T H E

NOTTINGHAM ASTRONOMICAL SOCIETY

B U L L E T I N

NO. 55 NOVEMBER, 1951

The Nottingham Astronomical Society was formed in 1946 to provide a rallying point for residents of Nottingham and district interested in the night sky.

COMMENT

Three years ago, it was decided to prepare and issue a handy pocket-sized card giving details of the ordinary meetings during the main part of the session and other information such as the names of the officers and committee for the current session. As the latter information is not available until the Annual General Meeting in October, the card cannot be printed and circulated until after early October.

For the 1949-50 session, discussion as to the card's style and lay-out and a desire to include details of the Annual Dinner led to the card being circulated at the Annual Dinner of 1950, that is in mid-February when four of the six winter meetings were past.

Last year, a programme of talks and activities for the 1950-51 session (winter meetings) was completed and ready for printing in early November. Again, the desire to include details of the Annual Dinner involved condiderable delay, as no confirmation of Mr. Hoyle's attendance as Guest of Honour could be obtained until late January - several weeks after the invitation was sent out. The card, without details of the meetings, was finally issued at the Dinner, in mid-February.

The present session, 1951-52, began in October. Mr. Ashmore, who has undertaken the task of drawing up the programme of talks for the ordinary meetings, was absent from Nottingham for the whole of October but was able to despatch a blank schedule to the first of twelve possible speakers requesting him to complete the schedule for any of the available dates and then to forward the schedule to the next possible speaker according to the the list supplied. Stamped, addressed envelopes for the purpose were enclosed. The letter and its contents was sent out on October 19th and it was hoped that the schedule would be received by Mr. Ashmore by the end of November; this allowed 42 days among 12 people - 3½ days for consideration and posting on by each one. Alas! The very first member listed had been away on business and was only able to return the schedule on the date of the November meeting, that is, on November 1st.

The schedule, still blank, was immediately passed round the meeting but at the end, only 4 members had given full details of a talk they were prepared to give. 2 more had agreed to speak and had reserved a date but could not, at that time, give a title for their talk. The last 2 meetings of the session are still without a formal speaker although it is hoped to put them to good use later.

It remains to be seen whether the tale of frustrated effort is complete but one of the winter meetings has passed. If the card is issued at the next meeting, it is unlikely to be complete.

The attention of members is drawn to two important announcements, regarding the Bulletin circulation list and the new season's series of open-air meetings, given on another page of this Bulletin.

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THE SKY FOR DECEMBER

The Julian Date for December 0.0 is 243 3980.5 For other dates add the date.

THE SUN

Solar Rotation No. 1314 begins on November 29 and No. 1315 on December 26.

THE MOON

Lunation No. 358 begins with the New Moon of November 29 and No. 359 with the New Moon of December 28.

358	New Moon: November 29	Full Moon: December 13
	First Quarter: December 5	Last Quarter: December 21
359	New Moon: December 28	Full Moon: January 4, 1952

The 5th magnitude star 30 Capricorni is occulted by the 4-day old moon on December 3, disappearing on the dark side at 18.26 GMT. Precise determination of this time with the aid of a stop-watch used in conjunction with the Greenwich Time Signal at 18.00 GMT would be of great value and should be reported to the Director of the Observing Section together with anything else of interest observed at the time.

THE PLANETS

Mercury is an evening star for the first part of the month and a morning star for the latter part of the month. As an evening star, it is some 21° to the east of the sun and sets an hour after the sun on December 4. After inferior conjunction (i.e. Mercury passes the Sun on the near side of its orbit) on December 17, Mercury swings out to about 22° west of the sun and rises some 2 hours before the sun at the end of the month. Magnitude in both cases is 0.0

Venus continues as a very bright morning star throughout December, rising about 4 hours before the sun. Magnitude -3.8. On the afternoon of Christmas Day (at 14.00 GMT) Venus passes 8° north of the crescent moon: those with a clear sky may care to find Venus in broad daylight, remembering that Venus will be 8° (about 16 diameters of the moon) distant from the Moon and towards the north point of the sky - not exactly vertically above.

Mars is approaching the Earth and may be seen as a morning star of mag. 1.4 rising shortly after midnight throughout the month. It is in Virgo about 8° to the north and west of Spica.

Jupiter remains visible as a bright evening star throughout the month. It is now rapidly being left behind by the faster moving Earth and it will not remain so favourably placed for observation for much longer. Magnitude is about -2.0 and the planet sets shortly after midnight. Members who have not yet seen Jupiter telescopically are urged to do so at one of the open-air meetings taking place before the end of December. Apart from the Sun and moon, Jupiter is the largest object visible in a telescope and its disc and four bright satellites are well worth seeing.

Saturn is a morning star throughout the month rising at 0200 GMT ON December 7 and at 00.40 GMT on December 30. Magnitude is 1.0. The Earth approaches Saturn as it leaves Jupiter behind and Saturn will thus displace Jupiter as the principal object for observation in the evenings. The rings are now definitely widening and are at about the degree of opening presented in 1949, the north face being visible now. Early risers will find Saturn in Virgo about the same brightness as and near Mars, both planets close to and NW of Spica. During the first part of the month, Mars is to the right (i.e. west) of Saturn and only half a magnitude fainter. Mars, the faster moving of the two, passes 0°.7 south of Saturn on December 19 and from then on will be to the left (i.e. east) of Saturn, as it approaches Spica.

Uranus, in opposition early in January, 1952, is above the horizon all night. With a magnitude of 5.9, it may be picked up with field glasses in Gemini with the aid the special BAA Handbook chart.

Neptune is a morning star, in Virgo and close to Mars and Saturn, but requires telescopic assistance for its observation.

Pluto, which is not likely to be seen by any of our members, is in Leo as a morning star of about 12th magnitude.

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The Sky for December (cont'd)

THE STARS

Constellations on the north-south line (i.e. the meridian) at 2100 GMT in mid-December include Perseus, almost overhead, and Cetus, further south. Both include famous variable stars and the opportunity should taken of observing both, is possible. Algol, in Perseus, is short period eclipsing variable star ranging in magnitude from 2.3 to 3.5 over a period of nearly 3 days. It remains at the higher value for most of the period but drops rapidly to a minimum in about 5 hours returning to full brightness in a further 5 hours. Evenings in December when Algol is expected to be at its minimum brightness are:- December 13 - at 22.30, December 16 - at 19.20 and December 19 - at 16.00, all times are GMT. The Director of the Observing Section will be pleased to supply identification charts for Algol to all members wishing to make observations.

Mira, the wonderful, in Cetus, is a 'long period' variable. It is invisible to the naked eye for about 5 months, sinking to 9th magnitude; it then becomes visible to the naked eye for about 6 months, attaining a maximum brightness of anything from the 5th to the 2nd magnitude. The Editor is not aware of its present state but anyone interested can obtain information from Mr. Lane Hall.

In the west, the great square of Pegasus and Andromeda are conspicuous, while the eastern sky holds the bright and popular star groups of Taurus (with the Pleiades) and Orion with Gemini to the north

(A.J.A.)

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NOTTINGHAM ASTRONOMICAL SOCIETY
Session Oct.1st, 1950 to Sept. 30th, 1951.
Balance Sheet

Receipts	£. s. d.	Payments	£. s. d.
Balance b/f 30.9.50	34.17.11	Rent of Room	9.15. 0
Cash for Dinner	21. 0. 0	Cost of Dinner (incl.Meal, Room, Guest's expenses)	22. 7. 6
Cash for Stratford Outing	11. 3. 6	Bank charges	6. 8
Cash for Oxford Outing	17.17. 0	Lecturers' Expenses	10. 7
Subscriptions	26. 9. 6	Hire of Coach(Oxford)	17.10. 0
		Hire of Coach(Stratford)	15. 5. 0
		Stationary	4. 7. 1
		Advertising (E.Post)	2. 0. 0
		(£1 overpaid - held by E. Post for future.)	
		Advertising (E.News)	12. 0
		Printing (Cards)	1. 0. 0
		Postage (incl.Bulletin)	1.13. 0
		Balance, Petty Cash (Mr. Halley)	14. 7
		Refund to Mr. Howard (Dinner & Outings)	17. 0
		Cash in Hand	12.10
		Balance at Bank	33.16. 8
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Audited and found correct
(Sgd.) M.P.Green, 4.10.51

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ASTRONOMICAL NEWS

THE UNIVERSE OF GALAXIES

Dr. Harlow Shapley, in the course of his 1950 Russell Lecture, discussed some results obtained in 18 years photgraphy of the stars at Harvard College Observatory, Mass., and at its southern station in South Africa.

The galaxies considered are those brighter than $17^{m}.5$, corresponding to a distance from us of about 80 million light years. In the part of the skies free from obscuration by dust clouds etc. (about half

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Astronomical News (cont'd)

the total), it is found that the volume of space that has on the average to be surveyed to find one large galaxy like our own amount to something like 10^{20} cubic light years, while the volume for one Average -sized galaxy is about 6×10^{18} cubic light years. If the population is in general uniformly disposed in the space throughout which the galaxies can be photographed with our largest instruments, there will be about 1000 million of them inside a volume with a radius of the same number of light years. Another 1000 millions can be assumed to exist, inaccessible to our photography, in the obscured areas near the Milky Way. Even the 200 inch telescope is probably not able to record more than a small fraction of the total number of galaxies. The important conclusion is reached that the idea that the spirals form $\frac{3}{4}$ of the total number of extra-galactic nebulae is not correct, the true poportion being less than $\frac{1}{2}$. Dr. Shapley thinks that as the usual idea of galaxies developing from spheroidal through ellipsoidal to spiral shapes is now being shown as incorrect, evolution in the opposite direction is more likely. As spirals are still numerous, he concludes that the Universe is probably a comparatively young one.

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ANNOUNCEMENTS

Next Meeting

The next meeting will be held in the Mechanics Institution, Nottingham, on Thursday, December 6th, 1951, at 7.30 pm. Miss Mott will speak on 'Volcanoes' and Mr. Lane Hall will give hus monthly talk on the night sky.

It will be preceded by a Committee meeting at 7 pm.

Open Air Meetings

After consultation between Mr. Lane Hall and Mr. Ashmore, it has been decided to modify plans for the new series of open-air meetings. These will be held throughout the winter months as usual, except at times of full moon, but Mondays will be omitted from the programme. Evenings from 7 to 9 pm

Thus, every TUESDAY, WEDNESDAY and THURSDAY (with a few exceptions, notice of which will be given in the Bulletin) of each month, either Mr. Lane Hall or Mr. Ashmore will be in attendance at the front of Mr. Lake Aske's house, 281, Wilford Lane, WILFORD, IF THE SKY IS QUITE CLEAR at 6 pm.

The exact dates set aside for open-air meetings-to be held if the weather is suitable-will be given in the Bulletin each month. A final check can be made by telephoning Mr. Lane Hall, NOTTINGHAM 66587, before 6 pm on the day in question.

Schedule for November is: November 6,7,8, 20,21,22, 27,28,29.

The December schedule will be given in the December Bulletin but advance information is that the dates will be December 4,5, 18,19,20

Barton No. 14 (Ruddington) Service passes the house; alight at Wilford Cross Roads - about 200 yards past the house on the same side. 20 minutes service from Huntingdon Street Bus Station; journey takes 10 minutes and cost (check for recent fare increase) 5d return.

The Bulletin

It has been decided, with regret, that the Bulletin Circulation List should have the names of all those members who have not paid either the subscription for the session 1950-51 or the subscription for the session 1951-52, removed.

The next issue of the Bulletin will, therefore, only be despatched to members who have paid subscriptions for either the past or the present session, according to the Treasurer's records.

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3.11.51