



The Journal of the Astronomical Society of India.

VOL. X]

SESSION 1919-20.

[Nos. 1, 2, 3.

ANNUAL MEETING.

THE Annual General Meeting of the Society was held on Tuesday, the 17th November 1919 at 5-45. P. M. at the Imperial Secretariat (Treasury) Buildings. Dr. D. N. Mallik B.A., D.Sc., F.R S.E., the President of the Society, was in the chair.

The minutes of the proceedings of the last monthly meeting were read and confirmed.

The following gentleman was elected member of the Society :—

Mr. Frank Thompson, Audit Inspector, E. I. Ry. Madhupur.

The Report of the Society for the Session 1918-19 and the accounts as drawn up by the Council, were read by the Business Secretary, and were duly passed.

The following gentlemen were then elected members of the Council for the year 1919-20.

One President— 1. DR. D. N. Mallik, B.A., Sc. D.
F.R.S.E.

Five Vice-Presidents— 1. H. H. The Maharaja Rana,
Bahadur Sir Bhawani Sing,
K.C.S.I, F.R.A.S.
2. J. EVERSLED, ESQ., F.R.S.,
F.R.A.S.
3. H. G. TOMKINS, ESQ, C.I.E.
F.R.A.S.,
4. THE RIGHT HON'BLE LORD
JAMES MESTON, of Agra,
K.C.S.I.
5. DR. T. ROYDS, D.Sc., F.R.A.S

Two Secretaries— 1. P. C. BOSE ESQ., (Scientific).
2. S. C. GHOSH ESQ., M. A.,
(Business).

Ten Members— 1. K. EULER ESQ.,
2. A. T. WESTON ESQ., M. Sc.
(Vict), A.M.I.C.E.
3. D. N. DASS ESQ.,
4. J. C. DUTT, ESQ., M.A., B.L.
5. E. S. OLPAD ESQ.,
6. C. V. RAMAN ESQ. M.A.
7. RAI. G. N. MUKERJEE,
BAHADUR.
8. U. C. MITTER, ESQ., B.A.
9. REV. A. C. RIDSDALE ESQ.,
M.A.F.R.A.S, F.R.A.S.E., F.R.
MET. SOC LOND. MATH.
SOC, F.P.H.S. A.L.C.M.,
Foreign member of Socite
Astronomique de France.
10 J. C. MITRA, ESQ M.A.B.L.

The following appointments were then made under the Bye-Law of the Society.

Director of Observations—Dr. D. N. MALLIK, B. A , Sc., D
F.R.S.E.

Instrumental Director— S. WOODHOUSE, ESQ..

Librarian— Dr. H. W. B. MORENO, B.A,
PH.D., M.R.A.S.,

Editor— A. T. WESTON, ESQ., M.Sc., (VICT)
A. M. I. C. E.

Treasurer— RAI U. L. BANERJI, BAHADUR,
M A.

THE ANNUAL REPORT.

The Council beg to report as follows on the progress and operations of the Astronomical Society of India for the session 1918-19 which terminated on the 30th September 1919.

The ninth session started with 111 members in its roll and ended with 104. There were two new admissions but three resignations and six had to be struck off the list for non-payment of subscriptions.

Meetings.—The Annual general meeting of the Society for electing the Office bearers for the session 1918-19 was held on the 29th October 1918. The council held 4 ordinary meetings for conducting the usual business of the Society. Three Extra-ordinary meetings were also held for consideration of urgent and important matters.

There were also five ordinary meetings of the members of the Society at which papers were read and discussed. A list of these papers is given in the appendix to this report.

Public Lectures. The Council has continued its efforts to diffuse a general knowledge of Astronomy ; and for this purpose, the usual Public Lecture of a popular character was delivered on the 11th February 1919. The subject was the "The Genesis of the Earth" and the lecture was delivered by Dr. J. W. Gregory, F.R.S, D.Sc. M.I.M.E. of the University of Glasgow who happened to be in Calcutta at the time as a

member of the Calcutta University Commission. The chair on the occasion was kindly taken by the Hon'ble Sir Henry Wheeler, K.C.I.E, C.S.I., C.I.E., I.C.S. The grateful thanks of the Society are due to the Lecturer and the Chairman for the trouble and care taken by them for the Society.

Journal of the Society. There was only one out of the three quarterly issues of the Society's Journal, published during the session (covering the period from October, 1918 to June 1919). The two remaining numbers will be issued shortly. The Committee beg to express regret for the delay. Monthly notices for observational purposes will also be more regularly issued for the use of members, than has latterly been the case

Connection with other Societies. The following Societies and Observatories exchange their publications with those of the Society :—

- (1) The Royal Astronomical Society.
- (2) The British Astronomical Association,
- (3) The Royal Astronomical Assn. of Canada,
- (4) The South African Assn. for the Cultivation of Science
- (5) The Astronomical Society. of Barcelona.
- (6) The Astronomer Royal, Greenwich.
- (7) Astronomical Society of Leeds.
- (8) The Indian Observatory, Alipore.
- (9) The Kodaikanal Observatory.
- (10) The Oxford Univ. Observatory.
- (11) The Nizamiéh Observatory.
- (12) The Saraswat Chatuspatty, Calcutta.
- (13) The Indian Association for the Cultivation of Science
- (14) The Vatican Observatory, Rome.
- (15) Vernacular and Scientific Society, Allahabad.

The thanks of the Society are due to the above Societies and Observatories for this exchange.

The Journal of the Society and the Monthly Notices continue to be subscribed to by the following educational institutions in India.

- (1) The Hugly College.

- (2) The Krishnanagar College.
- (3) The Muir College, Allahabad.
- (4) The Elphinstone College, Bombay.

The Imperial Library, Calcutta, is being supplied free with a copy of each of the Society's Publications.

Library. Several recent publications have been purchased for the Society and the number of books now in the Library is 280. The library is being kept open on Mondays, Wednesdays and Fridays, every week (not being Government holidays). The Hon. Librarian has recently re-arranged the library and would welcome the visits of members. It is the Council's intention to make the Library sufficiently large to represent Astronomical Research, both past and present and so make it worthy of consultation.

Quarters. The Society continues to be under a deep obligation to the Controller of Currency, with whose permission it conducts its business in one of the rooms of the Imperial Secretariat (Treasury) Buildings which is lent whenever required. The library also continues to be housed in another room of the same building, placed at the disposal of the society by the Controller. The Society's gratitude is due to the Controller for his kindness.

Association of Educational Institutions in India. The following educational institutions are associates of the Society.

- (1) E. I. Ry. High School, Oakgrove U. P.
- (2) The Gujrat College, Ahmedabad.
- (3) The Sanskrit College, Calcutta.
- (4) The Bangabasi College Calcutta.
- (5) Ravenshaw College, Cuttack.
- (6) The B.M. College, Barisal
- (7) The M.A.O. College, Aligarh
- (8) The St Vincent High School, Poona.
- (9) The Presidency College, Calcutta.

It is also proposed to give a practical training in Astronomy and to provide other facilities to the students of the Calcutta Colleges. The Society has therefore invited all the institutions in Calcutta teaching Astronomy to enlist themselves as

its associates and hopes for their co-operation in the near future.

The Society's Medal.—The Council announces with pleasure that their efforts in encouraging a genuine desire for the study of Astronomy amongst the student community have at-last borne some fruit. The Medal offered by the Society, for the best essay on any of the heavenly bodies by a student belonging to an educational institution was duly competed for and the Council have agreed to award the same to Mr. Hiren-dra Nath Gupta, a student of the Scottish Churches College for his essay on the 'Moon'.

Telescope. The 8½' Reflecting Telescope which is housed on the roof of the Imperial Secretariat (Treasury) Buildings is available for the use of the members of the Society. Proposals are also under consideration for a programme of work by the members as well as by the students of the colleges teaching Astronomy during the coming season as well as to arrange for a number of "Visitors' Evenings."

On the search for New subjects in the Sky.—There is very little to be said about the work carried on for the search for new objects in the Sky, last session. There were some studies on the variation of the Nova Aquilae which were duly communicated to the Society. The zeal of some of the members to discover new stars almost every month may have its drawbacks but is yet very praiseworthy, but it might be said that stars of the magnitude of the Nova Aquilae do not make their appearance every day. A thorough knowledge of the constellation under examination is absolutely necessary; special attention must be bestowed on the variable stars and the Nebulae contained therein and a careful map drawn in which these are put with all possible exactitude. These are kept under strict examination for any possible change, night after night so long as the constellation remains visible. It is only by systematic studies, as thus described, that one could expect to discover any thing new. Another drawback, which may be pointed out here is the want of Telescopes among the majority of members. Astronomy without a Telescopes involves a slow and tedious oper-

ation. Members should, therefore whenever possible provide themselves with telescopes in carrying on their observations.

Pamphlet on Elementary Astronomy.—A few copies of the first step on Astronomy, prepared by the late President, Mr. H.G. Tomkins has been sold during the year.

Accounts.—The financial condition of the Society was satisfactory. The year opened with a cash balance of Rs. 1643-15-9 which rose to Rs. 1860-15-6 at its close. In addition to the cash balances, the Society holds Government Promissory Notes and Calcutta Port Trust Debentures amounting to Rs. 1200/- and the assets over the liabilities on the 30th September 1919 stood at Rs. 2919-5 8 against Rs. 3413-15-8 in the previous year. The Accounts for the year are shown in the accompanying statement,

APPENDIX.

A list of the papers read and discussed at the monthly meetings of the Society during 1918-19.

Subject	Authors.
1. Another Illustration of Einstein's Theory	Thos Deighton Esqr. B.Sc.
2. A short history of the Nova Aquilæ	P. C. Basu Esqr.
3. Proposals of further work on the Sun	Dr. T. Royds, D.Sc. F R. A S.
4. The Manmandir of Benaras	Mr. P.C. Basu.
5. Explanation of the phenomena of the Nova—by Prof Pickering	Bai U. L. Bannerjee Bahadur.
6. Eneergy of Mangnetic Storm by S. Chapman	Dr. T. Royds D Sc. F.R.A.S.

The Address of the Retiring President (1918 1919)

Gentlemen,

During the past session, the Society has been carried on only with some difficulty. In the latter part of the session, the Society has missed greatly the presence and inspiration of its founder, Mr. Tomkins, who, we hope, will soon be able to return amongst us again ; happily we have not lost his interest and advice. The attendance at most of the monthly meetings has not been large and no new members have been enrolled

during the session, Fortunately, however, the Society is in a strong financial position and I hope that the members will not wait until the finances have evaporated, before making an effort to revive the Society into a visible and living one.

The fact that there has been no new member enrolled during the session has led to considerable thought, as to its possible causes. No Society can maintain itself without continuous additions to its membership list to offset the natural decline due to removals, death &c, Although the Society has enjoyed certain advantages in being accommodated in the Imperial Secretariat Buildings, your council has had, under serious consideration, the question of whether, in order to attract new members, it ought not to find accommodation in a building where there are more associations with scientific workers. Your council, has, indeed, made tentative enquiries as to a possible new home but for the present the question has been postponed and the decision rests with your new Council, I commend to the new Council, the earnest consideration of this question and would urge that whilst the Society has undoubted advantages in remaining in its present quarters, there is no use in blinking the fact that it cannot carry on, as in the past session, when there has more than once been less than a quorum both at ordinary monthly and Council meetings, and that without new members, the Society must surely die.

But even a sound financial position and large membership roll will not suffice to ensure the continued success of the Society. The first purpose for which the Society was founded was the "Promotion of Astronomy" and I think I could not do better, in view of the present state of the Society, than to devote the major portion of my address to the question of how, taking the Society as it actually is, its members can in my opinion best promote astronomy. Our members can be divided roughly into three classes. Do not assume that the order in which I place these classes is the order of their importance; it is simply that of their opportunities.

First, we have the class of members who are experienced in Astronomical Research and observations and have ideas of

their own as to the lines on which they should proceed in order to discover something new. The number of such members is relatively small, in practically all scientific societies, and ours is no exception. Yet, the few that we have do not often communicate their work to the Society. When I asked some of them to give an account of their work at one of the meetings, the reply has been that the investigation was incomplete, the results were not conclusive or were not sufficiently important. I would appeal to these members to lay their observations, however small or incomplete they may be, before the Society, for they will often find that others have had experience along similar lines and can help them in their difficulties. Moreover, original contributions from our own members are great incentives to others to emulate them, or they start new trains of thought for further investigations or secure voluntary help from members who have not the confidence to proceed independently. Indeed, to such of our members who are conducting investigations in astronomy, I cannot think of any greater benefit they could do to the society, than bringing before it their results, problems or difficulties.

The second class is probably more numerous than the first; it consists of those members who, whilst having considerable leisure which they would be willing to devote to astronomical investigation, do not know where to begin, in order to make a discovery. Generally, the members of this class would be happy to conduct an investigation, if only they knew where to begin and could be fairly sure of making some discovery. Possibly, the most promising idea they have is to look through a large telescope, as often as possible in the hope that some night, a new star, a comet, some collision of stars, or what not, may come into view. Yet, this class of members can be brought to do useful and important astronomical work. The Council has endeavoured, in past sessions, to help these members particularly, by circulating a list of subjects which are promising fields for investigation. There has not been too great a response to these endeavours, but wherever members have energetically pursued their

observations, they have done useful and interesting work. As an example, I may quote Mrs. Murray and her husband, who in the course of their study of selected regions of the sky made an independent discovery of the new star in Aquila. I would however try to encourage this class of members to train themselves to think out profitable lines of research, because of the stimulus of working out one's own ideas than someone else's. To this end, I would recommend that they should first of all read up with the help of the Society's library, all that has been done in some field in which they feel most interested. You cannot expect to know what to look for, until you know what others have seen. In warfare, to use an illustration, however many big guns there may be in the rear, the advance is made from the front-line trenches; so in research, it is essential to get into the very fore-front of knowledge, before an advance into the unknown can be made. So also, the man in the front line has a much better chance of making an advance than the man in the rear, even though the latter has a big gun. The first help, then, to developing idea for new work is to get abreast of the present state of knowledge, in whatever field you select. Another aid to preparing one's mind for new ideas is to read at the Society's meetings, summaries of researches done by others. Any one who tries this conscientiously will find not only that they have had to read up a lot more than perhaps they had bargained for, in order to understand the research sufficiently well to explain it to others, but also, often enough, that they see the starting point for further work in the same line. They may, for instance, see the obstacle that blocked further progress, and seeing an obstacle is often the biggest help towards avoiding it. Still another, and perhaps better way is to repeat a research which has been published. In this way they will not only learn to make observations as well, or as accurately as others but they will often, with a little ingenuity, succeed in devising means for securing still better results. I should like to mention, without spending too much time on it, that it is often an obsession with this class of

members that there is no use in doing anything, except with the biggest telescope in the world, or at second best, in this part of the world. No greater mistake could be made, as a perusal of current publications would at any time show. Whilst I am the last to decry the advantages of a proper equipment, I would emphasize that an equipment, good enough for the purpose is equal to, if not better, than the best.

It is, however, the third class of members which forms the bulk and mainstay of our society, namely those who are too busily occupied with following their own profession to have any opportunity for carrying out original investigations. These members are, however, enormously interested in astronomy, as their presence at the meetings shows, and especially are they interested in the discoveries of our own members. If they could have, brought before them, striking examples of our own members achieving something for the increase of knowledge, I think, some of them might catch the compelling keenness to investigate. At any rate, our third class of member can help in spreading astronomical knowledge amongst our members, for I wish more of them would realise that something which they have read and found intensely interesting would be at least equally interesting to a large number. I would, therefore, ask any member who comes across anything which specially appeals to him, even though not entirely new, to make a short communication to the society concerning it; not only would they be rewarded by interest excited in others but the Society would have a fuller and more varied programme, than it has had in the past and one not less interesting or valuable to the members.

I hope that the advice, I have offered will help more members to make contributions to the society than have in the past, for although we may not have suffered from a paucity of communications, in the past session, there can be no doubt that we need to draw them from a much wider circle of members than we have done.

It is, now, my duty, formally to hand over the presidentship to the newly-appointed President. I hope that he will

have the fullest possible support from the members and Council, and that the Society will have a successful session during his tenure of the office.

PRESIDENTIAL ADDRESS.

GENTLEMEN,

I beg to thank you for the honour, you have done me in electing me to the Presidentship of the Astronomical Society of India. It is no language of mere convention, when I say that I have responded to your invitation, with considerable diffidence; for while I have to succeed one who is devoted to Astronomical research with a singleness aim, I shall have to work without the wise guidance of your founder, Mr. Tomkins, who, whether as President or only a Senior member of the Committee was always ready to be at the helm, whenever the needs of the Society demanded it.

The most noticeable-at, the same time the most regrettable incident, in fact, of the last Session, so far as the Astronomical Society of India is concerned, was the departure of Mr. Tomkins for England, on sick leave-let us hope, only for a time. You are well aware, how enthusiastic a student of Astronomy, and how devoted a worker in the cause of the Astronomical Society, Mr. Tomkins has been and I feel sure you will all join with me in fervently wishing him a speedy recovery and return to the scenes of his labours. We can, indeed, ill afford to do without his advice and assistance, at this stage, when the Astronomical Society of India, along with other Scientific Societies, all over the World will be called upon to put forth their best energies, not only to make up for lost time but, also, to take advantage of the great forces for good, that have been ushered in, with the conclusion of peace.

That reminds me that we succeeded in securing the services of our last President, through the accidents of the War-conditions and we have now lost him also, because those conditions no longer operate; so that, much as we regret his resignation of the Presidentship, on our own account, we have