

Wharstead, Ipswich, IP8 8ND.
 Telephone: Ipswich [redacted]

We would like to welcome the following
 new member to the Society:

Mr. Peter Leathersdale and Family.

West Bergholt, nr. Colchester, Essex

Tel. Colchester [redacted]. He is
 currently building a 213mm (8 1/2")
 reflecting telescope.

APPEAL TO MEMBERS

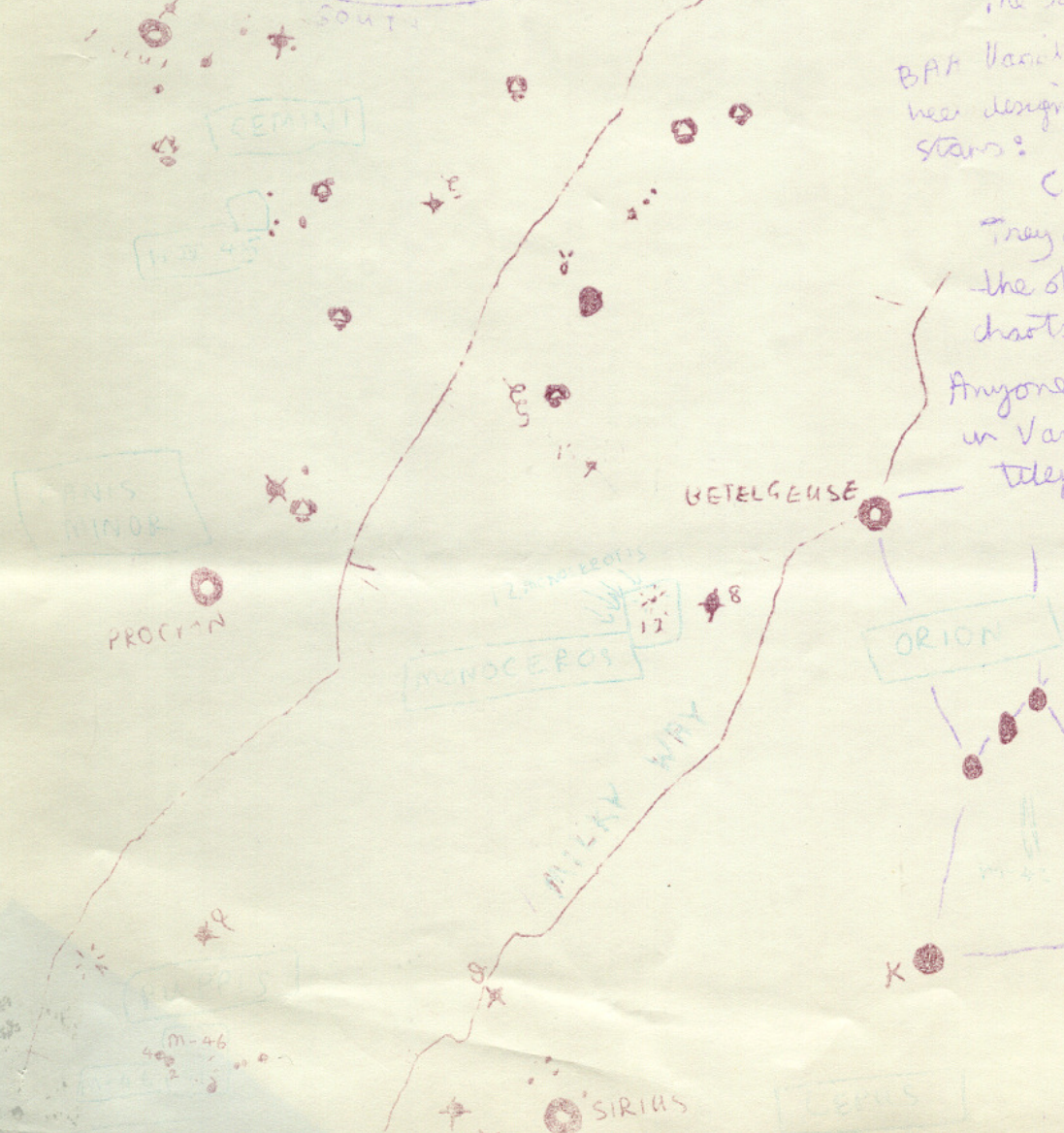
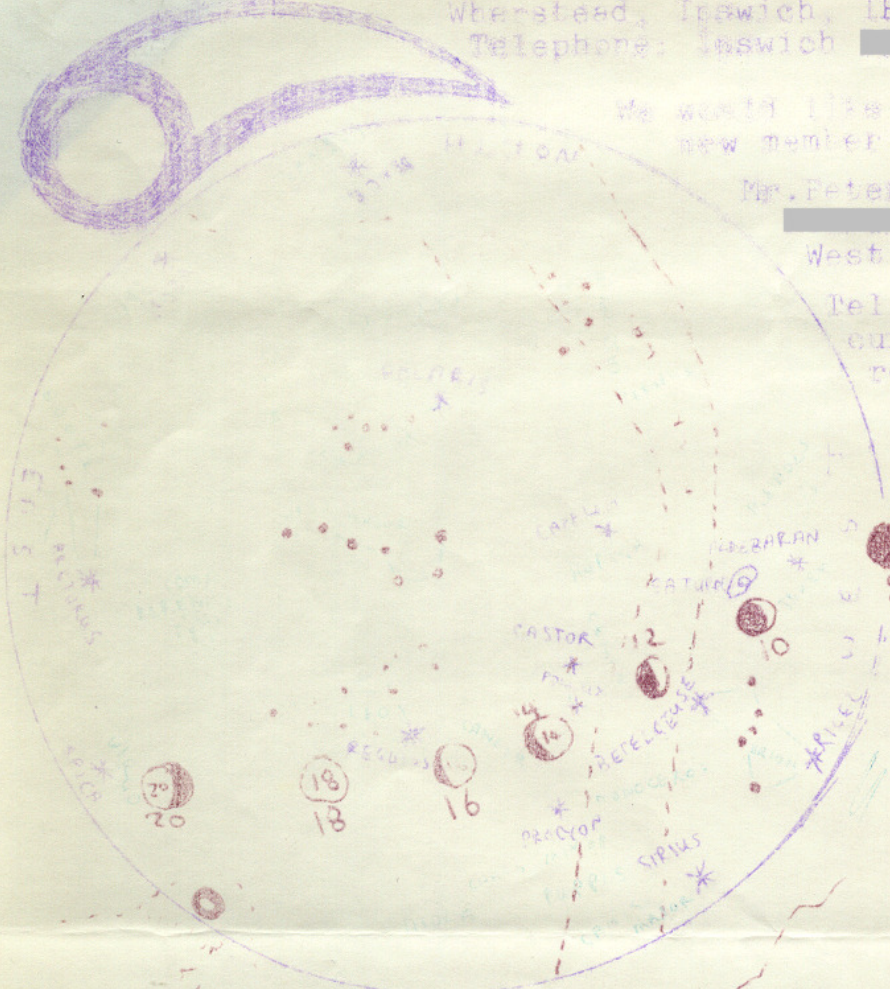
Please can you help on the
 Open Day on April 21st!! Last
 time we had less than 10 people
 trying B later for several hundred.
 We need more than a dozen people.
 Any volunteers please phone me
 soon as possible.



The Society has joined the
 BAA Variable Star section. We have
 been designated to observe the following
 stars: X Aurigae, X Leo,
 CN Orion, & S Virgo.

They are quite dim. I have all
 the observing data, including
 charts to find the stars.
 Anyone wanting to give a hand
 in Variable Star Observing,
 telephone me soon please.

The Society is also,
 now, a member of the
 BAA Venus & Mercury
 Sections



OPEN DAY IN EASTER

Perhaps the most important event of the year, as far as our society is concerned, is the Open Day of our Observatory. The first Open Day was held in September 1972. Last year, most of our effort was put into restoring and decorating the Observatory to make it presentable for the public to look round. As well as the telescope itself, there were maps and photographs displayed in the Club Room, members telescope and a good display of telescopes organised by Dixons camera shop.

This year it was decided at the committee meeting held on January 29th, to hold the Open Day this year on Saturday April, 21st in the afternoon, and evening. Last year the Open Day finished at around 11.00 p.m. Officially last year, the Open Day opened at 4.00 p.m., but people turned up from about lunchtime onwards.

This year there will be some films shown, alongside slides of Apollo-17, Moon, Planets etc., In addition, this year we hope to be able to show visitors around the actual Orwell Park School itself, as well as the observatory, by kind permission of the Headmaster, our President Mr. B.H. Bell.

A PLEA TO MEMBERS: If you are prepared to display your telescope, photographs star/moon maps, models or anything concerned with astronomy, at the Open Day, let me know as soon as possible. In addition we need plenty of manpower to clean up and organise exhibits and so on beforehand.

Society Library Service

Our library is growing, slowly. Thanks are due to The DUNDEE ASTRONOMICAL SOCIETY, who through their Director of Observations, Morgan Findley, have donated several booklets about Russian space flight, and slides of their own 10 inch refractor, and the Moon.

Members wishing to borrow any of the books, slides, maps or magazines in the library, telephone me at Ipswich 55221, or go round to Roy Cheesman, at [redacted] [redacted], Ipswich, who is currently guarding over most of the library. I am looking after the set of Russian Moon Maps donated by Mr. E.H. Collinson.

ASTRONOMY "HOLIDAY" AT WINCHESTER

Every July the BAA organise what they call "A Residential Course in Astronomy" at Winchester. As usual, there will be another this July. Accomodation is provided. The Emphasis on these courses is observational astronomy, as opposed to theoretical astronomy. It is not really a holiday, so much as a weekend in the eyes of Patrick Moore and other prominent speakers who will give lectures on various aspects of astronomy. The evenings will be spent, weather permitting, observing the skies. The course starts on Friday July 20th, in the afternoon, and ends on the following Monday. Further details can be obtained from me.

From what I hear, these courses are well worth going to, and I shall endeavour to attend this one. There are a limited number of places only, so it is worthwhile making your booking as soon as possible. I understand that applicants must be at least 16 years of age.

SUBSCRIPTIONS FOR 1973 SESSION OF ORWELL AST. SOC.

Several members have sent in their subscriptions for this year. Rates are: £1.50 for family. £1.00 for Adult (over 18 years), £0.50p for Junior member. Those who have sent their subscriptions should, or soon will, have a receipt.

This journal is at present, being distributed to twice as many people than have paid their subscriptions, in the Ipswich area. If you receive this Journal and have not paid for 1973, please send us the appropriate sum, or indicate your desire no longer to be a member. Thank you. If you have any doubt as to where you stand, don't hesitate to phone me.

At present a great deal of the societies funds are used on slightly trivial but vital things such as postage, as the balance sheet for 1972 shows (which was read out at the 1972/73 A.G.M.), and some of the remainder was used for repairs to the Observatory. The society intends some more ambitious repairs in the near future, such as having the objective lens refigured (plans are afoot for this), and replacing the wheels supporting the dome, for example:- to complete these tasks we need something from our bank account to perform them. Subscriptions paid towards the end of 1972 count for 1973.

Observatory Logbook

On 1973 February 17th from 19.00 hrs. to 21.45 hrs. U.T. the Observatory was opened for the benefit of the NORTHGATE GRAMMAR SCHOOL for BOYS ASTRONOMICAL SCHOOL of Ipswich. Some twenty people including their secretary, David Green, observed the Moon, Saturn and the Great Nebula in Orion, and the PLEIADES.

The Moon was a few hours older than the Full Moon. The only detail visible was extreme limb detail on the North East and East limbs of the Moon. There was quite a considerable amount of thin cloud, so little detail could be seen on Saturn. Cassini's division was barely visible.

BBC, 'THE SKY AT NIGHT'

The next of the excellent Sky at Night series will be shown on BBC 1 at 11.15 p.m. on Monday 19th March. It will be about the Dog Star, Sirius.

OBSERVING NIGHTS USING THE OBSERVATORY

The Observatory is now used approximately twice a week. Additional nights can be arranged for clubs or societies that wish to come to see the Observatory. For details of regular observing nights, see separate article in this Journal.

It is advisable to telephone the Director of the Section, or if he is not on the telephone, myself because if the weather is bad, the Observatory will not be opened up.

MEETINGS AND OTHER SOCIETIES

Saturday, March 17th 7.30 p.m. at "The Spinney", Earlham Five Ways, Norwich. Car park, coffee, 50 or 510 bus. Norwich Astronomical Society public meeting. A Talk on "Climate in Early Civilised Times" will be given by Prof: Hubert Lamb, University of East Anglia.

Saturday 21st April (same date as our Open Day) Same time, same place as above. Talk by George F. West, F.R.A.S, "Extra - Galactic Nebulae - An Historical Survey".

Thursday March 1st and April 5th Clacton Ast:Assoc: meeting, 7.30 p.m. in the Quaker Hall, Grenville Road, Clacton-On-Sea. Talks and discussions about astronomy.

Wednesday March 28th and April 25th. Meetings of the British Astronomical Association at 23, Saville Row, London W.7. at 17.00 hours (5.00 p.m.)

Well worth going to, discussions and talks by prominent observers throughout the country.

THE EXHIBITION MEETING of the B.A.A. will be held in MAY. Further details from me. You too can contribute exhibits.

LUNOKHOD - 2

Since the last edition of this Journal, I have received more information regarding this interesting unmanned lunar roving vehicle. The co-ordinates of the landing site (at the time of writing) have not yet reached my ears, but the site is somewhere somewhere in the crater Lemnioner on the Eastern edge of the Sea of Serenity, 112 miles 180 Kilometres north of Apollo-17, and 3.7 miles of mountains which Lemnioner juts out from.

The vehicle had landed at a mere 2 metres per second velocity. Only one of the shock absorbers had functioned because of this. The surface was found to be too hard to absorb any of the touchdown speed, and therefore this gentle landing has been attributed wholly to engine performance.

Throughout the mission only one fault occurred. A tracking ship in the Atlantic Ocean received signals that one of the landing legs had failed to open. This later turned out to be a false alarm. For some 50 hours after landing a period of inactivity was scheduled, as mentioned in the last edition of this Journal. On January 17th a 2 hour communications session was held with the vehicle. The high sun angle made it hard for the five men remote controlled crew to estimate distances by T.V. At one point during the session they almost drove straight into the landing platform now left dead on the lunar surface. A turn was achieved only 4 metres, 13 feet away from it. They ventured that close to obtain T.V. pictures to see how the platform had been affected during its active life.

On January 18th the vehicle was moved to a region of the lunar surface undisturbed by the rocket engine blast upon landing, and a soil analysis was then undertaken.

The soil was found to be identical with that encountered by Lunokhod-1 in the Sea of Rains over two years ago. The site for the soil analysis was chosen by scientists examining the T.V. pictures. During the short trip to this spot, the vehicle had to travel through a narrow gap separating two craters.

The next communications sessions occurred on the night of the 19th/20th January and lasted 6 hours. During this time, the vehicle was driven for a distance of 1,148 metres, until it was a total distance of 1,050 metres from the landing stage. The ground crew steered the vehicle round natural obstacles, and drove at different speeds. They were so confident in themselves and their machine (due to experience in manouvering Lunokhod-1) that they accelerated the vehicle to twice the speed which they had ever driven Lunokhod-1. The vehicle was driven in a south easterly direction and the white peaks of the Taurus mountains became visible over the horizon.

Shortly after landing the vehicle had, had to negotiate a crater 15 metres in diameter. If this had happened on the Lunokhod-1 mission (which it did, several times) the crew would have had a keen debate as to how to manouvre this obstacle. On this mission, however, because of experience gained they took it in their stride, and half an hour later the vehicle had covered a distance of nearly 30 metres.

Two more communications sessions were held on January 20th and 21st, during which scientific instruments were turned on, and panoramic T.V. pictures taken to select a suitable parking space to wait out the two week lunar night. The vehicle was parked a distance of over a kilometre from its original landing point, and sunset occurred on January 23rd.

During the first working day Lunokhod-2 had conducted astrophysical observations by means of a new visible and ultraviolet sensing device, conducting observations of the Milky Way, An X-Ray detector and detector of cosmic beams of solar origin were also used.

Stratoscope Observes Uranus

Stratoscope-2, a balloon-borne, 36 inch reflector observed Venus from an altitude of 24 KM: above the Earth. Resolution of the telescope was 0.15 seconds of arc, about ten times better than that of a similar instrument based on the ground. 17 photographs of Uranus were taken, and they show no detail whatsoever, even after computer processing to increase contrast. This shows that Uranus has none of the conspicuous belts associated with the atmospheres of Jupiter and Saturn.

From an analysis of the distribution of brightness across the planetary disk it seems that Uranus is uniformly shrouded by a thick deck of Methane Cloud, and above this a semi-transparent atmosphere composed of molecular hydrogen gas. A measurement of the equatorial diameter gave 51,800 km: in excellent agreement with earlier results, and a mean density of 1.2g/cu.cu., only $\frac{1}{4}$ that of the Earth.

The definite lack of global circulation belts on Uranus may be important to an understanding of planetary atmosphere. The rotation axis of Uranus is almost in its orbital plane, as if the planet had fallen over. This gives very strange seasonal effects and the resulting uneven heating of the planet may inhibit the establishment of stable wind zones.

THE STARS THIS MONTH

The star map the front page gives details of this. A few interesting stars and nebulae are visible.

In the constellation of Puppis, about 15° East of Sirius, in the Milky Way, are some interesting star clusters. Notably:
M-46 R.A. 07h39m5 Dec -14^o42'. Cluster of stars about $\frac{1}{2}$ degree across, with irregular planetary nebula on its northern edge. This is best seen through the 10-inch refractor at Orwell Park.

H.IV 64 R.A. 7h39m6 Dec - 18^o05' A bright bluish planetary nebula. Only well seen in instrument such as the 10-inch.

Also, at R.A. 6H30^m.0 Dec +04^o54' in the constellation of Monoceros is an Open Cluster of stars surrounding 12 Monocerotis, which is a 6th mag giant yellow star probably nearer than the cluster.

Other prominent clusters include: M-35 in Gemini, M-44 and M-67 in Cancer. They are marked on the star maps in this month's or last month's Star Charts.

What's Up? The Planets in March

MERCURY Mercury will not be well visible this month. In April, however, it will be visible as a morning star throughout virtually the whole of the month. Unfortunately it is very unlikely to be visible to the naked eye by the inexperienced observer in April, as it rises minutes before the Sun. Greatest elongation will occur April 10th, and it will be best visible around the date.

Using the 10" refractor at Orwell Park, members should have no difficulty in seeing Mercury, weather permitting, slightly before 11.00 a.m. U.T., by setting the declination by the Sun and sweeping across the sky to the west of the Sun. A table of co-ordinates and other relevant data which may help to find and observe the planet, will be included in the next edition of this Journal.

It should be possible to observe Mercury in the daylight in June, but then the planet will be an evening star, best visible in the afternoon.

VENUS is not visible this month. It comes into Superior conjunction on April 9th. Superior conjunction occurs when the Sun is directly between the Earth and Venus. Inferior conjunction occurs when Venus is directly between the Earth and the Sun. On both occasions the planet is hidden by the Sun's glare, unless it passes directly in front of the Sun, and "TRANSITS" across its face. The next such event will not happen until after the turn of the century. Venus will not be visible until late summer.

MARS can be seen very early in the morning. It rises at: 04 hrs 30min U.T. at the start of the month, 03 hrs 30min at the end of the month, nearly two hours before the Sun. It should be no trouble to find the planet, magnitude +1.2, in the constellation of Sagittarius, very low above the horizon. With the aid of a telescope it may be seen as a tiny red disc.

JUPITER stays in the western half of the constellation of Capricornus throughout the year, visible in the morning sky during the spring months. The planet is very bright, magnitude - 1.6, low down above the horizon. At the start of the month it rises at about 05 hrs 30min U.T., an hour before the Sun. At the end of the month it rises at about 04 hrs 00min U.T., nearly two hours before the Sun.

SATURN is still well visible in the constellation of Taurus. It sets now at about midnight to 1.00 a.m. The planet is a magnificent sight through the 10-inch refractor at Orwell Park. Its brilliance is now magnitude +0.3.

THE MOON Phases: New Moon is on March 5th.

First Quarter is on March 11th at 21hrs 26m U.T. Full Moon will be on March 18th at 23h 33m U.T. and Last Quarter will be on March 26th. New Moon again is due for April 3rd. The "Lunation" of the Moon this month is numbered 621 in Brown's series. A lunation is the time from one New Moon until the next. Lunation: 1 commenced on 1923 January 16th.

Perigee (when the Moon comes closest to the Earth) occurs on March 10th at 08 hrs U.T. The South limb of the Moon will be well seen on the evenings of March 6th and 7th. The west limb of the Moon will be exposed at the same time as Full Moon. The North limb of the Moon will be visible on the evening of March 19th.

METEORS No meteor showers are predicted for this month. The next shower is predicted for April. It is the April Lyrids, The maximum will occur at the same time as the evening viewing on the Observatory Open Day, April 21st. The rate is predicted at 14 bright meteors per hour.

OBSERVATORY OPEN NIGHTS, MARCH, 1973.

MONDAY EVENINGS. Directors: T. Day, [redacted], Elmsett, Tel. Oifton [redacted]
K. Harris, [redacted], Ipswich
Tel. [redacted]
from 7.30.p.m. March 5th
19th
April 2nd.

WEDNESDAY EVENINGS. Director. R.M. Cheesman. Lunar Section.
[redacted], Ipswich.
from 7.p.m. March 14th
28th
April 10th

THURSDAY EVENINGS. Director. D. Bearcroft, [redacted] Ipswich
Tel. [redacted]
PLANETARY SECTION.
from. 7.45.p.m. March 8th
22nd
April 5th

FRIDAY EVENINGS. Directors. M. Stow [redacted], Ipswich
R. Hazlewood [redacted], Ipswich
Tel. [redacted]
NEBULAR AND CLUSTER SECTION.
from. 7.30.p.m. March 9th
23rd
April 6th

TUESDAY EVENINGS : Directors. A. Farthing, [redacted], Kirton Tel Kirton
G. Collier, [redacted], Church Road,
Chelmondiston, Tel. Woolverstone [redacted]
PHOTOGRAPHIC EVENING
from: 8 p.m. March 13th
27th
April 10th

If any members have any transport problems please contact the director of the evening you wish to attend.

ALSO.

If any member would like to hold a regular evening at the Observatory please contact R.M. Cheesman, [redacted], Ipswich.

MEMBERSHIP SUBSCRIPTIONS FOR 1973.

**SOME SUBSCRIPTIONS ARE STILL OUTSTANDING AND SHOULD BE PAID
AS SOON AS POSSIBLE TO THE TREASURER. CHEQUES/MONEY ORDERS
SHOULD BE MADE OUT TO 'ORWELL ASTRONOMICAL SOCIETY (IPSWICH)**

Subscriptions are.

Junior membership	50p.
Adult	£1.00p.
Family	£1.50p.

Please send to the treasurer.

Mr. G. Collier,

**Church Road,
CHELCHAMDISHAW,
Nr. Ipswich.**



DON'T YOU FORGET

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

OPEN DAY

Saturday 21st April, 1973 (Easter Week-end)

To make this day a success we need many members and friends to help clean up the dome and tower on Sunday mornings from 9a.m. to 12 on

1st April

8th "

15th "

Also as many members as possible are required on the Open Day itself from 9 a.m. to 12 noon and from 1-30p.m. until we close to help in running the film shows, collecting money, running the raffle, etc.,

Please contact: R.M. Cheesman 3 Tasmania Road, Ipswich

D. Bearcroft, Tel. Ipswich 73851

D. Brown, Tel. Ipswich 54306

or

C. Radley Tel. 55231.