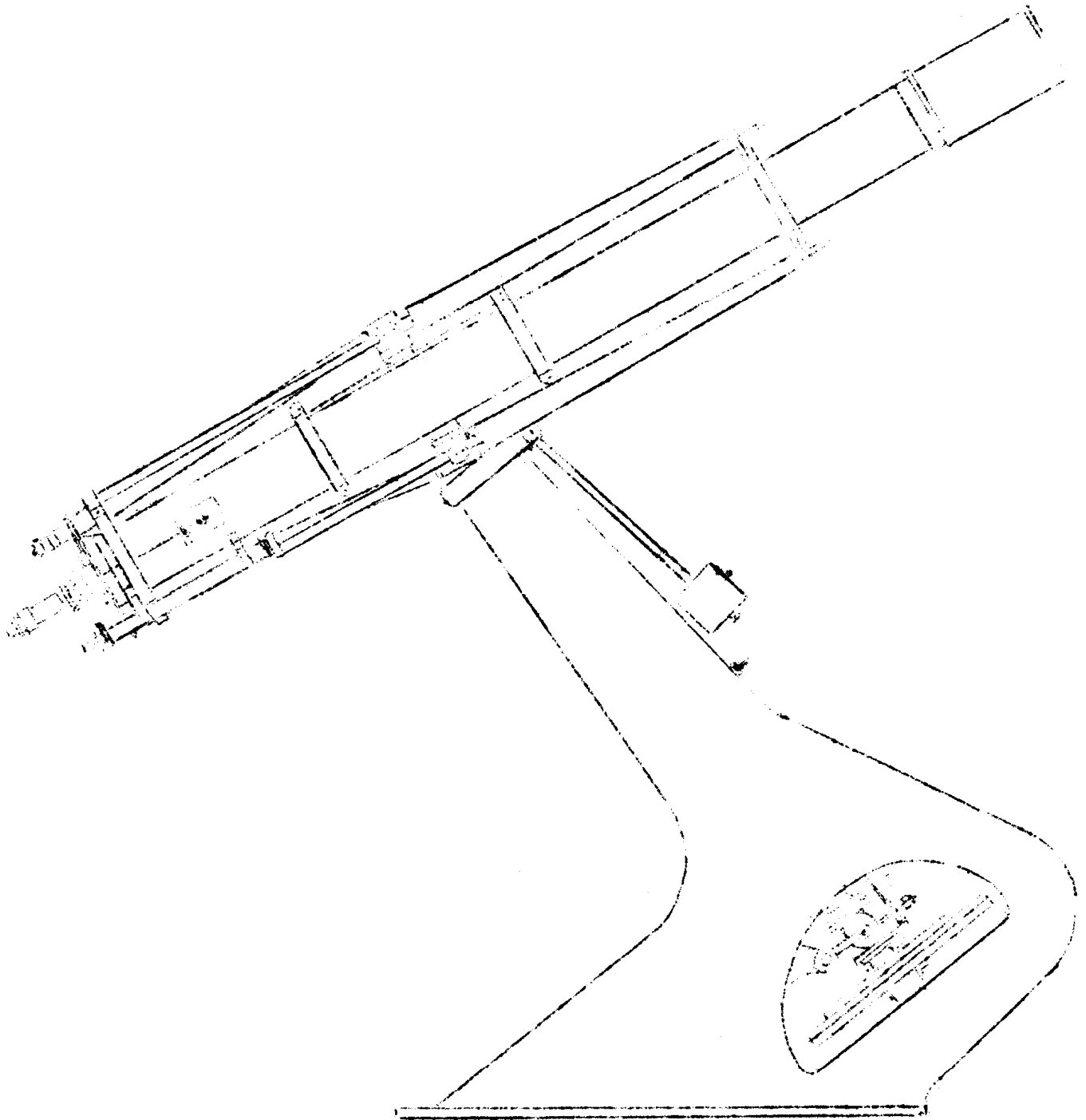


JOURNAL of the
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)
February, 1977



Editor: Mr. M. Howe,
BURY ST. EDMUNDS,
Suffolk.
'Phone Bury St. Edmunds

THE NIGHT SKY as seen from Suffolk this month.

The Spring constellations are coming more into view this month. The constellation Cancer is due South near midnight and to the West of it are Leo and Leo Minor. In a small telescope Gamma Leonis can be seen to be a double star with a separation of about 4". In Cancer there is the fine open cluster Praesepe or the Beehive. Owing to its large size the best way to view it is through a pair of binoculars such as a 7X50 or 6X35 (for those who don't know, the first number is the power and the second is the size of the object glasses).

THE SUN

The Sun rises a little earlier this month at about 07h40m U.T. in Capricornus, setting at 16h40m U.T. At the end of the month sunrise is at 06h50m and sunset is at 17h30m with the Sun in Aquarius. Synodic rotation no. 1651 commenced Jan.28.18d and ends Feb.24.52d.

Heliographic Co-ordinates at Noon U.T.

	P	Bo	Lo	/	P	Bo	Lo	
Feb 1	-12.2°	-6.1°	309.7°	/	16	-17.7°	-6.9°	112.2°
" 6	-14.2°	-6.4°	243.9°	/	21	-19.3°	-7.1°	46.3°
" 11	-16.0°	-6.7°	178.0°	/	26	-20.8°	-7.2°	340.5°

THE MOON - Phases

Full Moon	Feb. 4d03h56m
Last Quarter	Feb. 11d04h07m
New Moon	Feb. 18d03h37m
First Quarter	Feb. 26d02h50m

Occultations

Star	Phase	Mag.	Time(U.T.)
*1106	D	3.6	28d03h05m
132	D	6.9	21d20h02m
620	D	6.3	25d20h33m
886	D	7.0	27d18h42m
1029	D	5.1	28d13h06m

D=disappearance, R=reappearance. Stars are listed according to Zodiacal Catalog (ZC) numbers, * denotes double star, and times are accurate to within +2m at worst.

THE PLANETS

Mercury is a morning star for the whole of the month moving through the constellations Sagittarius and Capricornus. It will be of approximately zero magnitude and although it is rather far South it may be visible close to Mars (see Mars).

Venus brightens up to mag. -4.3 at the end of the month but its elongation decreases to about 40°. It now sets more than four hours after the Sun.

Mars is still very dim (mag. 1.5) and will be about 1/10° away from Mercury at Feb. 12d19h U.T. This may be a good opportunity to find both planets.

Jupiter enters Taurus this month and sets after midnight. Its magnitude decreases from -2.0 to -1.8.

Saturn reaches opposition on the 2nd. when its magnitude will be 0.1 and it will be in Cancer. The diameter is 18.3" and that of the rings is 46.0"; Saturn's geocentric distance is 1220 million km (758 million miles).

EDITORIAL

So the Vikings have been to Mars; well, what have we learnt from it? I'd like to make it clear that as an amateur I'm not qualified to answer that question properly. So, what follows is really only a layman's view of the subject, and I'd be glad to hear from somebody who knows more about it.

To me the most significant findings of the recent landers have been meteorological. We have learnt considerably more about the temperature variations, wind ranges and atmospheric composition on Mars. Breakdown of the constituents of Martian soil have shown that it is roughly the same as our own although perhaps closer to that on the Moon. In mid-November seismological activity was detected on Mars for the first time.

By contrast we have learnt very little at all about life on Mars. There was a great deal of interest in the findings of the Viking Gas Chromatograph/Mass Spectrometer (GCMS) that something was giving off oxygen in the Martian soil. A controversy followed as to whether or not the GCMS had actually discovered life, a controversy which is not yet resolved. Hence, although we have learnt much about what can happen in Martian soil, it seems we are still no closer to answering the question "Is there Life on Mars?" Scientists will probably still be analysing the results in years to come.

Just supposing, however, that they decide there really is life on Mars; what sort of impact will it have? I venture to say that, on the long term scale, the impact will be very small. After all, who really cares about a few microbes, probably very much the same as the home-bred variety? Very few Scientists (I hope) would contest the argument that life must be common in the Universe, so the amount we learn would be minimal. What really interests people is the possibility of contacting intelligent extra-terrestrials, and I believe that this will first occur not by physical contact but by interstellar communication.

I will have more to say about this subject in future issues.

NEWS FROM OTHER JOURNALS

General Relativity

As Mars went into conjunction with the Sun on November 25th. signals were transmitted to the Viking landers and back from Goldstone, California and Canberra. The round times of the messages were clocked to an accuracy of 1 in 2 million million and found to agree with Einsteins General Theory of Relativity, which predicts that the rays will be bent round the Sun and hence retarded slightly. This experiment is essentially the same as one conducted at the total Solar eclipse of May 29, 1919 (The Times Newspaper).

Gamma Rays - For the first time, gamma-ray emission from atomic nuclei outside the Galaxy has been detected. The source of the radiation is in Centaurus A, the nearest radio galaxy, and was discovered by a gamma-ray detector at Rice University, Houston, Texas. Gamma-rays are high-energy photons which have a much higher frequency than visible light and are even more powerful than X-rays (New Scientist).

* * *

Next month I hope to start on a new series of articles about exobiology. This is a science which deals with the possibility of life having cropped up elsewhere in the Universe. The first bit of my article will be about how life began on Earth, so those of you who aren't interested in biology may find it a bit boring and might be advised to skip it.

METEOR NOTES for February by Mr. D. Barnard, Section Director.

The main news this month is about the fireball on the night of the A.G.M. (Fri 7th Jan. 1977). This fireball was seen moving southwards by Jeremy Ballam of Nacton Road, Ipswich and Michael Turner of Collingwood Close, Ipswich at about 5p.m. As you probably saw in the Ipswich 'EveningStar' or heard on Radio Orwell. This fireball was of about magnitude -11 to -12 and was of about one minute duration, red and yellow in colour and moving at a steady speed towards the River Orwell. Two large bangs were heard and also a hissing noise.

So far I have had about ten reports but none seem to confirm this sighting, reports mostly coming from aeroplanes at about 7p.m. to 10p.m.

With the two boys who saw this fireball I went with Roy and his two sons to hunt for possible meteorites, but without success. We were caught in the rain, snow and sleet miles from anywhere along the foreshore of the Orwell. Perhaps I was being too optimistic!

This month there are no major showers. The quadrantids meteor count held on 3rd January ended in only three meteors being seen and a fireball. That night we missed a -10 fireball which was spotted over Lincolnshire at 4a.m. on the 4th Jan. We finished this meteor count at midnight before we nearly froze to death. Keith Hindley (Meteor Section Director of the B.A.A.) said that we were lucky to have seen any at all because the Moon was thirteen days old.

METEOR WATCHES THIS MONTH.

As there are no major showers this month we propose holding a Sporadic Meteor Count on SATURDAY 19th FEBRUARY. Again we will meet outside the Golf Hotel, Foxhall Road, Ipswich at 9p.m. Remember to come along and wrap up warm!

NEW TREASURER.

As you will see in the minutes of the A.G.M. Mrs. P. Long was appointed Treasure for 1977 and all monies should be send direct to her at [REDACTED] IPSWICH.

SUBSCRIPTIONS FOR 1977.

All subscriptions to our Society became due on 1st January 1977 and those members wishing to renew their membership to our Society should send them to the Treasurer as soon as possible.

Membership subscription rates are:

Junior Membership (and those still in full time education)	£1.00
Full Membership	£1.75
Family Membership	£2.50

Cheques should be made out to 'Orwell Astronomical Society (Ipswich) and sent to Mrs. P. Long, Hon. Treasurer, Orwell Astronomical Society (Ipswich) [REDACTED], Ipswich, IP2 9JH.

LECTURE at the Friends Meeting House, Fonnereau Road, Ipswich.

This month's lecture is entitled 'The Mythology of Quasar Redshifts' and will be given by Dr. Simon Mitton of the Institute of Astronomy, Cambridge. The Lecture starts at 8p.m. and admission is FREE and everyone is welcome to attend. Please put the attached poster in a prominent position to advertise this lecture and if you would like anymore posters please contact Mr. R.M. Cheesman, [REDACTED], Ipswich.

ONEO DUPLICATOR.

The Society is still looking for an ink duplicator and if you have one or know of one for sale, even if it needs attention, please contact Mr. R.M. Cheesman, [REDACTED], Ipswich as soon as possible.

CONJUNCTION between MERCURY and MARS.

As reported in Charles Radley's report Mercury and Mars are in close conjunction on Saturday 12th Feb and Sunday 13th Feb at about 7.a.m. If you are interested in going to the Observatory to observe this event on either of the two days please contact Mr. R.M. Cheesman, [REDACTED], Ipswich. Remember to contact him because he is not going up the observatory unless others are going as well because he is fed up looking a lemon going to the Observatory early in the mornings only to find nobody is there to help him open up the dome.

Alan Smith has kindly offered the use of his fully equipped photographic darkroom for members. He will process and print any black and white film that any budding astrophotographers give him. You can call round and watch your film being done if it is convenient. Alan has developed two of mine which can out surprisingly well.

Alan Smith lives at [redacted], Stoke Park Estate, Ipswich telephone Ipswich 51593.

Proposed trip to the B.A.A. METEOR & FIREBALL SECTION MEETING.

This meeting is being held in London on Saturday 2nd April, 1977 all day (Ipswich Town are playing Manchester City away that day)

The Society is hoping to organise a trip to this meeting. Keith Hindley, the Director, will deliver a talk with slides, and there will be other talks as well. There will also be an exhibition of meteor and fireball cameras plus some genuine samples of meteorites. It should be a very good event. There will we hope be a couple of car loads of members and if you would like to come along please contact either Mr. A Smith or Mr. B. Barnard. (A. Smith phone [redacted] and Mr. Barnard phone [redacted])

Contribution towards cost of petrol will be in order and if you could bring along a car which will get there and back so much the better.

The Meeting will be held in the Physics Department of Imperial College, Prince Consort Road, London, SW7 2AZ. The Society hopes to exhibit a couple of fireball cameras. If you have anything possible worth exhibiting please give it to Alan Smith, David Barnard or myself.

Bring sandwiches or enough money to buy some lunch. There are plenty of eating places nearby.

See you there?

Charles Radley.

WHAT'S UP Supplement by Charles Radley.

February 12th at 1900hrs U.T.

Conjunction between Mercury and Mars, Mercury will be 0.1° S of Mars on Feb 12th at 1900hrs U.T. but since they are both morning stars the best times to view them will be shortly before dawn on Saturday 12th and Sunday 13th.

Mercury and Mars will rise at 06hrs 40m U.T.

40 minutes later the Sun will rise at 07hrs 20m U.T. Below is a table and useful data:

<u>Date</u>	<u>Planet</u>	<u>R.A.</u>	<u>Dec.</u>	<u>Phase</u>	<u>Magnitude</u>
Feb 12.3	Mercury	20hrs 17.38m	-20° 42.8'	0.8 (Gibbous)	-0.1
	Mars	20hrs 18.55m	-20° 35.26'	0.985 "	+1.5
	Sun	20hrs 40m	-13° approx	-	-
Feb 13.3	Mercury	20hrs 23.44m	-20° 29'	0.8 (Gibbous)	-0.1
	Mars	20hrs 21.7m	-20° 25.5'	0.985 "	+1.5
	Sun	20hrs 40m	-13°	-	-

A telescope or binoculars will be needed to view this event properly. Locate the point on the horizon equivalent to -20° Declination, then set up your setting circles and sweep in R.A. or with binoculars just keep on looking. The Moon will be visible at that time since Last Quarter is on Feb 11th and New Moon on Feb 18th.

I understand that there are plans afoot to open up the Observatory for one or both of these mornings. Check with the Observatory Programme at the end on this Journal.

On March 27th in the evening there will be a conjunction between Mercury and Venus. Further details will be in next month's Journal, or see the B.A.A. Handbook (from whence the above predictions were calculated using linear interpolation and an electronic calculator). There is now a copy of the 1977 B.A.A. Handbook in the Society's Library in the Observatory. I will make an announcement about the March 27th conjunction at Bob Markham's lecture on March 25th.

Charles Radley.

1. APOLOGIES FOR ABSENCE. Received from Mr. R. Markham, Mr. A. Smith, Mr. M. Howe and Mr. D. Brown.

2. MINUTES OF PREVIOUS ANNUAL GENERAL MEETING AND MATTERS ARISING

The two matched clocks (local and sidereal) were not purchased but the Society had since acquired the Barrell Clock. The Committee would reconsider this item.

An electric motor for driving the telescope had been obtained but the necessary gears would have to be cut.

3. CHAIRMANS INTRODUCTION.

The Chairman thanked the Secretary (Mr. M. Stow), the Treasurer (Mrs. R. Markham), the Editor (Mr. J. Deans) and his Assistant (Mr. M. Howe) for all the work they had done during the year. He was sorry that Mrs. Markham, Mr. T. Cardot and Mr. K. Dye had resigned.

The Society had been very active during 1976 and had organised 178 functions. Mr. D. Barnard and Mr. M. Cooke were praised for the long hours they spent decorating and repairing the Observatory. A good selection of lectures had been arranged by Mr. Stow which were well attended.

Mr. N.C.C. Barrell had donated to the Society, a reflecting telescope, an astronomical clock, mirror making equipment and a set of eye pieces.

Insurance cover for the general public was increased together with cover for the Barrell telescope.

The 1976 Open Day was a success and £125 worth of draw tickets were sold. The Chairman thanked Mr. D. Barnard for his talks on Meteors and Comets, and all those who had helped.

Mr. Cheesman thanked Mr. B.H. Bell and Mr. I. Angus of Orwell Park School for the help they had given the Society during the year.

4. SECRETARY'S REPORT

The Secretary thanked the Chairman for his efforts during the year. An excellent Journal was produced and members were thanked for their contributions.

Membership of the Society was about 100 which was significantly higher than last years total of 70. There had been eight Committee meetings during the year and on another three occasions a quorum was not present.

During 1976 the Observatory had been opened 146 times of which 34 occasions were for repairs and 16 for visits by Groups and Clubs (one of which was the Suffolk Caravan Club when 400 people attended). New Directors were required for Tuesday and Friday evenings as Mr. Cardot and Mr. Dye had left the area.

Five lectures had been arranged during 1976:-

'Observing Venus and Mercury with a Small Telescope'	-	Mr. R. Middleton
'The Sun'	-	Mr. P. Gill
'The Century of the Great Refractors'	-	Dr. D. Dewhurst
'Observing Galaxies and Binary Stars with the Issac Newton Telescope'	-	Dr. B. Morgan
'The Galaxy'	-	Mr. G. Curtis

Outdoor events included 20 meteor counts and a Grazing Occultation.

The Open Day was very successful and produced a profit of £120 (a 50% increase). Talks were given by Mr. Cheesman and Mr. Barnard. There was a good attendance but there was insufficient help from members.

In conclusion, the Society had had a successful year with its many and varied activities.

5. TREASURER'S REPORT

Mrs. R. Markham stated that the Society had a balance of £233 and the major source of income were subscriptions (£136), Open Day (£120) and donations (£23). The main expenses were Solicitors fees (£122), duplicating paper (£80), repairs and redecorating the Observatory (£50), and cost of lectures (£33). The cost of

duplicating paper had doubled and it was decided to print the Journal on both sides of the paper. A duplicator will be required in the near future which could be costly. Costs generally would increase during 1977 and to keep pace with inflation the Treasurer proposed an increase in subscriptions from 1.1.78. The Meeting agreed the proposal. The Committee will decide the actual rates for 1978 but rates should not exceed £5, £3 and £2 per annum for the 3 grades of membership.

6. ELECTION OF OFFICERS AND COMMITTEE

A ballot was conducted and the Officers and Committee for 1977 will be:-

- | | | | |
|----------------------|-----------------|------------------|--|
| Chairman | Mr. R. Cheesman | | |
| Secretary | Mr. M. Stow | | |
| Treasurer | Mrs. P. Long | | |
| Committee Members :- | Mr. D. Barnard | Mr. D. Bearcroft | |
| | Mr. J. Deans | Mr. V. Wilkes. | |

7. FUTURE PLANS

Mr. Cheesman said he would like to see more members involved in the Society's activities and writing articles for the journal. It was possible that he and the Secretary might move from Ipswich and he hoped that any vacancy would be filled so the Society could continue.

Arrangements this year included further lectures, a visit to the Mullard Observatories Cambridge, the Science Museum, London and to other Astronomical Societies.

It was hoped to get the objective glass cleaned and to complete the observatory for the Barrell telescope. The Chairman hoped that more serious observational work would be carried out.

Another Open Day was planned for the Autumn and there were already many bookings for Clubs and Societies to visit Orwell Park.

Publicity would include an article in the Evening Star and possibly a feature on Radio Orwell. The Ipswich Extra had also been successfully used.

His aim was to purchase a projector as well as a duplicator.

a. ANY OTHER BUSINESS

- a) The B.A.A. Meteor Section meeting will be held at the Science Museum on April 2nd.
- b) Mr. A. Smith was willing for members to use his dark room.
- c) The Committee will review what magazines and journals should be purchased by the Society.
- d) To purchase a dome for the Barrell telescope would cost about £2,500. This was too expensive and a run off shed would have to be constructed.
- e) It was decided to ask Mr. A. Smith if he could look at the possibility of making an intercom for use at the Observatory.
- f) Mr. N. Gage proposed that David Barnard be granted free membership for 1977 in recognition of all his work for the Society throughout the year. This was agreed unanimously.
- g) Suggestions for the prize for the Open Day draw included a cassette tape recorder and a camera. There was also a suggestion that a selection of films be re-introduced on the Open Day.

The meeting closed at 22.30 hours.

singed.....

Chairman, O.A.S.I.

programme for February, 1977.

AT ORWELL PARK OBSERVATORY, NACTON.

MONDAYS from 7.30p.m. General Observations Section.

Director Mr. N. Gage, [redacted], Felixstowe, Tel. Felixstowe [redacted]
and Mr. S. Flory, [redacted], Ipswich, Tel. Ipswich [redacted]

7th February
21st "
28th "

WEDNESDAYS from 7.p.m. Solar, Lunar & Planetary Section.

Director Mr. R.M. Cheesman, [redacted], Ipswich.

2nd February
9th "
16th "
23rd "
2nd March

THURSDAYS from 8p.m. Double Stars Section

Director Mr. D. Bearcroft, [redacted], Ipswich, Tel. [redacted]

10th February,
24th "

FRIDAYS from 7.30p.m. Nebula and Faint Objects Section.

Director Mr. R Hazelwood, [redacted], Ipswich Tel. [redacted]
and Mr. R. Gooding, [redacted], Ipswich.

11th February
25th "

12th SATURDAYS Special Meeting to observe the Mercury & Mars Conjunction.
& and from 6.30 A.M. Director Mr. R.M. Cheesman, [redacted], Ipswich.

13th SUNDAY if you intend coming to one of these meetings please contact the
director.

Visits to Observatory organised by Mr. R.M. Cheesman, [redacted], Ipswich.

Saturday 5th February from 7p.m. 32nd Ipswich Scout Pack

Saturday 26th February from 7p.m. visit by Norwich Astronomical Society

* * * * *

LECTURE to be held at the Friends Meeting House, Fonnereau Road, Ipswich
ON FRIDAY 18th FEBRUARY.

Lecture entitled 'The Mythology of Quasar Redshifts' given by
Dr. Simon Mitton, of The Institute of Astronomy, Cambridge.

Lecture starts at 8p.m. Admission Free everybody welcome.

METEOR SECTION. Director Mr. D. Barnard, [redacted], Ipswich
Telephone Ipswich [redacted]

SATURDAY 19th FEBRUARY from 9p.m. Sporadic Meteor Count.

Meet outside the Golf Hotel, Foxhall Road, Ipswich at 9p.m. irrespective of
weather conditions. Everybody welcome to come along for a few hours but
remember to wrap up warm.

Orwell Astronomical Society (Ipswich)

presents

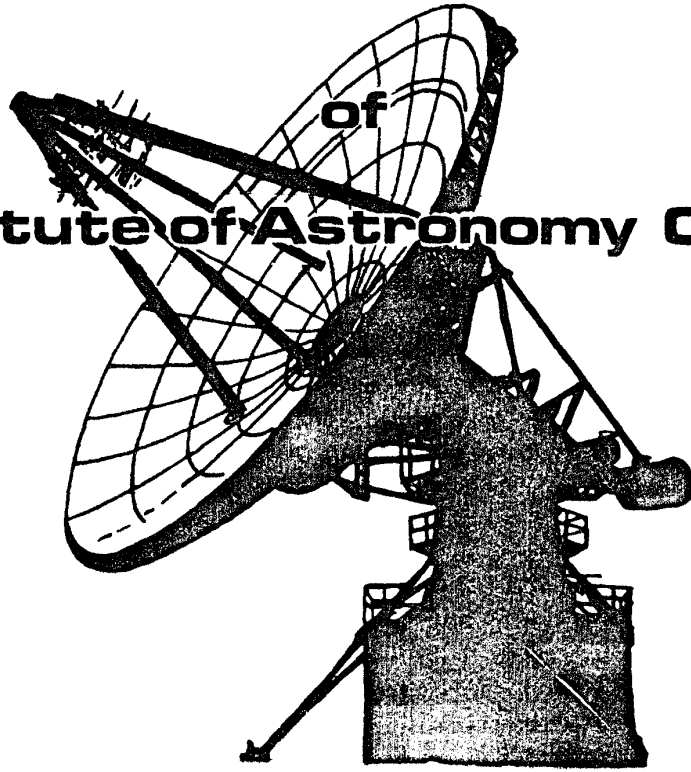
a lecture entitled

**THE MYTHOLOGY
OF
QUASAR REDSHIFTS**

by

Dr. S. MITTON

**of
The Institute of Astronomy Cambridge**



on

FRIDAY 18th. FEBRUARY 1977

at 8p.m.

at

The Friends Meeting House

Fonnereau Road, Ipswich

REFRESHMENTS

ADMISSION FREE

Secretary: Mr. M. Stow,
13 Ladywood Road,
Ipswich.