.S.W.	W.S.W.	45	
5. 1½	5. 2½	W.S.W.	N.	112½	
5. 17	5. 18	N.	N.N.E.	22½	
6. 5	6. 10	N.N.E.	N.E.	22½	
8. 7	8. 8	N.E.	E.N.E.	22½	
8. 16	8. 20	E.N.E.	N.E.		22½
9. 10	9. 11	N.E.	E.N.E.	22½	
10. 15	10. 16¼	E.N.E.	E.	22½	
10. 20	10. 23	E.	N.E.		45
11. 7	11. 8	N.E.	E.N.E.	22½	
11. 12	11. 14	E.N.E.	E.	22½	
11. 21	12. 3	E.	N.N.E.		67½
12. 11	12. 16	N.N.E.	E.S.E.	90	
12. 19¼	12. 22	E.S.E.	N.N.E.		90
13. 7	13. 10	N.N.E.	N.E.	22½	
13. 14	13. 15	N.E.	N.N.E.		22½
14. 22	14. 23	N.N.E.	N.		22½
15. 4½	15. 6	N.	W.S.W.		112½
15. 8	15. 10	W.S.W.	N.N.W.	90	
15. 12	15. 13	N.N.W.	N.W.		22½
15. 15	15. 16	N.W.	N.N.W.	22½	
15. 19½	15. 21	N.N.W.	N.N.E.	45	
15. 23	16. 0	N.N.E.	N.		22½
16. 3½	16. 8	N.	E.N.E.	67½	
16. 11	16. 12	E.N.E.	E.S.E.	45	
17. 2½	17. 4½	E.S.E.	N.N.E.		90
17. 9	17. 10	N.N.E.	N.E.		337½
17. 13	17. 14	N.E.	E.	45	
17. 17	17. 20½	E.	S.S.W.	112½	
17. 23	18. 0	S.S.W.	W.S.W.	45	
18. 8	18. 11	W.S.W.	N.N.W.	90	
18. 15	18. 16	N.N.W.	N.W.		22½
19. 1	19. 1¼	N.W.	W.S.W.		67½
19. 7½	19. 9	W.S.W.	N.W.	67½	
19. 12	19. 13	N.W.	N.N.W.	22½	
20. 0	20. 1¾	N.N.W.	W.S.W.		90
20. 6	20. 8	W.S.W.	W.	22½	
20. 15½	20. 16	W.	W.N.W.	22½	
20. 22	21. 0	W.N.W.	S.W.		67½
22. 17	22. 19	S.W.	S.S.W.		22½
23. 7	23. 10	S.S.W.	S.W.	22½	
23. 18	23. 19	S.W.	S.S.W.		22½
23. 21	23. 22	S.S.W.	S.		22½
24. 0½	24. 1	S.	S.S.W.	22½	
24. 9	24. 10	S.S.W.	W.S.W.	45	
24. 12	24. 19	W.S.W.	S.S.W.		45
25. 10	25. 11	S.S.W.	S.W.	22½	
26. 3	26. 5	S.W.	S.S.W.		22½
26. 19	26. 22	S.S.W.	W.S.W.	45	
27. 11	27. 13	W.S.W.	S.W.		22½

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
				°	°
April—cont.					
d h	d h				
28. 10	28. 12	S.W.	S.		45
28. 16	29. 1	S.	N.		180
29. 13½	29. 14	N.	N.N.E.	22½	
29. 21	29. 22	N.N.E.	N.E.	22½	
30. 13¾	30. 14	N.E.	E.	45	
30. 21	30. 24	E.	N.E.		45
			Sums	1755	1687½
May.					
1. 7	1. 11	N.E.	E.	45	
1. 17	1. 21	E.	E.N.E.		22½
2. 18	2. 18½	E.N.E.	E.	22½	
2. 20½	3. 1	E.	S.S.E.	67½	
3. 3	3. 4	S.S.E.	E.S.E.		45
3. 12	3. 12½	E.S.E.	E.N.E.		45
3. 14½	3. 15	E.N.E.	N.	292½	
3. 17	3. 18	N.	N.E.	45	
3. 19½	3. 20	N.E.	E.S.E.	67½	
3. 21	3. 21½	E.S.E.	N.N.E.		90
4. 5	4. 5½	N.N.E.	N.E.	22½	
4. 7	4. 7¼	N.E.	W.S.W.	202½	
4. 9	4. 12	W.S.W.	S.S.W.		45
4. 23	5. 4	S.S.W.	W.N.W.	90	
5. 8	5. 11	W.N.W.	E.N.E.	135	
5. 16	5. 17	E.N.E.	E.S.E.	45	
5. 21	5. 21½	E.S.E.	N.E.		67½
6. 3	6. 3¼	N.E.	N.N.E.		22½
6. 6	6. 7	N.N.E.	N.E.	22½	
6. 20	6. 23	N.E.	N.N.E.		22½
7. 1	7. 2	N.N.E.	N.		22½
7. 15	7. 15½	N.	N.W.		45
7. 16½	7. 18	N.W.	N.	45	
7. 18½	7. 21	N.	W.S.W.		112½
8. 3	8. 7	W.S.W.	W.	22½	
8. 7¾	8. 9	W.	N.N.E.	112½	
8. 12½	8. 17	N.N.E.	W.N.W.		90
8. 19	8. 19½	W.N.W.	W.S.W.		45
9. 2	9. 6	W.S.W.	W.	22½	
9. 11	9. 15	W.	N.N.W.	67½	
11. 0	11. 2	N.N.W.	W.		67½
11. 7	11. 10	W.	N.W.	45	
11. 19	11. 21	N.W.	W.S.W.		67½
11. 23	12. 5	W.S.W.	N.	112½	
12. 11½	12. 15	N.	S.S.E.	157½	
12. 16	12. 18½	S.S.E.	N.N.W.		180
12. 20	12. 21	N.N.W.	E.N.E.	90	
12. 23½	13. 2	E.N.E.	N.N.E.		45
15. 19	15. 22	N.N.E.	N.E.	22½	
17. 9	17. 11	N.E.	S.	135	
17. 12¾	17. 13	S.	N.N.W.	157½	
17. 15	17. 16	N.N.W.	W.N.W.		45
17. 19½	17. 21	W.N.W.	S.W.		67½
18. 1	18. 7½	S.W.	W.	45	
18. 10½	18. 11	W.	N.N.W.	67½	
18. 23	18. 23½	N.N.W.	W.S.W.		90
19. 12	19. 13	W.S.W.	S.W.		22½
20. 0	20. 6	S.W.	W.	45	

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction. From	Change of Direction. To	Amount of Motion. Direct.	Amount of Motion. Retrograde.
				°	°
May—*cont.*					
d h	d h				
20. 23	21. 1	W.	W.S.W.		22½
21. 23	22. 9	W.S.W.	N.N.W.	90	
23. 6	23. 7	N.N.W.	N.	22½	
23. 15½	23. 16	N.	N.N.W.		22½
23. 22	24. 1	N.N.W.	W.S.W.		90
24. 6½	24. 9	W.S.W.	N.N.E.	135	
26. 1	26. 11	N.N.E.	E.	67½	
26. 15½	26. 23	E.	N.N.E.		67½
27. 12	27. 14	N.N.E.	N.E.	22½	
27. 20	27. 21½	N.E.	E.S.E.	67½	
27. 22½	28. 4	E.S.E.	N.N.E.		90
29. 1	29. 3	N.N.E.	N.E.	22½	
29. 14	29. 15½	N.E.	E.S.E.	67½	
29. 19	29. 20	E.S.E.	E.		22½
29. 23½	30. 2	E.	N.E.		45
30. 12	30. 13	N.E.	N.N.E.		22½
30. 17	30. 18	N.N.E.	E.	67½	
30. 21	30. 23½	E.	N.N.E.		67½
31. 2	31. 10	N.N.E.	E.	67½	
31. 21	31. 21½	E.	E.N.E.		22½
			Sums	2835	1732½
June.					
1. 6	1. 8	E.N.E.	E.	22½	
1. 11	1. 12	E.	E.N.E.		22½
1. 23	2. 1	E.N.E.	N.E.		22½
2. 7	2. 8	N.E.	N.N.E.		22½
3. 5	3. 5½	N.N.E.	N.		22½
3. 10	3. 12	N.	N.W.		45
3. 15	3. 17	N.W.	W.		45
3. 22	4. 1	W.	W.S.W.		22½
4. 23	5. 3	W.S.W.	W.	22½	
5. 18	5. 21	W.	S.W.		45
6. 4	6. 5	S.W.	W.S.W.	22½	
6. 18	6. 20	W.S.W.	S.W.		22½
8. 10	8. 11	S.W.	W.S.W.	22½	
9. 8	9. 10	W.S.W.	W.	22½	
9. 12	9. 14	W.	W.N.W.	22½	
9. 23	10. 2	W.N.W.	N.	67½	
10. 7½	10. 8	N.	N.N.E.	22½	
10. 14½	10. 15	N.N.E.	E.S.E.	90	
10. 19	10. 23½	E.S.E.	S.S.E.	45	
11. 2	11. 2½	S.S.E.	W.S.W.	90	
12. 7	12. 8	W.S.W.	W.	22½	
12. 13½	12. 15	W.	N.W.	45	
12. 18½	12. 21	N.W.	W.S.W.		67½
13. 10	13. 11	W.S.W.	W.	22½	
13. 21	13. 21½	W.	W.S.W.		22½
14. 5	14. 6	W.S.W.	W.	22½	
14. 7½	14. 11	W.	S.E.	225	
14. 13	14. 14½	S.E.	N.		135
14. 15	14. 16	N.	E.S.E.	112½	
15. 2	15. 5	E.S.E.	W.S.W.	135	
15. 11½	15. 12½	W.S.W.	N.	112½	
15. 15	15. 15½	N.	E.N.E.	67½	
15. 16½	15. 17	E.N.E.	N.N.E.		45
June—*cont.*					
d h	d h				
15. 21	15. 22	N.N.E.	N.E.	22½	
16. 2	16. 3	N.E.	E.N.E.	22½	
16. 11	16. 14	E.N.E.	E.S.E.	45	
16. 20	16. 23	E.S.E.	E.N.E.		45
17. 6½	17. 7	E.N.E.	E.	22½	
17. 22	18. 1	E.	E.N.E.		22½
18. 12	18. 18	E.N.E.	E.S.E.	45	
19. 0	19. 2	E.S.E.	E.N.E.		45
19. 14½	19. 16	E.N.E.	E.S.E.	45	
19. 21	20. 0	E.S.E.	N.E.		67½
20. 13	20. 13½	N.E.	E.S.E.	67½	
20. 19	20. 20	E.S.E.	N.E.		67½
21. 0	21. 6	N.E.	N.N.E.		22½
22. 4	22. 5	N.N.E.	N.E.	22½	
22. 23	23. 0	N.E.	N.N.E.		22½
23. 5	23. 17	N.N.E.	E.S.E.	90	
23. 20	23. 22	E.S.E.	N.E.		67½
25. 18	25. 19	N.E.	E.	45	
25. 23½	26. 0	E.	N.E.		45
26. 14	26. 15	N.E.	N.N.E.		22½
26. 23	27. 1	N.N.E.	N.		22½
27. 3	27. 4½	N.	S.S.E.	157½	
27. 8	27. 14	S.S.E.	N.W.	157½	
27. 17¾	27. 18	N.W.	S.S.W.		112½
27. 20	27. 20½	S.S.W.	N.N.W.	135	
28. 2	28. 5	N.N.W.	N.N.E.	45	
28. 21¼	28. 21½	N.N.E.	S.S.W.	180	
28. 21¾	28. 22	S.S.W.	E.S.E.		90
28. 23¾	29. 0	E.S.E.	S.S.W.	90	
29. 1	29. 1	S.S.W.	N.E.		157½
29. 10	29. 11	N.E.	E.	45	
29. 16	29. 16¼	E.	E.S.E.	22½	
29. 22½	29. 23	E.S.E.	E.		22½
30. 6	30. 7	E.	N.E.		45
30. 16	30. 17	N.E.	E.S.E.	67½	
			Sums	2542½	1417½
July.					
1. 0	1. 3	E.S.E.	N.E.		67½
1. 17	1. 17½	N.E.	S.E.	90	
1. 19	1. 22	S.E.	S.W.	90	
2. 9	2. 13	S.W.	S.E.	270	
2. 18¾	2. 19¼	S.E.	S.S.W.	67½	
3. 4	3. 8	S.S.W.	S.S.E.		45
3. 12	3. 19	S.S.E.	S.S.W.	45	
4. 4	4. 5½	S.S.W.	W.S.W.	45	
4. 17	4. 20	W.S.W.	N.N.E.	135	
5. 4	5. 6	N.N.E.	N.N.W.		45
5. 19	5. 22	N.N.W.	N.N.E.	45	
6. 6½	6. 7	N.N.E.	N.E.	22½	
6. 11	6. 12½	N.E.	S.S.E.	112½	
6. 13	6. 13½	S.S.E.	S.W.		292½
7. 17	7. 18	S.W.	S.S.W.		22½
7. 23¾	8. 0	S.S.W.	S.		22½
8. 4¼	8. 6	S.	N.E.		135
July—*cont.*				°	°
d h	d h				
8. 6½	8. 7¼	N.E.	S.	135	
9. 0½	9. 1	S.	S.W.	45	
9. 5	9. 6	S.W.	W.S.W.	22½	
9. 11	9. 12	W.S.W.	S.W.		22½
9. 20	10. 1½	S.W.	S.		45
10. 2	10. 10	S.	W.S.W.	67½	
10. 14	10. 16	W.S.W.	S.W.		22½
11. 11	11. 12½	S.W.	W.	45	
11. 20	11. 21	W.	W.S.W.		22½
12. 8½	12. 9	W.S.W.	S.W.		22½
12. 21	12. 23	S.W.	S.S.E.		67½
13. 2	13. 4½	S.S.E.	N.N.E.		135
13. 5	13. 11	N.N.E.	S.W.	202½	
15. 16	15. 17	S.W.	W.S.W.	22½	
15. 20	15. 20¼	W.S.W.	W.	22½	
15. 23	15. 23¾	W.	N.N.W.	67½	
16. 0	16. 3	N.N.W.	W.S.W.		90
16. 3¼	16. 4	W.S.W.	N.N.W.	90	
16. 11	16. 17	N.N.W.	E.N.E.	90	
16. 21	16. 22	E.N.E.	N.E.		22½
17. 16	17. 22	N.E.	N.		45
18. 11	18. 17	N.	N.E.	45	
18. 18	18. 18½	N.E.	E.S.E.	67½	
18. 22	19. 3	E.S.E.	S.W.	112½	
19. 7¾	19. 8¼	S.W.	N.N.E.		202½
19. 17	19. 19	N.N.E.	E.S.E.	90	
19. 21	20. 6¾	E.S.E.	N.		112½
20. 7¼	20. 15	N.	E.S.E.	112½	
20. 21½	20. 23	E.S.E.	N.E.		67½
21. 7	21. 9	N.E.	E.N.E.	22½	
21. 16	21. 16½	E.N.E.	E.S.E.	45	
21. 18	21. 19	E.S.E.	E.		22½
21. 22	21. 23	E.	E.N.E.		22½
22. 0½	22. 1½	E.N.E.	E.S.E.	45	
22. 5½	22. 9	E.S.E.	N.N.E.	270	
22. 9½	22. 11	N.N.E.	N.W.		427½
22. 11¼	22. 13½	N.W.	S.E.	180	
22. 19	22. 21¼	S.E.	N.N.W.		157½
23. 12	23. 14	N.N.W.	W.S.W.		90
23. 19	23. 21	W.S.W.	S.S.W.		45
24. 7	24. 8	S.S.W.	S.W.	22½	
25. 6¾	25. 7	S.W.	N.N.E.	157½	
25. 7½	25. 8	N.N.E.	N.E.	22½	
25. 13½	25. 14½	N.E.	S.E.	90	
25. 19	25. 23	S.E.	W.S.W.	112½	
26. 0	26. 4	W.S.W.	S.S.W.		45
27. 4	27. 6	S.S.W.	S.W.	22½	
28. 1	28. 3	S.W.	S.S.W.		22½
28. 6	28. 7	S.S.W.	S.W.	22½	
28. 19	28. 21	S.W.	S.		45
29. 5	29. 7	S.	S.W.	45	
29. 21	29. 23	S.W.	W.S.W.	22½	
30. 15½	30. 16½	W.S.W.	E.N.E.	180	
30. 18½	30. 22	E.N.E.	N.N.E.	315	
31. 12	31. 13	N.N.E.	N.W.		67½
31. 17¾	31. 18	N.W.	N.N.E.	67½	
			Sums	3802½	2452½

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction. From	Change of Direction. To	Amount of Motion. Direct.	Amount of Motion. Retrograde.
August.				°	°
d h	d h				
1. 0¼	1. 0½	N.N.E.	S.W.		157½
1. 9	1. 9¼	S.W.	N.N.W.	112½	
1. 12	1. 12½	N.N.W.	W.S.W.		90
1. 13½	1. 13¾	W.S.W.	N.N.W.	90	
1. 20¾	1. 21	N.N.W.	S.W.		112½
2. 1	2. 3	S.W.	N.N.W.	112½	
2. 20	2. 20¼	N.N.W.	N.	22½	
2. 23	3. 1	N.	N.E.	45	
3. 2½	3. 3	N.E.	S.E.	90	
3. 18	3. 19	S.E.	S.S.E.	22½	
4. 2½	4. 2½	S.S.E.	E.		67½
4. 7	4. 7	E.	S.S.E.	67½	
4. 9	4. 11	S.S.E.	E.		67½
4. 17¼	4. 17½	E.	E.S.E.	22½	
5. 1	5. 3	E.S.E.	E.		22½
5. 4½	5. 5	E.	N.E.		45
5. 7	5. 8	N.E.	E.	45	
6. 6¾	6. 7	E.	N.E.		45
6. 10	6. 12	N.E.	S.	135	
6. 15	6. 19	S.	S.W.	45	
7. 3	7. 13	S.W.	N.N.W.	112½	
7. 17	7. 20	N.N.W.	N.N.E.	45	
7. 23	8. 0	N.N.E.	N.		22½
8. 3	8. 4	N.	W.S.W.		112½
9. 4	9. 7	W.S.W.	W.N.W.	45	
9. 11	9. 12	W.N.W.	N.W.	22½	
10. 1	10. 4	N.W.	N.N.W.	22½	
10. 9	10. 11	N.N.W.	N.	22½	
10. 16¾	10. 17	N.	N.E.	45	
10. 20	10. 22½	N.E.	S.E.	90	
10. 23	11. 0	S.E.	E.N.E.		67½
11. 4	11. 6	E.N.E.	N.E.		22½
11. 11	11. 11¼	N.E.	N.		45
11. 15¾	11. 23¼	N.	S.S.W.	202½	
12. 2½	12. 3	S.S.W.	S.W.	22½	
12. 9	12. 11	S.W.	W.	45	
12. 12	12. 13	W.	S.W.		45
12. 17	12. 20	S.W.	S.S.W.		22½
13. 0¾	13. 1	S.S.W.	S.S.E.		45
13. 4½	13. 4½	S.S.E.	N.N.E.		135
13. 7	13. 8	N.N.E.	N.E.	22½	
13. 13	13. 13¼	N.E.	N.N.E.		22½
13. 23	14. 3	N.N.E.	N.		22½
15. 0	15. 1	N.	S.E.	135	
15. 9	15. 10	S.E.	S.W.	90	
15. 10¼	15. 12	S.W.	N.E.		180
15. 12½	15. 14	N.E.	E.S.E.	67½	
15. 22	16. 2	E.S.E.	E.N.E.		45
16. 3	16. 5	E.N.E.	E.	22½	
16. 14½	16. 15	E.	E.S.E.	22½	
16. 21	17. 1	E.S.E.	S.W.	112½	
17. 2	17. 3	S.W.	E.S.E.		112½
17. 19½	17. 20	E.S.E.	N.W.		157½
17. 20¾	17. 21	N.W.	N.N.E.	67½	
18. 1	18. 3	N.N.E.	N.N.W.		45
18. 11	18. 12	N.N.W.	W.N.W.		45
18. 15	18. 16	W.N.W.	N.W.	22½	
18. 19	18. 20	N.W.	N.N.W.	22½	
18. 23	19. 0	N.N.W.	W.S.W.		90
19. 7	19. 10	W.S.W.	W.N.W.	45	
Aug.—*cont.*				°	°
d h	d h				
19. 17	19. 17½	W.N.W.	S.W.		67½
19. 22	20. 0	S.W.	N.	135	
20. 9¼	20. 11	N.	E.N.E.	67½	
20. 19	20. 20	E.N.E.	N.E.		22½
20. 23	21. 1	N.E.	N.N.W.		67½
21. 3	21. 4	N.N.W.	S.W.		112½
21. 5	21. 11	S.W.	N.N.W.	112½	
21. 18	21. 21	N.N.W.	S.W.		112½
22. 18	22. 20	S.W.	S.S.W.		22½
23. 5½	23. 5¾	S.S.W.	S.		22½
23. 8	23. 12	S.	W.	90	
23. 15	23. 15½	W.	S.	270	
23. 17	23. 18	S.	S.S.E.		22½
23. 20½	23. 23	S.S.E.	E.N.E.		90
24. 8	24. 9	E.N.E.	E.	22½	
24. 15	24. 16	E.	E.S.E.	22½	
25. 1½	25. 2	E.S.E.	E.N.E.		45
25. 5¼	25. 5½	E.N.E.	E.	22½	
25. 9	25. 13	E.	S.W.	135	
25. 18	25. 19	S.W.	S.S.E.		67½
26. 0	26. 1½	S.S.E.	E.N.E.		90
26. 3	26. 5	E.N.E.	S.S.E.	90	
26. 8	26. 9	S.S.E.	S.S.W.	45	
26. 16	26. 18	S.S.W.	S.S.E.		45
27. 3	27. 4	S.S.E.	S.W.	67½	
27. 11	27. 12	S.W.	S.S.W.		22½
27. 22	28. 0	S.S.W.	S.S.E.		45
28. 10	28. 12	S.S.E.	S.S.W.	45	
29. 8	29. 10	S.S.W.	S.W.	22½	
			Sums	3262½	2700
September.					
1. 12	1. 18½	S.W.	S.S.E.		67½
1. 19½	1. 22	S.S.E.	S.S.W.	45	
2. 6	2. 10	S.S.W.	S.W.	22½	
3. 17¾	3. 19	S.W.	S.S.W.		22½
4. 3	4. 7	S.S.W.	S.W.	22½	
7. 8	7. 13	S.W.	N.	135	
8. 9½	8. 13	N.	S.S.W.	202½	
8. 16	8. 16½	S.S.W	W.S.W.	45	
8. 18	8. 21	W.S.W.	S.		67½
9. 8	9. 15	S.	S.W.	45	
10. 4	10. 7	S.W.	N.N.W.	112½	
10. 11	10. 12	N.N.W.	W.		67½
10. 12½	10. 13	W.	W.N.W.	22½	
10. 20	10. 23	W.N.W.	W.S.W.		45
12. 0¼	12. 0½	W.S.W.	N.W.	67½	
12. 15	13. 1	N.W.	W.S.W.		67½
13. 6	13. 9	W.S.W.	N.N.W.	90	
13. 19	13. 20	N.N.W.	N.W.		22½
13. 23½	14. 1	N.W.	W.S.W.		67½
14. 17	14. 19	W.S.W.	S.W.		22½
15. 22	16. 0	S.W.	W.S.W.	22½	
16. 10	16. 11	W.S.W.	S.W.		22½
17. 13½	17. 14	S.W.	N.N.E.	157½	
17. 15	17. 16	N.N.E.	N.E.	22½	
Sept.—*cont.*				°	°
d h	d h				
17. 21	17. 22	N.E.	N.N.E.		22½
18. 18	18. 22	N.N.E.	N.		22½
19. 8	19. 11	N.	N.N.E.	22½	
19. 20	19. 21	N.N.E.	E.N.E.	45	
19. 22¾	19. 23¼	E.N.E.	N.N.E.		45
20. 1	20. 4	N.N.E.	N.N.W.		45
20. 4½	20. 4¾	N.N.W.	W.S.W.		90
20. 6	20. 10	W.S.W.	N.N.E.	135	
21. 8	21. 9	N.N.E.	N.E.	22½	
22. 10	22. 15	N.E.	E.S.E.	67½	
22. 19	23. 1	E.S.E.	N.E.		67½
23. 21	23. 23	N.E.	N.N.E.		22½
24. 23	25. 3	N.N.E.	N.N.W.		45
25. 6¾	25. 7	N.N.W.	S.S.W.		135
25. 8	25. 9	S.S.W.	W.S.W.	45	
25. 16	25. 20	W.S.W.	S.S.W.		45
25. 20½	25. 23	S.S.W.	S.W.	22½	
27. 0	27. 0¼	S.W.	N.N.W.	112½	
27. 1	27. 2	N.N.W.	W.S.W.		90
27. 7	27. 9	W.S.W.	S.W.		22½
27. 23	28. 2	S.W.	N.W.	90	
28. 6	28. 8	N.W.	W.S.W.		67½
28. 9	28. 10	W.S.W.	W.	22½	
28. 13	28. 20	W.	S.S.W.		67½
29. 0	29. 0½	S.S.W.	N.E.		157½
29. 17	30. 3	N.E.	N.E.		360
30. 8	30. 10	N.E.	N.N.E.		22½
			Sums	1597½	1800
October.					
1. 12	1. 14	N.N.E.	N.		22½
4. 6	4. 11	N.	N.N.E.	22½	
6. 4	6. 5	N.N.E.	N.		22½
6. 17	6. 18	N.	N.N.W.		22½
6. 21	7. 1	N.N.W.	W.S.W.	270	
7. 12	7. 13	W.S.W.	W.N.W.	45	
7. 20	8. 1	W.N.W.	S.W.		67½
8. 18	8. 19	S.W.	S.S.W.		22½
9. 4	9. 7	S.S.W.	S.E.		67½
9. 13	9. 14	S.E.	N.E.		90
9. 17	9. 18	N.E.	N.		45
10. 3	10. 9¼	N.	W.S.W.		112½
10. 10¾	10. 11	W.S.W.	N.N.W.	90	
10. 21	11. 5	N.N.W.	W.S.W.		90
11. 8½	11. 9	W.S.W.	W.N.W.	45	
11. 23	12. 1	W.N.W.	W.S.W.		45
12. 2	12. 4	W.S.W.	W.N.W.	45	
12. 5	12. 6	W.N.W.	W.S.W.		45
12. 8	12. 13	W.S.W.	N.N.W.	90	
12. 16¼	12. 16½	N.N.W.	S.S.E.	180	
12. 18	12. 20	S.S.E.	S.W.	67½	
13. 6	13. 11	S.W.	W.S.W.	22½	
13. 12	13. 12½	W.S.W.	N.N.W.	90	
14. 2	14. 4	N.N.W.	W.S.W.		90
14. 9	14. 12½	W.S.W.	W.N.W.	45	
14. 13¾	14. 13¾	W.N.W.	N.	67½	
14. 16	15. 2	N.	N.W.		45

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
				°	°
Oct.—*cont.*					
d h	d h				
15. 6	15. 12	N.W.	N.	45	
16. 4	16. 5	N.	N.N.W.		22½
16. 9	16. 10¼	N.N.W.	S.W.		112½
16. 11	16. 12	S.W.	N.N.W.	112½	
16. 19	16. 22	N.N.W.	N.	22½	
17. 18	17. 19	N.	W.S.W.		112½
18. 12½	18. 12¾	W.S.W.	N.N.W.	90	
19. 4½	19. 6	N.N.W.	W.S.W.		90
19. 8½	19. 9	W.S.W.	N.N.W.	90	
19. 10	19. 18	N.N.W.	S.S.W.		135
19. 19	20. 2	S.S.W.	W.S.W.	45	
20. 12	20. 13	W.S.W.	N.N.W.	90	
21. 10	21. 12	N.N.W.	N.N.E.	45	
22. 6	22. 6¾	N.N.E.	W.N.W.	270	
22. 7½	22. 13	W.N.W.	W.S.W.		405
22. 17½	22. 19	W.S.W.	S.		67½
22. 22	22. 23	S.	W.S.W.	67½	
23. 3	23. 3½	W.S.W.	S.		67½
23. 9	23. 12	S.	W.S.W.	67½	
24. 3	24. 7	W.S.W.	N.N.W.	90	
25. 8	25. 11	N.N.W.	N.	22½	
26. 0	26. 2	N.	W.S.W.		112½
26. 4	26. 5	W.S.W.	S.W.		22½
26. 11½	26. 11¾	S.W.	S.S.W.		22½
26. 16	26. 18	S.S.W.	S.		22½
27. 2	27. 4	S.	S.S.W.	22½	
28. 8	28. 10½	S.S.W.	W.N.W.	90	
28. 12	28. 18	W.N.W.	S.W.		67½
28. 23	29. 2	S.W.	S.S.W.		22½
29. 3	29. 10	S.S.W.	W.S.W.	45	
29. 15	29. 23	W.S.W.	S.E.		112½
30. 2	30. 6	S.E.	W.N.W.	157½	
30. 7	30. 10	W.N.W.	W.S.W.		45
30. 16	30. 18	W.S.W.	S.W.		22½
31. 8	31. 12	S.W.	W.S.W.	22½	
31. 19	31. 23	W.S.W.	S.		67½
			Sums	2475	2317½

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
November.					
1. 5	1. 6	S.	S.S.E.		22½
1. 8	1. 11	S.S.E.	S.S.W.	45	
1. 12	1. 13	S.S.W.	S.S.E.		45
2. 7	2. 12	S.S.E.	S.W.	67½	
2. 17	3. 0	S.W.	S.		45
3. 3	3. 5	S.	S.S.W.	22½	
3. 9	3. 11	S.S.W.	S.W.	22½	
3. 15	3. 17	S.W.	S.S.W.		22½
4. 17	4. 18¼	S.S.W.	N.W.	112½	
4. 18½	4. 22	N.W.	S.W.		90
Nov.—*cont.*					
5. 14	5. 18	S.W.	S.S.E.		67½
6. 0	6. 1	S.S.E.	S.W.	67½	
6. 6	6. 7	S.W.	S.S.W.		22½
6. 11	6. 12½	S.S.W.	S.		22½
6. 14	6. 23	S.	E.N.E.		112½
7. 4	7. 5	E.N.E.	N.E.		22½
7. 13	7. 16	N.E.	E.	45	
8. 11	8. 12	E.	E.N.E.		22½
8. 17	8. 19	E.N.E.	N.E.		22½
9. 11	9. 12	N.E.	N.N.E.		22½
10. 11	10. 12	N.N.E	E.N.E.	45	
10. 22¾	10. 23	E.N.E.	N.E.		22½
11. 8	11. 8½	N.E.	N.N.E.		22½
12. 14	12. 15	N.N.E.	N.E.	22½	
13. 1	13. 4	N.E.	E.	45	
13. 15½	13. 20	E.	N.E.		45
14. 0	14. 3	N.E.	N.N.E.		22½
15. 9	15. 13	N.N.E.	E.	67½	
15. 17½	15. 18	E.	N.N.E.		67½
15. 22	16. 9	N.N.E.	S.S.E.		225
16. 13	17. 4	S.S.E.	E.N.E.		90
17. 17½	17. 20	E.N.E.	E.S.E.	45	
18. 13½	18. 14	E.S.E.	N.N.W.		135
18. 17	18. 17½	N.N.W.	E.S.E.	135	
18. 19	18. 19½	E.S.E.	S.W.	112½	
19. 8	20. 12	S.W.	N.		225
20. 22	21. 1	N.	S.W.		135
21. 3	21. 9	S.W.	E.S.E.		112½
21. 12	21. 13½	E.S.E.	E.N.E.		45
21. 15	21. 17	E.N.E.	E.	22½	
21. 21	21. 22	E.	N.E.		45
22. 9¼	22. 9½	N.E.	E.S.E.	67½	
22. 12	22. 23	E.S.E.	N.N.E.		90
23. 19	23. 22	N.N.E.	N.E.	22½	
24. 11½	24. 12	N.E.	N.N.E.		22½
24. 14	24. 14½	N.N.E.	N.		22½
24. 21½	25. 2	N.	S.W.		135
28. 0	28. 3	S.W.	S.S.W		22½
28. 16	28. 16½	S.S.W.	S.		22½
28. 19	29. 13	S.	S.W.		315
30. 11	30. 13½	S.W.	W.N.W.	67½	
30. 16	30. 19	W.N.W.	S.W.		67½
			Sums	1035	2430

Greenwich Civil Time.		Change of Direction.		Amount of Motion.	
From	To	From	To	Direct.	Retrograde.
December.					
4. 19	4. 20	S.W.	W.S.W.	22½	
4. 21½	4. 22	W.S.W.	N.	112½	
5. 11½	5. 12	N.	S.S.W.		157½
Dec.—*cont.*					
5. 12½	5. 13	S.S.W.	W.N.W.	90	
5. 15½	5. 18	W.N.W.	S.S.W.		90
6. 2	6. 5	S.S.W.	S.		22½
6. 13	6. 13½	S.	S.W.	45	
6. 16	6. 16½	S.W.	W.S.W.	22½	
8. 5	8. 8½	W.S.W.	S.S.E.		90
8. 11½	9. 1	S.S.E.	W.S.W.	90	
10. 5½	10. 7	W.S.W.	N.N.E.	135	
10. 11½	10. 12	N.N.E.	E.	67½	
10. 12½	10. 20	E.	N.		90
10. 21	10. 22	N.	S.W.		135
11. 9	11. 11	S.W.	S.S.E.		67½
11. 13	11. 16	S.S.E.	W.	112½	
11. 18¾	11. 21	W.	N.	90	
12. 0	12. 2	N.	N.E.	45	
12. 5	12. 9	N.E.	E.S.E.	67½	
12. 16	13. 7	E.S.E.	S.S.W.	90	
13. 19	13. 22½	S.S.W.	W.	67½	
13. 23	14. 8	W.	S.S.E.		112½
14. 9	14. 11	S.S.E.	S.S.W.	45	
15. 5	15. 13	S.S.W.	W.N.W.	90	
15. 15	15. 23	W.N.W.	S.S.W.		90
16. 1	16. 4	S.S.W.	S.W.	22½	
16. 20	17. 1	S.W.	W.S.W.	22½	
19. 2	19. 5	W.S.W.	N.W.	67½	
19. 6	19. 12	N.W.	W.		45
19. 16	19. 18	W.	N.N.W.	67½	
19. 21	20. 4	N.N.W.	W.S.W.		90
20. 10½	20. 17	W.S.W.	N.N.W.	90	
21. 21	22. 5	N.N.W.	N.N.E.	45	
22. 9	22. 12	N.N.E.	N.		22½
22. 20	22. 23	N.	W.S.W.		112½
23. 10	23. 12	W.S.W.	N.N.W.	90	
23. 18	23. 21	N.N.W.	W.S.W.		90
24. 0	24. 7	W.S.W.	N.N.W.	90	
25. 6	25. 7½	N.N.W.	W.S.W.		90
25. 14½	25. 15	W.S.W.	W.	22½	
25. 19	26. 1	W.	N.E.	135	
26. 12	26. 16	N.E.	N.		45
27. 16	28. 0½	N.	W.		90
28. 2	28. 10½	W.	N.E.	135	
29. 13	29. 16	N.E.	N.N.W.		67½
29. 20	30. 0	N.N.W.	W.S.W.		90
30. 3¾	30. 7	W.S.W.	N.	112½	
30. 23	31. 1	N.	S.W.	225	
31. 19	31. 22	S.W.	S.E.	270	
			Sums	2587½	1597½

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*concluded.*

EXCESS of MOTION in each MONTH.

1887.	Direct. °	Retrograde. °	1887.	Direct. °	Retrograde. °
January	45		July	1350	
February	0		August	562½	
March	1935		September		202½
April	67½		October	157½	
May	1102½		November		1395
June	1125		December	990	

The whole excess of direct motion for the year was 5737½°.

MEAN HOURLY MEASURES of the HORIZONTAL MOVEMENT of the AIR in each MONTH, and GREATEST and LEAST HOURLY MEASURES, as derived from the Records of ROBINSON'S ANEMOMETER.

Hour ending	1887.												Mean for the Year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
h	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	9·2	11·9	10·2	11·9	10·8	8·3	8·6	7·3	10·4	9·0	11·9	13·0	10·2
2	9·3	12·0	10·1	11·6	10·8	8·4	8·5	6·8	9·9	9·1	11·6	12·5	10·0
3	9·7	11·5	9·8	11·7	10·7	7·9	8·3	7·5	9·4	9·2	11·2	12·3	9·9
4	9·2	11·1	9·9	11·3	10·2	7·7	8·4	7·3	9·6	9·3	11·3	12·5	9·8
5	9·4	11·7	9·5	11·6	10·5	8·0	8·0	6·9	9·3	8·1	11·9	13·1	9·8
6	9·6	11·6	10·3	11·9	10·7	8·7	7·7	7·1	9·3	8·5	11·8	13·0	10·0
7	9·7	12·3	10·8	12·5	11·7	9·4	7·7	7·3	9·7	9·9	11·5	12·6	10·4
8	9·4	13·2	11·1	13·6	12·2	9·3	9·1	8·1	10·1	10·0	11·7	12·8	10·9
9	9·3	12·7	12·7	14·4	12·9	10·1	10·6	8·2	11·4	10·1	11·5	12·4	11·4
10	9·3	13·2	13·3	15·1	13·0	10·8	10·7	8·7	12·4	11·0	11·3	12·2	11·8
11	9·9	14·4	14·0	16·9	13·3	10·8	11·6	9·2	13·1	11·5	12·1	12·4	12·4
Noon.	9·5	14·3	13·9	17·0	13·1	10·8	11·2	9·5	13·9	11·8	12·5	13·2	12·6
h 13	9·7	14·7	14·3	17·0	13·2	11·4	11·4	9·9	13·8	12·3	13·3	14·2	12·9
14	11·2	16·2	15·7	18·5	14·2	12·9	13·0	11·5	15·1	14·0	13·5	15·6	14·3
15	10·7	15·8	14·5	18·7	13·1	12·5	13·3	11·8	15·4	13·4	13·0	14·1	13·9
16	10·2	15·9	15·0	17·9	13·3	12·9	13·3	11·8	15·1	13·5	11·8	13·3	13·7
17	10·0	15·0	14·1	16·4	12·5	12·6	13·5	11·2	14·3	11·4	10·9	13·4	12·9
18	10·3	14·1	13·4	15·8	13·2	12·3	13·0	10·5	13·0	11·1	11·1	12·8	12·5
19	11·3	13·4	12·1	15·4	13·1	11·8	12·4	10·2	11·9	11·2	11·0	12·5	12·2
20	11·0	13·1	11·8	14·2	11·8	10·7	11·2	8·9	11·8	11·1	11·5	12·0	11·6
21	10·1	12·6	10·5	13·0	10·8	9·7	10·0	8·0	11·2	10·5	10·5	11·5	10·7
22	9·7	11·4	10·0	12·6	11·0	9·5	9·0	7·7	11·6	10·1	11·1	12·1	10·5
23	10·0	11·6	10·1	12·5	11·1	9·5	9·2	7·8	11·1	10·2	11·9	12·6	10·6
Midnight.	10·1	11·2	10·6	11·4	11·5	8·2	8·6	7·1	10·1	9·1	11·2	11·9	10·1
Means	9·9	13·1	12·0	14·3	12·0	10·2	10·3	8·8	11·8	10·6	11·7	12·8	11·5
Greatest Hourly Measures	31	34	50	43	46	28	30	32	40	42	36	35	...
Least Hourly Measures	0	1	0	0	0	1	0	0	1	0	0	1	...

MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, for each CIVIL DAY.

(Each result is the mean of Twenty-four Hourly Ordinates from the Photographic Register. The scale employed is arbitrary: the sign + indicates positive potential.)

1887.

Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	+ 787	+ 229	+ 685	− 370	+ 390	+ 131	+ 255	+ 147	+ 146	+ 193	− 287	+ 572
2	...	+ 465	+ 450	+ 308	+ 17	...	+ 163	+ 157	+ 58	+ 135	+ 432	+ 526
3	− 218	+ 247	+ 664	+ 366	− 39	...	+ 311	+ 220	+ 154	+ 235	− 160	+ 452
4	+ 183	+ 173	+ 679	+ 298	+ 239	+ 304	+ 215	+ 223	+ 186	+ 335	+ 140	+ 401
5	+ 419	+ 344	+ 569	+ 183	+ 162	+ 325	+ 8	+ 324	+ 130	+ 371	...	+ 148
6	+ 707	+ 473	+ 465	+ 173	+ 13	+ 290	+ 122	+ 275	+ 217	+ 296	...	+ 492
7	+ 347	+ 577	+ 383	+ 188	+ 24	+ 275	+ 224	+ 311	− 97	+ 155	− 124	+ 602
8	+ 6	+ 515	+ 301	+ 385	+ 262	+ 247	+ 262	+ 273	+ 313	+ 322	+ 105	+ 305
9	+ 460	+ 408	+ 248	+ 408	+ 248	+ 263	+ 182	+ 274	+ 220	+ 191	− 278	+ 344
10	+ 712	+ 396	+ 333	+ 430	+ 227	+ 291	+ 211	+ 179	+ 272	+ 94	+ 203	+ 365
11	+ 483	+ 278	+ 385	+ 363	+ 216	+ 164	+ 230	+ 173	+ 238	+ 443	+ 356	+ 326
12	+ 593	+ 461	+ 55	+ 424	+ 167	+ 278	+ 300	+ 144	+ 258	+ 352	+ 433	+ 540
13	+ 657	+ 381	+ 662	+ 222	+ 331	+ 312	+ 247	+ 216	+ 269	+ 432	+ 305	+ 107
14	+ 685	+ 425	+ 446	+ 377	+ 401	+ 164	+ 253	+ 254	+ 221	+ 332	+ 313	+ 315
15	+ 485	+ 415	+ 367	+ 319	+ 437	+ 108	− 27	+ 251	+ 127	+ 457	+ 621	+ 242
16	+ 437	+ 628	+ 528	+ 423	+ 350	+ 226	− 18	+ 35	+ 198	+ 475	+ 141	+ 290
17	+ 611	+ 707	+ 633	+ 404	+ 87	+ 244	− 135	− 585	+ 21	+ 328	+ 647	+ 563
18	+ 358	+ 319	+ 670	+ 263	+ 2	+ 363	+ 317	+ 218	+ 195	+ 318	− 269	+ 451
19	+ 432	+ 390	+ 715	+ 332	+ 27	+ 355	+ 281	...	+ 199	+ 334	+ 679	+ 492
20	+ 453	+ 441	+ 522	+ 371	− 57	+ 286	+ 381	...	+ 280	+ 347	+ 371	+ 370
21	+ 735	+ 364	+ 493	+ 406	+ 69	+ 76	+ 276	+ 379	+ 289	+ 386	+ 623	+ 565
22	+ 593	+ 557	+ 301	+ 149	+ 340	+ 362	+ 137	+ 269	+ 297	+ 521	+ 147	+ 602
23	+ 499	+ 327	+ 206	+ 181	+ 223	+ 284	+ 210	+ 331	+ 282	+ 587	+ 226	+ 512
24	+ 494	+ 317	+ 225	− 358	+ 196	+ 240	+ 270	+ 278	+ 301	+ 297	+ 557	+ 378
25	+ 595	+ 339	+ 111	− 210	+ 268	+ 251	+ 152	+ 300	+ 336	+ 581	+ 518	+ 682
26	+ 605	+ 694	+ 380	+ 33	+ 175	+ 295	+ 285	+ 175	...	+ 593	+ 429	+ 627
27	+ 711	+ 657	+ 95	+ 10	+ 47	+ 229	+ 227	+ 236	+ 155	+ 410	+ 407	+ 704
28	+ 630	+ 712	+ 227	+ 104	+ 128	+ 221	+ 383	+ 282	+ 297	+ 385	+ 269	+ 644
29	+ 431		+ 301	+ 243	+ 74	+ 259	+ 384	+ 172	+ 182	+ 188	− 255	+ 638
30	+ 646		+ 305	+ 359	+ 174	+ 337	+ 261	+ 131	+ 103	+ 193	+ 653	+ 593
31	+ 302		− 31		+ 240		+ 257	− 237		+ 553		+ 665
Means ...	+ 495	+ 437	+ 399	+ 226	+ 175	+ 256	+ 214	+ 186	+ 202	+ 350	+ 257	+ 468

The mean of the twelve monthly values is + 305.

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, at every HOUR of the DAY.

(The results depend on the Photographic Register, using all days of complete record. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1887.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight.	+ 511	+ 425	+ 490	+ 332	+ 211	+ 346	+ 324	+ 230	+ 181	+ 334	+ 208	+ 441	+ 336
1h.	+ 480	+ 431	+ 485	+ 369	+ 260	+ 342	+ 328	+ 204	+ 174	+ 354	+ 192	+ 443	+ 338
2	+ 370	+ 440	+ 407	+ 136	+ 324	+ 336	+ 324	+ 276	+ 203	+ 346	+ 115	+ 387	+ 305
3	+ 440	+ 428	+ 283	+ 335	+ 285	+ 317	+ 307	+ 280	+ 190	+ 310	+ 180	+ 400	+ 313
4	+ 457	+ 411	+ 343	+ 364	+ 219	+ 293	+ 316	+ 270	+ 173	+ 343	+ 150	+ 412	+ 313
5	+ 492	+ 410	+ 313	+ 346	+ 250	+ 293	+ 265	+ 207	+ 172	+ 351	+ 208	+ 372	+ 307
6	+ 444	+ 405	+ 381	+ 355	+ 248	+ 316	+ 324	+ 203	+ 157	+ 359	+ 318	+ 408	+ 326
7	+ 514	+ 407	+ 459	+ 409	+ 281	+ 331	+ 359	+ 228	+ 157	+ 335	+ 342	+ 449	+ 356
8	+ 451	+ 424	+ 457	+ 338	+ 204	+ 319	+ 356	+ 316	+ 201	+ 354	+ 232	+ 403	+ 338
9	+ 346	+ 414	+ 408	+ 243	+ 207	+ 281	+ 305	+ 276	+ 255	+ 361	+ 272	+ 478	+ 320
10	+ 402	+ 416	+ 435	+ 100	+ 106	+ 214	+ 218	+ 141	+ 226	+ 345	+ 179	+ 478	+ 272
11	+ 527	+ 442	+ 392	+ 12	+ 71	+ 160	+ 145	+ 166	+ 170	+ 317	+ 196	+ 399	+ 250
Noon.	+ 582	+ 411	+ 341	+ 216	+ 67	+ 144	+ 109	+ 69	+ 129	+ 266	+ 240	+ 439	+ 251
13h.	+ 520	+ 427	+ 407	+ 225	+ 84	+ 132	+ 111	+ 136	+ 161	+ 250	+ 25	+ 390	+ 239
14	+ 534	+ 435	+ 369	+ 101	− 32	+ 97	+ 47	+ 123	+ 83	+ 261	+ 131	+ 475	+ 219
15	+ 569	+ 410	+ 430	+ 146	− 15	+ 91	− 6	+ 62	+ 82	+ 309	+ 269	+ 459	+ 234
16	+ 556	+ 377	+ 168	+ 100	+ 33	+ 143	+ 4	+ 122	+ 152	+ 352	+ 395	+ 525	+ 244
17	+ 510	+ 410	+ 252	+ 157	+ 104	+ 181	+ 15	+ 82	+ 219	+ 403	+ 377	+ 530	+ 270
18	+ 500	+ 473	+ 320	+ 83	+ 97	+ 215	+ 55	− 8	+ 208	+ 416	+ 278	+ 527	+ 264
19	+ 537	+ 523	+ 502	+ 148	+ 261	+ 267	+ 162	+ 99	+ 277	+ 432	+ 417	+ 580	+ 350
20	+ 529	+ 492	+ 505	+ 195	+ 183	+ 294	+ 187	+ 220	+ 310	+ 433	+ 457	+ 576	+ 365
21	+ 578	+ 500	+ 445	+ 233	+ 246	+ 332	+ 249	+ 197	+ 326	+ 401	+ 481	+ 558	+ 379
22	+ 525	+ 501	+ 495	+ 211	+ 269	+ 353	+ 301	+ 269	+ 330	+ 404	+ 346	+ 571	+ 381
23	+ 495	+ 476	+ 491	+ 274	+ 249	+ 356	+ 325	+ 307	+ 306	+ 354	+ 168	+ 533	+ 361
24	+ 506	+ 442	+ 473	+ 342	+ 201	+ 347	+ 318	+ 225	+ 185	+ 346	+ 215	+ 436	+ 336
Means 0h.–23h.	+ 495	+ 437	+ 399	+ 226	+ 175	+ 256	+ 214	+ 186	+ 202	+ 350	+ 257	+ 468	+ 305
Means 1h.–24h.	+ 494	+ 438	+ 398	+ 227	+ 175	+ 256	+ 213	+ 186	+ 202	+ 350	+ 258	+ 468	+ 305
Number of Days employed.	30	28	31	30	31	28	31	29	29	31	28	31	...

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, on RAINY DAYS, at every HOUR of the DAY.

(The results depend on the Photographic Register, using all days on which the rainfall amounted to or exceeded $0^{in}\cdot020$. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1887.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight.	+ 295	+ 545	+ 446	+ 167	+ 149	+ 350	+ 264	− 114	+ 6	+ 213	+ 141	+ 197	+ 219
1h.	+ 215	+ 550	+ 382	+ 239	+ 211	+ 310	+ 254	− 177	+ 39	+ 298	− 48	+ 255	+ 211
2	− 78	+ 542	+ 99	− 370	+ 325	+ 310	+ 241	+ 137	+ 142	+ 232	− 133	+ 114	+ 130
3	+ 191	+ 495	− 302	+ 176	+ 231	+ 320	+ 241	+ 213	+ 136	+ 119	+ 66	+ 223	+ 176
4	+ 251	+ 423	− 96	+ 283	+ 102	+ 320	+ 243	+ 204	+ 116	+ 248	− 68	+ 320	+ 195
5	+ 367	+ 487	− 217	+ 236	+ 173	+ 300	+ 43	− 136	+ 125	+ 253	+ 37	+ 368	+ 170
6	+ 219	+ 443	+ 53	+ 224	+ 178	+ 290	+ 242	− 274	+ 92	+ 249	+ 184	+ 345	+ 187
7	+ 393	+ 335	+ 308	+ 348	+ 245	+ 290	+ 326	− 200	+ 110	+ 202	+ 210	+ 339	+ 242
8	+ 179	+ 275	+ 294	+ 217	+ 106	+ 310	+ 323	+ 204	+ 181	+ 294	+ 25	+ 358	+ 231
9	− 138	+ 260	+ 288	+ 118	+ 177	+ 300	+ 293	+ 167	+ 238	+ 343	+ 82	+ 407	+ 211
10	+ 79	+ 335	+ 414	− 148	+ 72	+ 200	+ 219	− 174	+ 192	+ 329	− 73	+ 399	+ 154
11	+ 421	+ 280	+ 380	− 379	+ 52	+ 140	+ 172	+ 173	+ 117	+ 256	− 30	+ 242	+ 152
Noon.	+ 528	+ 95	+ 354	+ 276	− 13	+ 190	+ 167	− 57	+ 26	+ 103	+ 34	+ 302	+ 167
13h.	+ 397	+ 202	+ 370	+ 152	+ 7	+ 170	+ 102	+ 120	+ 71	+ 26	− 350	+ 75	+ 112
14	+ 472	+ 375	+ 203	− 346	− 206	+ 150	− 109	+ 194	− 128	+ 112	− 160	+ 334	+ 75
15	+ 590	+ 355	+ 414	− 158	− 174	+ 160	− 200	− 27	− 143	+ 241	+ 70	+ 414	+ 128
16	+ 456	+ 103	− 520	− 231	− 91	+ 80	− 192	+ 299	+ 50	+ 294	+ 283	+ 424	+ 80
17	+ 267	+ 72	− 120	− 54	+ 10	+ 90	− 194	+ 74	+ 197	+ 347	+ 272	+ 317	+ 107
18	+ 197	+ 225	+ 24	− 343	− 29	+ 200	− 143	− 504	+ 144	+ 382	+ 238	+ 307	+ 58
19	+ 337	+ 395	+ 459	− 311	+ 266	+ 230	+ 66	− 260	+ 230	+ 427	+ 376	+ 420	+ 220
20	+ 358	+ 148	+ 489	− 252	+ 67	+ 200	+ 16	+ 20	+ 227	+ 443	+ 390	+ 435	+ 212
21	+ 520	+ 340	+ 352	− 100	+ 167	+ 300	+ 126	− 201	+ 243	+ 423	+ 458	+ 431	+ 255
22	+ 414	+ 467	+ 448	− 233	+ 231	+ 360	+ 204	+ 47	+ 253	+ 433	+ 286	+ 462	+ 281
23	+ 348	+ 510	+ 426	− 87	+ 196	+ 350	+ 304	+ 183	+ 241	+ 246	− 52	+ 402	+ 256
24	+ 441	+ 525	+ 399	+ 146	+ 137	+ 350	+ 322	− 86	+ 22	+ 239	− 6	+ 141	+ 219
Means 0h.–23h.	+ 303	+ 344	+ 206	− 24	+ 102	+ 247	+ 125	− 4	+ 121	+ 271	+ 93	+ 329	+ 176
Means 1h.–24h.	+ 309	+ 343	+ 204	− 25	+ 102	+ 247	+ 128	− 3	+ 122	+ 272	+ 87	+ 326	+ 176
Number of Days employed.	10	4	9	9	16	1	9	7	12	9	16	11	...

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, on NON-RAINY DAYS, at every HOUR of the DAY.

(The results depend on the Photographic Register, using only those days on which no rainfall was recorded. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1887.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight.	+ 614	+ 410	+ 482	+ 420	+ 338	+ 345	+ 350	+ 344	+ 278	+ 377	+ 555	+ 572	+ 424
1^h.	+ 619	+ 413	+ 503	+ 442	+ 343	+ 342	+ 365	+ 331	+ 235	+ 375	+ 564	+ 537	+ 422
2	+ 612	+ 422	+ 514	+ 359	+ 339	+ 339	+ 366	+ 328	+ 204	+ 385	+ 571	+ 529	+ 414
3	+ 593	+ 417	+ 508	+ 412	+ 367	+ 330	+ 343	+ 308	+ 182	+ 373	+ 554	+ 505	+ 408
4	+ 578	+ 409	+ 506	+ 407	+ 368	+ 313	+ 354	+ 295	+ 163	+ 364	+ 509	+ 515	+ 398
5	+ 572	+ 400	+ 512	+ 398	+ 369	+ 304	+ 364	+ 320	+ 157	+ 378	+ 470	+ 516	+ 397
6	+ 581	+ 409	+ 499	+ 417	+ 382	+ 330	+ 367	+ 362	+ 156	+ 391	+ 550	+ 437	+ 407
7	+ 601	+ 439	+ 511	+ 443	+ 381	+ 345	+ 386	+ 370	+ 155	+ 373	+ 621	+ 518	+ 429
8	+ 615	+ 458	+ 510	+ 392	+ 341	+ 330	+ 375	+ 351	+ 195	+ 364	+ 607	+ 382	+ 410
9	+ 617	+ 446	+ 445	+ 295	+ 252	+ 289	+ 310	+ 308	+ 266	+ 360	+ 605	+ 507	+ 392
10	+ 609	+ 440	+ 433	+ 225	+ 147	+ 220	+ 215	+ 239	+ 278	+ 351	+ 624	+ 535	+ 360
11	+ 614	+ 474	+ 380	+ 198	+ 76	+ 162	+ 131	+ 162	+ 244	+ 345	+ 548	+ 530	+ 322
Noon.	+ 648	+ 462	+ 317	+ 202	+ 140	+ 143	+ 82	+ 102	+ 228	+ 339	+ 565	+ 543	+ 314
13^h.	+ 637	+ 462	+ 409	+ 245	+ 164	+ 131	+ 115	+ 130	+ 247	+ 337	+ 589	+ 580	+ 337
14	+ 595	+ 445	+ 429	+ 297	+ 209	+ 84	+ 112	+ 91	+ 268	+ 349	+ 587	+ 565	+ 336
15	+ 580	+ 421	+ 428	+ 279	+ 140	+ 82	+ 71	+ 84	+ 282	+ 338	+ 603	+ 521	+ 319
16	+ 636	+ 426	+ 433	+ 243	+ 143	+ 140	+ 80	+ 59	+ 298	+ 384	+ 590	+ 660	+ 341
17	+ 653	+ 461	+ 388	+ 256	+ 208	+ 184	+ 95	+ 76	+ 299	+ 434	+ 540	+ 681	+ 356
18	+ 674	+ 510	+ 429	+ 265	+ 243	+ 216	+ 128	+ 148	+ 308	+ 425	+ 242	+ 672	+ 355
19	+ 676	+ 540	+ 513	+ 348	+ 273	+ 272	+ 195	+ 220	+ 351	+ 423	+ 438	+ 675	+ 410
20	+ 652	+ 546	+ 504	+ 394	+ 322	+ 302	+ 255	+ 294	+ 404	+ 410	+ 564	+ 651	+ 441
21	+ 643	+ 525	+ 467	+ 381	+ 358	+ 337	+ 301	+ 332	+ 404	+ 375	+ 522	+ 612	+ 438
22	+ 634	+ 509	+ 504	+ 401	+ 346	+ 360	+ 341	+ 341	+ 377	+ 376	+ 418	+ 612	+ 435
23	+ 620	+ 482	+ 515	+ 431	+ 339	+ 366	+ 335	+ 344	+ 343	+ 384	+ 499	+ 592	+ 438
24	+ 600	+ 449	+ 501	+ 431	+ 280	+ 357	+ 317	+ 325	+ 287	+ 374	+ 579	+ 568	+ 422
Means 0^h.–23^h.	+ 620	+ 455	+ 464	+ 340	+ 275	+ 261	+ 252	+ 247	+ 263	+ 375	+ 539	+ 560	+ 388
Means 1^h.–24^h.	+ 619	+ 457	+ 465	+ 340	+ 272	+ 262	+ 250	+ 247	+ 264	+ 375	+ 540	+ 560	+ 388
Number of Days employed.	12	23	20	19	12	25	21	21	10	20	8	13	...

AMOUNT of RAIN COLLECTED in EACH MONTH of the YEAR 1887.

MONTH, 1887.	Number of Rainy Days.	Monthly Amount of Rain collected in each Gauge.							
		Self-registering Gauge of Osler's Anemometer.	Second Gauge at Osler's Anemometer.	On the roof of the Octagon Room.	On the roof of the Magnetic Observatory.	On the roof of the Photographic Thermometer Shed.	Gauges partly sunk in the ground.		
		No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.
		in.	in.	in.	in.	in.	in.	in.	in.
January	14	0·500	0·560	0·834	0·887	1·132	1·153	1·190	1·210
February	4	0·292	0·292	0·373	0·496	0·503	0·528	0·521	0·544
March	10	0·742	0·765	1·043	1·210	1·390	1·353	1·354	1·377
April	11	0·886	0·869	1·309	1·575	1·728	1·747	1·756	1·777
May	19	0·837	0·904	1·229	1·633	1·702	1·727	1·672	1·730
June	3	0·755	0·746	0·977	1·246	1·228	1·229	1·229	1·241
July	10	0·922	0·934	1·066	1·247	1·287	1·290	1·239	1·274
August	9	1·832	1·851	2·118	2·276	2·347	2·345	2·302	2·347
September	16	1·430	1·428	1·799	2·083	2·159	2·214	2·195	2·232
October	11	0·705	0·691	0·819	0·984	1·034	1·030	1·037	1·048
November	20	2·415	2·562	3·051	3·675	3·810	3·775	3·856	3·818
December	16	0·781	0·747	1·033	1·334	1·388	1·468	1·507	1·502
Sums	143	12·097	12·349	15·651	18·646	19·708	19·859	19·858	20·100
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
Height of receiving Surface — above the ground	...	50. 8	50. 8	38. 4	21. 6	10. 0	0. 5	0. 5	0. 5
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
Height of receiving Surface — above mean sea level	...	205. 6	205. 6	193. 2	176. 4	164. 10	155. 3	155. 3	155. 3

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

LUMINOUS METEORS.

1887.

Month and Day, 1887.		Greenwich Civil Time.	Observer.	Apparent Size of Meteor in Star-Magnitudes.	Colour of Meteor.	Duration of Meteor in Seconds of Time.	Appearance and Duration of Train.	Length of Meteor's Path in Degrees.	No. for Reference.
		h m s				s		°	
March	16	23. 26. 15±	N.	>1	White	1	Train	10 to 12	1
March	18	19. 45. 8	F.	1	Bluish-white	1·8	Slight	12	2
April	26	21. 58. 48	H.	1	Bluish-white	0·6	Slight	15	3
	"	22. 25. 34	H.	2	Bluish-white	0·4	None	8	4
	"	22. 29. 23	H.	2	Bluish-white	0·2	None	5	5
	"	22. 42. 44	H.	3	Bluish-white	0·3	None	8	6
April	30	21. 42. 48	H.	1	Bluish-white	0·8	None	10	7
	"	22. 5. 39	H.	1	Bluish-white	0·4	None	6	8
May	18	22. 8. 18	L.	1	Bluish-white	0·5	Train	10	9
August	8	21. 52. 13	M.	3	Bluish-white	0·3	None	8	10
	"	23. 7. 21	M.	3	Bluish-white	0·4	None	10	11
	"	23. 9. 31	M.	2	Bluish-white	0·4	None	12	12
August	9	0. 11. 19	M.	1	Bluish-white	0·5	Slight	12	13
	"	0. 24. 45	M.	2	Bluish-white	0·4	None	10	14
	"	0. 28. 20	M.	3	Bluish-white	0·3	None	5	15
	"	0. 34. 25	M.	2	Bluish-white	0·5	None	8	16
August	10	22. 5. 53	F.	2	Bluish-white	0·5	None	10	17
October	19	20. 21. 35	H.	1	Bluish-white	0·6	None	10	18
	"	21. 20. 27	H.	3	Bluish-white	0·3	None	...	19
	"	21. 44. 24	H.	1	Bluish-white	0·5	None	10	20
	"	22. 6. 59	H.	1	Bluish-white	0·6	None	8	21
	"	22. 18. 22	H.	1	Bluish-white	0·5	Bright	35	22
	"	22. 46. 16	H.	1	Bluish-white	0·8	Slight	20	23
	"	22. 51. 37	H.	2	Bluish-white	0·4	Slight	...	24
	"	23. 6. 45	H.	1	Bluish-white	0·6	Slight	30	25
	"	23. 26. 14	H.	2	Bluish-white	0·4	Slight	15	26
	"	23. 32. 1	H.	3	Bluish-white	0·5	Slight	15	27
October	21	20. 4. 29	L.	2	Bluish-white	0·5	None	10	28
	"	20. 12. 40	L.	1	Bluish-white	1·0	Train	20	29
	"	21. 26. 35	L.	1	Bluish-white	0·7	None	20	30
	"	21. 44. 26	L.	2	Bluish-white	0·7	Train	20	31
November	15	0. 35. 29	H.	2	Bluish-white	0·5	Slight	10	32
	"	0. 41. 42	H.	3	Bluish-white	0·4	None	8	33
December	6	21. 18. 30	F.	3	Bluish-white	1·5	Slight	8	34
	"	21. 36. 1	F.	1	Bluish-white	0·6	None	5	35
	"	22. 8. 53	F.	2	Bluish-white	0·8	None	7	36
December	7	21. 42. 41	L.	2	Bluish-white	0·5	None	15	37

The time is expressed in civil reckoning commencing at midnight and counting from 0^h to 24^h.

No. for Reference.	Path of Meteor through the Stars.
1	Moved nearly parallel to β Leonis and Regulus towards θ Hydræ.
2	From near δ Persei passed between α and β Persei towards β Trianguli.
3	From direction of τ Herculis towards δ Boötis.
4	From direction of γ Cephei towards δ Cassiopeiæ.
5	Appeared near δ Cygni and moved towards γ Cygni.
6	From direction of η Draconis towards ξ Draconis.
7	From a point near γ Herculis towards α Herculis.
8	Moved from δ Cygni in direction of γ Cygni.
9	From near η Draconis to near γ Ursæ Minoris.
10	Appeared near γ Cephei moved towards Polaris.
11	Appeared about midway between α and β Persei disappeared a little beyond ε Persei.
12	From direction of γ Andromedæ towards β Persei.
13	Appeared a few degrees to right of Capella fell perpendicularly downwards.
14	Shot from near Polaris towards α Ursæ Majoris.
15	From Capella to ε Aurigæ.
16	From β Persei towards ζ Persei.
17	From near γ Camelopardali passed about 5° below Polaris.
18	Directed from near ζ Aquilæ towards a point near 72 Ophiuchi.
19	From direction of Polaris to β Ursæ Minoris.
20	From direction of λ Ceti passed between α Ceti and ο Tauri.
21	From direction of υ Ursæ Majoris towards ψ Ursæ Majoris.
22	From near γ Cygni to ε Aquilæ.
23	From direction of β Lacertæ towards ε Cygni.
24	Passed across α Cassiopeiæ towards Cygnus.
25	From direction of β Camelopardali passed across γ Persei in direction of γ Andromedæ.
26	From direction of α Ursæ Majoris towards α Draconis.
27	From direction of υ Tauri towards a point near δ Arietis.
28	From near α Aquilæ to near β Delphini.
29	From near ζ Ceti to a point midway between δ and ε Piscium.
30	From near β Pegasi to near θ Pegasi.
31	From near β Trianguli to a point midway between ε and ξ Persei.
32	Passed across θ Canis Majoris towards κ Orionis.
33	From near γ Canis Majoris passed one or two degrees below Sirius.
34	From near β Eridani passed across and disappeared beyond ε Orionis.
35	From direction of ε Geminorum passed a few degrees above Castor.
36	From midway between ι and κ Ursæ Majoris passed close to and a little beyond θ Ursæ Majoris.
37	From near β Tauri to near Aldebaran.

APPENDIX I.

ROYAL OBSERVATORY, GREENWICH.

REDUCTION

OF THE

PHOTOGRAPHIC RECORDS OF THE BAROMETER,

1874 to 1876,

AND OF THE

DRY-BULB AND WET-BULB THERMOMETERS,

1869 to 1876.

REDUCTION OF THE PHOTOGRAPHIC RECORDS OF THE BAROMETER, 1874 TO 1876, AND OF THE DRY-BULB AND WET-BULB THERMOMETERS, 1869 TO 1876.

The "Reduction of Twenty Years' Photographic Records of the Barometer and Dry-Bulb and Wet-Bulb Thermometers," published in the year 1878, contained a reduction of the barometer records for the years 1854 to 1873 and of the thermometer records from 1849 to 1868. Commencing with the year 1877, results deduced from the hourly readings of the photographic records for barometer and thermometers have been printed regularly in the annual volumes of Greenwich Observations. The tables now given supply the results for the years 1874 to 1876 for the barometer, and for the years 1869 to 1876 for the thermometers, so that the reduction of the Greenwich meteorological photographic records is now complete to the present time, commencing with the year 1854 for the barometer, and with the year 1849 for the thermometers.

In the formation of Tables II., V., and VI., daily values of the several elements derived from the eye observations have been included for the days missing in Tables I., III., and IV., thus giving monthly means which completely represent the value of each particular meteorological element for the several months.

W. H. M. CHRISTIE.

Royal Observatory, Greenwich,
1889 *April* 22.

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TABLE I.—MONTHLY MEAN READING of the BAROMETER at every HOUR of the DAY,

Year.	Number of Days employed in forming the Means.	Midnight.	1^{h}.	2^{h}.	3^{h}.	4^{h}.	5^{h}.	6^{h}.	7^{h}.	8^{h}.	9^{h}.	10^{h}.	11^{h}.
JANUARY.													
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1874	31	29·899	29·894	29·893	29·892	29·885	29·884	29·884	29·888	29·894	29·900	29·904	29·901
1875	31	29·761	29·758	29·757	29·753	29·748	29·741	29·739	29·747	29·757	29·766	29·774	29·776
1876	31	30·094	30·091	30·092	30·091	30·086	30·083	30·083	30·091	30·103	30·108	30·111	30·108
Means	...	29·918	29·914	29·914	29·912	29·906	29·903	29·902	29·909	29·918	29·925	29·930	29·928
FEBRUARY.													
1874	28	29·873	29·867	29·862	29·854	29·849	29·848	29·851	29·856	29·864	29·864	29·864	29·865
1875	28	29·883	29·878	29·872	29·869	29·867	29·866	29·868	29·868	29·876	29·877	29·878	29·878
1876	29	29·646	29·645	29·642	29·637	29·634	29·631	29·630	29·633	29·638	29·642	29·644	29·644
Means	...	29·801	29·797	29·792	29·787	29·783	29·782	29·783	29·786	29·793	29·794	29·795	29·796
MARCH.													
1874	31	30·028	30·026	30·024	30·020	30·016	30·018	30·025	30·032	30·037	30·038	30·034	30·029
1875	31	29·960	29·959	29·953	29·948	29·949	29·951	29·956	29·965	29·970	29·975	29·980	29·979
1876	31	29·422	29·420	29·414	29·405	29·400	29·394	29·395	29·396	29·397	29·398	29·396	29·396
Means	...	29·803	29·802	29·797	29·791	29·788	29·788	29·792	29·798	29·801	29·804	29·803	29·801
APRIL.													
1874	30	29·708	29·704	29·699	29·697	29·695	29·698	29·705	29·712	29·716	29·720	29·723	29·720
1875	30	29·896	29·891	29·886	29·883	29·877	29·878	29·885	29·891	29·893	29·895	29·895	29·891
1876	30	29·695	29·688	29·684	29·678	29·675	29·675	29·679	29·686	29·689	29·690	29·692	29·690
Means	...	29·766	29·761	29·756	29·753	29·749	29·750	29·756	29·763	29·766	29·768	29·770	29·767
MAY.													
1874	31	29·808	29·805	29·800	29·798	29·796	29·798	29·804	29·807	29·808	29·806	29·808	29·805
1875	31	29·850	29·845	29·840	29·835	29·836	29·842	29·848	29·852	29·856	29·855	29·854	29·850
1876	31	29·957	29·955	29·950	29·949	29·948	29·950	29·957	29·961	29·965	29·964	29·965	29·963
Means	...	29·872	29·868	29·863	29·861	29·860	29·863	29·870	29·873	29·876	29·875	29·876	29·873
JUNE.													
1874	30	29·951	29·946	29·940	29·937	29·938	29·942	29·946	29·950	29·955	29·952	29·950	29·949
1875	30	29·759	29·753	29·747	29·742	29·743	29·747	29·754	29·758	29·761	29·758	29·754	29·753
1876	18	29·812	29·808	29·802	29·799	29·799	29·803	29·808	29·814	29·816	29·813	29·817	29·817
Means	...	29·841	29·836	29·830	29·826	29·827	29·831	29·836	29·841	29·844	29·841	29·840	29·840
JULY.													
1874	31	29·838	29·836	29·830	29·829	29·830	29·832	29·836	29·841	29·841	29·838	29·836	29·835
1875	31	29·792	29·788	29·782	29·780	29·780	29·782	29·788	29·793	29·797	29·795	29·796	29·794
1876	23	29·953	29·948	29·945	29·940	29·940	29·944	29·950	29·954	29·956	29·956	29·957	29·952
Means	...	29·861	29·857	29·852	29·850	29·850	29·853	29·858	29·863	29·865	29·863	29·863	29·860

as deduced from the PHOTOGRAPHIC RECORDS, for each YEAR, 1874 to 1876.

Noon.	13^h.	14^h.	15^h.	16^h.	17^h.	18^h.	19^h.	20^h.	21^h.	22^h.	23^h.	Mean.	Year.
						JANUARY.							
in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
29·887	29·876	29·872	29·874	29·881	29·889	29·897	29·905	29·910	29·915	29·918	29·919	29·894	1874
29·772	29·761	29·760	29·760	29·760	29·760	29·762	29·764	29·767	29·767	29·768	29·769	29·760	1875
30·096	30·084	30·083	30·084	30·087	30·089	30·092	30·099	30·101	30·104	30·104	30·105	30·095	1876
29·918	29·907	29·905	29·906	29·909	29·913	29·917	29·923	29·926	29·929	29·930	29·931	29·916	...
						FEBRUARY.							
29·864	29·856	29·850	29·845	29·842	29·843	29·850	29·855	29·857	29·858	29·859	29·858	29·856	1874
29·874	29·866	29·858	29·853	29·851	29·853	29·857	29·861	29·860	29·861	29·862	29·862	29·867	1875
29·640	29·631	29·625	29·622	29·621	29·621	29·628	29·631	29·632	29·629	29·630	29·631	29·634	1876
29·793	29·784	29·778	29·773	29·771	29·772	29·778	29·782	29·783	29·783	29·784	29·784	29·786	...
						MARCH.							
30·025	30·012	30·003	29·995	29·993	29·997	30·005	30·013	30·020	30·026	30·031	30·033	30·020	1874
29·977	29·970	29·968	29·965	29·964	29·967	29·976	29·983	29·987	29·989	29·990	29·987	29·969	1875
29·395	29·389	29·385	29·387	29·390	29·394	29·403	29·412	29·416	29·418	29·418	29·417	29·402	1876
29·799	29·790	29·785	29·782	29·782	29·786	29·795	29·803	29·808	29·811	29·813	29·812	29·797	...
						APRIL.							
29·714	29·709	29·704	29·697	29·693	29·691	29·693	29·698	29·705	29·709	29·707	29·706	29·705	1874
29·886	29·879	29·873	29·862	29·860	29·860	29·862	29·868	29·876	29·878	29·878	29·878	29·880	1875
29·685	29·681	29·676	29·668	29·668	29·672	29·678	29·688	29·696	29·697	29·700	29·703	29·685	1876
29·762	29·756	29·751	29·742	29·740	29·741	29·744	29·751	29·759	29·761	29·762	29·762	29·757	...
						MAY.							
29·804	29·800	29·799	29·793	29·791	29·790	29·792	29·797	29·807	29·815	29·819	29·817	29·803	1874
29·841	29·836	29·831	29·826	29·823	29·820	29·825	29·833	29·844	29·853	29·855	29·858	29·842	1875
29·959	29·952	29·949	29·943	29·940	29·939	29·940	29·945	29·955	29·966	29·970	29·972	29·955	1876
29·868	29·863	29·860	29·854	29·851	29·850	29·852	29·858	29·869	29·878	29·881	29·882	29·867	...
						JUNE.							
29·944	29·939	29·934	29·925	29·921	29·920	29·923	29·927	29·934	29·943	29·948	29·951	29·940	1874
29·747	29·740	29·735	29·729	29·725	29·721	29·723	29·729	29·736	29·747	29·751	29·753	29·744	1875
29·814	29·809	29·806	29·801	29·798	29·794	29·794	29·798	29·802	29·812	29·812	29·811	29·807	1876
29·835	29·829	29·825	29·818	29·815	29·812	29·813	29·818	29·824	29·834	29·837	29·838	29·830	...
						JULY.							
29·830	29·823	29·819	29·813	29·807	29·804	29·807	29·815	29·824	29·832	29·835	29·838	29·828	1874
29·792	29·791	29·791	29·789	29·786	29·784	29·784	29·788	29·796	29·803	29·806	29·806	29·791	1875
29·945	29·939	29·934	29·928	29·924	29·920	29·921	29·926	29·934	29·944	29·949	29·954	29·942	1876
29·856	29·851	29·848	29·843	29·839	29·836	29·837	29·843	29·851	29·860	29·863	29·866	29·854	...

TABLE I.—MONTHLY MEAN READING of the BAROMETER at every HOUR of the DAY,

Year.	Number of Days employed in forming the Means.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.
AUGUST.													
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1874	31	29·789	29·785	29·782	29·779	29·779	29·784	29·791	29·797	29·800	29·801	29·798	29·794
1875	31	29·875	29·867	29·863	29·858	29·855	29·855	29·860	29·867	29·873	29·876	29·878	29·878
1876	31	29·784	29·776	29·770	29·766	29·762	29·765	29·769	29·773	29·778	29·780	29·781	29·782
Means	...	29·816	29·809	29·805	29·801	29·799	29·801	29·807	29·812	29·817	29·819	29·819	29·818
SEPTEMBER.													
1874	30	29·761	29·760	29·754	29·752	29·748	29·749	29·756	29·762	29·769	29·771	29·768	29·763
1875	30	29·872	29·866	29·863	29·858	29·854	29·857	29·863	29·870	29·879	29·883	29·882	29·878
1876	30	29·632	29·627	29·623	29·616	29·612	29·611	29·614	29·619	29·624	29·626	29·628	29·625
Means	...	29·755	29·751	29·747	29·742	29·738	29·739	29·744	29·750	29·757	29·760	29·759	29·755
OCTOBER.													
1874	31	29·720	29·719	29·715	29·709	29·705	29·704	29·702	29·706	29·711	29·711	29·710	29·708
1875	31	29·632	29·628	29·620	29·613	29·610	29·609	29·611	29·616	29·622	29·622	29·623	29·619
1876	31	29·746	29·741	29·738	29·733	29·732	29·735	29·739	29·749	29·754	29·761	29·764	29·765
Means	...	29·699	29·696	29·691	29·685	29·682	29·683	29·684	29·690	29·696	29·698	29·699	29·697
NOVEMBER.													
1874	30	29·806	29·801	29·796	29·790	29·785	29·782	29·781	29·784	29·790	29·792	29·793	29·791
1875	30	29·639	29·630	29·621	29·615	29·611	29·609	29·608	29·609	29·614	29·618	29·624	29·631
1876	30	29·709	29·703	29·701	29·695	29·693	29·694	29·696	29·701	29·709	29·715	29·719	29·714
Means	...	29·718	29·711	29·706	29·700	29·696	29·695	29·695	29·698	29·704	29·708	29·712	29·712
DECEMBER.													
1874	31	29·593	29·587	29·586	29·584	29·580	29·580	29·585	29·591	29·599	29·610	29·623	29·621
1875	31	29·940	29·935	29·934	29·935	29·929	29·927	29·929	29·935	29·941	29·949	29·955	29·952
1876	31	29·324	29·318	29·316	29·315	29·314	29·313	29·313	29·314	29·319	29·325	29·330	29·324
Means	...	29·619	29·613	29·612	29·611	29·608	29·607	29·609	29·613	29·620	29·628	29·636	29·632

TABLE II.—MONTHLY MEAN READING of the

(In forming this Table, daily values derived from the eye-

Year.	January.	February.	March.	April.	May.	June.
	in.	in.	in.	in.	in.	in.
1874	29·894	29·856	30·020	29·705	29·803	29·940
1875	29·760	29·867	29·969	29·880	29·842	29·744
1876	30·095	29·634	29·402	29·685	29·955	29·816

as deduced from the PHOTOGRAPHIC RECORDS, for each YEAR, 1874 to 1876—*concluded.*

Noon.	13^h.	14^h.	15^h.	16^h.	17^h.	18^h.	19^h.	20^h.	21^h.	22^h.	23^h.	Mean.	Year.
						AUGUST.							
in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
29·789	29·784	29·777	29·773	29·770	29·767	29·767	29·773	29·780	29·784	29·787	29·788	29·784	1874
29·872	29·870	29·864	29·859	29·857	29·856	29·858	29·865	29·874	29·882	29·885	29·884	29·868	1875
29·777	29·773	29·767	29·762	29·759	29·758	29·758	29·760	29·768	29·772	29·771	29·769	29·770	1876
29·813	29·809	29·803	29·798	29·795	29·794	29·794	29·799	29·807	29·813	29·814	29·814	29·807	...
						SEPTEMBER.							
29·762	29·756	29·749	29·743	29·737	29·739	29·744	29·750	29·751	29·752	29·754	29·752	29·754	1874
29·875	29·866	29·858	29·853	29·849	29·852	29·857	29·866	29·873	29·874	29·874	29·872	29·866	1875
29·622	29·620	29·616	29·615	29·615	29·616	29·619	29·627	29·631	29·633	29·632	29·634	29·622	1876
29·753	29·747	29·741	29·737	29·734	29·736	29·740	29·748	29·752	29·753	29·753	29·753	29·747	...
						OCTOBER.							
29·704	29·698	29·696	29·698	29·700	29·709	29·721	29·729	29·736	29·742	29·742	29·742	29·714	1874
29·613	29·605	29·603	29·600	29·600	29·606	29·614	29·619	29·622	29·626	29·627	29·627	29·616	1875
29·758	29·752	29·752	29·751	29·751	29·759	29·768	29·774	29·779	29·783	29·783	29·781	29·756	1876
29·692	29·685	29·684	29·683	29·684	29·691	29·701	29·707	29·712	29·717	29·717	29·717	29·695	...
						NOVEMBER.							
29·785	29·779	29·772	29·772	29·772	29·779	29·783	29·784	29·781	29·779	29·776	29·774	29·784	1874
29·629	29·628	29·631	29·633	29·636	29·643	29·650	29·653	29·652	29·652	29·648	29·643	29·630	1875
29·709	29·703	29·697	29·698	29·699	29·701	29·705	29·704	29·701	29·698	29·695	29·691	29·702	1876
29·708	29·703	29·700	29·701	29·702	29·708	29·713	29·714	29·711	29·710	29·706	29·703	29·705	...
						DECEMBER.							
29·612	29·605	29·601	29·605	29·609	29·612	29·622	29·627	29·632	29·635	29·637	29·638	29·607	1874
29·944	29·937	29·933	29·931	29·932	29·936	29·938	29·938	29·942	29·944	29·944	29·947	29·939	1875
29·316	29·308	29·305	29·306	29·310	29·314	29·316	29·318	29·318	29·317	29·317	29·320	29·316	1876
29·624	29·617	29·613	29·614	29·617	29·621	29·625	29·628	29·631	29·632	29·633	29·635	29·621	...

BAROMETER for each YEAR, 1874 to 1876.
observations have been included for the days missing in Table I.)

July.	August.	September.	October.	November.	December.	Yearly Means.
in.	in.	in.	in.	in.	in.	in.
29·828	29·784	29·754	29·714	29·784	29·607	29·807
29·791	29·868	29·866	29·616	29·630	29·939	29·814
29·903	29·770	29·622	29·756	29·702	29·316	29·721

TABLE III.—MONTHLY MEAN TEMPERATURE of the AIR at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS, for each YEAR, 1869 to 1876.

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.	Mean.	Number of Days employed in forming the Means.
JANUARY.																										
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
1869	40.3	40.4	40.5	40.6	40.2	40.1	40.0	39.9	39.8	40.3	41.3	42.6	43.7	43.9	44.2	43.8	42.9	42.0	41.6	41.2	40.9	40.9	40.8	40.8	41.4	31
1870	37.4	37.2	37.3	37.3	37.1	37.1	37.2	37.2	37.2	37.6	38.7	39.9	40.8	41.3	41.4	40.9	40.1	39.3	38.8	38.2	38.1	38.0	37.8	37.4	38.5	31
1871	32.7	32.6	32.5	32.4	32.4	32.2	31.9	31.9	32.2	32.9	33.8	34.5	35.2	35.5	35.5	35.0	34.4	33.8	33.5	33.3	33.2	33.1	33.0	32.9	33.4	31
1872	40.7	40.6	40.7	40.6	40.5	40.4	40.3	40.1	40.0	40.3	41.4	42.5	43.9	44.3	44.0	43.5	42.7	41.9	41.7	41.5	41.4	41.1	40.8	40.9	41.5	31
1873	41.7	41.7	41.7	41.6	41.5	41.3	41.1	40.9	40.7	41.1	42.2	43.4	44.5	45.0	44.9	44.4	43.5	42.5	42.1	41.8	41.6	41.7	41.6	41.5	42.2	30
1874	40.9	40.8	40.6	40.5	40.4	40.4	40.6	41.1	40.9	41.2	42.4	43.7	45.0	45.7	45.0	44.6	43.6	42.9	42.0	41.5	41.0	40.9	40.8	40.4	42.0	19
1875	41.8	42.0	42.2	42.5	42.6	42.7	42.7	42.5	42.6	42.7	43.8	45.1	46.1	46.5	46.3	45.9	45.1	44.3	43.8	43.5	42.9	42.9	43.0	43.0	43.6	29
1876	36.1	36.2	35.9	35.8	35.7	35.6	35.4	35.3	35.7	36.1	37.3	38.6	39.8	40.6	40.9	40.4	39.4	38.3	37.9	37.5	37.1	37.0	36.7	36.6	37.3	31
Means	39.0	38.9	38.9	38.9	38.8	38.7	38.7	38.6	38.6	39.0	40.1	41.3	42.4	42.8	42.8	42.3	41.5	40.6	40.2	39.8	39.5	39.4	39.3	39.2	40.0	...
FEBRUARY.																										
1869	44.3	44.2	44.0	44.0	44.2	44.0	44.1	43.9	44.2	45.1	46.1	47.5	48.7	49.0	49.6	49.5	48.4	46.9	45.9	45.3	44.6	44.2	43.9	43.9	45.6	28
1870	37.2	37.0	36.9	36.9	36.8	36.8	36.4	36.4	36.8	37.9	39.1	40.5	41.4	41.8	42.1	41.8	40.9	39.8	39.0	38.5	38.1	37.8	37.6	37.6	38.5	23
1871	40.9	40.8	40.8	40.7	40.6	40.5	40.6	40.5	41.0	41.9	42.9	44.3	45.5	46.3	46.4	46.0	45.4	44.5	43.5	42.9	42.4	41.9	41.6	41.4	42.6	28
1872	43.0	42.7	42.7	42.6	42.1	42.1	42.1	42.0	42.6	44.0	45.7	47.4	48.5	49.2	49.4	49.1	47.9	46.3	45.2	44.5	44.1	43.8	43.5	43.5	44.8	29
1873	34.0	33.8	33.6	33.5	33.6	33.6	33.5	33.3	33.4	33.8	34.6	35.3	36.4	37.0	37.2	37.0	36.8	36.0	35.5	34.8	34.4	34.1	33.9	33.9	34.7	28
1874	37.4	37.1	37.0	36.9	36.6	36.3	36.2	36.2	36.8	37.8	39.5	40.9	41.8	42.6	43.4	43.0	42.5	41.2	40.4	39.5	38.9	38.4	38.0	37.6	39.0	28
1875	34.4	34.4	34.1	33.9	33.7	33.6	33.4	33.3	33.5	34.0	35.5	37.2	38.5	38.8	38.9	38.5	37.6	36.8	36.2	35.8	35.5	35.0	34.6	34.5	35.5	28
1876	39.6	39.4	39.3	39.4	39.5	39.4	39.2	39.3	39.7	40.6	41.9	43.2	44.2	44.9	44.9	44.7	44.0	43.0	42.1	41.3	40.8	40.5	40.1	39.9	41.3	29
Means	38.8	38.7	38.6	38.5	38.4	38.3	38.2	38.1	38.5	39.4	40.7	42.0	43.1	43.7	44.0	43.7	42.9	41.8	41.0	40.3	39.8	39.5	39.2	39.0	40.3	...
MARCH.																										
1869	35.9	35.7	35.3	35.2	35.4	35.2	35.2	35.3	36.4	37.8	39.2	40.3	41.3	41.6	41.9	42.2	41.4	40.3	39.2	38.3	37.5	36.7	36.3	36.1	37.9	31
1870	37.7	37.7	37.5	37.2	37.1	36.9	37.0	37.3	38.2	39.6	41.3	42.8	43.7	44.4	45.0	45.0	44.3	43.3	41.8	40.6	39.6	38.7	37.9	37.5	40.1	31
1871	41.7	41.0	40.5	40.0	39.7	39.6	39.4	39.7	41.7	44.3	46.5	49.2	50.9	51.8	52.5	52.6	51.9	50.1	47.7	45.9	44.7	43.7	42.9	42.2	45.0	31
1872	42.1	42.0	41.5	41.4	40.7	40.5	40.3	40.6	42.1	45.0	47.1	48.6	50.1	50.5	50.7	50.6	49.8	48.0	46.4	44.8	43.8	42.9	42.5	42.0	44.7	31
1873	39.1	38.7	38.3	37.8	37.8	37.7	37.6	38.1	39.1	41.3	43.3	45.5	47.5	48.5	48.7	48.3	47.5	46.2	44.5	43.0	41.8	40.8	40.4	40.0	42.1	31
1874	41.0	40.8	40.3	40.1	40.0	39.8	39.7	40.1	41.4	43.3	45.2	47.5	48.7	49.4	50.3	50.5	49.5	48.2	46.5	45.2	44.2	43.0	42.3	41.6	44.1	31
1875	38.6	38.4	38.1	37.8	37.7	37.4	37.4	37.7	38.8	40.2	42.1	43.6	44.7	45.4	45.8	45.4	45.1	43.8	42.4	41.5	40.9	40.3	39.7	39.4	40.9	31
1876	39.1	39.0	39.0	38.8	38.9	38.9	38.7	38.8	40.1	42.0	43.5	44.6	45.8	46.3	46.0	45.7	44.8	43.9	42.7	41.6	40.6	40.0	39.6	39.5	41.6	31
Means	39.4	39.2	38.8	38.5	38.4	38.3	38.2	38.4	39.7	41.7	43.5	45.3	46.6	47.2	47.6	47.5	46.8	45.5	43.9	42.6	41.6	40.8	40.2	39.8	42.1	...
APRIL.																										
1869	46.3	45.6	45.2	44.7	44.1	43.9	44.5	46.4	49.2	52.0	54.3	55.9	57.1	58.1	59.0	59.0	58.0	56.9	54.8	51.8	50.2	48.9	48.1	47.4	50.9	30
1870	43.6	42.7	42.0	41.5	40.9	40.7	41.2	43.6	47.2	50.3	52.9	55.7	57.9	58.9	58.9	58.7	57.9	56.3	53.7	50.6	48.4	46.7	45.6	44.8	49.2	30
1871	44.7	44.3	43.9	43.8	43.5	43.5	44.0	45.4	47.6	49.4	51.4	52.8	53.7	54.1	54.4	54.0	53.4	51.6	49.9	48.2	47.0	45.9	45.4	45.1	48.2	30
1872	44.4	43.8	43.4	42.8	42.4	42.2	42.5	44.7	47.4	50.3	52.3	53.8	55.1	55.6	56.3	56.5	55.6	54.3	52.4	50.2	48.2	46.7	45.7	45.0	48.8	30
1873	41.6	41.0	40.5	40.3	40.2	40.1	40.6	42.7	45.5	47.8	49.5	51.8	53.2	53.8	54.4	53.5	52.4	50.7	49.1	46.9	45.2	44.0	43.1	42.4	46.3	30
1874	45.9	45.3	44.8	44.5	44.3	44.2	44.8	47.1	49.8	52.5	54.4	55.7	57.2	58.3	58.5	58.2	57.5	56.2	54.1	51.3	49.9	48.5	47.5	46.7	50.7	28
1875	41.9	41.4	40.9	40.5	40.2	40.0	40.3	42.3	45.4	48.3	50.7	52.9	54.1	55.0	55.4	55.2	54.4	52.7	50.5	47.9	46.1	44.5	43.5	42.8	47.0	30
1876	43.9	43.7	43.6	43.2	43.1	43.1	43.7	44.8	46.8	49.3	51.5	52.6	54.1	54.1	54.7	54.5	53.6	52.3	50.3	48.4	46.8	45.4	44.6	43.9	48.0	30
Means	44.0	43.5	43.0	42.7	42.3	42.2	42.7	44.6	47.4	50.0	52.1	53.9	55.3	56.0	56.4	56.2	55.4	53.9	51.8	49.4	47.7	46.3	45.4	44.8	48.6	...

TABLE IV.—MONTHLY MEAN TEMPERATURE OF EVAPORATION at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS, for each YEAR, 1869 to 1876.

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.	Mean.	Number of Days employed in forming the Means.
JANUARY.																										
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
1869	39.4	39.4	39.5	39.6	39.2	39.2	38.9	39.0	39.0	39.3	40.0	41.1	41.7	41.8	41.7	41.4	40.9	40.5	40.2	39.8	39.8	39.8	39.7	39.8	40.0	31
1870	36.4	36.2	36.4	36.3	36.2	36.1	36.1	36.2	36.2	36.5	37.3	38.0	38.6	38.9	38.9	38.4	38.0	37.5	37.3	36.9	36.9	36.9	36.6	36.4	37.1	31
1871	32.0	31.8	31.7	31.8	31.7	31.6	31.4	31.3	31.5	32.0	32.7	33.3	33.8	33.9	33.9	33.6	33.1	32.8	32.6	32.4	32.3	32.2	32.2	32.2	32.4	31
1872	39.6	39.5	39.6	39.5	39.5	39.4	39.3	39.1	39.0	39.3	40.1	40.9	41.9	42.1	41.8	41.4	40.9	40.3	40.2	40.1	40.0	39.8	39.7	39.7	40.1	31
1873	40.5	40.5	40.4	40.3	40.1	40.0	39.8	39.7	39.5	39.9	40.7	41.7	42.3	42.6	42.5	42.0	41.3	40.8	40.5	40.2	40.2	40.2	40.2	40.2	40.7	30
1874	39.4	39.2	39.2	39.2	39.2	39.3	39.5	39.8	39.7	39.8	40.6	41.3	42.2	42.5	42.2	41.8	41.2	40.6	40.1	39.7	39.2	39.2	39.1	38.9	40.1	19
1875	40.8	40.8	40.9	41.1	41.2	41.4	41.5	41.3	41.3	41.4	42.1	42.8	43.4	43.7	43.7	43.4	42.7	42.4	42.1	41.9	41.6	41.7	41.8	41.8	41.9	29
1876	35.1	35.1	34.9	34.8	34.7	34.6	34.4	34.5	34.7	35.1	35.9	36.9	38.0	38.7	38.9	38.4	37.7	37.0	36.6	36.4	36.1	36.0	35.7	35.4	36.1	31
Means	37.9	37.8	37.8	37.8	37.7	37.7	37.6	37.6	37.6	37.9	38.7	39.5	40.2	40.5	40.4	40.1	39.5	39.0	38.7	38.4	38.3	38.2	38.1	38.0	38.5	...
FEBRUARY.																										
1869	42.9	42.8	42.8	42.7	42.7	42.7	42.6	42.4	42.6	43.1	43.9	44.6	45.5	45.6	45.9	45.9	45.4	44.3	43.7	43.3	43.1	42.7	42.5	42.5	43.6	28
1870	35.6	35.5	35.4	35.4	35.4	35.3	35.1	35.1	35.3	36.1	36.7	37.8	38.4	38.7	38.8	38.5	38.1	37.5	37.1	36.6	36.5	36.3	36.1	36.0	36.6	23
1871	39.6	39.5	39.5	39.4	39.5	39.5	39.5	39.4	39.7	40.3	41.0	42.0	42.8	43.2	43.2	43.1	42.7	42.1	41.5	41.4	40.9	40.5	40.2	40.0	40.9	28
1872	41.8	41.5	41.6	41.4	41.2	41.2	41.1	41.2	41.6	42.8	44.0	45.0	45.6	45.9	45.9	45.6	44.9	43.9	43.4	42.9	42.7	42.5	42.2	42.2	43.0	29
1873	33.0	32.7	32.6	32.5	32.6	32.6	32.5	32.5	32.6	32.8	33.3	34.0	34.6	34.9	35.0	34.8	34.6	34.1	33.8	33.5	33.2	33.0	32.9	32.9	33.4	28
1874	36.2	36.0	35.9	35.8	35.6	35.4	35.3	35.4	35.8	36.6	37.7	38.7	39.2	39.6	40.0	39.8	39.3	38.6	38.2	37.6	37.2	37.0	36.7	36.4	37.2	28
1875	33.1	33.0	32.7	32.4	32.3	32.2	32.1	32.1	32.2	32.6	33.7	35.1	36.0	36.2	36.2	36.0	35.6	35.0	34.6	34.3	33.9	33.6	33.4	33.3	33.8	28
1876	38.2	38.0	38.1	38.2	38.1	38.1	37.9	38.0	38.1	38.9	39.9	40.8	41.3	41.7	41.8	41.7	41.4	40.7	40.0	39.6	39.3	39.1	38.8	38.6	39.4	29
Means	37.5	37.4	37.3	37.2	37.2	37.1	37.0	37.0	37.2	37.9	38.8	39.8	40.4	40.7	40.8	40.7	40.2	39.5	39.0	38.7	38.4	38.1	37.9	37.7	38.5	...
MARCH.																										
1869	34.4	34.3	34.1	34.0	34.0	33.9	33.9	34.0	34.8	35.7	36.4	37.4	38.2	38.3	38.5	38.5	37.9	37.3	36.7	36.1	35.4	35.0	34.6	34.7	35.8	31
1870	36.6	36.5	36.4	36.2	36.1	36.0	36.2	36.4	37.0	37.9	39.0	39.8	40.5	40.9	41.1	41.1	40.3	39.6	38.9	38.2	37.5	36.9	36.5	36.3	38.0	31
1871	40.1	39.8	39.4	39.0	38.8	38.6	38.4	38.7	40.2	42.0	43.4	45.1	45.7	46.1	46.3	46.5	46.0	45.0	43.8	42.8	42.1	41.4	41.0	40.4	42.1	31
1872	41.2	41.2	40.7	40.4	40.0	39.9	39.7	39.9	41.0	42.9	44.4	45.2	46.0	46.0	46.1	45.9	45.4	44.5	43.6	42.8	42.2	41.6	41.3	41.2	42.6	31
1873	38.4	38.1	37.8	37.4	37.3	37.3	37.2	37.6	38.5	40.2	41.3	42.7	43.8	44.2	44.4	44.2	43.7	42.8	41.9	41.2	40.4	39.8	39.5	39.3	40.4	31
1874	39.7	39.4	39.2	39.0	38.7	38.7	38.5	38.8	40.0	41.3	42.6	44.0	44.5	45.0	45.5	45.4	44.9	44.2	43.1	42.2	41.6	41.0	40.5	40.2	41.6	31
1875	36.4	36.2	36.0	35.9	35.7	35.6	35.6	35.9	36.7	37.6	38.8	39.8	40.4	40.7	40.9	40.8	40.5	39.7	39.0	38.5	38.1	37.6	37.1	37.0	37.9	31
1876	37.6	37.6	37.5	37.3	37.4	37.4	37.4	37.4	38.2	39.5	40.3	40.9	41.4	41.8	41.4	41.3	40.8	40.3	39.7	39.1	38.5	38.2	37.8	37.7	39.0	31
Means	38.0	37.9	37.6	37.4	37.3	37.2	37.1	37.3	38.3	39.6	40.8	41.9	42.6	42.9	43.0	43.0	42.4	41.7	40.8	40.1	39.5	38.9	38.5	38.3	39.7	...
APRIL.																										
1869	44.9	44.4	44.0	43.8	43.3	43.1	43.6	44.9	46.7	48.3	49.5	50.4	51.0	51.5	51.9	52.1	51.3	50.5	49.5	48.3	47.3	46.7	46.2	45.7	47.5	30
1870	40.9	40.4	40.0	39.6	39.4	39.3	39.8	41.6	43.9	45.7	47.1	48.6	49.6	49.7	49.8	49.6	49.1	48.1	46.6	45.2	43.8	42.9	42.4	41.9	44.4	30
1871	43.8	43.6	43.3	43.1	42.8	42.8	43.1	44.1	45.6	46.6	47.5	48.0	48.7	48.8	48.8	48.7	48.0	47.5	46.8	45.8	45.0	44.4	44.1	43.9	45.6	30
1872	42.6	42.2	42.0	41.6	41.2	40.9	41.5	42.9	44.8	46.5	47.6	48.1	48.7	49.2	49.6	49.7	49.1	48.4	47.6	46.3	45.2	44.3	43.7	43.2	45.3	30
1873	40.0	39.6	39.3	39.1	39.2	39.0	39.5	41.0	42.6	44.2	45.2	46.5	47.3	47.4	47.5	46.9	46.4	45.4	44.6	43.4	42.5	41.7	41.0	40.7	42.9	30
1874	44.5	44.2	43.8	43.5	43.4	43.2	43.9	45.6	47.5	48.8	49.8	50.6	51.4	52.0	51.7	51.7	51.0	50.0	49.1	47.8	47.0	46.2	45.6	45.1	47.4	28
1875	39.9	39.6	39.3	38.9	38.6	38.5	39.0	40.4	42.6	44.2	45.5	46.8	47.4	47.9	47.9	47.9	47.4	46.4	45.2	43.8	42.5	41.7	41.0	40.5	43.0	30
1876	42.5	42.5	42.3	42.2	42.0	42.0	42.5	43.5	44.7	46.0	46.8	47.6	47.8	47.9	48.2	47.9	47.4	46.8	45.8	44.8	44.1	43.4	43.0	42.5	44.8	30
Means	42.4	42.1	41.8	41.5	41.2	41.1	41.6	43.0	44.8	46.3	47.4	48.3	49.0	49.3	49.4	49.3	48.7	47.9	46.9	45.7	44.7	43.9	43.4	42.9	45.1	...

TABLE III.—MONTHLY MEAN TEMPERATURE of the AIR at every HOUR of the DAY—*continued*.

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.	Mean.	Number of Days employed in forming the Means.
MAY.																										
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
1869	47.0	46.7	46.4	46.1	45.8	46.2	47.3	49.1	50.9	52.6	54.1	54.9	56.3	57.0	57.3	57.1	56.5	55.6	53.6	51.9	49.9	48.7	47.8	47.3	51.1	31
1870	47.4	46.5	45.8	45.3	44.7	45.0	47.0	50.6	53.7	56.8	59.6	61.6	63.3	63.7	63.8	63.2	62.5	61.2	59.0	55.7	52.7	50.7	49.3	48.2	54.1	31
1871	46.2	45.7	45.1	44.7	44.2	44.4	46.3	49.8	52.7	55.1	56.9	58.5	59.9	60.6	61.1	60.9	59.7	58.5	56.5	54.1	51.8	49.7	48.2	47.1	52.4	31
1872	46.5	46.0	45.5	44.9	44.7	44.9	46.6	49.7	52.1	53.8	55.7	56.8	57.6	57.9	57.5	58.1	56.9	56.0	54.0	52.0	49.8	48.4	47.5	47.0	51.2	29
1873	46.0	45.5	45.2	44.8	44.4	44.9	46.3	48.6	50.8	52.5	54.7	56.6	57.6	58.1	58.4	58.5	58.2	57.0	54.7	52.7	50.6	48.9	47.9	47.0	51.2	31
1874	44.6	44.2	43.6	43.3	43.1	43.5	45.4	48.5	51.5	53.8	55.4	56.8	58.0	57.7	57.2	57.2	56.7	55.4	53.8	51.7	49.2	47.4	46.4	45.7	50.4	29
1875	49.9	49.3	48.7	48.0	47.6	47.9	49.5	52.6	55.7	57.7	60.3	61.9	63.4	63.4	63.5	63.1	62.7	61.6	59.6	57.3	54.7	52.8	51.7	50.7	55.6	29
1876	43.6	43.2	42.9	42.4	42.3	42.6	44.4	47.4	50.4	52.9	54.8	56.4	57.7	58.6	58.6	58.6	57.7	56.0	53.7	51.6	48.9	46.8	45.6	44.5	50.1	31
Means	46.4	45.9	45.4	44.9	44.6	44.9	46.6	49.5	52.2	54.4	56.4	57.9	59.2	59.6	59.7	59.6	58.9	57.7	55.6	53.4	50.9	49.2	48.1	47.2	52.0	...
JUNE.																										
1869	49.1	48.6	48.0	47.8	47.7	48.4	50.4	53.8	55.5	57.8	59.1	60.7	62.3	62.7	63.2	62.6	62.2	61.9	59.9	57.6	55.0	52.9	51.8	50.8	55.4	28
1870	55.7	54.8	54.3	53.6	53.0	53.8	55.5	58.5	60.8	63.3	65.3	67.1	68.9	69.9	71.2	70.8	70.4	69.0	67.0	64.7	61.9	59.3	57.7	56.6	61.8	28
1871	50.4	50.1	49.7	49.7	49.6	50.3	51.7	53.2	55.5	57.6	59.2	59.7	61.3	62.2	62.4	61.9	60.9	60.1	59.0	56.8	54.8	52.7	51.8	51.2	55.5	30
1872	54.0	53.2	52.6	52.1	51.9	52.6	54.6	58.0	61.1	63.6	64.9	66.6	67.2	67.4	67.4	67.3	66.2	65.2	63.6	61.5	59.3	57.4	56.2	55.3	60.0	30
1873	54.6	53.9	53.3	52.9	52.6	53.0	54.1	56.7	59.3	61.8	63.0	64.2	66.2	66.1	66.0	65.7	65.1	63.7	62.2	61.0	59.2	57.4	56.1	55.3	59.3	28
1874	52.8	52.0	51.4	50.7	50.5	51.1	52.9	56.0	59.0	61.8	63.7	64.8	66.7	66.9	67.5	66.8	66.3	64.8	63.0	60.6	58.0	55.9	54.7	53.8	58.8	30
1875	53.7	53.1	52.7	52.5	52.3	52.8	54.6	57.6	60.3	62.6	64.0	65.0	66.5	67.7	67.9	67.0	66.2	65.0	63.1	61.0	58.4	56.7	55.8	55.0	59.6	27
1876	53.8	53.1	52.4	51.7	51.4	51.9	53.6	56.3	59.3	62.2	64.5	66.0	67.8	68.6	69.1	68.8	68.3	67.6	65.5	63.2	60.4	57.7	56.4	55.3	60.2	25
Means	53.0	52.3	51.8	51.4	51.1	51.7	53.4	56.3	58.9	61.3	63.0	64.3	65.9	66.4	66.8	66.4	65.7	64.7	62.9	60.8	58.4	56.2	55.1	54.2	58.8	...
JULY.																										
1869	58.6	58.1	57.4	56.8	56.4	56.7	58.1	60.8	63.3	65.4	67.4	69.2	71.4	72.7	73.4	73.5	72.7	71.1	68.8	66.4	63.7	61.9	60.5	59.3	64.3	28
1870	60.3	59.5	58.8	58.5	58.2	58.5	60.1	62.3	64.7	67.0	69.4	71.3	73.5	74.0	74.3	74.5	74.2	72.9	70.7	68.4	65.8	63.7	62.4	61.5	66.0	31
1871	56.7	56.3	56.0	55.8	55.8	56.1	57.7	60.1	62.2	64.0	66.2	67.3	68.8	68.9	69.4	69.4	68.4	66.7	64.8	62.7	60.6	58.9	58.1	57.5	62.0	31
1872	59.4	58.7	57.9	57.4	56.9	57.5	59.5	63.0	66.1	68.4	70.6	71.9	73.1	73.5	73.5	73.7	73.1	72.0	69.9	67.1	64.6	62.6	61.3	60.4	65.5	31
1873	58.0	57.3	56.6	56.0	55.7	56.1	57.8	61.2	64.0	66.6	68.3	69.6	71.0	71.8	71.9	72.2	71.3	70.3	68.2	65.9	63.3	60.9	59.9	59.0	63.9	30
1874	57.2	56.3	55.7	55.1	54.6	55.1	57.1	60.6	63.9	66.6	68.8	71.0	72.8	73.2	73.5	73.1	72.1	71.1	68.6	66.0	62.9	60.7	59.3	58.0	63.9	26
1875	55.2	54.7	54.5	53.9	53.6	53.7	55.1	57.0	58.7	60.4	61.8	62.7	64.0	64.5	64.2	63.5	63.2	62.5	61.3	60.1	58.2	56.8	55.9	55.3	58.8	23
1876	60.3	59.5	59.1	58.7	58.3	58.5	59.9	62.6	65.7	68.5	71.2	73.3	74.8	75.4	75.8	76.0	75.4	74.4	71.9	69.0	66.1	63.6	62.1	61.0	66.7	31
Means	58.2	57.5	57.0	56.5	56.2	56.5	58.2	61.0	63.6	65.9	68.0	69.5	71.2	71.7	72.0	72.0	71.3	70.1	68.0	65.7	63.2	61.1	59.9	59.0	63.9	...
AUGUST.																										
1869	56.0	55.1	54.3	53.9	53.4	53.0	53.8	56.2	59.4	62.9	65.7	67.8	68.9	69.4	70.0	70.1	69.2	67.6	65.2	62.5	60.1	58.4	57.2	56.3	61.1	23
1870	56.7	56.0	55.6	55.4	55.1	54.9	55.6	57.6	60.1	62.6	65.0	66.7	68.2	68.4	68.6	68.8	68.2	67.1	65.1	62.7	60.7	58.8	57.6	56.6	61.3	31
1871	58.6	57.9	57.1	56.8	56.4	55.9	56.8	60.3	64.2	68.1	70.8	72.9	74.4	75.1	74.9	74.2	73.0	71.1	68.4	65.8	63.3	61.6	60.2	59.3	64.9	31
1872	55.7	55.3	55.2	55.0	54.5	54.3	54.8	56.9	60.1	63.0	65.7	67.2	69.0	69.0	68.9	68.5	67.3	66.0	63.8	61.3	59.3	58.0	56.9	56.2	60.9	31
1873	57.8	57.5	57.0	56.7	56.6	56.3	57.3	59.3	62.1	64.7	66.7	68.7	70.3	70.4	70.2	70.8	69.9	68.0	66.1	63.7	61.8	60.2	59.4	58.9	62.9	30
1874	56.2	55.7	55.2	54.6	54.0	53.7	54.2	56.6	59.8	62.0	64.0	65.6	67.6	67.8	68.4	67.9	67.3	66.1	64.0	61.8	59.9	58.6	57.6	56.8	60.6	29
1875	57.8	57.5	57.3	57.1	57.1	57.3	58.1	59.9	62.4	64.6	66.3	67.7	68.8	69.4	70.0	70.2	69.2	67.7	65.3	63.0	60.8	59.3	58.7	58.1	62.6	21
1876	57.8	57.1	56.7	56.3	56.1	55.9	56.4	58.3	61.5	64.4	67.1	69.4	70.3	70.9	71.2	71.4	70.4	68.8	66.8	64.6	62.2	60.6	59.6	58.6	63.0	27
Means	57.1	56.5	56.0	55.7	55.4	55.2	55.9	58.1	61.2	64.0	66.4	68.3	69.7	70.0	70.3	70.2	69.3	67.8	65.6	63.2	61.0	59.4	58.4	57.6	62.2	...

TABLE IV.—MONTHLY MEAN TEMPERATURE of EVAPORATION at every HOUR of the DAY—*continued.*

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.	Mean.	Number of Days employed in forming the Means.
MAY.																										
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
1869	45·8	45·7	45·4	45·1	44·9	45·3	46·1	47·2	48·4	49·2	50·1	50·4	50·8	51·2	51·2	51·1	50·7	50·4	49·4	48·5	47·7	47·0	46·4	46·1	48·1	31
1870	45·5	44·9	44·3	44·0	43·6	43·8	45·3	47·5	49·1	50·7	52·2	53·0	53·9	53·9	54·0	54·1	53·8	52·9	51·7	50·1	48·6	47·6	46·9	46·1	49·1	31
1871	44·5	44·0	43·6	43·1	42·9	43·1	44·3	46·4	48·0	49·6	50·5	51·6	52·2	52·6	53·0	53·0	52·6	51·8	50·8	49·5	48·2	47·0	45·9	45·1	48·1	31
1872	45·4	44·9	44·6	44·2	44·0	44·1	45·2	47·3	48·4	49·3	49·9	50·4	50·8	50·8	50·6	50·9	50·2	49·8	48·8	47·9	46·9	46·3	45·9	45·5	47·6	29
1873	44·6	44·2	44·0	43·6	43·3	43·7	44·5	46·0	47·2	48·2	49·2	50·0	50·7	50·9	50·8	50·9	50·7	50·3	49·2	48·3	47·3	46·4	45·8	45·2	47·3	31
1874	43·3	43·0	42·7	42·5	42·2	42·6	43·9	46·2	47·9	48·9	49·6	50·2	50·7	50·6	50·4	50·3	50·2	49·4	48·4	47·3	46·1	45·2	44·7	44·2	46·7	29
1875	47·7	47·3	47·0	46·6	46·3	46·7	48·0	50·1	51·6	52·5	54·0	54·8	55·8	55·5	55·7	55·4	55·0	54·4	53·1	52·0	50·7	49·6	49·0	48·3	51·1	29
1876	42·0	42·0	41·6	41·4	41·3	41·6	43·1	45·3	46·9	48·0	48·7	49·5	50·0	50·5	50·3	50·2	49·7	48·8	47·5	46·3	45·1	44·1	43·4	42·8	45·8	31
Means	44·8	44·5	44·2	43·8	43·6	43·9	45·0	47·0	48·4	49·6	50·5	51·2	51·9	52·0	52·0	52·0	51·6	51·0	49·9	48·7	47·6	46·6	46·0	45·4	48·0	...
JUNE.																										
1869	47·7	47·2	47·0	46·8	46·7	47·3	48·5	49·9	51·2	52·3	53·0	53·9	54·8	55·0	55·3	55·2	55·0	54·3	53·4	52·3	51·1	50·2	49·5	49·0	51·1	28
1870	52·9	52·5	52·1	52·0	51·7	52·3	53·3	54·8	55·9	57·1	58·0	58·8	59·3	59·6	60·0	59·7	59·7	59·2	58·4	57·1	55·9	54·8	54·1	53·5	55·9	28
1871	49·0	48·9	48·8	48·6	48·6	49·1	50·1	51·2	52·2	53·4	54·1	54·4	55·5	55·9	55·7	55·5	54·9	54·6	53·6	52·5	51·6	50·6	50·1	49·6	52·0	30
1872	52·7	51·9	51·4	51·2	51·1	51·6	52·6	54·7	56·3	57·5	58·0	58·7	58·9	59·0	59·3	59·2	58·7	58·1	57·3	56·6	55·6	54·8	54·2	53·5	55·5	30
1873	53·0	52·4	52·2	51·9	51·5	51·9	52·7	54·2	55·6	56·6	57·2	57·7	58·5	58·6	58·7	58·7	58·2	57·8	57·4	56·8	55·9	55·0	54·0	53·6	55·4	28
1874	51·0	50·4	50·0	49·7	49·5	50·0	51·1	53·2	54·7	56·0	57·1	57·6	58·4	58·4	58·8	58·3	58·0	57·4	56·2	55·3	53·9	52·9	52·1	51·6	54·2	30
1875	50·9	50·5	50·2	50·1	49·9	50·4	51·7	53·6	55·1	56·6	57·3	57·8	58·2	58·6	58·9	58·3	58·5	57·7	56·7	55·4	54·1	53·2	52·6	52·2	54·5	27
1876	52·4	51·8	51·3	50·8	50·5	50·9	52·2	53·6	55·4	56·7	57·5	58·1	59·1	59·6	59·7	59·5	59·2	58·6	57·7	56·6	55·5	54·5	54·0	53·7	55·4	25
Means	51·2	50·7	50·4	50·1	49·9	50·4	51·5	53·1	54·6	55·8	56·5	57·1	57·8	58·1	58·3	58·0	57·8	57·2	56·3	55·3	54·2	53·3	52·6	52·1	54·3	...
JULY.																										
1869	56·7	56·2	55·7	55·1	54·7	55·0	55·9	57·6	58·9	59·8	60·8	61·4	62·5	62·8	63·4	63·7	63·3	62·6	61·5	60·6	59·5	58·8	58·1	57·3	59·2	28
1870	57·6	57·2	56·9	56·8	56·5	56·9	57·8	58·9	59·9	60·8	61·8	62·4	63·2	63·4	63·7	63·8	63·5	62·9	62·3	61·4	60·5	59·5	58·9	58·5	60·2	31
1871	55·3	55·0	54·7	54·7	54·5	54·8	55·8	57·0	57·9	58·8	59·7	60·0	60·7	60·9	61·2	61·1	60·5	59·6	58·9	58·0	57·2	56·4	56·2	55·8	57·7	31
1872	58·4	58·0	57·4	56·8	56·4	56·9	58·5	60·3	61·8	62·9	63·5	64·0	64·5	64·5	64·4	64·5	64·0	63·5	62·5	61·3	60·6	59·9	59·4	58·9	61·0	31
1873	55·9	55·6	55·2	54·7	54·5	54·6	55·7	57·6	58·8	60·0	60·8	61·3	61·8	62·3	62·2	62·4	62·1	61·6	60·6	59·6	58·5	57·4	56·7	56·4	58·6	30
1874	55·3	54·9	54·5	54·0	53·7	54·3	55·7	57·8	59·5	60·8	61·7	62·6	63·4	63·2	63·1	62·6	62·4	61·5	60·5	59·3	57·9	57·1	56·5	55·7	58·7	26
1875	54·2	53·9	53·5	52·9	52·7	52·7	53·7	55·0	55·9	56·7	57·5	58·3	59·0	59·6	59·4	59·0	58·9	58·8	58·2	57·4	56·2	55·3	54·7	54·1	56·1	23
1876	58·4	57·8	57·4	57·0	56·7	56·8	57·7	59·1	60·6	61·7	62·5	63·6	64·5	64·9	64·9	65·2	65·0	64·7	63·6	62·5	61·0	59·9	59·3	58·7	61·0	31
Means	56·5	56·1	55·7	55·3	55·0	55·2	56·3	57·9	59·2	60·2	61·0	61·7	62·4	62·7	62·8	62·8	62·5	61·9	61·0	60·0	58·9	58·0	57·5	56·9	59·1	...
AUGUST.																										
1869	53·8	53·3	53·0	52·6	52·2	52·0	52·6	54·4	56·2	57·9	58·9	59·7	59·9	60·0	60·2	60·3	59·8	59·0	58·3	57·0	55·9	54·9	54·3	53·8	56·3	23
1870	54·8	54·4	54·2	53·9	53·8	53·7	54·2	55·5	56·7	57·8	58·7	59·2	59·8	59·9	59·8	59·9	59·5	59·0	58·2	57·0	56·2	55·5	55·0	54·6	56·7	31
1871	56·9	56·5	55·9	55·7	55·4	55·0	55·8	57·9	60·1	62·0	62·6	63·3	63·5	63·7	63·7	63·8	63·3	62·5	61·5	60·4	59·5	58·7	57·9	57·4	59·7	31
1872	55·0	54·7	54·7	54·4	54·0	53·9	54·2	55·7	57·4	59·0	60·0	60·4	61·0	60·9	60·8	60·7	60·1	59·6	58·9	57·8	56·9	56·4	55·7	55·3	57·4	31
1873	56·3	56·1	55·9	55·8	55·6	55·3	56·1	57·3	58·8	59·7	60·6	61·0	61·7	61·6	61·4	61·6	61·5	61·1	60·2	59·1	58·3	57·7	57·4	57·0	58·6	30
1874	54·5	54·2	53·8	53·6	53·1	52·7	53·3	54·8	56·7	57·6	58·3	58·8	59·5	60·1	60·4	60·3	60·1	59·7	58·6	57·8	56·8	56·1	55·5	55·0	56·7	29
1875	56·7	56·6	56·5	56·4	56·2	56·3	57·1	58·6	60·0	61·0	61·7	62·4	62·7	63·0	63·0	63·4	63·2	62·2	61·1	59·6	58·4	57·6	57·2	56·9	59·5	21
1876	55·6	55·2	54·9	54·7	54·6	54·4	54·9	56·2	57·7	59·2	60·1	61·2	61·3	61·6	61·6	61·7	61·3	60·6	59·8	58·7	57·9	57·1	56·7	56·2	58·1	27
Means	55·4	55·1	54·9	54·6	54·4	54·2	54·8	56·3	58·0	59·3	60·1	60·7	61·2	61·3	61·4	61·5	61·1	60·5	59·6	58·4	57·5	56·7	56·2	55·8	57·9	...

TABLE III.—MONTHLY MEAN TEMPERATURE of the AIR at every HOUR of the DAY—*concluded.*

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.	Mean.	Number of Days employed in forming the Means.
SEPTEMBER.																										
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
1869	55.8	55.4	55.2	55.0	54.9	54.7	54.7	55.5	57.5	60.3	62.1	63.6	65.1	65.9	66.0	64.9	63.8	62.1	60.3	58.7	57.7	57.0	56.6	56.5	59.1	30
1870	51.1	50.7	50.2	49.9	49.7	49.8	50.1	51.6	55.0	57.8	60.7	62.6	63.6	64.5	64.6	64.2	62.5	60.6	57.8	55.8	54.4	52.9	52.0	51.5	56.0	30
1871	54.2	54.0	53.8	53.6	53.5	53.4	53.3	54.3	56.6	59.2	61.2	62.5	63.7	64.5	64.2	63.6	62.6	61.1	59.0	57.3	56.2	55.1	54.7	54.3	57.7	30
1872	53.8	53.4	53.0	52.7	52.4	52.2	52.5	53.9	56.8	59.6	62.0	63.5	63.9	64.4	64.6	64.2	62.9	61.4	59.5	57.8	56.4	55.3	54.6	54.1	57.7	30
1873	51.2	50.7	50.3	49.9	49.5	49.2	49.2	50.3	52.9	56.5	59.4	61.0	62.0	62.2	62.1	61.9	60.5	58.3	56.3	54.7	53.5	52.4	51.7	51.2	54.9	30
1874	54.8	54.5	54.1	53.9	53.8	53.7	53.7	55.0	57.4	60.0	62.1	63.3	64.0	64.5	64.8	64.5	63.6	61.3	59.3	57.6	56.5	55.5	55.1	54.7	58.2	28
1875	56.1	55.8	55.3	55.1	55.2	55.1	55.3	56.5	59.2	61.9	63.9	65.7	66.7	67.4	67.5	66.9	65.7	64.2	62.1	59.8	58.2	57.3	56.9	56.5	60.2	26
1876	52.7	52.5	52.2	52.0	51.7	51.5	51.7	52.8	54.8	56.9	59.2	60.8	61.9	62.7	62.9	61.9	60.8	59.4	57.5	55.9	54.8	54.1	53.5	52.9	56.1	29
Means	53.7	53.4	53.0	52.8	52.6	52.4	52.6	53.7	56.3	59.0	61.3	62.9	63.9	64.5	64.6	64.0	62.8	61.1	59.0	57.2	56.0	54.9	54.4	54.0	57.5	...
OCTOBER.																										
1869	46.3	46.1	46.1	46.0	45.7	45.4	45.4	45.7	47.1	49.3	51.5	53.3	55.1	55.8	55.8	55.2	53.6	51.7	50.1	49.1	48.2	47.2	46.8	46.4	49.3	31
1870	47.5	47.6	47.2	47.3	47.3	47.1	46.8	47.3	48.6	51.1	53.5	55.0	55.8	56.0	55.8	55.1	54.1	52.5	51.2	50.0	49.2	48.6	48.2	47.7	50.4	31
1871	46.2	46.0	45.5	45.4	44.9	44.8	44.7	45.1	46.8	49.9	53.2	55.5	56.5	56.7	56.7	55.7	54.1	52.0	50.5	49.4	48.5	47.7	47.0	46.6	49.6	31
1872	45.1	45.0	45.0	44.7	44.6	44.4	44.3	44.8	46.5	48.7	51.0	52.3	53.6	54.2	53.9	53.5	52.5	51.0	49.5	48.5	47.4	46.5	46.1	45.6	48.3	31
1873	46.0	45.3	44.9	44.3	44.0	44.2	44.1	44.7	46.1	48.5	50.7	52.2	53.9	53.9	54.2	53.7	52.2	50.7	49.3	48.4	47.6	47.0	46.6	46.3	48.3	31
1874	49.9	49.7	49.7	49.6	49.2	49.3	49.6	50.1	51.2	53.0	54.8	56.1	56.8	57.3	57.3	56.7	55.5	54.0	52.5	51.4	50.7	50.2	49.8	49.6	52.2	31
1875	47.3	47.0	47.0	46.7	46.7	46.6	46.4	46.7	48.2	50.3	52.2	53.4	53.5	53.9	53.7	53.0	51.9	50.3	49.3	48.7	48.1	47.5	47.5	47.1	49.3	31
1876	51.7	51.6	51.6	51.4	51.4	51.1	51.0	51.2	52.0	53.9	55.9	57.2	58.0	58.1	58.3	57.4	56.3	54.8	53.5	52.7	51.9	51.6	51.3	51.3	53.6	31
Means	47.5	47.3	47.1	46.9	46.7	46.6	46.5	46.9	48.3	50.6	52.9	54.4	55.4	55.7	55.7	55.0	53.8	52.1	50.7	49.8	48.9	48.3	47.9	47.6	50.1	...
NOVEMBER.																										
1869	41.8	41.7	42.0	42.1	42.1	42.1	42.0	42.0	42.1	43.1	44.3	45.2	46.3	46.2	46.0	45.0	44.0	43.2	42.4	42.1	41.6	41.1	41.0	40.6	42.9	25
1870	42.0	41.7	41.6	41.3	41.4	41.4	41.2	41.3	41.6	42.8	44.3	45.8	46.5	47.2	47.3	46.8	45.5	44.5	43.6	43.2	42.3	41.9	41.9	41.6	43.3	20
1871	36.6	36.3	36.0	35.8	35.8	35.7	35.8	35.8	36.5	37.9	39.6	40.9	42.1	42.0	41.8	40.9	40.0	39.0	38.5	38.0	37.5	37.0	36.7	36.6	38.0	23
1872	44.9	45.0	44.9	44.7	44.3	44.0	44.0	44.2	44.5	45.5	47.3	48.8	49.6	49.7	49.6	48.5	47.5	46.8	46.1	45.5	45.4	45.0	45.0	44.9	46.1	25
1873	43.2	43.1	43.1	43.0	42.8	42.8	42.4	42.7	42.8	43.8	45.5	47.1	47.9	48.1	47.7	47.1	46.3	45.5	44.8	44.4	44.0	43.5	43.2	42.8	44.5	30
1874	40.8	40.7	40.3	40.2	40.2	40.5	40.5	40.3	40.5	41.5	43.2	44.4	45.5	46.1	46.1	45.6	44.2	43.3	42.7	42.1	41.8	41.4	41.1	40.8	42.2	30
1875	42.2	41.9	41.8	41.3	41.2	41.3	41.3	41.2	41.4	42.0	43.1	44.0	44.8	45.3	45.0	44.6	43.9	43.2	42.9	42.8	42.5	42.3	42.1	42.1	42.7	30
1876	42.8	42.6	42.5	42.6	42.6	42.4	42.4	42.3	42.6	43.7	45.5	47.2	48.2	48.3	48.0	47.3	45.9	44.9	44.2	43.8	43.4	43.4	43.1	42.9	44.3	28
Means	41.8	41.6	41.5	41.4	41.3	41.3	41.2	41.2	41.5	42.5	44.1	45.4	46.4	46.6	46.4	45.7	44.7	43.8	43.1	42.7	42.3	42.0	41.8	41.5	43.0	...
DECEMBER.																										
1869	36.9	36.9	36.9	37.1	37.0	36.8	36.8	36.6	36.7	37.2	38.1	39.2	40.2	40.4	40.0	39.6	38.9	38.5	38.1	38.0	37.7	37.6	37.6	37.4	37.9	31
1870	33.6	33.3	33.0	32.6	32.1	31.7	31.8	31.9	32.3	32.9	33.7	34.7	35.9	36.0	36.1	35.5	34.6	34.2	33.9	33.7	33.7	33.7	33.6	33.3	33.7	31
1871	37.8	37.7	37.5	37.5	37.5	37.3	37.2	37.2	37.2	37.6	38.5	39.4	39.9	40.7	40.7	40.4	39.6	39.0	38.7	38.5	38.3	38.2	38.1	38.1	38.4	31
1872	42.1	41.9	42.0	41.9	41.6	41.7	41.7	41.7	41.5	41.9	42.8	44.1	44.9	45.5	45.4	44.8	44.0	43.7	43.4	43.0	42.6	42.4	42.2	42.0	42.9	31
1873	39.5	39.7	39.4	39.4	39.5	39.4	39.7	39.6	39.7	40.0	41.1	42.6	43.4	43.8	43.5	42.7	41.8	41.3	41.0	40.6	40.4	40.0	39.8	39.6	40.7	31
1874	32.7	32.7	32.7	32.5	32.5	32.3	32.1	32.2	32.4	32.8	33.6	34.7	35.6	36.0	35.6	35.1	34.5	33.8	33.1	32.8	32.5	32.4	32.2	32.1	33.3	31
1875	37.5	37.4	37.5	37.5	37.5	37.4	37.5	37.5	37.6	38.0	38.9	39.9	40.6	41.0	40.8	40.4	39.8	39.3	39.0	38.7	38.5	38.4	38.1	38.1	38.6	31
1876	43.7	43.6	43.4	43.1	43.1	43.1	43.1	43.3	43.3	43.5	44.2	44.9	45.8	46.1	46.1	45.7	45.1	44.7	44.6	44.5	44.3	44.2	44.1	44.0	44.2	31
Means	38.0	37.9	37.8	37.7	37.6	37.5	37.5	37.5	37.6	38.0	38.9	39.9	40.8	41.2	41.0	40.5	39.8	39.3	39.0	38.7	38.5	38.4	38.2	38.1	38.7	...

TABLE IV.—MONTHLY MEAN TEMPERATURE of EVAPORATION at every HOUR of the DAY—*concluded.*

Year.	Midnight.	1h.	2h.	3h.	4h.	5h.	6h.	7h.	8h.	9h.	10h.	11h.
SEPTEMBER.												
	°	°	°	°	°	°	°	°	°	°	°	°
1869	54·0	53·9	53·6	53·4	53·3	53·1	53·3	53·8	55·1	56·5	57·3	57·8
1870	50·8	50·5	50·0	49·7	49·5	49·6	49·8	51·0	53·2	54·9	56·3	57·1
1871	52·9	52·8	52·5	52·4	52·3	52·1	52·1	52·7	54·2	55·5	56·2	56·7
1872	52·4	52·2	51·9	51·7	51·5	51·5	51·7	52·7	54·4	56·2	57·2	57·7
1873	50·2	49·9	49·4	49·2	48·9	48·5	48·5	49·4	51·2	53·6	55·0	55·6
1874	53·7	53·4	53·0	52·9	52·7	52·6	52·6	53·3	55·0	56·6	57·6	58·3
1875	54·9	54·8	54·3	54·1	54·0	54·0	54·0	55·1	56·8	58·3	59·2	59·9
1876	51·4	51·4	51·1	51·0	50·7	50·7	51·0	51·8	53·3	54·3	55·5	55·9
Means	52·5	52·4	52·0	51·8	51·6	51·5	51·6	52·5	54·1	55·7	56·8	57·4
OCTOBER.												
1869	45·1	45·0	44·8	44·6	44·4	44·2	44·2	44·5	45·7	47·4	48·6	49·7
1870	46·6	46·5	46·4	46·4	46·4	46·2	46·0	46·4	47·3	49·0	50·5	51·3
1871	45·4	45·3	44·8	44·5	44·1	44·0	44·0	44·5	45·8	48·3	50·4	51·4
1872	44·5	44·5	44·3	44·1	44·0	43·8	43·8	44·3	45·7	47·3	48·7	49·7
1873	45·0	44·5	44·2	43·7	43·4	43·6	43·6	44·1	45·3	47·1	48·7	49·4
1874	49·3	49·2	49·1	49·0	48·7	48·8	49·1	49·3	50·4	51·5	52·6	53·1
1875	46·1	45·8	45·6	45·4	45·3	45·3	45·1	45·5	46·6	48·1	49·2	49·8
1876	50·2	50·1	50·0	50·0	49·9	49·7	49·7	49·8	50·5	51·7	52·8	53·7
Means	46·5	46·4	46·2	46·0	45·8	45·7	45·7	46·1	47·2	48·8	50·2	51·0
NOVEMBER.												
1869	40·5	40·5	40·8	40·8	40·7	40·8	40·5	40·4	40·6	41·1	42·0	42·6
1870	40·9	40·7	40·7	40·3	40·5	40·4	40·1	40·2	40·4	41·[illegible]	42·7	43·8
1871	35·4	35·1	34·9	34·7	34·7	34·7	34·7	34·7	35·3	36·5	37·8	38·6
1872	43·7	43·8	43·7	43·4	43·0	42·8	42·9	42·9	43·2	43·9	45·1	46·1
1873	42·0	41·9	41·9	41·7	41·6	41·5	41·2	41·4	41·4	42·2	43·5	44·5
1874	39·6	39·5	39·3	39·2	39·3	39·6	39·6	39·5	39·6	40·3	41·4	42·4
1875	40·6	40·3	40·1	39·7	39·7	39·8	39·7	39·6	39·7	40·2	40·9	41·5
1876	41·8	41·7	41·6	41·7	41·5	41·3	41·3	41·2	41·5	42·3	43·5	44·6
Means	40·6	40·4	40·4	40·2	40·1	40·1	40·0	40·0	40·2	41·0	42·1	43·0
DECEMBER.												
1869	35·4	35·6	35·7	35·9	35·8	35·6	35·7	35·5	35·5	35·9	36·7	37·4
1870	32·5	32·4	32·1	31·7	31·3	30·8	31·0	31·0	31·3	31·8	32·5	33·4
1871	36·7	36·6	36·4	36·4	36·4	36·3	36·2	36·3	36·2	36·6	37·3	37·8
1872	41·2	41·2	41·3	41·0	40·7	40·8	40·7	40·5	40·4	40·8	41·5	42·5
1873	38·6	38·6	38·4	38·6	38·6	38·5	38·7	38·7	38·7	38·9	39·9	40·8
1874	31·5	31·5	31·4	31·4	31·5	31·5	31·4	31·4	31·6	32·0	32·7	33·4
1875	36·8	36·6	36·7	36·8	36·6	36·5	36·5	36·6	36·7	37·0	37·6	38·5
1876	42·6	42·5	42·3	42·1	41·9	41·9	41·9	42·3	42·3	42·5	43·0	43·4
Means	36·9	36·9	36·8	36·7	36·6	36·5	36·5	36·5	36·6	36·9	37·7	38·4

Year.	Noon.	13h.	14h.	15h.	16h.	17h.	18h.	19h.	20h.	21h.	22h.	23h.
SEPTEMBER.												
	°	°	°	°	°	°	°	°	°	°	°	°
1869	58·5	58·8	58·7	58·2	57·6	57·0	56·2	55·6	55·4	54·9	54·6	54·5
1870	57·4	57·7	58·0	57·7	56·8	55·6	54·5	53·7	52·8	52·1	51·6	51·1
1871	56·8	56·9	56·8	56·7	56·3	55·5	54·8	54·2	53·7	53·2	52·9	52·7
1872	57·6	57·8	57·7	57·7	56·9	56·1	55·2	54·3	53·8	53·2	52·9	52·6
1873	56·1	56·2	56·1	56·1	55·3	54·3	53·3	52·3	51·5	51·0	50·6	50·2
1874	58·4	58·5	58·5	58·1	57·7	56·9	56·0	55·2	54·8	54·3	53·8	53·6
1875	60·6	60·8	60·6	60·6	60·1	59·1	58·0	57·0	56·2	55·6	55·4	55·0
1876	56·3	56·6	56·6	55·9	55·4	54·8	54·0	53·3	52·8	52·3	51·8	51·6
Means	57·7	57·9	57·9	57·6	57·0	56·2	55·3	54·5	53·9	53·3	52·9	52·7
OCTOBER.												
1869	50·8	51·0	50·9	50·5	49·7	48·5	47·6	46·9	46·4	45·7	45·5	45·2
1870	51·7	51·5	51·3	50·9	50·2	49·5	48·7	48·0	47·5	47·1	46·9	46·6
1871	51·9	52·0	51·9	51·4	50·6	49·6	48·7	48·1	47·5	46·8	46·3	45·8
1872	50·5	50·9	50·7	50·6	49·8	48·9	47·9	47·4	46·4	45·6	45·2	44·8
1873	50·3	50·3	50·2	49·9	48·9	48·0	47·1	46·7	46·2	45·9	45·5	45·3
1874	53·6	53·5	53·5	53·0	52·1	51·3	50·6	50·1	49·6	49·3	49·1	49·0
1875	49·8	49·9	49·8	49·5	48·9	48·0	47·4	47·2	46·7	46·2	46·0	45·9
1876	54·0	54·0	53·9	53·3	52·7	51·9	51·1	50·5	50·0	49·8	49·7	49·6
Means	51·6	51·6	51·5	51·1	50·4	49·5	48·6	48·1	47·5	47·1	46·8	46·5
NOVEMBER.												
1869	43·2	42·6	42·7	42·1	41·3	40·7	40·3	40·0	39·6	39·3	39·2	39·2
1870	44·4	44·7	44·6	44·3	43·3	42·5	42·0	41·7	41·1	40·9	40·7	40·4
1871	39·3	39·2	38·9	38·2	37·6	37·2	36·7	36·4	36·1	35·9	35·5	35·4
1872	46·5	46·6	46·5	45·9	45·4	44·9	44·5	44·2	44·1	43·7	43·7	43·7
1873	44·9	45·0	44·9	44·4	44·0	43·4	43·1	42·7	42·4	42·2	41·9	41·6
1874	42·9	43·4	43·3	42·9	42·0	41·2	40·9	40·5	40·4	40·1	39·7	39·5
1875	42·0	42·3	42·3	42·0	41·6	41·3	41·1	41·1	40·8	40·7	40·4	40·4
1876	45·0	45·1	44·9	44·4	43·5	42·8	42·4	42·2	42·0	42·0	41·8	41·8
Means	43·5	43·6	43·5	43·0	42·3	41·8	41·4	41·1	40·8	40·6	40·4	40·2
DECEMBER.												
1869	38·0	38·0	37·9	37·7	37·2	36·9	36·7	36·6	36·4	36·4	36·3	36·0
1870	34·5	34·7	34·5	34·1	33·5	33·1	32·9	32·7	32·7	32·7	32·6	32·3
1871	38·3	38·8	38·9	38·6	38·1	37·5	37·3	37·2	37·0	37·0	36·9	36·8
1872	43·0	43·3	43·2	42·9	42·4	42·2	42·0	41·8	41·4	41·3	41·3	41·1
1873	41·4	41·7	41·4	40·8	40·2	39·7	39·5	39·2	39·0	38·9	38·7	38·7
1874	34·1	34·3	34·0	33·7	33·1	32·6	32·0	31·7	31·3	31·3	31·0	30·8
1875	38·9	39·2	39·0	38·7	38·2	37·9	37·7	37·6	37·7	37·5	37·3	37·2
1876	44·1	44·3	44·3	44·0	43·6	43·3	43·0	42·9	42·8	42·7	42·7	42·7
Means	39·0	39·3	39·1	38·8	38·3	37·9	37·6	37·5	37·3	37·2	37·1	37·0

Year.	Mean.	Number of Days employed in forming the Means.
SEPTEMBER.		
	°	
1869	55·6	30
1870	53·4	30
1871	54·3	30
1872	54·5	30
1873	52·2	30
1874	55·3	28
1875	57·0	26
1876	53·3	29
Means	54·4	...
OCTOBER.		
1869	47·0	31
1870	48·3	31
1871	47·6	31
1872	46·8	31
1873	46·5	31
1874	50·6	31
1875	47·2	31
1876	51·2	31
Means	48·2	...
NOVEMBER.		
1869	40·9	25
1870	41·8	20
1871	36·4	23
1872	44·3	25
1873	42·7	30
1874	40·7	30
1875	40·7	30
1876	42·6	28
Means	41·3	...
DECEMBER.		
1869	36·5	31
1870	32·6	31
1871	37·2	31
1872	41·6	31
1873	39·4	31
1874	32·1	31
1875	37·5	31
1876	42·9	31
Means	37·5	...

TABLE V.—MONTHLY MEAN TEMPERATURE of the AIR for each YEAR, 1869 to 1876.

(In forming this Table daily values derived from the eye-observations have been included for the days missing in Table III.)

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Mean Annual Temperature.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1869	41·4	45·6	37·9	50·9	51·1	56·2	64·8	60·9	59·1	49·3	43·4	37·9	49·9
1870	38·5	36·3	40·1	49·2	54·1	62·2	66·0	61·3	56·0	50·4	41·8	33·7	49·1
1871	33·4	42·6	45·0	48·2	52·4	55·5	62·0	64·9	57·7	49·6	37·4	38·4	48·9
1872	41·5	44·8	44·7	48·8	51·5	60·0	65·5	60·9	57·7	48·3	45·5	42·9	51·0
1873	42·3	34·7	42·1	46·3	51·2	59·4	64·0	62·9	54·9	48·3	44·5	40·7	49·3
1874	41·9	39·0	44·1	50·5	51·0	58·8	64·9	60·8	58·2	52·2	42·2	33·3	49·7
1875	43·6	35·5	40·9	47·0	55·6	60·0	59·9	63·6	60·8	49·3	42·7	38·6	49·8
1876	37·3	41·3	41·6	48·0	50·1	59·6	66·7	64·2	56·3	53·6	44·2	44·2	50·6
Means	40·0	40·0	42·0	48·6	52·1	59·0	64·2	62·4	57·6	50·1	42·7	38·7	49·8

TABLE VI.—MONTHLY MEAN TEMPERATURE of EVAPORATION for each YEAR, 1869 to 1876.

(In forming this Table daily values derived from the eye-observations have been included for the days missing in Table IV.)

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean Annual Temperature.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1869	40·0	43·6	35·8	47·5	48·1	51·7	59·6	56·5	55·6	47·0	41·3	36·5	46·9
1870	37·1	34·4	38·0	44·4	49·1	56·3	60·2	56·7	53·4	48·3	40·3	32·6	45·9
1871	32·4	40·9	42·1	45·6	48·1	52·0	57·7	59·7	54·3	47·6	35·8	37·2	46·1
1872	40·1	43·0	42·6	45·3	47·8	55·5	61·0	57·4	54·5	46·8	43·8	41·6	48·3
1873	40·7	33·4	40·4	42·9	47·3	55·5	58·7	58·6	52·2	46·5	42·7	39·4	46·5
1874	40·3	37·2	41·6	47·1	47·2	54·2	59·5	56·9	55·2	50·6	40·7	32·1	46·9
1875	41·9	33·8	37·9	43·0	51·1	54·8	56·9	60·3	57·5	47·2	40·7	37·5	46·9
1876	36·1	39·4	39·0	44·8	45·8	54·9	61·0	58·8	53·5	51·2	42·5	42·9	47·5
Means	38·6	38·2	39·7	45·1	48·1	54·4	59·3	58·1	54·5	48·2	41·0	37·5	46·9