

Astronomical Notes.

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The reference by the President to pin-hole photography of an eclipsed sun (Journal for July) reminds me of a curious photo-micrographic experiment with which I once tried to secure the same result. In 1898, January 22, there was the record total solar eclipse observed from India within the recent times. I had calculated the phases of the eclipse and desired to take a photograph in order to check, if possible, my calculations. I set up a telescope in a garden which was unfortunately not in a secluded part of the town. The eclipse, though not total from the town, excited a great deal of curiosity among the people, and I was soon besieged by a large number of friends and other on-lookers. The result was that I had to give up the telescope to them. Feeling disappointed and having nothing to do in the sun, I took shelter in my laboratory where a microscope caught my eye and led me to use it in place of the telescope. A looking glass placed outside sent an image of the eclipsed sun into the room. The beam of light was passed through a converging lens placed at such a distance from the microscope that an image of the sun was formed at the stage. The minute image was treated as a microscopic object and magnified by a 1" objective. The eye-piece was removed and a camera was pushed into the end of the microscope tube. I think I used a ground glass screen to cut off a portion of the illumination and tried to give as short an exposure as I could with the hand. The negative, however, brought out a positive picture of the eclipsed sun (as will be seen from the photograph). The experiment, though not of much practical value, was amusing.

The October solar eclipse was observed here along with three computers of three different Oriá almanacs in use in Orissa for the purpose of verifying the times calculated by them. It is well known that purely Indian almanacs are seldom correct in these times. So was the case on this occasion too. The observed times for the beginning and end of the eclipse were 7 hrs. 4 mins. and 9 hrs. 30½ mins. (St. T.) respectively. The only almanac which gave times nearer to these was the one computed after the *Siddhânta-Darpana* by the son of the late author. The times given were about 4 mins. too early. This near approach is, I believe, accidental. The eclipse chart reproduced in the Journal has been found useful. It has, however, to be borne in mind that an unaided eye is generally one minute too slow in noticing the first contact and one minute too fast in seeing the last contact.

The contacts were observed through a binocular (mag. $\times 8$) and the watch used was corrected by means of a sun-dial.

Solar eclipses have another value. It is on these occasions that people at all gaze at the sun, though of course through coloured glasses. If large sun spots happen to be present at the time, they are seen with the naked eye. The partial obscuration of the sun helps to some extent in picking up the spots. There are, however, other times when the spots, if large, become visible to the naked eye. The best time is perhaps a few minutes before sunset. The last occasion, when this happened, and of which I have a record, was on the 22nd April of the last year, *i.e.*, two days after the perihelion passage of Halley's comet. I was looking for the reappearance of the comet just before sunset, when the spot, which was not of extraordinary dimensions, was noticed by some friends who had not previously seen any.

The atmospheric condition in Calcutta is perhaps not favourable for these naked-eye observations. For I could never see the Zodiacal light from Calcutta, while it is an almost every day phenomenon from these latitudes. Then again we saw for a week the rapidly moving comet of January 1910, while none seemed to have noticed it from Calcutta. It is quite a common thing for us here to see Venus at 11 A.M., and sometimes even at 11½ A.M. in strong day light.

Extracts from Publications.

The report of the Departmental Committee on the Solar Physics Observatory, now at South Kensington, is a divided one. Sir T. L. Heath, Mr. Dyson and Professor Schuster recommend that the solar physics work be transferred to Cambridge, with an initial grant for buildings and a fixed annual inclusive grant-in-aid to the University, provided that the University will agree to the following conditions :—(1) That the professor of astrophysics be the director of the solar observatory ; (2) that there be a committee or syndicate nominated by the University with functions similar to those of the Board of Visitors of the Royal Observatory at Greenwich ; (3) that the Astronomer Royal and the Director of the Meteorological Office be *ex-officio* members of the committee or syndicate ; (4) that the University undertake to carry out at the new observatory the necessary amount of routine work on