

**CAPE ASTRONOMICAL ASSOCIATION.**

---

**Annual Meeting, June 9, 1920.**

---

The Annual Meeting of the Association was held at the rooms of the British Medical Association, Cape Town, on Wednesday, June 9th, 1920, at 8 p.m. Mr. A. W. Long, President, being in the chair.

---

**ANNUAL REPORT.**

Your Committee in presenting this, the Sixth Annual Report, is pleased to record the continued usefulness of the Association in fostering the study of the heavens, and circulating Astronomical knowledge generally.

**MEETINGS.**

Your Committee has met seven times, and during the period under review there have been ten ordinary meetings of the Association.

**LECTURES.**

The following is a synopsis of the proceedings of the Association. As will be seen, the high standard of excellence of the lectures and papers has been well maintained.

1919.

July 9.—“Novae.” By the President, Mr. A. W. Long.

Aug. 13.—“The Depths of Space.” By Mr. H. E. Wood, M.Sc.,  
F.R.A.S. (of the Union Observatory).

Sept. 10.—“The Progress of Astronomy during 1918.” By Mr.  
C. J. Taylor, F.R.A.S.

“Light, its velocity, refraction, and spectrum,” by Mr.  
A. Bull.

Oct. 8.—“Modern ideas on the distribution and movements of the Stars.” By Dr. J. K. E. Halm, F.R.S.E. (of the Cape Observatory).

Nov. 12.—“Variable Stars.” By Mr. J. F. Skjellerup.

Dec. 10.—“The Zodiacal Light.” By Mr. A. Bull.

“The Pleiades.” By Mr. A. W. Long.

1920.

Feb. 11.—“The Meteor of 14th January.” By Messrs. W. Reid, A. Bull, and A. W. Long.

Mar. 10.—“Popular Astronomy.” By Mr. C. J. Taylor, F.R.A.S.

April 14.—“Seventeenth Century Astronomy at the Cape.” By Mr. Theo. MacKenzie.

May 12.—“Time Service.” By Mr. W. H. Cox (of the Cape Observatory).

The August meeting was open to the public, a charge being made for admission. The lecture was well attended, and the funds of the Association received material benefit. January was as usual observed as a recess.

#### DOMICILE.

The gallery of the Owl Club, being no longer available as a place of meeting, your Committee has entered into agreement with the British Medical Association, to hold the meetings at the latter's new premises in Wale Street. The place is entirely suitable for meetings of this Association, and it is hoped that members will find it convenient.

#### LIBRARY.

Your Committee has to acknowledge the gift of several volumes to the Library, and tenders its sincere thanks to the donors. The twenty-eight volumes of the Journal of the British Astronomical Association have been bound at the expense of an anonymous member of the Association, to whom our best thanks are due. Arrangements have been made to house the books in a portion of the Library of the British Medical Association; above the place of meeting. The necessary shelving is now being procured; and when this is erected, the books will be more readily available for the use of members.

#### PUBLICATIONS.

The monthly notes continue to be published in the *Cape Times*. The usefulness of the maps accompanying the notes has

been extended, by including the horizon at Johannesburg, as well as that of Cape Town. The publication of these notes is greatly appreciated by the members of the Association, particularly those who reside in the country districts.

Two numbers of the circular have been published and distributed, *viz.*

No. 4 Annual Reports, 1919.

No. 5 The Sundial at the Castle, by Dr. J. Lunt.

#### OBSERVATIONS.

Reports of Observing Sections will be presented separately by the Directors of Sections.

#### MEMBERSHIP.

During the period under review, the membership of the Association has been augmented and now numbers sixty.

#### FINANCE.

The Balance Sheet will show that the finances of the Association are in a very satisfactory state.

A. W. LONG,

*President.*

H. W. SCHONEGEVEL,

*Hon. Secretary.*

#### REPORT OF VARIABLE STAR SECTION FOR THE PERIOD ENDED 31st MAY, 1920.

This is the third Annual Report of the Section and I am pleased to be able to report that an increased interest is being taken by our members, particularly our country members, in variable star work. The number of stars under observation (108) is the same as last year. 2,150 observations were made during the period under review, a decrease of over 500 as compared with last year. Owing to other calls on their time, Mr. Long and your Director have had to ease off very considerably during the past few months, hence the decrease.

The following members have sent in observations :—

Mr. J. F. Skjellerup ...	...	...	1,270 observations
Mr. A. W. Long ...	...	...	746 „
Mr. E. Kramer, Beaufort West	...	...	90 „
Rev. S. Solberg, Melmoth ...	...	...	44 „

The Section has now over 6,000 observations to its credit, a very useful contribution to the knowledge of Southern variable stars.

The Union Astronomer has kindly arranged to publish the results in the "Union Observatory Circular" and the first instalment appeared in the December issue.

It is most desirable that this work should be continued without interruption for many years, and I once again appeal to those members who have telescopes and who are not engaged in any astronomical work to take a hand in this.

There is work for at least a dozen observers working regularly.

It is not easy for a beginner to find the fields, but, with a little patience and perseverance this difficulty is soon overcome, and the variable star observer, like the searcher for comets, acquires an excellent knowledge of the constellations.

I shall be glad to hear from any member who would like to commence making observations. A large number of charts has been prepared and these are available for distribution.

J. F. SKJELLERUP,

*Director.*

9th June, 1920.

#### REPORT OF THE COMET SECTION FOR YEAR ENDING 31st MAY, 1920.

The work of this Section continues to be prosecuted with vigour. Several comets have been kept under observation for a considerable time, and a new one has been discovered. During the whole period Mr. Skjellerup has given great assistance, especially with regard to the morning sky, and the thanks of the Section are again due to him. For some time back, your Director has been keeping the evening sky under fairly constant observation, but a little help by some of the other members of the Association would be greatly appreciated.

*Comet 1919 (a) (Kopff's short period comet).*—This comet was discovered by Gonnessiat of the Algiers Observatory about the end of July. It was in Aquila and very faint, and was soon beyond the reach of all but the largest telescopes.

*Comet 1919 (b) (Metcalf).*—Discovered by Rev. Joel H. Metcalf while on holiday at Camp Idlewild, South Hero, Vermont, on 20th August at midnight. In the North it was visible to the naked eye for a few days in September, and had a faint tail of about half a degree in length. This comet is considered to be a return of Brorsen's Comet of 1847 V.

*Comet 1919 (c) (Metcalf).*—Discovered by Rev. Joel H. Metcalf at Camp Idlewild, Vermont, on 22nd August, at 11 p.m. It was also found independently by Borelly in France on the following night, hence this comet has generally been given the hyphenated name of Metcalf—Borelly. After passing the sun it continued to be visible in the South for several months, but owing to its great distance, and low position in the evening sky it was a difficult object to observe. In appearance it was a small hazy patch, slightly brighter towards the middle, but had an unmistakable cometary appearance.

*Comet 1919 (d) (Finlay).*—This periodic comet was discovered by Sasaki of the Kyoto Observatory, Japan, on 25th October, and independently by your Director on 8th November. At its brightest it was only a diffuse little patch of light, and required some finding; it was hardly possible to see it when among bright stars. This comet was originally discovered by Finlay at the Cape Royal Observatory, and was the first telescopic comet to be discovered in South Africa.

*Comet 1919 (e) (Schaumasse).*—This periodic comet was re-discovered by Schaumasse at Nice Observatory on the morning of 29th October. It was very faint, and as it was receding from both sun and earth, was probably not seen in small telescopes.

*Comet 1919 (f) (Baade).*—Discovered in two photographs taken by Dr. Baade at Bergedorf, Hamburg, on 10th December, not seen by anyone, and probably lost.

*Comet 1919 (g) (Skjellerup).*—This unknown comet was discovered by J. F. Skjellerup, at Rosebank, on the morning of 18th December, and reported to the Cape Royal Observatory on the 19th. Mr. Woodgate of the Royal Observatory observed and photographed the comet on the 20th and 21st; he also saw it on the 22nd and 23rd but was unable to photograph it owing to its rapid approach to the sun. From Skjellerup's observation on the

19th and Woodgate's on the 20th and 21st Dr. Halm deduced the following provisional elements:—

$$T = 1920, \text{ January, } 2.2674 \text{ G.M.T.}$$

$$\omega = 276^{\circ} 35'$$

$$U = 315^{\circ} 36'$$

$$i = 123^{\circ} 10'$$

$$\log q = 9.47376$$

According to these elements the comet should have been seen in the morning sky, after passing behind the sun, but up to the present no records have come to hand. When discovered it was almost at its nearest point to the earth, and as it was then only a faint nebulous patch about 8th magnitude, there is very little chance of it being re-discovered. The heartiest congratulations of the Section are extended to Mr. Skjellerup on his discovery. This is the fifth unknown telescopic comet which has been discovered in South Africa. Two were found several years ago at the Royal Observatory, and three by members of the Association since its inauguration.

W. REID,

9th June, 1920.

*Director.*

**Occultation of Star No. 1460 (Cape Catalogue 1900) by Saturn on  
14th March, 1920.**

The above occultation was observed successfully by Messrs. Reid, Dutton, and McIntyre, at Mr. Reid's Observatory, Newlands. The instrument used was a 6-inch Cooke photovisual, and the power giving best definition was 216. Mr. Reid gives the following account of the observation. "The night was the finest we have experienced during the whole summer. The planet looked almost like a copper plate engraving. The ring could be seen crossing the planet as a thread of light, edged with a thin dark line on the outer side, and on the inner side by the Crape Ring, the jagged edges of which could be easily seen. The bands on the planet were plainly visible. Cassini's Division was distinctly seen and even conspicuous. When first seen the star was about equidistant from the limb of the planet and the tip of the ring, and slightly above the ring. The contrast between the colour of star and planet was very marked, the star being a bright orange. This contrast in colour helped us greatly to determine the actual time of

immersion. As nearly as we could judge, the first contact with the ring took place at 8.46 p.m., S.A. Standard Time. It was, however, difficult to make this observation owing to the acute angle between the path of the star and the ring, and the fact that the star seemed to shine with very little diminution of light even when behind the ring. While the planet was approaching the star, we thought the star would pass into the dark space between the ring and the planet, but this did not happen. The star disappeared from view behind the planet at 8.54 S.A. Standard Time; the point of disappearance was at the inner part of the bright ring or the outer edge of the Crape Ring. While the star was behind the ring its light fluctuated considerably and once gave a momentary flicker. When disappearing, its light seemed to die out gradually until only a slight orange speck could be seen, the speck going out very suddenly. As the time of reappearance was uncertain a constant watch had to be kept. At 10.36 the small orange speck was detected at the spot where we expected it to emerge, but inside the limb. It gradually brightened up until it emerged. We watched it for nearly an hour afterwards. It seemed to be going straight towards Titan, but clouds came up and the whole sky became overcast, and we are unable to say whether the star was occulted by Titan as predicted."

The fact that there was very little diminution of light when the star was behind the ring, seeing that the ring is now turned to us almost edgewise, would seem to indicate that the particles of which the ring is composed are either very much smaller or farther apart than previous estimates have supposed them to be. The gradual dying out of the light of the star before immersion and its re-appearance when apparently within the disc of Saturn would indicate that Saturn is a much smaller globe than we suppose and is surrounded by an atmosphere of considerable extent. The outer parts of the disc we see and measure are apparently gaseous matter of tenuity sufficient to allow the passage of light, and yet dense enough to support clouds which are formed in such a manner as to appear to us in the shape of dark bands across the face of the planet.

A. W. LONG.

23rd March, 1920.

---

Exchanges and donations to the Association's Library should be addressed to the Hon Librarian, Mr. D. G. McIntyre, Ben Etive, Rondebosch, Cape Province.

**ELECTION OF OFFICERS.**

The following were elected for Session 1920-21 :—

*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.

Senator the Hon. A. W. Roberts, D.Sc., F.R.S.E.

Mr. H. E. Wood, M.Sc., F.R.A.S.

**EXECUTIVE.***President :*

Mr. A. W. Long.

*Vice-Presidents :*

Mr C. J. Taylor, F.R.A.S.

Mr. W. Reid.

*Hon. Secretary :*

Mr. H. W. Schonegevel.

*Hon. Treasurer :*

Mr. H. Stanton, 6 Braeside Villas, Green Point.

*Hon. Librarian :*

Mr. D. G. McIntyre.

*Committee :*

Mr. A. Humphries, Mrs. Long, Mr. W. Morgan,  
Mr. J. F. Skjellerup.

*Director of Variable Star Section :*

Mr. J. F. Skjellerup.

*Director of Comet Section :*

Mr. W. Reid.