

per cent. confirmation, and the Relativity value is wrong by 100%.

III. I shall reply to the criticisms separately.

S. M. SULAIMAN.

New Delhi,
January 28, 1938.

¹ *Science and Culture*, 1937, pp. 322-23.

I CRAVE the hospitality of your columns to say a few words regarding the communication of Sir S. M. Sulaiman appearing elsewhere in this issue. Since it was I that brought to your notice the article by Evershed in the *Observatory* (Oct. 1937, p. 266) extracts from which have been published in the December issue of your Journal, I feel it necessary to make some remarks.

It is with great reluctance that I have to call your attention to the title which Sir Sulaiman has chosen for his rejoinder. I may be pardoned for saying that such a procedure, which is unfortunately becoming rather too common, savours more of personal advertisement than of a genuine scientific controversy.

Sir Shah Sulaiman says: "According to my theory there should be an excess of at least 33 per cent." A theory which, on his own statement, is so indefinite can scarcely be expected to be taken seriously. To seek support for it in residual discrepancies between observation and the magnitude of the Einstein shift does not appear to be a useful procedure.

Sir Sulaiman attaches the greatest importance to Dr. Royds' recent eclipse observations and claims that, judged by them, his theory has had a cent. per cent. confirmation. But Dr. Royds' own conclusions¹ do not at all support this contention; for according to Dr. Royds,

"the relativity theory, or any other theory requiring a general displacement of solar wave-lengths is not adequate to furnish a complete explanation of solar displacements."

Sir Sulaiman has misunderstood Evershed's reference to a hypothetical observer on the planet Pluto. Evershed has used the illustration just to emphasise the point that relativity gives a satisfactory explanation of the solar spectral shift in a general sort of way. It appears therefore hardly fair to remark

that he advocates the ignoring of the observed discrepancies altogether, and to suggest that an observation of the Einstein shift be made from Sirius. One might as well suggest an observer on the Andromeda Nebula wherefrom the solar system itself would not be seen!

One thing that is clear from Sir Sulaiman's reply is his belief that every failure of the Relativity Theory automatically means a triumph for his own. If the solitary swallow of the "minority sodium lines" does not make a summer for relativity, a few stray swallows suffice to constitute a summer for his theory. Even the remark of Evershed that the limb effect remains an unsolved problem is seized upon as an evidence indirectly supporting this new theory. When competent and experienced astronomical observers like Dyson and Woolley make the authoritative and unequivocal statement, "But there can be no doubt that Einstein's prediction has been verified" (p. 50 of their book), an attempt has been made to show that their remarks have been misunderstood and that they really do not mean what they say!

It is true that prejudices in favour of an accepted theory die hard, and it is therefore all the more necessary that a new theory which seeks to supplant a reputable one should be entirely free from all the objections raised against the old theory. Sir Sulaiman's theory cannot certainly be said to have achieved this measure of success. Moreover his theory has not yet gone beyond the stage of initial criticism, and, except for a few papers by the author, nor has it been developed in a comprehensive manner worthy of a fundamental physical theory. Until it proceeds beyond the region of mere tinkering with residual discrepancies of observation, and until it produces some striking achievements compelling its acceptance, it is idle to expect that one would throw overboard such an eminently successful and philosophically satisfactory theory as the theory of Relativity.

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February 25, 1938.

¹ *M.N.R.A.S.*, 1937, 97, 695.