I. The work hitherto carried on at the Madras Observatory consists of—

a. Astronomical observations.
b. Magnetical observations.
c. Meteorological observations.

The two latter classes of observations are subordinate to the first, and are not an essential part of the work of an Astronomical Observatory.

The Astronomer Royal has pointed out the necessity of the addition of observations in connection with astronomical physics. None have been hitherto taken at Madras, although Mr. Pogson recognized their importance, first, because the atmospheric conditions at Madras were not suitable, and, secondly, because Mr. Pogson was so pressed with work and arrears of work that he had not time to introduce these observations. Hence, under instructions from the Secretary of State, the Government of India have had to make temporary and not very satisfactory arrangements for carrying out the classes of observations desired by the Solar Physics Committee. Those called for by that Committee up to the present date are—

(1) Actinometric.
(2) Photographic.
(3) Spectroscopic.

The first were commenced at Leh, transferred to Mussoorie and then to Simla, where they are carried out under the superintendence of the Meteorological Reporter to the Government of India. The second are carried out at Dehra Dun under the superintendence of the Survey Department. "As, however, the Survey office at that station will probably be removed to Calcutta shortly, new arrangements will then be necessary.

The third have not yet been commenced, in consequence of the difficulty experienced in making the necessary arrangements.

Hence these observations are being carried out imperfectly. The observers are subject to the superintendence of officers who have not the leisure to control them properly. It would be far better as well as more economical to combine the whole work of these observations in one place, and to have it continuously and efficiently controlled by an officer specially acquainted with the work, and able to modify the observations as their examination and discussion suggested. The only way in which this can be done satisfactorily is to make it an integral part of the work of the one Astronomical Observatory maintained by the Government of India.

II. Assuming that the work of the Astronomical Observatory will include solar physics observations as defined above, it would be necessary to locate the observatory at a hill station. Messrs. Blanford, Pogson, Hennessey and others have urged the necessity of this for the solar physics observations. Mr. Pogson has also stated that much of the astronomical work could be done better at a hill-station than at Madras. The Astronomer Royal in his letter of the 22nd July 1891, also adopts this view when he says—"If a suitable hill-station could be found . . . it would, I think, be advantageous to move the whole of the Astronomical Observatory to that station, leaving the Magnetical Branch at Madras." Hence it may be concluded that it would be desirable to remove the Astronomical Observatory from Madras to a hill-station for the Astronomical work proper, and would be absolutely necessary if it is to include the classes of observations required by the Solar Physics Committee.

Such a change, it may be pointed out, would not only give more favorable atmospheric conditions for observation, but it would enable the European officers to work in a suitable climate and hence probably far more efficiently than in Madras.

III.—The selection of a suitable hill-station for the Astronomical Observatory is hence very important. Mr. Hennessey has suggested that it should be at an elevation of at least 10,000 feet. Leh (elevation 11,000 feet) was selected for the work of actinometric observation some time ago, but was rejected after a trial of 18 months (on account of the amount of cloud and dust in the atmosphere). It is very doubtful whether there is any hill-station in the Western Himalayas over 10,000 feet where the atmospheric conditions would be superior to those of the Palnis and the Nilgiris, and the difficulty of access would be a great barrier to its adoption. The following hill-stations over 7,000 feet (in addition to Leh) have been suggested at various times:—

(1) Mussoorie } in the Himalayas.
(2) Simla }
(3) The Palnis.
(4) The Nilgiris.

There is much less cloud and dust in the atmosphere in the Southern India hills than in the Western Himalayas, and hence the former are undoubtedly to be preferred.

Finally, the Shevaroys have been suggested as nearer to Madras. The highest point of the Shevaroys is only 5,300 feet above sea level. There is, I am informed, more cloud and dust there than in the more southern hills in Madras. They are, I believe, not above fever height, and are hence, on that account, probably unsuited for the purpose.