

The Cape Astronomical Association.

ANNUAL MEETING,

JUNE 8, 1921.

The Annual General Meeting of the Association was held at No. 35, Wale Street, on Wednesday, 8th June, 1921, the President (Mr. A. W. Long, F.R.A.S.) in the chair.

ANNUAL REPORT, 1921.

Your committee, in presenting this the Seventh Annual Report, are pleased to state that the members have shown an increased interest in the progress of the work of the Association; as witnessed by an increased attendance at the monthly meetings during the past year. There has, however, been no increase in the number of members engaged in practical work, and it is hoped that during the coming session members who have the means at their disposal, will come to the assistance of those who are at present carrying on the Comet and Variable Star Sections of the Association.

MEETINGS.

There have been nine meetings of committee and ten ordinary meetings of the Association during the year.

The following lectures and papers were contributed:—

- “An Introduction to practical Astronomy.”—Mr. H. N. Crowther, B.A.
- “The Aberration of Light.”—Mr. D. G. McIntyre.
- “The progress of Astronomy during 1919.”—Mr. C. J. Taylor, F.R.A.S.
- “The distances of the stars.”—Mr. D. G. McIntyre.
- “A search ephemeris for a comet.”—Mr. A. W. Long.
- “The methods and problems of stellar Astronomy.”—Dr. J. K. E. Halm, F.R.S.E., F.R.A.S.

"Where the day begins."—Mr. T. MacKenzie.

"The use of small telescopes as transit instruments."—Mr. W. H. Cox.

"A new measure of Time."—Mr. R. T. A. Innes, F.R.A.S.

"The determination of the Sidereal Year."—Dr. J. K. E. Halm, F.R.S.E., F.R.A.S.

"The elements of a comet's orbit."—Mr. W. Reid.

"Determination of the temperature and luminosity of the stars."—Dr. J. K. E. Halm, F.R.S.E., F.R.A.S.

"La Caille's visit to the Cape—Measurement of an Arc of Meridian."—Mr. T. MacKenzie.

"A visit to Starland."—Mr. D. G. McIntyre.

As customary, the February meeting of the Association was held in Mr. Reid's observatory, Rondebosch. The meeting was of an observational character, the six-inch refractor being placed at the disposal of the members.

The thanks of the Association are due to Mr. Reid for his open invitation to members of the Association to visit his observatory on any Wednesday evening throughout the year. This has afforded many members who have no instrumental aid, the opportunity of pursuing their study by direct observation.

NEW RULES.

A special general meeting was held on June 7th, when proposals to amend the rules were considered. The revised rules, as adopted (printed on pages 11 to 16 of this circular), will be printed and circulated among the members immediately.

Although the Treasurer's report will show that the Association has paid its way during the year, your committee felt that the modest subscription decided on at the inauguration of the Association, is, under the changed conditions now prevailing, altogether inadequate to admit of the proper carrying out of the objects of the Association. They were, therefore, compelled to ask for an increased contribution from members. In order to retain those who may be unable to pay an increased subscription, it has been provided for them to remain as associates, at the old rate. The rules show that the rights and privileges of associates are adequately safeguarded. They have a voice in the government but the control is vested in the members.

MEMBERSHIP.

At the beginning of the year the Association was composed of 4 Honorary Officers, 43 ordinary members and 13 country members. During the year there have been five resignations; 9 members and 1 country member have been elected and the roll now stands as follows:— 5 Honorary Officers, 47 ordinary members, 14 country members, total 66.

LIBRARY.

Considerable addition has been made to the Library during the year by donations and purchases. The Library is now domiciled at the place of meeting and members are making use of it freely. It is hoped to further augment the collection during the ensuing year as far as the funds of the Association will admit.

PUBLICATIONS.

The reports presented at the Annual Meeting held June 9, 1920, were published in Circular No. 6.

The paper "Seventeenth Century Astronomy at the Cape," read at a meeting of the Association towards the close of the previous session, by Mr. Theodore Mackenzie, has been printed and circulated among the members. (Circular No. 7.)

Monthly notes with charts of the heavens, have been published in the Cape Times. These have been much appreciated by the general public, have been of great use to members, and have brought many who are interested into touch with the Association.

The observations of the Variable Star Section are now being published in the Union Observatory Circular, for which the thanks of the Association are due to Mr. R. T. A. Innes, Union Astronomer.

OBSERVING SECTIONS.

Reports of Observing Sections will be presented separately by Directors of Sections. It is very gratifying to record that two new comets were discovered by members during the year. Congratulations are extended to Messrs. Skjellerup and Reid on having been awarded the Donohoe Medal for their discoveries by the Astronomical Society of the Pacific.

A. W. LONG, *President.*

H. W. SCHONEGEVEL, *Hon. Secretary.*

ANNUAL FINANCIAL STATEMENT, JUNE 1st, 1921.

RECEIPTS.

To Balance from 1920	18	1	1
„ Subscriptions	22	11	3
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	£40	12	4

EXPENDITURE.

By Rent	9	0	0
„ Printing	11	10	0
„ Stationery	1	16	6
„ Secretary's Expenses	3	15	4
„ Bank Charges	0	18	0
„ Bookcase	4	7	6
„ Books	1	13	6
„ Railage on Circulars	0	5	6
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	33	6	4
„ Balance Carried Forward	7	6	0
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	£40	12	4

Audited and found correct.

EDWARD J. STEER.

June 4, 1921.

H. STANTON,

Hon. Treasurer.

Report of the Variable Star Section for the year ended 31st May, 1921.

1,560 observations of 119 variable stars have been made during the year, a decrease of nearly 600 as compared with the previous year. This does not appear to be a very encouraging position, but, knowing the circumstances which have caused the decline, I am hopeful that it is only temporary and that the year we have just entered on will witness a brilliant maximum in both the number of observers and observations recorded.

We gratefully acknowledge our indebtedness to Mr. Innes, the Union Astronomer, for continuing the publication of results in the "Union Observatory Circular." 1,800 observations have now been published and further instalments will appear in due course.

There is a very urgent need of more workers for this section, and to emphasise this, I should like to draw your attention to the work that is being done by variable star observers in the northern hemisphere. Twenty-two members of the

Variable Star Section of the British Astronomical Association, working on a specially selected list of 42 stars, contributed 6,740 observations to the last annual report of that section. Sixty-nine members of the American Association of Variable Star Observers made 9,099 observations of 395 stars during the year ended October 31, 1920. The majority of the stars on our list are not visible to these two bands of energetic workers.

Dr. A. W. Roberts, whose valuable researches on Southern variable stars have received world-wide recognition, has now given up this work, and it is most important that observations should continue to be made for many years. Our Association, therefore, has an opportunity of taking the leading part in this work. Charts of variable star fields have been prepared and all possible assistance will be given to those who wish to commence operations.

The following members contributed to this report:—

Mr. J. F. Skjellerup, 1,347 observations; Mr. A. W. Long, F.R.A.S., 190 observations; Rev. S. Solberg, 23 observations.

J. F. SKJELLERUP, *Director*.

Report of the Comet Section for Year ending 31st May, 1921.

In presenting the Annual Report of this Section, your Director wishes to tender his thanks for help given by several members of the Association. He also desires to thank the Royal and Union Observatories, for great assistance in the observation of the new comets discovered by members of the Section; and in many other ways which need not be specified. The work of the Section continues to be prosecuted with vigour, the greater part of the Southern heavens being kept under constant watch. Two new comets have been discovered by members during the period under review; our record now being five new comets discovered since the section was inaugurated.

Comet Tempel II, 1920a:—This periodical comet was discovered by Dr. Kudara, at Kyoto, on May 25, 1920. Unfortunately the cable announcing the discovery gave the R.A. as 20 hrs. 55 m. instead of 22 hrs. 55 m. and a lot of searching was performed by the Section without result. As far as we know, this comet was only observed in South Africa at the Union Observatory. Mr. H. E. Wood has kindly sent the following account for publication in our report:—"Comet

Tempel II, 1920, was observed here with nine inch refractor on May 21, 1920. It was very difficult to observe; my note book states: "Comet very faint, very diffuse, no visible nucleus. Its magnitude was about 11.5. On July 24th we tried it again; it was seen but was too faint to measure with the micrometer so no observations were obtained. On October 11 and 12, 1920, I took two photographs, each with an hour's exposure, with the Franklin-Adams Star Camera. The comet was easily visible on the plates; its magnitude would then be about 12.5."

Comet Skjellerup, 1920b:—This unknown comet was discovered by Mr. Skjellerup on the 11th December, 1920, at 11.45 p.m., S.A. Standard Time. At this time it was about 8.5 magnitude, diffuse in appearance, with no bright central nucleus, and no sign of a tail. It was kept under observation by Mr. Skjellerup until January 3rd. To your Director, who first saw it on the evening of the 13th, it appeared as a fairly large, round, and bright nebulosity, slightly condensed in the centre, without any trace of a nucleus. Later on a very faint nucleus was occasionally seen, but with difficulty. This comet was well observed in the North, and the following orbit may be looked upon as a very accurate one:—

T.—1920 Dec. 11 00476 G.M.T.

ω —340°50'50.0"

Ω —107°46'26.4"

i —22°5'26.9"

Log q. = 0.060159

Comet Reid, 1921a:—This unknown comet was discovered by your Director on the morning of the 13th March, 1921, at 4.40 S.A. Standard Time. When first seen it was near the Star Sigma, in Capricornus. Its magnitude was about 9, and it had very much the same appearance as several of the small globular clusters in that portion of the sky. It was a small, round, and very bright nebulous object, very compressed in the centre, but with very little sign of a nucleus. A few days after it had a slightly granular appearance in the centre, which developed into a distinct nucleus; it also developed a short tail, and was about magnitude 6.5 when last seen, a little over a month from the time of discovery. It was travelling rapidly north, but at the time of writing, the northern observations have not yet come to hand. Several orbits have been published, but as they do not differ materially from the elements deduced by Dr. Halm from three early observations we need not refer to them further. As this comet has not yet disappeared, it may be referred to in our next report, and elements of orbit then given.

Comet Pons-Winnecke, 1921 b. This periodic comet was discovered by Barnard, on April 11. It was seen by your Director and followed for over an hour on the morning of the 4th inst. It is travelling fairly rapidly in a south easterly direction in Pegasus, but it is a very faint, diffuse object at present, and would be exceedingly difficult in a three inch glass. In the six inch O.G. it seemed to have a curious granulated appearance with a very indistinct nucleus. Further reference to this comet must be deferred to a future report.

Comet Dubiago, 1921 c. All the information about this comet which has yet come to hand is the fact that it was discovered by Dubiago, on April 29, about 40 N.P.D. Fortunately, Mr. Pilling, of the Royal Observatory was able to give us three positions a little further South, and from these your Director was able to locate the comet on the evening of the 27th May, and it has been kept under observation ever since. It is a faint, hazy, nebulous patch, small and fairly round, slightly condensed towards the centre; a very small nucleus can also be glimpsed. Its magnitude would be about 11. At present it is travelling in a south easterly direction, but without the elements of its orbit it is impossible to tell whether there is any chance of it becoming brighter or not. We may have something further to say about it in our next report.

Encke's Comet is now due. it is in the morning sky but too near the sun for observation. It should be well placed for southern observers, in the evening sky in August.

De Vico's long period comet has not yet been sighted, but as a good look out for it is being maintained, it is hoped it will be found before long.

WILLIAM REID, *Director.*

31/5/21.

ELECTION OF OFFICERS.

The election of Officers resulted as follows:—

Hon. President:—Mr. S. S. Hough, M.A., F.R.S.

Hon. Vice-Presidents:—Mr. R. T. A. Innes, F.R.A.S.;
Dr. J. K. E. Halm, F.R.S.E., F.R.A.S., Senator the Hon. A. W.
Roberts, D.Sc., F.R.S.E.; Mr. H. E. Wood, M.Sc., F.R.A.S.,
F.R.Met.S.

COUNCIL:

President:—Mr. A. W. Long, F.R.A.S.

Vice-Presidents:—Mr. J. F. Skjellerup and Mr. D. G. McIntyre.

Hon. Secretary:—Mr. H. W. Schonegevel, P.O. Box 39, Cape Town.

Hon. Treasurer:—Mr. H. Stanton, 6, Braeside Villas, Green Point.

Hon. Librarian:—Mr. D. G. McIntyre, "Ben Etive," Park Road, Rondebosch.

Director of Comet Section:—Mr. W. Reid, "Glen Logie," Camp Ground Road, Newlands. (Telephone 597 Claremont.)

Director of Variable Star Section:—Mr. J. Skjellerup, Rosebank.

Members of Council:—Mr. C. L. O'B. Dutton; Mr. A. F. J. Forbes; Mr. A. Humphries and Mr. T. Mackenzie.

Hon. Auditor:—Mr. E. J. Steer.

LIST OF MEMBERS AND ASSOCIATES.

- Mr. D. F. Bosman. Victoria West.
 Mr. A. Bull, 2, Alma Road, Rosebank.
 Mr. J. G. Butler, "Cape Times," Cape Town.
 Mr. W. P. Capel, Church Square, Cape Town.
 Mr. E. Cohen, High Commissioner's Office, Cape Town.
 Mr. W. C. Cooper, Loop Street, Cape Town.
 *Mr. W. H. Cox, Royal Observatory, Cape.
 Mr. H. N. Crowther, B.A., Inland Revenue Dept., Cape Town.
 Mr. M. Deas, Beaufort West.
 Mr. C. L. O'B. Dutton, High Commissioner's Office, Cape Town.
 Mr. F. Eaglestone, 25, Cavendish Square, Woodstock.
 Mr. A. F. J. Forbes, Liesbeek Road, Rosebank.
 Mr. M. Giffen, Machrimore, Mowbray.
 Mr. A. W. Goatcher, Ceres.
 Mr. J. Gordon, New Church Street, Cape Town.
 Rev. A. Graham, Grahamstown.
 *Dr. J. K. E. Halm, F.R.S.E., Royal Observatory, Cape.
 Mr. C. P. Hemphill, Camps Bay.
 *Mr. S. S. Hough, M.A., F.R.S., Royal Observatory, Cape.
 Mr. J. Hudson, Kloof Road, Sea Point.
 Mr. W. E. Harvey, 20, Scott Road, Observatory.
 Mr. E. F. Harwood, National Bank, Cape Town.
 Mrs. Heath, Rocklands, Sea Point.
 Mr. H. F. Houghton, Oak Lodge, Gardens, Cape Town.
 Mr. A. G. Hoyer, 485, Windmere Road, Durban.
 Mr. A. Humphries, Public School, Ottery.
 Dr. S. P. Impey, Darling Street, Cape Town.
 Mr. R. T. A. Innes, F.R.A.S., Union Observatory, Johannesburg.
 Mr. A. H. Jeffreys, P.O. Box 70, Cape Town.
 Mr. J. H. Jeffreys, P.O. Box 70, Cape Town.
 Miss K. M. Jeffreys, Archives Dept, Houses of Parliament,
 Cape Town.
 Mr. H. Jones, 10, Justice Street, Cape Town.
 Mr. H. C. Kolbe, Darling Street, Grahams Town.
 Mr. V. Landers, Wynberg.
 Mr. F. J. Lawrence, R.M., Aliwal North.
 Mr. H. Lethbridge, Port Elizabeth.
 Mr. G. P. Lestrade, M.A., The University, Cape Town.
 Mr. J. E. Lincey, 3, Carstens Street, Cape Town.
 *Mr. A. W. Long, F.R.A.S., 8, Main Road, Rosebank.
 Mrs. A. W. Long, do. do.

- Mr. H. MacDonald, Box 3583, Cape Town.
 Mr. T. MacKenzie, Mowbray House, Mowbray.
 Rev. J. McAllister, 450, Moore Road, Durban.
 Mr. D. G. McIntyre, Ben Etive, Park Road, Rondebosch.
 *Mr. A. Milne, G.P.O., Cape Town.
 Mr. W. Morgan, Box 5144, Johannesburg.
 Rev. T. Pierce, St. Joseph's, Uitenhage.
 Mr. W. Potts, 29, Weltevreden Street, Cape Town.
 *Mr. W. Reid, Glen Logie, Camp Ground Road, Rondebosch.
 Mr. F. W. Richmond, 9, Hof Street, Cape Town.
 Mr. A. Ritchie, Warmbaths, Transvaal.
 *Senator Hon. A. W. Roberts, D.Sc., F.R.S.E., The Senate,
 Cape Town.
 Mr. R. Ryall, Claremont.
 Mr. J. Schober, Umtata.
 *Mr. H. W. Schonegevel, Norwich Avenue, Observatory.
 Mr. R. D. Schonegevel, Hatfield Street, Three Anchor Bay.
 Mr. D. Skinner, 27, Arnold Street, Observatory.
 *Mr. J. F. Skjellerup, Rosebank.
 Mr. W. H. Smith, Arum Villa, Plumstead.
 Rev. J. Solberg, Umpumulo, Natal.
 Mr. H. Stanton, 6, Braeside Villas, Green Point.
 *Mr. E. J. Steer, Kloof Road, Sea Point.
 Mr. A. E. Val-Davies, M.I.E.E., Box 2177, Johannesburg.
 Rev. G. van Rensburg, Warmbaths, Transvaal.
 Mr. J. Warren, Lansdown Road, Claremont.
 Mr. R. Watson, Beaufort West.
 Dr. C. H. Wellman, Church Square, Cape Town.
 *Mr. J. Williams, Box 38, Cape Town.
 Mr. H. E. Wood, M.Sc., F.R.A.S., Union Observatory,
 Johannesburg.

The Association was formed on the 8th November, 1912.

An asterisk denotes foundation member.

The Cape Astronomical Association.

RULES.

NAME.

1. The name of the Association is "The Cape Astronomical Association.

DOMICILE.

2. The headquarters of the Association shall be at Cape Town.

OBJECTS.

3. The objects of the Association are:—
 - (a) To encourage the study of the science of astronomy in all its branches.
 - (b) To organise Observing Sections.
 - (c) To disseminate current astronomical information, and to encourage a popular interest in astronomy.
 - (d) To hold periodical meetings for the purpose of lectures, the reading of papers and discussions.
 - (e) To publish such matter as may be deemed advisable by the Council of the Association.
 - (f) To form a library of astronomical literature for the use of members and associates.
 - (g) To acquire a collection of lantern slides for use at the meetings of the Association and for loan or hire at the discretion of the Council.
 - (h) To afford members and associates not possessing astronomical telescopes, the opportunity of practical observation.

CONSTITUTION.

4. The Association shall consist
 - (a) Of an Honorary President,
 - (b) Of not more than four Honorary Vice-Presidents,
 - (c) Of not more than ten Honorary Members,
 - (d) Of Ordinary Members,
 - (e) and of Associates.

MEMBERSHIP.

5. Honorary Members shall be appointed by the Council, and shall be exempt from all fees and subscriptions, but shall have no right to vote at any of the meetings of the Association.

6. Candidates for election to membership must be proposed by two members of the Association.

7. Candidates for election as associates must be proposed and seconded by either members or associates.

8. The names and addresses of candidates for election shall be handed to the Hon. Secretary for consideration by the Council, who shall, if they approve, submit the names of the candidates for election to the next following meeting of the Association.

ADMINISTRATION.

9. The Association shall be governed by a Council consisting of:— A President, two Vice-Presidents, an Hon. Secretary, an Hon. Treasurer, an Hon. Librarian, Directors of Sections, and four members or associates: provided that at no time shall more than three associates be members of Council.

10. The Council shall be elected annually at the Annual General Meeting, and shall have sole management, control and disposition of the affairs, property, and funds of the Association, and shall have the power to fill, for the unexpired term, any vacancy that may occur in any of the offices of the Association, or its own body.

11. The Council shall meet once a quarter, or more often as may be necessary, to transact the business of the Association. Five members of the Council shall form a quorum.

12. The Council shall have power to suspend or expel any member or associate guilty of infringement of the rules or of misconduct: provided that such person shall have the right of appeal to a general meeting of the Association, at any time within three months after such action by the Council. The decision of the general meeting will be final.

13. The Council shall have the power to frame Bye-Laws, which shall be subject to confirmation at a general meeting of the Association.

SUBSCRIPTIONS.

14. Subscriptions to the Association shall be as follows:—

- (a) Members, One Guinea per annum.
- (b) Associates, Half a Guinea per annum.
- (c) Members and associates residing more than twenty-five miles from headquarters, shall pay half the ordinary subscriptions.
- (d) Young persons under twenty years of age and students may become associates, and shall pay a subscription of five shillings per annum.

15. All subscriptions are payable in advance, and shall become due on 1st July of each year, but anyone joining in the latter half of the Association's year, shall only be liable to half that year's subscription.

16. Any person being two years in arrear in payment of subscription, and failing to pay same within a month of due notification, shall cease to be a member or associate of the Association.

17. Any person wishing to resign from the Association shall give notice in writing to the Hon. Secretary, and shall pay all fees and subscriptions due; upon which, the resignation shall take effect.

GENERAL MEETINGS.

18. The Annual General Meeting of the Association shall be held in June in each year, to receive the report of the Council, the Treasurer's financial statement, and the reports from Directors of Observing Sections; to elect Officers and the Council, Directors of Observing Sections, and an Auditor, and to transact any other legitimate business.

19. Special General Meetings of the Association may be convened by order of the Council.

20. Special General Meetings shall be convened on receipt of a requisition, signed by not less than five members or associates.. Notice of any such meeting must be given not later than fourteen days prior to the date thereof.

ALTERATIONS OR AMENDMENTS.

21. The Association may alter or amend its rules or By-laws at any Annual General Meeting or Special General Meeting called for that purpose; provided that notice of such alteration be handed to the Hon. Secretary at least one month prior to such meeting. The Secretary shall give members not less than fourteen days notice of the proposed alteration. Ten members shall form a quorum.

VOTING.

22. (a) Only members shall have the right to vote on proposals to alter the rules.
- (b) No alteration of the rules can be made unless two thirds of the members present vote in favour of such alteration.
- (c) Members and associates shall have equal voting power on all other matters, which shall be decided by a majority, the chairman having a casting vote in the event of a tie.

BYE-LAWS.

DISCOVERY OF A COMET.

1. When a member discovers an object which he supposes to be a comet, he shall at once advise the Director of the Comet Section, giving approximate position. The Director shall thereupon take steps to verify the discovery, and circulate the information to the world's observatories. The Director undertakes to present the member's claim to the discovery in the proper quarter. It would be well, if possible, in addition, for the member to get into touch with the Royal or Union Observatory or with the Director by wire or 'phone so that no opportunity may be missed of securing the three necessary observations for the computing of the orbit of the comet.

LIBRARY.

2. All books and periodicals belonging to the Association shall be under the care of the Hon. Librarian who shall loan them to members or associates free of charge.

3. Books and periodicals may only be borrowed from or returned to the Library when the Hon. Librarian or some person duly authorised by him, is present.

4. Any person borrowing a book or periodical must sign for the same in the book provided for the purpose.

5. No book or periodical may be retained by the borrower for more than one month, and in case more than one person desires the same work, such shall not be retained by any person for more than fourteen days.

6. The Hon. Librarian shall keep a list of persons desiring a particular work and shall issue it according to the priority of the names of such persons.

7. Borrowers are responsible for the safe custody of works borrowed by them and must make good to the Association any loss or damage incurred in connection with such borrowing.

8. All purchases of books and periodicals shall be made by a committee of three (one of whom shall be the Librarian) out of funds allocated from time to time by the Council for such purposes.

LANTERN SLIDES.

9. The lantern slides belonging to the Association shall be under the care of the Hon. Librarian who shall loan them to members and associates free; provided no charge is made for admission to the lecture for which they are required.

10. When slides are loaned for a lecture for which there is an admission charge, members and associates shall pay a fee of 1d. per slide.

11. Slides may be loaned to persons who are not members or associates of the Association at the discretion of the Hon. Librarian; such person shall pay a fee of 2d. per slide.

12. All borrowers shall pay 2/- to replace each slide that may be damaged while in their possession.

13. All borrowers shall pay all charges incurred in conveying the slides from and returning to the Association's Headquarters.

14. Slides must be returned to the Hon. Librarian within 24 hours of the time of exhibition, provided they can be delivered by hand. Should it be necessary to send by rail or post, slides must be dispatched on the day following lecture and notice of dispatch posted to the Hon. Librarian at same time.

15. Should the slides be required for a second lecture, borrower must receive the sanction of the Hon. Librarian to retain them before the time at which they are due to be returned.

16. The Council shall appoint a sub-committee of three who shall, with the Hon. Librarian, have authority to make special slides from time to time to add to the Association's collection.

Ordinary meetings of the Society are held on the second Wednesday of each month, (except January and February) at 8 p.m., in the premises of the British Medical Association, 35, Wale Street, Cape Town.