# ROYAL ASTRONOMICAL SOCIETY. 

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Dr. Lee, V.P., in the Chair.<br>John Saunders Muir, Esq., 15 Harrington Square;<br>R. Hartley Kennedy, Esq, Kennington Lodge;<br>George Hamilton, Esq., Egremont, Cheshire ; and<br>William Tomlinson, Esq., Grove Lodge, York, were balloted for and duly elected Fellows of the Society.<br>Dr. Brünnow, Ann Arbor, Michigan ;<br>Lieut. M. F. Maury, U.S.N., Director of the National Observatory, Washington; and<br>Dr. Benj. Althorpe Gould, Cambridge, Massachussets, were balloted for and duly elected Associates of the Society.

Professor Hansen has announced in a letter to the Astronomer Royal that his Lunar Tables are steadily advancing towards completion. The Lords of the Admiralty have assigned to him an additional grant of rool. towards defraying the expense of their construction.

The Astronomical Journal, edited by Dr. B. A. Gould, may be obtained of Messrs. Trübner and Co., 12 Paternoster Row, who have been appointed agents for the sale of that publication in England. It is published at irregular intervals in numbers twentyfour of which form a volume. The price of each volume is 25 s .

## Extract of a Letter from Thomas Maclear, Esq. on the Observations of Schweizer's Comet (Comet II. 1853).

" I hasten to submit to the Royal Astronomical Society with the least practicable delay the accompanying revisal copy of the observations made here on Schweizer's Cicmet.
" On receiving last Tuesday the Society's Notice, No. 8, vol. xiv., which contains Professor Challis's determination of the mean places of the stars compared with the comet, I referred to Notice No. I of the same volume to collate the approximate places
sent from hence, when the accidental sight of an expression detected an oversight in the reduction of a considerable portion of the comet comparisons,-viz. the measures on the parallel for differences in right ascension by means of the micrometer screw (marked by the letter $d$ in column 8) were inadvertently multiplied instead of divided by sine north polar distance; and the signs of those of May 20, 21 , and June 4, should be changed.
"The present paper represents the observations corrected for the effect of refraction ; and I rather hope than expect that it may be received in time to prevent any use being made of the former communication for the elements of the orbit. Moreover, I shall exceedingly regret if the oversight above mentioned should impair the confidence these observations deserve.

Thomas Maclear.

"P.S. Referring to the original register of the observations for the approximate place of star No. 21, where there is a diagram of the field of the telescope, there must have been an error in copying, for the difference in R.A. is there entered $+4^{5}$, and in polar distance - $\mathbf{I I}^{\prime} 1 \mathbf{1 7}^{\prime \prime}$.
"On referring this week to the heavens, I find by micrometric measurement, corrected for refraction, $+4^{8 .} 455$ and - $11^{\prime} 23^{\prime \prime} \cdot 18$. Applying these numbers to the mean place of star 20 given by Professor Challis, the R.A. of star 21 is $7^{\mathrm{h}} 1 \mathrm{I}^{\mathrm{m}} 19^{\mathrm{s}} 33$, N.P.D. $103^{\circ} 26^{\prime} 24^{\prime \prime} 55$."

## Revised Copy of the Observations made on Schweizer's Comet at the Cape of Good Hope. By Thomas Maclear, Esq.

The observations are corrected for refraction only.
The letters $i$ and $d$ in column 8 denote respectively the right-ascension differences obtained by transits, or by the subtense of the spider lines as given by the micrometer scale.

| 1853. | Cape <br> Mean <br> Time. | Difference in R.A. | No. of Obs. in R.A. | Difference in N.P.D. | No. of Obs. in N.P.D. | No. of Star. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| May I | h m s | m |  | , |  |  |  |
|  | $74628 \cdot 10$ | ... | ... | +2 50.24 | 2 | I |  |
|  | $75^{6637 \cdot 29}$ | -1 $46 \cdot 532$ | 2 | $\ldots$ | ... | 1 | $t$ |
|  | $8 \quad 6 \quad 17 \times 36$ | ... | $\ldots$ | +3 $38 \cdot 17$ | 2 | 1 |  |
|  | $82637 \cdot 32$ | ... | $\ldots$ | +425.86 | 5 | 1 |  |
|  | 83717.28 | -- 34.479 | 1 | ... | .. | 1 | $t$ |
| 3 | $71949 \cdot 87$ | ... | $\ldots$ | + 512.82 | 3 | 2 |  |
|  | $74223 \cdot 62$ | - 12.658 | 4 | ... | ... | 2 | $t$ |
|  | $74223 \cdot 62$ | -I 34.739 | 4 | ... | ... | 3 | $t$ |
|  | $74223 \cdot 62$ | -1 53.530 | 4 | ... | .. | 4 | $t$ |
|  | $75^{6} 28 \cdot 52$ | ... | $\cdots$ | + 525.34 | 3 | 2 |  |
|  | 81029.46 | -0 50*447 | 3 | ... | ... | 2 |  |

Clouded on the 2d.

| 1853. | Cape Mean Time. | Difference in R.A. | No. of Obs. in R.A. | Difference in N.P.D. | No. of Obs. in N.P.D. | No. of Star. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| May 3 | h ma <br> 9 II | $\begin{array}{cc} \mathrm{m} & \mathrm{~s} \\ -0^{1} & 1623 \end{array}$ | 8 | '... | ... | 2 | $t$ |
|  | 91832.71 | ... | ... | + $541 \times 45$ | I | 2 |  |
|  | 6351159 | ... | ... | $-45^{6 \cdot 02}$ | 2 | 5 |  |
|  | $65718 \cdot 62$ | +o 34.348 | 9 | ... | ... | 5 | $t$ |
|  | $65718 \cdot 62$ | -- 17.970 | 9 | ... | ... | 6 | $t$ |
|  | $71442 \cdot 60$ | ... | ... | - 3 19'55 | 2 | 6 |  |
|  | 72254.73 | -0 3*370 | 9 | ... | ... | 6 | $t$ |
|  | $735 \quad 59 \cdot 60$ | ... | ... | $-3^{20.31}$ | 2 | 6 |  |
|  | 8 8 11.72 | +0 25:340 | 5 | ... | ... | 6 | $t$ |
|  | 83021.54 | ... | ... | - 319.85 | 3 | 6 |  |
|  | $84449 \cdot 83$ | +0 44.486 | 3 | ... | ... | 6 | $t$ |
|  | 81053.45 | -1 $22 \cdot 002$ | 3 | ... | ... | 7 | $t$ |
|  | 83021.54 | ... | ... | - I 442 | 3 | 7 |  |
|  | $85028 \cdot 63$ | -0 58.841 | 6 | ... | $\ldots$ | 7 | $t$ |
|  | $913 \quad 5 \cdot 16$ | ... | $\cdots$ | - I 7.67 | 2 | 7 |  |
| 5 | $7 \bigcirc 27.44$ | $\ldots$ | ... | + 1128.42 | 1 | 8 |  |
|  | $7 \quad 37 \quad 17 \times 49$ | -7 29.912 | 1 | ... | ... | 8 | $t$ |
| 7 | 7343.40 | + 114.379 | 4 | ... | $\ldots$ | 9 | $t$ |
|  | 7193718 | ... | ... | -10 13.21 | 2 | 9 |  |
|  | $\begin{array}{llll}7 & 36 & 149\end{array}$ | +122.408 | 3 | ... | ... | 9 | $t$ |
|  | $8 \quad 3 \quad 37.29$ | $\ldots$ | ... | -10 23.67 | 3 | 9 |  |
|  | 9-3 57.54 | ... | ... | -10 31.27 | 2 | 9 |  |
|  | 91116.84 | +147.781 | 1 | ... | ... | 9 | $t$ |
|  | 7343.40 | -0 46.079 | 4 | ... | $\ldots$ | 10 | $t$ |
|  | 72534.21 | ... | $\cdots$ | $-736 \cdot 70$ | - | 10 |  |
|  | $\begin{array}{llll}7 & 3 & 1.49\end{array}$ | -0 $37 \cdot 838$ | 3 | ... | ... | 10 | $t$ |
|  | 835180 | ... | ... | $-752 \cdot 92$ | 2 | 10 |  |
|  | 9 11 16.84 | -0 12.661 | 1 | ... | ... | 10 | $t$ |
| - 8 | $62336 \cdot 26$ | -0 34.350 | 4 | ... | ... | II | $t$ |
|  | $64436 \cdot 46$ | ... | ... | - 128.88 |  | 11 |  |
|  | $62336 \cdot 26$ | -1 1.502 | 4 | ... | ... | 12 | $t$ |
|  | $650 \quad 267$ | ... | ... | $+359.82$ | 22 | 12 |  |
|  | 623 36.26 | -2 20.278 | 4 | ... | ... | 13 | $t$ |
|  | $7 \times 22 \cdot 20$ | $\cdots$ | ... | + 1054.81 | I 3 | 13 |  |
| 9 | $\begin{array}{llll}7 & 2 & 3.47\end{array}$ | +2 3I'153 | 2 | ... | ... | 13 | $t$ |
|  | 73053.78 | +2 36.305 | I | ... | $\cdots$ | 13 | $t$ |
|  | $74320 \cdot 78$ | ... | ... | + 64717 | 7 | 13 |  |
|  | $8 \quad 231 \cdot 62$ | $+242.029$ | 5 | ... | ... | 13 | $t$ |
|  | 8 19 33.00 | ... | $\cdots$ | $+639 \cdot 63$ | 32 | 13 |  |

May 5. Owing to clouds these observations only could be obtained.
7. Angle of position of comet's tail, $118^{\circ} 40^{\prime}$. No. 10 is in the comet's tail.
9. Angle of position of comet's tail, $121^{\circ} 30^{\prime}$. Nucleus remarkably bright.

| 1853. | Cape Mean Tlime. $\square$ | Difference in R.A. | No. of Obs in R.A. | Difference in N.P.D. | No. of Obs. in N.P.D | No. of Star. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| May 10 | 7 II 44.27 | ${ }^{\text {a }}$ | ... | $\begin{array}{lll}-3 & 6 \cdot 40\end{array}$ | 2 | 14 |  |
|  | 73039.76 | -0 27.602 | 1 | ... | ... | 14 | $t$ |
| II | 63625.27 | +o 44.368 | 3 | $\cdots$ | $\ldots$ | 15 | $t$ |
|  | 7 - 34.48 | ... | ... | + $537 \times 06$ | 4 | 15 |  |
|  | 7212738 | +0 50.129 | 4 | $\cdots$ | ... | 15 | $t$ |
|  | 81259.09 | $\ldots$ | ... | $+520 \cdot 65$ | 4 | 15 |  |
|  | 832506 | +o 58.440 | 4 | $\ldots$ | ... | 15 | $t$ |
|  | 63625.27 | - I 37.933 | 3 | ... | ... | 16 | $t$ |
|  | 7 - 34.48 | ... | ... | +12.07 | 4 | 16 |  |
|  | 7212738 | -1 32.201 | 4 | $\cdots$ | ... | 16 | $t$ |
|  | 81259.09 | $\cdots$ | ... | +0 $45^{1} 13$ | 4 | 16 |  |
|  | 832506 | -I 23.953 | 4 | ... | ... | 16 | $t$ |
| 12 | 64144.35 | ... | ... | + 120.44 | 6 | 17 |  |
|  | 6545774 | -0 1.515 | 8 | ... | ... | 17 | d |
|  | $7 \quad 2 \quad 55.05$ | -0 0.727 | 9 | ... | ... | 17 | $d$ |
|  | $715 \quad 7 \cdot 60$ | ... | ... | + 1 14.82 | 9 | 17 |  |
|  | $\begin{array}{llll}7 & 3^{6} & 9097\end{array}$ | +o 2.656 | 14 | ... | ... | 17 | d |
|  | 8 10 38.13 | ... | ... | +15.85 | 5 | 17 |  |
|  | 8 19 36.27 | +o 71158 | 5 | $\cdots$ | $\ldots$ | 17 | $d$ |
| 14 | $72756 \cdot 82$ | ... | ... | -5 52.53 | 3 | 17 |  |
|  | $8432 \cdot 88$ | + $428 \cdot 769$ | 5 | ... | ... | 17 | $t$ |
|  | $84250 \cdot 40$ | $\ldots$ | ... | $\begin{array}{lll}-6 & 6 \cdot 18\end{array}$ | 5 | 17 |  |
| 15 | $63258 \cdot 31$ | ... | ... | + 334.95 | 5 | 18 |  |
|  | 649 34.79 | -0 $37 \cdot 701$ | 5 | ... | ... | 18 | $t$ |
|  | $7 \quad 742 \cdot 58$ | -0 36.625 | 5 | ... | ... | 18 | $d$ |
|  | $72452 \cdot 76$ | ... | ... | + 327.48 | 5 | 18 |  |
|  | $740 \quad 2 \cdot 46$ | -0 $34 \cdot 625$ | 5 | ... | ... | 18 | d |
|  | 749 22.93 | ... | ... | + $322 \cdot 72$ | 5 | 18 |  |
|  | 8 - $34 \cdot 68$ | -0 33.223 | 5 | ... | ... | 18 | d |
|  | 8 II 40.64 | ... | - | +320.33 | 5 | 18 |  |
| 16 | $62043 \cdot 76$ | ... | $\ldots$ | + $742 \cdot 4 \mathrm{I}$ | 5 | 19 |  |
|  | $63235 \cdot 8 \mathrm{I}$ | -0 27.532 | 5 | ... | ... | 19 | $d$ |
|  | 64049.26 | ... | ... | $+738 \cdot 85$ | 5 | 19 |  |
|  | 65334.76 | -0 26.166 | 5 | ... | ... | 19 | d |
|  | $7 \quad 3 \quad 28 \cdot 35$ | ... | ... | +7 37*75 | 5 | 19 |  |
|  | 71424.55 | -0 24.868 | 5 | ... | ... | 19 | d |
|  | 72115.63 | ... | ... | +7 33.79 | 5 | 19 |  |

May 10. Clouded after these observations.
II. Angle of position of comet's tail, $115^{\circ} 40^{\prime}$. Nucleus less bright; halo round the head more diffused.
12. Angle of position of comet's tail, $117^{\circ} 30^{\prime}$
$\begin{array}{lllll}\text { I4. } & , & , & \text { II8 } & \circ \\ 15 . & , & \text { II7 } & 35\end{array}$

| 1853. | Cape <br> Mean <br> Time. | Difference in R.A. | No. of Obs. in R.A. | Difference in N.P.D. | No. of Obs. in N.F.D. | No. of Star. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| May 16 | $\begin{array}{ccc} \mathrm{h} & \mathrm{~m} & \mathrm{~s} \\ 7 & 37 & 17040 \end{array}$ | m <br> -0.2 <br> 2.256 | 5 | '... | ... | 19 | d |
|  | $74910 \cdot 05$ | ... | ... | + 728.26 | 5 | 19 |  |
|  | $75744 \cdot 84$ | -0 22.118 | 5 | ... | ... | 19 | $d$ |
|  | 82120.18 | ... | ... | +723*12 | 5 | 19 |  |
|  | $\begin{array}{lll}615 & 6 \cdot 14\end{array}$ | -0 17.635 | 5 | ... | ... | 20 | $d$ |
|  | 616000 | -0 22.284 | 5 | ... | ... | 21 | d |
|  | $65^{68} 5177$ | ... | ... | $-75^{6 \cdot 53}$ | 5 | 20 |  |
|  | $\begin{array}{llll}7 & 5 & 4\end{array}$ | - $\cdot$. | ... | + 326.32 | 5 | 21 |  |
|  | $71643 \cdot 34$ | -0 14.416 | 5 | ... | ... | 20 | $d$ |
|  | $71812 \cdot 00$ | -0 19.047 | 5 | $\cdots$ | ... | 21 | $d$ |
|  | $72854 \cdot 65$ | ... | ... | -8 0.01 | 5 | 20 |  |
|  | $73451 \cdot 87$ | ... | $\ldots$ | + 326.49 | 5 | 21 |  |
|  | 747 36.38 | -0 12.801 | 5 | ... | ... | 20 | $d$ |
|  | 74838.21 | -0 17.328 | 5 | ... | ... | 21 | $d$ |
|  | $8 \quad 419.63$ | ... | ... | $\begin{array}{lll}-8 & 0 \cdot 36\end{array}$ | 5 | 20 |  |
|  | 8958.11 | $\cdots$ | $\ldots$ | +317934 | 5 | 21 |  |
| 20 | $64220 \cdot 46$ | -0 13.130 | 5 | ... | ... | 22 | $d$ |
|  | 64923.50 | ... | ... | -0 48.62 | 5 | 22 |  |
|  | $\begin{array}{lll}6 & 55 & 1.77\end{array}$ | -0 12.631 | 5 | ... | ... | 22 | $d$ |
|  | $\begin{array}{llll}7 & 2 & 5548\end{array}$ | ... | ... | -0 51.64 | 5 | 22 |  |
|  | $\begin{array}{lllll}7 & 8 & 59.68\end{array}$ | -0 11*939 | 5 | ... | ... | 22 | $d$ |
| * | 71543.57 | ... | ... | -0 50.25 | 5 | 22 |  |
|  | $72117 \cdot 66$ | -0 11499 | 5 | ... | ... | 22 | $d$ |
| 21 | $64126 \cdot 83$ | ... | ... | +6 3.15 | 5 | 23 |  |
|  | $64947 \cdot 26$ | +0 15.169 | 5 | ... | ... | 23 | $d$ |
|  | 6.5544 .28 | ... | ... | +6 3.05 | 5 | 23 |  |
|  | $\begin{array}{llll}7 & 2 & 29.57\end{array}$ | +0 15.464 | 5 | ... | $\ldots$ | 23 | d |
|  | $\begin{array}{llll}7 & 9 & 28.82\end{array}$ | ... | $\cdots$ | +6 1.23 | 5 | 23 |  |
| 23 | $63526 \cdot 93$ | ... | ... | +751.42 | 5 | 24 |  |
|  | $648 \quad 36 \cdot 57$ | -0 2.862 | 5 | ... | ... | 24 | $d$ |
|  | $7 \quad 021.44$ | -- 2.726 | 5 | ... | ... | 24 | $\boldsymbol{d}$ |
|  | 7 9 41.51 | -0 2.275 | 5 | ... | $\ldots$ | 24 | $d$ |
|  | $71844 \cdot 82$ | $\cdots$ | ... | +741.29 | 5 | 24 |  |
| 28 | $62755^{\circ} \mathrm{21}$ | $\cdots$ | ... | +455*45 | 5 | 25 |  |
|  | 64559.48 | -0 31.904 | 5 | ... | ... | 25 | $d$ |
|  | $65^{6}$ 48.34 | -0 31•935 | 5 | ... | ... | 25 | $d$ |
|  | $7 \quad 6 \quad 1 \cdot 61$ | ... | ... | +4 51*99 | 5 | 25 |  |
| 29 | 61320.56 | -0 6919 | 5 | $\ldots$ | ... | 25 | d |

May 17. Angle of position of comet's tail $118^{\circ} 45^{\prime}$.
20. The comet is faint, partly owing to the moonlight. The tail barely distinguishable.
22. Thin clouds. The comet is very indistinct.
29. The comet is very faint.

| 1853. | Cape <br> Mean <br> Time. | Difference in R.A. | $\begin{aligned} & \text { No. of } \\ & \text { Obs. in } \\ & \text { R.A. } \end{aligned}$ | Difference in N.P.D. | $\begin{aligned} & \text { No. of } \\ & \text { Obs. in } \\ & \text { N.P.D. } \end{aligned}$ | No. of Star. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| May 29 | $\begin{array}{ccc} \mathrm{h} & \mathrm{~m} & \mathrm{~s} \\ 6 & 20^{2} & 29 \cdot 69 \end{array}$ | m ... | ... | + ${ }^{\prime} 32 \prime \prime 25$ | 5 | 25 |  |
|  | 62917.02 | -0 6.573 | 5 | ... | ... | 25 | d |
|  | $63510 \cdot 81$ | ... | ... | $+230 \cdot 35$ | 5 | 25 |  |
|  | 640 52.64 | -0 6.273 | 5 | ... | ... | 25 | d |
| 31 | $62432 \cdot 60$ | +038.938 | 5 | ... | ... | 25 | $d$ |
|  | $631 \quad$ c.12 | ... | $\cdots$ | -2 $\quad 5 \cdot 16$ | 5 | 25 |  |
|  | $63746 \cdot 37$ | +o38.917 | 5 | ... | ... | 25 | $d$ |
|  | $64657 \cdot 97$ | ... | ... | -2 9.65 | 5 | 25 |  |
|  | $\begin{array}{lllllllllllllllll}6 & 54\end{array}$ | +o38.865 | 5 | ... | ... | 25 | $d$ |
| June 1 | 62712.98 | ... | ... | +10 1.96 | 5 | 26 |  |
|  | $63457 \cdot 26$ | -0 50.387 | 5 | ... | ... | 26 | $d$ |
|  | 64152.68 | ... | ... | +9 $58 \cdot 95$ | 5 | 26 |  |
|  | $6 \quad 5017 \cdot 87$ | -0 49*796 | 5 | ... | ... | 26 | $d$ |
|  | 71434.44 | -0 48.083 | 3 | ... | ... | 26 | $t$ |
|  | 71434.44 | +1 0.237 | 3 | $\ldots$ | $\ldots$ | 25 | $t$ |
|  | $72449 \cdot 65$ | ... | ... | $-423 \cdot 62$ | 5 | 25 |  |
| 2 | 62725.54 | + 18.965 | 3 | ... | $\ldots$ | 25 | $t$ |
|  | $645 \quad 16 \cdot 64$ | ... | ... | $-6 \quad 26 \cdot 94$ | 4 | 25 |  |
|  | $7 \quad 1 \quad 22.02$ | +1 19.253 | 2 | ... | ... | 25 | $t$ |
|  | 62725.54 | -1 24.261 | 3 | ... | ... | 27 | $t$ |
|  | 64516.64 | ... | $\ldots$ | -2 53*07 | 4 | 27 |  |
|  | 7 1 22.02 | - $123 \cdot 896$ | 2 | ... | $\ldots$ | 27 | $t$ |
| 3 | $\begin{array}{ll}6 & 3653.39\end{array}$ | ... | ... | $+554.40$ | 5 | 26 |  |
|  | $645 \quad 8 \cdot 39$ | -0 11.989 | 5 | ... | $\ldots$ | 26 | $d$ |
|  | 65220.58 | ... | ... | +5 53.80 | 5 | 26 |  |
| 4 | $\begin{array}{llll}7 & 722 \cdot 67\end{array}$ | ... | $\ldots$ | + 353.75 | I | 26 |  |
|  | 71312.69 | +o 5.810 | 2 | ... | ... | 26 | d |
|  | $7 \quad 2519.64$ | ... | ... | +3 47.42 | 2 | 26 |  |
| 5 | $63448 \cdot 27$ | ... | $\cdots$ | +2 4\%91 | 3 | 26 |  |
|  | $64521 \cdot 34$ | +0 22.608 | 5 | ... | ... | 26 | d |
|  | 65512.79 | ... | $\cdots$ | $+2 \quad 4 \cdot 20$ | 3 | 26 |  |
| 7 | 635 58.61 | ... | $\ldots$ | -1 $22 \cdot 38$ | 3 | 26 |  |
|  | $647 \quad 3 \cdot 93$ | +0 54.498 | 10 | ... | ... | 26 | d |
|  | $65843 \cdot 86$ | ... | ... | - 124.30 | 5 | 26 |  |
|  | $7{ }_{7} 1636 \cdot 13$ | +o 54.550 | 10 | ... | ... | 26 | $t$ |
|  | $73140 \cdot 34$ | ... | ... | -1 $26 \cdot 34$ | 2 | 26 |  |
| 8 | 649 9*52 | +18199 | 5 | ... | $\cdots$ | 26 | $t$ |
|  | $7 \begin{array}{llll}7 & 7 & 54.37\end{array}$ | $\ldots$ | $\cdots$ | -2 59.49 | 10 | 26 |  |
|  | 72644.26 | +19.505 | 3 | ... | $\ldots$ | 26 | $t$ |

June 1. The measurements diminish in precision owing to the faintness of the comet.
3. The comet is very faint.
4. Generally clouded. These observations only could be obtained.

