

HARMONIC ANALYSIS  
OF  
HOURLY OBSERVATIONS  
OF  
AIR TEMPERATURE AND PRESSURE  
AT  
BRITISH OBSERVATORIES.

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Published by Direction of the Meteorological Council.

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[Continued on p. 3 of cover.]

Official, No. 93.

# HARMONIC ANALYSIS

OF

## HOURLY OBSERVATIONS

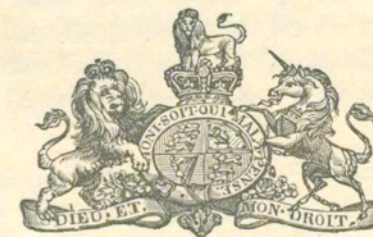
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INTRODUCTION.

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THE Tables included in this publication give the results of computations commenced by General Strachey, and completed in the Meteorological Office under the supervision of Mr. R. Curtis.

The computations, as originally undertaken, were designed to supply the analysis of the hourly observations of temperature and pressure made at Greenwich Observatory, in each case for 20 years, which were published in 1878.

Subsequently it was determined to extend the investigation, as a part of the regular routine of the Meteorological Office, so as to obtain the harmonic constants from the photographic records of temperature and pressure of the self-recording instruments at the seven observatories maintained by the Meteorological Office, viz., Valencia, Armagh, Falmouth, Glasgow, Stonyhurst, Aberdeen, and Kew, for a series of 12 years.

The computations of the harmonic components from the numerical data supplied by the Greenwich tables have been made by the method proposed by General Strachey, and explained in the Proceedings of the Royal Society, Vol. 42, pp. 61-79; and with the help of the tables to be found in the Appendix to the "Hourly Readings" of the Self-Recording Instruments at the Observatories of the Meteorological "Council" for 1884.

The values of the constants for the seven observatories of the Meteorological Office were obtained from the photographic records by means of the mechanical analyser designed by Sir W. Thomson, a description of which will be found in the Proceedings of the Royal Society, Vol. XXVII., p. 371; and as to the use of which, and the degree of dependence to be placed on its indications, reference may be made to the Annual Reports of the Meteorological Office for the years 1881, 1883, and 1885, and to the Proceedings of the Royal Society, Vol. XL., p. 382.

In the tables now published, following the usual formula expressing the diurnal inequality in terms of its harmonic components,

$$A_n = p_0 + p_1 \cos n 15^\circ + q_1 \sin n 15^\circ + p_2 \cos 2 n 15^\circ \text{ \&c.},$$

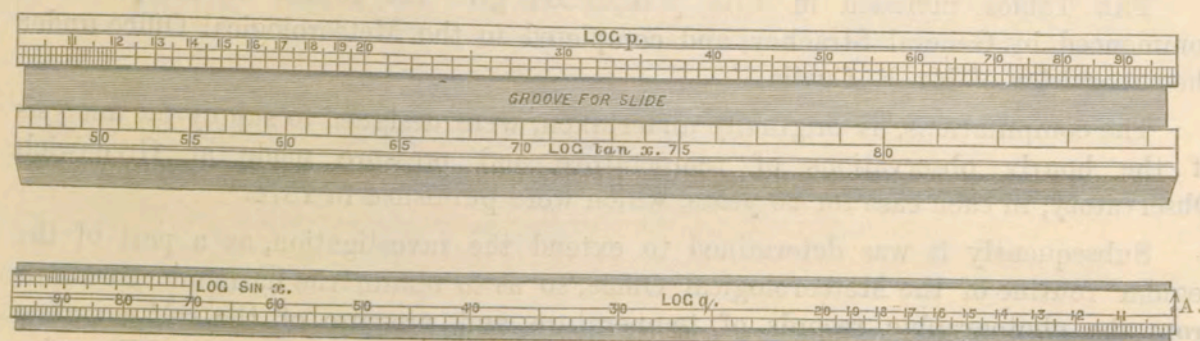
the coefficients of the sines are designated by the letters  $p_1, p_2, p_3$ , &c. for the several orders of components; and those of the cosines by the letters  $q_1, q_2, q_3$ , &c. The values are expressed in degrees Fahrenheit for temperature, and in inches for pressure.



The total amplitudes of the several components in the corresponding formula, involving sines only, are designated by the letters  $P_1, P_2$ , &c., where  $P_1 = \sqrt{p_1^2 + q_1^2}$ .

Also the letters  $\mu_1, \mu_2, \mu_3$ , &c. signify, for the several components, the epoch of the first maximum, reckoned from midnight in angular measure, as explained in the papers before referred to.

The values of  $P$  and  $\mu$  were throughout obtained from the calculated values of  $p, q$ , by means of a slide rule, arranged for the solution of the equations,  $\tan x = \frac{p}{q}$  and  $P = \frac{p}{\sin x}$ , as shown below:



The upper scale of the *fixed* rule is graduated to show logarithms of numbers, and serves to indicate the value of  $\log. p$ . The graduations of the lower scale of the same rule represent  $\log.$  tangents to radius equal 1 on the upper scale and indicate  $\log. \tan x$ .

The graduations of the lower edge of the *slide* rule are logarithms of numbers in the reverse order to those of the *fixed* rule, and indicate the values of  $\log. q$ . The upper edge of the *slide* rule is graduated to show  $\log.$  sines to the same radius as before, and indicates the value of  $\log. \sin x$ .

The rule is used as follows: The *slide* is moved in the groove till the zero point A on its top edge comes opposite to the graduation corresponding to  $\log. p$  on the *fixed* rule. Then opposite the graduation corresponding to  $\log. q$  on the lower edge of the *slide* will be found on the scale of  $\log.$  tangents the value of the angle  $x$ .

Then without moving the slide the value of  $P$  will be found on the scale showing  $\log. p$  opposite the graduation on the *upper* edge of the slide corresponding to  $\log. \sin x$ .

The first series of tables deal with Greenwich air temperature, and are numbered IA. to XIA.

The next series refer to Greenwich pressure, and are numbered IB. to XIB., the tables bearing the same numbers giving corresponding data.

Next follow the results obtained by the mechanical analyser for the seven observatories, which are numbered in like manner; the Tables IC., IIC., &c. referring to temperature, and ID., IID., &c. referring to pressure.

The requisite data, however, were not available for rendering the C and D series in all respects identical with the two series for Greenwich.

The Tables are arranged as follows:—

No. I. gives the values of the  $p, q$  coefficients, in the case of Greenwich, for the first four orders for each year and for each month, and for the seven observatories of the Meteorological Office for the first three orders. The mean values, in the case of Greenwich, for each series of five years, as well as the means for the whole 20 years, are also given; and for the seven observatories for the period of 12 years.

No. II. is deduced from No. I., and gives in like form the values of  $P$  and  $\mu$  for the four or three components (as the case may be) for each year and month, and the corresponding means.

It will be observed that in a few cases  $\mu$  has a negative sign which implies, as will be further explained, that the epoch of maximum is thrown back before midnight.

No. III. is derived from No. I., and gives the mean annual values of the  $p, q$  coefficients for each year with the five-year and 20-year means as before.

No. IV. is also derived from No. I., and gives the means of the several monthly values of the  $p$  and  $q$  coefficients for the 20 years.

No. V. is derived from No. II., and gives the mean yearly values of  $P$  and  $\mu$  for each year with the five-year and 20-year means.

No. VI. is also derived from No. II., and gives the means of the several monthly values of  $P$  and  $\mu$  for the 20 years.

No. VII. brings together the monthly mean values of  $P$  and  $\mu$  for the first four orders of components, for the four five-year periods over which the observations extend; the phase of maximum being in this table stated in *apparent* time, instead of in *mean* time, as is done in the others.

No. VIII. shows the mean monthly values of  $P$  and  $\mu$ , obtained from the mean hourly values for each month and the entire year, for the whole series of 20 years, as given in No. IX. These values will be seen to differ from those supplied by No. VI., and would be the values of  $P$  and  $\mu$  deduced from the mean values of  $p, q$ , given in No. IV. The differences are due to No. VI. giving the means of the whole of the *separate* values obtained from the observations, of the separate years and months, while the results in No. VIII. are obtained from the mean of the hourly values for the whole period in the aggregate, in which the effects of some of the fluctuations are necessarily lost. For the same reason the mean value for the year, in No. VIII., is not the arithmetical mean of the 12-monthly values.

No. IX. gives the mean hourly values for each month of the year, obtained from the Greenwich hourly observations. This table is extracted from the volume of Greenwich meteorological observations for 20 years.

No. X. gives the corrections that should be applied to the Greenwich observations on account of the non-periodical variation between the initial and final midnights of the daily period. The nature of this correction, and how the non-periodical variation affects the computations of the harmonic constants, are explained in the papers before referred to.



No. XI. gives the mean value for each hour and for each year, corrected as above, and the mean for the whole 20 years.

The Tables VIII. to XI. are not available in the case of the seven observatories of the Meteorological Office inasmuch as the numerical mean values of the hourly readings had not been obtained when the calculations now published were carried out.

The 20 years series for Temperature extends from 1849 to 1868, and that for Pressure from 1854 to 1873, so that the results will only be strictly comparable for the 15 years from 1854 to 1868. The Tables will be seen to show, for the chief elements, five-year means, as well as means for the whole series of years, so that they serve to indicate how far the mean results, obtained from relatively short periods are likely to deviate from those got for long periods.

From these computations also may be seen the degree of consistency of the variations of the quantities dealt with, from year to year, and from month to month, in a considerable series of years; and data for connecting the periodical changes with physical causes are supplied.

It is necessary to state that there has occasionally been some difficulty and uncertainty attending the calculation of the mean values for these Tables.

In the first place in the series of values of the  $p, q$  coefficients, if the signs change periodically, as will be seen to be the case in the third and fourth orders, the arithmetical mean can give no true indication of the mean extent of the variations that have actually taken place. For instance, if the positive and negative quantities are in the aggregate nearly equal, the mean result would be nearly zero, though in fact the variations may have been very well marked, and the positive and negative sums considerable.

Again, as the several components of the diurnal curve, above that of the first order, are recurrent, there is in some cases an ambiguity arising from the difficulty of determining whether a change of phase in successive months takes place by occurring later or earlier. This no doubt is mainly due to the monthly periods for which the means are computed being too great to admit of following the several steps of a rapid change, such as takes place about the equinoxes in the components of the third and fourth orders. A somewhat similar difficulty arises at times in the case of what may be termed casual irregularities in the position of the phase of maximum, in dealing with some of which it becomes uncertain whether the maximum has been thrown forward or backward.

In dealing with the series of Greenwich Temperature values, a doubt of this sort arises in relation to the abrupt changes in the value of  $\mu_4$  between January and February, and again between October and November, which might be attributed either to retrogression of the phase of maximum, or to progression. The uncertainty, however, in such a case hardly affects the mean monthly values, which are fairly consistent; but a doubt is introduced in determining an annual mean, the numerical value of which will depend on the conclusion adopted as to the way in which the changes take place. This hesitation is unavoidable in the absence of a series of values calculated for short periods while the change is going on.

Much greater uncertainty prevails in dealing with the barometric values than with the thermometric, the irregularities in the former being far more numerous and perplexing.

It may further be noticed with reference to the quantities  $p, q$ , that their *absolute* amounts represent the extent of the *amplitudes* of the components, while their *signs* only indicate the phase, or epoch of maximum, in relation to the successive quadrants in each recurring series of components. A succession of signs in the order  $+p, +q; -p, +q; -p, -q; +p, -q$ , corresponds to an epoch of maximum gradually becoming later, and vice versa. The mutual destruction of a series of positive and negative values of  $p, q$  will therefore merely signify that there is no true time of maximum, or that all positions are equally probable or uncertain.

When, as is not seldom the case, there are considerable variations in the values of  $\mu$ , an assumption may become necessary, in computing the mean of these values, as to the direction in which the departure of the separate values from the mean should be reckoned, whether onward or backward.

For instance, in Table IIa., the value of  $\mu_2$  in the month of May for the year 1855 would by the computation appear as  $85^\circ 1'$ . Inasmuch, however, as the mean value is evidently much nearer to the commencement of the quadrant in which  $\mu_2$  is found than to its termination, it has been assumed that the value instead of being  $85^\circ 1'$  should be represented by  $-4^\circ 59'$ ; that is to say, that the departure of the maximum from the mean has taken place by occurring *earlier* and not *later*. All the entries of  $\mu$  in the tables marked with the minus sign indicate that this assumption has been made.



## CONTENTS.

|   | PAGE    |
|---|---------|
| INTRODUCTION  | iii     |
| VALUES OF THE $p, q$ COEFFICIENTS OF HARMONIC COMPONENTS FOR EVERY MONTH OF EACH YEAR:                                      |         |
| TABLE IA.—Greenwich Temperature (1849–68)   | 1       |
| IB.— „ Barometric Pressure (1854–73)  | 13      |
| IC.—Seven Observatories, Temperature (1871–82)  | 25      |
| ID.— „ „ Barometric Pressure (1871–82)  | 59      |
| VALUES OF THE AMPLITUDE P AND OF THE FIRST MAXIMUM $\mu$ FOR EVERY MONTH OF EACH YEAR:                                      |         |
| TABLE IIA.—Greenwich Temperature (1849–68)  | 4       |
| IIB.— „ Barometric Pressure (1854–73)   | 16      |
| IIC.—Seven Observatories, Temperature (1871–82)   | 37      |
| Values of $\mu_2$ and $\mu_3$ to be substituted for the Values given in Table IIC.  | 51      |
| IID.—Seven Observatories, Barometric Pressure (1871–82)   | 71      |
| MEAN YEARLY VALUES OF THE $p, q$ COEFFICIENTS OF HARMONIC COMPONENTS FOR EACH YEAR:   |         |
| TABLE IIIA.—Greenwich Temperature (1849–68)   | 7       |
| IIIB.— „ Barometric Pressure (1854–73)  | 19      |
| IIIC.—Seven Observatories, Temperature (1871–82)  | 49 & 54 |
| IIID.— „ „ Barometric Pressure (1871–82)  | 83 & 87 |
| MEAN MONTHLY VALUES OF THE $p, q$ COEFFICIENTS OF HARMONIC COMPONENTS FOR THE WHOLE PERIOD:                                 |         |
| TABLE IVA.—Greenwich Temperature (1849–68)  | 7       |
| IVB.— „ Barometric Pressure (1854–73)   | 19      |
| IVC.—Seven Observatories, Temperature (1871–82)   | 50 & 55 |
| IVD.— „ „ Barometric Pressure (1871–82)   | 84 & 88 |
| MEAN YEARLY VALUES OF THE AMPLITUDE P AND OF THE FIRST MAXIMUM $\mu$ FOR EACH YEAR:   |         |
| TABLE VA.—Greenwich Temperature (1849–68)   | 8       |
| VB.— „ Barometric Pressure (1854–73)  | 20      |
| VC.—Seven Observatories, Temperature (1871–82)  | 52 & 56 |
| VD.— „ „ Barometric Pressure (1871–82)  | 85 & 89 |
| MEAN MONTHLY VALUES OF THE AMPLITUDE P AND OF THE FIRST MAXIMUM $\mu$ FOR THE WHOLE PERIOD:                                 |         |
| TABLE VIA.—Greenwich Temperature (1849–68)  | 8       |
| VIB.— „ Barometric Pressure (1854–73)   | 20      |
| VIC.—Seven Observatories, Temperature (1871–82)   | 53 & 57 |
| VID.— „ „ Barometric Pressure (1871–82)   | 86 & 90 |
| MEAN MONTHLY VALUES OF THE AMPLITUDE P AND OF THE FIRST MAXIMUM $\mu$ , RECKONED IN APPARENT TIME, FOR FIVE-YEARLY PERIODS: |         |
| TABLE VIIA.—Greenwich Temperature (1849–68)   | 9       |
| VII B.— „ Barometric Pressure (1854–73)   | 21      |



X

MEAN MONTHLY VALUES OF THE AMPLITUDE P AND OF THE FIRST MAXIMUM  $\mu$ , DERIVED FROM TABLES IVA. AND IVB.:

|  |    |
|--|----|
| TABLE VIIIA.—Greenwich Temperature (1849-68) - - - - - | 10 |
| „ VIIIB.— „ Barometric Pressure (1854-73) - - - - -    | 22 |

MEAN HOURLY VALUES FOR EACH MONTH OF THE YEAR, CORRECTED FOR NON-PERIODICAL CHANGE:

|  |    |
|--|----|
| TABLE IXA.—Greenwich Temperature (1849-68) - - - - - | 10 |
| „ IXB.— „ Barometric Pressure (1854-73) - - - - -    | 22 |

CORRECTIONS WHICH SHOULD BE APPLIED IN EACH MONTH OF EACH YEAR TO THE INITIAL MIDNIGHT VALUE, IN ORDER TO OBTAIN THE VALUE FOR THE MIDNIGHT FOLLOWING:

|   |    |
|---|----|
| TABLE XA.—Greenwich Temperature (1849-68) - - - - - | 11 |
| „ XB.— „ Barometric Pressure (1854-73) - - - - -    | 23 |

YEARLY MEANS OF HOURLY VALUES, CORRECTED FOR THE VARIATION BETWEEN THE INITIAL AND TERMINAL MIDNIGHT VALUES:

|  |    |
|--|----|
| TABLE XIA.—Greenwich Temperature (1849-68) - - - - - | 12 |
| „ XIB.— „ Barometric Pressure (1854-73) - - - - -    | 24 |

COMPARISON BETWEEN THE MONTHLY AND YEARLY MEANS FOR THE SEVEN OBSERVATORIES OF THE METEOROLOGICAL OFFICE, OBTAINED BY THE HARMONIC ANALYSER AND BY CALCULATION FROM HOURLY MEASUREMENTS:

|  |    |
|--|----|
| TABLE XIIc.—Seven Observatories, Temperature (1871-82) - - - - - | 58 |
| „ XIIId.— „ „ Barometric Pressure (1871-82) - - - - -            | 91 |

MEAN MONTHLY VALUES OF THE EQUATION OF TIME, THE SUN'S DECLINATION AND RIGHT ASCENSION, AND OF THE APPARENT TIME OF SUNRISE AND SUN'S MERIDIONAL ALTITUDE AT GREENWICH AND THE SEVEN OBSERVATORIES:

|                       |    |
|-----------------------|----|
| TABLE XIII. - - - - - | 92 |
|-----------------------|----|

TABLE IA.—MONTHLY VALUES of the  $p$ ,  $q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each MONTH of the YEAR, and for each YEAR, from 1849 to 1868; calculated from Mean Hourly Temperatures of the several Months.

| YEARS.        | JANUARY. |       |       |       |       |       |       |       | FEBRUARY. |       |       |       |       |       |       |       |
|---------------|----------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$     | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1849          | -1'13    | -1'32 | +0'08 | +0'03 | -0'13 | -0'17 | -0'01 | +0'09 | -2'55     | -2'55 | +0'94 | +1'11 | -0'13 | -0'21 | -0'02 | -0'12 |
| 1850          | -1'20    | -1'18 | +0'50 | +0'57 | -0'09 | -0'30 | +0'04 | +0'06 | -2'46     | -1'08 | +0'50 | +0'70 | -0'23 | -0'13 | -0'07 | -0'09 |
| 1851          | -1'48    | -1'69 | +0'76 | +0'84 | -0'35 | -0'33 | +0'00 | +0'01 | -2'75     | -2'79 | +0'92 | +1'17 | -0'24 | -0'23 | -0'01 | -0'19 |
| 1852          | -1'28    | -1'21 | +0'90 | +0'91 | -0'44 | -0'44 | +0'09 | +0'02 | -2'37     | -1'90 | +0'91 | +0'83 | -0'15 | -0'01 | -0'15 | -0'10 |
| 1853          | -1'65    | -1'26 | +0'37 | +0'66 | -0'34 | -0'30 | +0'13 | +0'09 | -2'01     | -1'48 | +0'70 | +0'66 | -0'26 | -0'12 | -0'08 | -0'00 |
| Mean          | -1'35    | -1'33 | +0'64 | +0'72 | -0'24 | -0'31 | +0'05 | +0'05 | -2'43     | -2'14 | +0'79 | +0'89 | -0'22 | -0'17 | -0'04 | -0'10 |
| 1854          | -1'22    | -1'26 | +0'54 | +0'74 | -0'25 | -0'25 | +0'04 | +0'02 | -2'67     | -2'36 | +0'92 | +1'09 | -0'23 | -0'13 | -0'00 | -0'05 |
| 1855          | -1'36    | -0'94 | +0'58 | +0'62 | -0'22 | -0'21 | +0'05 | +0'07 | -2'53     | -1'88 | +1'04 | +0'60 | -0'35 | -0'14 | +0'15 | -0'09 |
| 1856          | -1'73    | -1'17 | +0'83 | +0'57 | -0'26 | -0'27 | +0'04 | +0'08 | -1'99     | -1'51 | +0'71 | +0'84 | -0'07 | -0'29 | -0'02 | -0'00 |
| 1857          | -1'43    | -1'08 | +0'66 | +0'50 | -0'12 | -0'17 | +0'08 | +0'07 | -3'83     | -3'57 | +1'33 | +1'07 | -0'18 | -0'11 | -0'02 | -0'19 |
| 1858          | -2'08    | -1'74 | +0'98 | +0'99 | -0'26 | -0'37 | +0'09 | +0'00 | -2'37     | -1'90 | +1'01 | +0'69 | -0'33 | -0'24 | -0'12 | -0'00 |
| Mean          | -1'56    | -1'24 | +0'72 | +0'68 | -0'22 | -0'25 | +0'01 | +0'05 | -2'68     | -2'24 | +1'00 | +0'86 | -0'23 | -0'18 | -0'00 | -0'07 |
| 1859          | -1'56    | -1'15 | +0'68 | +0'69 | -0'19 | -0'28 | -0'03 | +0'06 | -2'05     | -2'18 | +1'04 | +1'02 | -0'17 | -0'17 | +0'04 | -0'12 |
| 1860          | -1'38    | -1'40 | +0'68 | +0'71 | -0'30 | -0'21 | +0'01 | +0'07 | -2'43     | -2'06 | +1'05 | +0'81 | -0'21 | -0'04 | -0'02 | -0'11 |
| 1861          | -2'02    | -1'76 | +0'75 | +1'11 | -0'29 | -0'25 | +0'09 | +0'14 | -2'18     | -1'71 | +0'91 | +0'73 | -0'20 | -0'25 | +0'04 | -0'02 |
| 1862          | -1'39    | -0'90 | +0'52 | +0'67 | -0'18 | -0'22 | +0'08 | -0'11 | -1'75     | -1'53 | +0'74 | +0'93 | -0'24 | -0'13 | -0'01 | -0'01 |
| 1863          | -1'57    | -0'69 | +0'49 | +0'72 | -0'19 | -0'27 | +0'08 | +0'07 | -2'90     | -2'62 | +0'90 | +1'16 | -0'19 | -0'30 | -0'01 | -0'09 |
| Mean          | -1'58    | -1'18 | +0'62 | +0'78 | -0'23 | -0'25 | +0'05 | +0'05 | -2'44     | -2'02 | +0'93 | +0'93 | -0'20 | -0'18 | +0'01 | -0'07 |
| 1864          | -1'39    | -1'08 | +0'54 | +0'66 | -0'21 | -0'33 | -0'02 | +0'04 | -2'19     | -1'73 | +0'81 | +0'78 | -0'17 | -0'18 | -0'04 | -0'01 |
| 1865          | -0'99    | -1'07 | +0'68 | +0'68 | -0'28 | -0'32 | +0'08 | -0'04 | -1'13     | -1'53 | +0'82 | +0'62 | -0'28 | -0'09 | +0'08 | -0'04 |
| 1866          | -1'64    | -0'89 | +0'51 | +0'66 | -0'35 | -0'21 | +0'09 | +0'04 | -2'49     | -2'31 | +0'76 | +0'99 | -0'35 | -0'09 | -0'09 | -0'14 |
| 1867          | -1'76    | -1'11 | +0'62 | +0'63 | -0'15 | -0'22 | +0'09 | +0'11 | -1'61     | -1'61 | +0'70 | +0'80 | -0'31 | -0'29 | +0'13 | +0'01 |
| 1868          | -0'87    | -1'04 | +0'43 | +0'21 | -0'24 | -0'07 | +0'04 | -0'01 | -2'53     | -1'95 | +0'87 | +1'15 | -0'24 | -0'12 | +0'06 | -0'11 |
| Mean          | -1'33    | -1'04 | +0'56 | +0'57 | -0'25 | -0'23 | +0'06 | +0'03 | -1'99     | -1'83 | +0'79 | +0'87 | -0'27 | -0'15 | +0'03 | -0'06 |
| Mean 20 years | -1'45    | -1'20 | +0'64 | +0'69 | -0'24 | -0'26 | +0'04 | +0'04 | -2'30     | -2'06 | +0'88 | +0'89 | -0'23 | -0'17 | -0'00 | -0'07 |

| YEARS.        | MARCH. |       |       |       |       |       |       |       | APRIL. |       |       |       |       |       |       |       |
|---------------|--------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$  | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$  | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1849          | -3'23  | -2'10 | +0'76 | +0'87 | +0'08 | +0'00 | -0'04 | -0'13 | -4'30  | -2'32 | +1'09 | +0'42 | +0'26 | +0'47 | -0'13 | +0'01 |
| 1850          | -4'01  | -3'72 | +1'03 | +1'13 | -0'12 | +0'07 | -0'12 | -0'29 | -4'25  | -2'52 | +0'57 | +0'72 | +0'28 | +0'35 | -0'08 | -0'10 |
| 1851          | -2'91  | -2'23 | +0'72 | +0'53 | -0'12 | +0'19 | -0'11 | -0'19 | -4'83  | -2'93 | +1'00 | +0'54 | +0'21 | +0'21 | -0'13 | +0'09 |
| 1852          | -5'70  | -3'60 | +1'74 | +1'31 | +0'01 | +0'27 | -0'26 | -0'35 | -7'93  | -4'67 | +1'34 | +0'59 | +0'35 | +0'36 | -0'17 | -0'12 |
| 1853          | -3'98  | -2'84 | +1'09 | +0'65 | -0'08 | +0'01 | -0'18 | -0'19 | -3'56  | -2'65 | +0'49 | -0'15 | +0'64 | +0'10 | -0'27 | +0'01 |
| Mean          | -3'97  | -2'90 | +1'07 | +0'90 | -0'05 | +0'11 | -0'14 | -0'23 | -4'97  | -3'02 | +0'90 | +0'42 | +0'35 | +0'30 | -0'16 | -0'02 |
| 1854          | -5'02  | -4'55 | +1'07 | +1'43 | +0'15 | +0'11 | -0'19 | -0'25 | -7'68  | -4'79 | +1'70 | +0'66 | +0'09 | +0'59 | -0'22 | -0'30 |
| 1855          | -4'04  | -2'61 | +0'90 | +0'98 | -0'10 | +0'15 | -0'15 | -0'27 | -6'20  | -4'52 | +1'27 | +1'10 | +0'24 | +0'24 | -0'04 | -0'05 |
| 1856          | -3'15  | -2'62 | +1'05 | +0'56 | +0'01 | +0'19 | -0'11 | -0'17 | -6'11  | -3'18 | +1'19 | +0'61 | +0'34 | +0'43 | -0'15 | -0'19 |
| 1857          | -3'34  | -2'65 | +1'21 | +0'70 | -0'18 | +0'20 | -0'14 | -0'20 | -4'59  | -3'15 | +1'01 | +0'35 | +0'35 | +0'37 | -0'31 | +0'05 |
| 1858          | -3'93  | -3'49 | +1'26 | +0'68 | -0'04 | +0'29 | -0'16 | -0'23 | -5'76  | -3'58 | +1'15 | +0'66 | +0'18 | +0'40 | -0'13 | -0'16 |
| Mean          | -3'91  | -3'18 | +1'10 | +0'87 | -0'03 | +0'19 | -0'15 | -0'22 | -6'07  | -3'84 | +1'26 | +0'68 | +0'24 | +0'41 | -0'17 | -0'13 |
| 1859          | -3'50  | -2'11 | +0'91 | +1'07 | -0'03 | +0'11 | -0'05 | -0'16 | -4'71  | -2'84 | +1'11 | +0'36 | +0'37 | +0'44 | -0'20 | -0'04 |
| 1860          | -3'33  | -2'41 | +0'94 | +0'89 | -0'03 | +0'08 | -0'03 | -0'12 | -5'27  | -3'50 | +0'97 | +0'66 | +0'34 | +0'26 | -0'18 | -0'01 |
| 1861          | -3'79  | -2'65 | +0'72 | +0'94 | -0'10 | +0'03 | -0'09 | -0'14 | -5'59  | -3'67 | +1'16 | +0'38 | +0'21 | +0'43 | -0'23 | -0'12 |
| 1862          | -2'71  | -2'07 | +0'39 | +0'78 | -0'09 | +0'15 | -0'11 | -0'03 | -3'94  | -2'89 | +0'63 | +0'26 | +0'37 | +0'27 | -0'09 | -0'02 |
| 1863          | -4'44  | -3'85 | +1'27 | +0'87 | -0'17 | +0'17 | -0'29 | -0'15 | -5'68  | -3'81 | +1'00 | +0'46 | +0'34 | +0'22 | -0'23 | -0'00 |
| Mean          | -3'55  | -2'62 | +0'85 | +0'91 | -0'08 | +0'11 | -0'11 | -0'12 | -5'04  | -3'34 | +0'97 | +0'42 | +0'33 | +0'32 | -0'19 | -0'04 |
| 1864          | -3'92  | -2'93 | +1'20 | +0'99 | +0'01 | -0'11 | -0'08 | -0'25 | -6'00  | -3'76 | +0'89 | +0'63 | +0'24 | +0'55 | -0'08 | -0'17 |
| 1865          | -2'99  | -2'33 | +1'15 | +0'48 | -0'27 | +0'11 | +0'02 | -0'11 | -8'13  | -6'05 | +1'43 | +1'47 | +0'22 | +0'46 | +0'03 | -0'21 |
| 1866          | -3'54  | -2'73 | +0'86 | +1'01 | -0'09 | +0'22 | -0'03 | -0'16 | -5'28  | -3'03 | +1'09 | +0'40 | +0'05 | +0'44 | +0'03 | -0'11 |
| 1867          | -2'97  | -1'74 | +0'84 | +0'65 | -0'04 | +0'08 | -0'08 | -0'12 | -4'05  | -3'19 | +0'59 | +0'58 | +0'33 | +0'31 | -0'19 | -0'15 |
| 1868          | -3'59  | -3'09 | +1'19 | +0'79 | -0'07 | +0'22 | -0'16 | -0'20 | -5'37  | -3'19 | +1'07 | +0'57 | +0'06 | +0'24 | -0'18 | -0'07 |
| Mean          | -3'40  | -2'56 | +1'05 | +0'78 | -0'09 | +0'10 | -0'07 | -0'17 | -5'77  | -3'84 | +1'01 | +0'73 | +0'18 | +0'40 | -0'08 | -0'14 |
| Mean 20 years | -3'71  | -2'82 | +1'02 | +0'87 | -0'06 | +0'13 | -0'12 | -0'19 | -5'46  | -3'51 | +1'04 | +0'56 | +0'27 | +0'36 | -0'15 | -0'08 |



TABLE IA.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS, &c.—continued.

| YEARS.        | MAY.  |       |       |       |       |       |       |       | JUNE. |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1849          | -5°75 | -3°50 | +°44  | +°55  | +°50  | +°16  | +°03  | +°02  | -7°55 | -4°22 | +°72  | -°42  | +°45  | +°04  | +°07  | +°16  |
| 1850          | -5°65 | -3°00 | +°49  | +°17  | +°46  | +°33  | -°05  | +°07  | -8°81 | -4°63 | +°64  | -°30  | +°90  | +°62  | +°03  | +°13  |
| 1851          | -6°39 | -3°83 | +°07  | -°07  | +°59  | +°60  | -°01  | +°12  | -7°23 | -3°74 | +°60  | -°41  | +°50  | +°51  | +°08  | +°10  |
| 1852          | -5°56 | -3°70 | +°65  | +°26  | +°39  | +°42  | +°03  | +°04  | -4°88 | -2°70 | +°49  | +°12  | +°16  | +°28  | +°07  | +°14  |
| 1853          | -6°80 | -3°39 | +°70  | -°04  | +°53  | +°55  | -°10  | +°03  | -5°79 | -2°89 | +°45  | -°05  | +°46  | +°56  | +°09  | +°16  |
| Mean          | -6°03 | -3°48 | +°59  | +°17  | +°49  | +°41  | -°02  | +°06  | -6°85 | -3°64 | +°58  | -°21  | +°49  | +°52  | +°07  | +°14  |
| 1854          | -6°58 | -3°57 | +°64  | +°37  | +°46  | +°39  | +°03  | +°08  | -5°60 | -3°20 | +°47  | +°44  | +°30  | +°17  | +°13  | +°24  |
| 1855          | -5°99 | -3°44 | +°74  | -°13  | +°36  | +°61  | -°10  | +°02  | -6°63 | -4°07 | +°27  | -°07  | +°64  | +°53  | +°03  | +°21  |
| 1856          | -5°11 | -2°79 | +°78  | +°26  | +°50  | +°32  | +°04  | +°09  | -5°97 | -3°94 | +°79  | °00   | +°33  | +°43  | +°01  | +°19  |
| 1857          | -7°66 | -4°17 | +°82  | +°13  | +°60  | +°58  | -°04  | +°18  | -8°38 | -4°72 | +°94  | +°16  | +°37  | +°23  | +°01  | +°27  |
| 1858          | -6°36 | -3°61 | +°62  | +°03  | +°40  | +°10  | -°04  | +°12  | -8°26 | -5°03 | +°44  | +°20  | +°63  | +°43  | +°03  | +°26  |
| Mean          | -6°34 | -3°52 | +°72  | +°13  | +°46  | +°40  | -°04  | +°10  | -6°97 | -4°19 | +°58  | +°15  | +°45  | +°36  | +°04  | +°23  |
| 1859          | -6°71 | -3°62 | +°84  | +°85  | +°35  | +°33  | +°02  | +°09  | -6°48 | -4°27 | +°63  | +°60  | +°24  | +°28  | +°16  | +°09  |
| 1860          | -7°01 | -4°29 | +°57  | +°56  | +°63  | +°33  | °00   | +°15  | -4°59 | -2°09 | +°29  | +°16  | +°27  | +°21  | +°01  | +°14  |
| 1861          | -5°88 | -3°92 | +°43  | +°20  | +°50  | +°21  | +°09  | +°10  | -5°94 | -3°48 | +°29  | -°05  | +°37  | +°33  | +°08  | +°13  |
| 1862          | -5°12 | -3°03 | +°68  | +°44  | +°15  | +°19  | +°10  | +°05  | -5°53 | -2°87 | +°34  | +°01  | +°27  | +°37  | °00   | +°12  |
| 1863          | -6°32 | -3°70 | +°78  | +°09  | +°35  | +°21  | +°04  | +°14  | -6°05 | -3°20 | +°59  | +°08  | +°46  | +°13  | +°06  | +°23  |
| Mean          | -6°21 | -3°71 | +°66  | +°45  | +°40  | +°25  | +°05  | +°11  | -5°72 | -3°18 | +°43  | +°16  | +°32  | +°26  | +°06  | +°14  |
| 1864          | -6°23 | -3°67 | +°46  | -°01  | +°43  | +°46  | +°12  | -°03  | -6°21 | -3°78 | +°55  | +°44  | +°48  | +°29  | +°44  | +°09  |
| 1865          | -6°86 | -4°17 | +°52  | +°11  | +°60  | +°46  | -°06  | +°10  | -7°87 | -4°03 | +°36  | +°23  | +°59  | +°52  | +°04  | +°25  |
| 1866          | -6°88 | -3°74 | +°62  | -°23  | +°90  | +°48  | -°12  | +°25  | -6°88 | -3°88 | +°48  | -°01  | +°44  | +°38  | +°25  | +°22  |
| 1867          | -5°47 | -2°74 | +°65  | -°15  | +°52  | +°27  | -°08  | +°07  | -6°74 | -3°81 | +°15  | -°11  | +°46  | +°29  | +°10  | +°10  |
| 1868          | -8°47 | -4°25 | +°61  | -°07  | +°79  | +°60  | -°01  | +°05  | -8°36 | -5°10 | +°45  | -°33  | +°83  | +°53  | +°27  | +°27  |
| Mean          | -6°78 | -3°71 | +°57  | -°07  | +°65  | +°45  | -°03  | +°09  | -7°21 | -4°30 | +°40  | +°04  | +°56  | +°40  | +°22  | +°19  |
| Mean 20 years | -6°34 | -3°61 | +°63  | +°17  | +°50  | +°38  | -°01  | +°09  | -6°69 | -3°83 | +°50  | +°04  | +°46  | +°39  | +°10  | +°17  |

| YEARS.        | JULY. |       |       |       |       |       |       |       | AUGUST. |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$   | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1849          | -7°18 | -3°56 | +°34  | -°41  | +°77  | +°71  | -°35  | +°14  | -5°66   | -3°68 | +°83  | +°50  | +°43  | +°41  | -°23  | -°03  |
| 1850          | -6°03 | -3°52 | +°70  | +°16  | +°24  | +°37  | °00   | +°12  | -5°64   | -3°58 | +°110 | +°44  | +°35  | +°47  | -°16  | +°03  |
| 1851          | -6°10 | -3°68 | +°82  | +°16  | +°36  | +°21  | -°04  | +°17  | -6°30   | -3°85 | +°93  | +°35  | +°33  | +°42  | -°18  | -°02  |
| 1852          | -7°91 | -4°52 | +°87  | +°52  | +°60  | +°47  | +°04  | +°07  | -5°64   | -3°50 | +°65  | +°69  | +°41  | +°26  | -°21  | +°01  |
| 1853          | -5°04 | -2°68 | +°43  | +°23  | +°45  | +°32  | +°04  | +°11  | -5°76   | -3°65 | +°97  | +°66  | +°47  | +°39  | -°21  | -°04  |
| Mean          | -6°45 | -3°59 | +°63  | +°13  | +°48  | +°42  | -°06  | +°12  | -5°80   | -3°65 | +°90  | +°53  | +°40  | +°39  | -°20  | -°01  |
| 1854          | -6°48 | -3°99 | +°58  | +°03  | +°61  | +°42  | -°04  | +°10  | -6°09   | -3°97 | +°124 | +°39  | +°32  | +°48  | -°16  | -°06  |
| 1855          | -5°21 | -3°37 | +°59  | +°52  | +°39  | +°32  | -°09  | +°05  | -6°40   | -3°79 | +°89  | +°52  | +°51  | +°47  | -°14  | +°01  |
| 1856          | -6°05 | -4°31 | +°46  | +°23  | +°52  | +°24  | -°09  | +°12  | -6°31   | -4°21 | +°112 | +°54  | +°34  | +°35  | -°16  | °00   |
| 1857          | -7°29 | -4°10 | +°63  | +°02  | +°38  | +°61  | -°16  | +°14  | -6°64   | -4°19 | +°127 | +°93  | +°19  | +°28  | -°16  | -°07  |
| 1858          | -6°29 | -4°19 | +°61  | +°18  | +°46  | +°35  | -°03  | +°17  | -7°33   | -4°62 | +°126 | +°70  | +°20  | +°44  | -°09  | +°01  |
| Mean          | -6°26 | -3°99 | +°57  | +°20  | +°47  | +°39  | -°08  | +°12  | -6°55   | -4°16 | +°116 | +°62  | +°31  | +°40  | -°14  | -°02  |
| 1859          | -8°02 | -5°17 | +°23  | +°42  | +°57  | +°37  | +°02  | +°19  | -6°68   | -4°19 | +°107 | +°52  | +°43  | +°48  | -°13  | +°07  |
| 1860          | -5°12 | -3°75 | +°45  | +°56  | +°46  | +°04  | -°01  | +°22  | -4°08   | -2°09 | +°58  | +°29  | +°12  | +°08  | -°03  | +°02  |
| 1861          | -5°37 | -2°69 | +°25  | +°06  | +°39  | +°10  | -°07  | +°20  | -6°20   | -4°01 | +°53  | +°78  | +°51  | +°29  | -°31  | +°04  |
| 1862          | -5°85 | -3°78 | +°39  | +°15  | +°44  | +°35  | -°02  | +°09  | -5°95   | -3°86 | +°91  | +°30  | +°39  | +°40  | -°11  | +°04  |
| 1863          | -7°78 | -5°01 | +°86  | -°04  | +°59  | +°53  | -°08  | +°22  | -5°75   | -3°65 | +°96  | +°68  | +°31  | +°14  | -°07  | +°12  |
| Mean          | -6°43 | -4°08 | +°44  | +°23  | +°49  | +°28  | -°03  | +°18  | -5°73   | -3°56 | +°81  | +°51  | +°35  | +°28  | -°13  | +°06  |
| 1864          | -7°21 | -5°23 | +°102 | +°84  | +°33  | +°13  | -°03  | +°07  | -7°18   | -5°29 | +°121 | +°34  | +°55  | +°34  | -°23  | +°13  |
| 1865          | -7°26 | -4°14 | +°56  | +°26  | +°47  | +°60  | +°19  | +°07  | -5°80   | -3°88 | +°99  | +°49  | +°32  | +°46  | -°16  | -°01  |
| 1866          | -6°25 | -4°18 | +°41  | +°19  | +°69  | +°37  | +°16  | +°10  | -5°17   | -3°38 | +°72  | +°52  | +°38  | +°59  | -°11  | -°16  |
| 1867          | -6°50 | -3°96 | +°34  | +°19  | +°62  | +°46  | +°16  | +°09  | -6°20   | -3°54 | +°84  | +°42  | +°54  | +°65  | -°16  | -°02  |
| 1868          | -8°62 | -5°87 | +°79  | +°32  | +°69  | +°64  | +°16  | -°08  | -6°35   | -3°56 | +°101 | +°60  | +°49  | +°31  | -°15  | +°09  |
| Mean          | -7°17 | -4°68 | +°62  | +°36  | +°56  | +°44  | +°13  | +°05  | -6°14   | -3°93 | +°95  | +°47  | +°46  | +°47  | -°16  | +°01  |
| Mean 20 years | -6°58 | -4°08 | +°57  | +°23  | +°50  | +°38  | -°01  | +°12  | -6°06   | -3°83 | +°95  | +°53  | +°38  | +°39  | -°16  | +°01  |

TABLE IA.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS, &c.—continued.

| YEARS.         | SEPTEMBER. |         |         |         |         |         |         |         | OCTOBER. |         |         |         |         |         |         |         |
|----------------|------------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|
|                | $p_1$ .    | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . | $p_1$ .  | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . |
| 1849           | -5°31      | -2°24   | +1°27   | +°73    | +°01    | +°26    | -°21    | -°25    | -3°60    | -1°59   | +1°37   | +1°02   | -°19    | -°12    | +°01    | -°05    |
| 1850           | -5°40      | -3°18   | +1°37   | +°84    | +°26    | +°36    | -°34    | -°26    | -3°66    | -2°41   | +1°31   | +°73    | -°24    | +°07    | -°06    | -°11    |
| 1851           | -6°63      | -3°95   | +1°05   | +°99    | +°23    | +°14    | -°33    | -°20    | -3°38    | -1°45   | +1°39   | +°61    | -°17    | +°06    | -°08    | -°14    |
| 1852           | -5°19      | -3°23   | +°97    | +1°05   | +°07    | +°05    | -°21    | -°23    | -3°48    | -1°69   | +1°14   | +°84    | -°30    | °00     | -°16    | -°12    |
| 1853           | -4°54      | -2°73   | +1°19   | +°76    | +°05    | +°29    | -°20    | -°15    | -3°34    | -1°85   | +1°17   | +°68    | -°17    | -°13    | -°14    | -°02    |
| Mean           | -5°41      | -3°07   | +1°29   | +°87    | +°12    | +°22    | -°26    | -°22    | -3°49    | -1°80   | +1°28   | +°78    | -°21    | -°02    | -°09    | -°09    |
| 1854           | -7°62      | -4°93   | +2°34   | +1°01   | +°06    | +°53    | -°43    | -°36    | -4°04    | -2°56   | +1°68   | +°90    | -°28    | -°17    | -°10    | -°16    |
| 1855           | -6°28      | -4°07   | +1°84   | +1°22   | -°18    | +°45    | -°13    | -°32    | -3°34    | -1°77   | +1°43   | +°64    | -°39    | -°01    | -°06    | -°11    |
| 1856           | -5°47      | -2°85   | +1°87   | +°62    | +°01    | +°42    | -°23    | -°32    | -3°32    | -1°87   | +1°17   | +°70    | -°25    | -°21    | -°13    | -°03    |
| 1857           | -5°28      | -3°01   | +1°27   | +°99    | +°12    | +°25    | -°18    | -°27    | -3°71    | -1°84   | +1°23   | +°74    | -°28    | -°01    | -°04    | -°20    |
| 1858           | -5°30      | -3°04   | +1°59   | +°77    | -°14    | +°02    | -°11    | -°17    | -4°29    | -2°34   | +1°46   | +°78    | -°43    | +°10    | -°01    | -°09    |
| Mean           | -5°99      | -3°58   | +1°78   | +°92    | -°03    | +°33    | -°22    | -°29    | -3°74    | -2°08   | +1°39   | +°75    | -°33    | -°06    | -°07    | -°12    |
| 1859           | -5°18      | -2°58   | +1°19   | +°57    | +°08    | +°36    | -°21    | -°34    | -2°74    | -2°06   | +1°16   | +°65    | -°20    | -°21    | -°09    | +°01    |
| 1860           | -4°83      | -2°47   | +1°36   | +°46    | +°03    | +°31    | -°14    | -°24    | -3°48    | -1°78   | +1°09   | +°59    | -°10    | +°12    | -°03    | -°12    |
| 1861           | -5°41      | -3°43   | +1°40   | +°70    | +°13    | +°33    | -°21    | -°26    | -4°35    | -2°73   | +1°46   | +°97    | -°25    | -°29    | -°08    | +°04    |
| 1862           | -          | -       | -       | -       | -       | -       | -       | -       | -3°25    | -1°50   | +1°10   | +°62    | -°09    | +°02    | -°16    | -°09    |
| 1863           | -5°02      | -2°60   | +1°12   | +°43    | +°15    | +°10    | -°29    | +°04    | -3°23    | -1°55   | +1°31   | +°72    | -°21    | -°14    | -°21    | -°12    |
| Mean           | -5°11      | -2°77   | +1°27   | +°54    | +°10    | +°28    | -°21    | -°20    | -3°41    | -1°92   | +1°24   | +°71    | -°17    | -°10    | -°11    | -°06    |
| 1864           | -5°06      | -3°37   | +1°40   | +°72    | +°06    | +°19    | -°31    | -°12    | -3°32    | -2°07   | +1°63   | +°48    | -°36    | +°22    | -°15    | -°17    |
| 1865           | -7°75      | -4°79   | +2°14   | +1°47   | -°10    | +°20    | -°26    | -°31    | -4°32    | -2°61   | +1°51   | +°92    | -°31    | -°13    | -°13    | -°21    |
| 1866           | -4°03      | -1°84   | +1°33   | +°76    | °00     | +°15    | -°14    | -°19    | -3°15    | -2°09   | +1°23   | +°75    | -°21    | +°01    | -°14    | -°21    |
| 1867           | -5°29      | -2°88   | +1°21   | +°93    | +°22    | +°04    | -°26    | -°14    | -3°67    | -2°15   | +1°61   | +°66    | -°35    | +°04    | -°13    | -°02    |
| 1868           | -6°88      | -3°90   | +1°82   | +°67    | +°08    | +°37    | -°26    | -°32    | -4°48    | -2°98   | +1°43   | +°78    | -°14    | °00     | -°09    | -°12    |
| Mean           | -5°80      | -3°36   | +1°58   | +°91    | +°05    | +°19    | -°25    | -°22    | -3°79    | -2°38   | +1°48   | +°72    | -°27    | +°03    | -°13    | -°15    |
| Mean 20 years* | -5°60      | -3°21   | +1°49   | +°83    | +°06    | +°25    | -°23    | -°23    | -3°61    | -2°04   | +1°35   | +°74    | -°25    | -°04    | -°10    | -°10    |



## HARMONIC ANALYSIS OF HOURLY OBSERVATIONS.

TABLE IIA.—MONTHLY VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each MONTH of the YEAR and for each YEAR, from 1849 to 1868; calculated from the Mean Hourly Temperatures of the several Months.

| YEARS.          | JANUARY. For Apparent Time subtract 2° 25'. |                |                |                |         |         |         |         | FEBRUARY. For Apparent Time subtract 3° 31'. |                |                |                |         |         |         |         |
|-----------------|---|----------------|----------------|----------------|---------|---------|---------|---------|--|----------------|----------------|----------------|---------|---------|---------|---------|
|                 | P <sub>1</sub>                              | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub>                               | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
|                 |   |                |                |                |         |         |         |         |  |                |                |                |         |         |         |         |
| 1849 -          | 1'74  | '93            | '22            | '10            | 229     | 26      | 21      | 24      | 77   | 32             | 24             | 28             | 3'61    | 1'46    | '25     | '13     |
| 1850 -          | 1'68  | '76            | '31            | '08            | 224     | 31      | 24      | 22      | 84   | 26             | 13             | 58             | 3'16    | '86     | '26     | '11     |
| 1851 -          | 2'25  | 1'13           | '48            | '01            | 228     | 47      | 23      | 56      | 74   | 26             | 22             | 30             | 3'92    | 1'49    | '33     | '19     |
| 1852 -          | 1'76  | 1'28           | '54            | '10            | 223     | 23      | 22      | 39      | 78   | 17             | 2              | 18             | 3'04    | 1'23    | '28     | '10     |
| 1853 -          | 2'08  | '76            | '46            | '16            | 217     | 22      | 30      | 21      | 73   | 48             | 8              | 47             | 2'50    | '96     | '29     | '08     |
| Mean -          | 1'90  | '97            | '40            | '09            | 224     | 42      | 24      | 32      | 77   | 42             | 14             | 24             | 3'25    | 1'20    | '28     | '12     |
| 1854 -          | 1'75  | '92            | '35            | '05            | 225     | 55      | 26      | 56      | 75   | 0              | 6              | 8              | 3'56    | 1'43    | '26     | '05     |
| 1855 -          | 1'65  | '85            | '30            | '08            | 214     | 39      | 23      | 27      | 74   | 33             | 12             | 36             | 3'15    | 1'20    | '38     | '17     |
| 1856 -          | 2'09  | 1'01           | '37            | '09            | 214     | 4       | 17      | 14      | 75   | 22             | 29             | 47             | 2'50    | 1'10    | '30     | '02     |
| 1857 -          | 1'79  | '83            | '21            | '10            | 217     | 4       | 18      | 34      | 78   | 16             | 34             | 46             | 5'24    | 1'71    | '21     | '19     |
| 1858 -          | 2'71  | 1'39           | '45            | '09            | 219     | 55      | 22      | 43      | 78   | 18             | 0              | 0              | 3'04    | 1'22    | '41     | '12     |
| Mean -          | 2'00  | 1'00           | '34            | '08            | 218     | 19      | 21      | 47      | 76   | 18             | 16             | 39             | 3'50    | 1'33    | '31     | '11     |
| 1859 -          | 1'94  | '97            | '34            | '07            | 216     | 24      | 22      | 42      | 78   | 37             | 29             | 32             | 3'67    | 1'46    | '24     | '13     |
| 1860 -          | 1'97  | '98            | '37            | '07            | 225     | 25      | 22      | 55      | 71   | 40             | 20             | 43             | 3'19    | 1'33    | '21     | '11     |
| 1861 -          | 2'68  | 1'34           | '38            | '17            | 221     | 4       | 27      | 58      | 73   | 35             | 13             | 43             | 2'77    | 1'17    | '32     | '04     |
| 1862 -          | 1'66  | '85            | '28            | '14            | 212     | 52      | 26      | 5       | 76   | 54             | -13            | 17             | 2'32    | 1'19    | '27     | '01     |
| 1863 -          | 1'72  | '87            | '33            | '10            | 203     | 43      | 27      | 53      | 78   | 17             | 9              | 46             | 3'91    | 1'47    | '36     | '09     |
| Mean -          | 1'90  | 1'00           | '34            | '11            | 215     | 54      | 25      | 31      | 75   | 49             | 12             | 5              | 3'17    | 1'32    | '28     | '08     |
| 1864 -          | 1'76  | '85            | '39            | '05            | 217     | 51      | 25      | 1       | 79   | 11             | 28             | 13             | 2'79    | 1'12    | '25     | '04     |
| 1865 -          | 1'46  | '96            | '43            | '09            | 227     | 13      | 22      | 55      | 76   | 16             | -5             | 16             | 1'90    | 1'03    | '29     | '09     |
| 1866 -          | 1'87  | '83            | '41            | '10            | 208     | 30      | 26      | 9       | 70   | 39             | 5              | 39             | 3'40    | 1'25    | '36     | '17     |
| 1867 -          | 2'08  | '88            | '27            | '14            | 212     | 14      | 22      | 43      | 78   | 31             | 11             | 47             | 2'28    | 1'06    | '42     | '13     |
| 1868 -          | 1'36  | '48            | '25            | '05            | 230     | 5       | 13      | 1       | 65   | 25             | -4             | 25             | 3'19    | 1'44    | '27     | '13     |
| Mean -          | 1'71  | '80            | '35            | '09            | 219     | 11      | 21      | 58      | 74   | 0              | 7              | 12             | 2'71    | 1'18    | '32     | '11     |
| Mean 20 years - | 1'90  | '94            | '36            | '09            | 219     | 31      | 23      | 27      | 75   | 57             | 12             | 35             | 3'16    | 1'26    | '30     | '11     |

| YEARS.          | MARCH. For Apparent Time subtract 2° 1'. |                |                |                |         |         |         |         | APRIL. For Apparent Time subtract 0° 2'. |                |                |                |         |         |         |         |
|-----------------|--|----------------|----------------|----------------|---------|---------|---------|---------|--|----------------|----------------|----------------|---------|---------|---------|---------|
|                 | P <sub>1</sub>                           | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub>                           | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
|                 |  |                |                |                |         |         |         |         |  |                |                |                |         |         |         |         |
| 1849 -          | 3'94                                     | 1'15           | '08            | '14            | 213     | 2       | 24      | 26      | 30                                       | 0              | 63             | 13             | 4'89    | 1'17    | '54     | '13     |
| 1850 -          | 5'47                                     | 1'53           | '14            | '31            | 222     | 51      | 23      | 49      | 58                                       | 61             | 53             | '92            | 4'83    | '92     | '45     | '13     |
| 1851 -          | 3'67                                     | '89            | '22            | '22            | 217     | 28      | 18      | 10      | 40                                       | 46             | 59             | 59             | 5'65    | 1'14    | '30     | '16     |
| 1852 -          | 6'74                                     | 2'18           | '27            | '44            | 212     | 17      | 18      | 29      | 29                                       | 6              | 58             | 21             | 9'20    | 1'46    | '50     | '21     |
| 1853 -          | 4'89                                     | 1'27           | '08            | '26            | 215     | 31      | 15      | 24      | 57                                       | 38             | 56             | 38             | 4'44    | '51     | '65     | '27     |
| Mean -          | 4'94                                     | 1'40           | '16            | '27            | 216     | 14      | 20      | 4       | 41                                       | 30             | 60             | 1              | 5'80    | 1'04    | '49     | '18     |
| 1854 -          | 6'83                                     | 1'78           | '19            | '31            | 221     | 48      | 26      | 36      | 12                                       | 25             | 58             | 11             | 9'05    | 1'82    | '60     | '37     |
| 1855 -          | 4'81                                     | 1'33           | '18            | '31            | 212     | 52      | 23      | 43      | 41                                       | 14             | 60             | 14             | 7'67    | 1'68    | '34     | '07     |
| 1856 -          | 4'10                                     | 1'19           | '19            | '20            | 219     | 45      | 14      | 2       | 29                                       | 0              | 59             | 16             | 6'89    | 1'34    | '55     | '24     |
| 1857 -          | 4'26                                     | 1'40           | '27            | '24            | 218     | 26      | 15      | 1       | 43                                       | 56             | 58             | 45             | 5'57    | 1'07    | '51     | '31     |
| 1858 -          | 5'26                                     | 1'43           | '29            | '28            | 221     | 37      | 14      | 10      | 32                                       | 37             | 58             | 48             | 6'78    | 1'33    | '44     | '20     |
| Mean -          | 5'05                                     | 1'43           | '22            | '27            | 218     | 54      | 18      | 42      | 31                                       | 50             | 59             | 3              | 7'19    | 1'45    | '49     | '24     |
| 1859 -          | 4'09                                     | 1'40           | '11            | '17            | 211     | 5       | 24      | 48      | 35                                       | 5              | 63             | 10             | 5'50    | 1'17    | '58     | '20     |
| 1860 -          | 4'11                                     | 1'29           | '09            | '12            | 215     | 54      | 21      | 43      | 36                                       | 51             | 65             | 8              | 6'33    | 1'17    | '43     | '18     |
| 1861 -          | 4'62                                     | 1'18           | '10            | '17            | 214     | 58      | 26      | 16      | 54                                       | 26             | 59             | 19             | 6'68    | 1'22    | '48     | '26     |
| 1862 -          | 3'41                                     | '87            | '17            | '11            | 217     | 22      | 31      | 43      | 40                                       | 19             | 48             | 19             | 4'89    | '68     | '46     | '10     |
| 1863 -          | 5'88                                     | 1'54           | '24            | '33            | 222     | 56      | 17      | 12      | 45                                       | 0              | 51             | 50             | 6'84    | 1'10    | '41     | '23     |
| Mean -          | 4'42                                     | 1'26           | '14            | '18            | 216     | 27      | 24      | 20      | 42                                       | 20             | 57             | 33             | 6'05    | 1'07    | '47     | '19     |
| 1864 -          | 4'89                                     | 1'56           | '11            | '26            | 216     | 47      | 19      | 45      | 91                                       | 44             | 63             | 4              | 7'08    | 1'09    | '60     | '19     |
| 1865 -          | 3'79                                     | 1'25           | '29            | '11            | 217     | 56      | 11      | 19      | 52                                       | 37             | 70             | 5              | 10'13   | 2'05    | '51     | '21     |
| 1866 -          | 4'47                                     | 1'33           | '24            | '17            | 217     | 35      | 24      | 47      | 37                                       | 25             | 64             | 51             | 6'09    | 1'16    | '44     | '11     |
| 1867 -          | 3'44                                     | 1'06           | '09            | '14            | 210     | 22      | 18      | 52      | 38                                       | 51             | 59             | 5              | 5'16    | '83     | '45     | '24     |
| 1868 -          | 4'74                                     | 1'13           | '23            | '26            | 220     | 43      | 16      | 47      | 35                                       | 53             | 58             | 0              | 6'25    | 1'21    | '25     | '19     |
| Mean -          | 4'27                                     | 1'27           | '19            | '19            | 216     | 41      | 18      | 18      | 51                                       | 18             | 63             | 1              | 6'94    | 1'27    | '45     | '19     |
| Mean 20 years - | 4'67                                     | 1'34           | '18            | '23            | 217     | 4       | 20      | 21      | 41                                       | 45             | 59             | 54             | 6'50    | 1'21    | '48     | '20     |

## OF AIR TEMPERATURE AND PRESSURE AT BRITISH OBSERVATORIES.

TABLE IIA.—MONTHLY VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

| YEARS.        | MAY. For Apparent Time add 0° 52'. |                |                |                |         |         |         |         | JUNE. For Apparent Time subtract 0° 4'. |                |                |                |         |         |         |         |
|---------------|------------------------------------|----------------|----------------|----------------|---------|---------|---------|---------|---|----------------|----------------|----------------|---------|---------|---------|---------|
|               | P <sub>1</sub>                     | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub>                          | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
|               |                                    |                |                |                |         |         |         |         |   |                |                |                |         |         |         |         |
| 1849 -        | 6'73                               | '70            | '53            | '04            | 211     | 20      | 25      | 40      | 5                                       | 55             | 8              | 50             | 8'65    | '83     | '78     | '16     |
| 1850 -        | 6'40                               | '52            | '57            | '09            | 207     | 58      | 9       | 34      | 11                                      | 53             | 31             | 12             | 9'95    | '71     | 1'09    | '13     |
| 1851 -        | 7'45                               | '67            | '84            | '12            | 210     | 56      | -2      | 59      | 15                                      | 10             | 24             | 7              | 8'14    | '73     | '71     | '13     |
| 1852 -        | 6'68                               | '70            | '57            | '04            | 213     | 38      | 10      | 54      | 15                                      | 52             | 13             | 48             | 5'58    | '50     | '32     | '15     |
| 1853 -        | 7'60                               | '70            | '76            | '10            | 206     | 30      | -1      | 38      | 15                                      | 21             | 40             | 58             | 6'47    | '45     | '73     | '18     |
| Mean -        | 6'97                               | '66            | '65            | '08            | 210     | 4       | 8       | 18      | 12                                      | 50             | 23             | 47             | 7'76    | '64     | '73     | '15     |
| 1854 -        | 7'49                               | '74            | '60            | '09            | 208     | 29      | 15      | 1       | 13                                      | 26             | 16             | 8              | 6'45    | '64     | '35     | '27     |
| 1855 -        | 6'92                               | '75            | '71            | '19            | 209     | 52      | -4      | 59      | 19                                      | 49             | 44             | 50             | 7'78    | '28     | '83     | '21     |
| 1856 -        | 5'82                               | '82            | '59            | '10            | 208     | 38      | 9       | 13      | 10                                      | 53             | 15             | 47             | 7'15    | '79     | '54     | '19     |
| 1857 -        | 8'72                               | '83            | '84            | '19            | 208     | 34      | 4       | 30      | 14                                      | 41             | 25             | 56             | 9'62    | '95     | '44     | '27     |
| 1858 -        | 7'31                               | '62            | '41            | '13            | 209     | 35      | 1       | 23      | 4                                       | 41             | 26             | 48             | 9'67    | '48     | '76     | '26     |
| Mean -        | 7'25                               | '75            | '63            | '14            | 209     | 2       | 5       | 2       | 12                                      | 42             | 25             | 54             | 8'13    | '63     | '58     | '24     |
| 1859 -        | 7'62                               | 1'20           | '48            | '09            | 208     | 21      | 22      | 40      | 14                                      | 26             | 19             | 25             | 7'76    | '87     | '37     | '19     |
| 1860 -        | 8'22                               | '80            | '71            | '15            | 211     | 28      | 22      | 15      | 5                                       | 55             | 22             | 30             | 5'04    | '33     | '34     | '14     |
| 1861 -        | 7'07                               | '52            | '54            | '13            | 213     | 41      | 17      | 0       | 4                                       | 16             | 11             | 14             | 6'88    | '29     | '50     | '15     |
| 1862 -        | 5'95                               | '81            | '24            | '11            | 210     | 37      | 16      | 27      | 17                                      | 14             | 6              | 45             | 6'23    | '35     | '46     | '12     |
| 1863 -        | 7'32                               | '79            | '41            | '14            | 210     | 21      | 3       | 17      | 10                                      | 19             | 18             | 03             | 6'84    | '60     | '48     | '24     |
| Mean -        | 7'24                               | '82            | '48            | '12            | 210     | 54      | 16      | 20      | 10                                      | 26             | 15             | 35             | 6'55    | '49     | '43     | '17     |
| 1864 -        | 7'23                               | '46            | '50            | '12            | 210     | 30      | -0      | 37      | 15                                      | 39             | -3             | 25             | 7'27    | '70     | '56     | '10     |
| 1865 -        | 8'03                               | '53            | '76            | '12            | 211     | 18      | 5       | 58      | 13                                      | 30             | 30             | 29             | 9'29    | '43     | '79     | '51     |
| 1866 -        | 7'83                               | '66            | 1'02           | '27            | 208     | 39      | -10     | 10      | 9                                       | 21             | 28             | 59             | 7'90    | '49     | '58     | '33     |
| 1867 -        | 6'12                               | '67            | '59            | '10            | 206     | 36      | -6      | 30      | 9                                       | 9              | 34             | 34             | 7'74    | '19     | '54     | '14     |
| 1868 -        | 9'48                               | '61            | '99            | '05            | 206     | 39      | -3      | 16      | 12                                      | 24             | 23             | 56             | 9'79    | '56     | '99     | '38     |
| Mean -        | 7'74                               | '59            | '77            | '13            | 208     | 43      | -2      | 55      | 11                                      | 49             | 22             | 55             | 8'40    | '47     | '69     | '29     |
| Mean 20 Years | 7'30                               | '71            | '63            | '12            | 209     | 41      | 6       | 41      | 11                                      | 57             | 22             | 3              | 7'71    | '56     | '61     | '21     |

| YEARS. | JULY. For Apparent Time subtract 1° 20'. |                |                |                |         |         |         |         | AUGUST. For Apparent Time subtract 0° 40'. |                |                |                |         |         |         |         |
|--------|--|----------------|----------------|----------------|---------|---------|---------|---------|--|----------------|----------------|----------------|---------|---------|---------|---------|
|        | P <sub>1</sub>                           | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub>                             | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
|        |  |                |                |                |         |         |         |         |  |                |                |                |         |         |         |         |
| 1849 - | 8'01                                     | '53            | 1'05           | '38            | 206     | 23      | -25     | 10      | 14   | 14             | 39             | 39             | 6'75    | '97     | '59     | '       |



TABLE IIA.—MONTHLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

| YEARS.         | SEPTEMBER. For Apparent Time add 1° 26'. |       |       |       |         |         |         |         | OCTOBER. For Apparent Time add 3° 30'. |       |       |       |         |         |         |         |
|----------------|--|-------|-------|-------|---------|---------|---------|---------|--|-------|-------|-------|---------|---------|---------|---------|
|                | $P_1$                                    | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | $P_1$                                  | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1849           | 5°76                                     | 1°47  | °26   | °32   | 202 52  | 14 56   | 29 16   | 57 29   | 3°94                                   | 1°71  | °22   | °05   | 209 50  | 18 20   | 70 45   | 69 11   |
| 1850           | 6°27                                     | 1°61  | °44   | °43   | 210 30  | 15 45   | 18 3    | 54 16   | 4°38                                   | 1°50  | °25   | °13   | 213 22  | 14 34   | 54 35   | 59 56   |
| 1851           | 7°54                                     | 1°02  | °27   | °38   | 210 47  | 15 29   | 10 27   | 52 37   | 3°68                                   | 1°52  | °18   | °16   | 203 13  | 11 51   | 53 31   | 60 19   |
| 1852           | 6°11                                     | 1°43  | °09   | °31   | 211 54  | 23 38   | 11 51   | 56 50   | 3°87                                   | 1°42  | °30   | °19   | 205 54  | 18 11   | 60 0    | 54 6    |
| 1853           | 5°30                                     | 1°41  | °29   | °25   | 211 1   | 16 25   | 26 44   | 54 18   | 3°82                                   | 1°35  | °21   | °15   | 208 59  | 15 5    | 72 28   | 47 10   |
| Mean           | 6°20                                     | 1°57  | °27   | °34   | 209 25  | 17 15   | 19 16   | 55 6    | 3°94                                   | 1°50  | °23   | °14   | 208 16  | 15 36   | 62 16   | 58 8    |
| 1854           | 9°08                                     | 2°55  | °53   | °56   | 212 54  | 11 40   | 27 51   | 55 5    | 4°78                                   | 1°91  | °33   | °19   | 212 40  | 14 5    | 70 25   | 53 2    |
| 1855           | 7°48                                     | 2°14  | °48   | °34   | 212 57  | 17 23   | 37 16   | 61 54   | 3°78                                   | 1°57  | °39   | °13   | 207 55  | 12 3    | 60 29   | 59 56   |
| 1856           | 6°17                                     | 1°97  | °42   | °39   | 207 31  | 9 10    | 29 33   | 58 41   | 3°82                                   | 1°36  | °33   | °13   | 209 19  | 15 26   | 73 21   | 48 16   |
| 1857           | 6°08                                     | 1°61  | °28   | °33   | 209 41  | 18 58   | 21 27   | 59 8    | 4°14                                   | 1°44  | °28   | °20   | 206 23  | 15 31   | 60 44   | 64 19   |
| 1858           | 6°11                                     | 1°77  | °14   | °20   | 209 50  | 12 55   | 57 17   | 59 21   | 4°89                                   | 1°66  | °44   | °10   | 208 37  | 14 3    | 55 38   | 65 32   |
| Mean           | 6°98                                     | 2°01  | °37   | °36   | 210 35  | 14 1    | 34 41   | 58 50   | 4°28                                   | 1°59  | °35   | °15   | 208 59  | 14 14   | 64 7    | 58 13   |
| 1859           | 5°79                                     | 1°32  | °37   | °40   | 206 29  | 12 48   | 25 49   | 59 41   | 3°43                                   | 1°33  | °20   | °17   | 216 56  | 14 38   | 75 28   | 30 30   |
| 1860           | 5°42                                     | 1°44  | °31   | °27   | 207 5   | 9 20    | 28 9    | 59 43   | 3°91                                   | 1°24  | °16   | °12   | 207 5   | 14 12   | 43 16   | 64 26   |
| 1861           | 6°41                                     | 1°57  | °35   | °33   | 212 23  | 13 17   | 22 50   | 57 54   | 3°14                                   | 1°75  | °38   | °09   | 212 7   | 16 48   | 76 25   | 38 1    |
| 1862           | —  | —     | —     | —     | —       | —       | —       | —       | 3°58                                   | 1°34  | °09   | °18   | 204 47  | 13 45   | 55 49   | 52 17   |
| 1863           | 5°65                                     | 1°20  | °18   | °30   | 207 23  | 10 30   | 11 14   | 43 15   | 3°58                                   | 1°50  | °25   | °24   | 205 38  | 14 24   | 71 14   | 52 17   |
| Mean           | 5°82                                     | 1°38  | °30   | °32   | 208 20  | 11 29   | 22 1    | 55 8    | 3°93                                   | 1°43  | °23   | °16   | 209 19  | 14 45   | 64 26   | 47 30   |
| 1864           | 6°22                                     | 1°57  | °20   | °33   | 213 40  | 13 36   | 24 10   | 50 2    | 3°91                                   | 1°70  | °42   | °23   | 211 57  | 8 12    | 49 35   | 57 16   |
| 1865           | 9°11                                     | 2°60  | °22   | °40   | 211 43  | 17 14   | 38 51   | 57 37   | 5°05                                   | 1°77  | °34   | °25   | 211 8   | 15 40   | 67 35   | 59 29   |
| 1866           | 4°43                                     | 1°53  | °15   | °23   | 204 32  | 14 52   | 30 0    | 58 26   | 3°78                                   | 1°44  | °21   | °25   | 213 34  | 15 41   | 59 5    | 58 51   |
| 1867           | 6°02                                     | 1°53  | °22   | °30   | 208 34  | 18 46   | 3 26    | 51 53   | 4°25                                   | 1°74  | °35   | °26   | 210 22  | 11 8    | 57 50   | 59 48   |
| 1868           | 7°91                                     | 1°94  | °38   | °41   | 209 33  | 10 6    | 25 56   | 57 36   | 5°38                                   | 1°63  | °44   | °15   | 213 38  | 14 18   | 60 0    | 58 6    |
| Mean           | 6°74                                     | 1°83  | °23   | °33   | 209 36  | 14 55   | 24 29   | 55 7    | 4°47                                   | 1°66  | °35   | °23   | 212 8   | 13 0    | 58 49   | 58 42   |
| Mean 20 years* | 6°46                                     | 1°71  | °29   | °34   | 209 32  | 14 34   | 25 16   | 56 6    | 4°16                                   | 1°54  | °29   | °17   | 209 40  | 14 24   | 62 25   | 55 38   |

| YEARS.        | NOVEMBER. For Apparent Time add 3° 35'. |       |       |       |         |         |         |         | DECEMBER. For Apparent Time add 6° 57'. |       |       |       |         |         |         |         |
|---------------|---|-------|-------|-------|---------|---------|---------|---------|---|-------|-------|-------|---------|---------|---------|---------|
|               | $P_1$                                   | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | $P_1$                                   | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1849          | 2°80                                    | 1°27  | °33   | °01   | 205 39  | 18 40   | 78 17   | 32 39   | 1°51                                    | °48   | °27   | °06   | 226 4   | 16 30   | 77 0    | 3 31    |
| 1850          | 2°72                                    | 1°12  | °40   | °08   | 212 31  | 17 24   | 68 51   | — 14    | 1°84                                    | °94   | °33   | °10   | 237 0   | 19 2    | 79 34   | 8 3     |
| 1851          | 3°16                                    | 1°20  | °50   | °11   | 217 25  | 22 50   | 73 22   | 8 40    | 1°40                                    | °71   | °21   | °12   | 220 57  | 20 12   | 71 44   | 10 1    |
| 1852          | 2°10                                    | °73   | °37   | °01   | 222 17  | 13 59   | 64 11   | 32 39   | 1°05                                    | °95   | °26   | °06   | 206 4   | 9 30    | 73 56   | 13 20   |
| 1853          | 2°90                                    | 1°13  | °42   | °14   | 213 55  | 22 8    | 71 44   | 34 12   | 1°42                                    | °83   | °33   | °15   | 218 43  | 22 15   | 75 24   | 18 18   |
| Mean          | 2°74                                    | 1°09  | °40   | °07   | 214 21  | 19 0    | 71 17   | 21 23   | 1°44                                    | °78   | °28   | °10   | 221 46  | 17 30   | 75 32   | 10 39   |
| 1854          | 2°57                                    | 1°09  | °43   | °06   | 221 41  | 17 4    | 69 52   | 28 20   | 1°78                                    | °82   | °42   | °08   | 226 36  | 17 48   | 68 2    | 6 53    |
| 1855          | 2°21                                    | 1°08  | °37   | °10   | 214 43  | 15 40   | 67 56   | 2 6     | 1°80                                    | °88   | °34   | °12   | 208 50  | 20 39   | 69 21   | 15 15   |
| 1856          | 2°61                                    | 1°22  | °42   | °06   | 218 9   | 18 9    | 70 29   | 22 30   | 1°70                                    | °86   | °34   | °10   | 235 34  | 17 18   | 72 11   | 5 34    |
| 1857          | 2°43                                    | 1°12  | °26   | °08   | 218 39  | 15 55   | 71 51   | 43 46   | 1°91                                    | °87   | °34   | °07   | 218 37  | 20 52   | 77 1    | 14 11   |
| 1858          | 3°22                                    | 1°24  | °40   | °02   | 210 47  | 17 44   | 68 26   | — 33    | 1°51                                    | °64   | °31   | °03   | 235 15  | 17 5    | 72 47   | 25 25   |
| Mean          | 2°61                                    | 1°15  | °38   | °06   | 216 48  | 16 54   | 69 43   | 12 44   | 1°74                                    | °81   | °35   | °08   | 224 58  | 18 44   | 71 52   | 13 28   |
| 1859          | 3°28                                    | 1°63  | °54   | °11   | 215 35  | 15 52   | 69 17   | — 9 59  | 2°02                                    | °74   | °36   | °07   | 223 48  | 22 30   | 69 20   | — 9 23  |
| 1860          | 2°46                                    | 1°12  | °36   | °01   | 211 53  | 13 51   | 68 51   | 0 0     | 1°53                                    | °66   | °40   | °08   | 226 19  | 16 58   | 70 34   | — 5 17  |
| 1861          | 3°17                                    | 1°25  | °41   | °03   | 209 28  | 14 18   | 70 58   | — 16 28 | 1°94                                    | °97   | °37   | °11   | 210 30  | 19 8    | 71 40   | — 7 55  |
| 1862          | 2°89                                    | °93   | °38   | °04   | 218 15  | 19 14   | 64 33   | — 7 31  | 1°57                                    | °81   | °35   | °07   | 216 13  | 22 45   | 72 17   | 4 25    |
| 1863          | 2°64                                    | 1°18  | °33   | °07   | 215 15  | 20 5    | 71 14   | — 22 30 | 1°89                                    | °65   | °30   | °19   | 205 4   | 29 8    | 73 11   | 11 34   |
| Mean          | 2°89                                    | 1°22  | °40   | °05   | 214 5   | 16 40   | 68 59   | — 11 18 | 1°79                                    | °77   | °36   | °10   | 216 23  | 22 6    | 71 24   | — 1 19  |
| 1864          | 3°51                                    | 1°29  | °40   | °13   | 219 13  | 15 58   | 63 52   | 0 46    | 1°57                                    | °80   | °39   | °15   | 211 9   | 17 38   | 75 21   | 15 14   |
| 1865          | 2°86                                    | 1°37  | °40   | °14   | 212 8   | 19 59   | 67 48   | — 6 13  | 1°31                                    | °78   | °35   | °05   | 234 37  | 19 54   | 76 56   | 18 18   |
| 1866          | 2°86                                    | 1°09  | °46   | °10   | 208 38  | 16 7    | 70 32   | 10 58   | 1°74                                    | °68   | °27   | °09   | 219 38  | 19 31   | 77 0    | 10 1    |
| 1867          | 3°18                                    | 1°38  | °51   | °06   | 218 45  | 15 31   | 64 8    | 13 20   | 1°77                                    | °46   | °31   | °07   | 226 12  | 17 11   | 71 4    | 3 8     |
| 1868          | 2°46                                    | °97   | °36   | °10   | 214 5   | 18 19   | 67 10   | 10 49   | 1°70                                    | °74   | °35   | °08   | 215 39  | 20 51   | 78 55   | 24 50   |
| Mean          | 2°97                                    | 1°22  | °43   | °11   | 214 34  | 17 11   | 66 42   | 5 56    | 1°62                                    | °69   | °33   | °09   | 221 27  | 19 1    | 75 51   | 14 18   |
| Mean 20 years | 2°80                                    | 1°17  | °40   | °07   | 214 57  | 17 26   | 69 10   | 7 11    | 1°65                                    | °76   | °33   | °09   | 221 9   | 19 20   | 73 40   | 9 16    |

\* For September only 19 years.

TABLE IIIA.

MEAN YEARLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each YEAR from 1849 to 1868; derived from Table IA.

| YEARS.        | $p_1$  | $q_1$  | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | Mean Temp. T. |
|---------------|--------|--------|-------|-------|-------|-------|-------|-------|---------------|
| 1849          | -4°15  | -2°45  | +°82  | +°50  | +°14  | +°14  | -°07  | -°01  | 50°3          |
| 1850          | -4°20  | -2°73  | +°82  | +°53  | +°11  | +°15  | -°06  | -°03  | 49°5          |
| 1851          | -4°30  | -2°75  | +°90  | +°50  | +°07  | +°11  | -°05  | -°05  | 49°4          |
| 1852          | -4°37  | -2°71  | +°93  | +°65  | +°05  | +°11  | -°06  | -°05  | 50°6          |
| 1853          | -3°83  | -2°33  | +°73  | +°45  | +°10  | +°10  | -°08  | +°02  | 47°5          |
| Mean 5 years  | -4°17  | -2°59  | +°85  | +°53  | +°09  | +°12  | -°06  | -°02  | 49°5          |
| 1854          | -4°68  | -3°18  | +1°06 | +°68  | +°04  | +°15  | -°08  | -°05  | 49°2          |
| 1855          | -4°28  | -2°72  | +°93  | +°60  | +°02  | +°18  | -°03  | -°03  | 47°2          |
| 1856          | -4°02  | -2°62  | +°97  | +°51  | +°08  | +°10  | -°07  | -°01  | 49°1          |
| 1857          | -4°63  | -2°93  | +1°00 | +°56  | +°07  | +°15  | -°10  | -°01  | 51°2          |
| 1858          | -4°63  | -3°04  | +°99  | +°56  | +°01  | +°10  | -°05  | -°01  | 49°5          |
| Mean 5 years  | -4°45  | -2°90  | +°99  | +°58  | +°04  | +°13  | -°07  | -°02  | 49°2          |
| 1859          | -4°39  | -2°79  | +°90  | +°69  | +°05  | +°11  | -°03  | -°02  | 50°9          |
| 1860          | -3°72  | -2°35  | +°79  | +°55  | +°05  | +°07  | -°03  | °00   | 47°6          |
| 1861          | -4°26  | -2°72  | +°81  | +°60  | +°05  | +°04  | -°05  | °00   | 50°0          |
| 1862*         | -3°67  | -2°33  | +°70  | +°49  | +°04  | +°12  | -°04  | -°02  | 49°9          |
| 1863          | -4°38  | -2°75  | +°88  | +°54  | +°08  | +°04  | -°07  | +°04  | 50°7          |
| Mean 5 years  | -4°08  | -2°59  | +°82  | +°57  | +°05  | +°07  | -°04  | °00   | 49°8          |
| 1864          | -4°40  | -2°99  | +°95  | +°58  | +°06  | +°10  | -°05  | -°03  | 49°0          |
| 1865          | -4°69  | -3°17  | +°98  | +°68  | +°03  | +°15  | +°03  | -°04  | 50°9          |
| 1866          | -4°10  | -2°55  | +°79  | +°50  | +°08  | +°16  | +°01  | -°02  | 50°4          |
| 1867          | -4°00  | -2°50  | +°76  | +°46  | +°09  | +°11  | -°03  | °00   | 48°8          |
| 1868          | -4°91  | -3°11  | +°92  | +°48  | +°12  | +°19  | -°02  | -°03  | 52°0          |
| Mean 5 years  | -4°42  | -2°86  | +°88  | +°54  | +°08  | +°14  | -°01  | -°02  | 50°2          |
| Mean 20 years | -4°282 | -2°738 | +°885 | +°557 | +°066 | +°118 | -°046 | -°015 | 49°69         |

\* Only eleven months.

TABLE IVA.

MEAN VALUES of the  $p, q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each MONTH of the YEAR, obtained from 20 YEARS' OBSERVATIONS from 1849 to 1868; derived from Table IA.

| MONTHS.           | $p_1$ . | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . | Mean Temp.<br>T. |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|------------------|
| January - -       | -1°45   | -1°20   | + °64   | + °69   | - °24   | - °26   | + °04   | + °04   | 38°9             |
| February - -      | -2°39   | -2°06   | + °88   | + °89   | - °23   | - °17   | °00     | - °07   | 39°7             |
| March - - -       | -3°71   | -2°82   | +1°02   | + °87   | - °06   | + °13   | - °12   | - °19   | 41°5             |
| April - - -       | -5°46   | -3°51   | +1°04   | + °56   | + °27   | + °36   | - °15   | - °08   | 47°2             |
| May - - -         | -6°34   | -3°61   | + °63   | + °17   | + °50   | + °38   | - °01   | + °09   | 52°7             |
| June - - -        | -6°69   | -3°83   | + °50   | + °04   | + °46   | + °39   | + °10   | + °17   | 59°8             |
| July - - -        | -6°58   | -4°08   | + °57   | + °23   | + °50   | + °38   | - °01   | + °12   | 62°5             |
| August - - -      | -6°06   | -3°83   | + °95   | + °53   | + °38   | + °39   | - °16   | + °01   | 61°9             |
| September - -     | -5°60   | -3°21   | +1°49   | + °83   | + °06   | + °25   | - °23   | - °23   | 57°5             |
| October - - -     | -3°61   | -2°04   | +1°35   | + °74   | - °25   | - °04   | - °10   | - °10   | 50°9             |
| November - -      | -2°29   | -1°60   | + °96   | + °67   | - °35   | - °18   | + °03   | + °01   | 42°8             |
| December - -      | -1°23   | -1°07   | + °59   | + °47   | - °25   | - °21   | + °06   | + °05   | 40°8             |
| Mean 20 years - - | -4°282  | -2°738  | + °885  | + °557  | + °066  | + °118  | - °046  | - °015  | 49°69            |



TABLE VA.

MEAN YEARLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT, for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each Year from 1849 to 1868; derived from Table IIA.

| YEARS.        | $P_1$ | $\mu_1$ | $P_2$ | $\mu_2$ | $P_3$ | $\mu_3$ | $P_4$ | $\mu_4$ | Mean Temp. T. |
|---------------|-------|---------|-------|---------|-------|---------|-------|---------|---------------|
| 1849          | 4'86  | 213     | 1'06  | 13      | 43    | 43      | 15    | 39      | 50'3          |
| 1850          | 5'03  | 216     | 1'03  | 14      | 44    | 42      | 16    | 36      | 49'5          |
| 1851          | 5'11  | 215     | 1'10  | 12      | 42    | 39      | 17    | 36      | 49'4          |
| 1852          | 5'16  | 213     | 1'15  | 16      | 40    | 39      | 16    | 36      | 50'6          |
| 1853          | 4'50  | 213     | 0'92  | 13      | 45    | 42      | 17    | 36      | 47'5          |
| Mean 5 years  | 4'93  | 214     | 1'05  | 14      | 43    | 41      | 16    | 36      | 49'5          |
| 1854          | 5'68  | 216     | 1'30  | 16      | 45    | 40      | 19    | 37      | 49'2          |
| 1855          | 5'08  | 212     | 1'13  | 14      | 46    | 41      | 16    | 42      | 47'2          |
| 1856          | 4'82  | 215     | 1'12  | 14      | 43    | 42      | 15    | 37      | 49'1          |
| 1857          | 5'50  | 214     | 1'17  | 14      | 39    | 42      | 20    | 43      | 51'2          |
| 1858          | 5'56  | 215     | 1'16  | 14      | 43    | 42      | 14    | 33      | 49'5          |
| Mean 5 years  | 5'33  | 215     | 1'18  | 14      | 43    | 41      | 17    | 38      | 49'2          |
| 1859          | 5'21  | 214     | 1'15  | 19      | 42    | 42      | 16    | 31      | 50'9          |
| 1860          | 4'43  | 214     | 0'98  | 17      | 34    | 37      | 13    | 35      | 47'6          |
| 1861          | 5'06  | 213     | 1'04  | 17      | 40    | 42      | 17    | 31      | 50'0          |
| 1862          | 4'42  | 213     | 0'96  | 17      | 35    | 40      | 13    | 28      | 49'9          |
| 1863          | 5'19  | 212     | 1'09  | 14      | 37    | 40      | 19    | 29      | 50'7          |
| Mean 5 years  | 4'86  | 213     | 1'03  | 17      | 38    | 40      | 16    | 31      | 49'8          |
| 1864          | 5'34  | 215     | 1'14  | 16      | 40    | 44      | 16    | 34      | 49'0          |
| 1865          | 5'69  | 218     | 1'21  | 16      | 48    | 44      | 19    | 36      | 50'9          |
| 1866          | 4'84  | 213     | 0'98  | 14      | 47    | 41      | 18    | 37      | 50'4          |
| 1867          | 4'73  | 214     | 0'93  | 13      | 45    | 38      | 16    | 37      | 48'8          |
| 1868          | 5'83  | 214     | 1'06  | 12      | 50    | 40      | 18    | 33      | 52'0          |
| Mean 5 years  | 5'29  | 215     | 1'06  | 14      | 46    | 41      | 18    | 35      | 50'2          |
| Mean 20 years | 5'103 | 214     | 1'081 | 15      | 423   | 41      | 164   | 35      | 49'69         |

TABLE VIA.

MEAN MONTHLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each MONTH of the YEAR, obtained from 20 YEARS' OBSERVATIONS from 1849 to 1868; derived from Table IIA.

| MONTH.        | $P_1$ | $\mu_1$ | $P_2$ | $\mu_2$ | $P_3$ | $\mu_3$ | $P_4$ | $\mu_4$ | Mean Temp. T. |
|---------------|-------|---------|-------|---------|-------|---------|-------|---------|---------------|
| January       | 1'90  | 220     | 0'94  | 23      | 36    | 75      | 09    | 13      | 38'9          |
| February      | 3'16  | 221     | 1'26  | 23      | 30    | 72      | 11    | 65      | 39'7          |
| March         | 4'67  | 217     | 1'34  | 20      | 18    | 42      | 23    | 60      | 41'5          |
| April         | 6'50  | 213     | 1'21  | 13      | 48    | 18      | 20    | 53      | 47'2          |
| May           | 7'30  | 210     | 0'71  | 7       | 63    | 12      | 12    | 22      | 52'7          |
| June          | 7'71  | 210     | 0'56  | 1       | 61    | 14      | 21    | 16      | 59'8          |
| July          | 7'75  | 212     | 0'66  | 9       | 65    | 12      | 17    | 22      | 62'5          |
| August        | 7'17  | 212     | 1'11  | 15      | 55    | 15      | 17    | 44      | 61'9          |
| September     | 6'46  | 210     | 1'71  | 15      | 29    | 25      | 34    | 56      | 57'5          |
| October       | 4'16  | 210     | 1'54  | 14      | 29    | 62      | 17    | 56      | 50'9          |
| November      | 2'80  | 215     | 1'17  | 17      | 40    | 69      | 07    | 7       | 42'8          |
| December      | 1'65  | 221     | 0'76  | 19      | 33    | 74      | 09    | 9       | 40'8          |
| Mean 20 years | 5'103 | 214     | 1'081 | 15      | 423   | 41      | 164   | 35      | 49'69         |

TABLE VIIA.

VALUES of the AMPLITUDE  $P$ , and the APPARENT TIME of the FIRST MAXIMUM  $\mu$ , for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH for each MONTH of the YEAR, for FIVE-YEARLY PERIODS between 1849 and 1868; derived from Table IIA.

|                 | Five-Yearly Periods. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Year. |
|-----------------|----------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|-------|
| $P_1$           | 1st -                | 1'90     | 3'25      | 4'94   | 5'80   | 6'97 | 7'76  | 7'39  | 6'85    | 6'20       | 5'94     | 5'74      | 5'44      | 4'93  |
|                 | 2nd -                | 2'00     | 3'50      | 5'05   | 7'19   | 7'25 | 8'13  | 7'43  | 7'76    | 6'98       | 4'28     | 2'61      | 1'74      | 5'33  |
|                 | 3rd -                | 1'99     | 3'17      | 4'42   | 6'05   | 7'24 | 6'55  | 7'62  | 6'75    | 5'82       | 3'93     | 2'89      | 1'79      | 4'86  |
|                 | 4th -                | 1'71     | 2'71      | 4'27   | 6'94   | 7'74 | 8'40  | 8'57  | 7'30    | 6'74       | 4'47     | 2'97      | 1'62      | 5'29  |
|                 | Mean                 | 1'90     | 3'16      | 4'67   | 6'50   | 7'30 | 7'71  | 7'75  | 7'17    | 6'46       | 4'16     | 2'80      | 1'65      | 5'10  |
| $P_2$           | 1st -                | 0'97     | 1'20      | 1'40   | 1'04   | 0'66 | 0'64  | 0'72  | 1'05    | 1'57       | 1'50     | 1'09      | 0'78      | 1'05  |
|                 | 2nd -                | 1'00     | 1'33      | 1'43   | 1'45   | 0'75 | 0'63  | 0'63  | 1'32    | 2'01       | 1'59     | 1'15      | 0'81      | 1'18  |
|                 | 3rd -                | 1'00     | 1'32      | 1'26   | 0'82   | 0'49 | 0'57  | 0'98  | 1'07    | 1'38       | 1'43     | 1'22      | 0'77      | 1'03  |
|                 | 4th -                | 0'80     | 1'18      | 1'27   | 1'27   | 0'59 | 0'47  | 0'72  | 1'07    | 1'83       | 1'66     | 1'22      | 0'69      | 1'06  |
|                 | Mean                 | 0'94     | 1'26      | 1'34   | 1'21   | 0'71 | 0'56  | 0'66  | 1'11    | 1'71       | 1'54     | 1'17      | 0'76      | 1'08  |
| $P_3$           | 1st -                | 0'40     | 0'28      | 0'16   | 0'49   | 0'65 | 0'73  | 0'64  | 0'56    | 0'27       | 0'23     | 0'40      | 0'28      | 0'43  |
|                 | 2nd -                | 0'34     | 0'31      | 0'22   | 0'49   | 0'63 | 0'58  | 0'62  | 0'52    | 0'37       | 0'35     | 0'38      | 0'35      | 0'43  |
|                 | 3rd -                | 0'34     | 0'28      | 0'14   | 0'47   | 0'48 | 0'43  | 0'61  | 0'46    | 0'30       | 0'23     | 0'40      | 0'36      | 0'38  |
|                 | 4th -                | 0'35     | 0'32      | 0'19   | 0'45   | 0'77 | 0'69  | 0'72  | 0'67    | 0'23       | 0'35     | 0'43      | 0'33      | 0'46  |
|                 | Mean                 | 0'36     | 0'30      | 0'18   | 0'48   | 0'63 | 0'61  | 0'65  | 0'55    | 0'29       | 0'29     | 0'40      | 0'33      | 0'42  |
| $P_4$           | 1st -                | 0'09     | 0'12      | 0'27   | 0'18   | 0'08 | 0'15  | 0'18  | 0'20    | 0'34       | 0'14     | 0'07      | 0'10      | 0'16  |
|                 | 2nd -                | 0'08     | 0'11      | 0'27   | 0'24   | 0'14 | 0'24  | 0'15  | 0'15    | 0'36       | 0'15     | 0'06      | 0'08      | 0'17  |
|                 | 3rd -                | 0'11     | 0'08      | 0'18   | 0'19   | 0'12 | 0'17  | 0'19  | 0'15    | 0'32       | 0'16     | 0'05      | 0'10      | 0'16  |
|                 | 4th -                | 0'09     | 0'11      | 0'19   | 0'19   | 0'13 | 0'29  | 0'17  | 0'19    | 0'33       | 0'23     | 0'11      | 0'09      | 0'18  |
|                 | Mean                 | 0'09     | 0'11      | 0'23   | 0'20   | 0'12 | 0'21  | 0'17  | 0'17    | 0'34       | 0'17     | 0'07      | 0'09      | 0'16  |
| $\mu_1$         | 1st -                | 222°     | 217°      | 214°   | 212°   | 211° | 208°  | 208°  | 213°    | 211°       | 212°     | 218°      | 223°      | 214°  |
|                 | 2nd -                | 216      | 216       | 217    | 212    | 210  | 211   | 211   | 213     | 212        | 212      | 220       | 226       | 215   |
|                 | 3rd -                | 213      | 216       | 214    | 214    | 212  | 209   | 211   | 212     | 210        | 213      | 218       | 217       | 213   |
|                 | 4th -                | 217      | 220       | 215    | 213    | 210  | 211   | 212   | 213     | 211        | 216      | 218       | 222       | 215   |
|                 | Mean                 | 217      | 217       | 215    | 213    | 211  | 210   | 210   | 213     | 211        | 213      | 219       | 222       | 214   |
| $\mu_2$         | 1st -                | 22       | 21        | 18     | 9      | 0    | - 8   | 0     | 16      | 19         | 19       | 22        | 18        | 14    |
|                 | 2nd -                | 19       | 17        | 17     | 14     | 6    | 8     | 15    | 15      | 15         | 18       | 20        | 20        | 14    |
|                 | 3rd -                | 25       | 19        | 22     | 12     | 17   | 9     | 11    | 17      | 13         | 18       | 20        | 23        | 17    |
|                 | 4th -                | 20       | 20        | 16     | 17     | - 2  | - 1   | 13    | 14      | 16         | 17       | 21        | 20        | 14    |
|                 | Mean                 | 21       | 19        | 18     | 13     | 8    | 1     | 8     | 16      | 16         | 18       | 21        | 20        | 15    |
| $\mu_3$         | 1st -                | 75       | 69        | 40     | 14     | 14   | 16    | 12    | 15      | 21         | 66       | 75        | 76        | 41    |
|                 | 2nd -                | 74       | 70        | 30     | 19     | 14   | 12    | 12    | 18      | 36         | 68       | 73        | 73        | 41    |
|                 | 3rd -                | 73       | 69        | 40     | 15     | 11   | 13    | 10    | 13      | 23         | 68       | 72        | 72        | 40    |
|                 | 4th -                | 72       | 66        | 49     | 22     | 13   | 12    | 11    | 16      | 26         | 62       | 70        | 77        | 41    |
|                 | Mean                 | 74       | 69        | 40     | 18     | 13   | 13    | 11    | 16      | 27         | 66       | 73        | 74        | 41    |
| $\mu_4$         | 1st -                | 12       | 56        | 58     | 47     | 25   | 16    | 23    | 46      | 58         | 62       | 25        | 12        | 36    |
|                 | 2nd -                | 14       | 57        | 57     | 55     | 27   | 20    | 30    | 47      | 60         | 62       | 16        | 14        | 38    |
|                 | 3rd -                | 10       | 65        | 56     | 48     | 16   | 17    | 24    | 38      | 57         | 51       | - 8       | 0         | 31    |
|                 | 4th -                | 5        | 68        | 61     | 61     | 24   | 11    | 7     | 46      | 57         | 62       | 9         | 15        | 35    |
|                 | Mean                 | 10       | 62        | 58     | 53     | 23   | 16    | 21    | 44      | 58         | 59       | 11        | 10        | 35    |
| Time of sunrise |                      | 118°     | 106°      | 91°    | 77°    | 66°  | 58°   | 61°   | 72°     | 87°        | 101°     | 115°      | 122°      | -     |



TABLE VIIIA.

VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at GREENWICH, for each MONTH of the YEAR, and the entire YEAR; obtained from the MEAN TEMPERATURES for 20 YEARS of each MONTH and of the entire YEAR. (Given in Table IVA.)

|           | MONTHS. | $P_1$ . | $\mu_1$ . | $P_2$ . | $\mu_2$ . | $P_3$ . | $\mu_3$ . | $P_4$ . | $\mu_4$ . |
|-----------|---------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| January   | -       | 1'88    | 220       | 1'94    | 24        | 1'35    | 70        | 1'06    | 11        |
| February  | -       | 3'16    | 221       | 1'25    | 23        | 1'29    | 72        | 1'07    | 68        |
| March     | -       | 4'65    | 217       | 1'34    | 20        | 1'14    | 38        | 1'22    | 60        |
| April     | -       | 6'49    | 213       | 1'18    | 14        | 1'45    | 18        | 1'17    | 52        |
| May       | -       | 7'30    | 210       | 1'67    | 8         | 1'63    | 12        | 1'09    | 24        |
| June      | -       | 7'71    | 210       | 1'50    | 2         | 1'60    | 15        | 1'20    | 15        |
| July      | -       | 7'74    | 212       | 1'62    | 10        | 1'63    | 12        | 1'12    | 27        |
| August    | -       | 7'17    | 212       | 1'09    | 15        | 1'55    | 15        | 1'16    | 44        |
| September | -       | 6'46    | 210       | 1'71    | 15        | 1'26    | 26        | 1'33    | 56        |
| October   | -       | 4'16    | 209       | 1'54    | 14        | 1'26    | 63        | 1'14    | 56        |
| November  | -       | 2'79    | 215       | 1'17    | 17        | 1'39    | 69        | 1'03    | 5         |
| December  | -       | 1'62    | 221       | 1'75    | 19        | 1'33    | 73        | 1'08    | 10        |
| Year      | -       | 5'083   | 213       | 1'046   | 16        | 1'134   | 20        | 1'047   | 50        |

TABLE IXA.

MEAN HOURLY VALUES of AIR TEMPERATURE at GREENWICH for each MONTH of the YEAR, for the 20 YEARS from 1849 to 1868; corrected for NON-PERIODICAL CHANGE.

| Hour.   | Jan.  | Feb.  | March. | April. | May.  | June. | July. | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Year. | Hour. |
|---------|-------|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| M. 0 -  | 37'92 | 37'99 | 38'63  | 42'94  | 47'42 | 53'99 | 56'96 | 57'06 | 53'26 | 48'36 | 41'14 | 39'92 | 46'29 | 0 M.  |
| 1 -     | 37'83 | 37'79 | 38'34  | 42'44  | 46'90 | 53'37 | 56'32 | 56'57 | 52'94 | 48'19 | 41'00 | 39'79 | 45'96 | 1     |
| 2 -     | 37'78 | 37'61 | 38'08  | 42'03  | 46'39 | 52'88 | 55'78 | 56'13 | 52'58 | 47'97 | 40'88 | 39'69 | 45'65 | 2     |
| 3 -     | 37'69 | 37'43 | 37'84  | 41'66  | 46'04 | 52'51 | 55'39 | 55'78 | 52'35 | 47'77 | 40'76 | 39'56 | 45'40 | 3     |
| 4 -     | 37'60 | 37'27 | 37'67  | 41'44  | 45'81 | 52'31 | 55'49 | 55'17 | 52'18 | 47'71 | 40'61 | 39'48 | 45'23 | 4     |
| 5 -     | 37'54 | 37'15 | 37'48  | 41'34  | 46'27 | 53'00 | 55'64 | 55'42 | 52'09 | 47'58 | 40'58 | 39'43 | 45'30 | 5     |
| 6 -     | 37'43 | 37'06 | 37'43  | 41'93  | 48'06 | 55'12 | 57'39 | 56'36 | 52'23 | 47'59 | 40'57 | 39'40 | 45'88 | 6     |
| 7 -     | 37'39 | 37'04 | 37'91  | 43'89  | 50'60 | 57'85 | 60'06 | 58'77 | 53'58 | 47'95 | 40'59 | 39'38 | 47'08 | 7     |
| 8 -     | 37'47 | 37'47 | 39'42  | 46'31  | 52'89 | 59'99 | 62'44 | 61'30 | 56'07 | 49'21 | 41'01 | 39'46 | 48'58 | 8     |
| 9 -     | 37'96 | 38'72 | 41'52  | 48'72  | 55'13 | 62'24 | 64'73 | 63'78 | 59'02 | 51'34 | 42'17 | 39'91 | 50'44 | 9     |
| 10 -    | 39'05 | 40'45 | 43'41  | 50'61  | 56'83 | 63'96 | 66'47 | 65'59 | 61'36 | 53'26 | 43'82 | 40'93 | 52'15 | 10    |
| 11 -    | 40'25 | 41'89 | 44'90  | 52'15  | 58'11 | 65'31 | 67'88 | 67'09 | 63'09 | 54'86 | 45'22 | 42'00 | 53'56 | 11    |
| N. 12 - | 41'32 | 43'22 | 46'19  | 53'41  | 59'29 | 66'72 | 69'31 | 68'68 | 64'39 | 56'04 | 46'33 | 42'84 | 54'81 | 12 N. |
| 13 -    | 41'89 | 43'91 | 46'80  | 54'09  | 59'93 | 67'27 | 70'09 | 69'31 | 64'96 | 56'50 | 46'87 | 43'25 | 55'40 | 13    |
| 14 -    | 41'99 | 44'08 | 47'11  | 54'32  | 60'14 | 67'39 | 70'43 | 69'67 | 65'08 | 56'48 | 46'92 | 43'35 | 55'58 | 14    |
| 15 -    | 41'55 | 43'78 | 46'90  | 54'12  | 60'01 | 67'16 | 70'36 | 69'53 | 64'66 | 55'73 | 46'16 | 42'81 | 55'23 | 15    |
| 16 -    | 40'71 | 42'97 | 46'15  | 53'25  | 59'22 | 66'33 | 69'64 | 68'61 | 63'39 | 54'36 | 44'99 | 42'03 | 54'31 | 16    |
| 17 -    | 39'85 | 41'71 | 44'83  | 51'84  | 57'95 | 65'36 | 68'35 | 67'06 | 61'49 | 52'74 | 44'04 | 41'50 | 53'06 | 17    |
| 18 -    | 39'29 | 40'63 | 43'22  | 50'16  | 56'19 | 63'60 | 66'44 | 65'25 | 59'21 | 51'49 | 43'33 | 41'13 | 51'67 | 18    |
| 19 -    | 38'91 | 39'91 | 41'82  | 47'78  | 53'95 | 61'48 | 64'25 | 62'82 | 57'25 | 50'57 | 42'76 | 40'79 | 50'19 | 19    |
| 20 -    | 38'59 | 39'36 | 40'83  | 46'17  | 51'61 | 58'88 | 61'75 | 60'86 | 56'00 | 49'87 | 42'37 | 40'65 | 48'91 | 20    |
| 21 -    | 38'35 | 38'86 | 40'04  | 44'99  | 50'93 | 58'83 | 59'37 | 54'96 | 49'35 | 41'97 | 40'43 | 47'92 | 47'21 | 21    |
| 22 -    | 38'21 | 38'53 | 39'47  | 44'17  | 48'92 | 55'68 | 58'64 | 58'42 | 54'33 | 48'98 | 41'61 | 40'25 | 47'26 | 22    |
| 23 -    | 38'04 | 38'22 | 38'99  | 43'44  | 48'11 | 54'75 | 57'70 | 57'65 | 53'74 | 48'60 | 41'33 | 40'08 | 46'72 | 23    |
| Mean    | 38'94 | 39'71 | 41'45  | 47'21  | 52'73 | 59'75 | 62'54 | 61'94 | 57'51 | 50'94 | 42'80 | 40'75 | 49'69 | Mean. |

TABLE XA.

CORRECTIONS which should be applied in each MONTH to the INITIAL MIDNIGHT VALUE of AIR TEMPERATURE (Tables XXXVIII—XLIX. of the Greenwich Meteorological Observations from 1849 to 1868) in order to obtain the VALUE for the MIDNIGHT following.

| YEAR. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. |
|-------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|
| 1849  | 0'0      | +0'4      | +0'4   | -0'5   | +0'3 | -0'3  | +0'2  | +0'3    | -0'1       | -0'2     | -0'7      | -0'3      |
| 1850  | +0'4     | -0'3      | +0'2   | -0'4   | +0'3 | +0'5  | +0'1  | -0'3    | -0'3       | +0'1     | -0'5      | +0'6      |
| 1851  | -0'5     | -0'2      | +0'3   | 0'0    | 0'0  | +0'4  | +0'1  | -0'2    | -0'2       | -0'4     | -0'4      | +0'2      |
| 1852  | +0'6     | -0'8      | 0'0    | +0'2   | -0'1 | +0'3  | +0'1  | -0'3    | -0'3       | -0'1     | -0'5      | +1'3      |
| 1853  | -0'9     | -0'1      | -0'7   | +0'2   | +0'2 | +0'1  | +0'4  | -0'2    | -0'3       | +0'1     | -0'3      | -0'8      |
| 1854  | +0'6     | -0'5      | +0'4   | +0'2   | 0'0  | +0'3  | +0'2  | -0'3    | +0'1       | -0'1     | -0'1      | -0'1      |
| 1855  | -0'5     | +0'5      | -0'3   | +0'3   | 0'0  | +0'5  | -0'3  | 0'0     | 0'0        | -0'4     | -0'2      | 0'0       |
| 1856  | -0'2     | +0'3      | -0'1   | +0'2   | +0'3 | +0'3  | +0'1  | 0'0     | -0'2       | -0'1     | -0'8      | +0'8      |
| 1857  | -0'6     | +0'1      | +0'2   | -0'1   | +0'4 | -0'4  | -0'6  | 0'0     | -0'3       | +0'1     | -0'3      | -0'2      |
| 1858  | +0'1     | -0'5      | +0'3   | 0'0    | +0'3 | 0'0   | 0'0   | -0'4    | -0'2       | -0'5     | +0'3      | 0'0       |
| 1859  | -0'1     | +0'3      | -0'5   | +0'5   | +0'5 | -0'2  | +0'3  | -0'2    | +0'2       | 0'0      | -1'2      | +0'6      |
| 1860  | -0'5     | 0'0       | +0'5   | -0'2   | +0'2 | -0'1  | +0'3  | -0'1    | -0'1       | -0'1     | -0'2      | -0'6      |
| 1861  | -1'1     | 0'0       | -0'1   | +0'3   | +0'3 | +0'1  | -0'1  | -0'3    | 0'0        | -0'4     | -0'1      | -0'5      |
| 1862  | +0'5     | -0'9      | +0'6   | +0'6   | +0'4 | -0'1  | +0'2  | -0'1    | -          | -0'7     | -0'2      | +0'2      |
| 1863  | -0'2     | +0'1      | -0'2   | +0'1   | -0'5 | +0'2  | +0'2  | -0'5    | 0'0        | -0'3     | -0'8      | +0'2      |
| 1864  | +0'4     | +0'1      | +0'6   | +0'1   | -0'2 | +0'4  | +0'5  | -0'5    | +0'3       | -0'2     | -0'1      | -0'2      |
| 1865  | +0'4     | 0'0       | 0'0    | -0'3   | +0'6 | 0'0   | +0'2  | +0'3    | -0'2       | -0'4     | +0'2      | 0'0       |
| 1866  | +0'2     | -0'7      | +0'4   | -0'1   | +0'4 | +0'2  | -0'2  | +0'1    | -0'2       | -0'6     | -0'8      | 0'0       |
| 1867  | +0'4     | -0'7      | +0'2   | +0'2   | +0'3 | -0'1  | -0'2  | +0'4    | -0'5       | +0'2     | -0'2      | -0'6      |
| 1868  | +0'6     | -0'3      | +0'1   | +0'3   | +0'1 | +0'1  | 0'0   | -0'1    | -0'2       | +0'1     | -0'6      | 0'0       |

In the month of September 1862 the photographic records were not sufficiently complete to be used.



## HARMONIC ANALYSIS OF HOURLY OBSERVATIONS

TABLE XI.  
YEARLY MEAN TEMPERATURE at each Hour, corrected for the VARIATION of TEMPERATURE between the INITIAL and TERMINAL MIDNIGHT  
VALUES, for each Year 1849-1868.

| Year. | Midnight. | 1 a.m. | 2 a.m. | 3 a.m. | 4 a.m. | 5 a.m. | 6 a.m. | 7 a.m. | 8 a.m. | 9 a.m. | 10 a.m. | 11 a.m. | Noon. | 1 p.m. | 2 p.m. | 3 p.m. | 4 p.m. | 5 p.m. | 6 p.m. | 7 p.m. | 8 p.m. | 9 p.m. | 10 p.m. | 11 p.m. | Means. |
|-------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|
| 1849  | 47.1      | 46.8   | 46.5   | 46.3   | 46.1   | 46.2   | 46.8   | 48.1   | 49.5   | 51.4   | 52.9    | 54.0    | 55.3  | 55.7   | 55.8   | 55.6   | 54.8   | 53.4   | 52.1   | 50.7   | 49.4   | 48.5   | 47.9    | 47.4    | 50.3   |
| 1850  | 46.1      | 45.8   | 45.5   | 45.2   | 45.1   | 45.1   | 45.8   | 47.0   | 48.5   | 50.2   | 52.0    | 53.3    | 54.4  | 55.0   | 55.3   | 55.0   | 54.2   | 53.0   | 51.5   | 50.1   | 48.8   | 47.9   | 47.2    | 46.6    | 49.5   |
| 1851  | 46.0      | 45.6   | 45.3   | 45.1   | 44.9   | 44.9   | 45.5   | 46.8   | 48.3   | 50.2   | 51.8    | 53.3    | 54.5  | 55.1   | 55.3   | 54.8   | 53.9   | 52.7   | 51.3   | 49.8   | 48.6   | 47.7   | 47.0    | 46.4    | 49.4   |
| 1852  | 47.2      | 46.9   | 46.6   | 46.4   | 46.2   | 46.3   | 46.8   | 47.9   | 49.4   | 51.4   | 53.2    | 54.6    | 55.8  | 56.5   | 56.7   | 56.3   | 55.4   | 54.0   | 52.5   | 51.0   | 49.7   | 48.7   | 48.1    | 47.6    | 50.6   |
| 1853  | 44.5      | 44.2   | 44.0   | 43.8   | 43.6   | 43.6   | 44.3   | 45.5   | 46.9   | 48.4   | 49.8    | 50.9    | 52.0  | 52.6   | 52.8   | 52.3   | 51.6   | 50.4   | 49.1   | 47.9   | 46.8   | 45.9   | 45.3    | 44.8    | 47.5   |
| 1854  | 45.6      | 45.1   | 44.8   | 44.5   | 44.2   | 44.3   | 44.8   | 45.9   | 47.6   | 49.9   | 51.9    | 53.5    | 54.8  | 55.6   | 55.9   | 55.5   | 54.4   | 53.1   | 51.5   | 49.9   | 48.5   | 47.4   | 46.6    | 46.1    | 49.2   |
| 1855  | 43.9      | 43.5   | 43.2   | 43.0   | 42.9   | 42.9   | 43.3   | 44.4   | 46.0   | 47.9   | 49.8    | 51.1    | 52.3  | 53.0   | 53.1   | 52.6   | 51.7   | 50.6   | 49.2   | 47.6   | 46.4   | 45.3   | 44.6    | 44.2    | 47.2   |
| 1856  | 46.0      | 45.7   | 45.4   | 45.0   | 44.8   | 44.8   | 45.3   | 46.6   | 47.9   | 49.9   | 51.6    | 52.8    | 54.1  | 54.6   | 54.8   | 54.4   | 53.4   | 52.2   | 50.9   | 49.6   | 48.4   | 47.5   | 47.0    | 46.5    | 49.1   |
| 1857  | 47.6      | 47.2   | 46.9   | 46.6   | 46.4   | 46.4   | 47.0   | 48.4   | 50.2   | 52.2   | 54.0    | 55.5    | 56.8  | 57.4   | 57.6   | 57.2   | 56.2   | 54.7   | 53.2   | 51.8   | 50.5   | 49.4   | 48.7    | 48.1    | 51.2   |
| 1858  | 45.9      | 45.4   | 45.0   | 44.8   | 44.6   | 44.7   | 45.4   | 46.5   | 48.2   | 49.7   | 51.5    | 53.1    | 54.5  | 55.8   | 56.1   | 55.5   | 54.4   | 53.0   | 51.6   | 50.1   | 48.8   | 47.7   | 46.9    | 46.3    | 49.5   |
| 1859  | 47.4      | 47.1   | 46.8   | 46.6   | 46.4   | 46.5   | 47.1   | 48.1   | 49.6   | 51.5   | 53.3    | 54.9    | 56.1  | 56.8   | 57.0   | 56.7   | 55.7   | 54.3   | 52.9   | 51.4   | 50.0   | 48.9   | 48.3    | 47.8    | 50.9   |
| 1860  | 44.7      | 44.4   | 44.1   | 43.8   | 43.5   | 43.9   | 44.3   | 45.3   | 46.6   | 48.2   | 49.7    | 50.9    | 52.1  | 52.6   | 52.8   | 52.5   | 51.6   | 50.4   | 49.2   | 48.0   | 46.8   | 45.9   | 45.4    | 45.0    | 47.6   |
| 1861  | 46.6      | 46.2   | 46.0   | 45.7   | 45.6   | 45.8   | 46.5   | 47.5   | 49.0   | 50.7   | 52.3    | 53.8    | 55.2  | 55.7   | 55.9   | 55.7   | 54.6   | 53.3   | 52.0   | 50.6   | 49.3   | 48.3   | 47.7    | 47.1    | 50.0   |
| 1862  | 46.3      | 46.1   | 45.8   | 45.7   | 45.5   | 45.7   | 46.2   | 47.1   | 48.3   | 49.8   | 51.1    | 52.3    | 53.5  | 53.9   | 54.1   | 53.8   | 53.1   | 52.1   | 51.0   | 49.7   | 48.7   | 47.8   | 47.2    | 46.7    | 49.2   |
| 1863  | 47.2      | 46.8   | 46.4   | 46.2   | 46.1   | 46.2   | 46.9   | 48.2   | 49.7   | 51.5   | 53.1    | 54.5    | 55.9  | 56.5   | 56.8   | 56.4   | 55.3   | 53.9   | 52.5   | 51.2   | 50.0   | 49.0   | 48.2    | 47.6    | 50.7   |
| 1864  | 45.5      | 45.1   | 44.7   | 44.4   | 44.2   | 44.2   | 44.8   | 46.0   | 47.7   | 49.5   | 51.3    | 52.9    | 54.4  | 54.9   | 55.1   | 54.8   | 53.8   | 52.6   | 51.2   | 49.6   | 48.3   | 47.4   | 46.7    | 46.0    | 49.0   |
| 1865  | 47.2      | 46.8   | 46.4   | 46.1   | 45.9   | 45.9   | 46.6   | 47.9   | 49.3   | 51.3   | 53.4    | 55.2    | 56.6  | 57.2   | 57.4   | 57.0   | 56.1   | 54.9   | 53.4   | 51.6   | 50.1   | 49.0   | 48.3    | 47.7    | 50.9   |
| 1866  | 47.2      | 46.8   | 46.6   | 46.4   | 46.2   | 46.3   | 46.9   | 48.1   | 49.5   | 51.2   | 52.8    | 54.2    | 55.2  | 55.8   | 55.9   | 55.5   | 54.7   | 53.7   | 52.4   | 50.9   | 49.5   | 48.6   | 48.0    | 47.4    | 50.4   |
| 1867  | 45.6      | 45.3   | 45.1   | 44.8   | 44.6   | 44.7   | 45.4   | 46.7   | 47.9   | 49.5   | 51.1    | 52.4    | 53.5  | 54.0   | 54.2   | 53.8   | 53.1   | 52.0   | 50.7   | 49.2   | 48.1   | 47.1   | 46.5    | 46.0    | 48.8   |
| 1868  | 48.1      | 47.6   | 47.3   | 47.0   | 46.8   | 46.9   | 47.7   | 49.3   | 51.0   | 53.0   | 54.9    | 56.5    | 57.9  | 58.3   | 58.5   | 58.2   | 57.2   | 56.0   | 54.4   | 52.7   | 51.3   | 50.0   | 49.3    | 48.7    | 52.0   |
| Mean  | 46.3      | 45.9   | 45.6   | 45.4   | 45.2   | 45.3   | 45.9   | 47.1   | 48.6   | 50.4   | 52.1    | 53.5    | 54.8  | 55.4   | 55.5   | 55.2   | 54.3   | 53.0   | 51.6   | 50.2   | 48.9   | 47.9   | 47.2    | 46.7    | 49.7   |

\* Means for 11 months only.

TABLE IB.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH, for each MONTH of the YEAR, and for each YEAR, from 1854 to 1873; calculated from Mean Hourly Pressures of the several Months.

| YEARS.        | JANUARY. |       |       |        |        |        |        |        |        | FEBRUARY. |        |        |        |        |        |        |        |        |        |
|---------------|----------|-------|-------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|               | $p_1$    | $q_1$ | $p_2$ | $q_2$  | $p_3$  | $q_3$  | $p_4$  | $q_4$  | $p_1$  | $q_1$     | $p_2$  | $q_2$  | $p_3$  | $q_3$  | $p_4$  | $q_4$  |        |        |        |
| 1854          | -        | -     | -     | +.0005 | +.0028 | +.0040 | -.0088 | -.0006 | +.0058 | -.0016    | -.0011 | -.0053 | -.0049 | +.0089 | -.0088 | -.0006 | +.0037 | +.0001 | +.0004 |
| 1855          | -        | -     | -     | +.0025 | -.0026 | +.0082 | -.0042 | -.0012 | +.0031 | -.0007    | -.0020 | -.0029 | -.0008 | +.0089 | -.0073 | -.0010 | +.0031 | -.0009 | -.0011 |
| 1856          | -        | -     | -     | -.0091 | -.0043 | -.0020 | -.0056 | -.0007 | +.0062 | -.0011    | -.0017 | -.0013 | +.0070 | +.0070 | -.0074 | -.0021 | +.0022 | -.0009 | -.0013 |
| 1857          | -        | -     | -     | -.0012 | -.0115 | +.0034 | -.0078 | -.0021 | +.0042 | +.0003    | -.0035 | -.0028 | +.0058 | +.0086 | -.0088 | -.0011 | +.0020 | -.0005 | +.0002 |
| 1858          | -        | -     | -     | +.0059 | -.0052 | +.0015 | -.0071 | -.0024 | +.0026 | +.0006    | -.0012 | +.0023 | +.0008 | +.0037 | -.0068 | -.0012 | +.0014 | +.0014 | +.0001 |
| Mean          | -        | -     | -     | -.0003 | -.0042 | +.0030 | -.0067 | -.0014 | +.0044 | -.0005    | -.0019 | -.0020 | +.0016 | +.0074 | -.0078 | -.0012 | +.0027 | -.0002 | -.0003 |
| 1859          | -        | -     | -     | -.0003 | +.0051 | +.0020 | -.0089 | -.0021 | +.0048 | -.0009    | -.0015 | -.0057 | +.0011 | +.0032 | -.0106 | -.0038 | +.0039 | -.0001 | -.0007 |
| 1860          | -        | -     | -     | -.0062 | +.0019 | -.0027 | -.0070 | -.0000 | +.0037 | -.0003    | -.0031 | +.0068 | -.0001 | +.0068 | -.0070 | -.0021 | +.0012 | +.0005 | -.0006 |
| 1861          | -        | -     | -     | +.0034 | -.0073 | +.0023 | -.0044 | -.0004 | +.0030 | +.0008    | -.0015 | -.0009 | +.0028 | +.0062 | -.0082 | -.0021 | +.0017 | +.0016 | -.0012 |
| 1862          | -        | -     | -     | +.0119 | -.0016 | +.0012 | -.0040 | -.0016 | +.0044 | +.0003    | -.0022 | +.0037 | -.0026 | +.0034 | -.0042 | -.0006 | +.0037 | +.0006 | -.0002 |
| 1863          | -        | -     | -     | +.0192 | -.0155 | +.0048 | -.0046 | -.0025 | +.0033 | -.0001    | -.0013 | -.0063 | +.0061 | +.0059 | -.0065 | -.0006 | +.0037 | +.0003 | -.0008 |
| Mean          | -        | -     | -     | +.0056 | -.0035 | +.0015 | -.0058 | -.0013 | +.0038 | -.0000    | -.0019 | -.0005 | +.0015 | +.0051 | -.0073 | -.0018 | +.0028 | +.0006 | -.0007 |
| 1864          | -        | -     | -     | +.0011 | -.0032 | +.0060 | -.0055 | -.0011 | +.0039 | +.0002    | -.0027 | +.0178 | +.0107 | +.0007 | -.0035 | -.0023 | +.0021 | +.0019 | -.0004 |
| 1865          | -        | -     | -     | -.0069 | -.0094 | +.0017 | -.0041 | +.0009 | +.0043 | -.0010    | -.0028 | -.0086 | +.0002 | +.0052 | -.0050 | -.0008 | +.0031 | +.0011 | +.0010 |
| 1866          | -        | -     | -     | +.0133 | -.0137 | +.0042 | -.0091 | +.0004 | +.0050 | -.0013    | -.0027 | +.0152 | +.0129 | +.0031 | -.0066 | -.0030 | +.0022 | +.0006 | -.0001 |
| 1867          | -        | -     | -     | -.0051 | -.0073 | +.0054 | -.0052 | -.0011 | +.0033 | -.0021    | -.0025 | -.0084 | -.0034 | +.0067 | -.0108 | -.0022 | +.0022 | -.0000 | -.0007 |
| 1868          | -        | -     | -     | +.0025 | +.0108 | +.0059 | -.0026 | -.0044 | -.0014 | -.0042    | -.0015 | -.0053 | +.0044 | +.0006 | -.0081 | -.0011 | +.0036 | +.0006 | -.0006 |
| Mean          | -        | -     | -     | +.0010 | -.0046 | +.0046 | -.0005 | -.0007 | +.0042 | -.0011    | -.0030 | +.0020 | +.0030 | +.0040 | -.0068 | -.0019 | +.0026 | +.0008 | -.0002 |
| 1869          | -        | -     | -     | -.0071 | -.0146 | +.0019 | -.0009 | -.0003 | +.0039 | -.0002    | -.0020 | +.0023 | -.0060 | +.0065 | -.0133 | -.0037 | +.0052 | +.0019 | +.0012 |
| 1870          | -        | -     | -     | +.0019 | -.0092 | +.0050 | -.0079 | -.0000 | +.0042 | -.0014    | -.0022 | +.0007 | +.0059 | +.0061 | -.0072 | -.0004 | +.0033 | +.0008 | -.0003 |
| 1871          | -        | -     | -     | +.0033 | +.0030 | +.0042 | -.0077 | -.0015 | +.0048 | -.0026    | -.0017 | +.0055 | +.0001 | +.0081 | -.0088 | -.0010 | +.0029 | +.0012 | -.0003 |
| 1872          | -        | -     | -     | -.0086 | -.0136 | +.0049 | -.0082 | +.0002 | +.0055 | -.0003    | -.0022 | -.0006 | +.0096 | +.0053 | -.0072 | -.0007 | +.0043 | +.0011 | +.0001 |
| 1873          | -        | -     | -     | -.0047 | -.0040 | +.0013 | -.0098 | +.0001 | +.0055 | -.0006    | -.0020 | -.0009 | +.0018 | +.0047 | -.0103 | -.0000 | +.0038 | +.0001 | +.0004 |
| Mean          | -        | -     | -     | -.0030 | -.0079 | +.0035 | -.0087 | -.0003 | +.0048 | -.0010    | -.0024 | +.0014 | -.0016 | +.0061 | -.0094 | -.0012 | +.0039 | +.0010 | +.0002 |
| Mean 20 years | -        | -     | -     | +.0008 | -.0050 | +.0032 | -.0009 | -.0009 | +.0043 | -.0007    | -.0023 | +.0005 | +.0011 | +.0057 | -.0078 | -.0015 | +.0030 | +.0006 | -.0002 |

| YEARS.        | MARCH. |       |       |        |        |        |        |        |        | APRIL. |        |        |        |        |        |        |        |        |        |
|---------------|--------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|               | $p_1$  | $q_1$ | $p_2$ | $q_2$  | $p_3$  | $q_3$  | $p_4$  | $q_4$  | $p_1$  | $q_1$  | $p_2$  | $q_2$  | $p_3$  | $q_3$  | $p_4$  | $q_4$  |        |        |        |
| 1854          | -      | -     | -     | +.0012 | +.0056 | +.0112 | -.0085 | -.0000 | +.0009 | -.0008 | +.0009 | +.0067 | +.0055 | +.0090 | -.0090 | +.0111 | -.0006 | -.0012 | +.0012 |
| 1855          | -      | -     | -     | +.0063 | +.0013 | +.0147 | -.0076 | +.0002 | +.0011 | -.0019 | +.0007 | +.0007 | +.0065 | +.0097 | -.0097 | +.0001 | +.0004 | -.0018 | +.0007 |
| 1856          | -      | -     | -     | +.0018 | +.0062 | +.0048 | -.0006 | -.0000 | -.0003 | +.0004 | +.0004 | +.0043 | -.0019 | +.0086 | -.0076 | +.0001 | -.0000 | -.0003 | -.0003 |
| 1857          | -      | -     | -     | +.0069 | +.0009 | +.0070 | -.0009 | +.0016 | +.0008 | +.0006 | -.0017 | +.0002 | +.0051 | -.0058 | -.0007 | +.0001 | -.0001 | +.0011 | +.0011 |
| 1858          | -      | -     | -     | -.0069 | +.0009 | +.0043 | -.0066 | -.0013 | +.0014 | +.0003 | +.0007 | -.0113 | -.0032 | +.0068 | -.0066 | +.0015 | +.0010 | -.0001 | -.0007 |
| Mean          | -      | -     | -     | +.0019 | +.0030 | +.0084 | -.0072 | -.0005 | +.0010 | -.0004 | +.0007 | -.0003 | +.0014 | +.0078 | -.0077 | +.0004 | +.0002 | -.0007 | +.0004 |
| 1859          | -      | -     | -     | +.0076 | -.0048 | +.0086 | -.0059 | +.0001 | -.0011 | +.0011 | -.0011 | -.0041 | -.0043 | +.0061 | -.0060 | +.0004 | -.0021 | -.0007 | -.0008 |
| 1860          | -      | -     | -     | +.0004 | +.0021 | +.0050 | -.0078 | -.0004 | +.0018 | +.0006 | +.0009 | +.0002 | +.0013 | +.0064 | -.0090 | -.0001 | -.0004 | -.0006 | +.0007 |
| 1861          | -      | -     | -     | +.0049 | +.0039 | +.0082 | -.0092 | -.0006 | +.0002 | -.0008 | +.0001 | -.0022 | +.0063 | +.0066 | -.0054 | -.0001 | -.0004 | -.0006 | -.0004 |
| 1862          | -      | -     | -     | -.0038 | +.0047 | +.0068 | -.0048 | -.0008 | +.0010 | -.0000 | -.0004 | -.0011 | +.0063 | +.0036 | -.0044 | -.0002 | -.0018 | -.0011 | +.0014 |
| 1863          | -      | -     | -     | +.0055 | +.0131 | +.0056 | -.0073 | -.0017 | +.0010 | +.0011 | -.0001 | +.0065 | +.0108 | +.0043 | -.0050 | +.0008 | +.0001 | -.0009 | -.0001 |
| Mean          | -      | -     | -     | +.0020 | +.0038 | +.0068 | -.0070 | -.0007 | +.0006 | +.0004 | -.0001 | -.0001 | +.0041 | +.0054 | -.0060 | +.0002 | -.0009 | -.0008 | +.0002 |
| 1864          | -      | -     | -     | +.0080 | +.0023 | +.0053 | -.0021 | +.0009 | +.0015 | +.0010 | +.0001 | -.0033 | +.0091 | +.0070 | -.0058 | -.0004 | +.0008 | -.0010 | +.0001 |
| 1865          | -      | -     | -     | +.0010 | +.0032 | +.0056 | -.0063 | -.0015 | +.0004 | -.0002 | -.0000 | +.0035 | +.0140 | +.0099 | -.0096 | -.0002 | -.0006 | -.0009 | -.0008 |
| 1866          | -      | -     | -     | -.0047 | +.0028 | +.0046 | -.0089 | -.0002 | +.0014 | -.0001 | -.0010 | -.0031 | +.0067 | +.0054 | -.0078 | -.0003 | -.0010 | -.0005 | +.0004 |
| 1867          | -      | -     | -     | -.0028 | +.0016 | +.0064 | -.0085 | -.0011 | -.0001 | -.0006 | -.0003 | -.0051 | +.0090 | +.0066 | -.0076 | +.0011 | +.0003 | -.0003 | -.0001 |
| 1868          | -      | -     | -     | -.0074 | -.0012 | +.0066 | -.0095 | -.0000 | +.0026 | +.0003 | +.0012 | -      | -      | -      | -      | -      | -      | -      | -      |
| Mean          | -      | -     | -     | -.0012 | +.0017 | +.0057 | -.0071 | -.0004 | +.0012 | +.0001 | +.0004 | -.0020 | +.0097 | +.0072 | -.0077 | +.0001 | -.0001 | -.0007 | -.0001 |
| 1869          | -      | -     | -     | +.0042 | +.0010 | +.0054 | -.0095 | -.0002 | +.0014 | +.0006 | +.0020 | -.0034 | +.0075 | +.0054 | -.0086 | +.0001 | -.0004 | -.0002 | +.0012 |
| 1870          | -      | -     | -     | +.0051 | -.0053 | +.0086 | -.0084 | -.0017 | +.0010 | +.0008 | +.0007 | -.0018 | +.0109 | +.0072 | -.0099 | +.0004 | -.0008 | -.0004 | +.0004 |
| 1871          | -      | -     | -     | -.0016 | -.0013 | +.0113 | -.0113 | -.0011 | +.0006 | +.0001 | +.0022 | +.0026 | -.0056 | +.0063 | -.0109 | +.0001 | +.0001 | +.0002 | +.0017 |
| 1872          | -      | -     | -     | -.0019 | +.0077 | +.0052 | -.0109 | -.0011 | +.0016 | +.0009 | +.0020 | +.0065 | +.0078 | +.0052 | -.0058 | +.0001 | -.0019 | -.0003 | +.0014 |
| 1873          | -      | -     | -     | +.0048 | +.0052 | +.0055 | -.0100 | -.0005 | +.0011 | +.0004 | +.0011 | +.0034 | +.0074 | +.0059 | -.0090 | -.0010 | -.0008 | -.0000 | +.0002 |
| Mean          | -      | -     | -     | +.0021 | +.0015 | +.0072 | -.0100 | -.0009 | +.0011 | +.0006 | +.0016 | +.0019 | +.0056 | +.0060 | -.0094 | -.0001 | -.0008 | -.0001 | +.0010 |
| Mean 20 years | -      | -     | -     | +.0014 | +.0025 | +.0070 | -.0078 | -.0006 | +.0010 | +.0002 | +.0006 | -.0000 | +.0050 | +.0066 | -.0077 | +.0001 | -.0004 | -.0006 | +.0004 |



TABLE IB.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS, &c.—continued.

| YEARS.        | MAY.  |       |       |       |       |       |       |       | JUNE. |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1854          | +     | 0038  | +     | 0005  | +     | 0089  | +     | 0065  | +     | 0019  | +     | 0012  | +     | 0007  | +     | 0085  |
| 1855          | +     | 0037  | +     | 0055  | +     | 0081  | +     | 0016  | +     | 0033  | +     | 0014  | +     | 0006  | +     | 0026  |
| 1856          | +     | 0080  | +     | 0016  | +     | 0052  | +     | 0065  | +     | 0003  | +     | 0012  | +     | 0005  | +     | 0002  |
| 1857          | +     | 0011  | +     | 0008  | +     | 0078  | +     | 0051  | +     | 0015  | +     | 0010  | +     | 0009  | +     | 0007  |
| 1858          | +     | 0000  | +     | 0065  | +     | 0028  | +     | 0072  | +     | 0009  | +     | 0012  | +     | 0000  | +     | 0007  |
| Mean          | +     | 0033  | +     | 0041  | +     | 0066  | +     | 0061  | +     | 0012  | +     | 0014  | +     | 0008  | +     | 0001  |
| 1859          | +     | 0096  | +     | 0084  | +     | 0063  | +     | 0040  | +     | 0000  | +     | 0014  | +     | 0003  | +     | 0007  |
| 1860          | +     | 0007  | +     | 0040  | +     | 0021  | +     | 0068  | +     | 0001  | +     | 0004  | +     | 0003  | +     | 0007  |
| 1861          | +     | 0007  | +     | 0072  | +     | 0051  | +     | 0052  | +     | 0004  | +     | 0010  | +     | 0004  | +     | 0004  |
| 1862          | +     | 0072  | +     | 0058  | +     | 0042  | +     | 0034  | +     | 0003  | +     | 0006  | +     | 0002  | +     | 0019  |
| 1863          | +     | 0026  | +     | 0115  | +     | 0054  | +     | 0053  | +     | 0011  | +     | 0003  | +     | 0004  | +     | 0010  |
| Mean          | +     | 0039  | +     | 0074  | +     | 0046  | +     | 0049  | +     | 0003  | +     | 0007  | +     | 0001  | +     | 0005  |
| 1864          | +     | 0093  | +     | 0068  | +     | 0012  | +     | 0010  | +     | 0007  | +     | 0017  | +     | 0002  | +     | 0012  |
| 1865          | +     | 0022  | +     | 0073  | +     | 0091  | +     | 0071  | +     | 0012  | +     | 0026  | +     | 0009  | +     | 0004  |
| 1866          | +     | 0049  | +     | 0034  | +     | 0050  | +     | 0056  | +     | 0008  | +     | 0011  | +     | 0006  | +     | 0001  |
| 1867          | +     | 0003  | +     | 0039  | +     | 0052  | +     | 0067  | +     | 0002  | +     | 0017  | +     | 0005  | +     | 0001  |
| 1868          | +     | 0038  | +     | 0115  | +     | 0063  | +     | 0075  | +     | 0015  | +     | 0001  | +     | 0005  | +     | 0005  |
| Mean          | +     | 0031  | +     | 0039  | +     | 0054  | +     | 0054  | +     | 0009  | +     | 0017  | +     | 0003  | +     | 0002  |
| 1869          | +     | 0043  | +     | 0061  | +     | 0062  | +     | 0066  | +     | 0012  | +     | 0021  | +     | 0007  | +     | 0000  |
| 1870          | +     | 0022  | +     | 0156  | +     | 0069  | +     | 0087  | +     | 0008  | +     | 0015  | +     | 0002  | +     | 0007  |
| 1871          | +     | 0000  | +     | 0119  | +     | 0070  | +     | 0012  | +     | 0025  | +     | 0001  | +     | 0001  | +     | 0007  |
| 1872          | +     | 0079  | +     | 0055  | +     | 0040  | +     | 0081  | +     | 0008  | +     | 0030  | +     | 0011  | +     | 0103  |
| 1873          | +     | 0053  | +     | 0117  | +     | 0070  | +     | 0053  | +     | 0002  | +     | 0017  | +     | 0006  | +     | 0006  |
| Mean          | +     | 0039  | +     | 0102  | +     | 0062  | +     | 0073  | +     | 0008  | +     | 0022  | +     | 0005  | +     | 0003  |
| Mean 20 years | +     | 0036  | +     | 0064  | +     | 0057  | +     | 0060  | +     | 0008  | +     | 0015  | +     | 0004  | +     | 0001  |

| YEARS.        | JULY. |       |       |       |       |       |       |       | AUGUST. |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$   | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1854          | +     | 0023  | +     | 0047  | +     | 0098  | +     | 0030  | +       | 0012  | +     | 0014  | +     | 0020  | +     | 0004  |
| 1855          | +     | 0057  | +     | 0032  | +     | 0095  | +     | 0024  | +       | 0010  | +     | 0015  | +     | 0023  | +     | 0001  |
| 1856          | +     | 0022  | +     | 0030  | +     | 0034  | +     | 0038  | +       | 0005  | +     | 0001  | +     | 0002  | +     | 0016  |
| 1857          | +     | 0005  | +     | 0015  | +     | 0076  | +     | 0067  | +       | 0024  | +     | 0021  | +     | 0009  | +     | 0008  |
| 1858          | +     | 0006  | +     | 0033  | +     | 0040  | +     | 0041  | +       | 0028  | +     | 0020  | +     | 0017  | +     | 0006  |
| Mean          | +     | 0014  | +     | 0031  | +     | 0069  | +     | 0040  | +       | 0016  | +     | 0014  | +     | 0013  | +     | 0005  |
| 1859          | +     | 0019  | +     | 0063  | +     | 0060  | +     | 0032  | +       | 0010  | +     | 0004  | +     | 0001  | +     | 0009  |
| 1860          | +     | 0023  | +     | 0065  | +     | 0050  | +     | 0043  | +       | 0010  | +     | 0008  | +     | 0001  | +     | 0004  |
| 1861          | +     | 0012  | +     | 0003  | +     | 0036  | +     | 0048  | +       | 0000  | +     | 0017  | +     | 0011  | +     | 0003  |
| 1862          | +     | 0061  | +     | 0063  | +     | 0048  | +     | 0015  | +       | 0001  | +     | 0006  | +     | 0013  | +     | 0009  |
| 1863          | +     | 0004  | +     | 0122  | +     | 0042  | +     | 0025  | +       | 0016  | +     | 0017  | +     | 0010  | +     | 0001  |
| Mean          | +     | 0017  | +     | 0062  | +     | 0047  | +     | 0033  | +       | 0007  | +     | 0009  | +     | 0007  | +     | 0005  |
| 1864          | +     | 0030  | +     | 0092  | +     | 0049  | +     | 0048  | +       | 0015  | +     | 0011  | +     | 0007  | +     | 0003  |
| 1865          | +     | 0003  | +     | 0067  | +     | 0061  | +     | 0052  | +       | 0015  | +     | 0018  | +     | 0005  | +     | 0001  |
| 1866          | +     | 0027  | +     | 0034  | +     | 0058  | +     | 0087  | +       | 0017  | +     | 0019  | +     | 0001  | +     | 0005  |
| 1867          | +     | 0002  | +     | 0005  | +     | 0049  | +     | 0050  | +       | 0009  | +     | 0028  | +     | 0005  | +     | 0004  |
| 1868          | +     | 0027  | +     | 0121  | +     | 0093  | +     | 0008  | +       | 0026  | +     | 0000  | +     | 0007  | +     | 0047  |
| Mean          | +     | 0007  | +     | 0064  | +     | 0062  | +     | 0066  | +       | 0013  | +     | 0020  | +     | 0003  | +     | 0000  |
| 1869          | +     | 0042  | +     | 0127  | +     | 0068  | +     | 0081  | +       | 0009  | +     | 0025  | +     | 0008  | +     | 0002  |
| 1870          | +     | 0001  | +     | 0067  | +     | 0078  | +     | 0076  | +       | 0011  | +     | 0027  | +     | 0003  | +     | 0004  |
| 1871          | +     | 0001  | +     | 0010  | +     | 0048  | +     | 0066  | +       | 0010  | +     | 0020  | +     | 0000  | +     | 0002  |
| 1872          | +     | 0002  | +     | 0007  | +     | 0087  | +     | 0068  | +       | 0007  | +     | 0019  | +     | 0004  | +     | 0004  |
| 1873          | +     | 0002  | +     | 0107  | +     | 0062  | +     | 0065  | +       | 0021  | +     | 0024  | +     | 0003  | +     | 0001  |
| Mean          | +     | 0008  | +     | 0060  | +     | 0069  | +     | 0071  | +       | 0012  | +     | 0023  | +     | 0005  | +     | 0000  |
| Mean 20 years | +     | 0007  | +     | 0054  | +     | 0062  | +     | 0052  | +       | 0012  | +     | 0017  | +     | 0007  | +     | 0001  |

TABLE IB.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS, &c.—continued.

| YEARS.        | SEPTEMBER. |       |       |       |       |       |       |       | OCTOBER. |       |       |       |       |       |       |       |
|---------------|------------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$      | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | $p_1$    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ |
| 1854          | +          | 0012  | +     | 0089  | +     | 0114  | +     | 0058  | +        | 0008  | +     | 0012  | +     | 0019  | +     | 0003  |
| 1855          | +          | 0016  | +     | 0075  | +     | 0078  | +     | 0068  | +        | 0020  | +     | 0005  | +     | 0023  | +     | 0004  |
| 1856          | +          | 0003  | +     | 0021  | +     | 0044  | +     | 0069  | +        | 0007  | +     | 0005  | +     | 0001  | +     | 0017  |
| 1857          | +          | 0024  | +     | 0003  | +     | 0064  | +     | 0068  | +        | 0002  | +     | 0004  | +     | 0008  | +     | 0006  |
| 1858          | +          | 0027  | +     | 0020  | +     | 0068  | +     | 0093  | +        | 0003  | +     | 0000  | +     | 0003  | +     | 0038  |
| Mean          | +          | 0010  | +     | 0033  | +     | 0074  | +     | 0071  | +        | 0005  | +     | 0003  | +     | 0011  | +     | 0004  |
| 1859          | +          | 0009  | +     | 0065  | +     | 0064  | +     | 0088  | +        | 0002  | +     | 0003  | +     | 0015  | +     | 0008  |
| 1860          | +          | 0065  | +     | 0092  | +     | 0049  | +     | 0110  | +        | 0006  | +     | 0006  | +     | 0018  | +     | 0003  |
| 1861          | +          | 0028  | +     | 0018  | +     | 0058  | +     | 0071  | +        | 0017  | +     | 0004  | +     | 0005  | +     | 0001  |
| 1862          | +          | 0009  | +     | 0039  | +     | 0070  | +     | 0084  | +        | 0001  | +     | 0008  | +     | 0007  | +     | 0005  |
| 1863          | +          | 0038  | +     | 0032  | +     | 0039  | +     | 0044  | +        | 0001  | +     | 0010  | +     | 0003  | +     | 0005  |
| Mean          | +          | 0007  | +     | 0026  | +     | 0056  | +     | 0079  | +        | 0002  | +     | 0005  | +     | 0008  | +     | 0002  |
| 1864          | +          | 0066  | +     | 0023  | +     | 0054  | +     | 0102  | +        | 0004  | +     | 0005  | +     | 0008  | +     | 0007  |
| 1865          | +          | 0038  | +     | 0069  | +     | 0082  | +     | 0103  | +        | 0001  | +     | 0013  | +     | 0013  | +     | 0008  |
| 1866          | +          | 0032  | +     | 0040  | +     | 0026  | +     | 0066  | +        | 0004  | +     | 0005  | +     | 0004  | +     | 0015  |
| 1867          | +          | 0003  | +     | 0043  | +     | 0058  | +     | 0097  | +        | 0011  | +     | 0015  | +     | 0006  | +     | 0012  |
| 1868          | +          | 0053  | +     | 0053  | +     | 0072  | +     | 0110  | +        | 0010  | +     | 0002  | +     | 0008  | +     | 0017  |
| Mean          | +          | 0003  | +     | 0012  | +     | 0058  | +     | 0096  | +        | 0004  | +     | 0005  | +     | 0006  | +     | 0012  |
| 1869          | +          | 0025  | +     | 0080  | +     | 0074  | +     | 0107  | +        | 0006  | +     | 0026  | +     | 0026  | +     | 0009  |
| 1870          | +          | 0034  | +     | 0023  | +     | 0057  | +     | 0104  | +        | 0011  | +     | 0010  | +     | 0008  | +     | 0009  |
| 1871          | +          | 0082  | +     | 0064  | +     | 0082  | +     | 0100  | +        | 0005  | +     | 0001  | +     | 0012  | +     | 0012  |
| 1872          | +          | 0008  | +     | 0042  | +     | 0063  | +     | 0091  | +        | 0004  | +     | 0010  | +     | 0013  | +     | 0015  |
| 1873          | +          | 0025  | +     | 0025  | +     | 0064  | +     | 0109  | +        | 0008  | +     | 0007  | +     | 0008  | +     | 0011  |
| Mean          | +          | 0011  | +     | 0011  | +     | 0068  | +     | 0102  | +        | 0002  | +     | 0007  | +     | 0013  | +     | 0011  |
| Mean 20 years | +          | 0003  | +     | 0002  | +     | 0064  | +     | 0087  | +        | 0001  | +     | 0005  | +     | 0010  | +     | 0007  |

| YEARS.         | NOVEMBER. |         |         |         |         |         |         |         | DECEMBER. |         |         |         |         |         |         |         |
|----------------|-----------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|
|                | $p_1$ .   | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . | $p_1$ .   | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . |
| 1854           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1855           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1856           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1857           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1858           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| Mean           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1859           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1860           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1861           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1862           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1863           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| Mean           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1864           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1865           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1866           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1867           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1868           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| Mean           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1869           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1870           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1871           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1872           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| 1873           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| Mean           | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |
| Mean 20 years* | -         | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       | -       | -       | -       | -       |



TABLE IIB.—MONTHLY VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH, for each MONTH of the YEAR and for each YEAR, from 1854 to 1873, calculated from the Mean Hourly Pressures of the several Months.

| YEARS.        | JANUARY.       |                |                |                |         |         |         |         | FEBRUARY.      |                |                |                |         |         |         |         |
|---------------|----------------|----------------|----------------|----------------|---------|---------|---------|---------|----------------|----------------|----------------|----------------|---------|---------|---------|---------|
|               | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1854          | 0028           | 0097           | 0058           | 0019           | 79 53   | 147 14  | 31 58   | 0 1     | 0072           | 0125           | 0037           | 0004           | 222 45  | 157 40  | 33 4    | 108 59  |
| 1855          | 0036           | 0092           | 0033           | 0021           | 313 52  | 166 27  | 37 3    | 62 41   | 0030           | 0115           | 0033           | 0014           | 195 25  | 160 20  | 35 58   | 57 41   |
| 1856          | 0101           | 0059           | 0062           | 0021           | 205 18  | 130 40  | 32 9    | 59 16   | 0071           | 0102           | 0030           | 0016           | 100 31  | 156 42  | 44 33   | 58 49   |
| 1857          | 0116           | 0085           | 0047           | 0035           | 269 3   | 146 47  | 38 51   | 68 44   | 0064           | 0123           | 0031           | 0005           | 115 46  | 157 10  | 36 55   | 129 33  |
| 1858          | 0079           | 0073           | 0035           | 0013           | 318 37  | 140 58  | 44 14   | 74 9    | 0024           | 0077           | 0018           | 0014           | 19 11   | 149 17  | 43 32   | 91 1    |
| Mean          | 0072           | 0081           | 0047           | 0022           | 237 21  | 146 25  | 36 51   | 63 42   | 0052           | 0108           | 0030           | 0011           | 130 44  | 156 14  | 38 48   | 89 13   |
| 1859          | 0051           | 0091           | 0052           | 0017           | 93 22   | 141 20  | 37 53   | 59 45   | 0058           | 0111           | 0054           | 0007           | 169 5   | 143 24  | 44 45   | 65 28   |
| 1860          | 0065           | 0075           | 0037           | 0031           | 162 58  | 124 27  | 30 0    | 66 7    | 0068           | 0098           | 0024           | 0008           | — 0 51  | 157 5   | 50 5    | 77 27   |
| 1861          | 0081           | 0050           | 0030           | 0017           | 294 59  | 148 48  | 32 32   | 74 31   | 0029           | 0103           | 0027           | 0020           | 107 49  | 153 33  | 47 0    | 80 47   |
| 1862          | 0120           | 0042           | 0047           | 0022           | 352 21  | 143 21  | 36 40   | 69 27   | 0045           | 0054           | 0037           | 0006           | — 35 6  | 154 30  | 33 4    | 85 24   |
| 1863          | 0247           | 0066           | 0041           | 0013           | 321 5   | 158 7   | 42 23   | 66 24   | 0088           | 0088           | 0037           | 0009           | 135 55  | 156 7   | 33 4    | 72 38   |
| Mean          | 0113           | 0065           | 0041           | 0020           | 244 57  | 143 13  | 35 54   | 67 15   | 0058           | 0091           | 0036           | 0010           | 75 22   | 152 56  | 41 36   | 76 21   |
| 1864          | 0034           | 0081           | 0041           | 0027           | 288 58  | 158 45  | 35 15   | 68 34   | 0208           | 0036           | 0031           | 0019           | 31 1    | 140 40  | 45 52   | 87 2    |
| 1865          | 0117           | 0044           | 0044           | 0030           | 233 43  | 146 16  | 26 4    | 62 35   | 0086           | 0072           | 0032           | 0015           | 172 41  | 158 4   | 34 49   | 100 34  |
| 1866          | 0101           | 0100           | 0050           | 0030           | 314 9   | 147 23  | 28 29   | 61 4    | 0199           | 0073           | 0037           | 0006           | 40 19   | 147 35  | 47 55   | 87 38   |
| 1867          | 0089           | 0075           | 0035           | 0033           | 235 3   | 158 3   | 36 9    | 57 29   | 0091           | 0127           | 0031           | 0007           | 202 32  | 150 55  | 45 0    | 67 30   |
| 1868          | 0111           | 0103           | 0051           | 0044           | 76 58   | 152 33  | 40 12   | 62 53   | 0055           | 0092           | 0038           | 0008           | 254 12  | 149 16  | 35 40   | 78 45   |
| Mean          | 0108           | 0081           | 0044           | 0033           | 229 46  | 152 36  | 33 14   | 62 31   | 0128           | 0080           | 0034           | 0011           | 140 9   | 149 18  | 41 51   | 84 18   |
| 1869          | 0162           | 0101           | 0039           | 0029           | 244 4   | 140 26  | 31 28   | 66 31   | 0064           | 0148           | 0064           | 0022           | 290 58  | 148 2   | 41 49   | 98 4    |
| 1870          | 0094           | 0093           | 0042           | 0026           | 281 40  | 151 10  | 30 0    | 59 23   | 0059           | 0094           | 0033           | 0009           | 83 14   | 155 8   | 32 18   | 84 52   |
| 1871          | 0039           | 0088           | 0050           | 0031           | 31 13   | 149 18  | 35 47   | 53 17   | 0055           | 0120           | 0031           | 0012           | 1 2     | 156 19  | 36 21   | 86 30   |
| 1872          | 0161           | 0096           | 0055           | 0022           | 237 41  | 150 26  | 29 18   | 65 33   | 0096           | 0089           | 0044           | 0011           | 266 25  | 153 11  | 33 5    | 91 18   |
| 1873          | 0062           | 0099           | 0055           | 0030           | 220 24  | 158 46  | 29 39   | 64 35   | 0020           | 0113           | 0038           | 0004           | 116 34  | 147 16  | 30 0    | 108 59  |
| Mean          | 0104           | 0095           | 0048           | 0028           | 203 0   | 146 1   | 31 14   | 61 52   | 0059           | 0113           | 0042           | 0012           | 151 39  | 151 59  | 34 43   | 93 57   |
| Mean 20 years | 0099           | 0081           | 0045           | 0026           | 228 46  | 147 4   | 34 18   | 63 50   | 0074           | 0098           | 0035           | 0011           | 124 28  | 152 37  | 39 14   | 85 57   |

| YEARS.         | MARCH.         |                |                |                |         |         |         |         | APRIL.         |                |                |                |         |         |         |         |
|----------------|----------------|----------------|----------------|----------------|---------|---------|---------|---------|----------------|----------------|----------------|----------------|---------|---------|---------|---------|
|                | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | P <sub>4</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1854           | 0057           | 0141           | 0009           | 0012           | 77 54   | 161 24  | 30 0    | 32 55   | 0087           | 0127           | 0013           | 0017           | 39 23   | 157 30  | 110 28  | 33 45   |
| 1855           | 0064           | 0165           | 0011           | 0020           | 11 40   | 166 20  | 26 34   | 39 57   | 0065           | 0137           | 0004           | 0019           | 83 51   | 157 30  | 145 19  | 39 41   |
| 1856           | 0065           | 0068           | 0006           | 0005           | 73 49   | 157 30  | 60 0    | 31 43   | 0047           | 0115           | 0001           | 0004           | — 23 50 | 159 16  | 120 0   | 56 15   |
| 1857           | 0070           | 0112           | 0018           | 0010           | 7 26    | 154 25  | 39 47   | 8 13    | 0017           | 0077           | 0007           | 0011           | 173 17  | 155 40  | 57 17   | 23 48   |
| 1858           | 0070           | 0080           | 0019           | 0008           | 172 34  | 152 9   | 44 18   | 16 42   | 0117           | 0095           | 0018           | 0007           | 195 49  | 157 56  | 131 14  | 69 32   |
| Mean           | 0065           | 0113           | 0013           | 0011           | 68 41   | 158 22  | 40 8    | 25 54   | 0067           | 0110           | 0009           | 0012           | 93 42   | 157 34  | 112 52  | 44 36   |
| 1859           | 0090           | 0104           | 0011           | 0016           | — 32 16 | 162 46  | 91 44   | — 11 15 | 0059           | 0086           | 0021           | 0011           | —       | 157 44  | 93 36   | 57 12   |
| 1860           | 0021           | 0093           | 0018           | 0011           | 79 13   | 151 20  | 34 11   | 14 4    | 0013           | 0110           | 0004           | 0009           | 81 15   | 152 46  | 85 19   | 32 29   |
| 1861           | 0063           | 0123           | 0006           | 0008           | 38 31   | 155 52  | 53 51   | 43 13   | 0067           | 0085           | 0004           | 0007           | 109 15  | 160 21  | 85 19   | 52 35   |
| 1862           | 0060           | 0083           | 0013           | 0004           | 128 57  | 162 24  | 42 53   | — 22 30 | 0064           | 0057           | 0018           | 0018           | 99 54   | 154 39  | 87 53   | 32 3    |
| 1863           | 0142           | 0092           | 0020           | 0011           | 67 13   | 153 45  | 49 51   | — 1 18  | 0126           | 0066           | 0008           | 0009           | 60 31   | 155 21  | 122 22  | 46 35   |
| Mean           | 0075           | 0099           | 0014           | 0010           | 56 20   | 157 13  | 54 30   | 4 27    | 0066           | 0081           | 0011           | 0011           | 87 44   | 156 10  | 94 54   | 44 23   |
| 1864           | 0083           | 0057           | 0017           | 0010           | 16 2    | 169 12  | 19 41   | 1 26    | 0097           | 0091           | 0009           | 0010           | 109 43  | 160 11  | 158 51  | 43 34   |
| 1865           | 0034           | 0084           | 0016           | 0002           | 72 39   | 155 49  | 55 1    | 45 0    | 0144           | 0138           | 0005           | 0012           | 75 58   | 158 24  | 83 51   | 55 24   |
| 1866           | 0055           | 0100           | 0014           | 0010           | 149 13  | 148 40  | 32 43   | 23 56   | 0074           | 0095           | 0010           | 0006           | 114 50  | 152 21  | 84 26   | 35 20   |
| 1867           | 0032           | 0106           | 0011           | 0007           | 150 16  | 153 30  | 61 44   | 51 38   | 0103           | 0101           | 0011           | 0003           | 119 33  | 155 29  | 125 5   | 49 36   |
| 1868           | 0075           | 0116           | 0026           | 0012           | 189 13  | 152 24  | 30 0    | 18 59   | —              | —              | —              | —              | —       | —       | —       | —       |
| Mean           | 0056           | 0093           | 0017           | 0008           | 115 29  | 155 55  | 39 50   | 28 12   | 0105           | 0106           | 0009           | 0008           | 105 1   | 156 36  | 113 3   | 45 59   |
| 1869           | 0043           | 0109           | 0014           | 0021           | 13 24   | 149 49  | 32 43   | 18 19   | 0082           | 0102           | 0004           | 0012           | 114 23  | 151 4   | 94 41   | 24 52   |
| 1870           | 0074           | 0120           | 0020           | 0011           | — 46 6  | 157 50  | 49 51   | 10 18   | 0110           | 0122           | 0009           | 0006           | 99 23   | 153 1   | 98 51   | 33 45   |
| 1871           | 0021           | 0160           | 0013           | 0022           | 219 6   | 157 30  | 50 28   | 21 51   | 0062           | 0126           | 0001           | 0017           | —       | 150 1   | 135 0   | 20 49   |
| 1872           | 0019           | 0022           | 0019           | 0022           | 103 52  | 147 45  | 41 30   | 16 26   | 0102           | 0102           | 0019           | 0014           | 50 12   | 150 17  | 91 0    | 25 32   |
| 1873           | 0071           | 0114           | 0012           | 0012           | 47 18   | 149 25  | 38 9    | 17 30   | 0092           | 0108           | 0013           | 0002           | 53 53   | 163 23  | 72 53   | 22 30   |
| Mean           | 0058           | 0125           | 0016           | 0018           | 67 31   | 152 28  | 42 32   | 16 53   | 0090           | 0112           | 0009           | 0010           | 79 28   | 153 33  | 98 29   | 25 30   |
| Mean 20 years* | 0063           | 0107           | 0015           | 0012           | 77 0    | 155 59  | 44 15   | 18 51   | 0080           | 0102           | 0009           | 0010           | 91 37   | 155 57  | 104 23  | 39 48   |

\* For April only 19 years.

TABLE IIB.—MONTHLY VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

| YEARS.         | MAY.             |                  |                  |                  |                  |                  |                  |                  | JUNE.            |                  |                  |                  |                  |                  |                  |                  |        |        |
|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|--------|
|                | P <sub>1</sub> . | P <sub>2</sub> . | P <sub>3</sub> . | P <sub>4</sub> . | μ <sub>1</sub> . | μ <sub>2</sub> . | μ <sub>3</sub> . | μ <sub>4</sub> . | P <sub>1</sub> . | P <sub>2</sub> . | P <sub>3</sub> . | P <sub>4</sub> . | μ <sub>1</sub> . | μ <sub>2</sub> . | μ <sub>3</sub> . | μ <sub>4</sub> . |        |        |
| 1854           | -                | -                | *0038            | *0110            | *0022            | *0014            | 0 1              | 0 1              | 0 1              | 0 1              | *0085            | *0087            | *0026            | *0023            | 0 1              | 0 1              | 0 1    | 0 1    |
| 1855           | -                | -                | -                | *0066            | *0096            | *0028            | *0015            | 56 4             | 163 54           | 101 36           | 39 12            | *0049            | *0123            | *0018            | *0019            | 121 46           | 166 0  | 101 14 |
| 1856           | -                | -                | -                | *0082            | *0083            | *0012            | *0005            | 154 20           | 94 41            | 50 27            | *0062            | *0091            | *0016            | *0007            | 75 58            | 157 30           | 97 16  | 69 32  |
| 1857           | -                | -                | -                | *0099            | *0093            | *0018            | *0013            | 83 36            | 163 25           | 108 46           | 55 30            | *0046            | *0082            | *0024            | *0004            | 81 9             | 153 47 | 113 36 |
| 1858           | -                | -                | -                | *0065            | *0077            | *0015            | *0007            | 90 0             | 145 38           | 102 17           | 67 30            | *0084            | *0079            | *0021            | *0007            | 97 33            | 159 49 | 106 16 |
| Mean           | -                | -                | *0070            | *0092            | *0019            | *0011            | 59 17            | 157 51           | 103 19           | 50 1             | *0065            | *0092            | *0021            | *0012            | 75 41            | 159 23           | 104 3  | 71 7   |
| 1859           | -                | -                | -                | *0128            | *0075            | *0014            | *0008            | 41 11            | 163 48           | 90 0             | 73 18            | *0060            | *0072            | *0006            | *0013            | 65 34            | 158 55 | 93 3   |
| 1860           | -                | -                | -                | *0041            | *0071            | *0004            | *0008            | 80 4             | 143 35           | 85 19            | 28 18            | *0033            | *0094            | *0032            | *0004            | 52 26            | 159 14 | 110 5  |
| 1861           | -                | -                | -                | *0072            | *0073            | *0011            | *0006            | 95 33            | 157 14           | 82 44            | 33 45            | *0060            | *0070            | *0018            | *0009            | 66 26            | 154 36 | 103 32 |
| 1862           | -                | -                | -                | *0092            | *0054            | *0006            | *0019            | 38 51            | 160 30           | 96 9             | 69 0             | *0067            | *0043            | *0021            | *0001            | 84 2             | 157 59 | 107 32 |
| 1863           | -                | -                | -                | *0118            | *0076            | *0011            | *0011            | 77 16            | 157 46           | 108 15           | 62 3             | *0057            | *0054            | *0019            | *0012            | 84 59            | 164 20 | 98 24  |
| Mean           | -                | -                | *0090            | *0070            | *0009            | *0010            | 66 35            | 156 35           | 92 29            | 53 17            | *0055            | *0067            | *0019            | *0008            | 70 41            | 159 1            | 102 31 | 53 34  |
| 1864           | -                | -                | -                | *0115            | —                | *0018            | *0012            | — 36 10          | —                | 97 28            | 69 52            | —                | —                | —                | —                | —                | —      | —      |
| 1865           | -                | -                | -                | *0076            | *0115            | *0029            | *0010            | 106 46           | 161 1            | 98 15            | 50 59            | *0105            | *0088            | *0014            | *0007            | 108 57           | 159 21 | 103 6  |
| 1866           | -                | -                | -                | *0060            | *0083            | *0014            | *0006            | 34 45            | 153 35           | 102 1            | 42 38            | *0061            | *0107            | *0023            | *0009            | 111 6            | 150 13 | 100 19 |
| 1867           | -                | -                | -                | *0039            | *0085            | *0017            | *0005            | 94 24            | 153 55           | 92 14            | 42 10            | *0104            | *0090            | *0014            | *0001            | 73 18            | 155 2  | 100 5  |
| 1868           | -                | -                | -                | *0121            | *0100            | *0021            | *0005            | 71 43            | 154 28           | 105 0            | 19 40            | *0135            | *0091            | *0030            | *0008            | 102 23           | 157 44 | 104 33 |
| Mean           | -                | -                | *0082            | *0096            | *0020            | *0008            | 54 18            | 155 45           | 99 0             | 45 4             | *0101            | *0094            | *0020            | *0006            | 98 56            | 155 35           | 102 1  | 50 44  |
| 1869           | -                | -                | -                | *0075            | *0091            | *0024            | *0007            | 54 49            | 156 37           | 99 55            | 45 0             | *0037            | *0084            | *0030            | *0010            | 64 8             | 159 56 | 92 32  |
| 1870           | -                | -                | -                | *0158            | *0111            | *0017            | *0007            | 81 58            | 154 13           | 99 21            | 18 31            | *0139            | *0104            | *0039            | *0004            | 85 2             | 156 8  | 95 59  |
| 1871           | -                | -                | -                | *0119            | *0099            | *0028            | *0001            | 90 0             | 157 30           | 98 33            | 33 45            | *0075            | *0087            | *0017            | *0003            | — 20             | 155 25 | 101 51 |
| 1872           | -                | -                | -                | *0096            | *0090            | *0031            | *0012            | 34 51            | 148 9            | 94 59            | 43 49            | *0104            | *0100            | *0029            | *0007            | 83 54            | 152 38 | 93 16  |
| 1873           | -                | -                | -                | *0128            | *0092            | *0017            | *0008            | 65 38            | 159 1            | 92 14            | 33 45            | *0049            | *0085            | *0031            | *0004            | 91 10            | 155 36 | 101 55 |
| Mean           | -                | -                | *0115            | *0097            | *0023            | *0007            | 65 27            | 155 6            | 97 0             | 34 58            | *0081            | *0092            | *0029            | *0008            | 63 47            | 155 57           | 97 7   | 46 46  |
| Mean 20 years* | -                | -                | *0089            | *0089            | *0018            | *0009            | 61 31            | 156 21           | 97 57            | 45 50            | *0074            | *0086            | *0023            | *0009            | 76 8             | 157 35           | 101 23 | 55 48  |



TABLE IIB.—MONTHLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

| YEARS.        | SEPTEMBER. |       |       |       |         |         |         |         | OCTOBER. |       |       |       |         |         |         |         |
|---------------|------------|-------|-------|-------|---------|---------|---------|---------|----------|-------|-------|-------|---------|---------|---------|---------|
|               | $P_1$      | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | $P_1$    | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1854          | 0090       | 0128  | 0014  | 0019  | 97 41   | 166 31  | 18 46   | 47 14   | 0103     | 0131  | 0037  | 0021  | 17 33   | 160 18  | 34 11   | 51 20   |
| 1855          | 0077       | 0103  | 0021  | 0023  | 77 58   | 159 28  | 4 41    | 42 32   | 0053     | 0108  | 0031  | 0021  | 82 29   | 158 4   | 27 33   | 47 42   |
| 1856          | 0022       | 0082  | 0009  | 0017  | 97 46   | 151 16  | 71 51   | 23 21   | 0025     | 0107  | 0021  | 0011  | 80 54   | 150 13  | 27 17   | 54 28   |
| 1857          | 0024       | 0093  | 0004  | 0010  | 7 7     | 156 38  | 38 49   | 54 13   | 0005     | 0097  | 0024  | 0006  | 43 44   | 150 32  | 20 47   | 42 38   |
| 1858          | 0034       | 0115  | 0008  | 0009  | 36 31   | 153 5   | 0 0     | 27 7    | 0055     | 0124  | 0026  | 0009  | 46 28   | 143 25  | 30 0    | 49 36   |
| Mean          | 0049       | 0104  | 0011  | 0016  | 45 57   | 157 24  | 26 49   | 38 53   | 0066     | 0113  | 0028  | 0014  | 47 12   | 152 30  | 27 58   | 49 9    |
| 1859          | 0066       | 0109  | 0004  | 0017  | 277 53  | 153 1   | 41 14   | 37 59   | 0064     | 0071  | 0020  | 0004  | 124 11  | 156 21  | 27 9    | 83 22   |
| 1860          | 0113       | 0120  | 0008  | 0018  | 234 46  | 147 1   | 45 0    | 43 25   | 0039     | 0099  | 0025  | 0004  | 13 10   | 153 37  | 33 46   | 26 1    |
| 1861          | 0033       | 0092  | 0017  | 0005  | 147 16  | 154 37  | 4 25    | 42 10   | 0033     | 0090  | 0030  | 0006  | 102 20  | 147 26  | 23 27   | 45 0    |
| 1862          | 0040       | 0109  | 0008  | 0009  | 77 0    | 154 54  | 32 22   | 53 53   | 0169     | 0101  | 0032  | 0010  | 10 15   | 144 45  | 25 11   | 43 34   |
| 1863          | 0050       | 0059  | 0010  | 0006  | 40 6    | 155 47  | 28 6    | 14 45   | 0109     | 0126  | 0041  | 0016  | 23 16   | 147 28  | 35 42   | 78 8    |
| Mean          | 0060       | 0095  | 0009  | 0011  | 139 22  | 153 4   | 28 27   | 38 26   | 0083     | 0097  | 0030  | 0008  | 45 16   | 149 55  | 29 3    | 55 13   |
| 1864          | 0070       | 0115  | 0006  | 0011  | 160 47  | 148 57  | 17 7    | 34 42   | 0026     | 0099  | 0021  | 0004  | 130 22  | 149 50  | 34 41   | 78 45   |
| 1865          | 0078       | 0132  | 0013  | 0015  | 118 51  | 154 16  | 31 28   | 37 6    | 0145     | 0110  | 0032  | 0013  | 4 44    | 145 37  | 33 39   | 88 54   |
| 1866          | 0051       | 0071  | 0006  | 0016  | 308 40  | 145 45  | 77 7    | 18 46   | 0026     | 0110  | 0025  | 0001  | 4 24    | 145 37  | 32 17   | 11 15   |
| 1867          | 0043       | 0113  | 0019  | 0013  | 273 59  | 150 26  | 42 5    | 29 9    | 0079     | 0100  | 0042  | 0004  | 141 40  | 145 37  | 32 17   | 78 45   |
| 1868          | 0075       | 0131  | 0010  | 0019  | 45 0    | 151 36  | 63 46   | 28 48   | 0061     | 0113  | 0033  | 0008  | 117 25  | 145 54  | 30 0    | 15 4    |
| Mean          | 0063       | 0112  | 0011  | 0015  | 181 27  | 150 12  | 46 19   | 29 42   | 0067     | 0106  | 0031  | 0006  | 59 40   | 145 44  | 32 2    | 54 33   |
| 1869          | 0084       | 0129  | 0027  | 0028  | 252 39  | 152 20  | 34 20   | 40 14   | 0058     | 0109  | 0027  | 0004  | 54 7    | 144 32  | 24 18   | 33 45   |
| 1870          | 0040       | 0119  | 0015  | 0012  | 32 54   | 149 22  | 14 5    | 32 55   | 0113     | 0072  | 0016  | 0009  | 24 4    | 147 23  | 37 16   | 24 5    |
| 1871          | 0104       | 0129  | 0005  | 0017  | 217 58  | 154 41  | 56 14   | 33 45   | 0036     | 0118  | 0024  | 0005  | 56 19   | 153 44  | 27 38   | 31 43   |
| 1872          | 0043       | 0111  | 0011  | 0020  | 100 47  | 152 21  | 22 44   | 32 44   | 0030     | 0123  | 0026  | 0004  | 66 48   | 147 33  | 34 30   | 3 30    |
| 1873          | 0035       | 0126  | 0011  | 0014  | 45 0    | 150 13  | 13 44   | 31 31   | 0092     | 0118  | 0032  | 0013  | 49 52   | 149 29  | 36 9    | 17 53   |
| Mean          | 0061       | 0123  | 0014  | 0018  | 129 52  | 151 47  | 22 35   | 34 14   | 0066     | 0108  | 0025  | 0007  | 3 34    | 148 32  | 31 58   | 22 11   |
| Mean 20 years | 0059       | 0109  | 0011  | 0015  | 124 9   | 153 7   | 31 3    | 35 19   | 0071     | 0106  | 0028  | 0009  | 35 58   | 149 10  | 30 15   | 45 16   |

| YEARS.         | NOVEMBER. |       |       |       |         |         |         |         | DECEMBER. |       |       |       |         |         |         |         |
|----------------|-----------|-------|-------|-------|---------|---------|---------|---------|-----------|-------|-------|-------|---------|---------|---------|---------|
|                | $P_1$     | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ | $P_1$     | $P_2$ | $P_3$ | $P_4$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $\mu_4$ |
| 1854           | 0058      | 0107  | 0045  | 0011  | 243 26  | 155 25  | 31 16   | 62 3    | 0108      | 0082  | 0049  | 0043  | 247 1   | 161 13  | 31 33   | 56 57   |
| 1855           | 0025      | 0085  | 0032  | 0011  | 381 22  | 152 18  | 35 24   | 56 15   | 0086      | 0060  | 0048  | 0018  | 135 0   | 157 10  | 36 1    | 52 20   |
| 1856           | 0033      | 0080  | 0022  | 0020  | 344 40  | 146 2   | 34 28   | 66 4    | 0065      | 0090  | 0037  | 0021  | 156 34  | 140 28  | 27 57   | 61 10   |
| 1857           | 0059      | 0076  | 0036  | 0016  | 340 21  | 153 13  | 34 48   | 64 51   | 0103      | 0090  | 0042  | 0033  | 50 27   | 151 35  | 32 16   | 63 34   |
| 1858           | 0044      | 0087  | 0034  | 0015  | 327 27  | 151 45  | 33 59   | 62 18   | 0099      | 0078  | 0044  | 0027  | 135 54  | 147 30  | 31 58   | 59 47   |
| Mean           | 0044      | 0087  | 0034  | 0015  | 327 27  | 151 45  | 33 59   | 62 18   | 0099      | 0078  | 0044  | 0027  | 135 54  | 147 30  | 31 58   | 59 47   |
| 1859           | 0038      | 0081  | 0027  | 0008  | 278 58  | 149 53  | 37 16   | 73 18   | 0028      | 0071  | 0036  | 0026  | 19 5    | 137 49  | 31 35   | 62 22   |
| 1860           | 0008      | 0076  | 0031  | 0008  | 277 7   | 141 28  | 33 46   | 73 18   | 0021      | 0050  | 0033  | 0015  | 232 36  | 136 43  | 29 25   | 61 42   |
| 1861           | 0063      | 0074  | 0033  | 0013  | 68 42   | 140 53  | 30 35   | 81 53   | 0035      | 0064  | 0035  | 0019  | 251 34  | 158 8   | 36 9    | 68 15   |
| 1862           | 0071      | 0073  | 0039  | 0012  | 345 23  | 144 58  | 26 2    | 63 59   | 0021      | 0074  | 0041  | 0025  | 29 3    | 144 28  | 28 9    | 65 47   |
| 1863           | 0116      | 0102  | 0029  | 0019  | 57 0    | 149 2   | 27 23   | 62 53   | 0188      | 0093  | 0064  | 0033  | 16 2    | 157 17  | 35 46   | 69 39   |
| Mean           | 0059      | 0081  | 0033  | 0012  | 205 26  | 145 15  | 31 0    | 71 4    | 0059      | 0070  | 0042  | 0024  | 91 38   | 146 53  | 32 13   | 65 33   |
| 1864           | 0068      | 0092  | 0037  | 0015  | 25 4    | 143 14  | 29 29   | 67 30   | 0077      | 0089  | 0045  | 0023  | 16 33   | 146 34  | 33 51   | 55 49   |
| 1865           | 0059      | 0097  | 0035  | 0017  | 316 23  | 147 14  | 32 10   | 67 30   | 0043      | 0077  | 0050  | 0029  | 107 35  | 145 17  | 31 31   | 62 25   |
| 1866           | 0057      | 0105  | 0047  | 0016  | 323 32  | 149 30  | 32 1    | 64 51   | 0110      | 0105  | 0059  | 0026  | 117 30  | 152 41  | 36 15   | 64 7    |
| 1867           | 0030      | 0092  | 0050  | 0015  | 86 11   | 148 17  | 30 0    | 75 24   | 0076      | 0095  | 0042  | 0037  | 66 48   | 161 52  | 31 49   | 67 30   |
| 1868           | 0032      | 0091  | 0031  | 0012  | 288 26  | 150 32  | 29 23   | 59 45   | 0148      | 0092  | 0072  | 0039  | 77 6    | 140 21  | 32 56   | 66 24   |
| Mean           | 0049      | 0095  | 0040  | 0015  | 207 55  | 147 45  | 30 37   | 67 0    | 0091      | 0092  | 0054  | 0031  | 77 6    | 149 21  | 33 16   | 63 15   |
| 1869           | 0104      | 0098  | 0035  | 0002  | 243 41  | 145 9   | 32 10   | 43 22   | 0017      | 0061  | 0051  | 0024  | 234 28  | 158 10  | 27 46   | 55 24   |
| 1870           | 0032      | 0105  | 0035  | 0011  | 273 35  | 148 39  | 32 43   | 74 9    | 0001      | 0062  | 0051  | 0024  | 180 0   | 156 12  | 33 40   | 61 28   |
| 1871           | 0034      | 0101  | 0026  | 0007  | 266 38  | 142 10  | 28 32   | 53 25   | 0083      | 0119  | 0044  | 0026  | 82 22   | 149 55  | 31 44   | 59 23   |
| 1872           | 0072      | 0072  | 0040  | 0013  | 151 4   | 148 7   | 31 26   | 65 19   | 0143      | 0075  | 0042  | 0031  | 197 33  | 147 36  | 33 41   | 57 33   |
| 1873           | 0077      | 0093  | 0027  | 0010  | 336 25  | 155 32  | 27 11   | 70 20   | 0042      | 0094  | 0043  | 0017  | 245 54  | 151 51  | 37 26   | 64 11   |
| Mean           | 0086      | 0094  | 0033  | 0009  | 254 17  | 147 55  | 30 24   | 61 19   | 0057      | 0082  | 0043  | 0026  | 188 3   | 152 45  | 32 51   | 59 36   |
| Mean 20 years* | 0060      | 0089  | 0035  | 0012  | 248 46  | 147 59  | 31 30   | 65 35   | 0076      | 0081  | 0046  | 0027  | 123 10  | 149 7   | 32 35   | 62 3    |

\* For November only 19 years.

TABLE IIIB.

MEAN YEARLY VALUES of the  $p, q$  COEFFICIENTS of the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH for each YEAR from 1854 to 1873; derived from Table IB.

| YEARS.        | $p_1$ | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_4$ | $q_4$ | Mean Pressure P. |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|------------------|
| 1854          | +0017 | +0008 | +0087 | -0069 | +0005 | +0016 | -0015 | -0003 | 29.849           |
| 1855          | +0008 | +0033 | +0085 | -0061 | +0003 | +0012 | -0016 | -0003 | 781              |
| 1856          | -0004 | +0019 | +0045 | -0068 | 0000  | +0010 | -0006 | -0007 | 773              |
| 1857          | +0017 | +0026 | +0060 | -0071 | +0003 | +0010 | -0003 | -0007 | 816              |
| 1858          | +0001 | +0027 | +0041 | -0071 | +0002 | +0009 | -0001 | -0004 | 838              |
| Mean          | +0008 | +0023 | +0064 | -0068 | +0003 | +0012 | -0008 | -0005 | 811              |
| 1859          | +0010 | +0014 | +0051 | -0063 | -0003 | +0010 | -0002 | -0008 | 771              |
| 1860          | +0006 | +0004 | +0041 | -0073 | 0000  | +0011 | -0003 | -0003 | 699              |
| 1861          | -0001 | +0026 | +0046 | -0064 | 0000  | +0007 | -0002 | -0005 | 802              |
| 1862          | +0046 | +0020 | +0040 | -0053 | +0001 | +0013 | -0004 | -0008 | 774              |
| 1863          | +0059 | +0044 | +0052 | -0056 | -0002 | +0015 | 0000  | -0009 | 814              |
| Mean          | +0024 | +0022 | +0046 | -0062 | -0001 | +0011 | -0002 | -0007 | 772              |
| 1864          | +0032 | +0041 | +0043 | -0057 | 0000  | +0014 | -0002 | -0007 | 791              |
| 1865          | -0002 | +0037 | +0059 | -0072 | +0002 | +0011 | -0004 | -0006 | 787              |
| 1866          | +0025 | +0019 | +0047 | -0085 | -0001 | +0011 | -0003 | -0004 | 717              |
| 1867          | -0014 | +0013 | +0056 | -0077 | -0002 | +0012 | -0004 | -0006 | 792              |
| 1868          | +0017 | +0062 | +0058 | -0087 | 0000  | +0015 | -0003 | -0003 | 794              |
| Mean          | +0012 | +0034 | +0053 | -0076 | 0000  | +0013 | -0003 | -0005 | 776              |
| 1869          | -0004 | -0002 | +0056 | -0088 | 0000  | +0013 | -0005 | +0002 | 792              |
| 1870          | +0022 | +0029 | +0062 | -0082 | 0000  | +0004 | -0003 | -0002 | 806              |
| 1871          | +0012 | +0010 | +0066 | -0091 | 0000  | +0008 | -0005 | 0000  | 791              |
| 1872          | -0022 | +0020 | +0051 | -0084 | 0000  | +0010 | -0004 | 0000  | 635              |
| 1873          | +0021 | +0038 | +0055 | -0086 | +0002 | +0010 | -0002 | 0000  | 782              |
| Mean          | +0006 | +0019 | +0058 | -0086 | 0000  | +0009 | -0004 | 0000  | 761              |
| Mean 20 years | +0012 | +0024 | +0055 | -0073 | +0001 | +0011 | -0004 | -0004 | 29.780           |

TABLE IVB.

MEAN VALUES of the  $p, q$  COEFFICIENTS of the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH, for each MONTH of the YEAR, obtained from 20 YEARS' OBSERVATIONS from 1854 to 1873; derived from Table IB.

|               | MONTHS. | $p_1$ . | $q_1$ . | $p_2$ . | $q_2$ . | $p_3$ . | $q_3$ . | $p_4$ . | $q_4$ . | Mean Pressure P. |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------|
| January       | -       | + '0008 | - '0050 | + '0032 | - '0069 | - '0009 | + '0043 | - '0007 | - '0023 | 29 '729          |
| February      | -       | + '0005 | + '0011 | + '0057 | - '0078 | - '0015 | + '0030 | + '0006 | - '0002 | '832             |
| March         | -       | + '0014 | + '0025 | + '0070 | - '0078 | - '0006 | + '0010 | + '0002 | + '0006 | '722             |
| April         | -       | '0000   | + '0050 | + '0066 | - '0077 | + '0001 | - '0004 | - '0006 | + '0004 | '804             |
| May           | -       | + '0036 | + '0064 | + '0057 | - '0060 | + '0008 | - '0015 | - '0004 | - '0001 | '777             |
| June          | -       | + '0011 | + '0063 | + '0060 | - '0060 | + '0012 | - '0018 | - '0005 | - '0003 | '829             |
| July          | -       | + '0007 | + '0054 | + '0062 | - '0052 | + '0012 | - '0017 | - '0007 | - '0002 | '809             |
| August        | -       | + '0006 | + '0047 | + '0066 | - '0071 | + '0011 | - '0009 | - '0010 | + '0001 | '799             |
| September     | -       | - '0003 | + '0002 | + '0064 | - '0087 | + '0001 | + '0005 | - '0010 | + '0007 | '787             |
| October       | -       | + '0041 | + '0010 | + '0050 | - '0092 | - '0001 | + '0027 | - '0002 | '0000   | '720             |
| November      | -       | + '0014 | - '0007 | + '0039 | - '0079 | - '0002 | + '0034 | - '0001 | - '0011 | '763             |
| December      | -       | '0000   | + '0024 | + '0038 | - '0068 | - '0006 | + '0045 | - '0009 | - '0024 | 29 '791          |
| Mean 20 years | -       | + '0012 | + '0024 | + '0055 | - '0073 | + '0001 | + '0011 | - '0004 | - '0004 | 29 '780          |



TABLE VB.

MEAN YEARLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH, for each Year from 1854 to 1873; derived from Table IIB.

| YEARS.        | $P_1$ | $\mu_1$ | $P_2$ | $\mu_2$ | $P_3$ | $\mu_3$ | $P_4$ | $\mu_4$ | Mean Pressure P. |
|---------------|-------|---------|-------|---------|-------|---------|-------|---------|------------------|
| 1854          | °0068 | 95      | °0113 | 161     | °0029 | 63      | °0018 | 51      | 29°849           |
| 1855          | °0054 | 135     | °0106 | 162     | °0025 | 65      | °0018 | 48      | °781             |
| 1856          | °0056 | 121     | °0085 | 151     | °0020 | 70      | °0014 | 54      | °773             |
| 1857          | °0061 | 108     | °0086 | 155     | °0024 | 62      | °0013 | 60      | °816             |
| 1858          | °0069 | 126     | °0085 | 149     | °0025 | 65      | °0011 | 61      | °838             |
| Mean          | °0061 | 117     | °0096 | 156     | °0025 | 65      | °0015 | 55      | °811             |
| 1859          | °0062 | 107     | °0085 | 157     | °0023 | 69      | °0012 | 57      | °771             |
| 1860          | °0045 | 104     | °0088 | 148     | °0020 | 64      | °0012 | 49      | °699             |
| 1861          | °0051 | 134     | °0080 | 157     | °0020 | 57      | °0011 | 55      | °802             |
| 1862          | °0073 | 92      | °0069 | 154     | °0023 | 59      | °0013 | 50      | °774             |
| 1863          | °0118 | 75      | °0078 | 158     | °0026 | 67      | °0013 | 52      | °814             |
| Mean          | °0070 | 103     | °0080 | 154     | °0023 | 63      | °0012 | 53      | °772             |
| 1864          | °0093 | 87      | °0081 | 153     | °0024 | 66      | °0014 | 56      | °791             |
| 1865          | °0085 | 124     | °0095 | 154     | °0026 | 62      | °0014 | 53      | °787             |
| 1866          | °0079 | 146     | °0097 | 150     | °0027 | 65      | °0011 | 48      | °717             |
| 1867          | °0061 | 132     | °0096 | 153     | °0026 | 65      | °0012 | 54      | °792             |
| 1868          | °0091 | 121     | °0105 | 152     | °0032 | 65      | °0016 | 42      | °794             |
| Mean          | °0082 | 122     | °0095 | 153     | °0028 | 64      | °0013 | 51      | °776             |
| 1869          | °0081 | 137     | °0106 | 152     | °0030 | 59      | °0015 | 46      | °792             |
| 1870          | °0077 | 98      | °0103 | 153     | °0026 | 57      | °0012 | 44      | °806             |
| 1871          | °0063 | 92      | °0113 | 153     | °0024 | 67      | °0013 | 44      | °791             |
| 1872          | °0091 | 126     | °0099 | 150     | °0030 | 59      | °0015 | 45      | °635             |
| 1873          | °0070 | 120     | °0103 | 153     | °0027 | 66      | °0011 | 46      | °782             |
| Mean          | °0076 | 115     | °0105 | 152     | °0027 | 60      | °0013 | 45      | °761             |
| Mean 20 years | °0072 | 114     | °0094 | 154     | °0025 | 63      | °0013 | 51      | 29°780           |

N.B.—The mean values of  $\mu_1$  are of doubtful accuracy.

TABLE VIB.

MEAN MONTHLY VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH, for each MONTH of the YEAR obtained from 20 YEARS' (1854-73) OBSERVATIONS; DERIVED FROM TABLE IIB.

| MONTH.        | $P_1$ | $\mu_1$ | $P_2$ | $\mu_2$ | $P_3$ | $\mu_3$ | $P_4$ | $\mu_4$ | Mean Pressure P. |
|---------------|-------|---------|-------|---------|-------|---------|-------|---------|------------------|
| January       | °0099 | 229     | °0081 | 147     | °0045 | 34      | °0026 | 64      | 29°729           |
| February      | °0074 | 124     | °0098 | 153     | °0035 | 39      | °0011 | 86      | °832             |
| March         | °0063 | 79      | °0107 | 156     | °0015 | 44      | °0012 | 19      | °722             |
| April         | °0080 | 92      | °0102 | 156     | °0099 | 104     | °0010 | 40      | °804             |
| May           | °0089 | 61      | °0089 | 156     | °0018 | 98      | °0009 | 46      | °777             |
| June          | °0074 | 77      | °0086 | 158     | °0023 | 101     | °0009 | 56      | °829             |
| July          | °0061 | 88      | °0083 | 160     | °0022 | 103     | °0010 | 49      | °809             |
| August        | °0058 | 84      | °0099 | 157     | °0016 | 107     | °0011 | 44      | °799             |
| September     | °0059 | 124     | °0109 | 153     | °0011 | 31      | °0015 | 35      | °787             |
| October       | °0071 | 37      | °0106 | 149     | °0028 | 30      | °0009 | 45      | °720             |
| November      | °0060 | 250     | °0089 | 148     | °0035 | 32      | °0012 | 66      | °763             |
| December      | °0076 | 123     | °0081 | 149     | °0046 | 33      | °0027 | 62      | 29°791           |
| Mean 20 years | °0072 | 114     | °0094 | 154     | °0025 | 63      | °0013 | 51      | 29°780           |

N.B.—The mean values of  $\mu_1$  are of doubtful accuracy, particularly for the months of January and November.

TABLE VIIb.

VALUES of the AMPLITUDE  $P$ , and the APPARENT TIME of the FIRST MAXIMUM  $\mu$ , for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH for each MONTH of the YEAR, for the FIVE-YEARLY PERIODS between 1854 and 1873; derived from Table IIB.

|                 | Five-Yearly Periods. | January. | February. | March. | April. | May.  | June. | July. | August. | September. | October. | November. | December. | Year. |
|-----------------|----------------------|----------|-----------|--------|--------|-------|-------|-------|---------|------------|----------|-----------|-----------|-------|
| $P_1$           | 1st -                | °0072    | °0052     | °0065  | °0067  | °0070 | °0065 | °0041 | °0044   | °0049      | °0066    | °0044     | °0099     | °0061 |
|                 | 2nd -                | °0113    | °0058     | °0075  | °0066  | °0090 | °0055 | °0071 | °0048   | °0060      | °0083    | °0050     | °0059     | °0070 |
|                 | 3rd -                | °0108    | °0128     | °0056  | °0105  | °0082 | °0101 | °0067 | °0066   | °0063      | °0067    | °0049     | °0091     | °0082 |
|                 | 4th -                | °0104    | °0059     | °0058  | °0090  | °0115 | °0081 | °0065 | °0073   | °0061      | °0066    | °0086     | °0057     | °0076 |
|                 | Mean                 | °0099    | °0074     | °0063  | °0080  | °0089 | °0074 | °0061 | °0058   | °0059      | °0071    | °0060     | °0076     | °0072 |
| $P_2$           | 1st -                | °0081    | °0108     | °0113  | °0110  | °0092 | °0092 | °0082 | °0096   | °0104      | °0113    | °0087     | °0078     | °0096 |
|                 | 2nd -                | °0065    | °0091     | °0099  | °0081  | °0070 | °0067 | °0059 | °0085   | °0098      | °0097    | °0081     | °0070     | °0080 |
|                 | 3rd -                | °0081    | °0080     | °0093  | °0106  | °0096 | °0094 | °0091 | °0099   | °0112      | °0106    | °0095     | °0092     | °0095 |
|                 | 4th -                | °0095    | °0113     | °0125  | °0112  | °0097 | °0092 | °0099 | °0118   | °0123      | °0108    | °0094     | °0082     | °0105 |
|                 | Mean                 | °0081    | °0098     | °0107  | °0102  | °0089 | °0086 | °0083 | °0099   | °0109      | °0106    | °0089     | °0081     | °0094 |
| $P_3$           | 1st -                | °0047    | °0030     | °0013  | °0009  | °0019 | °0021 | °0021 | °0020   | °0011      | °0028    | °0034     | °0044     | °0025 |
|                 | 2nd -                | °0041    | °0036     | °0014  | °0011  | °0009 | °0019 | °0014 | °0013   | °0009      | °0030    | °0032     | °0042     | °0023 |
|                 | 3rd -                | °0044    | °0034     | °0017  | °0009  | °0020 | °0020 | °0025 | °0014   | °0011      | °0031    | °0040     | °0054     | °0028 |
|                 | 4th -                | °0048    | °0042     | °0016  | °0009  | °0023 | °0029 | °0026 | °0019   | °0014      | °0025    | °0033     | °0043     | °0027 |
|                 | Mean                 | °0045    | °0035     | °0015  | °0009  | °0018 | °0023 | °0022 | °0016   | °0011      | °0028    | °0035     | °0046     | °0025 |
| $P_4$           | 1st -                | °0022    | °0011     | °0011  | °0012  | °0011 | °0012 | °0018 | °0013   | °0016      | °0014    | °0015     | °0027     | °0015 |
|                 | 2nd -                | °0027    | °0010     | °0010  | °0011  | °0010 | °0008 | °0010 | °0008   | °0011      | °0008    | °0012     | °0024     | °0012 |
|                 | 3rd -                | °0033    | °0011     | °0008  | °0008  | °0006 | °0006 | °0013 | °0014   | °0006      | °0015    | °0031     | °0013     | °0013 |
|                 | 4th -                | °0028    | °0012     | °0018  | °0010  | °0007 | °0008 | °0006 | °0012   | °0018      | °0007    | °0009     | °0026     | °0013 |
|                 | Mean                 | °0026    | °0011     | °0012  | °0010  | °0009 | °0009 | °0010 | °0011   | °0015      | °0009    | °0012     | °0027     | °0013 |
| $\mu_1$         | 1st -                | 235°     | 127°      | 67°    | 94°    | 60°   | 76°   | 73°   | 107°    | 47°        | 51°      | 331°      | 137°      | 117°  |
|                 | 2nd -                | 243      | 72        | 54     | 88     | 68    | 71    | 94    | 51      | 141        | 49       | 209       | 93        | 103   |
|                 | 3rd -                | 227      | 138       | 113    | 105    | 55    | 99    | 85    | 105     | 183        | 63       | 211       | 78        | 122   |
|                 | 4th -                | 202      | 148       | 65     | 79     | 66    | 64    | 97    | 77      | 131        | 0        | 258       | 189       | 115   |
|                 | Mean                 | 227      | 121       | 75     | 92     | 62    | 77    | 87    | 85      | 126        | 41       | 252       | 124       | 114   |
| $\mu_2$         | 1st -                | 144      | 153       | 156    | 158    | 159   | 159   | 162   | 160     | 159        | 156      | 155       | 148       | 156   |
|                 | 2nd -                | 141      | 149       | 155    | 156    | 157   | 159   | 162   | 161     | 154        | 153      | 149       | 148       | 154   |
|                 | 3rd -                | 150      | 146       | 154    | 157    | 157   | 156   | 155   | 155     | 152        | 149      | 151       | 150       | 153   |
|                 | 4th -                | 144      | 148       | 151    | 154    | 156   | 156   | 155   | 154     | 153        | 152      | 151       | 154       | 152   |
|                 | Mean                 | 145      | 149       | 154    | 156    | 157   | 158   | 159   | 157     | 154        | 153      | 151       | 150       | 154   |
| $\mu_3$         | 1st -                | 34       | 35        | 38     | 113    | 104   | 104   | 106   | 117     | 28         | 31       | 37        | 33        | 65    |
|                 | 2nd -                | 34       | 38        | 52     | 95     | 93    | 103   | 102   | 111     | 30         | 33       | 34        | 33        | 63    |
|                 | 3rd -                | 31       | 38        | 38     | 113    | 100   | 102   | 100   | 104     | 48         | 36       | 34        | 34        | 65    |
|                 | 4th -                | 29       | 31        | 41     | 98     | 97    | 97    | 97    | 99      | 24         | 35       | 34        | 34        | 60    |
|                 | Mean                 | 32       | 36        | 42     | 104    | 99    | 101   | 101   | 108     | 32         | 34       | 35        | 34        | 63    |
| $\mu_4$         | 1st -                | 61       | 86        | 24     | 45     | 51    | 71    | 51    | 49      | 40         | 53       | 65        | 61        | 55    |
|                 | 2nd -                | 65       | 73        | 2      | 44     | 54    | 53    | 55    | 49      | 40         | 59       | 75        | 66        | 53    |
|                 | 3rd -                | 60       | 81        | 26     | 46     | 51    | 44    | 42    | 42      | 31         | 58       | 70        | 64        | 51    |
|                 | 4th -                | 59       | 90        | 15     | 25     | 35    | 47    | 40    | 40      | 36         | 26       | 65        | 61        | 45    |
|                 | Mean                 | 61       | 82        | 17     | 40     | 47    | 56    | 47    | 45      | 37         | 49       | 69        | 63        | 51    |
| Time of sunrise |                      | 118°     | 106°      | 91°    | 77°    | 66°   | 58°   | 61°   | 72°     | 87°        | 101°     | 115°      | 122°      | —     |



TABLE VIIIb.

VALUES of the AMPLITUDE P, and the MEAN TIME of the FIRST MAXIMUM  $\mu$ , for the FIRST FOUR ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at GREENWICH for each MONTH of the YEAR and for the entire YEAR, obtained from the MEAN PRESSURES for 20 YEARS (1854-1873) of each MONTH and of the entire YEAR. (Given in Table IVb.)

| MONTH.        | P <sub>1</sub> . | $\mu_1$ . | P <sub>2</sub> . | $\mu_2$ . | P <sub>3</sub> . | $\mu_3$ . | P <sub>4</sub> . | $\mu_4$ . |
|---------------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|
| January       | 0056             | 279       | 0076             | 147       | 0044             | 34        | 0024             | 63        |
| February      | 0012             | 66        | 0097             | 153       | 0034             | 39        | 0006             | 85        |
| March         | 0029             | 61        | 0105             | 156       | 0012             | 40        | 0006             | 18        |
| April         | 0050             | 90        | 0101             | 155       | 0004             | 95        | 0007             | 37        |
| May           | 0073             | 61        | 0083             | 157       | 0017             | 99        | 0004             | 49        |
| June          | 0064             | 80        | 0085             | 158       | 0022             | 101       | 0006             | 53        |
| July          | 0054             | 83        | 0081             | 160       | 0021             | 102       | 0007             | 49        |
| August        | 0047             | 83        | 0097             | 156       | 0014             | 107       | 0010             | 44        |
| September     | 0004             | 146       | 0108             | 153       | 0005             | 26        | 0012             | 36        |
| October       | 0042             | 16        | 0105             | 149       | 0027             | 31        | 0002             | 45        |
| November      | 0016             | 333       | 0088             | 148       | 0034             | 31        | 0011             | 66        |
| December      | 0024             | 90        | 0078             | 150       | 0045             | 33        | 0026             | 62        |
| Mean 20 years | 0027             | 64        | 0091             | 153       | 0012             | 29        | 0006             | 56        |

TABLE IXb.

MEAN HOURLY VALUES of BAROMETRIC PRESSURE at GREENWICH for each MONTH of the YEAR, for the 20 YEARS from 1854 to 1873; corrected for NON-PERIODICAL CHANGE.

| Hour.<br>Greenwich<br>M.S.T. | Jan.        | Feb.        | March.      | April.      | May.        | June.       | July.       | Aug.        | Sept.       | Oct.        | Nov.        | Dec.        | Mean.       | Hour.<br>Greenwich<br>M.S.T. |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------------|
| Midnight                     | in.<br>7324 | in.<br>8372 | in.<br>7289 | in.<br>8102 | in.<br>7871 | in.<br>8368 | in.<br>8165 | in.<br>8064 | in.<br>7926 | in.<br>7285 | in.<br>7679 | in.<br>7938 | in.<br>7865 | Midnight.                    |
| 1 <sup>h</sup> a.m.          | 7273        | 8347        | 7272        | 8073        | 7833        | 8338        | 8130        | 8030        | 7889        | 7260        | 7640        | 7912        | 7833        | 1 <sup>h</sup> a.m.          |
| 2 "                          | 7267        | 8322        | 7231        | 8034        | 7806        | 8299        | 8094        | 7989        | 7842        | 7214        | 7618        | 7922        | 7803        | 2 "                          |
| 3 "                          | 7246        | 8274        | 7170        | 8003        | 7770        | 8269        | 8060        | 7950        | 7798        | 7156        | 7577        | 7911        | 7765        | 3 "                          |
| 4 "                          | 7208        | 8246        | 7138        | 7981        | 7751        | 8260        | 8055        | 7924        | 7763        | 7126        | 7548        | 7881        | 7740        | 4 "                          |
| 5 "                          | 7173        | 8243        | 7137        | 7982        | 7768        | 8278        | 8064        | 7936        | 7757        | 7116        | 7540        | 7852        | 7737        | 5 "                          |
| 6 "                          | 7165        | 8243        | 7163        | 8030        | 7796        | 8307        | 8086        | 7979        | 7801        | 7125        | 7542        | 7854        | 7757        | 6 "                          |
| 7 "                          | 7196        | 8284        | 7215        | 8080        | 7817        | 8346        | 8126        | 8022        | 7863        | 7175        | 7585        | 7879        | 7799        | 7 "                          |
| 8 "                          | 7263        | 8354        | 7257        | 8117        | 7841        | 8381        | 8161        | 8066        | 7924        | 7252        | 7657        | 7941        | 7851        | 8 "                          |
| 9 "                          | 7339        | 8403        | 7301        | 8156        | 7850        | 8387        | 8172        | 8099        | 7982        | 7287        | 7707        | 8014        | 7891        | 9 "                          |
| 10 "                         | 7399        | 8434        | 7323        | 8164        | 7838        | 8379        | 8168        | 8099        | 7989        | 7295        | 7741        | 8079        | 7909        | 10 "                         |
| 11 "                         | 7407        | 8453        | 7315        | 8138        | 7817        | 8362        | 8156        | 8074        | 7962        | 7278        | 7728        | 8049        | 7895        | 11 "                         |
| Noon                         | 7319        | 8401        | 7287        | 8098        | 7784        | 8327        | 8126        | 8027        | 7931        | 7208        | 7547        | 7940        | 7841        | Noon.                        |
| 1 <sup>h</sup> p.m.          | 7234        | 8302        | 7218        | 8050        | 7739        | 8282        | 8085        | 7985        | 7882        | 7122        | 7572        | 7842        | 7776        | 1 <sup>h</sup> p.m.          |
| 2 "                          | 7207        | 8233        | 7149        | 7995        | 7701        | 8247        | 8056        | 7949        | 7841        | 7084        | 7525        | 7800        | 7732        | 2 "                          |
| 3 "                          | 7243        | 8202        | 7101        | 7929        | 7655        | 8203        | 8017        | 7901        | 7791        | 7057        | 7524        | 7818        | 7703        | 3 "                          |
| 4 "                          | 7278        | 8201        | 7077        | 7903        | 7636        | 8172        | 7982        | 7875        | 7767        | 7064        | 7542        | 7839        | 7695        | 4 "                          |
| 5 "                          | 7312        | 8228        | 7085        | 7896        | 7620        | 8146        | 7949        | 7850        | 7766        | 7105        | 7586        | 7859        | 7700        | 5 "                          |
| 6 "                          | 7343        | 8289        | 7134        | 7911        | 7632        | 8149        | 7948        | 7853        | 7798        | 7170        | 7630        | 7881        | 7728        | 6 "                          |
| 7 "                          | 7373        | 8337        | 7192        | 7966        | 7674        | 8185        | 7982        | 7901        | 7865        | 7225        | 7660        | 7909        | 7772        | 7 "                          |
| 8 "                          | 7382        | 8355        | 7242        | 8042        | 7748        | 8242        | 8042        | 7926        | 7876        | 7260        | 7676        | 7926        | 7819        | 8 "                          |
| 9 "                          | 7380        | 8380        | 7292        | 8095        | 7837        | 8347        | 8129        | 8049        | 7960        | 7303        | 7703        | 7941        | 7868        | 9 "                          |
| 10 "                         | 7374        | 8383        | 7304        | 8116        | 7865        | 8374        | 8163        | 8075        | 7968        | 7307        | 7702        | 7948        | 7881        | 10 "                         |
| 11 "                         | 7362        | 8380        | 7307        | 8120        | 7879        | 8387        | 8171        | 8083        | 7956        | 7303        | 7699        | 7958        | 7884        | 11 "                         |
| Mean                         | 7294        | 8319        | 7217        | 8041        | 7772        | 8293        | 8087        | 7990        | 7873        | 7199        | 7626        | 7912        | 7802        | Mean.                        |

29 inches to be added to each value.

TABLE Xb.

TABLE giving the CORRECTION which should be applied in each MONTH to the INITIAL MIDNIGHT VALUE of PRESSURE (contained in Tables I.—XII. of the Greenwich Meteorological Reductions) to obtain the VALUE for the MIDNIGHT following.

| YEAR. | January.    | February.   | March.      | April.      | May.        | June.       | July.       | August.     | September.  | October.    | November.   | December.   |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1854  | in.<br>+037 | in.<br>+023 | in.<br>-008 | in.<br>-036 | in.<br>+021 | in.<br>-005 | in.<br>-005 | in.<br>+029 | in.<br>-003 | in.<br>-008 | in.<br>-036 | in.<br>+030 |
| 1855  | -019        | +010        | +018        | -006        | -028        | +018        | -007        | +012        | -038        | +017        | +016        | +011        |
| 1856  | +064        | +055        | -020        | -013        | +002        | +014        | -001        | -014        | -003        | +015        | -011        | +005        |
| 1857  | -010        | +027        | -038        | +023        | +006        | -008        | +020        | -003        | +001        | +003        | -           | +015        |
| 1858  | -023        | -004        | -021        | +004        | +033        | -003        | +002        | -015        | -006        | +019        | -038        | +030        |
| 1859  | -020        | +020        | -061        | -015        | -001        | +010        | -011        | -005        | +017        | -027        | +008        | +012        |
| 1860  | +024        | +014        | -043        | +073        | -024        | +044        | -008        | -013        | +019        | -003        | -011        | -010        |
| 1861  | +023        | -010        | -005        | +019        | -012        | +009        | -020        | -004        | -013        | +007        | +003        | +016        |
| 1862  | -018        | +006        | -013        | +004        | -013        | -031        | -010        | +001        | -019        | -012        | -002        | +015        |
| 1863  | -017        | +011        | +002        | -002        | +001        | +001        | -007        | -008        | -018        | +006        | +016        | -010        |
| 1864  | -019        | -027        | +008        | +017        | -023        | -           | +004        | -001        | +006        | -012        | -083        | -010        |
| 1865  | -028        | +014        | +020        | -003        | -003        | -017        | +008        | +017        | -001        | -013        | +012        | -019        |
| 1866  | +004        | -003        | +007        | -001        | +002        | +002        | +004        | +003        | +007        | 000         | -004        | -019        |
| 1867  | +028        | +008        | 000         | -019        | +010        | -008        | +012        | -006        | +014        | -005        | -014        | +005        |
| 1868  | -017        | -011        | +030        | -           | +005        | +009        | -001        | +001        | -021        | +022        | -014        | +008        |
| 1869  | -026        | +019        | +006        | +010        | +002        | -001        | -009        | +014        | -025        | +019        | -011        | -021        |
| 1870  | +018        | -044        | +020        | -041        | +009        | +008        | -010        | +011        | +013        | -016        | +015        | -010        |
| 1871  | -001        | +008        | -014        | +001        | 000         | -015        | +006        | -001        | -010        | +006        | -002        | +012        |
| 1872  | -015        | -003        | -001        | +002        | -022        | -005        | +003        | +010        | 000         | -003        | -031        | +022        |
| 1873  | +018        | -012        | 000         | +012        | -004        | -003        | +006        | -006        | +005        | -029        | +046        | -018        |

In the months of November 1857, June 1864, and April 1868, the photographic records were not sufficiently complete to be used.



TABLE XIb.

| Year.  | Midnight. | 1h. a.m. | 2h. a.m. | 3h. a.m. | 4h. a.m. | 5h. a.m. | 6h. a.m. | 7h. a.m. | 8h. a.m. | 9h. a.m. | 10h. a.m. | 11h. a.m. | Noon.    | 1h. p.m. | 2h. p.m. | 3h. p.m. | 4h. p.m. | 5h. p.m. | 6h. p.m. | 7h. p.m. | 8h. p.m. | 9h. p.m. | 10h. p.m. | 11h. p.m. | Mean.    |          |
|--------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|----------|
| 1854 - | in. .859  | in. .855 | in. .852 | in. .859 | in. .861 | in. .860 | in. .855 | in. .849 | in. .844 | in. .841 | in. .840  | in. .838  | in. .838 | in. .840 | in. .846 | in. .851 | in. .857 | in. .859 | in. .861 | in. .861 | in. .861 | in. .861 | in. .861  | in. .861  | in. .849 |          |
| 1855 - | in. .790  | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784  | in. .784  | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784 | in. .784  | in. .784  | in. .781 |          |
| 1856 - | in. .777  | in. .774 | in. .771 | in. .769 | in. .767 | in. .767 | in. .769 | in. .774 | in. .778 | in. .783 | in. .785  | in. .792  | in. .788 | in. .782 | in. .767 | in. .765 | in. .771 | in. .768 | in. .768 | in. .840 | in. .846 | in. .851 | in. .857  | in. .859  | in. .861 | in. .849 |
| 1857 - | in. .823  | in. .821 | in. .817 | in. .813 | in. .809 | in. .810 | in. .811 | in. .815 | in. .820 | in. .826 | in. .827  | in. .826  | in. .821 | in. .813 | in. .809 | in. .806 | in. .805 | in. .806 | in. .806 | in. .809 | in. .812 | in. .818 | in. .823  | in. .825  | in. .816 |          |
| 1858 - | in. .842  | in. .839 | in. .836 | in. .833 | in. .832 | in. .833 | in. .836 | in. .840 | in. .845 | in. .848 | in. .849  | in. .847  | in. .842 | in. .836 | in. .831 | in. .828 | in. .828 | in. .829 | in. .831 | in. .836 | in. .840 | in. .843 | in. .844  | in. .845  | in. .838 |          |
| 1859 - | in. .776  | in. .773 | in. .770 | in. .768 | in. .766 | in. .765 | in. .767 | in. .770 | in. .774 | in. .778 | in. .780  | in. .780  | in. .776 | in. .769 | in. .765 | in. .763 | in. .762 | in. .763 | in. .765 | in. .769 | in. .772 | in. .778 | in. .780  | in. .779  | in. .771 |          |
| 1860 - | in. .703  | in. .700 | in. .697 | in. .693 | in. .692 | in. .692 | in. .694 | in. .699 | in. .703 | in. .707 | in. .708  | in. .707  | in. .703 | in. .696 | in. .693 | in. .691 | in. .691 | in. .691 | in. .695 | in. .700 | in. .703 | in. .706 | in. .707  | in. .706  | in. .699 |          |
| 1861 - | in. .806  | in. .803 | in. .801 | in. .798 | in. .796 | in. .797 | in. .800 | in. .802 | in. .807 | in. .811 | in. .812  | in. .811  | in. .807 | in. .801 | in. .795 | in. .793 | in. .793 | in. .793 | in. .794 | in. .798 | in. .802 | in. .806 | in. .808  | in. .808  | in. .802 |          |
| 1862 - | in. .782  | in. .779 | in. .778 | in. .775 | in. .771 | in. .770 | in. .770 | in. .771 | in. .776 | in. .778 | in. .778  | in. .778  | in. .774 | in. .767 | in. .765 | in. .763 | in. .764 | in. .767 | in. .768 | in. .772 | in. .776 | in. .781 | in. .783  | in. .784  | in. .774 |          |
| 1863 - | in. .824  | in. .823 | in. .820 | in. .815 | in. .813 | in. .811 | in. .812 | in. .813 | in. .816 | in. .819 | in. .820  | in. .819  | in. .814 | in. .805 | in. .802 | in. .800 | in. .800 | in. .802 | in. .805 | in. .810 | in. .814 | in. .821 | in. .823  | in. .824  | in. .814 |          |
| 1864 - | in. .799  | in. .798 | in. .794 | in. .792 | in. .790 | in. .789 | in. .790 | in. .792 | in. .795 | in. .799 | in. .800  | in. .798  | in. .792 | in. .785 | in. .783 | in. .780 | in. .781 | in. .781 | in. .784 | in. .788 | in. .792 | in. .796 | in. .798  | in. .799  | in. .791 |          |
| 1865 - | in. .792  | in. .789 | in. .787 | in. .783 | in. .781 | in. .781 | in. .784 | in. .788 | in. .793 | in. .798 | in. .800  | in. .798  | in. .792 | in. .786 | in. .781 | in. .778 | in. .776 | in. .776 | in. .779 | in. .782 | in. .786 | in. .793 | in. .793  | in. .794  | in. .787 |          |
| 1866 - | in. .724  | in. .720 | in. .716 | in. .712 | in. .710 | in. .710 | in. .713 | in. .717 | in. .722 | in. .724 | in. .727  | in. .725  | in. .719 | in. .711 | in. .707 | in. .706 | in. .705 | in. .706 | in. .711 | in. .716 | in. .722 | in. .726 | in. .726  | in. .726  | in. .717 |          |
| 1867 - | in. .795  | in. .792 | in. .789 | in. .785 | in. .783 | in. .784 | in. .785 | in. .791 | in. .796 | in. .801 | in. .805  | in. .804  | in. .798 | in. .791 | in. .787 | in. .785 | in. .783 | in. .784 | in. .786 | in. .789 | in. .793 | in. .798 | in. .798  | in. .797  | in. .792 |          |
| 1868 - | in. .800  | in. .797 | in. .795 | in. .791 | in. .790 | in. .790 | in. .793 | in. .798 | in. .804 | in. .807 | in. .809  | in. .806  | in. .799 | in. .790 | in. .784 | in. .780 | in. .778 | in. .779 | in. .783 | in. .788 | in. .793 | in. .798 | in. .800  | in. .802  | in. .794 |          |
| 1869 - | in. .797  | in. .792 | in. .788 | in. .783 | in. .780 | in. .786 | in. .785 | in. .791 | in. .797 | in. .801 | in. .804  | in. .803  | in. .796 | in. .791 | in. .786 | in. .783 | in. .782 | in. .782 | in. .787 | in. .792 | in. .797 | in. .801 | in. .800  | in. .799  | in. .792 |          |
| 1870 - | in. .814  | in. .810 | in. .807 | in. .802 | in. .799 | in. .800 | in. .803 | in. .808 | in. .812 | in. .815 | in. .818  | in. .815  | in. .809 | in. .804 | in. .798 | in. .794 | in. .793 | in. .793 | in. .797 | in. .803 | in. .809 | in. .815 | in. .816  | in. .817  | in. .806 |          |
| 1871 - | in. .799  | in. .794 | in. .790 | in. .784 | in. .781 | in. .781 | in. .785 | in. .790 | in. .795 | in. .800 | in. .803  | in. .801  | in. .795 | in. .790 | in. .785 | in. .781 | in. .780 | in. .781 | in. .784 | in. .790 | in. .796 | in. .802 | in. .802  | in. .801  | in. .791 |          |
| 1872 - | in. .637  | in. .634 | in. .631 | in. .627 | in. .625 | in. .627 | in. .631 | in. .637 | in. .643 | in. .647 | in. .649  | in. .648  | in. .641 | in. .636 | in. .630 | in. .627 | in. .625 | in. .625 | in. .628 | in. .633 | in. .638 | in. .640 | in. .641  | in. .641  | in. .635 |          |
| 1873 - | in. .790  | in. .786 | in. .783 | in. .778 | in. .776 | in. .776 | in. .779 | in. .785 | in. .790 | in. .792 | in. .794  | in. .792  | in. .785 | in. .777 | in. .773 | in. .769 | in. .768 | in. .769 | in. .773 | in. .779 | in. .784 | in. .789 | in. .791  | in. .791  | in. .782 |          |
| Mean - | in. .786  | in. .783 | in. .780 | in. .776 | in. .774 | in. .773 | in. .775 | in. .780 | in. .785 | in. .789 | in. .791  | in. .789  | in. .784 | in. .777 | in. .773 | in. .770 | in. .769 | in. .770 | in. .772 | in. .777 | in. .782 | in. .786 | in. .788  | in. .788  | in. .780 |          |

29 inches to be added to each value.

TABLE 1c.—MONTHLY VALUES OF THE  $p$ ,  $q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF TEMPERATURE AT THE SEVEN OBSERVATORIES OF THE METEOROLOGICAL OFFICE, FOR EACH MONTH OF THE YEAR AND FOR EACH YEAR FROM 1871 TO 1882, OBTAINED BY MEANS OF SIR WILLIAM THOMSON'S HARMONIC ANALYSER.

JANUARY.

[illegible]



TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.  
FEBRUARY.

| YEARS.        | $p_1$     |         |           |          |             | $p_2$     |           |         |           |          | $p_3$       |           |           |         |           |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. |
| 1871          | -1.08     | -1.02   | -1.07     | -1.09    | -1.20       | -1.37     | +0.83     | +0.44   | +0.49     | +0.46    | +0.37       | +0.38     | +0.01     | +0.09   | +0.10     |
| 1872          | -1.14     | -1.41   | -1.10     | -1.26    | -1.41       | -1.31     | +0.57     | +0.59   | +0.54     | +0.46    | +0.38       | +0.36     | +0.02     | +0.11   | +0.10     |
| 1873          | -1.00     | -1.34   | -1.10     | -1.33    | -1.33       | -1.30     | +0.57     | +0.59   | +0.54     | +0.46    | +0.38       | +0.36     | +0.02     | +0.11   | +0.10     |
| 1874          | -1.00     | -1.34   | -1.10     | -1.33    | -1.33       | -1.30     | +0.57     | +0.59   | +0.54     | +0.46    | +0.38       | +0.36     | +0.02     | +0.11   | +0.10     |
| 1875          | -1.00     | -1.34   | -1.10     | -1.33    | -1.33       | -1.30     | +0.57     | +0.59   | +0.54     | +0.46    | +0.38       | +0.36     | +0.02     | +0.11   | +0.10     |
| Mean 5 years  | -1.09     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1876          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1877          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1878          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1879          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1880          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| Mean 5 years  | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1881          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| 1882          | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |
| Mean 12 years | -1.00     | -1.33   | -1.10     | -1.25    | -1.34       | -1.39     | +0.59     | +0.53   | +0.43     | +0.43    | +0.43       | +0.43     | +0.02     | +0.11   | +0.10     |

| YEARS.        | $q_1$     |         |           |          |             | $q_2$     |           |         |           |          | $q_3$       |           |           |         |           |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. |
| 1871          | -0.77     | -0.77   | -0.79     | -0.85    | -0.99       | -1.15     | +0.24     | +0.66   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1872          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1873          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1874          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1875          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| Mean 5 years  | -0.62     | -0.62   | -0.63     | -0.67    | -0.81       | -0.95     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1876          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1877          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1878          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1879          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1880          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| Mean 5 years  | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1881          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| 1882          | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |
| Mean 12 years | -0.54     | -0.54   | -0.57     | -0.61    | -0.75       | -0.91     | +0.51     | +0.72   | +0.41     | +0.55    | +0.54       | +0.48     | +0.01     | +0.09   | +0.10     |

TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.  
MARCH.

| YEARS.        | $p_1$     |         |           |          |             | $p_2$     |           |         |           |          | $p_3$       |           |           |         |           |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. |
| 1871          | -1.88     | -2.84   | -1.75     | -2.06    | -3.09       | -3.78     | +0.49     | +0.70   | +0.58     | +0.54    | +0.67       | +0.57     | +0.01     | +0.03   | +0.04     |
| 1872          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1873          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1874          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1875          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| Mean 5 years  | -1.56     | -2.33   | -1.82     | -2.13    | -3.21       | -3.94     | +0.56     | +0.69   | +0.58     | +0.54    | +0.67       | +0.57     | +0.04     | +0.06   | +0.07     |
| 1876          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1877          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1878          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1879          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1880          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| Mean 5 years  | -1.56     | -2.33   | -1.82     | -2.13    | -3.21       | -3.94     | +0.56     | +0.69   | +0.58     | +0.54    | +0.67       | +0.57     | +0.04     | +0.06   | +0.07     |
| 1881          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| 1882          | -1.44     | -2.19   | -1.75     | -2.06    | -3.09       | -3.78     | +0.39     | +0.82   | +0.77     | +0.70    | +0.77       | +0.59     | +0.04     | +0.06   | +0.07     |
| Mean 12 years | -1.56     | -2.33   | -1.82     | -2.13    | -3.21       | -3.94     | +0.56     | +0.69   | +0.58     | +0.54    | +0.67       | +0.57     | +0.04     | +0.06   | +0.07     |

| YEARS.        | $q_1$     |         |           |          |             | $q_2$     |           |         |           |          | $q_3$       |           |           |         |           |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. |
| 1871          | -1.73     | -2.63   | -1.60     | -2.03    | -3.09       | -4.19     | +0.62     | +0.82   | +0.75     | +0.71    | +0.77       | +0.57     | +0.05     | +0.07   | +0.08     |
| 1872          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1873          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1874          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1875          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| Mean 5 years  | -1.51     | -2.42   | -1.27     | -1.81    | -2.82       | -3.88     | +0.55     | +0.68   | +0.62     | +0.58    | +0.65       | +0.42     | +0.03     | +0.06   | +0.07     |
| 1876          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1877          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1878          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1879          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1880          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| Mean 5 years  | -1.51     | -2.42   | -1.27     | -1.81    | -2.82       | -3.88     | +0.55     | +0.68   | +0.62     | +0.58    | +0.65       | +0.42     | +0.03     | +0.06   | +0.07     |
| 1881          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| 1882          | -1.49     | -2.41   | -1.27     | -1.80    | -2.81       | -3.87     | +0.48     | +0.63   | +0.58     | +0.54    | +0.64       | +0.33     | +0.02     | +0.05   | +0.06     |
| Mean 12 years | -1.51     | -2.42   | -1.27     | -1.81    | -2.82       | -3.88     | +0.55     | +0.68   | +0.62     | +0.58    | +0.65       | +0.42     | +0.03     | +0.06   | +0.07     |

\* Thermometer broken from 29 March till 8 April.



TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.

| YEARS.        | $p_1$     |         |           |          |             |           | $p_2$     |         |           |          |             |           | $p_3$     |         |           |          |             |       |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Kew.  |
| 1871          | -1.76     | -3.14   | -2.21     | -3.22    | -3.15       | -2.46     | -4.01     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1872          | -2.28     | -3.31   | -2.71     | -3.16    | -2.85       | -4.43     | -4.43     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1873          | -2.56     | -3.53   | -2.96     | -3.72    | -3.09       | -4.72     | -4.72     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1874          | -2.44     | -3.81   | -2.76     | -3.44    | -3.43       | -4.08     | -4.08     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1875          | -2.76     | -4.59   | -2.22     | -4.05    | -3.55       | -4.86     | -4.86     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| Mean 5 years  | -2.36     | -3.68   | -2.48     | -3.52    | -3.00       | -4.00     | -4.00     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1876          | -1.82     | -3.18   | -2.50     | -3.05    | -2.81       | -4.31     | -4.31     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1877          | -1.02     | -2.24   | -1.07     | -2.08    | -2.99       | -3.36     | -3.36     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1878          | -2.25     | -3.40   | -2.70     | -3.50    | -3.10       | -4.19     | -4.19     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1879          | -2.20     | -3.18   | -2.70     | -3.20    | -3.04       | -4.04     | -4.04     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1880          | -2.48     | -3.62   | -2.28     | -3.44    | -3.77       | -3.79     | -3.79     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| Mean 5 years  | -2.13     | -3.12   | -2.25     | -3.15    | -2.76       | -3.91     | -3.91     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1881          | -2.60     | -3.19   | -1.54     | -4.06    | -4.07       | -5.04     | -5.04     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| 1882          | -2.25     | -3.39   | -2.30     | -3.03    | -3.41       | -4.40     | -4.40     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |
| Mean 12 years | -2.28     | -3.38   | -2.27     | -3.37    | -3.87       | -4.33     | -4.33     | +4.45   | +6.92     | +6.66    | +7.74       | +6.88     | +7.70     | +6.06   | +1.13     | +1.19    | +1.16       | +1.12 |

| YEARS.        | $q_1$     |         |           |          |             |           | $q_2$     |         |           |          |             |           | $q_3$     |         |           |          |             |       |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Kew.  |
| 1871          | -1.17     | -2.55   | -1.03     | -3.00    | -2.74       | -1.01     | -3.01     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1872          | -1.00     | -2.86   | -1.66     | -2.18    | -2.17       | -1.51     | -1.51     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1873          | -2.18     | -3.60   | -1.44     | -3.44    | -2.91       | -1.45     | -1.45     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1874          | -1.59     | -3.25   | -1.34     | -3.04    | -3.46       | -1.18     | -1.18     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1875          | -2.16     | -4.47   | -1.39     | -4.43    | -3.31       | -1.84     | -1.84     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| Mean 5 years  | -1.80     | -3.24   | -1.56     | -3.22    | -2.92       | -1.72     | -1.72     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1876          | -1.71     | -2.92   | -1.41     | -2.93    | -2.59       | -1.54     | -1.54     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1877          | -1.79     | -2.10   | -1.07     | -2.27    | -2.20       | -1.45     | -1.45     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1878          | -2.10     | -2.04   | -1.56     | -3.82    | -3.50       | -1.33     | -1.33     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1879          | -2.15     | -2.59   | -1.58     | -3.57    | -3.08       | -1.20     | -1.20     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1880          | -2.01     | -2.42   | -1.69     | -2.55    | -2.42       | -1.72     | -1.72     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| Mean 5 years  | -1.95     | -2.53   | -1.44     | -2.77    | -2.68       | -1.34     | -1.34     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1881          | -2.84     | -2.88   | -2.08     | -4.01    | -3.74       | -1.44     | -1.44     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| 1882          | -2.56     | -2.86   | -1.34     | -2.83    | -2.50       | -1.30     | -1.30     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |
| Mean 12 years | -1.97     | -2.88   | -1.46     | -3.06    | -2.77       | -1.50     | -1.50     | +5.57   | +5.52     | +5.27    | +5.47       | +5.18     | +5.88     | +5.05   | +3.34     | +3.32    | +3.23       | +3.23 |

\* Thermometer broken from 20th March till 8th April.

TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.

| YEARS.        | $p_1$     |         |           |          |             |           | $p_2$     |         |           |          |             |           | $p_3$     |         |           |          |             |       |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Kew.  |
| 1871          | -3.06     | -4.02   | -3.35     | -5.38    | -5.10       | -3.79     | -5.07     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1872          | -3.09     | -4.38   | -3.06     | -4.39    | -5.53       | -3.37     | -5.44     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1873          | -3.12     | -3.78   | -4.05     | -4.05    | -4.06       | -4.81     | -4.81     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1874          | -2.59     | -4.08   | -2.48     | -4.03    | -4.35       | -5.18     | -5.18     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1875          | -2.43     | -3.68   | -3.53     | -3.62    | -4.25       | -4.98     | -4.98     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| Mean 5 years  | -2.76     | -4.02   | -3.35     | -5.38    | -5.10       | -3.79     | -5.07     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1876          | -3.09     | -4.38   | -3.06     | -4.39    | -5.53       | -3.37     | -5.44     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1877          | -3.12     | -3.78   | -4.05     | -4.05    | -4.06       | -4.81     | -4.81     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1878          | -2.59     | -4.08   | -2.48     | -4.03    | -4.35       | -5.18     | -5.18     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1879          | -2.43     | -3.68   | -3.53     | -3.62    | -4.25       | -4.98     | -4.98     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1880          | -3.13     | -4.12   | -2.75     | -4.17    | -5.11       | -3.39     | -3.39     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| Mean 5 years  | -3.05     | -4.32   | -3.02     | -4.00    | -4.57       | -3.17     | -3.17     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1881          | -3.71     | -4.46   | -3.50     | -4.75    | -5.47       | -3.66     | -3.66     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| 1882          | -3.42     | -5.04   | -2.98     | -4.78    | -6.05       | -5.62     | -5.62     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |
| Mean 12 years | -3.02     | -4.10   | -3.08     | -4.10    | -4.69       | -3.29     | -3.29     | +4.43   | +4.41     | +4.21    | +4.37       | +4.15     | +4.29     | +4.12   | +3.31     | +3.36    | +3.28       | +4.48 |

|               |   | $q_1$ |       |       |       |       |       | $q_2$ |       |       |       |       |       | $q_3$ |       |       |       |       |       |       |       |       |
|---------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| —             |   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 1871          | - | -2.70 | -3.82 | -1.67 | -4.32 | -3.66 | -1.61 | -4.71 | +4.43 | +2.26 | -2.23 | +3.33 | -2.24 | -1.43 | +0.68 | +4.49 | +5.56 | +3.36 | +0.61 | +5.59 | +3.54 | +5.56 |
| 1872          | - | -1.92 | -2.30 | -2.43 | -2.34 | -2.06 | -1.73 | -3.56 | +3.43 | +1.10 | -2.24 | +0.28 | +0.02 | -1.43 | +3.22 | +2.24 | +3.38 | +4.40 | +4.46 | +4.41 | +1.16 | +5.56 |
| 1873          | - | -1.91 | -3.10 | -1.47 | -3.08 | -3.06 | -1.66 | -4.10 | +3.40 | +0.01 | +1.11 | +0.29 | +0.21 | -1.48 | +2.66 | +2.24 | +4.42 | +2.28 | +4.44 | +5.50 | +1.17 | +3.38 |
| 1874          | - | -2.49 | -2.85 | -1.66 | -3.05 | -2.76 | -1.40 | -4.08 | +3.38 | +0.02 | -0.02 | +0.02 | +0.12 | -1.11 | -1.18 | +3.39 | +3.46 | +4.40 | +5.51 | +2.28 | +2.26 | +5.57 |
| 1875          | - | -1.79 | -3.24 | -1.80 | -2.62 | -2.89 | -3.05 | -4.54 | +4.43 | +4.40 | -0.02 | +3.34 | -0.01 | -0.09 | +1.10 | +3.30 | +2.28 | +4.48 | +3.33 | +5.51 | +0.02 | +7.72 |
| Mean 5 years  | - | -2.16 | -3.06 | -1.81 | -3.08 | -2.89 | -1.69 | -4.20 | +3.37 | +1.16 | -0.08 | +2.21 | +0.02 | -1.31 | +1.10 | +3.33 | +4.42 | +3.38 | +4.47 | +4.46 | +1.17 | +5.56 |
| 1876          | - | -3.05 | -3.83 | -2.21 | -4.24 | -3.66 | -1.69 | -4.50 | +3.34 | +0.08 | +0.02 | +5.51 | -0.00 | -2.22 | +0.05 | +5.50 | +6.66 | +4.43 | +3.38 | +6.62 | +1.18 | +4.43 |
| 1877          | - | -2.45 | -3.28 | -1.52 | -3.16 | -2.67 | -1.54 | -3.37 | +3.16 | +0.06 | -0.09 | +1.16 | +0.03 | -3.39 | -1.10 | +5.53 | +4.40 | +2.27 | +5.52 | +3.35 | +1.12 | +4.41 |
| 1878          | - | -1.72 | -2.57 | -1.41 | -2.94 | -2.31 | -1.80 | -2.97 | +2.22 | +1.16 | -0.08 | +0.25 | +0.22 | -2.23 | +3.51 | +3.35 | +5.54 | +2.20 | +3.39 | +4.47 | +1.12 | +3.34 |
| 1879          | - | -1.83 | -3.15 | -1.45 | -3.52 | -2.93 | -1.78 | -3.56 | +3.19 | +0.09 | +0.13 | +1.19 | +0.07 | -2.28 | +3.12 | +3.32 | +3.39 | +3.31 | +4.41 | +6.61 | +2.20 | +5.59 |
| 1880          | - | -2.40 | -3.99 | -1.90 | -3.42 | -3.28 | -1.86 | -4.93 | +3.21 | +3.35 | -0.04 | +5.54 | +0.18 | -2.25 | +3.21 | +3.37 | +4.48 | +4.45 | +4.49 | +4.47 | +2.27 | +4.45 |
| Mean 5 years  | - | -2.29 | -3.56 | -1.70 | -3.46 | -2.97 | -1.73 | -3.87 | +3.22 | +1.15 | +0.02 | +3.33 | +1.10 | -2.27 | +1.11 | +4.41 | +4.43 | +3.33 | +4.44 | +5.50 | +1.18 | +4.44 |
| 1881          | - | -2.90 | -3.97 | -1.63 | -4.11 | -3.80 | -1.50 | -4.81 | +3.28 | +2.24 | +0.07 | +5.50 | +0.16 | -1.86 | -0.09 | +5.56 | +3.37 | +4.42 | +4.46 | +4.47 | +1.14 | +5.53 |
| 1882          | - | -2.46 | -3.94 | -1.55 | -4.32 | -3.60 | -1.80 | -4.38 | +3.16 | -0.09 | -1.13 | +4.48 | -2.24 | -0.68 | +3.21 | +4.49 | +5.53 | +3.38 | +4.45 | +5.58 | +2.24 | +5.52 |
| Mean 12 years | - | -2.30 | -3.34 | -1.73 | -3.43 | -3.06 | -1.70 | -4.13 | +3.29 | +1.14 | -0.05 | +3.31 | +0.04 | -1.37 | +1.10 | +4.40 | +4.43 | +3.37 | +4.45 | +4.49 | +1.18 | +5.51 |



TABLE IC.—MONTHLY VALUES OF THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &amp;c.—continued.

| YEAR.         | $p_1$     |         |           |          |             |           | $p_2$ |           |         |           |          |             | $p_3$     |       |           |         |           |          | Kew.  |             |           |       |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------|-------------|-----------|-------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. |       | Stonyhurst. | Aberdeen. |       |
| 1871          | -2.87     | -4.40   | -3.15     | -4.39    | -4.37       | -2.94     | -4.50 | +2.88     | +5.53   | +3.31     | +3.18    | +1.15       | +2.00     | +3.11 | +2.33     | +3.32   | +2.27     | +3.32    | +1.16 | +3.00       | +3.30     | +3.07 |
| 1872          | -1.86     | -3.19   | -3.10     | -3.81    | -4.00       | -2.65     | -5.27 | +1.12     | +3.36   | +3.31     | +3.22    | +2.20       | +2.20     | +2.20 | +2.20     | +1.14   | +3.19     | +2.24    | +2.16 | +2.16       | +2.16     | +2.16 |
| 1873          | -2.74     | -3.66   | -3.65     | -4.09    | -4.00       | -3.18     | -4.74 | +1.14     | +4.43   | +4.47     | +4.06    | +0.83       | +1.12     | +2.23 | +2.23     | +2.03   | +2.20     | +2.23    | +2.23 | +2.23       | +2.23     | +2.23 |
| 1874          | -3.38     | -5.20   | -3.66     | -5.04    | -5.42       | -4.13     | -5.26 | +0.25     | +3.35   | +3.45     | +3.45    | +1.15       | +2.28     | +2.28 | +2.28     | +2.28   | +2.28     | +2.28    | +2.28 | +2.28       | +2.28     | +2.28 |
| 1875          | -2.53     | -3.49   | -3.01     | -3.62    | -4.25       | -3.36     | -5.04 | +0.27     | +3.30   | +3.37     | +3.00    | +0.88       | +0.44     | +2.24 | +2.24     | +2.24   | +2.24     | +2.24    | +2.24 | +2.24       | +2.24     | +2.24 |
| Mean 5 years  | -2.68     | -3.99   | -3.31     | -4.19    | -4.41       | -3.29     | -4.96 | +1.21     | +3.39   | +3.38     | +3.06    | +0.67       | +0.69     | +2.26 | +2.26     | +2.26   | +2.26     | +2.26    | +2.26 | +2.26       | +2.26     | +2.26 |
| 1876          | -2.76     | -3.69   | -3.83     | -4.70    | -5.39       | -3.77     | -5.28 | +1.16     | +3.31   | +3.47     | +3.13    | +0.80       | +1.11     | +2.26 | +2.26     | +2.26   | +2.26     | +2.26    | +2.26 | +2.26       | +2.26     | +2.26 |
| 1877          | -2.70     | -3.66   | -2.99     | -4.24    | -4.39       | -3.33     | -5.91 | +1.18     | +3.38   | +3.50     | +2.23    | +0.38       | +0.01     | +2.20 | +2.20     | +2.20   | +2.20     | +2.20    | +2.20 | +2.20       | +2.20     | +2.20 |
| 1878          | -2.71     | -3.59   | -3.12     | -4.67    | -4.80       | -3.60     | -5.32 | +0.36     | +3.38   | +3.45     | +3.19    | +0.02       | +0.09     | +2.20 | +2.20     | +2.20   | +2.20     | +2.20    | +2.20 | +2.20       | +2.20     | +2.20 |
| 1879          | -2.24     | -3.21   | -2.57     | -3.45    | -3.65       | -2.04     | -4.14 | +0.83     | +3.38   | +3.45     | +3.19    | +0.02       | +0.09     | +2.20 | +2.20     | +2.20   | +2.20     | +2.20    | +2.20 | +2.20       | +2.20     | +2.20 |
| 1880          | -2.78     | -3.77   | -3.01     | -5.01    | -3.88       | -3.13     | -4.44 | +0.83     | +3.38   | +3.45     | +3.19    | +0.02       | +0.09     | +2.20 | +2.20     | +2.20   | +2.20     | +2.20    | +2.20 | +2.20       | +2.20     | +2.20 |
| Mean 5 years  | -2.74     | -3.70   | -3.10     | -4.41    | -4.42       | -3.37     | -5.02 | +1.14     | +3.36   | +3.36     | +3.14    | +0.16       | +0.03     | +2.26 | +2.26     | +2.26   | +2.26     | +2.26    | +2.26 | +2.26       | +2.26     | +2.26 |
| 1881          | -2.42     | -3.19   | -3.45     | -4.39    | -4.30       | -3.20     | -5.46 | +0.01     | +3.35   | +3.35     | +3.30    | +0.84       | +0.04     | +2.16 | +2.16     | +2.16   | +2.16     | +2.16    | +2.16 | +2.16       | +2.16     | +2.16 |
| 1882          | -2.42     | -3.85   | -2.87     | -4.21    | -4.14       | -3.22     | -4.44 | +1.10     | +3.30   | +3.36     | +3.44    | +0.30       | +0.03     | +2.00 | +2.00     | +2.00   | +2.00     | +2.00    | +2.00 | +2.00       | +2.00     | +2.00 |
| Mean 12 years | -2.63     | -3.83   | -3.20     | -4.30    | -4.38       | -3.31     | -4.86 | +1.16     | +3.41   | +3.37     | +3.16    | +0.15       | +0.01     | +2.15 | +2.15     | +2.15   | +2.15     | +2.15    | +2.15 | +2.15       | +2.15     | +2.15 |

|               | $q_1$ |       |       |       |       |       | $q_2$ |       |       |       |       |       | $q_3$ |       |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1871          | -2.66 | -3.77 | -1.81 | -3.72 | -3.20 | -1.16 | -3.13 | +1.14 | -0.06 | +1.11 | +1.16 | +0.05 | -0.41 | +1.10 | +0.23 | +0.37 | +0.21 | +1.52 | +0.55 | +1.11 | +0.25 |
| 1872          | -     | -2.44 | -1.58 | -2.14 | -3.20 | -1.30 | -4.07 | +0.36 | +0.01 | +0.01 | 0.00  | +1.13 | -0.18 | -0.20 | +0.22 | +0.24 | +0.33 | +0.38 | +0.44 | +0.13 | +0.55 |
| 1873          | -     | -1.74 | -     | -3.28 | -2.88 | -1.68 | -4.14 | +1.15 | -0.01 | +0.13 | +0.13 | -0.08 | -0.25 | -0.28 | +0.36 | +0.37 | +0.21 | +0.51 | +0.43 | -0.05 | +0.39 |
| 1874          | -     | -2.54 | -4.05 | -1.97 | -4.25 | -3.82 | -4.50 | +1.17 | -0.04 | +0.08 | -0.15 | -0.21 | -0.53 | -0.11 | +0.45 | +0.40 | +0.28 | +0.55 | +0.50 | +0.17 | +0.39 |
| 1875          | -     | -1.31 | -3.02 | -1.33 | -2.84 | -1.70 | -4.36 | +0.18 | +0.08 | +0.26 | +0.55 | -0.22 | -0.55 | +1.10 | +0.27 | +0.33 | +0.33 | +0.40 | +0.50 | -0.01 | +0.41 |
| Mean 5 years  | -1.76 | -3.08 | -1.70 | -3.25 | -2.87 | -1.55 | -4.04 | +0.20 | +0.03 | +0.06 | +0.04 | -0.07 | -0.38 | -0.09 | +0.31 | +0.27 | +0.27 | +0.47 | +0.49 | +0.07 | +0.40 |
| 1876          | -     | -1.80 | -3.31 | -1.82 | -2.98 | -2.30 | -4.85 | +0.26 | +0.12 | -0.16 | +1.12 | -0.25 | -0.45 | +0.25 | +0.23 | +0.36 | +0.47 | +0.50 | +0.44 | +0.04 | +0.43 |
| 1877          | -     | -1.68 | -3.16 | -1.70 | -3.68 | -1.71 | -5.31 | +0.27 | +0.15 | +0.30 | +0.38 | +0.01 | -0.36 | +0.20 | +0.18 | +0.26 | +0.29 | +0.27 | +0.36 | +0.06 | +0.33 |
| 1878          | -     | -1.88 | -3.98 | -1.59 | -3.65 | -1.96 | -4.18 | +0.11 | +0.11 | +0.04 | +0.66 | -0.12 | -0.48 | -0.23 | +0.31 | +0.28 | +0.31 | +0.40 | +0.40 | +0.02 | +0.50 |
| 1879          | -     | -1.72 | -2.50 | -1.74 | -2.67 | -1.26 | -2.96 | +0.27 | +0.08 | +0.13 | +0.19 | -0.02 | -0.17 | +0.21 | +0.31 | +0.19 | +0.21 | +0.19 | +0.37 | +0.15 | +0.25 |
| 1880          | -     | -2.15 | -3.28 | -1.56 | -3.87 | -2.02 | -3.65 | +0.12 | 0.00  | -0.05 | +0.38 | -0.46 | -0.68 | +0.13 | +0.33 | +0.27 | +0.21 | +0.37 | +0.35 | +0.25 | +0.39 |
| Mean 5 years  | -1.85 | -3.05 | -1.56 | -3.43 | -2.95 | -1.57 | -4.19 | +0.22 | +0.09 | +0.05 | +0.23 | -0.17 | -0.43 | +0.12 | +0.27 | +0.27 | +0.30 | +0.35 | +0.38 | +0.10 | +0.38 |
| 1881          | -     | -1.72 | -2.38 | -1.32 | -2.82 | -1.38 | -4.28 | +0.10 | -0.15 | -0.04 | -0.04 | -0.33 | -0.45 | +0.07 | +0.31 | +0.40 | +0.26 | +0.30 | +0.36 | +0.12 | +0.51 |
| 1882          | -     | -1.96 | -2.58 | -1.34 | -3.48 | -2.51 | -3.36 | +0.19 | +0.11 | +0.01 | -0.11 | -0.14 | -0.32 | -0.13 | +0.21 | +0.27 | +0.32 | +0.50 | +0.26 | +0.30 | +0.27 |
| Mean 12 years | -1.81 | -2.97 | -1.58 | -3.28 | -2.85 | -1.56 | -4.07 | +0.19 | +0.05 | +0.04 | +0.10 | -0.14 | -0.40 | +0.01 | +0.28 | +0.32 | +0.29 | +0.41 | +0.42 | +0.10 | +0.39 |

TABLE IC.—MONTHLY VALUES OF THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &amp;c.—continued.

| Y.ears.       | <i>p</i> <sub>1</sub> |         |           |          |             |           | <i>p</i> <sub>2</sub> |           |         |           |          |             | <i>p</i> <sub>3</sub> |       |           |         |           |          |             |           |       |       |
|---------------|-----------------------|---------|-----------|----------|-------------|-----------|-----------------------|-----------|---------|-----------|----------|-------------|-----------------------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|-------|
|               | Valencia.             | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.                  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.             | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  |       |
| 871           | -2.22                 | -3.53   | -3.22     | -3.74    | -3.49       | -3.69     | -4.52                 | +2.21     | +4.47   | +4.49     | +2.88    | +2.27       | +2.24                 | +1.10 | +1.10     | +1.06   | +1.11     | +1.31    | +1.32       | +1.32     | +1.29 | +1.29 |
| 872           | -2.38                 | -3.66   | -3.90     | -3.95    | -4.55       | -2.76     | -5.59                 | +1.18     | +4.45   | +4.46     | +1.11    | +2.26       | +2.23                 | +1.16 | +1.10     | +1.06   | +1.17     | +1.31    | +1.31       | +1.31     | +1.20 | +1.20 |
| 873           | -2.06                 | -2.86   | -3.74     | -3.74    | -4.12       | -3.37     | -5.34                 | +1.02     | +3.31   | +2.89     | +3.34    | +3.14       | +1.12                 | +1.02 | +1.02     | +1.02   | +1.04     | +1.37    | +1.33       | +1.34     | +1.39 | +1.39 |
| 874           | -3.50                 | -3.64   | -3.63     | -4.08    | -4.88       | -3.34     | -6.09                 | +1.16     | +3.39   | +4.41     | +1.02    | +2.02       | +1.10                 | +1.02 | +1.02     | +1.22   | +1.38     | +1.38    | +1.40       | +1.33     | +1.30 | +1.30 |
| 875           | -2.85                 | -4.01   | -3.02     | -4.85    | -4.34       | -3.15     | -3.88                 | +1.19     | +4.46   | +3.33     | +1.05    | +3.38       | +2.20                 | +1.07 | +1.16     | +1.04   | +1.31     | +1.40    | +1.40       | +1.43     | +1.43 | +1.43 |
| Mean 5 years  | -2.38                 | -3.54   | -3.35     | -4.07    | -4.28       | -3.26     | -5.07                 | +1.14     | +4.42   | +3.39     | +1.16    | +2.20       | +1.60                 | +1.07 | +1.16     | +1.11   | +1.31     | +1.32    | +1.32       | +1.30     | +1.23 | +1.23 |
| 876           | -3.16                 | -4.33   | -3.68     | -3.95    | -4.34       | -3.50     | -5.31                 | +1.23     | +4.40   | +4.42     | +1.02    | +3.10       | +1.09                 | +1.03 | +1.15     | +1.07   | +1.27     | +1.42    | +1.42       | +1.22     | +1.28 | +1.21 |
| 877           | -3.66                 | -2.85   | -3.42     | -2.93    | -3.19       | -3.36     | -4.25                 | +1.16     | +2.20   | +2.29     | +1.14    | +2.07       | +1.14                 | +1.30 | +1.21     | +1.16   | +1.27     | +1.35    | +1.35       | +1.29     | +1.34 | +1.34 |
| 878           | -3.00                 | -4.19   | -3.32     | -4.19    | -4.64       | -3.49     | -4.66                 | +1.06     | +3.38   | +2.29     | -1.05    | +2.27       | +1.27                 | +1.30 | +1.13     | +1.19   | +1.19     | +1.33    | +1.33       | +1.20     | +1.26 | +1.37 |
| 879           | -2.15                 | -2.21   | -2.55     | -2.91    | -2.59       | -2.60     | -3.66                 | +1.31     | +4.45   | +4.40     | +1.45    | +2.28       | +1.09                 | +1.26 | +1.01     | +1.08   | +1.05     | +1.23    | +1.23       | +1.07     | +1.26 | +1.34 |
| 880           | -2.70                 | -3.15   | -3.71     | -3.78    | -3.33       | -2.62     | -4.07                 | +1.14     | +1.14   | +1.39     | +1.21    | +1.18       | +1.11                 | +1.13 | +1.43     | +1.15   | +1.35     | +1.28    | +1.28       | +1.19     | +1.18 | +1.19 |
| Mean 5 years  | -2.61                 | -3.35   | -3.34     | -3.55    | -3.62       | -3.11     | -4.39                 | +1.26     | +1.31   | +1.36     | +1.15    | +1.22       | +1.09                 | +1.14 | +1.23     | +1.12   | +1.23     | +1.30    | +1.30       | +1.20     | +1.25 | +1.20 |
| 881           | -2.18                 | -3.14   | -3.72     | -3.15    | -3.81       | -3.90     | -5.35                 | +1.27     | +1.07   | +1.38     | +1.39    | +1.30       | +1.37                 | +1.05 | +1.16     | +1.08   | +1.32     | +1.19    | +1.19       | +1.06     | +1.22 | +1.22 |
| 882           | -2.39                 | -2.99   | -3.53     | -3.52    | -4.11       | -3.38     | -4.61                 | +1.20     | +1.41   | +1.49     | +1.33    | +1.26       | -1.07                 | +1.17 | +1.16     | +1.10   | +1.29     | +1.22    | +1.22       | +1.41     | +1.33 | +1.33 |
| Mean 12 years | -2.46                 | -3.38   | -3.39     | -3.73    | -3.95       | -3.26     | -4.77                 | +1.22     | +1.34   | +1.39     | +1.19    | +1.29       | +1.10                 | +1.11 | +1.14     | +1.12   | +1.25     | +1.29    | +1.29       | +1.28     | +1.33 | +1.33 |







TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.  
OCTOBER.

| YEARS.        | $p_1$     |         |           |          |             | $p_2$     |       |           |         |           | $p_3$    |             |           |        |             |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|--------|-------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Stonyhurst. |
| 1871          | -1.24     | -2.45   | -1.44     | -2.03    | -2.69       | -1.98     | -4.25 | + .96     | + .93   | + .99     | + .81    | + .01       | + .62     | + 1.73 | - .04       |
| 1872          | -1.38     | -2.31   | -2.08     | -2.42    | -2.33       | -2.03     | -3.47 | + .55     | + .77   | + .88     | + .75    | + .80       | + .78     | + .93  | - .14       |
| 1873          | -1.67     | -2.20   | -2.01     | -1.89    | -2.46       | -2.27     | -3.36 | + .49     | + .71   | + .68     | + .55    | + .56       | + .87     | + .93  | - .16       |
| 1874          | -1.31     | -1.95   | -1.68     | -1.80    | -1.97       | -2.85     | -3.15 | + .57     | + .72   | + .66     | + .68    | + .82       | + .73     | + .92  | - .10       |
| 1875          | -1.61     | -1.89   | -1.37     | -1.65    | -1.82       | -1.68     | -2.81 | + .61     | + .66   | + .57     | + .77    | + .80       | + .60     | + 1.02 | - .07       |
| Mean 5 years  | -1.44     | -2.18   | -1.72     | -1.96    | -2.24       | -2.16     | -3.41 | + .69     | + .80   | + .69     | + .71    | + .90       | + .74     | + 1.19 | - .11       |
| 1876          | -1.32     | -1.52   | -1.09     | -1.54    | -2.31       | -1.69     | -2.77 | + .47     | + .65   | + .51     | + .36    | + .80       | + .90     | + 1.02 | - .11       |
| 1877          | -1.52     | -1.98   | -1.76     | -1.70    | -2.47       | -1.99     | -3.71 | + .67     | + .86   | + .71     | + .67    | + 1.00      | + .90     | + 1.32 | - .10       |
| 1878          | -1.68     | -2.09   | -1.62     | -1.48    | -1.73       | -1.51     | -3.27 | + .50     | + .84   | + .75     | + .62    | + .67       | + .74     | + 1.34 | - .10       |
| 1879          | -1.80     | -1.89   | -1.36     | -2.16    | -2.06       | -2.37     | -2.93 | + .61     | + .49   | + .61     | + .75    | + .86       | + 1.20    | + .63  | - .11       |
| 1880          | -2.62     | -2.69   | -1.50     | -2.85    | -2.78       | -2.40     | -2.84 | + .62     | + .91   | + .83     | + 1.02   | + 1.01      | + .79     | + 1.60 | - .17       |
| Mean 5 years  | -1.79     | -2.03   | -1.47     | -1.95    | -2.27       | -2.15     | -3.10 | + .57     | + .73   | + .68     | + .68    | + .87       | + .58     | + 1.66 | - .10       |
| 1881          | -1.37     | -2.06   | -1.57     | -2.37    | -2.59       | -1.45     | -3.11 | + .75     | + 1.03  | + .70     | + .80    | + .97       | + .76     | + 1.28 | - .02       |
| 1882          | -1.63     | -2.31   | -1.98     | -2.02    | -1.96       | -1.81     | -3.03 | + .63     | + .66   | + .78     | + .61    | + .88       | + .82     | + 1.06 | - .11       |
| Mean 12 years | -1.60     | -2.12   | -1.62     | -1.99    | -2.26       | -2.07     | -3.23 | + .60     | + .68   | + .70     | + .70    | + .89       | + .79     | + 1.13 | - .13       |

| YEARS.        | $q_1$     |         |           |          |             | $q_2$     |       |           |         |           | $q_3$    |             |           |        |             |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|--------|-------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Stonyhurst. |
| 1871          | -1.00     | -1.44   | -1.74     | -1.97    | -1.88       | -1.40     | -3.38 | + .50     | + .81   | + .41     | + .70    | + .62       | + .95     | + .67  | - .09       |
| 1872          | -1.02     | -1.74   | -1.94     | -1.51    | -1.78       | -1.20     | -2.74 | + .37     | + .73   | + .39     | + .82    | + .78       | + .64     | + .82  | - .02       |
| 1873          | -1.89     | -1.93   | -1.21     | -1.97    | -1.92       | -1.42     | -3.14 | + .50     | + 1.00  | + .61     | + .66    | + .77       | + .70     | + .70  | - .07       |
| 1874          | -1.72     | -1.34   | -1.67     | -1.34    | -1.06       | -1.99     | -1.98 | + .41     | + .77   | + .36     | + .88    | + .41       | + .72     | + .70  | - .04       |
| 1875          | -1.59     | -1.28   | -1.46     | -1.59    | -1.07       | -1.03     | -1.80 | + .38     | + .48   | + .36     | + .35    | + .49       | + .33     | + .37  | - .10       |
| Mean 5 years  | -1.84     | -1.55   | -1.86     | -1.68    | -1.52       | -1.34     | -2.57 | + .43     | + .76   | + .41     | + .70    | + .62       | + .95     | + .67  | - .09       |
| 1876          | -1.06     | -1.83   | -1.59     | -1.69    | -1.56       | -1.13     | -1.74 | + .55     | + .76   | + .26     | + .74    | + .57       | + .57     | + 1.15 | - .02       |
| 1877          | -1.88     | -1.53   | -1.88     | -1.68    | -1.73       | -2.00     | -3.59 | + .49     | + .85   | + .20     | + .58    | + .56       | + .36     | + .86  | - .11       |
| 1878          | -1.48     | -1.39   | -1.37     | -1.22    | -1.08       | -2.53     | -2.53 | + .30     | + .53   | + .20     | + .20    | + .50       | + .36     | + .86  | - .02       |
| 1879          | -1.18     | -1.62   | -1.83     | -2.01    | -1.61       | -2.64     | -2.11 | + .73     | + .48   | + .32     | + .90    | + .78       | + .80     | + .70  | - .01       |
| 1880          | -2.10     | -2.14   | -1.30     | -2.71    | -1.77       | -1.48     | -2.09 | + .90     | + .94   | + .40     | + 1.21   | + .55       | + .58     | + .66  | - .07       |
| Mean 5 years  | -1.12     | -1.50   | -1.00     | -1.81    | -1.46       | -1.55     | -2.41 | + .59     | + .66   | + .28     | + .77    | + .64       | + .57     | + .87  | - .05       |
| 1881          | -1.73     | -1.31   | -1.27     | -1.65    | -1.95       | -1.55     | -2.20 | + .52     | + .70   | + .08     | + .69    | + .70       | + .41     | + .68  | - .04       |
| 1882          | -1.25     | -1.47   | -1.06     | -1.66    | -1.57       | -1.46     | -2.37 | + .59     | + .71   | + .30     | + .57    | + .67       | + .41     | + .64  | - .03       |
| Mean 12 years | -1.68     | -1.50   | -1.02     | -1.73    | -1.45       | -1.37     | -2.46 | + .52     | + .71   | + .34     | + .72    | + .64       | + .54     | + .68  | - .01       |

TABLE IC.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.  
NOVEMBER.

| YEARS.        | $p_1$     |         |           |          |             | $p_2$     |       |           |         |           | $p_3$    |             |           |        |             |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|--------|-------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Stonyhurst. |
| 1871          | -1.20     | -1.42   | -1.42     | -1.57    | -1.59       | -1.32     | -2.48 | + .45     | + .49   | + .69     | + .39    | + .63       | + .53     | + 1.07 | - .17       |
| 1872          | -1.06     | -1.70   | -1.30     | -1.55    | -1.30       | -1.39     | -1.51 | + .56     | + .49   | + .38     | + .39    | + .63       | + .50     | + .95  | - .10       |
| 1873          | -1.23     | -1.14   | -1.77     | -1.25    | -1.23       | -1.62     | -1.67 | + .40     | + .51   | + .42     | + .42    | + .43       | + .47     | + .69  | - .13       |
| 1874          | -1.83     | -1.01   | -1.06     | -1.06    | -1.12       | -1.31     | -1.99 | + .46     | + .84   | + .69     | + .33    | + .67       | + .43     | + .60  | - .15       |
| 1875          | -1.38     | -1.31   | -1.13     | -1.60    | -1.06       | -1.63     | -1.20 | + .52     | + .61   | + .38     | + .59    | + .38       | + .36     | + .60  | - .11       |
| Mean 5 years  | -1.14     | -1.30   | -1.04     | -1.35    | -1.26       | -1.50     | -1.77 | + .48     | + .55   | + .49     | + .48    | + .58       | + .46     | + .84  | - .18       |
| 1876          | -1.16     | -1.70   | -1.14     | -1.01    | -1.30       | -1.58     | -2.12 | + .55     | + .57   | + .19     | + .79    | + .16       | + .36     | + 1.02 | - .14       |
| 1877          | -1.82     | -1.03   | -1.32     | -1.39    | -1.47       | -1.37     | -1.61 | + .45     | + .69   | + .55     | + .83    | + .77       | + .72     | + .57  | - .16       |
| 1878          | -1.58     | -1.64   | -1.03     | -1.39    | -1.47       | -1.37     | -1.61 | + .51     | + .86   | + .55     | + .55    | + .67       | + .43     | + .60  | - .13       |
| 1879          | -1.17     | -1.41   | -1.52     | -1.97    | -1.38       | -1.10     | -1.81 | + .40     | + .59   | + .65     | + .59    | + .57       | + .74     | + .72  | - .15       |
| 1880          | -1.77     | -1.87   | -1.01     | -1.96    | -1.57       | -1.68     | -2.19 | + .45     | + .68   | + .62     | + .25    | + .82       | + .81     | + .88  | - .14       |
| Mean 5 years  | -1.10     | -1.11   | -1.18     | -1.00    | -1.30       | -1.21     | -2.02 | + .47     | + .68   | + .64     | + .49    | + .74       | + .63     | + .84  | - .19       |
| 1881          | -1.69     | -1.30   | -1.99     | -1.76    | -1.44       | -1.16     | -2.00 | + .50     | + .55   | + .51     | + .44    | + .63       | + .57     | + .52  | - .12       |
| 1882          | -1.75     | -1.90   | -1.92     | -1.23    | -1.55       | -1.97     | -1.55 | + .48     | + .72   | + .56     | + .34    | + .83       | + .44     | + .86  | - .14       |
| Mean 12 years | -1.95     | -1.27   | -1.09     | -1.15    | -1.32       | -1.12     | -1.87 | + .48     | + .62   | + .56     | + .47    | + .69       | + .54     | + .79  | - .13       |

| YEARS.        | $q_1$     |         |           |          |             | $q_2$     |       |           |         |           | $q_3$    |             |           |       |             |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|-------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Stonyhurst. |
| 1871          | -1.37     | -1.18   | -1.66     | -1.06    | -1.50       | -1.09     | -1.00 | + .48     | + .70   | + .33     | + .61    | + .54       | + .25     | + .86 | - .16       |
| 1872          | -1.40     | -1.07   | -1.49     | -1.89    | -1.64       | -1.87     | -1.21 | + .53     | + .52   | + .24     | + .61    | + .52       | + .36     | + .50 | - .04       |
| 1873          | -1.63     | -1.79   | -1.46     | -1.91    | -1.88       | -1.48     | -1.57 | + .47     | + .57   | + .15     | + .52    | + .45       | + .44     | + .70 | - .12       |
| 1874          | -1.94     | -1.00   | -1.00     | -1.83    | -1.67       | -1.09     | -1.86 | + .47     | + .51   | + .22     | + .50    | + .66       | + .55     | + .61 | - .15       |
| 1875          | -1.93     | -1.86   | -1.76     | -1.05    | -1.72       | -1.20     | -1.38 | + .80     | + .59   | + .40     | + .67    | + .40       | + .35     | + .39 | - .12       |
| Mean 5 years  | -1.53     | -1.86   | -1.63     | -1.91    | -1.80       | -1.77     | -1.55 | + .55     | + .85   | + .27     | + .58    | + .51       | + .39     | + .61 | - .14       |
| 1876          | -1.40     | -1.40   | -1.74     | -1.01    | -1.28       | -1.72     | -1.45 | + .60     | + .57   | + .50     | + .61    | + .54       | + .37     | + .71 | - .17       |
| 1877          | -1.44     | -1.58   | -1.62     | -1.36    | -1.85       | -1.90     | -2.10 | + .43     | + .63   | + .26     | + .35    | + .57       | + .48     | + .82 | - .06       |
| 1878          | -1.22     | -1.70   | -1.70     | -1.89    | -1.81       | -1.77     | -1.22 | + .50     | + .80   | + .25     | + .50    | + .48       | + .30     | + .58 | - .25       |
| 1879          | -1.90     | -1.14   | -1.07     | -1.19    | -1.80       | -1.25     | -1.71 | + .34     | + .64   | + .31     | + .77    | + .51       | + .60     | + .61 | - .15       |
| 1880          | -1.14     | -1.23   | -1.34     | -1.15    | -1.20       | -1.81     | -1.26 | + .58     | + .61   | + .39     | + .52    | + .66       | + .57     | + .70 | - .16       |
| Mean 5 years  | -1.78     | -1.43   | -1.73     | -1.07    | -1.99       | -1.69     | -1.55 | + .49     | + .65   | + .34     | + .56    | + .55       | + .46     | + .68 | - .20       |
| 1881          | -1.52     | -1.74   | -1.33     | -1.57    | -1.93       | -1.67     | -1.84 | + .43     | + .43   | - .01     | + .20    | + .54       | + .38     | + .67 | - .05       |
| 1882          | -1.39     | -1.24   | -1.67     | -1.41    | -1.00       | -1.10     | -1.46 | + .34     | + .53   | + .22     | + .50    | + .50       | + .46     | + .46 | - .02       |
| Mean 12 years | -1.62     | -1.17   | -1.65     | -1.99    | -1.93       | -1.76     | -1.48 | + .60     | + .59   | + .27     | + .53    | + .53       | + .43     | + .67 | - .12       |



TABLE IC.—MONTHLY VALUES OF THE  $p$ ,  $q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, &c.—continued.  
DECEMBER.

| YEARS.        | $p_1$     |         |           |          |             | $p_2$     |           |         |           |          | $p_3$       |           |           |         |           | Kew.     |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. |
| 1871          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1872          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1873          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1874          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1875          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1876          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1877          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1878          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1879          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1880          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1881          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1882          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 12 years | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |

| YEARS.        | $q_1$     |         |           |          |             | $q_2$     |           |         |           |          | $q_3$       |           |           |         |           | Kew.     |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. |
| 1871          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1872          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1873          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1874          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1875          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1876          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1877          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1878          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1879          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1880          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1881          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1882          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 12 years | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |

TABLE IIC.—MONTHLY MEANS OF THE AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from MEAN MIDNIGHT for the FIRST THREE ORDERS OF HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for each YEAR, from 1871 to 1882; obtained by Means of Sir William Thomson's Harmonic Analyser.

JANUARY.

| YEARS.        | $P_1$     |         |           |          |             | $P_2$     |           |         |           |          | $P_3$       |           |           |         |           | Kew.     |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. |
| 1871          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1872          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1873          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1874          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1875          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1876          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1877          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1878          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1879          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1880          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1881          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1882          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 12 years | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |

| YEARS.        | $\mu_1$   |         |           |          |             | $\mu_2$   |           |         |           |          | $\mu_3$     |           |           |         |           | Kew.     |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|-------------|-----------|-----------|---------|-----------|----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Valencia. | Armagh. | Palmouth. | Glasgow. |
| 1871          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1872          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1873          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1874          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1875          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1876          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1877          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1878          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1879          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1880          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 5 years  | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1881          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| 1882          | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |
| Mean 12 years | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        | —           | —         | —         | —       | —         | —        |



TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.  
FEBRUARY.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |  | Kew. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|--|------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. | Kew. |  |      |
| 1871          | 1.33             | 1.37    | 1.33      | 1.27     | 1.35        | 1.79             | 2.65 | .40       | .79     | .62       | .66              | .59         | .72       | 1.04 |  |      |
| 1872          | 1.26             | 2.23    | 1.41      | 1.68     | 1.73        | 1.66             | 2.95 | .76       | .93     | .65       | .80              | .84         | .83       | 1.16 |  |      |
| 1873          | 1.33             | 2.01    | 1.37      | 2.36     | 1.91        | 2.46             | 1.49 | .68       | 1.88    | .96       | .90              | .80         | .90       | .70  |  |      |
| 1874          | 1.10             | 2.24    | 1.66      | 2.46     | 2.45        | 2.38             | 2.87 | .66       | .97     | .71       | .73              | .93         | .93       | 1.25 |  |      |
| 1875          | 2.21             | 2.07    | 1.03      | 1.63     | 1.46        | 1.43             | 2.18 | .82       | .73     | .62       | .75              | .73         | .81       | 1.01 |  |      |
| Mean 5 years  | 1.45             | 1.86    | 1.36      | 1.86     | 1.80        | 1.64             | 2.40 | .66       | .60     | .59       | .77              | .80         | .79       | 1.03 |  |      |
| 1876          | 1.27             | 1.91    | 1.36      | 1.80     | 1.89        | 1.58             | 2.39 | .85       | 1.00    | .68       | .68              | .74         | .72       | .99  |  |      |
| 1877          | 0.89             | 1.81    | 1.31      | 2.12     | 1.78        | 2.06             | 2.34 | .41       | .79     | .67       | .95              | .61         | .81       | .96  |  |      |
| 1878          | 1.44             | 2.09    | 1.49      | 1.77     | 2.24        | 2.03             | 2.34 | .79       | .72     | .55       | .51              | .67         | 1.06      | .82  |  |      |
| 1879          | 1.31             | 1.98    | 1.49      | 1.46     | 1.79        | 1.81             | 1.72 | .66       | .83     | .70       | .59              | .82         | .81       | .77  |  |      |
| 1880          | 1.17             | 2.10    | 1.51      | 1.59     | 2.06        | 1.65             | 2.69 | .54       | .99     | .76       | .86              | 1.04        | 1.04      | 1.26 |  |      |
| Mean 5 years  | 1.22             | 1.99    | 1.43      | 1.75     | 1.95        | 1.87             | 2.30 | .65       | .87     | .67       | .78              | .78         | .89       | .96  |  |      |
| 1881          | 1.59             | 1.77    | 1.25      | 1.69     | 1.43        | 1.12             | 1.63 | .76       | .69     | .49       | .77              | .69         | .42       | .41  |  |      |
| 1882          | 1.23             | 1.70    | 1.29      | 1.41     | 1.55        | 2.23             | 2.75 | .66       | .78     | .61       | .53              | .75         | 1.01      | 1.08 |  |      |
| Mean 12 years | 1.34             | 1.94    | 1.37      | 1.66     | 1.81        | 1.87             | 2.32 | .67       | .86     | .79       | .75              | .78         | .82       | .96  |  |      |

| — | $\mu_1$ . |   |   |   |   |   |   | $\mu_2$ . |   |   |   |   |   |   | $\mu_3$ . |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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|   | °         | ° | ° | ° | ° | ° | ° | °         | ° | ° | ° | ° | ° | ° | °         | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |

TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

MARCH.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |     | Kew. |     |     |     |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|-----|------|-----|-----|-----|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. |      |     |      |     |     |     |
| 1871          | 2.55             | 3.87    | 2.18      | 3.56     | 4.10        | 2.95             | 5.64 | .70       | 1.00    | .71       | .94              | .97         | .77       | 1.31 | .07 | 1.12 | .12 | .13 | .13 |
| 1872          | 2.07             | 2.84    | 2.16      | 2.74     | 3.16        | 1.87             | 4.37 | .62       | 1.03    | .72       | .85              | 1.00        | .68       | 1.53 | .04 | .13  | .14 | .13 | .13 |
| 1873          | 2.47             | 3.23    | *         | 2.80     | 3.83        | 1.83             | 4.81 | .59       | .96     | *         | .87              | 1.07        | .69       | 1.25 | .03 | .12  | *   | .16 | .12 |
| 1874          | 1.52             | 3.01    | 2.27      | 2.76     | 3.22        | 2.05             | 4.96 | .66       | 1.03    | .86       | .68              | .73         | .79       | 1.16 | .11 | .07  | .09 | .16 | .12 |
| 1875          | 2.35             | 2.52    | 2.00      | 3.09     | 2.90        | 2.24             | 3.52 | .78       | .90     | .51       | .89              | .88         | .65       | 1.02 | .10 | .10  | .17 | .08 | .13 |
| Mean 5 years  | 2.19             | 3.09    | 2.15      | 2.99     | 3.44        | 2.37             | 4.66 | .69       | 1.00    | .71       | .94              | .97         | .77       | 1.31 | .07 | .12  | .12 | .13 | .13 |
| 1876          | 2.30             | 2.96    | 1.70      | 2.46     | 2.59        | 2.25             | 3.14 | .78       | .99     | .45       | .76              | .88         | .92       | .95  | .15 | .10  | .09 | .04 | .14 |
| 1877          | 2.20             | 3.76    | 2.61      | 3.28     | 3.52        | 2.68             | 3.82 | .81       | 1.12    | .82       | .99              | 1.08        | .96       | 1.35 | .21 | .12  | .16 | .15 | .05 |
| 1878          | 2.28             | 3.31    | 2.18      | 3.50     | 3.18        | 3.02             | 3.89 | .81       | .97     | .70       | .81              | .89         | 1.08      | 1.12 | .08 | .20  | .07 | .09 | .09 |
| 1879          | 2.41             | 2.96    | 2.79      | 2.29     | 3.05        | 2.07             | 4.48 | .87       | .95     | .94       | .77              | 1.13        | .63       | 1.20 | .10 | .13  | .09 | .03 | .07 |
| 1880          | 2.51             | 3.68    | 1.22      | 4.20     | 4.46        | 2.34             | 5.25 | .97       | 1.23    | .57       | 1.45             | 1.43        | .92       | 1.52 | .14 | .20  | .11 | .08 | .10 |
| Mean 5 years  | 2.34             | 3.39    | 2.10      | 3.15     | 3.36        | 2.47             | 4.12 | .81       | 1.05    | .70       | .96              | 1.08        | .84       | 1.23 | .14 | .13  | .10 | .09 | .13 |
| 1881          | 2.53             | 3.21    | 2.10      | 2.95     | 3.07        | 2.88             | 4.83 | .77       | .89     | .69       | .87              | .90         | .77       | 1.40 | .10 | .03  | .10 | .16 | .10 |
| 1882          | 2.01             | 2.94    | 2.63      | 2.64     | 2.95        | 3.03             | 5.61 | .48       | 1.10    | .75       | .68              | .82         | .96       | 1.71 | .05 | .01  | .11 | .21 | .30 |
| Mean 12 years | 2.27             | 3.22    | 2.17      | 3.02     | 3.34        | 2.51             | 4.53 | .73       | 1.02    | .71       | .92              | 1.00        | .82       | 1.32 | .10 | .11  | .11 | .12 | .14 |

|  | $\mu_1$ |   |   |   |   |   | $\mu_2$ |   |   |   |   |   | $\mu_3$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---------|---|---|---|---|---|---------|---|---|---|---|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | °       | ° | ° | ° | ° | ° | °       | ° | ° | ° | ° | ° | °       | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |

\* Thermometer broken from March 24th till April 8th.



\* Thermometer broken from March 29th till April 8th.

E 63682.

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|               | $\mu_1$    |            |            |            |            | $\mu_2$    |            |            |            |            | $\mu_3$    |            |            |            |            |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|               | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ | $^{\circ}$ |
| 1871          | 221        | 217        | 208        | 219        | 216        | 203        | 210        | 166        | 25         | 169        | 145        | 8          | 25         | 22         | 10         |
| 1872          | 218        | 211        | 217        | 216        | 209        | 217        | 210        | 164        | 17         | 2          | 142        | 12         | 16         | 20         | 18         |
| 1873          | 215        | 217        | 203        | 219        | 213        | 200        | 220        | 6          | 24         | 23         | 123        | 27         | 18         | 18         | 15         |
| 1874          | 219        | 219        | 206        | 221        | 214        | 204        | 218        | 1          | 2          | 6          | 149        | 162        | 21         | 23         | 10         |
| 1875          | 216        | 221        | 207        | 216        | 214        | 209        | 222        | 178        | 41         | 179        | 171        | 11         | 18         | 19         | 18         |
| Mean 5 years  | 218        | 217        | 208        | 218        | 213        | 207        | 219        | 175        | 22         | 4          | 146        | 8          | 20         | 21         | 16         |
| 1876          | 217        | 221        | 216        | 225        | 214        | 207        | 220        | 1          | 45         | 0          | 159        | 20         | 21         | 27         | 15         |
| 1877          | 218        | 221        | 208        | 218        | 213        | 208        | 218        | 175        | 19         | 2          | 154        | 171        | 22         | 24         | 13         |
| 1878          | 215        | 218        | 209        | 220        | 211        | 211        | 214        | 5          | 22         | 18         | 149        | 23         | 19         | 19         | 16         |
| 1879          | 215        | 217        | 210        | 221        | 214        | 209        | 219        | 9          | 31         | 4          | 156        | 146        | 21         | 22         | 19         |
| 1880          | 217        | 224        | 215        | 219        | 213        | 209        | 222        | 178        | 43         | 13         | 142        | 17         | 17         | 21         | 16         |
| Mean 5 years  | 216        | 220        | 212        | 221        | 213        | 209        | 219        | 2          | 32         | 7          | 152        | 3          | 20         | 23         | 16         |
| 1881          | 218        | 222        | 205        | 221        | 215        | 202        | 218        | 5          | 40         | 11         | 138        | 173        | 26         | 22         | 15         |
| 1882          | 216        | 218        | 207        | 222        | 211        | 209        | 218        | 172        | 41         | 170        | 138        | 35         | 22         | 18         | 16         |
| Mean 12 years | 217        | 219        | 209        | 220        | 213        | 207        | 219        | 73         | 29         | 5          | 146        | 7          | 21         | 21         | 18         |



TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—*continued*.

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| Years.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |     |     | Kew. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|-----|-----|------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. |     |     |      |
| 1871          | -                | 3.53    | 4.00      | 3.63     | 5.75        | 5.42             | 3.16 | 5.48      | .31     | .53       | .33              | .24         | .16       | .41 | .36 | .96  |
| 1872          | -                | 2.18    | 4.02      | 3.56     | 4.37        | 4.57             | 2.99 | 6.66      | .38     | .36       | .31              | .22         | .32       | .27 | .34 | .32  |
| 1873          | -                | 3.25    | 5.05      | 4.08     | 5.24        | 4.93             | 3.66 | 6.29      | .21     | .46       | .47              | .14         | .09       | .28 | .43 | .66  |
| 1874          | -                | 4.23    | 6.66      | 4.07     | 6.59        | 6.63             | 4.49 | 6.92      | .30     | .35       | .46              | .31         | .25       | .60 | .30 | .05  |
| 1875          | -                | 2.85    | 4.62      | 3.29     | 4.60        | 4.80             | 3.98 | 6.66      | .32     | .31       | .45              | .05         | .32       | .55 | .26 | .66  |
| Mean 5 years  | -                | 3.21    | 5.05      | 3.73     | 5.31        | 5.27             | 3.64 | 6.40      | .30     | .40       | .40              | .17         | .23       | .42 | .34 | .49  |
| 1876          | -                | 3.30    | 5.18      | 4.24     | 6.01        | 6.16             | 5.30 | 7.17      | .31     | .33       | .50              | .18         | .26       | .46 | .26 | .54  |
| 1877          | -                | 3.18    | 5.07      | 3.44     | 5.31        | 5.73             | 3.74 | 7.95      | .32     | .56       | .34              | .41         | .02       | .36 | .20 | .54  |
| 1878          | -                | 3.30    | 4.67      | 3.50     | 5.93        | 6.04             | 4.01 | 6.77      | .28     | .40       | .30              | .24         | .40       | .48 | .30 | .55  |
| 1879          | -                | 2.82    | 4.07      | 2.81     | 4.36        | 4.37             | 2.40 | 5.09      | .28     | .39       | .47              | .27         | .03       | .19 | .29 | .55  |
| 1880          | -                | 3.51    | 5.00      | 3.39     | 6.33        | 4.37             | 3.23 | 5.75      | .12     | .46       | .39              | .47         | .54       | .69 | .26 | .40  |
| Mean 5 years  | -                | 3.22    | 4.80      | 3.48     | 5.59        | 5.33             | 3.74 | 6.55      | .26     | .43       | .40              | .31         | .25       | .44 | .26 | .48  |
| 1881          | -                | 2.07    | 4.32      | 3.69     | 5.22        | 5.00             | 3.57 | 6.94      | .10     | .49       | .35              | .59         | .47       | .45 | .17 | .50  |
| 1882          | -                | 3.19    | 4.63      | 3.17     | 5.28        | 4.84             | 3.57 | 5.57      | .21     | .41       | .36              | .45         | .33       | .32 | .12 | .56  |
| Mean 12 years | -                | 3.19    | 4.85      | 3.57     | 5.42        | 5.24             | 3.67 | 6.44      | .26     | .42       | .39              | .27         | .27       | .42 | .27 | .51  |

|               | $\mu_1$ . |         |         |         |         | $\mu_2$ . |         |         |         |         | $\mu_3$ . |         |         |         |         |         |    |
|---------------|-----------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|----|
|               | $\circ$   | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$   | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$   | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$ |    |
| 1871          | 216       | 214     | 210     | 220     | 216     | 202       | 215     | 12      | 177     | 10      | 21        | 81      | 138     | 16      | 15      | 19      | 25 |
| 1872          | 211       | 217     | 206     | 209     | 209     | 208       | 218     | 36      | 1       | 1       | 0         | 12      | 159     | 150     | 17      | 23      | 13 |
| 1873          | 212       | 218     | 207     | 219     | 216     | 208       | 221     | 23      | 10      | 179     | 33        | 125     | 122     | 160     | 28      | 21      | 17 |
| 1874          | 217       | 217     | 209     | 220     | 215     | 203       | 221     | 17      | 177     | 175     | 112       | 152     | 149     | 160     | 24      | 17      | 14 |
| 1875          | 207       | 221     | 204     | 218     | 208     | 207       | 221     | 17      | 7       | 18      | 45        | 145     | 137     | 12      | 24      | 20      | 22 |
| Mean 5 years  | 213       | 217     | 207     | 217     | 213     | 206       | 219     | 21      | 2       | 5       | 6         | 139     | 141     | 136     | 22      | 19      | 19 |
| 1876          | 213       | 220     | 205     | 218     | 209     | 206       | 223     | 20      | 11      | 171     | 69        | 144     | 142     | 38      | 18      | 17      | 18 |
| 1877          | 212       | 219     | 210     | 217     | 220     | 207       | 222     | 28      | 8       | 30      | 34        | 13      | 135     | 45      | 19      | 20      | 12 |
| 1878          | 215       | 220     | 207     | 218     | 217     | 206       | 218     | 11      | 8       | 4       | 8         | 171     | 134     | 156     | 25      | 20      | 3  |
| 1879          | 218       | 218     | 204     | 218     | 213     | 212       | 216     | 37      | 6       | 7       | 22        | 158     | 121     | 63      | 22      | 17      | 1  |
| 1880          | 217       | 221     | 207     | 217     | 207     | 194       | 219     | 38      | 0       | 176     | 27        | 151     | 141     | 15      | 20      | 16      | 13 |
| Mean 5 years  | 215       | 220     | 207     | 218     | 213     | 205       | 220     | 29      | 7       | 6       | 32        | 163     | 135     | 27      | 21      | 20      | 18 |
| 1881          | 215       | 213     | 201     | 213     | 211     | 206       | 218     | 42      | 171     | 177     | 177       | 158     | 138     | 12      | 23      | 22      | 7  |
| 1882          | 218       | 214     | 205     | 217     | 211     | 205       | 217     | 31      | 8       | 1       | 173       | 168     | 138     | 135     | 13      | 16      | 10 |
| Mean 12 years | 214       | 218     | 206     | 217     | 213     | 205       | 219     | 27      | 4       | 4       | 15        | 153     | 138     | 65      | 21      | 20      | 7  |

TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—*continued*.

JULY.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |    | Kew. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|----|------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. |      |    |      |
| 1871          | -                | 2.69    | 4.36      | 4.53     | 4.04        | 3.98             | 5.68 | 2.25      | 5.00    | 5.2       | 2.8              | 2.27        | 5.57      | 4.2  | 53 |      |
| 1872          | -                | 2.82    | 4.87      | 3.41     | 5.13        | 5.40             | 7.55 | 3.33      | 4.48    | 4.46      | 2.54             | 3.30        | 3.33      | 1.17 | 77 |      |
| 1873          | -                | 2.61    | 3.87      | 4.28     | 4.41        | 4.89             | 7.24 | 3.38      | 3.36    | 2.29      | 3.36             | 1.18        | 3.37      | 0.07 | 70 |      |
| 1874          | -                | 3.08    | 4.77      | 4.04     | 5.31        | 6.09             | 8.28 | 3.38      | 4.48    | 4.41      | 0.06             | 4.45        | 3.30      | 0.03 | 84 |      |
| 1875          | -                | 3.49    | 5.08      | 3.55     | 6.24        | 5.36             | 5.31 | 3.31      | 4.47    | 3.7       | 1.5              | 4.1         | 5.3       | 0.08 | 53 |      |
| Mean 5 years  | -                | 2.93    | 4.59      | 3.77     | 5.12        | 5.16             | 6.81 | 3.33      | 4.46    | 4.41      | 2.8              | 3.32        | 4.42      | 1.15 | 68 |      |
| 1876          | -                | 3.95    | 6.07      | 4.17     | 5.10        | 5.25             | 4.44 | 7.02      | 3.39    | 5.9       | 1.0              | 3.0         | 0.07      | 2.8  | 68 |      |
| 1877          | -                | 2.40    | 3.61      | 3.79     | 3.38        | 3.77             | 4.04 | 5.93      | 3.31    | 3.31      | 2.7              | 3.09        | 3.54      | 1.11 | 60 |      |
| 1878          | -                | 3.82    | 5.55      | 3.69     | 5.74        | 5.59             | 3.90 | 6.42      | 3.34    | 4.1       | 2.9              | 2.27        | 3.34      | 0.30 | 59 |      |
| 1879          | -                | 2.60    | 2.96      | 2.80     | 3.55        | 3.21             | 2.94 | 4.68      | 4.0     | 5.9       | 5.3              | 3.38        | 3.14      | 0.33 | 52 |      |
| 1880          | -                | 3.47    | 4.08      | 4.10     | 4.98        | 3.97             | 2.83 | 5.51      | 2.21    | 3.9       | 4.1              | 3.38        | 3.39      | 0.19 | 52 |      |
| Mean 5 years  | -                | 3.25    | 4.45      | 3.71     | 4.55        | 4.36             | 6.09 | 3.37      | 3.39    | 4.1       | 3.6              | 2.28        | 2.26      | 0.24 | 57 |      |
| 1881          | -                | 2.57    | 4.06      | 4.20     | 3.75        | 4.49             | 4.39 | 7.69      | 4.40    | 4.2       | 4.1              | 4.47        | 3.37      | 0.07 | 38 |      |
| 1882          | -                | 2.66    | 3.65      | 3.81     | 4.25        | 4.86             | 3.82 | 6.06      | 3.38    | 4.2       | 4.4              | 3.33        | 3.30      | 0.23 | 61 |      |
| Mean 12 years | -                | 3.01    | 4.41      | 3.78     | 4.70        | 4.74             | 3.73 | 6.52      | 3.36    | 4.41      | 4.2              | 3.34        | 3.37      | 1.19 | 60 |      |

| —             | $\mu_1$ . |     |     |     |     |     |     |    | $\mu_2$ . |    |   |     |     |    |    |    | $\mu_3$ . |    |    |    |    |  |
|---------------|-----------|-----|-----|-----|-----|-----|-----|----|-----------|----|---|-----|-----|----|----|----|-----------|----|----|----|----|--|
|               | 213       | 216 | 205 | 214 | 210 | 203 | 217 | 17 | 10        | 10 | 3 | 176 | 147 | 32 | 24 | 15 | 11        | 19 | 16 | 13 | 13 |  |
| 1871 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1872 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1873 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1874 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1875 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| Mean 5 years  | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1876 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1877 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1878 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1879 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1880 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| Mean 5 years  | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1881 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| 1882 -        | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |
| Mean 12 years | -         | -   | -   | -   | -   | -   | -   | -  | -         | -  | - | -   | -   | -  | -  | -  | -         | -  | -  | -  | -  |  |



TABLE IIc.—MONTHLY MEANS OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

AUGUST.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |     |      | Kew. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|-----|------|------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. |     |      |      |
| 1871          | -                | 3.14    | 4.77      | 3.67     | 5.63        | 5.91             | 4.32 | 8.59      | .66     | .78       | .77              | .74         | .77       | .30 | 1.14 |      |
| 1872          | -                | 3.08    | 4.09      | 3.54     | 4.15        | 5.00             | 3.69 | 6.70      | .51     | .80       | .76              | .77         | .73       | .54 | 1.05 |      |
| 1873          | -                | 2.26    | 3.28      | 3.48     | 3.54        | 3.66             | 3.47 | 6.11      | .48     | .61       | .68              | .69         | .59       | .23 | .75  |      |
| 1874          | -                | 2.00    | 4.56      | 3.35     | 4.42        | 4.36             | 4.13 | 6.41      | .61     | .81       | .68              | .70         | .64       | .41 | .78  |      |
| 1875          | -                | 3.25    | 4.20      | 3.65     | 4.48        | 4.75             | 3.27 | 6.62      | .40     | .86       | .74              | .69         | .63       | .41 | .65  |      |
| Mean 5 years  | -                | 2.94    | 4.18      | 3.54     | 4.44        | 4.72             | 3.66 | 6.89      | .53     | .77       | .73              | .72         | .67       | .38 | .87  |      |
| 1876          | -                | 2.09    | 5.35      | 3.27     | 5.08        | 5.43             | 4.72 | 7.44      | .56     | .74       | .58              | .75         | .68       | .63 | .66  |      |
| 1877          | -                | 2.88    | 3.66      | 2.93     | 3.68        | 3.43             | 2.87 | 5.37      | .47     | .66       | .68              | .71         | .54       | .34 | .69  |      |
| 1878          | -                | 2.03    | 3.87      | 2.98     | 4.68        | 4.42             | 2.67 | 5.08      | .59     | .77       | .70              | .74         | .76       | .37 | .75  |      |
| 1879          | -                | 3.66    | 4.04      | 2.64     | 4.27        | 3.89             | 3.31 | 4.89      | .57     | .70       | .55              | .76         | .56       | .50 | .54  |      |
| 1880          | -                | 4.37    | 4.67      | 2.74     | 5.38        | 5.63             | 3.32 | 5.71      | 1.03    | .72       | .61              | .86         | .84       | .53 | .68  |      |
| Mean 5 years  | -                | 3.19    | 4.32      | 2.91     | 4.62        | 4.56             | 3.38 | 5.70      | .63     | .72       | .62              | .76         | .68       | .51 | .66  |      |
| 1881          | -                | 2.89    | 4.02      | 3.31     | 4.31        | 3.51             | 3.55 | 5.67      | .64     | .89       | .47              | .73         | .32       | .43 | .72  |      |
| 1882          | -                | 3.35    | 4.28      | 3.28     | 4.98        | 4.01             | 4.20 | 5.90      | .72     | .64       | .70              | .81         | .65       | .77 | .34  |      |
| Mean 12 years | -                | 3.07    | 4.23      | 3.24     | 4.55        | 4.50             | 3.58 | 6.21      | .60     | .75       | .66              | .75         | .64       | .47 | .73  |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |
|               |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |     |      |      |

| —             | $\mu_1$ . |     |     |     |     | $\mu_2$ . |     |     |     |     | $\mu_3$ . |     |     |     |     |   |     |     |     |     |   |     |     |     |     |   |     |     |     |     |   |
|---------------|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|---|-----|-----|-----|-----|---|-----|-----|-----|-----|---|-----|-----|-----|-----|---|
|               | °         | 215 | 217 | 206 | 220 | °         | 219 | 217 | 214 | 221 | °         | 219 | 217 | 214 | 221 | ° | 219 | 217 | 214 | 221 | ° | 219 | 217 | 214 | 221 | ° | 219 | 217 | 214 | 221 |   |
| 1871          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1872          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1873          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1874          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1875          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| Mean 5 years  | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1876          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1877          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1878          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1879          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1880          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| Mean 5 years  | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1881          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| 1882          | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |
| Mean 12 years | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | -         | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - | -   | -   | -   | -   | - |

TABLE IIc.—MONTHLY MEANS OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.

SEPTEMBER.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |  | Kew. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|--|------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. |      |  |      |
| 1871          | 3.83             | 4.02    | 2.28      | 3.84     | 4.50        | 3.66             | 5.02 | 1.02      | 1.69    | .66       | 1.12             | 1.13        | .85       | 1.15 |  |      |
| 1872          | 1.94             | 4.36    | 2.56      | 3.87     | 2.73        | 3.31             | 5.37 | .64       | .95     | .80       | .74              | .80         | .38       | 1.31 |  |      |
| 1873          | 2.58             | 3.88    | 2.79      | 3.95     | 4.22        | 3.91             | 5.97 | .77       | 1.24    | .85       | 1.06             | 1.23        | 1.01      | 1.52 |  |      |
| 1874          | 2.23             | 3.16    | 2.50      | 3.69     | 3.60        | 3.45             | 5.42 | .71       | .93     | .87       | .82              | 1.00        | .83       | 1.29 |  |      |
| 1875          | 2.79             | 3.60    | 2.38      | 3.69     | 4.10        | 3.65             | 5.83 | .69       | 1.01    | .67       | .94              | 1.18        | .92       | 1.37 |  |      |
| Mean 5 years  | 2.69             | 3.80    | 2.50      | 3.49     | 3.83        | 3.59             | 5.52 | .77       | 1.04    | .77       | .94              | 1.07        | .80       | 1.31 |  |      |
| 1876          | 2.13             | 3.39    | 1.08      | 4.22     | 3.83        | 2.51             | 4.95 | .66       | 1.05    | .74       | 1.04             | .98         | .57       | 1.29 |  |      |
| 1877          | 3.53             | 4.16    | 2.89      | 4.81     | 4.48        | 3.93             | 5.55 | 1.00      | 1.19    | .75       | 1.11             | .90         | .85       | 1.14 |  |      |
| 1878          | 2.04             | 3.20    | 3.08      | 3.68     | 3.73        | 3.40             | 5.96 | .70       | .96     | .76       | .96              | .97         | 1.16      | 1.24 |  |      |
| 1879          | 2.04             | 3.07    | 2.89      | 3.34     | 4.10        | 3.97             | 4.99 | .57       | .91     | .89       | .94              | 1.12        | 1.00      | 1.45 |  |      |
| 1880          | 2.20             | 3.87    | 2.41      | 4.18     | 3.86        | 4.30             | 5.62 | .91       | 1.00    | .60       | .97              | 1.13        | .95       | 1.25 |  |      |
| Mean 5 years  | 2.39             | 3.54    | 2.65      | 3.93     | 4.00        | 3.62             | 5.41 | .77       | 1.02    | .75       | 1.00             | 1.02        | .91       | 1.27 |  |      |
| 1881          | 3.54             | 3.94    | 3.14      | 3.56     | 4.31        | 2.63             | 5.56 | .93       | .82     | .93       | 1.08             | 1.16        | .77       | 1.24 |  |      |
| 1882          | 2.89             | 3.86    | 2.78      | 3.94     | 4.52        | 3.85             | 5.83 | .89       | .88     | .88       | 1.06             | 1.30        | .66       | 1.30 |  |      |
| Mean 12 years | 2.69             | 3.71    | 2.64      | 3.71     | 4.00        | 3.55             | 5.51 | .79       | 1.00    | .78       | .99              | 1.08        | .83       | 1.29 |  |      |

| —             | $\mu_1$ . |     |     |     |     | $\mu_2$ . |     |    |    |    | $\mu_3$ . |    |    |    |    |    |    |    |
|---------------|-----------|-----|-----|-----|-----|-----------|-----|----|----|----|-----------|----|----|----|----|----|----|----|
|               | °         | ′   | ″   | °   | ′   | ″         | °   | ′  | ″  | °  | ′         | ″  | °  | ′  | ″  |    |    |    |
| 1871          | 221       | 220 | 210 | 217 | 215 | 213       | 217 | 17 | 16 | 17 | 22        | 15 | 9  | 22 | 35 | 26 | 16 |    |
| 1872          | 213       | 238 | 202 | 214 | 212 | 216       | 217 | 21 | 17 | 16 | 18        | 15 | 16 | 18 | 21 | 26 | 22 |    |
| 1873          | 205       | 216 | 212 | 215 | 217 | 214       | 221 | 24 | 17 | 10 | 25        | 17 | 14 | 19 | 10 | 28 | 24 |    |
| 1874          | 211       | 216 | 204 | 211 | 214 | 212       | 217 | 24 | 18 | 8  | 16        | 25 | 7  | 16 | 21 | 31 | 30 |    |
| 1875          | 214       | 222 | 213 | 223 | 214 | 218       | 219 | 22 | 21 | 14 | 21        | 16 | 2  | 21 | 29 | 10 | 24 |    |
| Mean 5 years  | 213       | 222 | 208 | 216 | 214 | 215       | 218 | 22 | 18 | 13 | 20        | 18 | 10 | 19 | 23 | 19 | 25 | 21 |
| 1876          | 213       | 220 | 207 | 223 | 213 | 208       | 216 | 27 | 22 | 14 | 18        | 16 | 21 | 22 | 2  | 38 | 23 |    |
| 1877          | 218       | 215 | 214 | 225 | 217 | 204       | 218 | 31 | 19 | 13 | 20        | 11 | 4  | 21 | 2  | 30 | 24 |    |
| 1878          | 211       | 215 | 206 | 211 | 209 | 210       | 223 | 20 | 23 | 12 | 19        | 21 | 19 | 19 | 60 | 25 | 24 |    |
| 1879          | 212       | 213 | 210 | 216 | 216 | 216       | 218 | 23 | 16 | 10 | 14        | 14 | 9  | 21 | 26 | 36 | 17 |    |
| 1880          | 212       | 222 | 205 | 219 | 212 | 213       | 216 | 26 | 18 | 21 | 18        | 16 | 14 | 29 | 15 | 38 | 21 |    |
| Mean 5 years  | 213       | 217 | 208 | 219 | 213 | 210       | 218 | 25 | 20 | 14 | 18        | 16 | 13 | 22 | 25 | 33 | 21 |    |
| 1881          | 214       | 220 | 211 | 223 | 210 | 210       | 219 | 25 | 18 | 8  | 19        | 20 | 11 | 30 | 26 | 38 | 14 |    |
| 1882          | 211       | 219 | 211 | 218 | 218 | 214       | 220 | 14 | 16 | 11 | 18        | 9  | 9  | 14 | 19 | 38 | 21 |    |
| Mean 12 years | 213       | 220 | 209 | 218 | 214 | 212       | 218 | 23 | 18 | 13 | 19        | 16 | 11 | 21 | 24 | 33 | 20 |    |



TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.  
OCTOBER.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |           | Kew. | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh. | Valencia. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|-----------|------|-----------|-------------|----------|-----------|---------|-----------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. | Kew. | Valencia. |      |           |             |          |           |         |           |
| 1871          | 1'59             | 2'84    | 1'09      | 2'88     | 2'85        | 3'24             | 5'43 | 1'66      | 2'89    | 1'09      | 2'88             | 2'85        | 3'24      | 5'43 | 1'66      | 1'91 | 1'23      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1872          | 1'66             | 2'89    | 1'09      | 2'88     | 2'85        | 3'24             | 5'43 | 1'66      | 2'89    | 1'09      | 2'88             | 2'85        | 3'24      | 5'43 | 1'66      | 1'91 | 1'23      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1873          | 1'80             | 2'99    | 1'09      | 2'88     | 2'85        | 3'24             | 5'43 | 1'66      | 2'89    | 1'09      | 2'88             | 2'85        | 3'24      | 5'43 | 1'66      | 1'91 | 1'23      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1874          | 1'49             | 2'37    | 1'81      | 2'37     | 2'35        | 3'12             | 4'08 | 1'70      | 2'37    | 1'81      | 2'37             | 2'35        | 3'12      | 4'08 | 1'70      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1875          | 1'74             | 2'38    | 1'57      | 2'39     | 2'39        | 3'11             | 4'07 | 1'72      | 2'38    | 1'57      | 2'39             | 2'39        | 3'11      | 4'07 | 1'72      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 1'67             | 2'67    | 1'03      | 2'59     | 2'72        | 3'25             | 4'38 | 1'74      | 2'67    | 1'03      | 2'59             | 2'72        | 3'25      | 4'38 | 1'74      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1876          | 1'63             | 1'73    | 1'27      | 1'83     | 2'60        | 2'03             | 3'27 | 1'72      | 1'73    | 1'27      | 1'83             | 2'60        | 2'03      | 3'27 | 1'72      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1877          | 1'76             | 2'50    | 1'07      | 2'61     | 3'02        | 2'82             | 5'16 | 1'83      | 2'50    | 1'07      | 2'61             | 3'02        | 2'82      | 5'16 | 1'83      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1878          | 1'75             | 2'51    | 1'82      | 2'02     | 2'12        | 1'86             | 4'13 | 1'58      | 2'51    | 1'82      | 2'02             | 2'12        | 1'86      | 4'13 | 1'58      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1879          | 2'15             | 2'49    | 1'59      | 2'05     | 2'61        | 3'77             | 3'61 | 1'95      | 2'49    | 1'59      | 2'05             | 2'61        | 3'77      | 3'61 | 1'95      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1880          | 3'36             | 3'44    | 1'98      | 3'03     | 3'30        | 2'82             | 3'53 | 1'09      | 3'44    | 1'98      | 3'03             | 3'30        | 2'82      | 3'53 | 1'09      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 2'13             | 2'53    | 1'73      | 2'67     | 2'71        | 2'66             | 3'94 | 1'83      | 2'53    | 1'73      | 2'67             | 2'71        | 2'66      | 3'94 | 1'83      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1881          | 1'55             | 2'44    | 2'02      | 2'89     | 2'76        | 1'55             | 3'81 | 1'91      | 2'44    | 2'02      | 2'89             | 2'76        | 1'55      | 3'81 | 1'91      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1882          | 2'05             | 2'74    | 2'55      | 2'61     | 2'51        | 2'33             | 3'85 | 1'89      | 2'74    | 2'55      | 2'61             | 2'51        | 2'33      | 3'85 | 1'89      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 12 years | 1'89             | 2'60    | 1'88      | 2'59     | 2'70        | 2'49             | 4'07 | 1'81      | 2'60    | 1'88      | 2'59             | 2'70        | 2'49      | 4'07 | 1'81      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |

| YEARS.        | $\mu_1$ . |         |           |          |             | $\mu_2$ . |      |           |         |           | $\mu_3$ . |             |           |      |           | Kew. | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh. | Valencia. |
|---------------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|-----------|-------------|-----------|------|-----------|------|-----------|-------------|----------|-----------|---------|-----------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.  | Stonyhurst. | Aberdeen. | Kew. | Valencia. |      |           |             |          |           |         |           |
| 1871          | 2'19      | 2'10    | 2'06      | 2'24     | 2'24        | 2'15      | 2'18 | 2'19      | 2'10    | 2'06      | 2'24      | 2'24        | 2'15      | 2'18 | 2'19      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1872          | 2'14      | 2'17    | 2'04      | 2'12     | 2'12        | 2'15      | 2'18 | 2'14      | 2'17    | 2'04      | 2'12      | 2'12        | 2'15      | 2'18 | 2'14      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1873          | 2'08      | 2'20    | 2'11      | 2'26     | 2'18        | 2'12      | 2'13 | 2'08      | 2'20    | 2'11      | 2'26      | 2'18        | 2'12      | 2'13 | 2'08      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1874          | 2'00      | 2'14    | 2'02      | 2'17     | 2'06        | 2'10      | 2'10 | 2'00      | 2'14    | 2'02      | 2'17      | 2'06        | 2'10      | 2'10 | 2'00      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1875          | 2'02      | 2'14    | 2'09      | 2'24     | 2'10        | 2'12      | 2'13 | 2'02      | 2'14    | 2'09      | 2'24      | 2'10        | 2'12      | 2'13 | 2'02      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 2'10      | 2'15    | 2'06      | 2'21     | 2'13        | 2'12      | 2'17 | 2'10      | 2'15    | 2'06      | 2'21      | 2'13        | 2'12      | 2'17 | 2'10      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1876          | 2'16      | 2'16    | 2'11      | 2'22     | 2'12        | 2'16      | 2'17 | 2'16      | 2'16    | 2'11      | 2'22      | 2'12        | 2'16      | 2'17 | 2'16      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1877          | 2'10      | 2'18    | 2'07      | 2'29     | 2'15        | 2'25      | 2'24 | 2'10      | 2'18    | 2'07      | 2'29      | 2'15        | 2'25      | 2'24 | 2'10      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1878          | 2'14      | 2'21    | 2'07      | 2'23     | 2'15        | 2'16      | 2'18 | 2'14      | 2'21    | 2'07      | 2'23      | 2'15        | 2'16      | 2'18 | 2'14      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1879          | 2'13      | 2'21    | 2'11      | 2'23     | 2'18        | 2'13      | 2'16 | 2'13      | 2'21    | 2'11      | 2'23      | 2'18        | 2'13      | 2'16 | 2'13      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1880          | 2'19      | 2'18    | 2'21      | 2'24     | 2'12        | 2'13      | 2'16 | 2'19      | 2'18    | 2'21      | 2'24      | 2'12        | 2'13      | 2'16 | 2'19      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 2'11      | 2'16    | 2'11      | 2'22     | 2'12        | 2'16      | 2'17 | 2'11      | 2'16    | 2'11      | 2'22      | 2'12        | 2'16      | 2'17 | 2'11      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1881          | 2'08      | 2'12    | 2'19      | 2'15     | 2'00        | 2'01      | 2'15 | 2'08      | 2'12    | 2'19      | 2'15      | 2'00        | 2'01      | 2'15 | 2'08      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1882          | 2'17      | 2'12    | 2'08      | 2'19     | 2'10        | 2'19      | 2'18 | 2'17      | 2'12    | 2'08      | 2'19      | 2'10        | 2'19      | 2'18 | 2'17      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 12 years | 2'11      | 2'15    | 2'10      | 2'21     | 2'12        | 2'13      | 2'17 | 2'11      | 2'15    | 2'10      | 2'21      | 2'12        | 2'13      | 2'17 | 2'11      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |

TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , &c.—continued.  
NOVEMBER.

| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |           | Kew. | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh. | Valencia. |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|-----------|------|-----------|-------------|----------|-----------|---------|-----------|
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. | Kew. | Valencia. |      |           |             |          |           |         |           |
| 1871          | 1'26             | 1'84    | 1'15      | 1'79     | 1'45        | 1'49             | 3'12 | 1'26      | 1'84    | 1'15      | 1'79             | 1'45        | 1'49      | 3'12 | 1'26      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1872          | 1'13             | 1'81    | 1'39      | 1'79     | 1'45        | 1'49             | 3'12 | 1'13      | 1'81    | 1'39      | 1'79             | 1'45        | 1'49      | 3'12 | 1'13      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1873          | 1'38             | 1'39    | 1'30      | 1'30     | 1'55        | 1'46             | 2'39 | 1'38      | 1'39    | 1'30      | 1'30             | 1'55        | 1'46      | 2'39 | 1'38      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1874          | 1'05             | 1'42    | 1'32      | 1'32     | 1'31        | 1'31             | 2'68 | 1'05      | 1'42    | 1'32      | 1'32             | 1'31        | 1'31      | 2'68 | 1'05      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1875          | 1'52             | 1'48    | 1'36      | 1'36     | 1'86        | 1'28             | 1'75 | 1'52      | 1'48    | 1'36      | 1'36             | 1'86        | 1'28      | 1'75 | 1'52      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 1'27             | 1'63    | 1'22      | 1'63     | 1'54        | 1'51             | 2'35 | 1'27      | 1'63    | 1'22      | 1'63             | 1'54        | 1'51      | 2'35 | 1'27      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1876          | 1'23             | 1'57    | 1'36      | 1'36     | 1'82        | 1'02             | 2'57 | 1'23      | 1'57    | 1'36      | 1'36             | 1'82        | 1'02      | 2'57 | 1'23      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1877          | 1'03             | 1'83    | 1'46      | 1'02     | 1'17        | 1'59             | 3'16 | 1'03      | 1'83    | 1'46      | 1'02             | 1'17        | 1'59      | 3'16 | 1'03      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1878          | 2'00             | 2'44    | 1'36      | 1'94     | 1'68        | 1'57             | 2'02 | 2'00      | 2'44    | 1'36      | 1'94             | 1'68        | 1'57      | 2'02 | 2'00      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1879          | 1'36             | 1'81    | 1'86      | 1'54     | 1'60        | 1'13             | 2'49 | 1'36      | 1'81    | 1'86      | 1'54             | 1'60        | 1'13      | 2'49 | 1'36      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1880          | 1'38             | 1'51    | 1'97      | 1'50     | 1'68        | 1'87             | 2'53 | 1'38      | 1'51    | 1'97      | 1'50             | 1'68        | 1'87      | 2'53 | 1'38      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 5 years  | 1'38             | 1'83    | 1'40      | 1'47     | 1'65        | 1'42             | 2'55 | 1'38      | 1'83    | 1'40      | 1'47             | 1'65        | 1'42      | 2'55 | 1'38      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1881          | 1'86             | 1'50    | 1'04      | 1'05     | 1'72        | 1'34             | 2'17 | 1'86      | 1'50    | 1'04      | 1'05             | 1'72        | 1'34      | 2'17 | 1'86      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1882          | 1'80             | 2'27    | 1'14      | 1'87     | 1'84        | 1'54             | 2'13 | 1'80      | 2'27    | 1'14      | 1'87             | 1'84        | 1'54      | 2'13 | 1'80      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| Mean 12 years | 1'44             | 1'76    | 1'38      | 1'53     | 1'63        | 1'38             | 2'40 | 1'44      | 1'76    | 1'38      | 1'53             | 1'63        | 1'38      | 2'40 | 1'44      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |

| YEARS. | $\mu_1$ . |         |           |          |             | $\mu_2$ . |      |           |         |           | $\mu_3$ . |             |           |      |           | Kew. | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh. | Valencia. |
|--------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|-----------|-------------|-----------|------|-----------|------|-----------|-------------|----------|-----------|---------|-----------|
|        | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.  | Stonyhurst. | Aberdeen. | Kew. | Valencia. |      |           |             |          |           |         |           |
| 1871   | 2'00      | 2'20    | 2'15      | 2'11     | 2'23        | 2'08      | 2'17 | 2'00      | 2'20    | 2'15      | 2'11      | 2'23        | 2'08      | 2'17 | 2'00      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |
| 1872   | 2'01      | 2'12    | 2'01      | 2'10     | 2'06        | 2'12      | 2'19 | 2'01      | 2'12    | 2'01      | 2'10      | 2'06        | 2'12      | 2'19 | 2'01      | 1'06 | 1'06      | 1'06        | 1'06     | 1'06      | 1'06    | 1'06      |



TABLE IIc.—MONTHLY MEANS OF THE AMPLITUDE P, AND OF THE FIRST MAXIMUM  $\mu$ , &c.—continued.  
DECEMBER.

| DECEMBER.     |                  |         |           |          |             |                  |      |           |         |           |                  |             |           |      |  |
|---------------|------------------|---------|-----------|----------|-------------|------------------|------|-----------|---------|-----------|------------------|-------------|-----------|------|--|
| YEARS.        | P <sub>1</sub> . |         |           |          |             | P <sub>2</sub> . |      |           |         |           | P <sub>3</sub> . |             |           |      |  |
|               | Valencia.        | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.        | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.         | Stonyhurst. | Aberdeen. | Kew. |  |
| 1871          | 1.45             | 1.48    | 1.72      | 1.49     | 1.39        | 1.66             | 1.66 | 1.72      | 1.66    | 1.58      | 1.64             | 1.52        | 1.52      | 1.95 |  |
| 1872          | 1.55             | 1.13    | 1.19      | 1.64     | 1.08        | 1.49             | 1.44 | 1.50      | 1.49    | 1.59      | 1.43             | 1.42        | 1.35      | 1.66 |  |
| 1873          | 1.76             | 1.77    | 1.05      | 1.49     | 1.71        | 1.63             | 1.64 | 1.31      | 1.63    | 1.53      | 1.43             | 1.58        | 1.72      | 1.83 |  |
| 1874          | 1.79             | 1.54    | 1.88      | 1.27     | 1.31        | 1.57             | 1.68 | 1.55      | 1.67    | 1.73      | 1.39             | 1.54        | 1.37      | 1.98 |  |
| 1875          | 1.10             | 1.43    | 1.05      | 1.99     | 1.87        | 1.69             | 1.47 | 1.64      | 1.69    | 1.53      | 1.48             | 1.55        | 1.45      | 1.90 |  |
| Mean 5 years  | 1.95             | 1.27    | 1.18      | 1.98     | 1.05        | 1.77             | 1.58 | 1.54      | 1.63    | 1.64      | 1.47             | 1.55        | 1.48      | 1.95 |  |
| 1876          | 1.18             | 1.05    | 1.95      | 1.42     | 1.08        | 1.44             | 1.30 | 1.63      | 1.44    | 1.48      | 1.36             | 1.56        | 1.33      | 1.43 |  |
| 1877          | 1.82             | 1.23    | 1.25      | 1.93     | 1.78        | 1.53             | 1.68 | 1.62      | 1.53    | 1.64      | 1.61             | 1.59        | 1.64      | 1.94 |  |
| 1878          | 1.05             | 1.38    | 1.17      | 1.19     | 1.69        | 1.68             | 1.71 | 1.78      | 1.68    | 1.71      | 1.76             | 1.77        | 1.48      | 1.92 |  |
| 1879          | 1.20             | 1.46    | 1.89      | 1.62     | 1.48        | 1.78             | 1.68 | 1.84      | 1.78    | 1.68      | 1.45             | 1.73        | 1.61      | 1.91 |  |
| 1880          | 1.40             | 1.92    | 1.84      | 1.19     | 1.71        | 1.46             | 1.93 | 1.46      | 1.44    | 1.38      | 1.54             | 1.51        | 1.37      | 1.64 |  |
| Mean 5 years  | 1.93             | 1.19    | 1.03      | 1.95     | 1.09        | 1.79             | 1.74 | 1.67      | 1.57    | 1.58      | 1.54             | 1.61        | 1.49      | 1.73 |  |
| 1881          | 1.09             | 1.20    | 1.07      | 1.91     | 1.19        | 1.62             | 1.70 | 1.71      | 1.62    | 1.82      | 1.55             | 1.46        | 1.56      | 1.93 |  |
| 1882          | 1.20             | 1.04    | 1.72      | 1.09     | 1.86        | 1.60             | 1.15 | 1.70      | 1.60    | 1.41      | 1.50             | 1.47        | 1.31      | 1.47 |  |
| Mean 12 years | 1.97             | 1.21    | 1.07      | 1.97     | 1.06        | 1.62             | 1.62 | 1.62      | 1.62    | 1.62      | 1.51             | 1.56        | 1.48      | 1.75 |  |

| —             | $\mu_1$ . |     |     |     |     |     | $\mu_2$ . |     |     |     |     |     | $\mu_3$ . |     |     |     |     |  |
|---------------|-----------|-----|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|-----------|-----|-----|-----|-----|--|
|               | °         | °   | °   | °   | °   | °   | °         | °   | °   | °   | °   | °   | °         | °   | °   | °   | °   |  |
| 1871          | 230       | 222 | 212 | 231 | 223 | 223 | 223       | 223 | 223 | 223 | 223 | 223 | 223       | 223 | 223 | 223 | 223 |  |
| 1872          | 209       | 224 | 198 | 219 | 224 | 203 | 219       | 31  | 27  | 18  | 25  | 15  | 12        | 23  | 80  | 79  | 76  |  |
| 1873          | 234       | 229 | 205 | 237 | 237 | 185 | 219       | 31  | 31  | 14  | 19  | 22  | 24        | 28  | 82  | 78  | 73  |  |
| 1874          | 216       | 222 | 199 | 239 | 228 | 205 | 213       | 31  | 29  | 19  | 38  | 27  | 20        | 26  | 89  | 77  | 83  |  |
| 1875          | 206       | 222 | 217 | 226 | 227 | 208 | 215       | 24  | 21  | 18  | 35  | 30  | 28        | 27  | 87  | 77  | 77  |  |
| Mean 5 years  | 219       | 224 | 206 | 230 | 228 | 205 | 218       | 27  | 26  | 17  | 31  | 23  | 20        | 26  | 84  | 79  | 78  |  |
| 1876          | 233       | 210 | 205 | 220 | 221 | 176 | 220       | 26  | 27  | 24  | 19  | 27  | 29        | 17  | 83  | 74  | 86  |  |
| 1877          | 212       | 226 | 214 | 245 | 224 | 203 | 219       | 18  | 31  | 18  | 32  | 25  | 30        | 29  | 84  | 77  | 86  |  |
| 1878          | 215       | 238 | 217 | 251 | 232 | 210 | 211       | 29  | 30  | 21  | 33  | 26  | 30        | 27  | 81  | 82  | 77  |  |
| 1879          | 209       | 234 | 221 | 249 | 221 | 216 | 224       | 26  | 21  | 13  | 30  | 35  | 9         | 26  | 89  | 81  | 72  |  |
| 1880          | 193       | 218 | 192 | 237 | 224 | 210 | 215       | 27  | 22  | 13  | 27  | 19  | 5         | 23  | 88  | 75  | 88  |  |
| Mean 5 years  | 212       | 229 | 210 | 240 | 224 | 205 | 218       | 25  | 26  | 18  | 28  | 26  | 21        | 24  | 85  | 78  | 72  |  |
| 1881          | 187       | 215 | 214 | 224 | 229 | 212 | 221       | 26  | 20  | 20  | 20  | 28  | 16        | 23  | 93  | 75  | 79  |  |
| 1882          | 210       | 233 | 211 | 230 | 233 | 174 | 213       | 28  | 24  | 24  | 24  | 13  | 19        | 12  | 91  | 88  | 79  |  |
| Mean 12 years | 213       | 226 | 209 | 234 | 227 | 203 | 218       | 26  | 26  | 18  | 28  | 24  | 20        | 24  | 86  | 79  | 77  |  |
|               |           |     |     |     |     |     |           |     |     |     |     |     |           |     |     |     | 78  |  |

TABLE IIIc.—MEAN VALUES, (reckoned from GREENWICH MEAN MIDNIGHT) OF THE  $p$ ,  $q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF TEMPERATURE AT THE SEVEN OBSERVATORIES OF THE METEOROLOGICAL OFFICE, FOR EACH YEAR FROM 1871 TO 1882; DERIVED FROM TABLE Ic.

| Longitude cor-<br>rection L.M.<br>than<br>G.M.* | P <sub>1</sub> |         |           |          |             |           |       |           |         |           |          |             |           |      |           | P <sub>2</sub> |           |          |             |           |      |           |         |           |          |             |           |      |  |  | P <sub>3</sub> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|----------------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|--|--|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|   | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh.        | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1871  | -1.88          | -2.71   | -2.06     | -2.74    | -2.92       | -2.34     | -3.67 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3           | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1872  | -1.60          | -2.40   | -2.18     | -2.34    | -2.56       | -2.01     | -3.51 | -4.2      | -4.2    | -4.2      | -4.2     | -4.2        | -4.2      | -4.2 | -4.2      | -4.2           | -4.2      | -4.2     | -4.2        | -4.2      | -4.2 | -4.2      | -4.2    | -4.2      | -4.2     | -4.2        | -4.2      | -4.2 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1873  | -1.77          | -2.37   | -2.20     | -2.40    | -2.87       | -2.40     | -3.64 | -3.5      | -3.5    | -3.5      | -3.5     | -3.5        | -3.5      | -3.5 | -3.5      | -3.5           | -3.5      | -3.5     | -3.5        | -3.5      | -3.5 | -3.5      | -3.5    | -3.5      | -3.5     | -3.5        | -3.5      | -3.5 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1874  | -1.78          | -2.60   | -2.20     | -2.40    | -2.66       | -2.20     | -3.18 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8           | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1875  | -1.64          | -2.45   | -1.94     | -2.50    | -2.66       | -2.23     | -3.47 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8           | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years                                    | -1.79          | -2.51   | -2.12     | -2.49    | -2.76       | -2.23     | -3.47 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8           | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1876  | -1.88          | -2.45   | -2.01     | -2.44    | -2.90       | -2.20     | -3.43 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6           | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1877  | -1.77          | -2.28   | -2.05     | -2.38    | -2.47       | -2.18     | -3.39 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6           | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1878  | -1.82          | -2.40   | -1.96     | -2.43    | -2.74       | -2.16     | -3.25 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9           | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1879  | -1.76          | -2.26   | -1.86     | -2.23    | -2.56       | -2.04     | -3.00 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9           | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1880  | -1.98          | -2.43   | -1.85     | -2.71    | -2.88       | -2.26     | -3.33 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9           | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 | -3.9      | -3.9    | -3.9      | -3.9     | -3.9        | -3.9      | -3.9 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years                                    | -1.84          | -2.36   | -1.95     | -2.44    | -2.71       | -2.17     | -3.26 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8           | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1881  | -1.66          | -2.50   | -2.03     | -2.52    | -2.81       | -2.23     | -3.55 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1           | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1882  | -1.87          | -2.58   | -2.01     | -2.50    | -2.74       | -2.31     | -3.39 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6           | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 | -3.6      | -3.6    | -3.6      | -3.6     | -3.6        | -3.6      | -3.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 12 years                                   | -1.83          | -2.45   | -2.03     | -2.47    | -2.74       | -2.21     | -3.38 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8           | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 | -3.8      | -3.8    | -3.8      | -3.8     | -3.8        | -3.8      | -3.8 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B <sub>1</sub>                                  |                |         |           |          |             |           |       |           |         |           |          |             |           |      |           |                |           |          |             |           |      |           |         |           |          |             |           |      |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1871  | -1.45          | -2.00   | -1.12     | -2.31    | -2.23       | -1.38     | -2.98 | -4.5      | -4.5    | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 | -4.5      | -4.5           | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 | -4.5      | -4.5    | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1872  | -1.13          | -2.09   | -1.18     | -2.13    | -1.77       | -1.23     | -2.90 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1           | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1873  | -1.21          | -2.01   | -1.14     | -2.03    | -2.02       | -1.37     | -2.91 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1           | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 | -4.1      | -4.1    | -4.1      | -4.1     | -4.1        | -4.1      | -4.1 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1874  | -1.26          | -2.16   | -1.12     | -2.13    | -2.11       | -1.56     | -3.17 | -4.4      | -4.4    | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 | -4.4      | -4.4           | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 | -4.4      | -4.4    | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1875  | -1.32          | -2.17   | -1.15     | -2.20    | -2.18       | -1.37     | -2.87 | -4.5      | -4.5    | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 | -4.5      | -4.5           | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 | -4.5      | -4.5    | -4.5      | -4.5     | -4.5        | -4.5      | -4.5 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years                                    | -1.27          | -2.09   | -1.14     | -2.08    | -2.00       | -1.45     | -2.99 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3           | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1876  | -1.42          | -2.25   | -1.19     | -2.17    | -2.00       | -1.42     | -2.94 | -4.9      | -4.9    | -4.9      | -4.9     | -4.9        | -4.9      | -4.9 | -4.9      | -4.9           | -4.9      | -4.9     | -4.9        | -4.9      | -4.9 | -4.9      | -4.9    | -4.9      | -4.9     | -4.9        | -4.9      | -4.9 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1877  | -1.19          | -1.98   | -1.14     | -2.14    | -1.89       | -1.29     | -2.90 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3           | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 | -4.3      | -4.3    | -4.3      | -4.3     | -4.3        | -4.3      | -4.3 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1878  | -1.35          | -2.17   | -1.20     | -2.20    | -2.03       | -1.29     | -2.72 | -4.4      | -4.4    | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 | -4.4      | -4.4           | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 | -4.4      | -4.4    | -4.4      | -4.4     | -4.4        | -4.4      | -4.4 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1879  | -1.27          | -1.87   | -1.15     | -2.15    | -1.88       | -1.35     | -2.41 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6           | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1880  | -1.58          | -2.36   | -1.10     | -2.47    | -2.04       | -1.25     | -2.89 | -5.3      | -5.3    | -5.3      | -5.3     | -5.3        | -5.3      | -5.3 | -5.3      | -5.3           | -5.3      | -5.3     | -5.3        | -5.3      | -5.3 | -5.3      | -5.3    | -5.3      | -5.3     | -5.3        | -5.3      | -5.3 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years                                    | -1.36          | -2.13   | -1.16     | -2.16    | -1.97       | -1.32     | -2.77 | -4.7      | -4.7    | -4.7      | -4.7     | -4.7        | -4.7      | -4.7 | -4.7      | -4.7           | -4.7      | -4.7     | -4.7        | -4.7      | -4.7 | -4.7      | -4.7    | -4.7      | -4.7     | -4.7        | -4.7      | -4.7 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1881  | -1.44          | -2.02   | -1.31     | -2.15    | -1.96       | -1.21     | -2.98 | -5.2      | -5.2    | -5.2      | -5.2     | -5.2        | -5.2      | -5.2 | -5.2      | -5.2           | -5.2      | -5.2     | -5.2        | -5.2      | -5.2 | -5.2      | -5.2    | -5.2      | -5.2     | -5.2        | -5.2      | -5.2 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1882  | -1.32          | -1.96   | -1.10     | -2.07    | -1.90       | -1.30     | -2.89 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6           | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mean 12 years                                   | -1.33          | -2.09   | -1.16     | -2.12    | -1.97       | -1.34     | -2.89 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6           | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 | -4.6      | -4.6    | -4.6      | -4.6     | -4.6        | -4.6      | -4.6 |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\* L.M. = Local Midnight, G.M. = Greenwich Midnight, The difference is expressed in Arc.

† Mean for 10 months only.



TABLE IV.

MEAN VALUES (reckoned from GREENWICH MEAN MIDNIGHT) of the  $p, q$  COEFFICIENTS for the FIRST THREE ORDERS of HARMONIC COMPONENTS, of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE I.

| MONTHS.       | $p_1$     |         |           |          |             |           |        | $p_2$     |         |           |          |             |           |        | $p_3$     |         |           |          |             |           |        |
|---------------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |
|               | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' |
| January       | -1.84     | -1.74   | -1.74     | -1.08    | -1.69       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| February      | -1.86     | -1.76   | -1.76     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| March         | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| April         | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| May           | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| June          | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| July          | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| August        | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| September     | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| October       | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| November      | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| December      | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| Mean 12 years | -1.84     | -1.74   | -1.74     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |

| MONTHS.       | $q_1$     |         |           |          |             |           |        | $q_2$     |         |           |          |             |           |        | $q_3$     |         |           |          |             |           |        |
|---------------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |
|               | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' | 10° 18'   | 6° 38'  | 6° 4'     | 4° 18'   | 2° 28'      | 2° 9'     | 0° 19' |
| January       | -1.84     | -1.74   | -1.74     | -1.08    | -1.69       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| February      | -1.86     | -1.76   | -1.76     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| March         | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| April         | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| May           | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| June          | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| July          | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| August        | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| September     | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| October       | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| November      | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| December      | -1.87     | -1.77   | -1.77     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |
| Mean 12 years | -1.84     | -1.74   | -1.74     | -1.08    | -1.18       | -1.33     | -1.27  | +2.38     | +2.55   | +2.49     | +2.42    | +2.54       | +2.43     | +2.58  | +2.04     | +2.02   | +2.05     | +2.09    | +2.07       | +2.06     | +2.09  |

† Mean for 12 years only.

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.

TABLE of VALUES of  $\mu_2$  and  $\mu_3$  to be substituted for the VALUES given in TABLE II.

| YEARS.        | MARCH.   |      | APR.     |      | MAY.    |           | JUNE.    |             |           |      |         |           |             | JULY.     |      |         |           | AUG.      |             | NOV.    |           |
|---------------|----------|------|----------|------|---------|-----------|----------|-------------|-----------|------|---------|-----------|-------------|-----------|------|---------|-----------|-----------|-------------|---------|-----------|
|               | $\mu_2$  |      | $\mu_2$  |      | $\mu_2$ |           | $\mu_2$  |             |           |      |         |           |             | $\mu_2$   |      |         |           | $\mu_2$   |             | $\mu_2$ |           |
|               | Glasgow. | Kew. | Glasgow. | Kew. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Armagh. | Palmouth. | Stonyhurst. | Aberdeen. | Kew. | Armagh. | Palmouth. | Aberdeen. | Stonyhurst. | Armagh. | Palmouth. |
| 1871          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1872          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1873          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1874          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1875          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| Mean 5 years  | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1876          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1877          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1878          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1879          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1880          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| Mean 5 years  | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1881          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| 1882          | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |
| Mean 12 years | -        | -    | -        | -    | -       | -         | -        | -           | -         | -    | -       | -         | -           | -         | -    | -       | -         | -         | -           | -       | -         |

The values of  $\mu$  given in the above Table are to be substituted for those given in Table IIc, which was printed off before the necessity for the corrections was observed. The negative sign implies that the time of maximum phase of the component is to be regarded as occurring before midnight. The reasons for this method of treating the angle  $\mu$  are explained in the Memoir accompanying the Tables.



TABLE Vc.—MEAN VALUES OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT for the FIRST THREE ORDERS of HARMONIC COMPONENTS, of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each YEAR from 1871 to 1882; derived from TABLE IIc.

| Years.        | $P_1$     |         |           |          |             |           |      | $P_2$     |         |           |          |             |           |      | $P_3$     |         |           |          |             |           |      |
|---------------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. |
|               |           |         |           |          |             |           |      |           |         |           |          |             |           |      |           |         |           |          |             |           |      |
| 1871          | 2.39      | 3.40    | 2.35      | 3.09     | 3.13        | 2.74      | 4.73 | 2.94      | 3.82    | 2.63      | 3.72     | 2.78        | 2.92      | 1.01 | 2.22      | 2.53    | 2.27      | 2.35     | 2.38        | 2.30      | 2.38 |
| 1872          | 2.15      | 3.21    | 2.50      | 2.92     | 3.13        | 2.37      | 4.56 | 2.60      | 3.73    | 2.58      | 3.63     | 2.67        | 2.95      | 0.90 | 2.19      | 2.29    | 2.28      | 2.29     | 2.30        | 2.20      | 2.47 |
| 1873          | 2.15      | 3.11    | 2.49      | 3.16     | 3.43        | 2.57      | 4.50 | 2.55      | 3.78    | 2.59      | 3.65     | 2.69        | 2.63      | 0.85 | 2.19      | 2.30    | 2.35      | 2.29     | 2.33        | 2.30      | 2.38 |
| 1874          | 2.19      | 3.39    | 2.48      | 3.29     | 3.57        | 2.95      | 4.84 | 2.57      | 3.74    | 2.66      | 3.59     | 2.70        | 2.64      | 0.81 | 2.24      | 2.31    | 2.29      | 2.34     | 2.36        | 2.27      | 2.43 |
| 1875          | 2.36      | 3.28    | 2.26      | 3.34     | 3.27        | 2.61      | 4.30 | 2.59      | 3.76    | 2.55      | 3.64     | 2.67        | 2.60      | 0.75 | 2.26      | 2.26    | 2.33      | 2.33     | 2.34        | 2.28      | 2.39 |
| Mean 5 years  | 2.21      | 3.28    | 2.42      | 3.16     | 3.42        | 2.95      | 4.59 | 2.59      | 3.77    | 2.60      | 3.65     | 2.70        | 2.60      | 0.86 | 2.22      | 2.30    | 2.27      | 2.32     | 2.34        | 2.27      | 2.41 |
| 1876          | 2.37      | 3.35    | 2.35      | 3.27     | 3.53        | 2.73      | 4.53 | 2.61      | 3.73    | 2.58      | 3.50     | 2.68        | 2.51      | 0.78 | 2.24      | 2.32    | 2.29      | 2.30     | 2.34        | 2.25      | 2.38 |
| 1877          | 2.15      | 3.04    | 2.35      | 3.09     | 3.10        | 2.54      | 4.47 | 2.57      | 3.63    | 2.61      | 3.67     | 2.64        | 2.65      | 0.86 | 2.24      | 2.29    | 2.24      | 2.25     | 2.29        | 2.26      | 2.37 |
| 1878          | 2.28      | 3.26    | 2.31      | 3.38     | 3.43        | 2.53      | 4.24 | 2.61      | 3.76    | 2.57      | 3.68     | 2.71        | 2.68      | 0.86 | 2.24      | 2.29    | 2.24      | 2.30     | 2.35        | 2.28      | 2.37 |
| 1879          | 2.18      | 3.24    | 2.20      | 3.29     | 3.38        | 2.47      | 3.78 | 2.61      | 3.72    | 2.63      | 3.69     | 2.75        | 2.61      | 0.81 | 2.22      | 2.23    | 2.20      | 2.28     | 2.30        | 2.24      | 2.30 |
| 1880          | 2.54      | 3.42    | 2.17      | 3.69     | 3.55        | 2.60      | 4.43 | 2.69      | 3.76    | 2.57      | 3.80     | 2.84        | 2.69      | 0.83 | 2.23      | 2.31    | 2.26      | 2.33     | 2.32        | 2.27      | 2.35 |
| Mean 5 years  | 2.30      | 3.20    | 2.28      | 3.28     | 3.36        | 2.57      | 4.29 | 2.61      | 3.72    | 2.59      | 3.69     | 2.72        | 2.63      | 0.82 | 2.23      | 2.29    | 2.25      | 2.29     | 2.32        | 2.26      | 2.35 |
| 1881          | 2.46      | 3.22    | 2.46      | 3.33     | 3.47        | 2.54      | 4.66 | 2.68      | 3.71    | 2.58      | 3.72     | 2.75        | 2.64      | 0.82 | 2.27      | 2.26    | 2.25      | 2.30     | 2.30        | 2.25      | 2.35 |
| 1882          | 2.30      | 3.25    | 2.31      | 3.26     | 3.34        | 2.71      | 4.46 | 2.57      | 3.75    | 2.61      | 3.62     | 2.73        | 2.67      | 0.80 | 2.20      | 2.29    | 2.25      | 2.29     | 2.29        | 2.20      | 2.40 |
| Mean 12 years | 2.28      | 3.24    | 2.35      | 3.23     | 3.39        | 2.61      | 4.46 | 2.61      | 3.74    | 2.60      | 3.67     | 2.72        | 2.62      | 0.84 | 2.23      | 2.29    | 2.26      | 2.30     | 2.32        | 2.27      | 2.38 |

| —             | $\mu_1$   |         |           |          |             |           |      | $\mu_2$   |         |           |          |             |           |      | $\mu_3$   |         |           |          |             |           |      |
|---------------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. |
|               |           |         |           |          |             |           |      |           |         |           |          |             |           |      |           |         |           |          |             |           |      |
| 1871          | 207       | 210     | 205       | 216      | 216         | 210       | 219  | 13        | 12      | 12        | 13       | 19          | 12        | 21   | 35        | 40      | 38        | 45       | 39          | 42        | 41   |
| 1872          | 203       | 214     | 203       | 214      | 214         | 210       | 220  | 14        | 12      | 12        | 13       | 13          | 11        | 12   | 37        | 41      | 35        | 44       | 43          | 41        | 41   |
| 1873          | 205       | 214     | 205       | 219      | 217         | 212       | 222  | 17        | 13      | 6*        | 20       | 10          | —         | 14   | 36        | 43      | 36*       | 37       | 44          | 41        | 39   |
| 1874          | 205       | 214     | 202       | 219      | 214         | 211       | 220  | 16        | 12      | 5         | 28       | 13          | —         | 16   | 40        | 41      | 37        | 47       | 41          | 40        | 37   |
| 1875          | 203       | 214     | 208       | 217      | 214         | 211       | 221  | 15        | 11      | 10        | 25       | 11          | 4         | 17   | 42        | 42      | 39        | 39       | 43          | 37        | 43   |
| Mean 5 years  | 205       | 213     | 205       | 217      | 215         | 211       | 220  | 15        | 12      | 6         | 22       | 13          | 0         | 16   | 38        | 41      | 37        | 42       | 42          | 40        | 40   |
| 1876          | 207       | 218     | 207       | 218      | 215         | 210       | 220  | 17        | 16      | 10        | 27       | 12          | 5         | 26   | 35        | 43      | 36        | 39       | 42          | 43        | 46   |
| 1877          | 202       | 217     | 204       | 217      | 215         | 209       | 220  | 15        | 13      | 9         | 21       | 15          | —         | 16   | 33        | 40      | 35        | 47       | 41          | 39        | 45   |
| 1878          | 207       | 217     | 208       | 224      | 216         | 210       | 220  | 13        | 12      | 7         | 20       | 14          | 1         | 18   | 40        | 41      | 34        | 47       | 42          | 40        | 44   |
| 1879          | 205       | 213     | 209       | 220      | 214         | 213       | 220  | 15        | 12      | 9         | 20       | 15          | —         | 22   | 38        | 42      | 42        | 44       | 46          | 38        | 43   |
| 1880          | 207       | 219     | 205       | 220      | 216         | 207       | 221  | 17        | 11      | 6         | 25       | 15          | —         | 25   | 40        | 43      | 38        | 39       | 45          | 41        | 44   |
| Mean 5 years  | 206       | 217     | 207       | 220      | 215         | 210       | 220  | 15        | 13      | 8         | 23       | 14          | 0         | 21   | 37        | 42      | 37        | 43       | 43          | 40        | 44   |
| 1881          | 205       | 212     | 211       | 218      | 215         | 208       | 220  | 17        | 14      | 4         | 17       | 15          | 0         | 17   | 40        | 40      | 34        | 40       | 39          | 41        | 42   |
| 1882          | 205       | 212     | 205       | 217      | 215         | 207       | 221  | 15        | 9       | 4         | 18       | 11          | —         | 17   | 34        | 46      | 36        | 44       | 42          | 40        | 43   |
| Mean 12 years | 205       | 215     | 206       | 218      | 215         | 210       | 220  | 15        | 12      | 7         | 22       | 14          | 0         | 18   | 37        | 42      | 37        | 43       | 42          | 40        | 42   |

\* Mean for 10 months only.

TABLE VIC.

MEAN VALUES OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL APPARENT MIDNIGHT, for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for the entire YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE IIc.

| MONTHS.       | $P_1$     |         |           |          |             |           |      | $P_2$     |         |           |          |             |           |      | $P_3$     |         |           |          |             |           |      |
|---------------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew. |
|               |           |         |           |          |             |           |      |           |         |           |          |             |           |      |           |         |           |          |             |           |      |
| January       | 0.10      | 1.20    | 0.96      | 1.09     | 1.31        | 1.05      | 1.74 | 0.56      | 0.63    | 0.48      | 0.52     | 0.72        | 0.69      | 0.84 | 0.18      | 0.23    | 0.27      | 0.19     | 0.23        | 0.33      | 0.28 |
| February      | 1.34      | 1.94    | 1.37      | 1.76     | 1.81        | 1.87      | 2.32 | 0.67      | 0.86    | 0.64      | 0.92     | 0.78        | 0.82      | 0.95 | 0.11      | 0.23    | 0.11      | 0.18     | 0.17        | 0.19      | 0.19 |
| March         | 2.27      | 3.22    | 2.17*     | 3.02     | 3.34        | 2.51      | 4.53 | 0.73      | 1.03    | 0.71*     | 0.92     | 1.00        | 0.82      | 1.32 | 0.10      | 0.11    | 0.11*     | 0.10     | 0.13        | 0.12      | 0.14 |
| April         | 3.02      | 4.45    | 3.72*     | 4.57     | 4.76        | 3.97      | 5.60 | 0.73      | 0.79    | 0.61*     | 0.84     | 0.86        | 0.55      | 0.93 | 0.25      | 0.35    | 0.28*     | 0.24     | 0.45        | 0.32      | 0.46 |
| May           | 3.80      | 5.39    | 3.54      | 4.85     | 5.06        | 3.71      | 6.55 | 0.46      | 0.49    | 0.45      | 0.38     | 0.43        | 0.43      | 0.33 | 0.45      | 0.48    | 0.47      | 0.61     | 0.61        | 0.38      | 0.68 |
| June          | 3.19      | 4.85    | 3.57      | 5.42     | 5.24        | 3.67      | 6.44 | 0.26      | 0.42    | 0.39      | 0.27     | 0.27        | 0.42      | 0.27 | 0.33      | 0.35    | 0.40      | 0.51     | 0.51        | 0.34      | 0.51 |
| July          | 3.01      | 4.41    | 3.78      | 4.70     | 4.74        | 3.73      | 6.52 | 0.36      | 0.41    | 0.42      | 0.34     | 0.32        | 0.37      | 0.19 | 0.32      | 0.35    | 0.42      | 0.49     | 0.45        | 0.35      | 0.60 |
| August        | 3.07      | 4.23    | 3.24      | 4.55     | 4.50        | 3.58      | 6.21 | 0.60      | 0.75    | 0.66      | 0.75     | 0.64        | 0.47      | 0.73 | 0.31      | 0.33    | 0.36      | 0.44     | 0.41        | 0.40      | 0.57 |
| September     | 2.63      | 3.71    | 2.64      | 3.71     | 4.00        | 3.55      | 5.51 | 0.79      | 1.00    | 0.78      | 0.99     | 1.08        | 0.83      | 1.29 | 0.18      | 0.23    | 0.22      | 0.22     | 0.32        | 0.32      | 0.39 |
| October       | 1.89      | 2.60    | 1.88      | 2.65     | 2.70        | 2.49      | 4.07 | 0.81      | 1.08    | 0.75      | 1.01     | 1.10        | 0.96      | 1.40 | 0.09      | 0.21    | 0.11      | 0.18     | 0.13        | 0.14      | 0.17 |
| November      | 0.24      | 1.76    | 1.28      | 1.53     | 1.63        | 1.38      | 2.40 | 0.69      | 0.86    | 0.64      | 0.73     | 0.86        | 0.69      | 1.04 | 0.19      | 0.26    | 0.21      | 0.23     | 0.26        | 0.21      | 0.33 |
| December      | 0.07      | 1.21    | 1.07      | 0.97     | 1.06        | 0.79      | 1.62 | 0.62      | 0.60    | 0.61      | 0.51     | 0.56        | 0.48      | 0.75 | 0.24      | 0.28    | 0.20      | 0.15     | 0.20        | 0.21      | 0.26 |
| Mean 12 years | 2.28      | 3.24    | 2.35      | 3.23     | 3.39        | 2.61      | 4.46 | 0.61      | 0.74    | 0.60      | 0.67     | 0.72        | 0.62      | 0.84 | 0.23      | 0.29    | 0.26      | 0.30     | 0.32        | 0.27      | 0.38 |

|               | $\mu_1$ |     |     |      |     |     |     | $\mu_2$ |    |     |    |    |    |     | $\mu_3$ |    |     |    |    |    |    |
|---------------|---------|-----|-----|------|-----|-----|-----|---------|----|-----|----|----|----|-----|---------|----|-----|----|----|----|----|
|               | 199     | 220 | 212 | 222  | 218 | 215 | 218 | 0       | 21 | 12  | 22 | 22 | 21 | 25  | 72      | 73 | 69  | 78 | 75 | 76 | 76 |
| January       | -       | -   | -   | -    | -   | -   | -   | -       | 17 | 21  | 17 | 22 | 22 | 21  | 25      | 72 | 73  | 69 | 78 | 75 | 76 |
| February      | -       | 205 | 215 | 220  | 216 | 215 | 221 | 13      | 18 | 10  | 21 | 20 | 18 | 25  | 69      | 70 | 61  | 77 | 74 | 72 | 83 |
| March         | -       | 208 | 214 | 207* | 217 | 216 | 223 | 15      | 15 | 10* | 18 | 18 | 15 | 24  | 28      | 40 | 34* | 30 | 37 | 39 | 23 |
| April         | -       | 211 | 213 | 207* | 218 | 208 | 219 | 16      | 9  | 8*  | 19 | 16 | 1  | 19  | 10      | 21 | 16* | 18 | 18 | 19 | 19 |
| May           | -       | 208 | 213 | 205  | 217 | 211 | 206 | 13      | 3  | -   | 6  | 26 | 3  | -35 | 8       | 12 | 15  | 13 | 16 | 9  | 17 |
| June          | -       | 204 | 211 | 201  | 213 | 210 | 203 | 17      | 3  | -   | 1  | 26 | 3  | -44 | 5       | 11 | 13  | 10 | 14 | 15 | 17 |
| July          | -       | 203 | 212 | 200  | 211 | 210 | 205 | 14      | 5  | -   | 2  | 20 | 3  | -36 | 1       | 9  | 15  | 11 | 14 | 9  | 17 |
| August        | -       | 203 | 213 | 203  | 213 | 208 | 220 | 15      | 13 | 5   | 19 | 14 | 15 | 19  | 11      | 18 | 13  | 15 | 15 | 14 | 18 |
| September     | -       | 204 | 215 | 205  | 215 | 213 | 211 | 14      | 13 | 9   | 16 | 15 | 10 | 22  | 15      | 28 | 20  | 21 | 20 | 23 | 21 |
| October       | -       | 204 | 212 | 208  | 220 | 213 | 214 | 13      | 18 | 11  | 22 | 19 | 18 | 21  | 67      | 65 | 57  | 74 | 67 | 61 | 58 |
| November      | -       | 203 | 220 | 209  | 220 | 216 | 221 | 16      | 19 | 13  | 23 | 20 | 21 | 23  | 67      | 72 | 66  | 76 | 72 | 76 | 75 |
| December      | -       | 204 | 220 | 205  | 231 | 225 | 203 | 17      | 20 | 14  | 25 | 22 | 19 | 25  | 77      | 73 | 73  | 84 | 75 | 75 | 79 |
| Mean 12 years | -       | 205 | 215 | 206  | 218 | 215 | 220 | 15      | 13 | 7   | 21 | 13 | 0  | 18  | 37      | 42 | 37  | 43 | 42 | 40 | 42 |



TABLE IIIc. bis.—MEAN VALUES (reckoned from GREENWICH MEAN MIDNIGHT) of the  $p, q$  COEFFICIENTS for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each YEAR from 1871 to 1882; derived from TABLE IC.

| YEARS.        | VALENCIA { Longitude Correction, 10° 18'.* |       |       |       |       |       | ARMAGH { Longitude Correction, 6° 39'.* |       |       |       |       |       | FALMOUTH { Longitude Correction, 5° 4'.* |        |        |        |        |        | GLASGOW { Longitude Correction, 4° 18'.* |       |       |       |       |       |       |
|---------------|--|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|--|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|-------|-------|
|               | $p_1$                                      | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                   | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                    | $q_1$  | $p_2$  | $q_2$  | $p_3$  | $q_3$  | $p_1$                                    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ |       |
| 1871          | -  | -1'88 | +1'45 | +1'43 | +1'45 | +1'09 | -2'71                                   | -2'00 | +1'62 | +1'50 | -1'01 | +1'13 | -2'06                                    | -1'12  | +1'56  | +1'25  | +1'02  | +1'07  | -2'74                                    | -2'34 | +1'73 | +1'46 | +1'54 | +1'11 | +1'15 |
| 1872          | -  | -1'60 | -1'13 | +1'42 | +1'41 | +1'03 | +1'09                                   | -2'09 | +1'54 | +1'46 | +1'01 | +1'06 | -2'18                                    | -1'18  | +1'54  | +1'21  | +1'04  | +1'14  | -2'34                                    | -1'73 | +1'40 | +1'46 | +1'07 | +1'11 | +1'11 |
| 1873          | -  | -1'77 | -1'21 | +1'31 | +1'41 | +1'04 | +1'09                                   | -2'37 | -2'01 | +1'54 | +1'52 | +1'11 | -2'20†                                   | -1'14† | +1'50† | +1'25† | +1'08† | +1'09† | -2'40                                    | -2'03 | +1'42 | +1'48 | +1'08 | +1'12 | +1'12 |
| 1874          | -  | -1'78 | -1'26 | +1'35 | +1'44 | +1'06 | +1'09                                   | -2'60 | -2'16 | +1'52 | +1'49 | +1'02 | +1'10                                    | -2'20  | +1'50  | +1'25  | +1'06  | +1'13  | -2'49                                    | -2'13 | +1'35 | +1'41 | +1'12 | +1'12 | +1'12 |
| 1875          | -  | -1'94 | -1'32 | +1'38 | +1'45 | +1'03 | +1'10                                   | -2'45 | -2'17 | +1'59 | +1'46 | +1'03 | +1'11                                    | -1'94  | +1'46  | +1'28  | +1'05  | +1'15  | -2'50                                    | -2'20 | +1'38 | +1'49 | +1'06 | +1'15 | +1'15 |
| Mean 5 years  | -  | -1'79 | -1'27 | +1'38 | +1'43 | +1'04 | +1'09                                   | -2'51 | -2'09 | +1'56 | +1'49 | +1'02 | +1'10                                    | -2'12  | +1'44  | +1'53  | +1'25  | +1'05  | +1'12                                    | -2'49 | -2'08 | +1'40 | +1'48 | +1'09 | +1'13 |
| 1876          | -  | -1'88 | -1'42 | +1'36 | +1'49 | +1'04 | +1'07                                   | -2'45 | +1'48 | +1'52 | +1'02 | +1'11 | -2'01                                    | -1'10  | +1'46  | +1'27  | +1'07  | +1'15  | -2'44                                    | -2'17 | +1'33 | +1'44 | +1'12 | +1'13 | +1'13 |
| 1877          | -  | -1'77 | -1'19 | +1'36 | +1'43 | +1'04 | +1'11                                   | -2'38 | +1'52 | +1'45 | +1'02 | +1'11 | -2'05                                    | -1'14  | +1'53  | +1'26  | +1'04  | +1'09  | -2'38                                    | -1'94 | +1'45 | +1'49 | +1'09 | +1'11 | +1'11 |
| 1878          | -  | -1'82 | -1'35 | +1'39 | +1'44 | +1'04 | +1'09                                   | -2'40 | -2'17 | +1'57 | +1'47 | +1'02 | +1'08                                    | -1'96  | +1'20  | +1'51  | +1'24  | +1'05  | +1'11                                    | -2'43 | -2'20 | +1'44 | +1'48 | +1'09 | +1'13 |
| 1879          | -  | -1'76 | -1'27 | +1'39 | +1'46 | +1'01 | +1'05                                   | -2'36 | +1'57 | +1'53 | +1'44 | +1'04 | -1'86                                    | -1'15  | +1'54  | +1'30  | +1'01  | +1'08  | -2'23                                    | -1'91 | +1'46 | +1'50 | +1'07 | +1'07 | +1'07 |
| 1880          | -  | -1'98 | -1'58 | +1'39 | +1'53 | +1'08 | +1'10                                   | -2'43 | +1'57 | +1'48 | +1'05 | +1'10 | -1'85                                    | -1'10  | +1'51  | +1'22  | +1'02  | +1'11  | -2'71                                    | -2'47 | +1'42 | +1'64 | +1'07 | +1'10 | +1'10 |
| Mean 5 years  | -  | -1'84 | -1'36 | +1'38 | +1'47 | +1'04 | +1'08                                   | -2'56 | +1'53 | +1'47 | +1'03 | +1'09 | -1'95                                    | -1'16  | +1'51  | +1'26  | +1'04  | +1'11  | -2'44                                    | -2'16 | +1'42 | +1'51 | +1'09 | +1'11 | +1'11 |
| 1881          | -  | -1'96 | -1'44 | +1'41 | +1'52 | +1'04 | +1'10                                   | -2'50 | +1'50 | +1'46 | +1'02 | +1'08 | -2'03                                    | -1'31  | +1'51  | +1'20  | +1'06  | +1'14  | -2'52                                    | -2'15 | +1'47 | +1'48 | +1'10 | +1'14 | +1'14 |
| 1882          | -  | -1'87 | -1'32 | +1'36 | +1'46 | +1'06 | +1'07                                   | -2'58 | +1'96 | +1'58 | +1'03 | +1'07 | -2'01                                    | -1'10  | +1'57  | +1'19  | +1'06  | +1'15  | -2'50                                    | -2'07 | +1'41 | +1'41 | +1'07 | +1'13 | +1'13 |
| Mean 12 years | -  | -1'83 | -1'33 | +1'38 | +1'46 | +1'04 | +1'09                                   | -2'45 | +1'69 | +1'55 | +1'47 | +1'09 | -2'03                                    | -1'16  | +1'52  | +1'24  | +1'05  | +1'12  | -2'47                                    | -2'12 | +1'42 | +1'49 | +1'09 | +1'12 | +1'12 |

\* Local Midnight later than Greenwich Midnight. The difference is expressed in Arc.

| YEARS.        | STONYHURST { Longitude Correction, 2° 28'.* |       |       |       |       |       | ABERDEEN { Longitude Correction, 2° 6'.* |       |       |       |       |       | KEW { Longitude Correction, 0° 19'.* |       |       |       |       |       |
|---------------|---|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|--------------------------------------|-------|-------|-------|-------|-------|
|               | $p_1$                                       | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ |
| 1871          | -   | -2'02 | +1'57 | +1'42 | +1'10 | +1'18 | -2'34                                    | -1'38 | +1'47 | +1'11 | +1'08 | +1'10 | -3'67                                | -2'98 | +1'73 | +1'66 | +1'06 | +1'13 |
| 1872          | -   | -2'56 | +1'77 | +1'51 | +1'38 | +1'15 | -2'01                                    | -1'23 | +1'39 | +1'11 | +1'06 | +1'07 | -3'51                                | -2'90 | +1'70 | +1'50 | +1'10 | +1'27 |
| 1873          | -   | -2'76 | +1'70 | +1'50 | +1'43 | +1'18 | -2'13                                    | -1'37 | +1'35 | +1'24 | +1'07 | +1'04 | -3'34                                | -3'01 | +1'58 | +1'55 | +1'06 | +1'21 |
| 1874          | -   | -2'87 | +1'71 | +1'49 | +1'41 | +1'09 | -2'49                                    | -1'56 | +1'41 | +1'22 | +1'11 | +1'06 | -3'64                                | -3'17 | +1'56 | +1'50 | +1'19 | +1'19 |
| 1875          | -   | -2'67 | +1'87 | +1'51 | +1'34 | +1'07 | -2'20                                    | -1'37 | +1'44 | +1'13 | +1'06 | +1'08 | -3'18                                | -2'87 | +1'54 | +1'49 | +1'08 | +1'18 |
| Mean 5 years  | -   | -2'76 | +1'70 | +1'52 | +1'40 | +1'17 | -2'23                                    | -1'45 | +1'41 | +1'16 | +1'08 | +1'07 | -3'47                                | -2'99 | +1'62 | +1'54 | +1'10 | +1'18 |
| 1876          | -   | -2'90 | +1'70 | +1'49 | +1'39 | +1'16 | -2'20                                    | -1'42 | +1'35 | +1'17 | +1'07 | +1'05 | -3'43                                | -2'94 | +1'51 | +1'56 | +1'07 | +1'18 |
| 1877          | -   | -2'47 | +1'89 | +1'51 | +1'36 | +1'11 | -2'18                                    | -1'29 | +1'46 | +1'14 | +1'05 | +1'06 | -3'39                                | -2'90 | +1'62 | +1'54 | +1'06 | +1'14 |
| 1878          | -   | -2'74 | +1'83 | +1'55 | +1'41 | +1'17 | -2'16                                    | -1'29 | +1'48 | +1'24 | +1'05 | +1'03 | -3'25                                | -2'72 | +1'61 | +1'56 | +1'07 | +1'17 |
| 1879          | -   | -2'56 | +1'88 | +1'56 | +1'47 | +1'01 | -2'04                                    | -1'35 | +1'47 | +1'22 | +1'03 | +1'06 | -3'00                                | -2'41 | +1'48 | +1'52 | +1'11 | +1'13 |
| 1880          | -   | -2'88 | +1'84 | +1'58 | +1'50 | +1'08 | -2'26                                    | -1'25 | +1'50 | +1'18 | +1'07 | +1'08 | -3'33                                | -2'89 | +1'49 | +1'64 | +1'06 | +1'12 |
| Mean 5 years  | -   | -2'71 | +1'97 | +1'54 | +1'43 | +1'12 | -2'17                                    | -1'32 | +1'45 | +1'19 | +1'05 | +1'06 | -3'26                                | -2'77 | +1'54 | +1'56 | +1'07 | +1'15 |
| 1881          | -   | -2'81 | +1'96 | +1'55 | +1'44 | +1'12 | -2'23                                    | -1'21 | +1'47 | +1'08 | +1'05 | +1'07 | -3'55                                | -2'98 | +1'55 | +1'54 | +1'10 | +1'14 |
| 1882          | -   | -2'74 | +1'90 | +1'60 | +1'32 | +1'15 | -2'31                                    | -1'30 | +1'41 | +1'11 | +1'07 | +1'10 | -3'39                                | -2'89 | +1'57 | +1'52 | +1'12 | +1'16 |
| Mean 12 years | -   | -2'74 | +1'97 | +1'54 | +1'41 | +1'14 | -2'21                                    | -1'34 | +1'43 | +1'16 | +1'06 | +1'07 | -3'38                                | -2'89 | +1'58 | +1'55 | +1'09 | +1'16 |

† Mean for 10 months only.

TABLE IVc. bis.

MEAN VALUES (reckoned from GREENWICH MEAN MIDNIGHT) of the  $p, q$  COEFFICIENTS of the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR; obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE IC.

| MONTHS.       | VALENCIA { Longitude Correction, 10° 18'.* |       |       |       |       |       | ARMAGH { Longitude Correction, 6° 38'.* |       |       |       |       |       | FALMOUTH { Longitude Correction, 5° 4'.* |        |        |        |        |        | GLASGOW { Longitude Correction, 4° 18'.* |       |       |       |       |       |       |
|---------------|--|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|--|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|-------|-------|
|               | $p_1$                                      | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                   | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                    | $q_1$  | $p_2$  | $q_2$  | $p_3$  | $q_3$  | $p_1$                                    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ |       |
| January       | -1'74                                      | -1'48 | +1'27 | +1'46 | -1'03 | -1'17 | -1'74                                   | -1'36 | +1'47 | +1'31 | +1'53 | -1'24 | -1'74                                    | -1'08  | +1'37  | +1'29  | -1'11  | -1'12  | -1'69                                    | -1'81 | +1'25 | +1'44 | -1'03 | -1'18 | -1'18 |
| February      | -1'02                                      | -1'56 | +1'37 | +1'55 | -1'02 | -1'10 | -1'36                                   | -1'31 | +1'47 | +1'71 | +1'10 | -1'20 | -1'08                                    | -1'27† | +1'51  | +1'38  | +1'09  | +1'05  | -1'18                                    | -1'18 | +1'30 | +1'41 | +1'63 | -1'06 | -1'15 |
| March         | -1'72                                      | -1'47 | +1'42 | +1'58 | -1'03 | -1'07 | -1'35                                   | -1'18 | +1'68 | +1'75 | +1'08 | +1'06 | -1'27†                                   | -1'24† | +1'58† | +1'38† | +1'05† | +1'08† | -2'17                                    | -2'07 | +1'58 | +1'68 | -1'02 | +1'05 | +1'05 |
| April         | -2'28                                      | -1'97 | +1'44 | +1'58 | -1'11 | -1'22 | -3'38                                   | -2'88 | +1'74 | +1'45 | +1'04 | +1'34 | -2'27†                                   | -1'46† | +1'56† | +1'27† | +1'11† | +1'25† | -3'37                                    | -3'06 | +1'57 | +1'60 | +1'15 | +1'31 | +1'31 |
| May           | -3'02                                      | -2'30 | +1'34 | +1'29 | +1'31 | +1'40 | -4'10                                   | -3'34 | +1'45 | +1'14 | +1'21 | +1'43 | -3'08                                    | -1'73  | +1'44  | +1'03  | +1'30  | +1'37  | -4'20                                    | -3'43 | +1'55 | +1'51 | +1'41 | +1'45 | +1'45 |
| June          | -2'63                                      | -1'81 | +1'16 | +1'19 | +1'14 | +1'28 | -3'83                                   | -2'97 | +1'41 | +1'05 | +1'20 | +1'32 | -3'20                                    | -1'58  | +1'37  | +1'04  | +1'28  | +1'20  | -4'30                                    | -3'28 | +1'16 | +1'10 | +1'20 | +1'41 | +1'41 |
| July          | -2'46                                      | -1'74 | +1'22 | +1'27 | +1'14 | +1'28 | -3'38                                   | -2'97 | +1'34 | +1'17 | +1'12 | +1'32 | -3'59                                    | -1'67  | +1'39  | +1'07  | +1'24  | +1'20  | -3'57                                    | -2'82 | +1'16 | +1'10 | +1'20 | +1'38 | +1'38 |
| August        | -2'53                                      | -1'74 | +1'36 | +1'47 | +1'13 | +1'28 | -3'26                                   | -2'72 | +1'57 | +1'48 | +1'07 | +1'32 | -3'87                                    | -1'49  | +1'61  | +1'24  | +1'24  | +1'30  | -3'57                                    | -2'82 | +1'16 | +1'10 | +1'20 | +1'38 | +1'38 |
| September     | -2'19                                      | -1'45 | +1'55 | +1'56 | +1'06 | +1'15 | -2'82                                   | -2'38 | +1'80 | +1'60 | +1'03 | +1'22 | -2'31                                    | -1'27  | +1'71  | +1'33  | +1'05  | +1'19  | -2'91                                    | -2'30 | +1'77 | +1'61 | +1'06 | +1'21 | +1'21 |
| October       | -1'60                                      | -1'08 | +1'60 | +1'52 | +1'06 | +1'12 | -2'12                                   | -1'50 | +1'80 | +1'71 | +1'18 | +1'08 | -1'62                                    | -1'27  | +1'70  | +1'34  | +1'10  | +1'01  | -1'99                                    | -1'73 | +1'70 | +1'72 | -1'11 | +1'10 | +1'10 |
| November      | -1'05                                      | -1'62 | +1'48 | +1'50 | +1'12 | +1'12 | -1'27                                   | -1'17 | +1'62 | +1'59 | +1'18 | +1'18 | -1'09                                    | -1'02  | +1'56  | +1'27  | +1'18  | +1'08  | -1'15                                    | -1'09 | +1'47 | +1'53 | +1'15 | +1'17 | +1'17 |
| December      | -1'79                                      | -1'53 | +1'38 | +1'49 | +1'05 | +1'23 | -1'84                                   | -1'66 | +1'37 | +1'47 | +1'15 | +1'22 | -1'09                                    | -1'02  | +1'52  | +1'49  | +1'15  | +1'13  | -1'54                                    | -1'79 | +1'27 | +1'42 | -1'03 | +1'13 | +1'13 |
| Mean 12 years | -1'84                                      | -1'33 | +1'38 | +1'46 | +1'04 | +1'09 | -2'45                                   | -2'09 | +1'55 | +1'47 | +1'02 | +1'09 | -2'03                                    | -1'16  | +1'52  | +1'24  | +1'05  | +1'12  | -2'47                                    | -2'12 | +1'42 | +1'49 | +1'09 | +1'12 | +1'12 |

| MONTHS.       | STONYHURST { Longitude Correction, 2° 28'.* |       |       |       |       |       | ABERDEEN { Longitude Correction, 2° 6'.* |       |       |       |       |       | KEW { Longitude Correction, 0° 19'.* |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|---|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               | $p_1$                                       | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                    | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ | $p_1$                                | $q_1$ | $p_2$ | $q_2$ | $p_3$ | $q_3$ |       |       |       |       |       |       |       |
| January       | -1'91                                       | -1'92 | +1'42 | +1'58 | -1'12 | -1'19 | -1'79                                    | -1'66 | +1'37 | +1'10 | +1'46 | +1'46 | -1'27                                | -1'09 | -1'20 | +1'16 | +1'23 | +1'03 | +1'68 | +1'47 | +1'15 | +1'23 | -1'23 | -1'23 |       |
| February      | -1'32                                       | -1'21 | +1'48 | +1'60 | +1'09 | +1'15 | -1'40                                    | -1'21 | +1'55 | +1'10 | +1'16 | +1'16 | -1'64                                | -1'10 | +1'09 | +1'50 | +1'23 | +1'03 | +1'50 | +1'50 | +1'04 | +1'17 | +1'17 | +1'17 |       |
| March         | -2'53                                       | -2'16 | +1'70 | +1'69 | -1'03 | -1'10 | -2'06                                    | -1'43 | +1'65 | +1'07 | +1'05 | +1'06 | -1'27†                               | -1'04 | +1'09 | +1'38 | +1'33 | +1'03 | -3'42 | -3'06 | +1'21 | +1'24 | +1'09 | +1'09 |       |
| April         | -3'37                                       | -2'77 | +1'66 | +1'53 | +1'30 | +1'40 | -2'56                                    | -1'50 | +1'53 | +1'29 | +1'10 | +1'37 | +1'33                                | +1'13 | +1'28 | +1'18 | +1'18 | +1'10 | -4'59 | -4'23 | +1'45 | +1'45 | +1'38 | +1'38 |       |
| May           | -4'69                                       | -3'06 | +1'40 | +1'64 | +1'35 | +1'49 | -3'29                                    | -1'70 | +1'60 | +1'10 | +1'37 | +1'33 | +1'31                                | +1'31 | +1'30 | +1'10 | +1'08 | +1'01 | -5'09 | -4'43 | +1'26 | +1'26 | +1'51 | +1'51 |       |
| June          | -4'38                                       | -2'85 | +1'15 | +1'14 | +1'30 | +1'42 | -3'31                                    | -1'56 | +1'66 | +1'10 | +1'40 | +1'40 | -4'04                                | -4'08 | +1'15 | +1'15 | +1'15 | +1'01 | -4'98 | -4'27 | +1'15 | +1'32 | +1'39 | +1'39 |       |
| July          | -3'95                                       | -2'62 | +1'26 | +1'68 | +1'08 | +1'37 | -3'26                                    | -1'78 | +1'70 | +1'10 | +1'31 | +1'20 | -4'77                                | -4'44 | +1'11 | +1'07 | +1'07 | +1'07 | -4'77 | -4'44 | +1'11 | +1'32 | +1'39 | +1'39 |       |
| August        | -3'61                                       | -2'68 | +1'33 | +1'34 | +1'24 | +1'33 | -3'05                                    | -1'85 | +1'42 | +1'15 | +1'25 | +1'31 | -4'66                                | -4'38 | +1'20 | +1'43 | +1'43 | +1'43 | -4'66 | -4'38 | +1'20 | +1'33 | +1'50 | +1'50 |       |
| September     | -3'31                                       | -2'24 | +1'50 | +1'57 | +1'13 | +1'28 | -2'99                                    | -1'90 | +1'76 | +1'30 | +1'09 | +1'30 | -4'31                                | -4'31 | +1'09 | +1'30 | +1'30 | +1'30 | -4'31 | -4'31 | +1'09 | +1'18 | +1'18 | +1'18 |       |
| October       | -2'56                                       | -1'45 | +1'89 | +1'64 | +1'11 | +1'03 | -2'07                                    | -1'37 | +1'70 | +1'54 | +1'13 | -1'01 | -1'37                                | +1'09 | +1'13 | +1'01 | +1'01 | +1'01 | -3'42 | -3'42 | +1'09 | +1'13 | +1'13 | +1'13 |       |
| November      | -1'32                                       | -1'93 | +1'67 | +1'53 | +1'21 | +1'14 | -1'12                                    | -1'76 | +1'54 | +1'43 | +1'14 | +1'14 | -1'87                                | -1'14 | +1'14 | +1'14 | +1'14 | +1'14 | -1'87 | -1'48 | +1'26 | +1'26 | +1'19 | +1'19 |       |
| December      | -1'73                                       | -1'77 | +1'56 | +1'42 | +1'13 | +1'15 | -1'67                                    | -1'36 | +1'35 | +1'30 | +1'13 | +1'15 | -1'27                                | -1'13 | +1'15 | +1'15 | +1'15 | +1'15 | -1'27 | -1'00 | +1'49 | +1'56 | +1'15 | +1'20 | +1'20 |
| Mean 12 years | -2'74                                       | -1'97 | +1'54 | +1'41 | +1'07 | +1'14 | -2'21                                    | -1'34 | +1'43 | +1'16 | +1'06 | +1'07 | -3'38                                | -2'06 | +1'07 | +1'07 | +1'07 | +1'07 | -3'38 | -2'59 | +1'58 | +1'58 | +1'09 | +1'16 | +1'16 |

\* Local Midnight later than Greenwich Midnight. The difference is expressed in Arc.  
† Mean for 11 years.



TABLE VIc. bis.—MEAN VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each YEAR from 1871 to 1882; derived from TABLE IIc.

| YEARS.        | VALENCIA.      |                |                |                |                |                | ARMAGH.        |                |                |                |                |                | FALMOUTH.      |                |                |                |                |                | GLASGOW.       |                |                |                |                |                |     |    |    |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----|----|
|               | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> |     |    |    |
|               | 1871           | -              | 2'39           | 0              | 13             | 35             | 0              | 3'40           | 1'82           | 1'33           | 210            | 12             | 40             | 0              | 2'35           | 1'63           | 1'27           | 205            | 7              | 38             | 0              | 3'09           | 1'72           | 1'35           | 216 | 20 | 0  |
| 1872          | -              | 1'97           | 1'60           | 19             | 37             | 37             | 3'21           | 1'73           | 1'29           | 214            | 12             | 41             | 0              | 2'50           | 1'48           | 1'28           | 203            | 4              | 35             | 0              | 2'92           | 1'63           | 1'29           | 214            | 19  | 44 |    |
| 1873          | -              | 2'15           | 1'55           | 19             | 305            | 17             | 3'6            | 1'78           | 1'30           | 214            | 13             | 42             | 0              | 2'49*          | 1'59*          | 1'25*          | 205*           | 6*             | 36*            | 0              | 3'16           | 1'65           | 1'29           | 219            | 20  | 37 |    |
| 1874          | -              | 2'19           | 1'57           | 24             | 205            | 16             | 40             | 1'39           | 1'74           | 31             | 214            | 12             | 41             | 0              | 2'48           | 1'66           | 1'29           | 202            | 5              | 37             | 0              | 3'29           | 1'59           | 1'34           | 219 | 28 | 47 |
| 1875          | -              | 2'36           | 1'59           | 26             | 203            | 15             | 42             | 1'28           | 1'76           | 26             | 214            | 11             | 42             | 0              | 2'36           | 1'55           | 1'27           | 208            | 10             | 39             | 0              | 3'34           | 1'64           | 1'35           | 217 | 25 | 39 |
| Mean 5 years  | -              | 2'21           | 1'59           | 22             | 205            | 15             | 38             | 1'28           | 1'77           | 30             | 213            | 12             | 41             | 0              | 2'42           | 1'60           | 1'27           | 205            | 6              | 37             | 0              | 3'16           | 1'65           | 1'32           | 217 | 22 | 42 |
| 1876          | -              | 2'37           | 1'61           | 24             | 207            | 17             | 35             | 1'35           | 1'73           | 32             | 218            | 16             | 43             | 0              | 2'35           | 1'58           | 1'29           | 207            | 10             | 36             | 0              | 3'27           | 1'59           | 1'30           | 218 | 27 | 39 |
| 1877          | -              | 2'15           | 1'57           | 24             | 202            | 15             | 33             | 1'04           | 1'63           | 29             | 217            | 13             | 40             | 0              | 2'35           | 1'61           | 1'24           | 204            | 9              | 35             | 0              | 3'09           | 1'67           | 1'25           | 217 | 21 | 47 |
| 1878          | -              | 2'28           | 1'61           | 24             | 207            | 13             | 40             | 1'26           | 1'76           | 29             | 217            | 12             | 41             | 0              | 2'31           | 1'57           | 1'24           | 208            | 7              | 34             | 0              | 3'38           | 1'68           | 1'30           | 224 | 20 | 47 |
| 1879          | -              | 2'18           | 1'61           | 22             | 205            | 15             | 38             | 1'04           | 1'72           | 23             | 213            | 12             | 42             | 0              | 2'20           | 1'63           | 1'20           | 209            | 9              | 42             | 0              | 2'97           | 1'69           | 1'28           | 220 | 20 | 41 |
| 1880          | -              | 2'54           | 1'67           | 23             | 207            | 17             | 40             | 1'42           | 1'76           | 31             | 219            | 11             | 43             | 0              | 2'17           | 1'57           | 1'26           | 205            | 6              | 38             | 0              | 3'69           | 1'80           | 1'33           | 220 | 25 | 39 |
| Mean 5 years  | -              | 2'30           | 1'61           | 23             | 206            | 15             | 37             | 1'20           | 1'72           | 29             | 217            | 13             | 42             | 0              | 2'28           | 1'59           | 1'25           | 207            | 8              | 37             | 0              | 3'28           | 1'69           | 1'29           | 220 | 23 | 43 |
| 1881          | -              | 2'46           | 1'68           | 27             | 205            | 17             | 40             | 1'22           | 1'71           | 26             | 212            | 14             | 40             | 0              | 2'46           | 1'58           | 1'25           | 211            | 4              | 34             | 0              | 3'33           | 1'72           | 1'30           | 218 | 17 | 40 |
| 1882          | -              | 2'30           | 1'57           | 20             | 205            | 15             | 34             | 1'25           | 1'75           | 29             | 212            | 9              | 46             | 0              | 2'31           | 1'61           | 1'25           | 205            | 4              | 36             | 0              | 3'26           | 1'62           | 1'29           | 217 | 18 | 44 |
| Mean 12 years | -              | 2'28           | 1'61           | 23             | 205            | 15             | 37             | 1'24           | 1'74           | 29             | 215            | 12             | 42             | 0              | 2'35           | 1'60           | 1'26           | 206            | 7              | 37             | 0              | 3'23           | 1'67           | 1'30           | 218 | 22 | 43 |

| YEARS.        | STONYHURST.    |                |                |         |         |              | ABERDEEN.      |                |                |         |         |              | KEW.           |                |                |         |         |         |
|---------------|----------------|----------------|----------------|---------|---------|--------------|----------------|----------------|----------------|---------|---------|--------------|----------------|----------------|----------------|---------|---------|---------|
|               | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$      | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$      | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | $\mu_1$ | $\mu_2$ | $\mu_3$ |
|               | 1871           | 1872           | 1873           | 1874    | 1875    | Mean 5 years | 1876           | 1877           | 1878           | 1879    | 1880    | Mean 5 years | 1881           | 1882           | Mean 12 years  | 1871    | 1872    | 1873    |
| 1871          | 1'39           | 1'64           | 1'22           | 2'07    | 1'35    | 0            | 1'40           | 1'82           | 1'33           | 2'10    | 1'12    | 0            | 1'35           | 1'58           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1872          | 1'97           | 1'60           | 1'19           | 2'03    | 1'17    | 0            | 1'21           | 1'73           | 1'29           | 2'14    | 1'12    | 0            | 1'50           | 1'58           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1873          | 1'15           | 1'55           | 1'10           | 2'05    | 1'17    | 0            | 1'11           | 1'78           | 1'30           | 2'14    | 1'13    | 0            | 1'49           | 1'59           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1874          | 1'19           | 1'57           | 1'24           | 2'03    | 1'16    | 0            | 1'39           | 1'74           | 1'31           | 2'14    | 1'12    | 0            | 1'48           | 1'55           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1875          | 1'36           | 1'59           | 1'26           | 2'03    | 1'15    | 0            | 1'28           | 1'76           | 1'26           | 2'14    | 1'11    | 0            | 1'48           | 1'55           | 1'27           | 2'05    | 1'30    | 1'60    |
| Mean 5 years  | 1'21           | 1'59           | 1'22           | 2'05    | 1'15    | 0            | 1'28           | 1'77           | 1'30           | 2'13    | 1'12    | 0            | 1'42           | 1'60           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1876          | 1'37           | 1'61           | 1'24           | 2'07    | 1'17    | 0            | 1'35           | 1'73           | 1'32           | 2'18    | 1'16    | 0            | 1'35           | 1'58           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1877          | 1'15           | 1'57           | 1'24           | 2'02    | 1'15    | 0            | 1'04           | 1'63           | 1'29           | 2'17    | 1'13    | 0            | 1'35           | 1'58           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1878          | 1'28           | 1'61           | 1'24           | 2'07    | 1'13    | 0            | 1'26           | 1'76           | 1'29           | 2'17    | 1'12    | 0            | 1'31           | 1'57           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1879          | 1'18           | 1'61           | 1'22           | 2'05    | 1'15    | 0            | 1'24           | 1'72           | 1'23           | 2'13    | 1'12    | 0            | 1'30           | 1'57           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1880          | 1'54           | 1'67           | 1'23           | 2'07    | 1'17    | 0            | 1'42           | 1'76           | 1'31           | 2'19    | 1'11    | 0            | 1'48           | 1'55           | 1'27           | 2'05    | 1'30    | 1'60    |
| Mean 5 years  | 1'30           | 1'61           | 1'23           | 2'06    | 1'15    | 0            | 1'30           | 1'72           | 1'29           | 2'17    | 1'13    | 0            | 1'42           | 1'59           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1881          | 1'46           | 1'68           | 1'27           | 2'05    | 1'17    | 0            | 1'22           | 1'71           | 1'26           | 2'12    | 1'14    | 0            | 1'46           | 1'58           | 1'27           | 2'05    | 1'30    | 1'60    |
| 1882          | 1'30           | 1'57           | 1'20           | 2'05    | 1'15    | 0            | 1'25           | 1'75           | 1'29           | 2'12    | 1'09    | 0            | 1'31           | 1'61           | 1'27           | 2'05    | 1'30    | 1'60    |
| Mean 12 years | 1'28           | 1'61           | 1'23           | 2'05    | 1'15    | 0            | 1'24           | 1'74           | 1'29           | 2'15    | 1'12    | 0            | 1'35           | 1'60           | 1'27           | 2'05    | 1'30    | 1'60    |

\* Mean for 10 months.

TABLE VIc. bis.

MEAN VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL APPARENT MIDNIGHT, for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of TEMPERATURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for the entire YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE IIc.

| MONTHS.       | VALENCIA.      |                |                |                |                |                | ARMAGH.        |                |                |                |                |                | FALMOUTH.      |                |                |                |                |                | GLASGOW.       |                |                |                |                |                |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|               | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> |
|               | January        | February       | March          | April          | May            | June           | July           | August         | September      | October        | November       | December       | January        | February       | March          | April          | May            | June           | July           | August         | September      | October        | November       | December       |
| -             | 0'91           | 56             | 18             | 0              | 17             | 72             | 0              | 1'20           | 62             | 27             | 220            | 0              | 0'96           | 48             | 17             | 212            | 0              | 60             | 1'09           | 52             | 19             | 222            | 0              | 78             |
| -             | 1'34           | 67             | 11             | 266            | 13             | 69             | 0              | 1'94           | 86             | 23             | 215            | 18             | 1'37           | 64             | 11             | 209            | 10             | 61             | 1'76           | 75             | 18             | 220            | 21             | 77             |
| -             | 2'27           | 73             | 10             | 268            | 15             | 28             | 3'22           | 1'02           | 1'02           | 11             | 214            | 15             | 2'17*          | 71*            | 11*            | 207*           | 10*            | 34*            | 3'02           | 92             | 10             | 217            | 18             | 30             |
| -             | 3'02           | 73             | 35             | 211            | 16             | 10             | 3'02           | 4'5            | 79             | 35             | 213            | 9              | 2'72*          | 62*            | 28*            | 267*           | 8*             | 16*            | 4'57           | 84             | 34             | 218            | 19             | 18             |
| -             | 3'89           | 46             | 45             | 268            | 13             | 12             | 3'89           | 4'9            | 48             | 213            | 3              | 15             | 3'54           | 45             | 47             | 295            | —              | 6              | 4'85           | 38             | 61             | 217            | 26             | 13             |
| -             | 3'19           | 26             | 33             | 204            | 17             | 11             | 3'19           | 4'2            | 42             | 38             | 211            | 3              | 3'57           | 39             | 40             | 201            | —              | 1              | 5'42           | 27             | 51             | 213            | 26             | 14             |
| -             | 3'01           | 36             | 32             | 203            | 14             | 9              | 3'01           | 4'1            | 41             | 35             | 212            | 5              | 3'78           | 32             | 42             | 200            | —              | 2              | 4'70           | 34             | 49             | 211            | 20             | 11             |
| -             | 3'07           | 60             | 31             | 293            | 15             | 11             | 4'23           | 7'5            | 75             | 33             | 213            | 13             | 3'24           | 66             | 36             | 202            | 5              | 13             | 4'55           | 75             | 44             | 213            | 19             | 15             |
| September     | 2'63           | 79             | 18             | 294            | 14             | 15             | 3'71           | 1'00           | 23             | 215            | 13             | 28             | 2'64           | 78             | 22             | 205            | 9              | 20             | 3'71           | 99             | 22             | 215            | 16             | 21             |
| -             | 1'89           | 81             | 09             | 204            | 13             | 67             | 2'60           | 1'08           | 21             | 212            | 18             | 65             | 1'88           | 75             | 11             | 268            | 11             | 57             | 3'65           | 1'01           | 18             | 220            | 22             | 74             |
| -             | 1'24           | 69             | 19             | 293            | 16             | 67             | 1'76           | 86             | 26             | 220            | 19             | 72             | 1'28           | 64             | 21             | 269            | 13             | 66             | 1'53           | 73             | 23             | 220            | 23             | 76             |
| November      | 0'97           | 62             | 24             | 204            | 17             | 77             | 1'21           | 60             | 28             | 220            | 20             | 73             | 1'07           | 61             | 20             | 205            | 14             | 70             | 0'97           | 51             | 15             | 231            | 25             | 84             |
| December      | 2'28           | 61             | 23             | 295            | 15             | 37             | 3'24           | 74             | 29             | 215            | 13             | 42             | 2'35           | 60             | 26             | 206            | 7              | 37             | 3'23           | 67             | 30             | 218            | 21             | 43             |
| Mean 12 years | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |

| MONTHS.       | STONYHURST.    |                |                |                |                |                | ABERDEEN.      |                |                |                |                |                | KEW.           |                |                |                |                |                |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|               | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | μ <sub>1</sub> | μ <sub>2</sub> | μ <sub>3</sub> |
| January       | 1'31           | 1'72           | 1'23           | 0              | 22             | 0              | 1'05           | 1'60           | 1'23           | 0              | 21             | 0              | 1'74           | 1'84           | 1'28           | 0              | 25             | 0              |
| February      | 1'81           | 1'08           | 1'17           | 216            | 20             | 74             | 1'87           | 1'82           | 1'19           | 215            | 18             | 72             | 2'32           | 1'95           | 1'19           | 221            | 25             | 83             |
| March         | 3'34           | 1'00           | 1'13           | 216            | 18             | 37             | 2'31           | 1'82           | 1'12           | 211            | 15             | 39             | 4'53           | 1'32           | 1'14           | 223            | 24             | 23             |
| April         | 4'76           | 1'86           | 1'45           | 215            | 16             | 18             | 2'97           | 1'55           | 1'32           | 208            | 1              | 19             | 5'60           | 1'03           | 1'06           | 219            | 19             | 19             |
| May           | 5'60           | 1'43           | 1'61           | 211            | 3              | 16             | 3'71           | 1'43           | 1'38           | 206            | -35            | 0              | 6'55           | 1'33           | 1'68           | 220            | 8              | 17             |
| June          | 5'24           | 1'27           | 1'51           | 210            | -15            | 15             | 3'67           | 1'42           | 1'34           | 203            | -44            | 5              | 6'44           | 1'27           | 1'51           | 219            | 5              | 17             |
| July          | 4'74           | 1'32           | 1'45           | 210            | 3              | 14             | 3'73           | 1'37           | 1'35           | 205            | -36            | 9              | 6'52           | 1'19           | 1'60           | 220            | 1              | 17             |
| August        | 4'50           | 1'64           | 1'41           | 213            | 14             | 15             | 3'58           | 1'47           | 1'40           | 208            | -14            | 14             | 6'21           | 1'73           | 1'57           | 220            | 19             | 18             |
| September     | 4'00           | 1'08           | 1'32           | 213            | 15             | 20             | 3'55           | 1'83           | 1'32           | 211            | 10             | 23             | 5'51           | 1'29           | 1'39           | 219            | 22             | 21             |
| October       | 2'70           | 1'10           | 1'13           | 213            | 19             | 67             | 2'49           | 1'96           | 1'14           | 214            | 18             | 61             | 4'07           | 1'40           | 1'17           | 220            | 21             | 58             |
| November      | 1'63           | 1'86           | 1'26           | 216            | 20             | 72             | 1'38           | 1'69           | 1'21           | 216            | 21             | 76             | 2'40           | 1'04           | 1'33           | 221            | 23             | 75             |
| December      | 1'06           | 1'56           | 1'20           | 225            | 22             | 75             | 0'79           | 1'48           | 1'21           | 202            | 19             | 75             | 1'62           | 1'75           | 1'26           | 219            | 25             | 79             |
| Mean 12 years | 3'39           | 1'72           | 1'32           | 215            | 13             | 42             | 2'61           | 1'62           | 1'27           | 210            | 0              | 40             | 4'46           | 1'84           | 1'38           | 220            | 18             | 42             |



TABLE XIIc.

COMPARISON between the MEAN MONTHLY and YEARLY TEMPERATURES of the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE obtained by the HARMONIC ANALYSER and by CALCULATION from HOURLY MEASUREMENTS of the 12 YEARS RECORDS (1871 to 1882) yielded by the SELF-RECORDING THERMOGRAPHS.

| MONTHS.   | VALENCIA.                       |  | ARMAGH.                         |  | PALMOUTH.                       |  | GLASGOW.                        |  | STONYHURST.                     |  | ABERDEEN.                       |  | KEW.                            |  |
|-----------|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|
|           | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. |
| January   | 45.1                            | 45.1                                       | 39.6                            | 39.5                                       | 43.9                            | 43.8                                       | 37.9                            | 38.1                                       | 37.6                            | 37.7                                       | 37.6                            | 37.6                                       | 38.7                            | 38.7                                       |
| February  | 45.9                            | 45.8                                       | 41.4                            | 41.4                                       | 45.0                            | 45.0                                       | 39.3                            | 39.4                                       | 39.4                            | 39.4                                       | 38.8                            | 38.8                                       | 40.7                            | 40.7                                       |
| March     | 46.6                            | 46.5                                       | 42.4                            | 42.4                                       | 45.5*                           | 45.6*                                      | 40.5                            | 40.6                                       | 41.0                            | 41.1                                       | 39.9                            | 39.9                                       | 43.1                            | 43.1                                       |
| April     | 49.0                            | 49.0                                       | 45.9                            | 45.9                                       | 48.1*                           | 48.2*                                      | 44.4                            | 44.4                                       | 45.0                            | 45.0                                       | 42.6                            | 42.7                                       | 47.4                            | 47.4                                       |
| May       | 52.6                            | 52.7                                       | 50.2                            | 50.2                                       | 52.0                            | 52.1                                       | 49.2                            | 49.3                                       | 49.6                            | 49.6                                       | 47.1                            | 47.2                                       | 51.9                            | 51.9                                       |
| June      | 56.2                            | 56.2                                       | 55.4                            | 55.3                                       | 57.0                            | 57.1                                       | 54.8                            | 54.9                                       | 55.7                            | 55.7                                       | 52.7                            | 52.7                                       | 58.6                            | 58.6                                       |
| July      | 58.6                            | 58.6                                       | 57.9                            | 57.9                                       | 60.3                            | 60.3                                       | 57.4                            | 57.5                                       | 58.9                            | 58.8                                       | 56.6                            | 56.7                                       | 62.5                            | 62.5                                       |
| August    | 59.4                            | 59.4                                       | 57.8                            | 57.8                                       | 60.7                            | 60.7                                       | 56.8                            | 56.9                                       | 58.5                            | 58.4                                       | 55.9                            | 55.9                                       | 61.6                            | 61.6                                       |
| September | 56.3                            | 56.3                                       | 53.5                            | 53.3                                       | 57.3                            | 57.3                                       | 52.6                            | 52.7                                       | 54.0                            | 54.0                                       | 52.2                            | 52.2                                       | 56.5                            | 56.5                                       |
| October   | 51.7                            | 51.7                                       | 47.8                            | 47.8                                       | 54.1                            | 54.1                                       | 46.9                            | 47.0                                       | 47.7                            | 47.6                                       | 46.7                            | 46.7                                       | 49.2                            | 49.2                                       |
| November  | 47.8                            | 47.8                                       | 42.5                            | 42.6                                       | 47.7                            | 47.6                                       | 41.1                            | 41.2                                       | 41.7                            | 41.7                                       | 41.3                            | 41.3                                       | 43.1                            | 43.1                                       |
| December  | 45.2                            | 45.1                                       | 38.7                            | 38.7                                       | 44.7                            | 44.7                                       | 37.9                            | 38.0                                       | 37.9                            | 37.9                                       | 37.4                            | 37.4                                       | 39.3                            | 39.3                                       |
| Year      | 51.2                            | 51.2                                       | 47.8                            | 47.7                                       | 51.4                            | 51.4                                       | 46.6                            | 46.7                                       | 47.3                            | 47.2                                       | 45.7                            | 45.8                                       | 49.4                            | 49.4                                       |

\* Mean for 12 years.

NOTE.—There are no data for the preparation of Tables similar to Nos. VII, VIII, IX, X, and XI, of the Greenwich Series.

TABLE ID.—VALUES of the  $p$ ,  $q$  COEFFICIENTS for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for each YEAR, from 1871 to 1882; obtained by Means of the Harmonic Analyser.

| YEARS.        | VALENCIA. |        | ARMAGH. |        | PALMOUTH. |        | GLASGOW. |        | STONYHURST. |        | ABERDEEN. |        | KEW.   |        |
|---------------|-----------|--------|---------|--------|-----------|--------|----------|--------|-------------|--------|-----------|--------|--------|--------|
|               | 10° 18'   | 6° 39' | 6° 39'  | 5° 4'  | 5° 4'     | 4° 18' | 2° 28'   | 2° 28' | 2° 28'      | 2° 28' | 2° 28'    | 2° 28' | 0° 19' | 0° 19' |
| 1871          | 0.0016    | 0.0036 | 0.0021  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1872          | 0.0019    | 0.0031 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1873          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1874          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1875          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 5 years  | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1876          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1877          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1878          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1879          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1880          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 5 years  | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1881          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1882          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 12 years | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |

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| YEARS.        | VALENCIA. |        | ARMAGH. |        | PALMOUTH. |        | GLASGOW. |        | STONYHURST. |        | ABERDEEN. |        | KEW.   |        |
|---------------|-----------|--------|---------|--------|-----------|--------|----------|--------|-------------|--------|-----------|--------|--------|--------|
|               | 10° 18'   | 6° 39' | 6° 39'  | 5° 4'  | 5° 4'     | 4° 18' | 2° 28'   | 2° 28' | 2° 28'      | 2° 28' | 2° 28'    | 2° 28' | 0° 19' | 0° 19' |
| 1871          | 0.0016    | 0.0036 | 0.0021  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1872          | 0.0019    | 0.0031 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1873          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1874          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1875          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 5 years  | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1876          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1877          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1878          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1879          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1880          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 5 years  | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1881          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| 1882          | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |
| Mean 12 years | 0.0019    | 0.0030 | 0.0017  | 0.0017 | 0.0017    | 0.0017 | 0.0017   | 0.0017 | 0.0017      | 0.0017 | 0.0017    | 0.0017 | 0.0017 | 0.0017 |

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.







TABLE 1D.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—*continued*.

APRIL.

| Longitude cor-<br>rection L.M.<br>later than<br>G.M.* | $p_1$     |         |           |          |             |           |        |           |         |           | $p_2$    |             |           |        |           |         |           |          |             |           | $p_3$  |           |         |           |          |             |           |        |  |  |
|---|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|--|--|
|   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |  |  |
| 1870  | -.0018    | -.0011  | -.0102    | -.0000   | +.0031      | -.0000    | +.0043 | +.0038    | +.0038  | +.0075    | +.0083   | +.0071      | +.0066    | +.0047 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1871  | -.0044    | +.0008  | -.0047    | +.0033   | +.0039      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1872  | -.0000    | -.0003  | -.0032    | +.0008   | +.0059      | -.0003    | +.0039 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1873  | -.0006    | -.0001  | -.0087    | -.0004   | -.0054      | +.0038    | +.0031 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1874  | +.0008    | +.0005  | -.0008    | -.0026   | +.0018      | +.0013    | +.0000 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| Mean 5 years  | -.0028    | -.0020  | -.0071    | -.0010   | +.0020      | +.0002    | +.0031 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1875  | -.0031    | -.0020  | +.0003    | -.0023   | +.0039      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1876  | -.0008    | -.0038  | -.0016    | -.0038   | +.0010      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1877  | -.0017    | +.0017  | -.0023    | -.0020   | +.0048      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1878  | -.0031    | -.0020  | +.0003    | -.0023   | +.0039      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1879  | -.0080    | +.0030  | -.0000    | +.0020   | +.0077      | +.0038    | +.0031 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| Mean 5 years  | -.0044    | -.0002  | -.0015    | +.0014   | +.0047      | +.0014    | +.0010 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1880  | +.0008    | +.0013  | +.0016    | +.0023   | +.0038      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1881  | +.0042    | +.0005  | +.0030    | +.0054   | +.0013      | +.0003    | +.0039 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| Mean 12 years   | -.0033    | -.0012  | -.0030    | +.0008   | +.0031      | +.0007    | +.0039 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |

| Year          | $q_1$  |        |        |        |        |              |        |        |        |        | $q_2$  |              |        |        |               |        |        |        |        |        | $q_3$        |        |        |        |        |        |              |        |        |               |
|---------------|--------|--------|--------|--------|--------|--------------|--------|--------|--------|--------|--------|--------------|--------|--------|---------------|--------|--------|--------|--------|--------|--------------|--------|--------|--------|--------|--------|--------------|--------|--------|---------------|
|               | 1871   | 1872   | 1873   | 1874   | 1875   | Mean 5 years | 1876   | 1877   | 1878   | 1879   | 1880   | Mean 5 years | 1881   | 1882   | Mean 12 years | 1871   | 1872   | 1873   | 1874   | 1875   | Mean 5 years | 1876   | 1877   | 1878   | 1879   | 1880   | Mean 5 years | 1881   | 1882   | Mean 12 years |
| 1871          | +.0038 | +.0007 | +.0074 | +.0025 | +.0001 | +.0008       | +.0044 | +.0037 | +.0044 | +.0044 | +.0044 | +.0044       | +.0044 | +.0044 | +.0044        | +.0044 | +.0044 | +.0044 | +.0044 | +.0044 | +.0044       | +.0044 | +.0044 | +.0044 | +.0044 | +.0044 | +.0044       | +.0044 | +.0044 | +.0044        |
| 1872          | +.0008 | +.0008 | +.0005 | +.0028 | +.0038 | +.0031       | +.0008 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031        | +.0031 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031        |
| 1873          | +.0015 | +.0009 | +.0004 | +.0070 | +.0035 | +.0001       | +.0008 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031        | +.0031 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031 | +.0031 | +.0031 | +.0031       | +.0031 | +.0031 | +.0031        |
| 1874          | +.0019 | +.0072 | +.0009 | +.0012 | +.0023 | +.0005       | +.0008 | +.0016 | +.0058 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038        | +.0038 | +.0038 | +.0038 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038        |
| 1875          | +.0022 | +.0087 | +.0000 | +.0088 | +.0077 | +.0059       | +.0104 | +.0054 | +.0058 | +.0057 | +.0057 | +.0057       | +.0057 | +.0057 | +.0057        | +.0057 | +.0057 | +.0057 | +.0057 | +.0057 | +.0057       | +.0057 | +.0057 | +.0057 | +.0057 | +.0057 | +.0057       | +.0057 | +.0057 | +.0057        |
| Mean 5 years  | +.0022 | +.0061 | +.0015 | +.0029 | +.0020 | +.0038       | +.0061 | +.0043 | +.0061 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061        | +.0061 | +.0061 | +.0061 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061        |
| 1876          | +.0077 | +.0037 | +.0030 | +.0069 | +.0038 | +.0024       | +.0067 | +.0020 | +.0048 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038        | +.0038 | +.0038 | +.0038 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038 | +.0038 | +.0038 | +.0038       | +.0038 | +.0038 | +.0038        |
| 1877          | +.0034 | +.0029 | +.0001 | +.0050 | +.0100 | +.0077       | +.0093 | +.0013 | +.0032 | +.0035 | +.0035 | +.0035       | +.0035 | +.0035 | +.0035        | +.0035 | +.0035 | +.0035 | +.0035 | +.0035 | +.0035       | +.0035 | +.0035 | +.0035 | +.0035 | +.0035 | +.0035       | +.0035 | +.0035 | +.0035        |
| 1878          | +.0005 | +.0061 | +.0004 | +.0080 | +.0086 | +.0055       | +.0094 | +.0011 | +.0029 | +.0045 | +.0045 | +.0045       | +.0045 | +.0045 | +.0045        | +.0045 | +.0045 | +.0045 | +.0045 | +.0045 | +.0045       | +.0045 | +.0045 | +.0045 | +.0045 | +.0045 | +.0045       | +.0045 | +.0045 | +.0045        |
| 1879          | +.0039 | +.0033 | +.0009 | +.0067 | +.0053 | +.0033       | +.0068 | +.0008 | +.0062 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061        | +.0061 | +.0061 | +.0061 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061 | +.0061 | +.0061 | +.0061       | +.0061 | +.0061 | +.0061        |
| 1880          | +.0038 | +.0065 | +.0055 | +.0029 | +.0039 | +.0038       | +.0026 | +.0003 | +.0064 | +.0064 | +.0064 | +.0064       | +.0064 | +.0064 | +.0064        | +.0064 | +.0064 | +.0064 | +.0064 | +.0064 | +.0064       | +.0064 | +.0064 | +.0064 | +.0064 | +.0064 | +.0064       | +.0064 | +.0064 | +.0064        |
| Mean 5 years  | +.0035 | +.0023 | +.0053 | +.0059 | +.0061 | +.0021       | +.0053 | +.0043 | +.0047 | +.0051 | +.0051 | +.0051       | +.0051 | +.0051 | +.0051        | +.0051 | +.0051 | +.0051 | +.0051 | +.0051 | +.0051       | +.0051 | +.0051 | +.0051 | +.0051 | +.0051 | +.0051       | +.0051 | +.0051 | +.0051        |
| 1881          | +.0017 | +.0117 | +.0001 | +.0158 | +.0063 | +.0012       | +.0083 | +.0076 | +.0066 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069        | +.0069 | +.0069 | +.0069 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069        |
| 1882          | +.0074 | +.0058 | +.0103 | +.0041 | +.0008 | +.0037       | +.0110 | +.0011 | +.0069 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069        | +.0069 | +.0069 | +.0069 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069 | +.0069 | +.0069 | +.0069       | +.0069 | +.0069 | +.0069        |
| Mean 12 years | +.0028 | +.0049 | +.0037 | +.0053 | +.0045 | +.0027       | +.0093 | +.0006 | +.0056 | +.0056 | +.0056 | +.0056       | +.0056 | +.0056 | +.0056        | +.0056 | +.0056 | +.0056 | +.0056 | +.0056 | +.0056       | +.0056 | +.0056 | +.0056 | +.0056 | +.0056 | +.0056       | +.0056 | +.0056 | +.0056        |

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.

TABLE 1D.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—*continued*.

MAY.

| Longitude cor-<br>rection L.M.<br>later than<br>G.M.* | $p_1$     |         |           |          |             |           |        |           |         |           | $p_2$    |             |           |        |           |         |           |          |             |           | $p_3$  |           |         |           |          |             |           |        |  |  |
|---|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|--|--|
|   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |  |  |
| 1871  | -.0018    | -.0010  | -.0101    | -.0000   | +.0031      | -.0000    | +.0043 | +.0038    | +.0038  | +.0075    | +.0083   | +.0071      | +.0066    | +.0047 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1872  | -.0044    | +.0008  | -.0047    | +.0033   | +.0039      | +.0031    | +.0008 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1873  | -.0000    | -.0003  | -.0032    | +.0008   | +.0059      | -.0003    | +.0039 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1874  | -.0006    | -.0001  | -.0087    | -.0004   | -.0054      | +.0038    | +.0031 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| 1875  | +.0008    | +.0005  | -.0008    | -.0026   | +.0018      | +.0013    | +.0000 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    | +.0003   | +.0005      | +.0010    | +.0003 | +.0001    | +.0006  | +.0005    | +.0003   | +.0005      | +.0010    | +.0003 |  |  |
| Mean 5 years  | -.0028    | -.0020  | -.0071    | -.0010   | +.0020      | +.0002    | +.0031 | +.0031    | +.0031  | +.0070    | +.0075   | +.0066      | +.0066    | +.0043 | +.0006    | +.0005  | +.0009    |          |             |           |        |           |         |           |          |             |           |        |  |  |
| 1876  | +.0029    | -.0028  | -.0013    | +.0013   | +.0044      | -.0001    | +.0003 | +.0003    | +.0003  | +.0039    | +.0044   | +.0039      | +.0039    | +.0037 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |
| 1877  | -.0010    | +.0010  | -.0013    | +.0031   | +.0051      | +.0013    | +.0003 | +.0003    | +.0003  | +.0039    | +.0044   | +.0039      | +.0039    | +.0037 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |
| 1878  | +.0003    | +.0003  | -.0034    | +.0041   | +.0016      | +.0010    | +.0003 | +.0003    | +.0003  | +.0039    | +.0044   | +.0039      | +.0039    | +.0037 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |
| 1879  | -.0034    | -.0003  | +.0005    | +.0047   | +.0039      | +.0003    | +.0003 | +.0003    | +.0003  | +.0039    | +.0044   | +.0039      | +.0039    | +.0037 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |
| 1880  | -.0030    | -.0000  | -.0000    | +.0041   | +.0039      | +.0003    | +.0003 | +.0003    | +.0003  | +.0039    | +.0044   | +.0039      | +.0039    | +.0037 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |
| Mean 5 years  | -.0000    | -.0000  | -.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    |          |             |           |        |           |         |           |          |             |           |        |  |  |
| 1881  | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 |  |  |
| 1882  | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 | +.0000    | +.0000  | +.0000    | +.0000   | +.0000      | +.0000    | +.0000 |  |  |
| Mean 12 years   | -.0002    | +.0019  | -.0041    | +.0039   | +.0044      | +.0014    | +.0043 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 | +.0002    | +.0002  | +.0002    | +.0002   | +.0002      | +.0002    | +.0002 |  |  |



|               | $q_1$  | $q_2$  | $q_3$  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1871          | -.0039 | +.0004 | +.0010 | +.0089 | +.0033 | -.0043 | +.0005 | -.0014 | -.0040 | -.0036 | -.0054 | -.0039 | -.0068 | -.0011 | -.0016 | -.0015 | -.0010 | -.0018 | -.0015 | -.0038 |
| 1872          | -.0090 | +.0081 | -.0091 | +.0048 | +.0034 | +.0004 | +.0105 | -.0036 | -.0038 | -.0030 | -.0049 | -.0055 | -.0076 | -.0005 | -.0012 | -.0030 | -.0015 | -.0003 | -.0015 | -.0022 |
| 1873          | -.0057 | -.0032 | -.0041 | +.0022 | +.0018 | +.0041 | +.0076 | -.0042 | -.0054 | -.0060 | -.0016 | -.0051 | -.0053 | -.0005 | -.0005 | -.0027 | -.0002 | -.0021 | -.0010 | -.0033 |
| 1874          | -.0015 | +.0028 | -.0004 | +.0013 | -.0005 | -.0048 | +.0104 | -.0030 | -.0049 | -.0043 | -.0031 | -.0059 | -.0085 | -.0019 | -.0033 | -.0020 | -.0022 | -.0031 | -.0019 | -.0025 |
| 1875          | -.0186 | +.0034 | -.0051 | +.0003 | +.0073 | +.0100 | +.0130 | -.0042 | -.0005 | -.0043 | -.0050 | -.0078 | -.0090 | -.0003 | -.0022 | -.0030 | -.0010 | -.0027 | -.0017 | -.0018 |
| Mean 5 years  | -.0077 | +.0019 | -.0034 | +.0070 | +.0055 | +.0005 | +.0084 | -.0033 | -.0041 | -.0046 | -.0040 | -.0065 | -.0051 | -.0009 | -.0018 | -.0022 | -.0012 | -.0026 | -.0017 | -.0023 |
| 1876          | -.0076 | +.0041 | -.0072 | +.0037 | +.0026 | -.0002 | +.0081 | -.0020 | -.0012 | -.0047 | -.0078 | -.0055 | -.0039 | -.0013 | -.0009 | -.0017 | -.0023 | -.0022 | -.0011 | -.0024 |
| 1877          | -.0038 | -.0026 | -.0067 | +.0060 | +.0061 | +.0006 | +.0139 | -.0038 | -.0037 | -.0001 | -.0021 | -.0048 | -.0038 | -.0021 | +.0016 | -.0017 | -.0027 | -.0018 | -.0012 | -.0023 |
| 1878          | -.0112 | +.0045 | -.0103 | +.0070 | +.0105 | -.0038 | +.0111 | -.0034 | -.0041 | -.0059 | -.0057 | -.0048 | -.0080 | -.0008 | -.0006 | -.0035 | -.0025 | -.0028 | -.0009 | -.0022 |
| 1879          | -.0231 | +.0019 | -.0168 | +.0031 | +.0022 | +.0004 | +.0034 | -.0036 | -.0044 | -.0060 | -.0035 | -.0054 | -.0048 | -.0015 | -.0010 | -.0016 | -.0020 | -.0021 | -.0020 | -.0021 |
| 1880          | -.0082 | -.0020 | -.0061 | +.0112 | +.0033 | +.0011 | +.0059 | -.0053 | -.0047 | -.0045 | -.0075 | -.0053 | -.0050 | -.0018 | -.0013 | -.0034 | -.0012 | -.0023 | -.0026 | -.0027 |
| Mean 5 years  | -.0108 | +.0012 | -.0094 | +.0062 | +.0048 | -.0004 | +.0085 | -.0036 | -.0042 | -.0054 | -.0053 | -.0056 | -.0045 | -.0015 | -.0004 | -.0022 | -.0019 | -.0022 | -.0016 | -.0023 |
| 1881          | -.0096 | +.0024 | -.0038 | +.0080 | +.0037 | +.0057 | +.0073 | -.0030 | -.0047 | -.0040 | -.0033 | -.0053 | -.0043 | -.0007 | -.0006 | -.0015 | -.0006 | -.0016 | -.0017 | -.0022 |
| 1883          | -.0046 | +.0068 | -.0054 | +.0045 | +.0037 | -.0031 | +.0022 | -.0031 | -.0067 | -.0053 | -.0026 | -.0052 | -.0055 | -.0009 | -.0013 | -.0023 | -.0012 | -.0017 | -.0014 | -.0018 |
| Mean 12 years | -.0089 | +.0021 | -.0061 | +.0066 | +.0049 | +.0003 | +.0078 | -.0034 | -.0044 | -.0050 | -.0044 | -.0059 | -.0046 | -.0011 | -.0011 | -.0022 | -.0015 | -.0023 | -.0016 | -.0023 |

JULY.

|               | $q_1$          | $q_2$                  | $q_3$          |
|---------------|----------------|------------------------|----------------|
| 1871          | -.0150 + .0026 | -.0053 + .0031         | -.0001 + .0004 |
| 1872          | -.0044 + .0048 | -.0054 + .0070 + .0014 | -.0006 + .0037 |
| 1873          | -.0109 -.0058  | -.0003 + .0003         | -.0055 + .0134 |
| 1874          | -.0039 + .0008 | -.0025 + .0022         | -.0043 + .0144 |
| 1875          | -.0014 -.0013  | -.0007 + .0073         | -.0009 + .0048 |
| Mean 5 years  | -.0071 + .0002 | -.0035 + .0033 + .0014 | -.0010 + .0073 |
| 1876          | -.0059 -.0074  | -.0040 -.0003          | +.0031 + .0127 |
| 1877          | -.0076 -.0040  | -.0043 -.0035          | -.0012 + .0103 |
| 1878          | +.0025 + .0037 | -.0022 + .0082         | -.0035 + .0107 |
| 1879          | -.0074 -.0018  | -.0137 -.0034          | -.0008 + .0019 |
| 1880          | -.0071 + .0014 | +.0007 -.0005          | -.0017 + .0067 |
| Mean 5 years  | -.0081 -.0016  | +.0008 -.0011          | -.0006 + .0067 |
| 1881          | -.0116 + .0027 | -.0032 + .0021 + .0024 | -.0023 + .0085 |
| 1882          | -.0068 + .0005 | -.0044 + .0037         | -.0010 + .0077 |
| Mean 12 years | -.0066 -.0003  | +.0022 + .0006         | -.0000 + .0072 |
| 1871          | -.0036         | -.0022                 | -.0016         |
| 1872          | -.0014         | -.0013                 | -.0014         |
| 1873          | -.0022         | -.0022                 | -.0022         |
| 1874          | -.0023         | -.0030                 | -.0011         |
| 1875          | -.0027         | -.0012                 | -.0001         |
| Mean 5 years  | -.0022         | -.0019                 | -.0011         |
| 1876          | -.0039         | -.0016                 | -.0009         |
| 1877          | -.0030         | -.0011                 | -.0014         |
| 1878          | -.0033         | -.0018                 | -.0011         |
| 1879          | -.0024         | -.0007                 | -.0004         |
| 1880          | -.0018         | -.0015                 | -.0008         |
| Mean 5 years  | -.0020         | -.0012                 | -.0006         |
| 1881          | -.0020         | -.0012                 | -.0013         |
| 1882          | -.0025         | -.0010                 | -.0009         |
| Mean 12 years | -.0022         | -.0015                 | -.0013         |

L.M. = Local Midnight, G.M. = Greenwich Midnight. The difference is expressed in Arc,



TABLE 1d.—MONTHLY VALUES OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—*continued*.

AUGUST.

[illegible]

|               | $q_1$  | $q_2$  | $q_3$  |        |
|---------------|--------|--------|--------|--------|
| 1871          | —'0115 | —'0318 | —'0037 | —'0017 |
| 1872          | —'0115 | —'0004 | —'0038 | —'0018 |
| 1873          | —'0141 | —'0067 | —'0081 | —'0020 |
| 1874          | —'0127 | —'0130 | —'0036 | —'0012 |
| 1875          | —'0054 | —'0005 | —'0036 | —'0018 |
| Mean 5 years  | —'0116 | —'0097 | —'0039 | —'0010 |
| 1876          | —'0030 | —'0039 | —'0035 | —'0018 |
| 1877          | —'0084 | —'0062 | —'0060 | —'0010 |
| 1878          | —'0000 | —'0016 | —'0039 | —'0009 |
| 1879          | —'0138 | —'0017 | —'0076 | —'0017 |
| 1880          | —'0039 | —'0066 | —'0008 | —'0009 |
| Mean 5 years  | —'0056 | —'0002 | —'0058 | —'0013 |
| 1881          | —'0064 | —'0000 | —'0014 | —'0018 |
| 1882          | —'0079 | —'0050 | —'0010 | —'0019 |
| Mean 12 years | —'0084 | —'0016 | —'0044 | —'0010 |

\* L.M.=Local Midnight. G.M.=Greenwich Midnight. The difference is expressed in Arc.

TABLE Id.—MONTHLY VALUES OF THE  $p$ ,  $q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—*continued*.

SEPTEMBER.

[illegible]

| $q_1$         |   |         |         |         |         |         |         |         |         |         |         | $q_2$   |         |         |         |         |         |         |         |         |         |         |         | $q_3$   |         |  |  |  |  |  |  |  |  |  |  |
|---------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|--|--|--|--|--|--|--|--|
| 1871          | - | + '0007 | + '0040 | - '0100 | + '0049 | + '0010 | - '0030 | - '0039 | - '0055 | - '0040 | - '0004 | - '0082 | - '0088 | - '0021 | - '0090 | - '0007 | + '0035 | + '0002 | + '0004 | + '0008 | + '0004 | + '0005 | - '0001 | + '0000 |         |  |  |  |  |  |  |  |  |  |  |
| 1872          | - | - '0082 | - '0008 | - '0035 | + '0024 | + '0013 | + '0041 | + '0039 | - '0024 | - '0051 | - '0059 | - '0050 | - '0052 | - '0072 | - '0076 | - '0083 | - '0001 | - '0005 | + '0010 | + '0003 | + '0006 | + '0004 | - '0001 | + '0004 | + '0009 |  |  |  |  |  |  |  |  |  |  |
| 1873          | - | - '0074 | + '0014 | - '0108 | + '0031 | - '0002 | - '0037 | + '0052 | - '0069 | - '0059 | - '0054 | - '0059 | - '0074 | - '0072 | - '0108 | - '0004 | - '0004 | + '0007 | + '0003 | + '0006 | + '0006 | + '0004 | - '0001 | + '0004 | + '0009 |  |  |  |  |  |  |  |  |  |  |
| 1874          | - | - '0114 | + '0015 | - '0091 | - '0012 | - '0010 | - '0017 | + '0006 | - '0051 | - '0044 | - '0064 | - '0055 | - '0087 | - '0050 | - '0085 | - '0001 | - '0001 | + '0007 | + '0003 | + '0001 | - '0003 | + '0001 | + '0016 | + '0010 |         |  |  |  |  |  |  |  |  |  |  |
| 1875          | - | + '0031 | - '0037 | - '0058 | - '0032 | - '0009 | - '0000 | + '0002 | - '0035 | - '0044 | - '0059 | - '0076 | - '0087 | - '0056 | - '0112 | - '0013 | - '0008 | + '0002 | + '0010 | + '0003 | + '0003 | - '0001 | + '0001 | + '0017 |         |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years  | - | - '0046 | + '0005 | - '0078 | + '0012 | - '0000 | - '0002 | + '0035 | - '0060 | - '0053 | - '0066 | - '0066 | - '0078 | - '0056 | - '0096 | - '0000 | + '0006 | + '0006 | + '0006 | + '0003 | + '0003 | + '0001 | + '0002 | + '0006 |         |  |  |  |  |  |  |  |  |  |  |
| 1876          | - | - '0088 | - '0036 | - '0135 | - '0053 | - '0064 | - '0065 | - '0015 | - '0020 | - '0053 | - '0100 | - '0053 | - '0069 | - '0040 | - '0069 | - '0009 | + '0001 | + '0003 | + '0007 | + '0017 | + '0014 | + '0001 | + '0004 | + '0008 |         |  |  |  |  |  |  |  |  |  |  |
| 1877          | - | + '0067 | + '0058 | + '0031 | + '0078 | + '0011 | - '0022 | + '0038 | - '0036 | - '0049 | - '0071 | - '0075 | - '0069 | - '0059 | - '0084 | - '0011 | + '0003 | + '0003 | + '0001 | + '0002 | + '0002 | + '0007 | + '0004 | + '0007 |         |  |  |  |  |  |  |  |  |  |  |
| 1878          | - | - '0040 | - '0091 | - '0036 | - '0104 | - '0072 | - '0104 | - '0039 | - '0040 | - '0001 | - '0078 | - '0069 | - '0084 | - '0077 | - '0085 | - '0011 | + '0003 | + '0003 | + '0002 | + '0002 | + '0003 | + '0007 | + '0004 | + '0008 |         |  |  |  |  |  |  |  |  |  |  |
| 1879          | - | + '0116 | + '0031 | - '0050 | - '0061 | + '0007 | - '0077 | + '0015 | + '0019 | - '0083 | - '0082 | - '0080 | - '0107 | - '0081 | - '0105 | - '0048 | + '0014 | + '0003 | + '0005 | - '0002 | - '0002 | + '0010 | + '0003 | + '0009 |         |  |  |  |  |  |  |  |  |  |  |
| 1880          | - | - '0130 | - '0022 | - '0027 | - '0000 | - '0045 | - '0036 | + '0011 | - '0059 | - '0077 | - '0060 | - '0062 | - '0088 | - '0080 | - '0090 | - '0002 | + '0006 | + '0003 | + '0017 | + '0009 | - '0001 | + '0004 | + '0009 | + '0009 |         |  |  |  |  |  |  |  |  |  |  |
| Mean 5 years  | - | - '0015 | - '0012 | - '0041 | - '0028 | - '0033 | - '0067 | + '0016 | - '0020 | - '0064 | - '0078 | - '0070 | - '0091 | - '0067 | - '0086 | - '0016 | + '0004 | + '0004 | + '0004 | + '0010 | + '0010 | + '0001 | + '0005 | + '0005 |         |  |  |  |  |  |  |  |  |  |  |
| 1881          | - | + '0008 | + '0045 | - '0040 | + '0032 | - '0009 | - '0059 | - '0000 | - '0001 | - '0069 | - '0086 | - '0085 | - '0088 | - '0075 | - '0103 | - '0000 | - '0007 | + '0003 | + '0003 | + '0006 | + '0006 | - '0001 | + '0009 | + '0012 |         |  |  |  |  |  |  |  |  |  |  |
| 1882          | - | - '0074 | - '0031 | - '0053 | - '0037 | + '0021 | - '0035 | - '0001 | - '0043 | - '0092 | - '0071 | - '0064 | - '0091 | - '0073 | - '0086 | + '0014 | + '0010 | + '0009 | + '0009 | + '0009 | + '0002 | + '0010 | + '0004 | + '0007 |         |  |  |  |  |  |  |  |  |  |  |
| Mean 12 years | - | - '0031 | - '0001 | - '0058 | - '0007 | - '0012 | - '0036 | + '0021 | - '0048 | - '0063 | - '0073 | - '0069 | - '0083 | - '0064 | - '0091 | - '0008 | + '0005 | + '0005 | + '0005 | + '0006 | + '0000 | + '0005 | + '0007 | + '0007 |         |  |  |  |  |  |  |  |  |  |  |

\* L.M. = Local Midnight, G.M. = Greenwich Midnight. The difference is expressed in Arc.



TABLE ID.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST THREE ORDERS of HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—continued.

OCTOBER.

| Longitude cor-<br>rection L.M.<br>later than<br>G.M.* | $p_1$   |        |       |        |        |        |        |        |        |        | $p_2$   |        |        |        |        |        |        |        |        |        | $p_3$   |        |        |        |        |        |        |        |        |        | Kew.   | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh. | Valencia. |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |       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|   | 10° 18' |        |       |        |        |        |        |        |        |        | 10° 18' |        |        |        |        |        |        |        |        |        | 10° 18' |        |        |        |        |        |        |        |        |        |        |           |             |          |           |         |           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |     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 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|   | 0° 10'  | 0° 30' | 5° 4' | 4° 18' | 2° 28' | 0° 26' | 0° 16' | 0° 10' | 0° 18' | 0° 18' | 0° 10'  | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18'  | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10'    | 0° 18'      | 0° 18'   | 0° 10'    | 0° 18'  | 0° 18'    | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' | 0° 18' | 0° 10' | 0° 18' |

\* L.M.=Local Midnight. G.M.=Greenwich Midnight. The difference is expressed in Arc.

TABLE ID.—MONTHLY VALUES of the  $p, q$  COEFFICIENTS for the FIRST THREE ORDERS of HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—continued.

NOVEMBER.

| Longitude cor-<br>rection L.M.<br>later than<br>G.M.* | $p_1$  |        |        |        |        |              |        |        |         |         | $p_2$  |              |        |        |               |        |        |        |         |        | $p_3$        |        |        |        |        |        |              |         |        |               | Kew.   | Aberdeen. | Stonyhurst. | Glasgow. | Palmouth. | Armagh.      | Valencia. | 10° 18' |        |        |        |              |        |        |               |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  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|   | $p_1$  |        |        |        |        |              |        |        |         |         | $p_2$  |              |        |        |               |        |        |        |         |        | $p_3$        |        |        |        |        |        |              |         |        |               |        |           |             |          |           |              |           |         |        |        |        |              |        |        |               |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        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|   | 0° 18' | 0° 30' | 4° 18' | 5° 25' | 6° 28' | 7° 28'       | 8° 30' | 9° 30' | 10° 18' | 11° 18' | 0° 18' | 0° 30'       | 4° 18' | 5° 25' | 6° 28'        | 7° 28' | 8° 30' | 9° 30' | 10° 18' | 0° 18' | 0° 30'       | 4° 18' | 5° 25' | 6° 28' | 7° 28' | 8° 30' | 9° 30'       | 10° 18' | 0° 18' | 0° 30'        |        |           |             |          |           |              |           |         | 4° 18' | 5° 25' | 6° 28' | 7° 28'       | 8° 30' | 9° 30' | 10° 18'       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        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| Years.  | 1871   | 1872   | 1873   | 1874   | 1875   | Mean 5 years | 1876   | 1877   | 1878    | 1879    | 1880   | Mean 5 years | 1881   | 1882   | Mean 12 years | 1871   | 1872   | 1873   | 1874    | 1875   | Mean 5 years | 1876   | 1877   | 1878   | 1879   | 1880   | Mean 5 years | 1881    | 1882   | Mean 12 years | 1871   | 1872      | 1873        | 1874     | 1875      | Mean 5 years | 1876      | 1877    | 1878   | 1879   | 1880   | Mean 5 years | 1881   | 1882   | Mean 12 years |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   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       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   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|   | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000       | 0.0000 | 0.0000 | 0.0000  | 0.0000  | 0.0000 | 0.0000       | 0.0000 | 0.0000 | 0.0000        | 0.0000 | 0.0000 | 0.0000 | 0.0000  | 0.0000 | 0.0000       | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000       | 0.0000  | 0.0000 | 0.0000        | 0.0000 | 0.0000    | 0.0000      | 0.0000   | 0.0000    | 0.0000       | 0.0000    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000       | 0.0000 | 0.0000 | 0.0000        | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000</ |

\* L.M.=Local Midnight. G.M.=Greenwich Midnight. The difference is expressed in Arc.



TABLE ID.—MONTHLY VALUES OF THE  $p$ ,  $q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS, PRESSURE, reckoned from GREENWICH MEAN MIDNIGHT, &c.—*continued*.

DECEMBER.

| Years.        | $p_1$     |         |           |          |             | $p_2$     |       |           |         |           | $p_3$    |             |           |       |                |
|---------------|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|----------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberteen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberteen. | Kew.  | 10° 18' 0" 19' |
| 1871          | +0042     | +0041   | +0039     | +0039    | +0039       | +0039     | +0039 | +0039     | +0039   | +0039     | +0039    | +0039       | +0039     | +0039 | +0039          |
| 1872          | +0043     | +0042   | +0040     | +0040    | +0040       | +0040     | +0040 | +0040     | +0040   | +0040     | +0040    | +0040       | +0040     | +0040 | +0040          |
| 1873          | +0044     | +0043   | +0041     | +0041    | +0041       | +0041     | +0041 | +0041     | +0041   | +0041     | +0041    | +0041       | +0041     | +0041 | +0041          |
| 1874          | +0045     | +0044   | +0042     | +0042    | +0042       | +0042     | +0042 | +0042     | +0042   | +0042     | +0042    | +0042       | +0042     | +0042 | +0042          |
| 1875          | +0046     | +0045   | +0043     | +0043    | +0043       | +0043     | +0043 | +0043     | +0043   | +0043     | +0043    | +0043       | +0043     | +0043 | +0043          |
| Mean 5 years  | +0047     | +0046   | +0044     | +0044    | +0044       | +0044     | +0044 | +0044     | +0044   | +0044     | +0044    | +0044       | +0044     | +0044 | +0044          |
| 1876          | +0048     | +0047   | +0045     | +0045    | +0045       | +0045     | +0045 | +0045     | +0045   | +0045     | +0045    | +0045       | +0045     | +0045 | +0045          |
| 1877          | +0049     | +0048   | +0046     | +0046    | +0046       | +0046     | +0046 | +0046     | +0046   | +0046     | +0046    | +0046       | +0046     | +0046 | +0046          |
| 1878          | +0050     | +0049   | +0047     | +0047    | +0047       | +0047     | +0047 | +0047     | +0047   | +0047     | +0047    | +0047       | +0047     | +0047 | +0047          |
| 1879          | +0051     | +0050   | +0048     | +0048    | +0048       | +0048     | +0048 | +0048     | +0048   | +0048     | +0048    | +0048       | +0048     | +0048 | +0048          |
| 1880          | +0052     | +0051   | +0049     | +0049    | +0049       | +0049     | +0049 | +0049     | +0049   | +0049     | +0049    | +0049       | +0049     | +0049 | +0049          |
| Mean 5 years  | +0053     | +0052   | +0050     | +0050    | +0050       | +0050     | +0050 | +0050     | +0050   | +0050     | +0050    | +0050       | +0050     | +0050 | +0050          |
| 1881          | +0054     | +0053   | +0051     | +0051    | +0051       | +0051     | +0051 | +0051     | +0051   | +0051     | +0051    | +0051       | +0051     | +0051 | +0051          |
| 1882          | +0055     | +0054   | +0052     | +0052    | +0052       | +0052     | +0052 | +0052     | +0052   | +0052     | +0052    | +0052       | +0052     | +0052 | +0052          |
| Mean 12 years | +0056     | +0055   | +0053     | +0053    | +0053       | +0053     | +0053 | +0053     | +0053   | +0053     | +0053    | +0053       | +0053     | +0053 | +0053          |

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.

TABLE ID.—MEAN VALUES OF THE AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, for the FIRST THREE ORDERS OF HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES OF the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for each YEAR, from 1871 to 1882; obtained by means of the Harmonic Analyser.

JANUARY.

| Years.        | $P_1$     |         |           |          |             | $P_2$     |      |           |         |           | $P_3$    |             |           |      |                |
|---------------|-----------|---------|-----------|----------|-------------|-----------|------|-----------|---------|-----------|----------|-------------|-----------|------|----------------|
|               | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberteen. | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberteen. | Kew. | 10° 18' 0" 19' |
| 1871          | 1001      | 1010    | 1019      | 1028     | 1037        | 1046      | 1055 | 1064      | 1073    | 1082      | 1091     | 1100        | 1109      | 1118 | 1127           |
| 1872          | 1002      | 1011    | 1020      | 1029     | 1038        | 1047      | 1056 | 1065      | 1074    | 1083      | 1092     | 1101        | 1110      | 1119 | 1128           |
| 1873          | 1003      | 1012    | 1021      | 1030     | 1039        | 1048      | 1057 | 1066      | 1075    | 1084      | 1093     | 1102        | 1111      | 1120 | 1129           |
| 1874          | 1004      | 1013    | 1022      | 1031     | 1040        | 1049      | 1058 | 1067      | 1076    | 1085      | 1094     | 1103        | 1112      | 1121 | 1130           |
| 1875          | 1005      | 1014    | 1023      | 1032     | 1041        | 1050      | 1059 | 1068      | 1077    | 1086      | 1095     | 1104        | 1113      | 1122 | 1131           |
| Mean 5 years  | 1006      | 1015    | 1024      | 1033     | 1042        | 1051      | 1060 | 1069      | 1078    | 1087      | 1096     | 1105        | 1114      | 1123 | 1132           |
| 1876          | 1007      | 1016    | 1025      | 1034     | 1043        | 1052      | 1061 | 1070      | 1079    | 1088      | 1097     | 1106        | 1115      | 1124 | 1133           |
| 1877          | 1008      | 1017    | 1026      | 1035     | 1044        | 1053      | 1062 | 1071      | 1080    | 1089      | 1098     | 1107        | 1116      | 1125 | 1134           |
| 1878          | 1009      | 1018    | 1027      | 1036     | 1045        | 1054      | 1063 | 1072      | 1081    | 1090      | 1099     | 1108        | 1117      | 1126 | 1135           |
| 1879          | 1010      | 1019    | 1028      | 1037     | 1046        | 1055      | 1064 | 1073      | 1082    | 1091      | 1100     | 1109        | 1118      | 1127 | 1136           |
| 1880          | 1011      | 1020    | 1029      | 1038     | 1047        | 1056      | 1065 | 1074      | 1083    | 1092      | 1101     | 1110        | 1119      | 1128 | 1137           |
| Mean 5 years  | 1012      | 1021    | 1030      | 1039     | 1048        | 1057      | 1066 | 1075      | 1084    | 1093      | 1102     | 1111        | 1120      | 1129 | 1138           |
| 1881          | 1013      | 1022    | 1031      | 1040     | 1049        | 1058      | 1067 | 1076      | 1085    | 1094      | 1103     | 1112        | 1121      | 1130 | 1139           |
| 1882          | 1014      | 1023    | 1032      | 1041     | 1050        | 1059      | 1068 | 1077      | 1086    | 1095      | 1104     | 1113        | 1122      | 1131 | 1140           |
| Mean 12 years | 1015      | 1024    | 1033      | 1042     | 1051        | 1060      | 1069 | 1078      | 1087    | 1096      | 1105     | 1114        | 1123      | 1132 | 1141           |

NOTE.—When the values of  $\mu$  have the negative sign prefixed, it implies that the time of maximum phase is regarded as occurring before midnight. When  $\mu_1$  exceeds 300°,  $\mu_2$  exceeds 180°, or  $\mu_3$  exceeds 120°, it implies that the time of maximum phase is regarded as having been thrown forward beyond the normal position of the first oscillation of the component.



TABLE IIb.—MONTHLY MEANS OF the AMPLITUDE  $P_1$  and of the FIRST MAXIMUM  $\mu_1$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—*continued*.

FEBRUARY.

| YEARS.        | P <sub>1</sub> |         |           |          |             |           | P <sub>2</sub> |           |         |           |          |             | P <sub>3</sub> |       |           |         |           |          | Kew.  |             |
|---------------|----------------|---------|-----------|----------|-------------|-----------|----------------|-----------|---------|-----------|----------|-------------|----------------|-------|-----------|---------|-----------|----------|-------|-------------|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.           | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. |       | Stonyhurst. |
| 1871          | *0001          | *0053   | *0066     | *0070    | *0050       | *0077     | *0001          | *0104     | *0080   | *0106     | *0072    | *0001       | *0089          | *0071 | *0089     | *0037   | *0037     | *0032    | *0036 | *0027       |
| 1872          | *0100          | *0008   | *0016     | *0004    | *0007       | *0148     | *0004          | *0080     | *0001   | *0112     | *0078    | *0108       | *0002          | *0086 | *0008     | *0008   | *0016     | *0032    | *0036 | *0027       |
| 1873          | *0143          | *0038   | *0016     | *0006    | *0015       | *0034     | *0009          | *0112     | *0100   | *0087     | *0063    | *0103       | *0009          | *0107 | *0035     | *0036   | *0046     | *0035    | *0049 | *0034       |
| 1874          | *0103          | *0088   | *0005     | *0006    | *0011       | *0009     | *0046          | *0106     | *0082   | *0115     | *0063    | *0103       | *0074          | *0107 | *0022     | *0022   | *0032     | *0027    | *0037 | *0031       |
| 1875          | *0060          | *0018   | *0012     | *0030    | *0017       | *0027     | *0019          | *0089     | *0003   | *0001     | *0001    | *0089       | *0071          | *0089 | *0028     | *0028   | *0030     | *0029    | *0031 | *0029       |
| Mean 5 years  | *0091          | *0053   | *0066     | *0070    | *0050       | *0077     | *0001          | *0104     | *0080   | *0106     | *0072    | *0001       | *0089          | *0071 | *0089     | *0037   | *0037     | *0032    | *0036 | *0027       |
| 1876          | *0120          | *0005   | *0041     | *0009    | *0000       | *0008     | *0008          | *0071     | *0076   | *0111     | *0101    | *0063       | *0075          | *0001 | *0011     | *0026   | *0028     | *0024    | *0036 | *0032       |
| 1877          | *0060          | *0012   | *0070     | *0011    | *0072       | *0007     | *0007          | *0056     | *0101   | *0089     | *0072    | *0103       | *0056          | *0079 | *0018     | *0026   | *0033     | *0022    | *0037 | *0037       |
| 1878          | *0132          | *0114   | *0022     | *0103    | *0009       | *0144     | *0005          | *0098     | *0076   | *0100     | *0078    | *0117       | *0092          | *0118 | *0026     | *0031   | *0052     | *0034    | *0037 | *0033       |
| 1879          | *0087          | *0057   | *0027     | *0100    | *0136       | *0038     | *0041          | *0130     | *0093   | *0079     | *0072    | *0090       | *0078          | *0100 | *0032     | *0029   | *0038     | *0019    | *0032 | *0032       |
| 1880          | *0107          | *0266   | *0065     | *0035    | *0110       | *0243     | *0055          | *0119     | *0092   | *0085     | *0066    | *0072       | *0078          | *0112 | *0027     | *0022   | *0035     | *0019    | *0038 | *0032       |
| Mean 5 years  | *0101          | *0109   | *0045     | *0108    | *0005       | *0115     | *0053          | *0095     | *0088   | *0093     | *0078    | *0089       | *0076          | *0095 | *0027     | *0027   | *0037     | *0028    | *0033 | *0037       |
| 1881          | *0030          | *0008   | *0092     | *0053    | *0003       | *0008     | *0006          | *0079     | *0056   | *0108     | *0081    | *0117       | *0077          | *0109 | *0043     | *0028   | *0043     | *0037    | *0037 | *0037       |
| 1882          | *0017          | *0118   | *0022     | *0131    | *0060       | *0206     | *0035          | *0127     | *0113   | *0142     | *0086    | *0084       | *0063          | *0108 | *0033     | *0029   | *0030     | *0034    | *0019 | *0045       |
| Mean 12 years | *0084          | *0084   | *0053     | *0089    | *0070       | *0100     | *0049          | *0100     | *0087   | *0104     | *0076    | *0092       | *0073          | *0095 | *0029     | *0029   | *0035     | *0029    | *0033 | *0035       |

## HARMONIC ANALYSIS OF HOURLY OBSERVATIONS

| —             | $\mu_1$              |                      |                      |                      |                      | $\mu_2$              |                      |                      |                      |                      | $\mu_3$              |                      |                      |                      |                      |                      |                      |                      |                      |                      |    |
|---------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----|
|               | $\overset{\circ}{0}$ | $\overset{\circ}{1}$ | $\overset{\circ}{2}$ | $\overset{\circ}{3}$ | $\overset{\circ}{4}$ | $\overset{\circ}{5}$ | $\overset{\circ}{6}$ | $\overset{\circ}{7}$ | $\overset{\circ}{8}$ | $\overset{\circ}{9}$ | $\overset{\circ}{0}$ | $\overset{\circ}{1}$ | $\overset{\circ}{2}$ | $\overset{\circ}{3}$ | $\overset{\circ}{4}$ | $\overset{\circ}{5}$ | $\overset{\circ}{6}$ | $\overset{\circ}{7}$ | $\overset{\circ}{8}$ | $\overset{\circ}{9}$ |    |
| 1871          | -                    | 305                  | 177                  | 186                  | 235                  | 283                  | 229                  | 306                  | 147                  | 163                  | 157                  | 157                  | 154                  | 173                  | 154                  | 154                  | 30                   | 35                   | 31                   | 27                   | 6  |
| 1872          | -                    | 216                  | 268                  | 184                  | 284                  | 252                  | 289                  | 207                  | 157                  | 159                  | 159                  | 158                  | 153                  | 160                  | 150                  | 150                  | 30                   | 35                   | 32                   | 34                   | 3  |
| 1873          | -                    | 151                  | 258                  | 224                  | 215                  | 390                  | 465                  | 344                  | 151                  | 151                  | 155                  | 144                  | 152                  | 154                  | 147                  | 147                  | 37                   | 37                   | 33                   | 33                   | 3  |
| 1874          | -                    | 210                  | 280                  | 252                  | 351                  | 276                  | 423                  | 283                  | 154                  | 156                  | 149                  | 157                  | 146                  | 155                  | 153                  | 153                  | 41                   | 37                   | 31                   | 36                   | 28 |
| 1875          | -                    | 336                  | 366                  | 230                  | 307                  | 448                  | 302                  | 144                  | 142                  | 149                  | 154                  | 152                  | 153                  | 159                  | 155                  | 155                  | 34                   | 37                   | 30                   | 30                   | 43 |
| Mean 5 years  | -                    | 212                  | 270                  | 215                  | 278                  | 330                  | 342                  | 287                  | 150                  | 156                  | 155                  | 154                  | 152                  | 160                  | 152                  | 152                  | 35                   | 35                   | 33                   | 33                   | 33 |
| 1876          | -                    | 254                  | 272                  | 272                  | 268                  | 346                  | 339                  | 420                  | 152                  | 162                  | 158                  | 162                  | 163                  | 160                  | 157                  | 157                  | 31                   | 30                   | 28                   | 37                   | 37 |
| 1877          | -                    | 208                  | 283                  | 217                  | 364                  | 235                  | 341                  | 287                  | 159                  | 142                  | 155                  | 160                  | 154                  | 153                  | 162                  | 162                  | 46                   | 42                   | 32                   | 48                   | 37 |
| 1878          | -                    | 285                  | 353                  | 196                  | 411                  | 291                  | 400                  | 454                  | 147                  | 157                  | 148                  | 156                  | 152                  | 153                  | 158                  | 158                  | 37                   | 33                   | 39                   | 39                   | 39 |
| 1879          | -                    | 144                  | 321                  | 157                  | 342                  | 324                  | 363                  | 411                  | 149                  | 155                  | 157                  | 152                  | 150                  | 153                  | 155                  | 155                  | 39                   | 31                   | 32                   | 35                   | 35 |
| 1880          | -                    | 96                   | 153                  | 265                  | 191                  | 177                  | 221                  | 239                  | 151                  | 170                  | 156                  | 154                  | 146                  | 152                  | 157                  | 157                  | 47                   | 31                   | 37                   | 40                   | 40 |
| Mean 5 years  | -                    | 107                  | 276                  | 221                  | 321                  | 275                  | 333                  | 364                  | 152                  | 157                  | 155                  | 157                  | 153                  | 160                  | 158                  | 158                  | 38                   | 33                   | 31                   | 40                   | 40 |
| 1881          | -                    | 124                  | 146                  | 277                  | 129                  | 150                  | 198                  | 249                  | 153                  | 150                  | 151                  | 148                  | 143                  | 157                  | 164                  | 164                  | 33                   | 38                   | 38                   | 39                   | 39 |
| 1882          | -                    | 130                  | 252                  | 287                  | 302                  | 311                  | 318                  | 425                  | 161                  | 156                  | 160                  | 164                  | 155                  | 162                  | 158                  | 158                  | 35                   | 35                   | 70                   | 45                   | 45 |
| Mean 12 years | -                    | 204                  | 261                  | 229                  | 286                  | 290                  | 324                  | 377                  | 152                  | 156                  | 155                  | 155                  | 152                  | 160                  | 156                  | 156                  | 36                   | 34                   | 38                   | 37                   | 37 |

TABLE IIc.—MONTHLY MEANS OF the AMPLITUDE  $P_1$  and of the FIRST MAXIMUM  $\mu_1$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—*continued*.

MARCH.

| YEARS.        | P <sub>1</sub> |         |           |          |             | P <sub>2</sub> |      |           |         |           | P <sub>3</sub> |             |           |      |  | Kew. |
|---------------|----------------|---------|-----------|----------|-------------|----------------|------|-----------|---------|-----------|----------------|-------------|-----------|------|--|------|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.       | Stonyhurst. | Aberdeen. | Kew. |  |      |
| 1871          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1872          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1873          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1874          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1875          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 5 years  | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1876          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1877          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1878          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1879          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1880          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 5 years  | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1881          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1882          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 12 years | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |

K



TABLE IIb.—MONTHLY MEANS of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued. APRIL.

| YEARS.        | P <sub>1</sub> |         |           |          |             |           | P <sub>2</sub> |           |         |           |          |             | P <sub>3</sub> |       |           |         |           |          | Kew.  |             |           |       |
|---------------|----------------|---------|-----------|----------|-------------|-----------|----------------|-----------|---------|-----------|----------|-------------|----------------|-------|-----------|---------|-----------|----------|-------|-------------|-----------|-------|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.           | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. |       | Stonyhurst. | Aberdeen. |       |
| 1871          | .0012          | .0079   | .0126     | .0025    | .0031       | .0057     | .0002          | .0107     | .0107   | .0083     | .0064    | .0095       | .0103          | .0075 | .0110     | .0008   | .0009     | .0018    | .0005 | .0007       | .0013     | .0003 |
| 1872          | .0069          | .0011   | .0047     | .0043    | .0060       | .0057     | .0139          | .0089     | .0083   | .0086     | .0072    | .0102       | .0074          | .0080 | .0011     | .0011   | .0011     | .0012    | .0030 | .0014       | .0007     | .0007 |
| 1873          | .0062          | .0069   | .0052     | .0070    | .0065       | .0051     | .0102          | .0093     | .0116   | .0089     | .0065    | .0109       | .0094          | .0112 | .0011     | .0012   | .0012     | .0030    | .0014 | .0007       | .0007     |       |
| 1874          | .0032          | .0064   | .0087     | .0065    | .0063       | .0102     | .0060          | .0070     | .0080   | .0127     | .0087    | .0107       | .0091          | .0109 | .0009     | .0015   | .0001     | .0009    | .0022 | .0019       | .0012     | .0003 |
| 1875          | .0033          | .0087   | .0068     | .0092    | .0079       | .0060     | .0104          | .0081     | .0110   | .0091     | .0094    | .0100       | .0090          | .0120 | .0007     | .0005   | .0006     | .0004    | .0030 | .0015       | .0009     | .0003 |
| Mean 5 years  | .0016          | .0068   | .0076     | .0059    | .0060       | .0064     | .0003          | .0088     | .0099   | .0100     | .0089    | .0104       | .0090          | .0106 | .0008     | .0010   | .0010     | .0009    | .0015 | .0012       | .0007     | .0007 |
| 1876          | .0083          | .0060   | .0026     | .0073    | .0048       | .0056     | .0004          | .0081     | .0084   | .0079     | .0091    | .0094       | .0079          | .0115 | .0008     | .0014   | .0011     | .0030    | .0007 | .0016       | .0005     | .0004 |
| 1877          | .0035          | .0048   | .0063     | .0063    | .0100       | .0057     | .0094          | .0092     | .0089   | .0078     | .0091    | .0107       | .0071          | .0105 | .0014     | .0012   | .0010     | .0011    | .0007 | .0004       | .0004     | .0004 |
| 1878          | .0047          | .0065   | .0061     | .0093    | .0102       | .0064     | .0065          | .0092     | .0085   | .0089     | .0103    | .0103       | .0078          | .0106 | .0016     | .0009   | .0014     | .0007    | .0016 | .0008       | .0007     | .0007 |
| 1879          | .0091          | .0039   | .0069     | .0070    | .0093       | .0050     | .0039          | .0091     | .0091   | .0080     | .0096    | .0110       | .0072          | .0107 | .0010     | .0007   | .0007     | .0007    | .0006 | .0006       | .0006     | .0006 |
| 1880          | .0118          | .0084   | .0063     | .0068    | .0084       | .0057     | .0078          | .0087     | .0105   | .0105     | .0059    | .0070       | .0089          | .0153 | .0011     | .0016   | .0012     | .0013    | .0026 | .0011       | .0036     | .0036 |
| Mean 5 years  | .0081          | .0059   | .0056     | .0073    | .0085       | .0064     | .0073          | .0076     | .0091   | .0086     | .0086    | .0099       | .0088          | .0117 | .0012     | .0012   | .0010     | .0012    | .0015 | .0009       | .0012     | .0012 |
| 1881          | .0019          | .0122   | .0016     | .0160    | .0060       | .0012     | .0095          | .0106     | .0104   | .0102     | .0110    | .0099       | .0081          | .0134 | .0009     | .0015   | .0004     | .0008    | .0013 | .0007       | .0006     | .0006 |
| 1882          | .0085          | .0058   | .0114     | .0068    | .0069       | .0048     | .0121          | .0069     | .0091   | .0065     | .0078    | .0102       | .0088          | .0135 | .0015     | .0006   | .0015     | .0011    | .0013 | .0009       | .0006     | .0006 |
| Mean 12 years | .0061          | .0068   | .0066     | .0074    | .0072       | .0058     | .0087          | .0083     | .0095   | .0092     | .0089    | .0101       | .0082          | .0116 | .0010     | .0011   | .0010     | .0010    | .0015 | .0010       | .0010     | .0009 |

| —             | $\mu_1$                  |                          |                          |                          |                          |                          | $\mu_2$                  |                          |                          |                          |                          |                          | $\mu_3$                  |                          |                          |                          |                          |                          |                          |                          |                          |
|---------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|               | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ | $\overset{\circ}{\circ}$ |
| 1871          | 235                      | 114                      | 211                      | 86                       | — 4                      | 268                      | — 46                     | 158                      | 161                      | 161                      | 155                      | 153                      | 151                      | 148                      | 110                      | 96                       | 75                       | 134                      | 71                       | 105                      | 54                       |
| 1872          | 220                      | 38                       | 181                      | — 44                     | — 42                     | 260                      | 48                       | 158                      | 146                      | 158                      | 151                      | 151                      | 152                      | 154                      | 85                       | 66                       | 92                       | 62                       | 66                       | 73                       | 96                       |
| 1873          | 184                      | 85                       | 179                      | 79                       | 23                       | 265                      | 55                       | 149                      | 152                      | 156                      | 150                      | 147                      | 145                      | 149                      | 85                       | 62                       | 75                       | 42                       | 81                       | 95                       | 60                       |
| 1874          | 134                      | 123                      | 169                      | 187                      | 147                      | 260                      | 109                      | 163                      | 150                      | 155                      | 151                      | 150                      | 146                      | 151                      | 62                       | 94                       | 130                      | 109                      | 111                      | 102                      | 106                      |
| 1875          | 280                      | 86                       | 175                      | 102                      | 255                      | 160                      | 93                       | 149                      | 157                      | 156                      | 151                      | 152                      | 152                      | 153                      | 25                       | 90                       | 95                       | 111                      | 77                       | 99                       | 24                       |
| Mean 5 years  | 211                      | 89                       | 183                      | 82                       | 76                       | 237                      | 52                       | 155                      | 153                      | 157                      | 152                      | 151                      | 149                      | 151                      | 73                       | 82                       | 93                       | 92                       | 81                       | 95                       | 68                       |
| 1876          | 238                      | 102                      | 272                      | 104                      | 34                       | 153                      | 43                       | 158                      | 156                      | 152                      | 159                      | 149                      | 145                      | 152                      | 97                       | 117                      | 128                      | 115                      | 85                       | 123                      | 37                       |
| 1877          | 247                      | 136                      | 250                      | 123                      | 94                       | 232                      | 82                       | 163                      | 162                      | 162                      | 153                      | 153                      | 156                      | 151                      | 80                       | 90                       | 111                      | 130                      | 83                       | 107                      | 55                       |
| 1878          | 356                      | 104                      | 237                      | 55                       | 56                       | 299                      | 79                       | 153                      | 163                      | 160                      | 152                      | 154                      | 159                      | 154                      | 92                       | 106                      | 95                       | 119                      | 90                       | 98                       | 93                       |
| 1879          | 189                      | 52                       | 265                      | 69                       | 33                       | 219                      | 76                       | 146                      | 152                      | 150                      | 145                      | 145                      | 153                      | 147                      | 98                       | 94                       | 96                       | 86                       | 89                       | 101                      | 87                       |
| 1880          | 185                      | — 58                     | 236                      | 21                       | 26                       | 399                      | 19                       | 147                      | 154                      | 159                      | 148                      | 145                      | 147                      | 148                      | 39                       | 104                      | 73                       | 95                       | 83                       | 79                       | 87                       |
| Mean 5 years  | 243                      | 67                       | 252                      | 74                       | 49                       | 260                      | 60                       | 153                      | 157                      | 157                      | 151                      | 149                      | 152                      | 150                      | 81                       | 102                      | 101                      | 109                      | 86                       | 100                      | 72                       |
| 1881          | 415                      | 99                       | 351                      | 78                       | 64                       | 434                      | 61                       | 147                      | 154                      | 154                      | 150                      | 152                      | 149                      | 151                      | 82                       | 64                       | 90                       | 78                       | 74                       | 61                       | 93                       |
| 1882          | 230                      | 78                       | 291                      | 33                       | 77                       | 229                      | 65                       | 152                      | 148                      | 146                      | 150                      | 152                      | 148                      | 158                      | 98                       | 89                       | 71                       | 75                       | 84                       | 82                       | 75                       |
| Mean 12 years | 243                      | 80                       | 235                      | 74                       | 64                       | 262                      | 57                       | 154                      | 155                      | 156                      | 151                      | 150                      | 150                      | 151                      | 79                       | 89                       | 94                       | 96                       | 83                       | 94                       | 72                       |

TABLE IIb.—MONTHLY MEANS of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued. MAY.

| MAY.          |                |         |           |          |             |           |                |           |         |           |          |             |                |      |           |         |           |          |      |             |           |
|---------------|----------------|---------|-----------|----------|-------------|-----------|----------------|-----------|---------|-----------|----------|-------------|----------------|------|-----------|---------|-----------|----------|------|-------------|-----------|
| YEARS.        | P <sub>1</sub> |         |           |          |             |           | P <sub>2</sub> |           |         |           |          |             | P <sub>3</sub> |      |           |         |           |          | Kew. |             |           |
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.           | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow. |      | Stonyhurst. | Aberdeen. |
| 1871          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1872          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1873          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1874          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1875          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| Mean 5 years  | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1876          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1877          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1878          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1879          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1880          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| Mean 5 years  | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1881          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| 1882          | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |
| Mean 12 years | -              | -       | -         | -        | -           | -         | -              | -         | -       | -         | -        | -           | -              | -    | -         | -       | -         | -        | -    | -           | -         |

|               | $\mu_1$  |          |          |          |          |          | $\mu_2$  |          |          |          |          |          | $\mu_3$  |          |          |          |          |          |          |          |          |     |
|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|
|               | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ | $\sigma$ |     |
| 1871          | 212      | 91       | 167      | 87       | 74       | 34       | 88       | 153      | 151      | 155      | 155      | 150      | 152      | 156      | 94       | 88       | 92       | 88       | 91       | 84       | 87       | 98  |
| 1872          | 265      | 38       | 333      | 6        | —        | 1        | 40       | 155      | 152      | 157      | 152      | 150      | 151      | 150      | 93       | 92       | 109      | 108      | 108      | 81       | 85       | 86  |
| 1873          | 236      | 77       | 268      | 4        | 7        | —        | 67       | 166      | 155      | 147      | 158      | 149      | 149      | 157      | 96       | 109      | 108      | 110      | 99       | 103      | 103      | 99  |
| 1874          | 334      | 103      | 222      | 119      | 67       | —        | 41       | 152      | 154      | 157      | 150      | 148      | 152      | 155      | 97       | 106      | 94       | 102      | 102      | 105      | 101      | 101 |
| 1875          | 237      | 21       | 182      | 49       | 66       | 100      | 85       | 158      | 149      | 156      | 154      | 155      | 155      | 149      | 96       | 91       | 103      | 102      | 95       | 110      | 94       | 94  |
| Mean 5 years  | 256      | 12       | 232      | 51       | 41       | —        | 32       | 157      | 152      | 154      | 154      | 150      | 152      | 153      | 95       | 97       | 98       | 103      | 92       | 98       | 96       | 96  |
| 1876          | 324      | 98       | 138      | 63       | 65       | —        | 73       | 158      | 167      | 156      | 153      | 152      | 146      | 151      | 102      | 105      | 105      | 97       | 91       | 109      | 97       | 97  |
| 1877          | 244      | 4        | 253      | 68       | 39       | 26       | 63       | 147      | 152      | 159      | 153      | 151      | 155      | 151      | 91       | 93       | 99       | 99       | 96       | 98       | 100      | 100 |
| 1878          | 263      | 43       | 252      | 62       | 20       | 77       | 24       | 159      | 160      | 152      | 161      | 155      | 148      | 155      | 98       | 92       | 92       | 103      | 91       | 98       | 95       | 95  |
| 1879          | 222      | 103      | 204      | 43       | 11       | 147      | 79       | 155      | 143      | 153      | 150      | 148      | 150      | 152      | 96       | 94       | 95       | 91       | 93       | 94       | 97       | 97  |
| 1880          | 156      | 83       | 157      | 16       | 29       | —        | 61       | 151      | 152      | 158      | 155      | 152      | 151      | 153      | 94       | 96       | 91       | 94       | 89       | 92       | 95       | 95  |
| Mean 5 years  | 244      | 49       | 201      | 59       | 33       | 18       | 60       | 154      | 155      | 156      | 154      | 152      | 150      | 152      | 96       | 84       | 96       | 97       | 92       | 98       | 97       | 97  |
| 1881          | 260      | 60       | 187      | 68       | 62       | 97       | 80       | 153      | 158      | 150      | 149      | 146      | 157      | 151      | 93       | 96       | 91       | 77       | 89       | 92       | 94       | 94  |
| 1882          | 286      | 71       | 215      | 68       | 69       | 103      | 51       | 151      | 151      | 153      | 155      | 150      | 156      | 151      | 102      | 96       | 85       | 88       | 89       | 87       | 100      | 100 |
| Mean 12 years | 254      | 36       | 214      | 53       | 42       | 16       | 49       | 155      | 154      | 154      | 154      | 151      | 152      | 153      | 96       | 92       | 96       | 97       | 92       | 97       | 96       | 96  |



TABLE II.D.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

JUNE.

| YEARS.        | P <sub>1</sub> |         |           |          |             | P <sub>2</sub> |      |           |         |           | P <sub>3</sub> |             |           |      |  | Kew. |
|---------------|----------------|---------|-----------|----------|-------------|----------------|------|-----------|---------|-----------|----------------|-------------|-----------|------|--|------|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew. | Valencia. | Armagh. | Palmouth. | Glasgow.       | Stonyhurst. | Aberdeen. | Kew. |  |      |
| 1871          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1872          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1873          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1874          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1875          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 5 years  | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1876          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1877          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1878          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1879          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1880          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 5 years  | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1881          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| 1882          | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |
| Mean 12 years | -              | -       | -         | -        | -           | -              | -    | -         | -       | -         | -              | -           | -         | -    |  |      |

| —             | $\mu_1$              |                       |                        |                       |                       | $\mu_2$                |                      |                        |                        |                        | $\mu_3$                |                        |                        |                        |                        |     |                       |                        |                        |                       |                        |                       |     |     |
|---------------|----------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----|-----------------------|------------------------|------------------------|-----------------------|------------------------|-----------------------|-----|-----|
|               | $\overset{\circ}{0}$ | $\overset{\circ}{20}$ | $\overset{\circ}{156}$ | $\overset{\circ}{55}$ | $\overset{\circ}{14}$ | $\overset{\circ}{-67}$ | $\overset{\circ}{4}$ | $\overset{\circ}{164}$ | $\overset{\circ}{154}$ | $\overset{\circ}{160}$ | $\overset{\circ}{153}$ | $\overset{\circ}{154}$ | $\overset{\circ}{158}$ | $\overset{\circ}{152}$ | $\overset{\circ}{100}$ |     | $\overset{\circ}{88}$ | $\overset{\circ}{101}$ | $\overset{\circ}{109}$ | $\overset{\circ}{90}$ | $\overset{\circ}{105}$ | $\overset{\circ}{99}$ |     |     |
| 1871          | -                    | 260                   | -                      | 20                    | 156                   | 55                     | 14                   | -                      | 67                     | 4                      | 164                    | 154                    | 160                    | 153                    | 154                    | 158 | 152                   | 100                    | 88                     | 101                   | 109                    | 90                    | 105 | 99  |
| 1872          | -                    | 255                   | 83                     | 83                    | 213                   | 140                    | 114                  | 175                    | 115                    | 150                    | 152                    | 153                    | 162                    | 147                    | 153                    | 146 | 153                   | 103                    | 103                    | 92                    | 102                    | 88                    | 103 | 87  |
| 1873          | -                    | 214                   | -                      | 83                    | 251                   | 7                      | 19                   | 16                     | 83                     | 153                    | 155                    | 152                    | 152                    | 170                    | 152                    | 154 | 155                   | 102                    | 106                    | 97                    | 111                    | 115                   | 97  | 104 |
| 1874          | -                    | 219                   | 24                     | 170                   | 56                    | 67                     | -                    | 31                     | 75                     | 158                    | 152                    | 155                    | 155                    | 163                    | 153                    | 149 | 154                   | 90                     | 92                     | 100                   | 103                    | 99                    | 105 | 99  |
| 1875          | -                    | 278                   | 8                      | 235                   | 61                    | 71                     | 85                   | 71                     | 154                    | 171                    | 154                    | 171                    | 156                    | 152                    | 150                    | 144 | 151                   | 106                    | 96                     | 95                    | 108                    | 96                    | 106 | 108 |
| Mean 5 years  | -                    | 245                   | 2                      | 217                   | 64                    | 57                     | 36                   | 70                     | 156                    | 157                    | 157                    | 157                    | 157                    | 157                    | 152                    | 150 | 153                   | 100                    | 97                     | 97                    | 107                    | 98                    | 103 | 99  |
| 1876          | -                    | 239                   | 63                     | 240                   | 108                   | 58                     | -                    | 5                      | 92                     | 160                    | 140                    | 158                    | 158                    | 148                    | 154                    | 161 | 155                   | 99                     | 104                    | 105                   | 98                     | 95                    | 109 | 100 |
| 1877          | -                    | 197                   | -                      | 135                   | 233                   | 94                     | 91                   | 160                    | 82                     | 155                    | 156                    | 150                    | 164                    | 157                    | 154                    | 142 | 154                   | 95                     | 134                    | 103                   | 96                     | 97                    | 109 | 103 |
| 1878          | -                    | 248                   | 101                    | 247                   | 93                    | 63                     | -                    | 104                    | 86                     | 156                    | 157                    | 150                    | 152                    | 155                    | 155                    | 152 | 152                   | 98                     | 116                    | 93                    | 96                     | 95                    | 107 | 100 |
| 1879          | -                    | 245                   | 9                      | 256                   | 39                    | 88                     | 107                  | 34                     | 150                    | 156                    | 156                    | 156                    | 156                    | 156                    | 151                    | 154 | 151                   | 99                     | 102                    | 97                    | 108                    | 95                    | 94  | 97  |
| 1880          | -                    | 230                   | -                      | 60                    | 200                   | 65                     | 25                   | 130                    | 34                     | 151                    | 158                    | 157                    | 157                    | 146                    | 157                    | 153 | 156                   | 96                     | 100                    | 92                    | 102                    | 96                    | 98  | 99  |
| Mean 5 years  | -                    | 232                   | -                      | 4                     | 253                   | 80                     | 65                   | 70                     | 66                     | 154                    | 153                    | 154                    | 154                    | 153                    | 155                    | 153 | 154                   | 97                     | 111                    | 98                    | 100                    | 96                    | 103 | 100 |
| 1881          | -                    | 245                   | 46                     | 206                   | 59                    | 66                     | 62                   | 90                     | 156                    | 153                    | 157                    | 157                    | 157                    | 154                    | 149                    | 148 | 154                   | 98                     | 99                     | 94                    | 110                    | 84                    | 100 | 92  |
| 1882          | -                    | 260                   | 79                     | 221                   | 51                    | 442                    | -                    | 24                     | 148                    | 157                    | 144                    | 155                    | 155                    | 163                    | 154                    | 161 | 158                   | 100                    | 99                     | 87                    | 100                    | 97                    | 105 | 99  |
| Mean 12 years | -                    | 241                   | 10                     | 232                   | 69                    | 68                     | 47                   | 76                     | 155                    | 154                    | 156                    | 156                    | 156                    | 156                    | 153                    | 152 | 154                   | 99                     | 103                    | 96                    | 104                    | 96                    | 103 | 99  |

TABLE II.D.—MONTHLY MEANS OF the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

JULY.

| YEARS.        | P <sub>1</sub> |         |           |          |             | P <sub>2</sub> |       |           |         |           | P <sub>3</sub> |             |           |       |  |
|---------------|----------------|---------|-----------|----------|-------------|----------------|-------|-----------|---------|-----------|----------------|-------------|-----------|-------|--|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow.       | Stonyhurst. | Aberdeen. | Kew.  |  |
| 1871          | .0159          | .0110   | .0111     | .0095    | .0102       | .0058          | .0060 | .0090     | .0072   | .0071     | .0086          | .0099       | .0077     | .0084 |  |
| 1872          | .0086          | .0050   | .0104     | .0075    | .0046       | .0058          | .0044 | .0072     | .0080   | .0086     | .0096          | .0071       | .0084     | .0093 |  |
| 1873          | .0109          | .0060   | .0038     | .0070    | .0015       | .0075          | .0136 | .0083     | .0090   | .0101     | .0086          | .0071       | .0090     | .0093 |  |
| 1874          | .0039          | .0034   | .0068     | .0030    | .0030       | .0047          | .0149 | .0077     | .0074   | .0082     | .0084          | .0091       | .0099     | .0095 |  |
| 1875          | .0062          | .0031   | .0109     | .0077    | .0105       | .0031          | .0050 | .0080     | .0063   | .0082     | .0082          | .0093       | .0099     | .0095 |  |
| Mean 5 years  | .0091          | .0057   | .0068     | .0061    | .0030       | .0047          | .0081 | .0080     | .0063   | .0087     | .0096          | .0066       | .0093     | .0096 |  |
| 1876          | .0072          | .0074   | .0051     | .0044    | .0105       | .0091          | .0133 | .0095     | .0096   | .0099     | .0090          | .0095       | .0094     | .0102 |  |
| 1877          | .0078          | .0071   | .0038     | .0061    | .0040       | .0054          | .0053 | .0084     | .0066   | .0073     | .0077          | .0095       | .0095     | .0081 |  |
| 1878          | .0026          | .0038   | .0115     | .0081    | .0057       | .0038          | .0107 | .0075     | .0075   | .0099     | .0080          | .0071       | .0099     | .0088 |  |
| 1879          | .0074          | .0027   | .0139     | .0024    | .0067       | .0024          | .0069 | .0054     | .0065   | .0106     | .0097          | .0069       | .0062     | .0067 |  |
| 1880          | .0085          | .0055   | .0095     | .0084    | .0024       | .0019          | .0079 | .0079     | .0089   | .0079     | .0075          | .0081       | .0097     | .0074 |  |
| Mean 5 years  | .0067          | .0053   | .0088     | .0059    | .0041       | .0045          | .0088 | .0068     | .0075   | .0086     | .0070          | .0067       | .0095     | .0082 |  |
| 1881          | .0116          | .0034   | .0057     | .0037    | .0030       | .0036          | .0094 | .0057     | .0072   | .0090     | .0090          | .0063       | .0054     | .0105 |  |
| 1882          | .0071          | .0033   | .0045     | .0044    | .0030       | .0022          | .0082 | .0088     | .0074   | .0047     | .0093          | .0074       | .0068     | .0096 |  |
| Mean 12 years | .0081          | .0051   | .0073     | .0057    | .0034       | .0043          | .0085 | .0073     | .0071   | .0087     | .0065          | .0071       | .0058     | .0087 |  |

| —    | $\mu_1$ |     |   |     |   |    |   | $\mu_2$ |   |     |   |   |   |     | $\mu_3$ |     |   |     |   |     |   |     |   |     |   |     |   |    |   |    |   |    |   |    |   |    |   |    |   |    |   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------|---------|-----|---|-----|---|----|---|---------|---|-----|---|---|---|-----|---------|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|----|---|----|---|----|---|----|---|----|---|----|---|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|      | °       | 367 | ° | 203 | ° | 89 | ° | 130     | ° | 180 | ° | 9 | ° | 100 | °       | 147 | ° | 155 | ° | 151 | ° | 157 | ° | 136 | ° | 151 | ° | 93 | ° | 99 | ° | 97 | ° | 96 | ° | 96 | ° | 98 | ° | 98 | ° | 100 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1871 | -       | -   | - | -   | - | -  | - | -       | - | -   | - | - | - | -   | -       | -   | - | -   | - | -   | - | -   | - | -   | - | -   | - | -  | - | -  | - | -  | - | -  | - | -  | - | -  | - | -  | - | -   | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



TABLE II.D.—MONTHLY MEANS OF the AMPLITUDE P, and of the First Maximum  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

AUGUST.

| YEARS.        | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |
|---------------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|
|               |           |         |           |          |             |           |        |           |         |           |          |             |           |        |
| 1871          | 0.0144    | 0.0118  | 0.0038    | 0.0117   | 0.0127      | 0.0044    | 0.0167 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1872          | 0.0119    | 0.0013  | 0.0040    | 0.0077   | 0.0071      | 0.0044    | 0.0062 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1873          | 0.0159    | 0.0016  | 0.0081    | 0.0123   | 0.0070      | 0.0138    | 0.0093 | 0.0068    | 0.0070  | 0.0077    | 0.0049   | 0.0065      | 0.0065    | 0.0098 |
| 1874          | 0.0157    | 0.0134  | 0.0045    | 0.0051   | 0.0043      | 0.0016    | 0.0105 | 0.0066    | 0.0081  | 0.0085    | 0.0085   | 0.0088      | 0.0067    | 0.0094 |
| 1875          | 0.0070    | 0.0014  | 0.0093    | 0.0036   | 0.0038      | 0.0012    | 0.0080 | 0.0080    | 0.0079  | 0.0066    | 0.0066   | 0.0085      | 0.0056    | 0.0120 |
| Mean 5 years  | 0.0130    | 0.0113  | 0.0059    | 0.0081   | 0.0070      | 0.0059    | 0.0095 | 0.0078    | 0.0067  | 0.0082    | 0.0069   | 0.0085      | 0.0059    | 0.0103 |
| 1876          | 0.0063    | 0.0039  | 0.0114    | 0.0048   | 0.0067      | 0.0074    | 0.0048 | 0.0053    | 0.0086  | 0.0102    | 0.0032   | 0.0080      | 0.0070    | 0.0095 |
| 1877          | 0.0124    | 0.0065  | 0.0116    | 0.0071   | 0.0053      | 0.0110    | 0.0010 | 0.0061    | 0.0065  | 0.0062    | 0.0042   | 0.0069      | 0.0053    | 0.0097 |
| 1878          | 0.0003    | 0.0039  | 0.0100    | 0.0009   | 0.0017      | 0.0054    | 0.0039 | 0.0079    | 0.0074  | 0.0062    | 0.0085   | 0.0090      | 0.0078    | 0.0093 |
| 1879          | 0.0138    | 0.0021  | 0.0078    | 0.0017   | 0.0055      | 0.0037    | 0.0065 | 0.0090    | 0.0086  | 0.0094    | 0.0075   | 0.0089      | 0.0068    | 0.0091 |
| 1880          | 0.0032    | 0.0061  | 0.0009    | 0.0052   | 0.0081      | 0.0008    | 0.0125 | 0.0104    | 0.0098  | 0.0100    | 0.0099   | 0.0116      | 0.0079    | 0.0104 |
| Mean 5 years  | 0.0072    | 0.0045  | 0.0083    | 0.0039   | 0.0055      | 0.0057    | 0.0055 | 0.0078    | 0.0082  | 0.0084    | 0.0081   | 0.0089      | 0.0069    | 0.0096 |
| 1881          | 0.0070    | 0.0000  | 0.0054    | 0.0006   | 0.0026      | 0.0094    | 0.0105 | 0.0100    | 0.0062  | 0.0091    | 0.0069   | 0.0104      | 0.0069    | 0.0094 |
| 1882          | 0.0084    | 0.0066  | 0.0056    | 0.0052   | 0.0051      | 0.0066    | 0.0021 | 0.0074    | 0.0072  | 0.0117    | 0.0085   | 0.0088      | 0.0062    | 0.0093 |
| Mean 12 years | 0.0097    | 0.0071  | 0.0069    | 0.0055   | 0.0058      | 0.0061    | 0.0073 | 0.0080    | 0.0086  | 0.0087    | 0.0076   | 0.0088      | 0.0068    | 0.0099 |

| YEARS.        | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |
|---------------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|
|               |           |         |           |          |             |           |        |           |         |           |          |             |           |        |
| 1871          | 0.0071    | 0.0013  | 0.0038    | 0.0117   | 0.0127      | 0.0044    | 0.0167 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1872          | 0.0119    | 0.0013  | 0.0040    | 0.0077   | 0.0071      | 0.0044    | 0.0062 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1873          | 0.0159    | 0.0016  | 0.0081    | 0.0123   | 0.0070      | 0.0138    | 0.0093 | 0.0068    | 0.0070  | 0.0077    | 0.0049   | 0.0065      | 0.0065    | 0.0098 |
| 1874          | 0.0157    | 0.0134  | 0.0045    | 0.0051   | 0.0043      | 0.0016    | 0.0105 | 0.0066    | 0.0081  | 0.0085    | 0.0085   | 0.0088      | 0.0067    | 0.0094 |
| 1875          | 0.0070    | 0.0014  | 0.0093    | 0.0036   | 0.0038      | 0.0012    | 0.0080 | 0.0080    | 0.0079  | 0.0066    | 0.0066   | 0.0085      | 0.0056    | 0.0120 |
| Mean 5 years  | 0.0130    | 0.0113  | 0.0059    | 0.0081   | 0.0070      | 0.0059    | 0.0095 | 0.0078    | 0.0067  | 0.0082    | 0.0069   | 0.0085      | 0.0059    | 0.0103 |
| 1876          | 0.0063    | 0.0039  | 0.0114    | 0.0048   | 0.0067      | 0.0074    | 0.0048 | 0.0053    | 0.0086  | 0.0102    | 0.0032   | 0.0080      | 0.0070    | 0.0095 |
| 1877          | 0.0124    | 0.0065  | 0.0116    | 0.0071   | 0.0053      | 0.0110    | 0.0010 | 0.0061    | 0.0065  | 0.0062    | 0.0042   | 0.0069      | 0.0053    | 0.0097 |
| 1878          | 0.0003    | 0.0039  | 0.0100    | 0.0009   | 0.0017      | 0.0054    | 0.0039 | 0.0079    | 0.0074  | 0.0062    | 0.0085   | 0.0090      | 0.0078    | 0.0093 |
| 1879          | 0.0138    | 0.0021  | 0.0078    | 0.0017   | 0.0055      | 0.0037    | 0.0065 | 0.0090    | 0.0086  | 0.0094    | 0.0075   | 0.0089      | 0.0068    | 0.0091 |
| 1880          | 0.0032    | 0.0061  | 0.0009    | 0.0052   | 0.0081      | 0.0008    | 0.0125 | 0.0104    | 0.0098  | 0.0100    | 0.0099   | 0.0116      | 0.0079    | 0.0104 |
| Mean 5 years  | 0.0072    | 0.0045  | 0.0083    | 0.0039   | 0.0055      | 0.0057    | 0.0055 | 0.0078    | 0.0082  | 0.0084    | 0.0081   | 0.0089      | 0.0069    | 0.0096 |
| 1881          | 0.0070    | 0.0000  | 0.0054    | 0.0006   | 0.0026      | 0.0094    | 0.0105 | 0.0100    | 0.0062  | 0.0091    | 0.0069   | 0.0104      | 0.0069    | 0.0094 |
| 1882          | 0.0084    | 0.0066  | 0.0056    | 0.0052   | 0.0051      | 0.0066    | 0.0021 | 0.0074    | 0.0072  | 0.0117    | 0.0085   | 0.0088      | 0.0062    | 0.0093 |
| Mean 12 years | 0.0097    | 0.0071  | 0.0069    | 0.0055   | 0.0058      | 0.0061    | 0.0073 | 0.0080    | 0.0086  | 0.0087    | 0.0076   | 0.0088      | 0.0068    | 0.0099 |

TABLE II.D.—MONTHLY MEANS OF the AMPLITUDE P, and of the First Maximum  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

SEPTEMBER.

| YEARS.        | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.   |
|---------------|-----------|---------|-----------|----------|-------------|-----------|--------|-----------|---------|-----------|----------|-------------|-----------|--------|
|               |           |         |           |          |             |           |        |           |         |           |          |             |           |        |
| 1871          | 0.0060    | 0.0013  | 0.0038    | 0.0117   | 0.0127      | 0.0044    | 0.0167 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1872          | 0.0063    | 0.0013  | 0.0040    | 0.0077   | 0.0071      | 0.0044    | 0.0062 | 0.0090    | 0.0053  | 0.0022    | 0.0074   | 0.0097      | 0.0052    | 0.0104 |
| 1873          | 0.0076    | 0.0016  | 0.0081    | 0.0123   | 0.0070      | 0.0138    | 0.0093 | 0.0068    | 0.0070  | 0.0077    | 0.0049   | 0.0065      | 0.0065    | 0.0098 |
| 1874          | 0.0070    | 0.0134  | 0.0045    | 0.0051   | 0.0043      | 0.0016    | 0.0105 | 0.0066    | 0.0081  | 0.0085    | 0.0085   | 0.0088      | 0.0067    | 0.0094 |
| 1875          | 0.0070    | 0.0014  | 0.0093    | 0.0036   | 0.0038      | 0.0012    | 0.0080 | 0.0080    | 0.0079  | 0.0066    | 0.0066   | 0.0085      | 0.0056    | 0.0120 |
| Mean 5 years  | 0.0072    | 0.0045  | 0.0083    | 0.0039   | 0.0055      | 0.0057    | 0.0055 | 0.0078    | 0.0082  | 0.0084    | 0.0081   | 0.0089      | 0.0069    | 0.0096 |
| 1876          | 0.0063    | 0.0039  | 0.0114    | 0.0048   | 0.0067      | 0.0074    | 0.0048 | 0.0053    | 0.0086  | 0.0102    | 0.0032   | 0.0080      | 0.0070    | 0.0095 |
| 1877          | 0.0124    | 0.0065  | 0.0116    | 0.0071   | 0.0053      | 0.0110    | 0.0010 | 0.0061    | 0.0065  | 0.0062    | 0.0042   | 0.0069      | 0.0053    | 0.0097 |
| 1878          | 0.0003    | 0.0039  | 0.0100    | 0.0009   | 0.0017      | 0.0054    | 0.0039 | 0.0079    | 0.0074  | 0.0062    | 0.0085   | 0.0090      | 0.0078    | 0.0093 |
| 1879          | 0.0138    | 0.0021  | 0.0078    | 0.0017   | 0.0055      | 0.0037    | 0.0065 | 0.0090    | 0.0086  | 0.0094    | 0.0075   | 0.0089      | 0.0068    | 0.0091 |
| 1880          | 0.0032    | 0.0061  | 0.0009    | 0.0052   | 0.0081      | 0.0008    | 0.0125 | 0.0104    | 0.0098  | 0.0100    | 0.0099   | 0.0116      | 0.0079    | 0.0104 |
| Mean 5 years  | 0.0072    | 0.0045  | 0.0083    | 0.0039   | 0.0055      | 0.0057    | 0.0055 | 0.0078    | 0.0082  | 0.0084    | 0.0081   | 0.0089      | 0.0069    | 0.0096 |
| 1881          | 0.0070    | 0.0000  | 0.0054    | 0.0006   | 0.0026      | 0.0094    | 0.0105 | 0.0100    | 0.0062  | 0.0091    | 0.0069   | 0.0104      | 0.0069    | 0.0094 |
| 1882          | 0.0084    | 0.0066  | 0.0056    | 0.0052   | 0.0051      | 0.0066    | 0.0021 | 0.0074    | 0.0072  | 0.0117    | 0.0085   | 0.0088      | 0.0062    | 0.0093 |
| Mean 12 years | 0.0097    | 0.0071  | 0.0069    | 0.0055   | 0.0058      | 0.0061    | 0.0073 | 0.0080    | 0.0086  | 0.0087    | 0.0076   | 0.0088      | 0.0068    | 0.0099 |



[illegible]

TABLE II.D.—MONTHLY MEANS OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

[illegible]



TABLE IIb.—MONTHLY MEANS OF THE AMPLITUDE P, AND OF THE FIRST MAXIMUM  $\mu$ , RECKONED FROM LOCAL MEAN MIDNIGHT, PRESSURE, &c.—continued.

DECEMBER.

| YEARS.        | P <sub>1</sub> |         |           |          |             | P <sub>2</sub> |       |           |         |           | P <sub>3</sub> |             |           |       |  | Kew. |
|---------------|----------------|---------|-----------|----------|-------------|----------------|-------|-----------|---------|-----------|----------------|-------------|-----------|-------|--|------|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow.       | Stonyhurst. | Aberdeen. | Kew.  |  |      |
| 1871          | .0010          | .0044   | .0039     | .0026    | .0062       | .0090          | .0107 | .0010     | .0044   | .0039     | .0026          | .0062       | .0090     | .0107 |  |      |
| 1872          | .0008          | .0036   | .0030     | .0019    | .0050       | .0074          | .0086 | .0008     | .0036   | .0030     | .0019          | .0050       | .0074     | .0086 |  |      |
| 1873          | .0003          | .0013   | .0015     | .0005    | .0014       | .0018          | .0027 | .0003     | .0013   | .0015     | .0005          | .0014       | .0018     | .0027 |  |      |
| 1874          | .0008          | .0036   | .0030     | .0019    | .0050       | .0074          | .0086 | .0008     | .0036   | .0030     | .0019          | .0050       | .0074     | .0086 |  |      |
| 1875          | .0002          | .0007   | .0009     | .0006    | .0006       | .0009          | .0012 | .0002     | .0007   | .0009     | .0006          | .0006       | .0009     | .0012 |  |      |
| Mean 5 years  | .0006          | .0020   | .0017     | .0010    | .0026       | .0040          | .0047 | .0006     | .0020   | .0017     | .0010          | .0026       | .0040     | .0047 |  |      |
| 1876          | .0003          | .0010   | .0012     | .0005    | .0009       | .0014          | .0019 | .0003     | .0010   | .0012     | .0005          | .0009       | .0014     | .0019 |  |      |
| 1877          | .0003          | .0010   | .0012     | .0005    | .0009       | .0014          | .0019 | .0003     | .0010   | .0012     | .0005          | .0009       | .0014     | .0019 |  |      |
| 1878          | .0002          | .0005   | .0007     | .0004    | .0007       | .0011          | .0015 | .0002     | .0005   | .0007     | .0004          | .0007       | .0011     | .0015 |  |      |
| 1879          | .0008          | .0036   | .0030     | .0019    | .0050       | .0074          | .0086 | .0008     | .0036   | .0030     | .0019          | .0050       | .0074     | .0086 |  |      |
| 1880          | .0001          | .0006   | .0007     | .0005    | .0008       | .0012          | .0016 | .0001     | .0006   | .0007     | .0005          | .0008       | .0012     | .0016 |  |      |
| Mean 5 years  | .0006          | .0020   | .0017     | .0010    | .0026       | .0040          | .0047 | .0006     | .0020   | .0017     | .0010          | .0026       | .0040     | .0047 |  |      |
| 1881          | .0014          | .0036   | .0030     | .0019    | .0050       | .0074          | .0086 | .0014     | .0036   | .0030     | .0019          | .0050       | .0074     | .0086 |  |      |
| 1882          | .0003          | .0010   | .0012     | .0005    | .0009       | .0014          | .0019 | .0003     | .0010   | .0012     | .0005          | .0009       | .0014     | .0019 |  |      |
| Mean 12 years | .0007          | .0024   | .0020     | .0012    | .0030       | .0044          | .0051 | .0007     | .0024   | .0020     | .0012          | .0030       | .0044     | .0051 |  |      |

| —             | μ <sub>1</sub> |         |           |          |             | μ <sub>2</sub> |       |           |         |           | μ <sub>3</sub> |             |           |       |  |
|---------------|----------------|---------|-----------|----------|-------------|----------------|-------|-----------|---------|-----------|----------------|-------------|-----------|-------|--|
|               | Valencia.      | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen.      | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow.       | Stonyhurst. | Aberdeen. | Kew.  |  |
| 1871          | .0002          | .0014   | .0016     | .0010    | .0026       | .0034          | .0049 | .0002     | .0014   | .0016     | .0010          | .0026       | .0034     | .0049 |  |
| 1872          | .0003          | .0010   | .0012     | .0006    | .0016       | .0020          | .0028 | .0003     | .0010   | .0012     | .0006          | .0016       | .0020     | .0028 |  |
| 1873          | .0004          | .0011   | .0013     | .0007    | .0019       | .0024          | .0033 | .0004     | .0011   | .0013     | .0007          | .0019       | .0024     | .0033 |  |
| 1874          | .0004          | .0011   | .0013     | .0007    | .0019       | .0024          | .0033 | .0004     | .0011   | .0013     | .0007          | .0019       | .0024     | .0033 |  |
| 1875          | .0005          | .0014   | .0016     | .0010    | .0026       | .0034          | .0049 | .0005     | .0014   | .0016     | .0010          | .0026       | .0034     | .0049 |  |
| Mean 5 years  | .0005          | .0014   | .0016     | .0010    | .0026       | .0034          | .0049 | .0005     | .0014   | .0016     | .0010          | .0026       | .0034     | .0049 |  |
| 1876          | .0003          | .0010   | .0012     | .0006    | .0016       | .0020          | .0028 | .0003     | .0010   | .0012     | .0006          | .0016       | .0020     | .0028 |  |
| 1877          | .0003          | .0010   | .0012     | .0006    | .0016       | .0020          | .0028 | .0003     | .0010   | .0012     | .0006          | .0016       | .0020     | .0028 |  |
| 1878          | .0004          | .0011   | .0013     | .0007    | .0019       | .0024          | .0033 | .0004     | .0011   | .0013     | .0007          | .0019       | .0024     | .0033 |  |
| 1879          | .0004          | .0011   | .0013     | .0007    | .0019       | .0024          | .0033 | .0004     | .0011   | .0013     | .0007          | .0019       | .0024     | .0033 |  |
| 1880          | .0005          | .0014   | .0016     | .0010    | .0026       | .0034          | .0049 | .0005     | .0014   | .0016     | .0010          | .0026       | .0034     | .0049 |  |
| Mean 5 years  | .0005          | .0014   | .0016     | .0010    | .0026       | .0034          | .0049 | .0005     | .0014   | .0016     | .0010          | .0026       | .0034     | .0049 |  |
| 1881          | .0003          | .0010   | .0012     | .0006    | .0016       | .0020          | .0028 | .0003     | .0010   | .0012     | .0006          | .0016       | .0020     | .0028 |  |
| 1882          | .0003          | .0010   | .0012     | .0006    | .0016       | .0020          | .0028 | .0003     | .0010   | .0012     | .0006          | .0016       | .0020     | .0028 |  |
| Mean 12 years | .0004          | .0011   | .0013     | .0007    | .0019       | .0024          | .0033 | .0004     | .0011   | .0013     | .0007          | .0019       | .0024     | .0033 |  |

TABLE IIIb.—MEAN VALUES (RECKONED FROM GREENWICH MEAN MIDNIGHT) OF THE  $p, q$  COEFFICIENTS FOR THE FIRST THREE ORDERS OF HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF BAROMETRIC PRESSURE AT THE SEVEN OBSERVATORIES OF THE METEOROLOGICAL OFFICE, FOR EACH YEAR FROM 1871 TO 1882; DERIVED FROM TABLE ID.

| Longitude cor-<br>rection L.M.<br>later<br>than<br>G.M.* | $p_1$     |         |           |          |             | $q_1$     |       |           |         |           | $d$      |             |           |       |  |
|--|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|--|
|  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  |  |
| 10° 18'  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1871   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1872   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1873   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1874   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1875   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1876   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1877   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1878   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1879   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1880   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1881   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1882   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 12 years  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |

| Longitude cor-<br>rection L.M.<br>later<br>than<br>G.M.* | $p_2$     |         |           |          |             | $q_2$     |       |           |         |           | $d$      |             |           |       |  |
|--|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|--|
|  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  |  |
| 10° 18'  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1871   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1872   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1873   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1874   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1875   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1876   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1877   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1878   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1879   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1880   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1881   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1882   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 12 years  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |

| Longitude cor-<br>rection L.M.<br>later<br>than<br>G.M.* | $p_3$     |         |           |          |             | $q_3$     |       |           |         |           | $d$      |             |           |       |  |
|--|-----------|---------|-----------|----------|-------------|-----------|-------|-----------|---------|-----------|----------|-------------|-----------|-------|--|
|  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  | Valencia. | Armagh. | Palmouth. | Glasgow. | Stonyhurst. | Aberdeen. | Kew.  |  |
| 10° 18'  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1871   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1872   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1873   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1874   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1875   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1876   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1877   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1878   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1879   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1880   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 5 years   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1881   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| 1882   | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |
| Mean 12 years  | .0005     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 | .0002     | .0004   | .0006     | .0002    | .0006       | .0003     | .0003 |  |

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.



TABLE IV D.

MEAN VALUES (reckoned from GREENWICH MEAN MIDNIGHT) of the  $p, q$  COEFFICIENTS of the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE ID.

[illegible]

|               | $q_1$  |        |        |        | $q_2$  |        |        |        | $q_3$  |        |        |        |        |        |        |        |        |        |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| January       | -.0040 | -.0004 | -.0020 | -.0024 | -.0007 | -.0016 | -.0010 | -.0051 | -.0049 | -.0045 | -.0076 | +.0035 | +.0034 | +.0049 | +.0037 | +.0040 | +.0033 | +.0047 |
| February      | -.0023 | -.0023 | -.0035 | -.0030 | +.0037 | -.0031 | -.0012 | -.0057 | -.0047 | -.0045 | -.0073 | +.0019 | +.0033 | +.0028 | +.0032 | +.0028 | +.0027 | +.0031 |
| March         | -.0013 | +.0027 | -.0014 | -.0003 | +.0036 | -.0021 | +.0044 | -.0052 | -.0047 | -.0056 | -.0072 | +.0001 | +.0014 | +.0011 | +.0011 | +.0008 | +.0016 | +.0019 |
| April         | -.0028 | +.0049 | -.0037 | +.0053 | +.0045 | +.0027 | +.0003 | +.0046 | +.0056 | +.0056 | -.0007 | -.0006 | -.0006 | -.0006 | -.0003 | -.0012 | -.0006 | -.0004 |
| May           | -.0053 | +.0036 | -.0027 | +.0074 | +.0054 | +.0001 | +.0003 | +.0037 | +.0052 | +.0055 | -.0002 | -.0015 | -.0012 | -.0016 | -.0013 | -.0022 | -.0016 | -.0022 |
| June          | -.0089 | +.0021 | -.0061 | +.0066 | +.0049 | +.0003 | +.0078 | -.0034 | -.0044 | -.0059 | +.0073 | -.0011 | -.0011 | -.0022 | -.0015 | -.0023 | -.0016 | -.0023 |
| July          | -.0066 | -.0003 | -.0044 | +.0022 | +.0006 | -.0009 | +.0072 | +.0037 | +.0039 | +.0044 | -.0066 | -.0013 | -.0013 | -.0017 | -.0015 | -.0021 | -.0022 | -.0026 |
| August        | -.0084 | -.0016 | -.0044 | +.0016 | +.0006 | -.0038 | +.0003 | +.0040 | +.0059 | +.0049 | +.0083 | -.0006 | -.0017 | -.0017 | -.0008 | -.0016 | -.0012 | -.0016 |
| September     | -.0031 | -.0001 | -.0058 | -.0007 | -.0012 | -.0036 | +.0021 | -.0045 | -.0063 | -.0073 | -.0085 | +.0008 | +.0005 | +.0005 | +.0006 | +.0000 | +.0005 | +.0007 |
| October       | -.0038 | -.0011 | -.0066 | -.0038 | -.0011 | -.0048 | +.0031 | -.0065 | -.0068 | -.0086 | -.0081 | +.0018 | +.0018 | +.0024 | +.0021 | +.0024 | +.0019 | +.0023 |
| November      | +.0012 | +.0027 | -.0012 | +.0001 | +.0007 | +.0026 | -.0032 | +.0069 | +.0051 | +.0079 | -.0070 | +.0032 | +.0035 | +.0036 | +.0029 | +.0031 | +.0025 | +.0033 |
| December      | -.0029 | +.0019 | -.0011 | -.0009 | +.0015 | -.0014 | -.0002 | -.0051 | -.0051 | -.0079 | -.0073 | +.0040 | +.0041 | +.0042 | +.0033 | +.0038 | +.0029 | +.0040 |
| Mean 12 years | -.0040 | +.0005 | -.0036 | +.0010 | +.0013 | -.0022 | +.0033 | -.0049 | -.0053 | -.0005 | -.0053 | +.0070 | +.0009 | +.0010 | +.0009 | +.0006 | +.0007 | +.0009 |

\* L.M. = Local Midnight. G.M. = Greenwich Midnight. The difference is expressed in Arc.

TABLE VD.—MEAN VALUES OF THE AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, for the FIRST THREE ORDERS OF HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each YEAR from 1871 to 1882; derived from TABLE IID.

[illegible]

|                 | $\mu_1$    |            |            |            |            |            | $\mu_2$    |            |            |            |            |            | $\mu_3$    |            |            |            |            |            |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                 | $\sigma^0$ | $\sigma^1$ | $\sigma^2$ | $\sigma^3$ | $\sigma^4$ | $\sigma^5$ | $\sigma^0$ | $\sigma^1$ | $\sigma^2$ | $\sigma^3$ | $\sigma^4$ | $\sigma^5$ | $\sigma^0$ | $\sigma^1$ | $\sigma^2$ | $\sigma^3$ | $\sigma^4$ | $\sigma^5$ |
| 1871 -          | 256        | 140        | 232        | 180        | 105        | 251        | —          | 2          | 155        | 151        | 153        | 154        | 150        | 155        | 151        | 151        | 59         | 58         |
| 1872 -          | 284        | 38         | 228        | 148        | 139        | 278        | 116        | 151        | 155        | 155        | 154        | 153        | 153        | 154        | 150        | 56         | 58         | 60         |
| 1873 -          | 250        | 243        | 219        | 139        | 145        | 244        | 139        | 149        | 151        | 152        | 155        | 149        | 151        | 150        | 63         | 56         | 63         | 59         |
| 1874 -          | 249        | 5          | 224        | 278        | 188        | 335        | 146        | 152        | 149        | 152        | 153        | 150        | 152        | 151        | 55         | 58         | 62         | 60         |
| 1875 -          | 279        | 287        | 228        | 177        | 318        | 352        | 101        | 154        | 154        | 153        | 154        | 152        | 153        | 152        | 53         | 55         | 61         | 55         |
| Mean 5 years -  | 264        | 143        | 232        | 184        | 191        | 292        | 100        | 152        | 152        | 153        | 154        | 151        | 153        | 151        | 59         | 58         | 60         | 59         |
| 1876 -          | 255        | 190        | 239        | 168        | 23         | 289        | 85         | 155        | 154        | 152        | 153        | 153        | 152        | 152        | 151        | 58         | 71         | 54         |
| 1877 -          | 271        | 239        | 198        | 180        | 170        | 301        | 120        | 155        | 152        | 153        | 158        | 155        | 157        | 153        | 53         | 53         | 58         | 64         |
| 1878 -          | 282        | 92         | 218        | 172        | 188        | 285        | 195        | 152        | 154        | 153        | 153        | 151        | 152        | 153        | 56         | 57         | 60         | 58         |
| 1879 -          | 265        | 71         | 230        | 336        | 36         | 247        | 82         | 155        | 154        | 155        | 152        | 151        | 155        | 154        | 60         | 60         | 62         | 60         |
| 1880 -          | 222        | 199        | 227        | 159        | 88         | 279        | 168        | 151        | 157        | 154        | 154        | 151        | 155        | 153        | 59         | 61         | 60         | 64         |
| Mean 5 years -  | 259        | 158        | 222        | 203        | 101        | 280        | 100        | 153        | 154        | 153        | 154        | 152        | 154        | 153        | 58         | 58         | 62         | 60         |
| 1881 -          | 198        | 126        | 243        | 167        | 36         | 289        | 111        | 152        | 152        | 152        | 155        | 149        | 152        | 153        | 59         | 59         | 60         | 61         |
| 1882 -          | 256        | 157        | 234        | 11         | 169        | 259        | 80         | 152        | 149        | 153        | 158        | 152        | 156        | 153        | 60         | 57         | 57         | 61         |
| Mean 12 years - | 266        | 147        | 229        | 176        | 139        | 284        | 99         | 153        | 153        | 153        | 154        | 151        | 154        | 152        | 58         | 58         | 60         | 60         |



MEAN VALUES of the AMPLITUDE P, and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL APPARENT MIDNIGHT, for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for the entire YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882: derived from TABLE II.

|               | $\mu_1$        |                |                |                |                |                | $\mu_2$        |                |                |                |                |                | $\mu_3$       |               |               |               |               |               |               |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|               | $^{\circ}$ 258 | $^{\circ}$ 234 | $^{\circ}$ 206 | $^{\circ}$ 240 | $^{\circ}$ 207 | $^{\circ}$ 207 | $^{\circ}$ 150 | $^{\circ}$ 151 | $^{\circ}$ 149 | $^{\circ}$ 154 | $^{\circ}$ 152 | $^{\circ}$ 149 | $^{\circ}$ 29 | $^{\circ}$ 30 | $^{\circ}$ 32 | $^{\circ}$ 31 | $^{\circ}$ 33 | $^{\circ}$ 29 | $^{\circ}$ 32 |
| January       | -              | 200            | 225            | 282            | 286            | -              | 37             | 148            | 151            | 149            | 154            | 152            | 29            | 30            | 32            | 31            | 33            | 29            | 32            |
| February      | -              | 358            | 37             | 170            | 65             | 83             | 152            | 151            | 151            | 148            | 151            | 156            | 32            | 31            | 32            | 31            | 33            | 29            | 33            |
| March         | -              | 243            | 80             | 235            | 74             | 63             | 154            | 155            | 156            | 151            | 153            | 154            | 32            | 35            | 42            | 27            | 40            | 30            | 40            |
| April         | -              | 245            | 37             | 215            | 54             | 42             | 156            | 155            | 155            | 149            | 151            | 150            | 79            | 89            | 94            | 96            | 82            | 94            | 72            |
| May           | -              | 241            | 10             | 232            | 69             | 67             | 155            | 154            | 156            | 151            | 155            | 154            | 97            | 93            | 97            | 98            | 92            | 98            | 97            |
| June          | -              | 278            | 337            | 217            | 28             | 14             | 153            | 155            | 154            | 152            | 156            | 154            | 99            | 103           | 96            | 104           | 95            | 103           | 99            |
| July          | -              | 261            | 265            | 224            | 35             | -              | 154            | 152            | 154            | 152            | 155            | 153            | 96            | 99            | 100           | 101           | 95            | 99            | 98            |
| August        | -              | 185            | 175            | 230            | 275            | 216            | 157            | 152            | 153            | 151            | 154            | 152            | 102           | 98            | 98            | 104           | 91            | 99            | 99            |
| September     | -              | 232            | 237            | 246            | 298            | 267            | 149            | 151            | 154            | 154            | 150            | 155            | 34            | 27            | 26            | 29            | 55            | 33            | 38            |
| October       | -              | 298            | 168            | 249            | 109            | 232            | 149            | 155            | 152            | 156            | 150            | 153            | 34            | 33            | 30            | 31            | 33            | 32            | 34            |
| November      | -              | 295            | 95             | 231            | 203            | 126            | 149            | 152            | 149            | 158            | 152            | 151            | 33            | 33            | 33            | 32            | 35            | 30            | 35            |
| December      | -              | 253            | 150            | 228            | 174            | 131            | 152            | 153            | 153            | 152            | 154            | 152            | 31            | 28            | 34            | 37            | 32            | 30            | 35            |
| Mean 12 years | -              | 253            | 150            | 228            | 174            | 131            | 152            | 153            | 153            | 152            | 154            | 152            | 56            | 58            | 60            | 60            | 60            | 59            | 59            |

| YEARS.        | VALENCIA { Longitude Correction, 10° 18'. |                |                |                |                | ARMAGH { Longitude Correction, 6° 39'. |                |                |                |                | FALMOUTH { Longitude Correction, 5° 42'. |                |                |                |                | GLASGOW { Longitude Correction, 4° 18'. |                |                |                |                |                |                |                |                |   |      |   |      |   |      |   |      |   |      |
|---------------|---|----------------|----------------|----------------|----------------|--|----------------|----------------|----------------|----------------|--|----------------|----------------|----------------|----------------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|------|---|------|---|------|---|------|---|------|
|               | p <sub>1</sub>                            | q <sub>1</sub> | p <sub>2</sub> | q <sub>2</sub> | p <sub>3</sub> | q <sub>3</sub>                         | p <sub>1</sub> | q <sub>1</sub> | p <sub>2</sub> | q <sub>2</sub> | p <sub>3</sub>                           | q <sub>3</sub> | p <sub>1</sub> | q <sub>1</sub> | p <sub>2</sub> | q <sub>2</sub>                          | p <sub>3</sub> | q <sub>3</sub> | p <sub>1</sub> | q <sub>1</sub> | p <sub>2</sub> | q <sub>2</sub> | p <sub>3</sub> | q <sub>3</sub> |   |      |   |      |   |      |   |      |   |      |
|               |   |                |                |                |                |  |                |                |                |                |  |                |                |                |                |   |                |                |                |                |                |                |                |                |   |      |   |      |   |      |   |      |   |      |
| 1871          | +   | 0005           | +              | 0052           | +              | 0082                                   | +              | 0009           | +              | 0004           | +  | 0014           | +              | 0063           | +              | 0066                                    | +              | 0001           | +              | 0008           | +              | 0004           | +              | 0065           | + | 0009 | + | 0006 | + | 0052 | + | 0001 | + | 0010 |
| 1872          | -   | 0021           | -              | 0061           | -              | 0049                                   | -              | 0001           | -              | 0002           | -  | 0030           | -              | 0066           | -              | 0048                                    | -              | 0001           | -              | 0008           | -              | 0016           | -              | 0011           | - | 0007 | - | 0009 | - | 0002 | - | 0004 | - | 0010 |
| 1873          | -   | 0022           | -              | 0035           | -              | 0059                                   | -              | 0008           | -              | 0009           | -  | 0007           | -              | 0066           | -              | 0065                                    | -              | 0011           | -              | 0003           | -              | 0014           | -              | 0042           | - | 0004 | - | 0009 | - | 0003 | - | 0004 | - | 0010 |
| 1874          | -   | 0015           | -              | 0065           | -              | 0067                                   | -              | 0004           | -              | 0004           | -  | 0017           | -              | 0051           | -              | 0052                                    | -              | 0003           | -              | 0008           | -              | 0036           | -              | 0052           | - | 0007 | - | 0004 | - | 0004 | - | 0004 | - | 0010 |
| 1875          | -   | 0002           | -              | 0038           | -              | 0067                                   | -              | 0003           | -              | 0003           | -  | 0012           | -              | 0057           | -              | 0048                                    | -              | 0002           | -              | 0009           | -              | 0051           | -              | 0020           | - | 0002 | - | 0004 | - | 0002 | - | 0004 | - | 0010 |
| Mean 5 years  | -   | 0022           | -              | 0050           | -              | 0069                                   | -              | 0004           | -              | 0008           | -  | 0004           | -              | 0061           | -              | 0056                                    | -              | 0004           | -              | 0006           | -              | 0031           | -              | 0033           | - | 0006 | - | 0006 | - | 0004 | - | 0001 | - | 0010 |
| 1876          | -   | 0013           | -              | 0043           | -              | 0060                                   | -              | 0041           | -              | 0010           | -  | 0008           | -              | 0055           | -              | 0041                                    | -              | 0006           | -              | 0011           | -              | 0024           | -              | 0047           | - | 0061 | - | 0010 | - | 0003 | - | 0004 | - | 0010 |
| 1877          | -   | 0001           | -              | 0048           | -              | 0065                                   | -              | 0039           | -              | 0002           | -  | 0005           | -              | 0011           | -              | 0056                                    | -              | 0021           | -              | 0013           | -              | 0024           | -              | 0018           | - | 0062 | - | 0010 | - | 0003 | - | 0004 | - | 0010 |
| 1878          | -   | 0007           | -              | 0017           | -              | 0067                                   | -              | 0010           | -              | 0001           | -  | 0003           | -              | 0009           | -              | 0043                                    | -              | 0000           | -              | 0009           | -              | 0042           | -              | 0043           | - | 0062 | - | 0007 | - | 0003 | - | 0004 | - | 0010 |
| 1879          | -   | 0017           | -              | 0037           | -              | 0069                                   | -              | 0057           | -              | 0004           | -  | 0007           | -              | 0013           | -              | 0065                                    | -              | 0002           | -              | 0013           | -              | 0031           | -              | 0043           | - | 0073 | - | 0006 | - | 0003 | - | 0004 | - | 0010 |
| 1880          | -   | 0043           | -              | 0016           | -              | 0078                                   | -              | 0060           | -              | 0007           | -  | 0037           | -              | 0077           | -              | 0049                                    | -              | 0002           | -              | 0007           | -              | 0016           | -              | 0028           | - | 0076 | - | 0006 | - | 0003 | - | 0004 | - | 0010 |
| Mean 5 years  | -   | 0013           | -              | 0032           | -              | 0068                                   | -              | 0049           | -              | 0003           | -  | 0009           | -              | 0062           | -              | 0047                                    | -              | 0002           | -              | 0011           | -              | 0027           | -              | 0036           | - | 0067 | - | 0010 | - | 0003 | - | 0004 | - | 0010 |
| 1881          | -   | 0027           | -              | 0029           | -              | 0070                                   | -              | 0058           | -              | 0008           | -  | 0015           | -              | 0061           | -              | 0058                                    | -              | 0006           | -              | 0008           | -              | 0035           | -              | 0040           | - | 0066 | - | 0010 | - | 0003 | - | 0004 | - | 0010 |
| 1882          | -   | 0002           | -              | 0038           | -              | 0069                                   | -              | 0048           | -              | 0002           | -  | 0003           | -              | 0035           | -              | 0057                                    | -              | 0003           | -              | 0018           | -              | 0028           | -              | 0042           | - | 0075 | - | 0010 | - | 0003 | - | 0004 | - | 0010 |
| Mean 12 years | -   | 0008           | -              | 0040           | -              | 0068                                   | -              |                |                |                |  |                |                |                |                |   |                |                |                |                |                |                |                |                |   |      |   |      |   |      |   |      |   |      |

| YEARS.        | $p_1$ | $q_1$   | $p_2$   | $q_2$   | $p_3$   | $q_3$   | $p_1$   | $q_1$   | $p_2$   | $q_2$   | $p_3$   | $q_3$   | $p_1$   | $q_1$   | $p_2$   | $q_2$   | $p_3$   | $q_3$   |
|---------------|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1871          | -     | + '0028 | + '0019 | + '0050 | - '0079 | + '0008 | - '0003 | - '0023 | + '0040 | - '0045 | + '0000 | + '0008 | + '0032 | + '0025 | + '0054 | - '0085 | + '0000 | + '0006 |
| 1872          | -     | - '0016 | + '0012 | + '0052 | - '0065 | + '0008 | - '0004 | - '0036 | + '0043 | - '0053 | + '0003 | + '0007 | + '0008 | + '0030 | + '0046 | - '0076 | - '0004 | + '0011 |
| 1873          | -     | + '0017 | + '0015 | + '0044 | - '0076 | + '0009 | - '0016 | - '0042 | + '0045 | - '0060 | + '0001 | + '0006 | + '0035 | + '0049 | + '0047 | - '0082 | + '0002 | + '0014 |
| 1874          | -     | + '0018 | - '0001 | + '0047 | - '0073 | + '0007 | + '0059 | - '0024 | + '0039 | - '0052 | + '0008 | + '0003 | + '0035 | + '0036 | + '0054 | - '0087 | + '0004 | + '0009 |
| 1875          | -     | - '0000 | + '0001 | + '0051 | - '0067 | + '0002 | + '0013 | - '0002 | + '0043 | - '0050 | + '0010 | + '0007 | + '0011 | + '0031 | + '0057 | - '0083 | + '0000 | + '0012 |
| Mean 5 years  | -     | + '0009 | + '0049 | - '0072 | - '0003 | + '0007 | + '0010 | - '0025 | + '0042 | - '0052 | + '0004 | + '0006 | + '0022 | + '0034 | + '0052 | - '0083 | + '0000 | + '0010 |
| 1876          | -     | + '0023 | + '0010 | + '0046 | - '0060 | + '0008 | + '0004 | - '0000 | + '0043 | - '0056 | + '0006 | + '0009 | + '0018 | + '0036 | + '0044 | - '0075 | + '0004 | + '0012 |
| 1877          | -     | - '0012 | + '0014 | + '0055 | - '0062 | - '0002 | - '0003 | - '0036 | + '0039 | - '0038 | + '0005 | + '0006 | - '0004 | + '0033 | + '0053 | - '0074 | - '0001 | + '0006 |
| 1878          | -     | + '0020 | + '0013 | + '0050 | - '0068 | + '0006 | - '0008 | - '0022 | + '0042 | - '0052 | + '0006 | + '0013 | + '0003 | + '0041 | + '0056 | - '0079 | + '0001 | + '0009 |
| 1879          | -     | + '0039 | + '0009 | + '0050 | - '0073 | + '0004 | - '0013 | - '0016 | + '0047 | - '0050 | + '0000 | + '0007 | + '0018 | + '0026 | + '0054 | - '0079 | + '0004 | + '0008 |
| 1880          | -     | + '0012 | + '0019 | + '0054 | - '0075 | + '0002 | + '0001 | - '0031 | + '0049 | - '0053 | - '0001 | + '0002 | + '0013 | + '0042 | + '0052 | - '0086 | + '0007 | + '0003 |
| Mean 5 years  | -     | + '0014 | + '0013 | + '0051 | - '0068 | + '0006 | - '0001 | - '0021 | + '0044 | - '0050 | + '0003 | + '0007 | + '0010 | + '0036 | + '0054 | - '0079 | + '0001 | + '0008 |
| 1881          | -     | + '0022 | + '0013 | + '0048 | - '0074 | + '0006 | + '0002 | - '0024 | + '0042 | - '0052 | - '0002 | + '0005 | + '0011 | + '0032 | + '0053 | - '0090 | + '0002 | + '0011 |
| 1882          | -     | - '0008 | + '0035 | + '0053 | - '0070 | - '0007 | + '0020 | - '0011 | + '0048 | - '0047 | + '0005 | + '0008 | - '0007 | + '0009 | + '0063 | - '0084 | + '0000 | + '0010 |
| Mean 12 years | -     | + '0011 | + '0013 | + '0050 | - '0070 | + '0006 | + '0006 | - '0022 | + '0043 | - '0051 | + '0003 | + '0007 | + '0014 | + '0033 | + '0054 | - '0082 | + '0001 | + '0009 |

\* Local Midnight later than Greenwich Midnight. The difference is expressed in Arc.



TABLE IVd. *bis*.

MEAN VALUES (reckoned from GREENWICH MEAN MIDNIGHT) of the  $p, q$  COEFFICIENTS of the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE ID.

| MONTHS.       | VALENCIA { Longitude Correction, $10^{\circ} 18'$ } |        |        |        |        |        | ARMAGH { Longitude Correction, $6^{\circ} 38'$ } |        |        |        |        |        | PALMOUTH { Longitude Correction, $5^{\circ} 4'$ } |        |        |        |        |        | GLASGOW { Longitude Correction, $4^{\circ} 18'$ } |        |        |        |        |        |
|---------------|---|--------|--------|--------|--------|--------|--|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|--------|
|               | $P_1$   | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  | $P_1$  | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  | $P_1$   | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  | $P_1$   | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  |
| January       | -.0008  | -.0040 | +.0075 | -.0051 | -.0027 | +.0035 | -.0033   | -.0024 | +.0059 | -.0049 | -.0017 | +.0034 | -.0014  | -.0020 | +.0059 | -.0016 | -.0024 | +.0049 | -.0015  | -.0034 | +.0055 | -.0044 | -.0014 | +.0037 |
| February      | -.0039  | -.0033 | +.0081 | -.0057 | -.0021 | +.0039 | -.0020   | -.0033 | +.0070 | -.0047 | -.0016 | +.0033 | -.0034  | -.0030 | +.0070 | -.0047 | -.0016 | +.0033 | -.0034  | -.0030 | +.0070 | -.0047 | -.0016 | +.0033 |
| March         | +.0037  | -.0013 | +.0085 | -.0052 | -.0009 | +.0007 | -.0000   | +.0027 | +.0070 | -.0049 | -.0016 | +.0033 | -.0034  | -.0030 | +.0070 | -.0047 | -.0016 | +.0033 | -.0034  | -.0030 | +.0070 | -.0047 | -.0016 | +.0033 |
| April         | -.0033  | -.0028 | +.0077 | -.0046 | +.0002 | -.0006 | -.0012   | +.0019 | +.0075 | -.0050 | -.0013 | +.0006 | -.0030  | -.0030 | +.0075 | -.0050 | -.0013 | +.0006 | -.0030  | -.0030 | +.0075 | -.0050 | -.0013 | +.0006 |
| May           | -.0002  | -.0052 | +.0071 | -.0039 | +.0017 | -.0015 | +.0019   | +.0036 | +.0052 | -.0052 | -.0033 | +.0011 | -.0012  | -.0041 | +.0037 | +.0008 | -.0006 | +.0011 | -.0006  | +.0037 | +.0008 | -.0006 | +.0011 | -.0006 |
| June          | +.0024  | -.0009 | +.0001 | -.0034 | +.0016 | -.0011 | +.0021   | +.0021 | +.0037 | -.0044 | +.0014 | -.0011 | -.0012  | -.0041 | +.0037 | +.0008 | -.0006 | +.0011 | -.0006  | +.0037 | +.0008 | -.0006 | +.0011 | -.0006 |
| July          | +.0008  | -.0006 | +.0003 | -.0037 | +.0015 | -.0013 | +.0026   | -.0003 | +.0059 | -.0039 | +.0018 | -.0013 | -.0013  | -.0041 | +.0037 | +.0008 | -.0006 | +.0011 | -.0006  | +.0037 | +.0008 | -.0006 | +.0011 | -.0006 |
| August        | -.0009  | -.0004 | +.0008 | -.0037 | +.0014 | -.0006 | -.0003   | +.0046 | +.0057 | -.0059 | +.0010 | -.0017 | -.0047  | +.0044 | +.0036 | +.0006 | -.0005 | +.0019 | -.0017  | -.0047 | +.0044 | +.0036 | +.0006 | -.0005 |
| September     | -.0019  | -.0031 | +.0073 | -.0048 | -.0001 | +.0008 | -.0003   | +.0046 | +.0057 | -.0059 | +.0010 | -.0017 | -.0047  | +.0044 | +.0036 | +.0006 | -.0005 | +.0019 | -.0017  | -.0047 | +.0044 | +.0036 | +.0006 | -.0005 |
| October       | +.0043  | -.0038 | +.0060 | -.0055 | -.0012 | +.0018 | -.0011   | +.0041 | +.0052 | -.0052 | -.0008 | +.0018 | -.0047  | +.0044 | +.0036 | +.0006 | -.0005 | +.0019 | -.0017  | -.0047 | +.0044 | +.0036 | +.0006 | -.0005 |
| November      | +.0003  | +.0012 | +.0063 | -.0009 | -.0019 | +.0032 | -.0000   | +.0027 | +.0054 | -.0051 | -.0009 | +.0035 | -.0037  | -.0012 | +.0036 | +.0006 | -.0005 | +.0019 | -.0017  | -.0047 | +.0044 | +.0036 | +.0006 | -.0005 |
| December      | +.0021  | -.0020 | +.0054 | -.0031 | -.0021 | +.0040 | -.0009   | +.0019 | +.0055 | -.0051 | -.0011 | +.0041 | -.0010  | -.0010 | +.0055 | -.0051 | -.0011 | +.0041 | -.0010  | -.0010 | +.0055 | -.0051 | -.0011 | +.0041 |
| Mean 12 years | -.0008  | -.0040 | +.0068 | -.0049 | -.0004 | +.0009 | -.0003   | +.0005 | +.0061 | -.0053 | -.0002 | +.0009 | -.0030  | -.0030 | +.0067 | -.0005 | -.0002 | +.0010 | -.0006  | +.0067 | -.0005 | -.0002 | +.0010 | -.0006 |

| MONTHS.       | STONYHURST { Longitude Correction, $2^{\circ} 28'$ } |        |        |        |        |        | ABERDEEN { Longitude Correction, $5^{\circ} 6'$ } |        |        |        |        |        | KEW { Longitude Correction, $0^{\circ} 19'$ } |        |        |        |        |        |
|---------------|--|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|--------|
|               | $P_1$  | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  | $P_1$   | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  | $P_1$   | $P_2$  | $P_3$  | $Q_1$  | $Q_2$  | $Q_3$  |
| January       | +.0003   | -.0007 | +.0055 | -.0070 | +.0017 | +.0040 | -.0001  | -.0016 | +.0043 | -.0045 | -.0007 | +.0033 | +.0003  | +.0051 | -.0076 | -.0013 | +.0047 | +.0009 |
| February      | +.0006   | -.0037 | +.0053 | -.0075 | -.0013 | +.0038 | +.0023  | -.0031 | +.0054 | -.0045 | -.0007 | +.0033 | +.0003  | +.0051 | -.0076 | -.0013 | +.0047 | +.0009 |
| March         | +.0012   | +.0036 | +.0064 | -.0081 | -.0008 | +.0008 | +.0034  | -.0021 | +.0055 | -.0045 | -.0007 | +.0033 | +.0003  | +.0051 | -.0076 | -.0013 | +.0047 | +.0009 |
| April         | +.0031   | +.0045 | +.0057 | -.0083 | -.0003 | +.0003 | -.0012  | -.0027 | +.0055 | -.0045 | -.0007 | +.0033 | +.0003  | +.0051 | -.0076 | -.0013 | +.0047 | +.0009 |
| May           | +.0055   | +.0054 | +.0046 | -.0065 | +.0005 | +.0005 | +.0014  | -.0001 | +.0043 | -.0045 | -.0007 | +.0033 | +.0003  | +.0051 | -.0076 | -.0013 | +.0047 | +.0009 |
| June          | +.0020   | +.0049 | +.0051 | -.0059 | -.0007 | -.0003 | +.0013  | +.0009 | +.0037 | -.0046 | +.0017 | +.0032 | +.0019  | +.0072 | +.0056 | +.0014 | +.0036 | +.0008 |
| July          | +.0009   | +.0006 | +.0046 | -.0053 | +.0010 | -.0001 | +.0030  | -.0009 | +.0036 | -.0046 | +.0017 | +.0032 | +.0019  | +.0072 | +.0056 | +.0014 | +.0036 | +.0008 |
| August        | +.0023   | +.0006 | +.0061 | -.0053 | +.0003 | +.0003 | +.0016  | +.0017 | +.0041 | -.0048 | +.0009 | +.0012 | +.0011  | +.0063 | +.0036 | +.0009 | +.0016 | +.0007 |
| September     | -.0008   | -.0012 | +.0049 | -.0085 | -.0005 | +.0000 | +.0018  | -.0036 | +.0043 | -.0048 | +.0009 | +.0012 | +.0011  | +.0063 | +.0036 | +.0009 | +.0016 | +.0007 |
| October       | +.0023   | +.0011 | +.0040 | -.0081 | -.0002 | +.0004 | +.0018  | -.0036 | +.0043 | -.0048 | +.0009 | +.0012 | +.0011  | +.0063 | +.0036 | +.0009 | +.0016 | +.0007 |
| November      | +.0032   | +.0007 | +.0036 | -.0070 | -.0006 | +.0031 | +.0055  | -.0036 | +.0035 | -.0038 | +.0001 | +.0019 | +.0046  | +.0021 | +.0038 | -.0004 | +.0033 | +.0008 |
| December      | -.0007   | +.0015 | +.0043 | -.0057 | -.0008 | +.0038 | -.0003  | +.0014 | +.0045 | -.0030 | -.0003 | +.0039 | +.0003  | +.0054 | -.0075 | -.0008 | +.0040 | +.0009 |
| Mean 12 years | +.0011   | +.0013 | +.0050 | -.0070 | -.0003 | +.0006 | +.0007  | +.0022 | +.0043 | -.0051 | -.0003 | +.0007 | +.0013  | +.0033 | +.0054 | -.0082 | +.0001 | +.0009 |

\* Local Midnight later than Greenwich Midnight. The difference is expressed in Arc.

TABLE Vd. *bis*.—MEAN VALUES of the AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL MEAN MIDNIGHT, for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each YEAR from 1871 to 1882; derived from TABLE ID.

| YEARS.        | VALENCIA. |        |        |         |         |         | ARMAGH. |        |        |         |         |         | PALMOUTH. |        |        |         |         |         | GLASGOW. |        |        |         |         |         |
|---------------|-----------|--------|--------|---------|---------|---------|---------|--------|--------|---------|---------|---------|-----------|--------|--------|---------|---------|---------|----------|--------|--------|---------|---------|---------|
|               | $P_1$     | $P_2$  | $P_3$  | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$   | $P_2$  | $P_3$  | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$     | $P_2$  | $P_3$  | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$    | $P_2$  | $P_3$  | $\mu_1$ | $\mu_2$ | $\mu_3$ |
| 1871          | +.0078    | +.0098 | +.0024 | +.0024  | +.0026  | +.0027  | +.0030  | +.0036 | +.0040 | +.0040  | +.0040  | +.0040  | +.0049    | +.0056 | +.0062 | +.0062  | +.0062  | +.0062  | +.0062   | +.0062 | +.0062 | +.0062  | +.0062  | +.0062  |
| 1872          | +.0091    | +.0081 | +.0024 | +.0024  | +.0026  | +.0027  | +.0030  | +.0036 | +.0040 | +.0040  | +.0040  | +.0040  | +.0049    | +.0056 | +.0062 | +.0062  | +.0062  | +.0062  | +.0062   | +.0062 | +.0062 | +.0062  | +.0062  | +.0062  |
| 1873          | +.0085    | +.0090 | +.0026 | +.0026  | +.0026  | +.0026  | +.0033  | +.0033 | +.0033 | +.0033  | +.0033  | +.0033  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1874          | +.0085    | +.0084 | +.0024 | +.0024  | +.0024  | +.0024  | +.0034  | +.0034 | +.0034 | +.0034  | +.0034  | +.0034  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1875          | +.0080    | +.0083 | +.0022 | +.0022  | +.0022  | +.0022  | +.0034  | +.0034 | +.0034 | +.0034  | +.0034  | +.0034  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| Mean 5 years  | +.0083    | +.0087 | +.0024 | +.0024  | +.0024  | +.0024  | +.0035  | +.0035 | +.0035 | +.0035  | +.0035  | +.0035  | +.0038    | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  | +.0038   | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  |
| 1876          | +.0071    | +.0074 | +.0024 | +.0024  | +.0024  | +.0024  | +.0034  | +.0034 | +.0034 | +.0034  | +.0034  | +.0034  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1877          | +.0101    | +.0077 | +.0026 | +.0026  | +.0026  | +.0026  | +.0033  | +.0033 | +.0033 | +.0033  | +.0033  | +.0033  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1878          | +.0064    | +.0084 | +.0023 | +.0023  | +.0023  | +.0023  | +.0033  | +.0033 | +.0033 | +.0033  | +.0033  | +.0033  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1879          | +.0088    | +.0091 | +.0028 | +.0028  | +.0028  | +.0028  | +.0034  | +.0034 | +.0034 | +.0034  | +.0034  | +.0034  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1880          | +.0076    | +.0090 | +.0025 | +.0025  | +.0025  | +.0025  | +.0033  | +.0033 | +.0033 | +.0033  | +.0033  | +.0033  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| Mean 5 years  | +.0080    | +.0085 | +.0025 | +.0025  | +.0025  | +.0025  | +.0035  | +.0035 | +.0035 | +.0035  | +.0035  | +.0035  | +.0038    | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  | +.0038   | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  |
| 1881          | +.0072    | +.0091 | +.0027 | +.0027  | +.0027  | +.0027  | +.0034  | +.0034 | +.0034 | +.0034  | +.0034  | +.0034  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| 1882          | +.0069    | +.0092 | +.0026 | +.0026  | +.0026  | +.0026  | +.0033  | +.0033 | +.0033 | +.0033  | +.0033  | +.0033  | +.0036    | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  | +.0036   | +.0036 | +.0036 | +.0036  | +.0036  | +.0036  |
| Mean 12 years | +.0080    | +.0087 | +.0025 | +.0025  | +.0025  | +.0025  | +.0035  | +.0035 | +.0035 | +.0035  | +.0035  | +.0035  | +.0038    | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  | +.0038   | +.0038 | +.0038 | +.0038  | +.0038  | +.0038  |

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TABLE VIId. *bis*.

MEAN VALUES OF THE AMPLITUDE  $P$ , and of the FIRST MAXIMUM  $\mu$ , reckoned from LOCAL APPARENT MIDNIGHT, for the FIRST THREE ORDERS of HARMONIC COMPONENTS of the DIURNAL INEQUALITY of BAROMETRIC PRESSURE at the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, for each MONTH of the YEAR and for the entire YEAR, obtained from 12 YEARS' OBSERVATIONS from 1871 to 1882; derived from TABLE IIId.

| MONTHS.       | VALENCIA. |       |       |         |         |         | ARMAGH. |       |       |         |         |         | FALMOUTH. |       |       |         |         |         | GLASGOW. |       |       |         |         |         |
|---------------|-----------|-------|-------|---------|---------|---------|---------|-------|-------|---------|---------|---------|-----------|-------|-------|---------|---------|---------|----------|-------|-------|---------|---------|---------|
|               | $P_1$     | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$   | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$     | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$    | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ |
| January       | 0074      | 0097  | 0046  | 218     | 150     | 29      | 0070    | 0087  | 0070  | 234     | 151     | 30      | 0067      | 0091  | 0055  | 266     | 149     | 32      | 0075     | 0072  | 0041  | 240     | 154     | 31      |
| February      | 0084      | 0100  | 0029  | 200     | 148     | 32      | 0084    | 0087  | 0084  | 258     | 153     | 31      | 0053      | 0104  | 0035  | 225     | 151     | 32      | 0089     | 0076  | 0029  | 282     | 151     | 33      |
| March         | 0074      | 0101  | 0013  | 328     | 152     | 32      | 0076    | 0092  | 0030  | 37      | 151     | 35      | 0059      | 0108  | 0018  | 170     | 151     | 42      | 0070     | 0092  | 0013  | 256     | 153     | 27      |
| April         | 0061      | 0083  | 0010  | 243     | 154     | 79      | 0068    | 0095  | 0020  | 80      | 155     | 89      | 0066      | 0092  | 0010  | 235     | 156     | 94      | 0074     | 0089  | 0010  | 74      | 151     | 96      |
| May           | 0064      | 0083  | 0023  | 255     | 156     | 97      | 0073    | 0082  | 0017  | 37      | 155     | 93      | 0067      | 0091  | 0021  | 215     | 155     | 97      | 0098     | 0077  | 0017  | 54      | 155     | 98      |
| June          | 0099      | 0079  | 0020  | 241     | 155     | 99      | 0080    | 0075  | 0020  | 10      | 154     | 103     | 0078      | 0080  | 0027  | 232     | 156     | 96      | 0080     | 0068  | 0024  | 69      | 156     | 104     |
| July          | 0081      | 0073  | 0021  | 278     | 153     | 96      | 0071    | 0071  | 0023  | 337     | 155     | 99      | 0073      | 0087  | 0017  | 217     | 154     | 100     | 0037     | 0065  | 0024  | 28      | 156     | 104     |
| August        | 0097      | 0080  | 0016  | 261     | 154     | 102     | 0071    | 0086  | 0023  | 205     | 152     | 98      | 0069      | 0087  | 0017  | 224     | 157     | 98      | 0035     | 0076  | 0016  | 35      | 155     | 104     |
| September     | 0083      | 0091  | 0014  | 185     | 157     | 34      | 0057    | 0089  | 0012  | 175     | 152     | 27      | 0089      | 0102  | 0025  | 230     | 153     | 26      | 0059     | 0089  | 0011  | 275     | 151     | 29      |
| October       | 0075      | 0090  | 0023  | 232     | 149     | 34      | 0074    | 0088  | 0021  | 227     | 151     | 33      | 0079      | 0105  | 0025  | 246     | 154     | 30      | 0080     | 0088  | 0022  | 278     | 154     | 31      |
| November      | 0092      | 0075  | 0038  | 208     | 149     | 33      | 0099    | 0075  | 0037  | 168     | 155     | 33      | 0109      | 0098  | 0037  | 249     | 152     | 33      | 0109     | 0071  | 0030  | 199     | 156     | 32      |
| December      | 0074      | 0077  | 0046  | 295     | 149     | 31      | 0074    | 0078  | 0043  | 95      | 152     | 28      | 0047      | 0099  | 0046  | 231     | 149     | 34      | 0068     | 0076  | 0036  | 203     | 158     | 37      |
| Mean 12 years | 0080      | 0087  | 0035  | 253     | 152     | 58      | 0071    | 0083  | 0035  | 160     | 153     | 58      | 0071      | 0095  | 0027  | 228     | 153     | 60      | 0078     | 0078  | 0023  | 174     | 154     | 60      |

| MONTHS.       | STONYHURST. |       |       |         |         |         | ABERDEEN. |       |       |         |         |         | KEW.  |       |       |         |         |         |
|---------------|-------------|-------|-------|---------|---------|---------|-----------|-------|-------|---------|---------|---------|-------|-------|-------|---------|---------|---------|
|               | $P_1$       | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$     | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ | $P_1$ | $P_2$ | $P_3$ | $\mu_1$ | $\mu_2$ | $\mu_3$ |
| January       | 0061        | 0070  | 0045  | 207     | 149     | 33      | 0089      | 0064  | 0036  | 267     | 152     | 29      | 0062  | 0093  | 0050  | 207     | 140     | 32      |
| February      | 0070        | 0092  | 0033  | 286     | 148     | 34      | 0100      | 0073  | 0028  | 320     | 156     | 29      | 0049  | 0098  | 0035  | — 37    | 152     | 33      |
| March         | 0064        | 0104  | 0014  | 65      | 151     | 40      | 0071      | 0082  | 0018  | 311     | 154     | 30      | 0071  | 0118  | 0024  | 83      | 150     | 40      |
| April         | 0072        | 0101  | 0015  | 63      | 149     | 82      | 0058      | 0082  | 0010  | 262     | 150     | 94      | 0087  | 0116  | 0009  | 57      | 151     | 72      |
| May           | 0087        | 0080  | 0023  | 42      | 151     | 92      | 0058      | 0070  | 0020  | 377     | 153     | 98      | 0107  | 0100  | 0023  | 50      | 154     | 97      |
| June          | 0065        | 0078  | 0025  | 67      | 152     | 95      | 0053      | 0060  | 0024  | 407     | 152     | 103     | 0094  | 0091  | 0027  | 76      | 154     | 99      |
| July          | 0034        | 0071  | 0024  | 14      | 152     | 91      | 0043      | 0058  | 0028  | 321     | 151     | 99      | 0085  | 0087  | 0030  | 71      | 153     | 98      |
| August        | 0058        | 0088  | 0018  | — 17    | 154     | 91      | 0061      | 0065  | 0017  | 290     | 152     | 99      | 0073  | 0099  | 0020  | 65      | 154     | 99      |
| September     | 0034        | 0099  | 0008  | 216     | 149     | 55      | 0062      | 0079  | 0007  | 303     | 152     | 33      | 0045  | 0108  | 0020  | 86      | 152     | 38      |
| October       | 0073        | 0091  | 0025  | 267     | 150     | 33      | 0115      | 0073  | 0020  | 263     | 155     | 32      | 0067  | 0103  | 0035  | 34      | 149     | 34      |
| November      | 0094        | 0080  | 0033  | 232     | 150     | 35      | 0113      | 0064  | 0036  | 228     | 153     | 30      | 0093  | 0091  | 0034  | 214     | 151     | 35      |
| December      | 0064        | 0074  | 0039  | 126     | 152     | 32      | 0077      | 0057  | 0031  | 268     | 162     | 30      | 0051  | 0090  | 0042  | 271     | 152     | 35      |
| Mean 12 years | 0065        | 0087  | 0025  | 131     | 151     | 60      | 0075      | 0069  | 0022  | 301     | 154     | 59      | 0074  | 0099  | 0027  | 98      | 152     | 59      |

COMPARISON between the MEAN MONTHLY and YEARLY BAROMETRIC PRESSURES for the SEVEN OBSERVATORIES of the METEOROLOGICAL OFFICE, obtained by the HARMONIC ANALYSER and by CALCULATION from HOURLY MEASUREMENTS of the 12 YEARS RECORDS (1871 to 1882) yielded by the SELF-RECORDING BAROGRAPHS.

TABLE XIId.

| MONTHS.   | VALENCIA.                       |  | ARMAGH.                         |  | FALMOUTH.                       |  | GLASGOW.                        |  | STONYHURST.                     |  | ABERDEEN.                       |  | KEW.                            |  |
|-----------|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|
|           | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. | Harmonic<br>Analysers<br>Means. | Means from<br>Hourly<br>Measure-<br>ments. |
| January   | -                               | 29.869                                     | 29.651                          | 29.650                                     | 29.766                          | 29.769                                     | 29.651                          | 29.648                                     | 29.541                          | 29.541                                     | 29.724                          | 29.723                                     | 29.982                          | 29.983                                     |
| February  | -                               | 29.848                                     | 29.634                          | 29.632                                     | 29.728                          | 29.725                                     | 29.638                          | 29.627                                     | 29.502                          | 29.496                                     | 29.730                          | 29.726                                     | 29.926                          | 29.928                                     |
| March     | -                               | 29.911                                     | 29.670                          | 29.670                                     | 29.749                          | 29.748                                     | 29.650                          | 29.644                                     | 29.515                          | 29.510                                     | 29.729                          | 29.733                                     | 29.925                          | 29.923                                     |
| April     | -                               | 29.815                                     | 29.628                          | 29.632                                     | 29.642                          | 29.643                                     | 29.650                          | 29.647                                     | 29.472                          | 29.467                                     | 29.774                          | 29.775                                     | 29.838                          | 29.840                                     |
| May       | -                               | 29.985                                     | 29.766                          | 29.769                                     | 29.794                          | 29.794                                     | 29.763                          | 29.757                                     | 29.600                          | 29.594                                     | 29.870                          | 29.868                                     | 29.970                          | 29.969                                     |
| June      | -                               | 29.907                                     | 29.675                          | 29.678                                     | 29.751                          | 29.750                                     | 29.677                          | 29.669                                     | 29.532                          | 29.535                                     | 29.790                          | 29.787                                     | 29.921                          | 29.918                                     |
| July      | -                               | 29.917                                     | 29.661                          | 29.665                                     | 29.765                          | 29.762                                     | 29.645                          | 29.637                                     | 29.511                          | 29.506                                     | 29.739                          | 29.735                                     | 29.915                          | 29.912                                     |
| August    | -                               | 29.891                                     | 29.655                          | 29.656                                     | 29.735                          | 29.734                                     | 29.643                          | 29.635                                     | 29.495                          | 29.493                                     | 29.747                          | 29.739                                     | 29.899                          | 29.895                                     |
| September | -                               | 29.903                                     | 29.675                          | 29.674                                     | 29.738                          | 29.736                                     | 29.663                          | 29.654                                     | 29.517                          | 29.511                                     | 29.754                          | 29.749                                     | 29.914                          | 29.911                                     |
| October   | -                               | 29.824                                     | 29.610                          | 29.612                                     | 29.669                          | 29.670                                     | 29.611                          | 29.604                                     | 29.469                          | 29.465                                     | 29.707                          | 29.704                                     | 29.871                          | 29.871                                     |
| November  | -                               | 29.830                                     | 29.589                          | 29.589                                     | 29.667                          | 29.665                                     | 29.579                          | 29.570                                     | 29.432                          | 29.427                                     | 29.666                          | 29.661                                     | 29.843                          | 29.842                                     |
| December  | -                               | 29.849                                     | 29.603                          | 29.604                                     | 29.708                          | 29.708                                     | 29.590                          | 29.574                                     | 29.459                          | 29.455                                     | 29.662                          | 29.659                                     | 29.888                          | 29.893                                     |
| Year      | -                               | 29.879                                     | 29.651                          | 29.653                                     | 29.726                          | 29.725                                     | 29.647                          | 29.639                                     | 29.504                          | 29.499                                     | 29.741                          | 29.738                                     | 29.908                          | 29.907                                     |

NOTE.—There are no data for the preparation of Tables similar to Nos. VIIb., VIIIb., IXb., Xb., and XIb. of the Greenwich series.



TABLE XIII.

MEAN MONTHLY VALUES OF THE EQUATION OF TIME, the SUN'S DECLINATION and RIGHT ASCENSION and of the APPARENT TIME of SUN-RISE and SUN'S MERIDIONAL ALTITUDE at GREENWICH and at the SEVEN OBSERVATORIES, for each Month in the Year. The time is in angular measure.

|  | JAN.    | FEB.    | MARCH. | APRIL. | MAY.    | JUNE.  | JULY.  | AUGUST. | SEPT.  | OCT.   | NOV.    | DEC.   |
|--|---------|---------|--------|--------|---------|--------|--------|---------|--------|--------|---------|--------|
| Apparent Time = Mean Time                        | -2 25   | -3 31   | -2 1   | -0 2   | +0 52   | -0 4   | -1 20  | -0 40   | +1 26  | +3 30  | +3 35   | +0 57  |
| Sun's Declination                                | S 20 38 | S 12 40 | S 1 4  | N 9 54 | N 17 38 | N 23 9 | N 21 8 | N 13 34 | N 2 45 | S 8 52 | S 18 30 | S 23 2 |
| Sun's Right Ascension                            | 299 15  | 329 0   | 357 30 | 24 0   | 47 15   | 80 30  | 116 45 | 146 15  | 173 30 | 201 0  | 230 30  | 258 15 |
| GREENWICH<br>Lat. 51° 29' N.<br>Long. 0° 0'      | 118 14  | 106 24  | 91 20  | 77 20  | 66 28   | 57 31  | 60 57  | 72 21   | 86 32  | 101 18 | 114 51  | 122 17 |
| Sun Merid. Alt.                                  | 17 53   | 25 51   | 37 27  | 47 25  | 56 9    | 61 40  | 59 39  | 52 5    | 41 16  | 29 39  | 20 1    | 15 29  |
| Kew<br>Lat. 51° 28' N.<br>Long. 0° 19' W.        | 118 13  | 106 24  | 91 20  | 77 20  | 66 28   | 57 32  | 60 58  | 72 22   | 86 32  | 101 18 | 114 51  | 122 16 |
| Sun Merid. Alt.                                  | 17 54   | 25 52   | 37 28  | 47 26  | 56 10   | 61 41  | 59 40  | 52 6    | 41 17  | 29 40  | 20 2    | 15 30  |
| STONYHURST<br>Lat. 53° 51' N.<br>Long. 2° 28' W. | 121 1   | 104 9   | 91 28  | 76 11  | 64 13   | 54 11  | 58 3   | 70 43   | 86 14  | 102 20 | 117 15  | 125 35 |
| Sun Merid. Alt.                                  | 15 31   | 23 29   | 35 5   | 45 3   | 53 47   | 59 18  | 57 17  | 49 43   | 38 54  | 27 17  | 17 39   | 13 7   |
| FALMOUTH<br>Lat. 50° 9' N.<br>Long. 5° 4' W.     | 116 49  | 105 37  | 91 16  | 77 56  | 67 37   | 59 12  | 62 25  | 73 12   | 86 42  | 100 46 | 113 38  | 120 37 |
| Sun Merid. Alt.                                  | 19 13   | 27 11   | 38 47  | 48 45  | 57 29   | 63 0   | 60 59  | 52 25   | 42 36  | 30 59  | 21 21   | 16 49  |
| ABERDEEN<br>Lat. 57° 10' N.<br>Long. 2° 6' W.    | 125 42  | 110 23  | 91 39  | 74 18  | 60 29   | 48 30  | 53 12  | 68 2    | 85 44  | 103 59 | 121 14  | 131 13 |
| Sun Merid. Alt.                                  | 12 12   | 20 10   | 31 46  | 41 44  | 50 28   | 55 59  | 53 58  | 46 24   | 35 35  | 23 58  | 14 20   | 9 48   |
| GLASGOW<br>Lat. 55° 53' N.<br>Long. 4° 18' W.    | 123 46  | 109 23  | 91 35  | 75 4   | 62 1    | 50 52  | 55 13  | 69 8    | 85 26  | 103 19 | 119 36  | 128 52 |
| Sun Merid. Alt.                                  | 13 29   | 21 27   | 33 3   | 43 1   | 51 45   | 57 16  | 55 15  | 47 41   | 36 52  | 25 15  | 15 37   | 11 5   |
| ARMAGH<br>Lat. 54° 21' N.<br>Long. 6° 39' W.     | 121 40  | 108 16  | 91 29  | 75 55  | 63 42   | 53 25  | 57 23  | 70 20   | 86 10  | 102 34 | 117 49  | 126 21 |
| Sun Merid. Alt.                                  | 15 1    | 22 59   | 34 35  | 44 33  | 53 17   | 58 48  | 56 47  | 49 13   | 38 24  | 26 47  | 17 9    | 12 37  |
| VALENCIA<br>Lat. 51° 55' N.<br>Long. 10° 18' W.  | 119 43  | 106 40  | 91 22  | 77 8   | 66 4    | 56 56  | 60 27  | 72 4    | 86 29  | 101 29 | 115 17  | 122 52 |
| Sun Merid. Alt.                                  | 17 27   | 25 25   | 37 1   | 46 59  | 55 43   | 61 14  | 59 13  | 51 39   | 40 50  | 29 13  | 19 35   | 15 3   |