T H E

NOTTINGHAM ASTRONOMICAL SOCIETY

B U L L E T I N

NO. 60 Price: 2½d. APRIL, 1952

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

April Meeting

The ordinary monthly meeting held on April 3rd was attended by more people than usual. A casual glance round resulted in a count of 30 odd. Last month, there were three new members at the meeting; a further three members were enrolled on Thursday, bringing the total membership up to 49! Perhaps, we are reaping the benefit of the wider publicity of the successful Open Meeting. Among those present, were greatly changed Malcolm Dean and Trevor Watts, both of whom joined the Society some time ago as junior members. By 'changed' is meant grown-up, of course. It is quite certain that the new members and the old friends found the April meeting worth attending for our stalwart, practising amateur, Mr W.E. Fox, showed us just what can be done on Jupiter.

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THE SKY FOR MAY

The Julian Date for May 0.0 is 243 401.5 For other dates add the date.

THE SUN

Solar Rotation No. 1319 begins on April 13 and No. 1320 begins on May 11.

Sunspot activity continues to decline steadily but the event of May last year - the fourth year after the last maximum (1947) - when the third or fourth largest sunspot ever recorded at the Greenwich Observatory was seen on the 16th shows that the solar surface is still worth watching.

THE MOON

Lunation No. 363 begins on April 24 and No. 364 on May 23.

Phases for the period are:-

363:	New Moon: April 24	Full Moon: May 9
	First Quarter: May 2	Last Quarter: May 16
364:	New Moon: May 23	Full Moon: June 8
	First Quarter: May 31	Last Quarter: June 14

There are no occultations of note during May.

THE PLANETS

Mercury is a morning star during the first part of the month: greatest elongation west of the sun being 27° on May 3. Unfortunately, its increase in R.A. and declination keeps pace with that of the sun so that it only rises some 30 minutes before the sun throughout the period and is not, therefore, likely to be seen casually.

Venus is virtually absent from the night sky during May as it approaches superior conjunction on June 24. It will not be conspicuous again until its evening star apparition in the Autumn.

Mars is in opposition on May 1, when its magnitude is -1.5. It is above the horizon from sunset intil shortly before sunrise and because of its low declination will be rather low in the sky - about 23° at its highest point at midnight.

(...to page 2)

THE SKY FOR MAY (continued)

Mars is at its nearest to the Earth on May 8 when it will be almost 52 million miles away. The angular diameter of its disc then is 16.8 seconds of arc, nearly the same as that of Saturn's disc. The north pole of Mars is tilted 18° towards the Earth at the beginning of May and 21° (maximum) at the end of the month.

Jupiter will be absent from the night sky during the whole month of May being at the far part of its orbit and in the same direction of space as the sun.

Saturn, like Mars, is above the horizon from sunset to shortly before sunrise. Magnitude 0.8. It will be higher in the sky and some 20° preceding Mars, which is the brighter (2 magnitudes) of the two. On May 1, Saturn will be only 1° south of the third magnitude binary star Gamma Virginis. Spica (Alpha Virginis) will be in a line with and about half-way between Mars and Saturn on this date. Of the satellites, Rhea will at eastern elongation on May 7 at 20.00 GMT and on May 16 at 20.42 GMT, while Iapetus may be seen at its western elongation on May 12.

Uranus is an evening star in central Gemini.

Neptune is above the horizon almost all night and may be found with the aid a telescope in Virgo some 5° north of Spica. It is thus in the same region of the sky as Mars and Saturn.

Pluto, only visible in a large telescope, is close to the head star (Epsilon Leonis) of the sickle in Leo.

Safe identification of the latter planets is only possible by using the charts in the BAA Handbook for 1952.

THE STARS

The constellations on the meridian at mid-evening in May are Virgo and, higher in the sky, Bo-otes. The two main stars, Spica and Arcturus, respectively, will be noted along with the planets Mars and Saturn. Leo will be in the western sky and the twins of Gemini will be near setting point. In the south-east, the red giant star Antares in Scorpio will be observed rather low in the sky. The Plough will nearly overhead while Vega will be seen in the north-eastern sector. The splendid Orion group will have gone from the evening sky.

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ASTRONOMICAL NEWS

EPHEMERIS TIME

It is now well known that the greatly improved accuracy in time-keeping made possible by the use first, of the Shortt Free Pendulum Clock and then, of the quartz crystal clock, led to the interesting discovery that the Earth's rotation is by no means uniform. Since our time systems are based on this rotation, very accurate observations are affected. In particular it was found that the Moon departs from its mean position by a measurable amount. At an international conference of astronomers held in Paris in 1950 to discuss fundamental constants, it was proposed that a new time standard be adopted. This is "Ephemeris Time" based on a time-unit of invariable length, the length of the sidereal year 1900.0. "Universal Time" used at present is based on the actual rotation ofthe Earth, now shown to be variable.

The Superintendent of H.M. Nautical Almanac Office reports that, in future, the argument for the ephemerides in the astronomical almanacs will be "Ephemeris Time". The difference between this E.T. and mean solar time (ordinary civil time) will only be known some years in arrear, although it may normally be extrapolated ahead. The positions of the sun, moon, and planets will then be found by entering the ephemerides with this difference of time later than the U.T. for which the positions are required. With the exception of the moon, the differences will be insensible for practical purposes such as setting up instruments.

(...to page 3)

ASTRONOMICAL NEWS (continued)

OBSERVATORY NEWS

Professor C.W. Allen of the Mount Stromlo Observatory in Canberra, Australia, has been appointed Perren Professor of Astronomy at the University of London. At a recent meeting of the Royal Astronomical Society, Professor Allen described the work of Mount Stromlo. This observatory was founded in 1926 as the Commonwealth Solar Observatory. When Professor R.V.R. Woolley became its Director in 1940, more work was undertaken in the stellar field and now is to share with the Radcliffe Observatory in South Africa, the study of those southern objects inaccessible to northern observers. Like the Radcliffe, Mount Stromlo has ordered a 74" reflector and this (seen by many at the Festival of Britain last year) is on its way. In addition, the famous Melbourne 48" reflector is to be converted into a Schmidt for Mount Stromlo.

At the same R.A.S. meeting, Professor Z. Kopal, who has arrived in this country from U.S.A. to take up his appointment as Professor of Astronomy at Manchester University, spoke about the famous Harvard Observatory. Apart from the usual instruments (including a 60" reflector) at Harvard itself, new equipment in use includes a 16" coronagraph on Sacramento Peak and also a battery of Super-Schmidts for meteor work in Mexico. Harvard also shares in the administration and observational work of the Armagh-Dunsink-Harvard (ADH) Observatory established jointly by the three observatories named for southern sky work at Bloemfontein, South Africa. As mentioned in a previous Bulletin, each takes a 'watch' of four months. At the ADH Observatory is a 32" Schmidt.

Of Manchester, Prof. Kopal said that an 18" reflector is in the course of construction while work goes on in the field of radio astronomy at Jodrell Bank in Cheshire.

WEATHER AND SOLAR ACTIVITY

It is difficult to link up our weather with astronomical phenomena although a number of people still count on a change of the moon to bring a change of the weather. Recently however, a Greek meteorologist at Athens Observatory examined the records of the steady northerly winds of the Eastern Mediterranean which are observed during the warmer half of the year. He found that the number of days from May to October on which these 'Etesian' winds were recorded was much higher than the average over a period of 45 years in the years 1905, 1917 and 1928, while the number was lower than the average in the years 1901, 1913, 1925 and 1933, suggesting some connection between the frequency of these winds and the 11-year sunspot cycle. On producing a diagram, he found that there was a remarkable similarity between the numbers of the Etesians and the sunspots over the 45 years.

SHEFFIELD ASTRONOMICAL SOCIETY'S OBSERVATORY

Our sister Society at Sheffield which was formed in 1934 has realised a long-standing ambition in the recent opening of their own observatory. In 1947, an observatory fund was opened and in 1949, a 4" equatorial, clock-driven refractor was presented to the Society. Plans for the observatory were drawn up in 1950 on the occasion of an offer of land at a nominal rent and after approval of the plans by the authorities, construction was begun in early 1951. Last August, the completed building was opened. It is circular, the dome having a diameter of 11', with brick and concrete walls; the dome itself being of metal.

It may be noted here that the leading figure of the Sheffield Society is Mr. R.R.S. Cox, of Sheffield University, who lectured to us last session and who will come to Nottingham again for the June meeting, when his subject is 'Stellar Evolution'.

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ANNOUNCEMENTS

Next Meeting

The next meeting will be held in the Mechanics Institution, Nottingham on Thursday, May 1st, 1952, at 7.30 pm. when Mr. J. Richards will speak about 'THE SUN'. Mr. Lane Hall will deliver his usual address on the night sky for the month.

The meeting will be preceded by a Committee Meeting at 7 pm.

Open Air Meetings

Although it was announced in the March Bulletin that the open-air meetings would not be held after March in view of the Easter holiday period, Mr. Lane Hall feels that the opportunity should be taken of seeing something of Saturn at least until Summer Time comes into force on April 20. The 1951-52 session will be extended, therefore, to mid-April and meetings will take place, if the weather is favourable, on the following dates: APRIL 16 and 17.

Annual Dinner, 1952

A few members who attended the Annual Dinner on February 9, 1952, have not yet paid. The Treasurer appeals for outstanding amounts so that he can balance the Dinner Accounts as soon as possible.

Outing, 1952

The Committee have decided NOT to arrange a social outing this year - in view of the financial loss incurred in the outing to Stratford-on-Avon in 1951.

Alternatively, negotiations are to be undertaken with a view to a visit to CAMBRIDGE UNIVERSITY OBSERVATORIES in the Autumn. Further information will be given in due course.

Talks Programme

There having been no response to The Editor's appeal for speakers for the 1952-53 session, the appeal is repeated. Will any member who is willing to address the Society on any topic connected remotely with astronomy, kindly communicate with Mr. Ashmore.

It cannot be stressed too strongly, that no learned treatises are expected: the main requirements for our monthly meetings being for a relatively short, popular talk of common interest.

Resignations - The Bulletin

Any members who is obliged to resign because they are leaving the district and can, therefore, take no further part in the activities of the Society, may be interested to know that the Bulletin will be despatched to them by post for one year on payment of 4s/-.

In view of the rising costs of the materials required for the Bulletin, the arrangement made last year whereby, on the completion of the session (September 30), those members who are at least one year in arrear with their subscription will be removed from the Bulletin Circulation List, will be repeated in October.

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