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Supplemental Notice.

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*On the Determination of Personal Equation by Observations
of the Projected Image of the Sun.*

(Letter from C. Ragoonaiha Charey to Captain W. S. Jacob.)

“I beg to trouble you once more on the subject of the Observation of the Sun’s Image. Prior to your departure to England, you were good enough to approve the observations of the above, taken by me with the transit instrument of the observatory, and you yourself continued to make a few observations, together with two or three observers simultaneously; and on my addressing you while here, on the 23rd April, 1858, (a copy of which is herein enclosed), you were pleased to apprise me that you find no deficiency in the mode of observation, that you will consult on the subject with some of the scientific friends in England, and will inform me the same.

“Having had in view for personal conference on the subject after your arrival in India, I was hitherto unmindful of intruding upon your valuable time; but, to our greatest misfortune, we came to know that you gave up your appointment as astronomer at Madras.

“Though I have a very poor knowledge in scientific matters, yet I presume to think from little experience that this mode of observing the sun is in no way adverse to accuracy, but it only adds a greater weight (than that we have hitherto obtained) to the result of observations, in proportion to the increase of the number of simultaneous observers; and, further, it affords ample opportunities to ascertain the personal equation of the observers easily.

“I happened to see a few months ago in the introduction of the first volume of the *Washington Observations*, p. 49, where Lieutenant Maury, the Director of the Observatory, states as follows, ‘I have made trials for a personal equation, but could not succeed in establishing any uniformity as to the difference of eye and ear among the observers.’

“One of these experiments consisted in casting, by a proper adjustment of the eye-piece, a sharp image of the sun and wires at the time of transit, upon a screen placed at a little distance from the telescope, and to require each of the four officers to observe and record in silence the transit of the sun. The differ-

Note from the Astronomer Royal to the Editor.

"In the last number of the *Monthly Notices* there is an account of the occultation of *Saturn* on May 8, as observed at Wimbledon by Mr. Pollock. I do not doubt the perfect accuracy of the description; but I do not clearly understand the tenor of the remarks which follow it.

"The phenomena of diffraction are produced as distinctly by the lens of the eye as by the object-glass of a telescope. They are, however, enormously increased by the want of accurate definition in the eye. Very few eyes (especially among those accustomed to look at near objects), perhaps none, see the moon without an enlargement of its diameter to the extent of several minutes of arc. This will easily be perceived upon examining, with the naked eye, the moon at the latest period at which the obscure disk is visible, or 'the young moon with the old moon in her arms,' when it will be seen that the apparent limb of the bright surface belongs to a much larger circle than that of the dark surface. I need not say that this entirely explains the appearance of projection.

"The irradiation of the planet has no part in producing the appearance of projection.

"The expression, 'projection of a fixed star upon the moon's disk after it should have disappeared behind it,' refers to some supposition with which I am not acquainted. The disappearance occurs, I conceive, exactly at the time at which it ought to occur, but the image of the moon's limb expands at that time so as to cover that of the planet; in the case of view with a telescope adjusted to focus, in consequence of diffraction; and in the case of view with the unarmed eye, in consequence principally of the imperfect definition by the eye.

"Royal Observatory, Greenwich, Oct. 4, 1859."

List of Star-Magnitudes not included in Baily's edition of Lalande's Histoire Céleste. By M. Hencke.

(Extract of a Letter to the Astronomer Royal.)

"Will you kindly permit me to annex a list of star-magnitudes, not given in Baily's Lalande's Catalogue: should these deficiencies already be supplied, and I thus come too late, still I hope that my list may not be quite superfluous, as the estimation of magnitude by a second person may be useful in doubtful instances. In any case, will you kindly accept the intention for the deed? Willingly would I annex, besides, a list of the many errors (nearly 3000) contained in that Catalogue, which I discovered in the course of making my Charts (segments of a 14-foot sphere), but with that also I shall, perhaps, come too late: moreover, this catalogue of faults might itself be still faulty, as I have been guided by eye-estimation only. At all events, I shall expect your kind command. A similar catalogue, referring to the Star-Charts of the Berlin Academy, stands equally at your service.