

T H E  
NOTTINGHAM ASTRONOMICAL SOCIETY  
B U L L E T I N

---

NO. 57

JANUARY, 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

A New Year Message

Another new year sees the Society not merely in existence but progressing satisfactorily with a steady membership of 40 to 50, including a good core of loyal supporters - a pleasing state of affairs. There is, it is true, the inevitable section of drifters who join, make a few appearances at the meetings and are not seen or heard of again, but happily they are replaced by others so that the overall membership remains fairly constant.

For a society concerned with a subject so little known (it would be incorrect to say of so little interest) to the general public, the Nottingham Astronomical Society has cause for gratification but not, of course, for complacency. Our ambition will be realised only when all in the Nottingham area who are interested in astronomy know that a local society exists as a rallying point for them.

May the new year, 1952, see continued progress towards that end.

A Public Meeting

In 1952, the Society will hold its first public meeting, at which some of the recently made special astronomical films will be shown.

This meeting will be held in the Mechanics Minor Hall, Nottingham, on Wednesday, March 5th, beginning at 7.30 p.m. Admission will be free and the films already booked are "The Story of Palomar" - a sound and colour film dealing, as its title implies, with the new Mount Palomar Observatory and the great 200" telescope and two French silent films, "Solar Protruberances" - showing actual 'shots' of solar prominences, the solar surface and sunspots taken by the time-lapse method of photography and "The Cinema and Astrophysics" - showing actual photographs of the midnight sun, rotation of Mars and lunar and solar eclipses.

It may be mentioned that only one copy of "The Story of Palomar" is available in this country and a special application for its loan had to be made to the United States Information Service.

International Co-operation

In last month's Bulletin (No.56), reference was made, in 'Comment', to the co-operation between two South African observatories, the Radcliffe - at Pretoria and H.M.Observatory - at the Cape. Mr. W.E.Fox, of Newark, has written to the Editor stating that he has been asked to second the application for membership of the British Astronomical Association submitted by a Japanese amateur astronomer. This gentleman, Mr. Sadao Murayama, who is a member of the staff at the National Science Museum, Tokyo, wishes to co-operate with B.A.A. planetary observers.

A further case of real international co-operation within the astronomical fraternity.

(AJA)

---oOo---

THE SKY FOR FEBRUARY

The Julian Date for February 0.0 is 243 4042.5 For other dates add the date.

THE SUN

Solar Rotation No. 1315 began on December 26 and No. 1316 begins on January 22. No. 1317 begins on February 19.

The Sun is totally eclipsed on Monday, February 25. The path of totality extends from Central Africa across the Middle East to Siberia. In Great Britain the eclipse is visible as a small partial eclipse. Approximate circumstances for Nottingham are:

Eclipse begins at 08.45 GMT. Eclipse ends at 09.47 GMT.

Greatest phase at 09.14 GMT. Magnitude 0.10

(Sun rises at 07.03 GMT.)

The position angle of 1st contact (i.e. the point at which the moon just appears to touch the sun's disc and, hence, the point at which the actual eclipse of the sun's disc begins - or ends, in the case of Last contact) measured from the highest point of the Sun's disc in the direction east (left) south (lowest point) and west (right) as seen in the sky is  $204^{\circ}$ . The position angle of Last Contact is  $144^{\circ}$ .

In popular language, the sun will first appear indented by the moon at about "5 o'clock" on the sun's face. During the next hour (8.45 to 9.47) the dark moon will pass across the upper edge of the Sun. At greatest phase (9.14) about one tenth of the Sun's disc will be obscured by the moon. The moon finally clears the Sun at about "7 o'clock" on the Sun's face.

At the time of the eclipse, the sun will have been risen about 2 hours and will be in the south-eastern sky but rather low - some  $17^{\circ}$  above the horizon. It will be the only solar eclipse visible from this country this year and although it is an insignificant event, a piece of smoked glass or a piece of card with a pin-hole will enable practical minded members to check the work of theoretical workers and computers once more!

THE MOON

Lunation No. 360 begins with the new moon of January 26 and No. 361 with the new moon of February 25.

360:	(New Moon: January 26	Full Moon: February 11
	(First Quarter: February 2	Last Quarter: February 18
361:	(New Moon: February 25	Full Moon: March 11
	(First Quarter: March 3	Last Quarter: March 19

A very small partial eclipse of the moon occurs shortly after midnight on February 10-11. Less than one tenth of the moon's disc enters the Earth's shadow. Circumstances for Nottingham are:

Eclipse begins at 00.03 GMT (Feb. 11) Eclipse ends at 01.15 GMT.

Middle of eclipse at 00.39 GMT. Magnitude 0.09

(Moon souths, altitude  $52\frac{1}{2}^{\circ}$ , at 00.19 GMT)

In popular language again, the Moon first enters the Earth's shadow at about "6 o'clock" on the Moon's face and passes through the northerly edge of the shadow (i.e. the south(-westerly) tip of the Moon is darkened) before clearing the shadow at about "5 o'clock" on the Moon's face.

Those who feel disinclined to stay up late for such a minor eclipse may feel encouraged to know there is one other eclipse of the moon this year. This occurs August 5 in the early evening - a more convenient time - but this, too, is only a partial eclipse (magnitude 0.54 - i.e. about half of the moon is darkened by the Earth's shadow at the greatest phase) and the moon does not rise in this country until the moon is already at its maximum phase so only the latter part of the clipse will be seen, the Moon being low in the sky.

(... to page 3)

# "THE BIBLE AND ASTRONOMY"

by  
G. J. Hague

The evidence of the Divine origin of the Bible is amply demonstrated by the marvellous freedom from error in its references to the heavens. Compare the stars and the scriptures. "Down with everything that speaks of your God," yelled the revolutionist. "Then, my friend," the Christian replied quietly, "down with the stars."

One picturesque description of them is 'The street-lamps of the city of God', while one of our poets sees the far flung Milky Way as 'Main Street, Heaven Town'.

The scriptures were, as one clever phrase expressed it, written, "not to tell us how the Heavens go, but how to go to Heaven!" Yet it is only logical to assume that the Creator of the Universe should teach us truths in His written word, from the vast Book of the Heavens.

Marvellous is the freedom from foolish error in the Bible references to the Heavens. That, of course, is evidence of its Divine origin. When we contrast the absurd allusions in other ancient writings to astronomical matters, we see God's own safeguard in His Word.

Nearly all old-time scientists held that the earth was a flat disc, surrounded by Oceans, the world river. This disc was the foundation for all the other elements, supporting first water, then air, then fire and so on. The firmament, they declared, was a solid sphere, with stars dotted about it like ornaments in a Victorian drawing room.

These ideas were popular till so recent a time as the sixteenth century. Compare with such fantastic ideas the simple restraint and sublime truth of Job 26:7, concerning God's work of Creation: "He hangeth the Earth upon nothing". Could any twentieth-century astronomer state more aptly, the verity that God has freely suspended in space this terrestrial ball?

Even to-day, in uncivilised parts of the world, an eclipse of the sun or moon is looked on with terror. Alone among the ancients, the Hebrew people were unafraid, because the scriptures told them not to be troubled by such things. Some time ago, when astronomers gathered in India from all parts of the world to observe an important total eclipse of the sun, they heard a vast crowd weeping and howling because in viewing the eclipse, they believed their God was being consumed!

During the solar eclipse of March 15th, 1877, the Turks forgot for the time, their preparations for war with Russia, and spent ammunition and energy firing shots at the black dragon which was 'consuming the sun'.

Tens of centuries before this, the Hebrews alone kept their calm at such occurrences, for God had said through Jeremiah 10:2 "Learn not the way of the heathen, and be not dismayed at the signs of heaven, for the heathens are dismayed at them".

It is easy to exclaim, on looking at the night sky, "We can see millions of stars". Actually, on the clearest night, we could not see more than three or four thousand, with the unaided eye. The ancients believed in a very limited number of stars, about 7,000 being their highest estimate. What constrained the Biblical writers from committing this glaring error, which the latter day Higher Critics would have fastened on with glee?

What Power did more than that, in actually anticipating modern science which now affirms that the stars cannot be numbered? In promising Abraham the reward of faith, the Lord tells him in Genesis 22:17, "In multiplying, I will multiply thy seed as the stars of heaven, and as the sand which is upon the sea-shore," and the writer of the Epistle to the Hebrews, in 11:12, compares 'the stars of the sky', 'as the sand which is by the sea-shore innumerable.' An astronomer to-day could hardly use any better term than that.

THE SKY FOR FEBRUARY (continued)

One interesting feature about the lunar eclipse of February 11 is that during the eclipse, the moon will occult a faint star (magnitude 6.6 and known as  $+15^{\circ}2087$ ). In Nottingham, the star will disappear at the east limb at "7 o'clock" on the Moon's face at 00.00 GMT (Feb 11) and will re-appear at the west limb at about "3 o'clock" on the Moon's face at 01.11 GMT. Interested members with a small telescope and a stop watch may care to communicate with the Director of the Observing Section.

THE PLANETS

Mercury, passing the Sun on the far side of its orbit on Feb. 22, will not be visible during February.

Venus, still a morning star, is steadily becoming less favourably placed in the sky as it goes away on the far side of its orbit. During the month, Venus rises a little more than an hour before the Sun. Magnitude -3.4.

Mars is also still a morning star, rising about midnight during February, but is becoming more conspicuous in the night sky and will be visible in the evening sky from April onwards. It is still about 100 million miles away and consequently presents a small disc in a telescope - one quarter of the disc of Jupiter during the month. Magnitude during the month is 0.4 which will slowly increase to -1.5 in May.

Jupiter is an evening star during February setting at about 21.00 GMT - some 4 hours after the sun and close enough to be only free of twilight interference for a relatively short time. Mag. -1.8.

Saturn rises as Jupiter sets and will be the main object of interest in the night sky during the next month. Magnitude 0.8.

Uranus, in opposition on January 3, will be above the horizon most of the night. Magnitude 5.9.

Neptune is a morning star rising at 22.30 GMT in mid-February. It is the same part of the sky (Virgo) as both Mars and Saturn but is not likely to be confused with either as its magnitude is only 8.0.

Pluto is above the horizon all night as it passes opposition on February 10. It is in Leo, close to the star Epsilon Leonis which is the head star of the famous sickle of Leo. Magnitude 15.0.

The B.A.A. Handbook contains special identification charts for the latter three planets and should be consulted in cases of doubt. (Pluto can only be seen in telescopes of at least 12" aperture but Uranus and Neptune are easily visible in small telescopes)

THE STARS

The dominant star group of February is Orion, directly south, with its attendant dog constellations, Canis Major and Canis Minor to the east - the first-named being higher in the sky. The two bright stars of these dog constellations, Sirius and Procyon respectively, will form a striking triangle with the red star Betelgeuse of Orion. (See January sky notes in the December issue of the Bulletin). Almost overhead, the constellation of Auriga will be easily seen with Capella outshining all the surrounding stars. In the east will be Leo and its sickle star formation containing the red star Regulus at the lower end. To the north and east of Orion are the twins (Castor and Pollux) of the constellation Gemini.

Those with a small telescope will find much of interest in the Orion star group, including Taurus to the north and west. The Orion nebula and the associated trapezium of stars, the multiple stars of the Hyades and the Pleiades, the double stars of Castor and the famous Bee-hive cluster of stars (Praesepe) in the star group Cancer, between Leo and Gemini, are all worth viewing.

In February, no fewer than ten of the sixteen brightest stars to be seen from this country are visible in the mid-evening. (A.J.A.)  
(... to page 4)

THE BIBLE AND ASTRONOMY (continued)

Yet, with all these limitless occupants of space crowding the telescope, the Book of Job in 26:6, points out another recently confirmed truth about the work of God. "He stretcheth out the north over the empty place."

Professor Barnard of Washington Observatory, has pointed out that between the Great Bear and the Pole Star, there is a vast expanse without a single star.

To the writers of the Bible, the constellations that we know so well to-day appeared in the same relative position to one another, and must have been brilliant figures in the oriental night sky. The Book of Amos refers to two of the best known, saying in 5:8, "Seek Him that maketh the seven stars and Orion," and in the Book of Job, 38:31, the Lord God asks Job, "Can'st thou bind the sweet influence of Pleiades?, or loose the bands of Orion?"

The timid twinkling little star group known as the Pleiades was carefully studied in ancient times. When it rose shortly before sunrise in the northern hemisphere, this marked the return of spring. So the obvious effect of the question, "Can'st thou bind the sweet influence of the Pleiades?" is "Can you delay the spring's return?"

But here, modern science has demonstrated a far deeper truth in those words; the original Chaldiac word translated, 'Pleiades', is 'Chimah', meaning 'a hinge'.

In 1748, the astronomer Bradley, and more recently, the astronomer Madler, of Dorpat in Estonia, observed, after precise calculations, that Alcyone, the brightest of the stars in Pleiades, is the centre of our whole star system - the hinge around which our Sun, with its attendant planets, revolves.

When we think that more than three thousand billion miles separate the Sun from Alcyone, we realise how marvellous is the 'influence of the Pleiades'. The orbit in which they swing at the rate of 150 million miles a year, is so immense that one circuit alone would demand thousands of years to complete!

Can astronomy boast any more fascinating story than that of the planet Neptune's discovery? Observers noted how at one point in its track through the heavens, Uranus swung outward from the perfect curve of its orbit. Scientists could only guess that some unknown, unseen planet even further off was influencing it. But at what distance? Unknown to one another, two astronomers, one English, the other French, estimated the position of the stranger by the aid of mathematics alone. Their calculations were published and a German astronomer, named Gallo, pointed his telescope to the indicated quarter of the heavens, and the planet Neptune swam into his view.

Surely this romantic story helps us in our right estimate of man as the head of creation. The vastness of space should fill us with awe at the might of its Author; it should not depress us, however, with the thought of our insignificance. God has given to us powers of mind and affection, whereas the greatest star is but an unthinking, unfeeling mass awirl in the heavens. Let us praise Him who made the heavens and earth and all that therein is, and our our hearts' adoration to Him who is, "The Bright and Morning Star, our Saviour Jesus Christ." Of God's holiness, Job said, "The Stars are not pure in His sight. How much less man?" It was because of vast distance between the holy God and the sinner that God gave His only Son, gave Him up for us all, that whosoever believeth on Him should not perish, but have everlasting life.

---oOo---

Napoleon, with his officers, cruising up the river Nile, was listening to a discourse on how the heavens were made. After hearing their ideas as to how these came to be made, Napoleon turned to them and said, "Your theory, Gentlemen, is very ingenious, but, (pointing to the galaxy of stars above) who made all that?"

(...to page 6)

ANNOUNCEMENTSNext Meeting

The next ordinary meeting will be held in the Mechanics Institution, Nottingham, on Thursday, February 7th, 1952, at 7.30 p.m. Mr. A. K. Bennett, a Past-President of the Society, will speak about "A PERSONALITY IN ASTRONOMY" and Mr. A.W. Lane Hall will deliver his usual address on the night sky for the current month.

A Committee meeting will be held at 7 p.m. in the same room and on the same date.

Open Air Meetings

With effect from January 1st, 1952, the Barton No. 14 Service (Ruddington) operates from the new BROAD MARSH Bus Station, instead of from Huntingdon Street Bus Station. Members who use this service to attend the Open Air Meetings will, therefore, note this change. Times are expected to be the same; Barton officials state there is a difference of two or three minutes involved but that new time-tables are not yet available.

Schedule for JANUARY: 15, 16, 17, 22, 23, 24, 29, 30, 31.

Other details are as given in last month's Bulletin or the new fixture card

Annual Dinner

The Fourth Annual Dinner will be held in the Black Boy Hotel, Nottingham, on Saturday, February 9th, 1952. Members and their friends will be received by the President at 7 p.m. It is regretted that the charge this year has been increased to 17s/6d per head for adults and 9s/-d per head for (a limited number of) Juniors. This price, however, includes a four-course poultry or game dinner instead of a three-course meal as last year, but excludes wines, as usual.

As this Bulletin goes to press, the negotiations for the Guest of Honour are not quite complete but it is hoped to have as our principal guest this year, the immediate Past-President of the British Astronomical Association.

The Secretary desires that all members who wish to attend the Dinner inform him accordingly as soon as possible.

Public Meeting

The Society's first Public Meeting will take place in the Mechanics Minor Hall, Nottingham, on Wednesday, March 5th, 1952, at 7.30 pm. The main feature will be the showing of the following special astronomical films "THE STORY OF PALOMAR" (Sound/Colour), "SOLAR PROTRUBERANCES" (Silent/French titles) and "THE CINEMA AND ASTROPHYSICS" (Silent/French titles). Admission will be free and members are urged to pass this information to all likely members of the public. (See Comment on Page 1)

Addresses

Hon. Secretary:	Hon. Treasurer:	Hon. Editor;	Director of the
G. T. H. Butler,	C. L. Swift,	A. J. Ashmore,	Observing Section;
Little Orchards,	18, Naseby Close,	3, Maitland Road,	A. W. Lane Hall,
ORSTON. Notts.	Heathfield,	Woodthorpe Drive,	19, Hartington Rd.,
Tel: Whetton 282	NOTTINGHAM.	NOTTINGHAM.	Sherwood,
			NOTTM. Tel. 66587

4.1.52

ERRATA

This Bulletin (No. 57) Page 3 THE STARS. line 3. for 'first-named' read 'second-named'.

December Bulletin (No. 56) Page 4. COMETS line 10.

Insert after 'identification' 'with a comet whose existence is already known'.