

The Journal
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SESSION 1910-1911.

[No. 2.

**Report of the Meeting of the Society
held on Tuesday, the 29th November
1910.**

H. G. TOMKINS, F.R.A.S., *President*, in the Chair.

P. N. MUKERJEE, M.A., F.S.S., *Secretary*.

Mr. Mukerjee read the minutes of the previous Meeting which were confirmed.

It was announced that the following presents had been received :—

The Bulletins, Memoirs and Annual Reports of the Kodai Kanal Observatory from the first number up to date—From the Director.

Four papers, on Halley's Comet, the total Eclipse of the Sun, and the Transit of Mercury in 1907—From Professor Emanuelli of Rome.

The thanks of the Meeting were accorded to the donors.

The election by the Council of the following ladies and gentlemen as members of the Society was confirmed :—

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| 1. MR. H. W. BRYNING. | 9. MR. BHUPENDRA NATH |
| 2. „ W. I. BRYNING. | MITRA. |
| 3. „ M. R. COBURN. | 10. „ H. P. MITRA. |
| 4. „ E. G. DRAKE-BROCK- | 11. „ S. C. MITRA. |
| MAN. | 12. „ G. N. MUKHERJEA. |
| 5. MRS. GRIFFITH. | 13. „ R. D. MURRAY. |
| 6. MR. LEWIS H. HARRISON. | 14. „ H. BHIMSENA RAU. |
| 7. „ G. McDOUGALL. | 15. „ B. K. PAL. |
| 8. „ J. H. MANNING-FOX. | |

The President then announced that at the previous Meeting of the Council it had been decided that the time had come to take further definite steps towards the progress of the Society. There were now over 200 members, and so far progress had been satisfactory in every way. Considerable interest had been taken in the Society, and members were not only taking up lines of work, but several of them were purchasing instruments with a view to obtaining observations. There were several interesting papers to be read that evening, and it was a very encouraging thing to find some of them from the pens of Indian members. An English amateur was not a thing unknown even in India, but an Indian amateur was rarely met with, and it was very satisfactory to see Indian members also coming forward as pioneers in this direction. He hoped that they would continue their efforts, and that many would be added to their numbers. They would always receive every encouragement from the Directors and Council.

The President further said that there were three definite directions in which members could help on the Society, both in Calcutta and all over India.

The first of these was the increase in the membership. This was necessary, both in order to obtain a general interest in the work of the Society, and to produce a wide field of workers as well as to provide the 'sinews of war' in the shape of funds. The subscription of Rs. 8 a year had been fixed very low to enable as many as possible to join, and it was considered better to have a good number of members on a low subscription than a small number on a high one. It was necessary for members to do all they could to increase the membership of the Society. Those who were not in Calcutta would have the Journals and other publications of the Society which, it was hoped, would contain beside the doings of the Society itself, some account of things that were going on in the astronomical world in this and other countries. The Council were issuing a circular in India very shortly, but members themselves could also greatly assist by obtaining forms of application from the Secretary and helping them to swell the membership. He would like to see at least a thousand members as soon as possible. A form of application would be sent with each copy of the next Journal. Two other directions were—the Library and the provision of Quarters for the Society.

The Library would, it was hoped, be available to members both in and out of Calcutta. Some books had been sent for, and the Council had arranged to open a special donation list for the purpose of putting this branch of the work on a sound footing as soon as possible. There were many members

who could afford to back up their scientific interest to a larger extent than the subscription of Rs. 8 a year, and in directing their attention to Bye-law No. 63, he hoped that donations would be freely given to enable the Librarian to stock his shelves for the general benefit of members at the earliest possible moment.

In the matter of Quarters also funds were required. If the membership of the Society substantially increased, probably this question would solve itself ; but for the present it would be necessary to rely on donations in order to tide the Society over the initial cost of rent and furniture. A good deal of property had already accumulated, and it was desirable that there should be some proper place to put it. Very shortly indeed also a reading and writing room would be wanted, and consequently a donation list had also been opened for this purpose by the Council.

Donations would be strictly ear-marked for the purpose for which they were given, *i.e.*, Library or Quarters, and might be sent to the Treasurer.

The President concluded by remarking that after the formal meetings he had noticed that members often remained for a short time, and interesting informal interchanges of ideas took place. He invited others to do the same, and said that he hoped this spontaneous addition to their meetings would grow, as it was a very pleasant way for members to obtain information, and to get to know one another.

The President then called on Mr. Rakshit to tell the Meeting how he had fared with the recent Meteor showers.

Mr. Rakshit said the showers on the whole had been very disappointing and very few meteors had been seen. Probably the moonlight had something to do with this, but his opinion was that the showers themselves had been poor.

The President having asked if other members had seen anything of the showers—

Mr. Howse said he had not seen any. Other members generally agreed that there were very few meteors, though some of them had seen a few scattered ones.

Mr. Rakshit then read a note on the observation of the next shower in December.

Several papers were then read on the total Eclipse of the Moon which took place in the early morning of the 17th November 1910 (Standard Time), and Mr. Woodhouse showed several photographs of the Eclipse taken by Mr. Edmonstone and himself with the instrument at the Presidency College kindly placed at the disposal of the Society by the College authorities.

The Vice-President, Mr. Saroda Charan Mitra, having then taken the Chair, Mr. Tomkins put four photographs of the Eclipse taken by him at Barrackpore on the screen.

The President having re-occupied the Chair, the Director of the Lunar Section next read some notes made by himself, and generally summed up the impressions which the Eclipse and papers read had left on his mind.

The President.—We have listened to a series of very interesting papers on this Eclipse. It seems evident that the shadow in Calcutta was exceptionally dense and that very little detail was seen in it. At Bankura, however, Mr. Mitchell seems to have had it lighter and more transparent.

Mr. Mitchell.—I think it is evident that we had better conditions at Bankura. The dark patch at Grimaldi and the light ones at Menelaus and Delambre were clearly visible.

Mr. Banerjee.—I noticed the dark patch, but not the light ones. The only bright patch in the shadow seen by me was Aristarchus.

Mr. Ramaswamy.—I also noticed the dark patch. Aristarchus was the only light patch I could see. Also the only bright rays I could see were those from Tycho towards Bullialdus.

Mr. P. C. Bose remarked that the shadow was very dense and very little detail could be seen in it.

The President then invited discussions on the appearance of the rays.

Mr. Banerjee.—The only rays I could see were the two just mentioned by Mr. Ramaswamy. The others were blotted out almost at once by the shadow, which was also very irregular.

Mr. Sarkar.—I also noticed the irregularity of the shadow and should like to know what it may have been due to. The shadow was certainly very dense in Calcutta.

Mr. Mitchell.—I do not agree as to the density of the shadow; it seemed to me to be about as light as usual in eclipses. The light spots mentioned by me before were visible, and the dark outlines were also clearly visible all through the Eclipse.

The President.—Yes. I can bear out the visibility of the dark portions of the Moon.

Lt.-Col. Conyngham.—Is it generally considered that the light rays are elevated above the general surface of the Moon?

The President.—It is a matter which is at present under investigation. I have had some of the rays under observation for several years, notably the two long ones running north from Copernicus, and many of them are undoubtedly

very slightly elevated ridges. The object of ascertaining whether they are elevated or not is to find out their origin, which is possibly not due to the same cause as their colour, though the two are connected.

Mr. Mitchell remarked that one thing he noticed about the irregularity of the shadow was the way it was blunted at the horns.

Dr. Harrison.—I think that is what one would expect from the conditions of the Eclipse. (Dr. Harrison then illustrated the case on the black board.)

The President.—The photographs bear out Mr. Mitchell in his observation.

Mr. Mitchell.—Yes. Dr. Harrison's is no doubt the explanations of the peculiarity.

Dr. Harrison then asked if the cause of red tint of the Eclipse had been explained.

The President.—I think it is usually attributed to the earth's atmosphere.

Dr. Harrison.—I don't quite see how the earth's atmosphere could account for all of it (black board). I should like to investigate it further.

Col. Conyngham then showed two photographs of Halley's Comet taken by Mr. Taylor of his office, and explained that the plate used was one of Eastman's Special Ultra Rapid bathed in Pinacyanol. This renders the plate sensitive to the Cline in the red. The plate was exposed for 40 minutes and developed with Pyro Soda.

The President.—I notice a very remarkable streak up the middle of the tail; it is undoubtedly a valuable photograph.

Lt.-Col. Conyngham.—Yes: the streak is one of the main features of the photograph.

Mr. Mitchell.—May I ask a question about the bright star in the tail? What was the exact position of the Comet at the time of the photograph?

Lt.-Col. Conyngham.—I am afraid the time was not recorded, but possibly Mr. Taylor might know it.

Lt.-Mr. Mitchell.—The reason I wish to know is that I observed a bright star very nearly occulted by the Comet's head, and I think that it may have been the one in the photograph. It appeared to brighten rather than diminish when near the head.

Mr. Woodhouse then showed results of an attempt he had made to get a photograph of the constellation Cassiopeia with the instrument at the Presidency College.

The Meeting was then adjourned until 5 p.m. on the 21st December 1910.