

Journal of the
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)
December, 1974

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[REDACTED],
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Nr. Ipswich,
Suffolk.
'Phone Gt. Wenham [REDACTED]

"What's Up". The Solar System as seen from Ipswich (Dec.1974).

SOLAR SECTION.

The Sun moves from Ophiuchus at the start of the month into the constellation of Sagittarius around the middle of the month.

Heliographic Co-ordinates as at noon U.T.

	Dec.3	Dec.7	Dec.11	Dec.15
P	+15.3°	+13.7°	+11.9°	+10.2°
Bo	+0.6°	+0.1°	-0.5°	-1.0°
Lo	301.7°	248.9°	196.2°	143.5°
	Dec.19	Dec.23	Dec.27	Dec.31
P	+8.3°	+6.4°	+4.5°	+2.6°
Bo	-1.5°	-2.0°	-2.5°	-2.9°
Lo	90.8°	38.1°	345.0°	292.8°

From the above co-ordinates you will notice that we are now starting to get a minus sign prefixing the Bo co-ordinates, which means that the sun is now presenting its south pole towards us and its equator is curved northward.

Partial Solar Eclipse: On December 13th there will be a partial eclipse of the Sun visible from Northern America, the North Atlantic, some parts of Ireland, but unfortunately not from Ipswich.

PLANETARY SECTION.

Mercury: Will be in superior conjunction this month at 20 hrs. U.T. on the 19th. It will therefore be unobservable.

Venus: Is in the constellation of Ophiuchus moving into Sagittarius towards the latter part of the month. You may possibly glimpse it in the evening sky, but it will be setting only half an hour after the Sun.

Mars: Starts in Libra and moves quickly through Scorpius and into the constellation of Ophiuchus, Mars is a moving object mag. 1.8. On the morning of the 23rd Mars will be 5°N of Antares and on Christmas Day at 17 hrs.U.T. 1°.7S of Neptune.

Jupiter: Still remains in Aquarius, now starting to set before midnight. Magnitude -2.0 at the beginning of the month decreasing to -1.8 by the end of the month. The Moon will be near Jupiter on the evening of the 20th.

Saturn: Now rising around 18 hrs.U.T. will be quite conspicuous in the constellation of Gemini, Mag. -0.1. The Moon will be near Saturn on the evenings of the 2nd and 29th Dec.

Saturn Appulse: Next month there will be a planetary appulse involving Saturn and the Star SAO 79057, which is 9th magnitude. This event actually gives rise to an occultation as seen from California or Hawaii. From this country however we should see the planet come within 2.1 seconds of arc of the star. Saturn takes 29½ years approx. to complete one orbit of the Sun. Its day to day motion is not readily detectable to us as it only moves 0.033° each day. Small though this may seem, it equates to a movement of 5 seconds of arc per hour against the background of stars. The movement of Saturn relative to the star SAO 79057 should be a most spectacular sight and something worth watching. It occurs on a Saturday morning at 04 hrs. 42m. on the 11th January. The observatory will probably be open for the event, but confirmation will be given in next months' journal. Do try to make it, weather permitting you won't be disappointed. You will also need a reasonable size telescope to see 2.1" separation.

Uranus: Is a morning star in the constellations of Virgo rising around 2 hrs.30m. U.T. at the end of the month. Uranus can be seen with the 10" O.G.

Geocentric co-ordinates for Uranus December.

	RA.	Dec		RA.	Dec.
Dec.1	13h.54m	- 11° 09'	Dec.21	13h 58m	- 11° 29'
" 4	13h 55m	- 11° 13'	" 28	13h 59m	- 11° 34'
" 10	13h 56m	- 11° 19'	" 31	13h 59m	- 11° 36'
" 15	13h 57m	- 11° 24'			

Asteroid Eros: Is moving due South in the constellation of Lynx at the rate of about 1° per day. Magnitude 10.1 increasing to 8.7 by the beginning of January. On Christmas Day it will pass 7" west of the 4.8 mag. star 27 Lyncis at 10 hrs.U.T. Next month Eros reaches opposition and later in January may occult the 3.6 mag. star Kappa Geminorum, if it doesn't actually occult the star we should see another very interesting appulse. More about this next month, now is the time to start looking for Eros telescopically or photographically.

Geocentric co-ordinates for Eros December.

	RA.	Dec.
Dec. 3	7h 40.7m	+ 56° 39'
" 7	7h 48.2m	+ 56° 19'
" 11	7h 54.4m	+ 55° 50'
" 15	7h 59.1m	+ 55° 06'
" 19	8h 02.2m	+ 54° 04'
" 23	8h 03.7m	+ 52° 41'
" 27	8h 03.8m	+ 50° 54'
" 31	8h 02.5m	+ 48° 39'

LUNAR SECTION.

Moon Phases.

Lunation 643	New Moon	Dec.13th 6hrs 25m U.T.
	First Quarter	" 21st 19hrs 43m U.T.
	Full Moon	" 29th 03hrs 51m U.T.
	Last Quarter	Jan 4th 19hrs 04m U.T.

Apogee Dec.19th 04h U.T. Perigee Dec.31st 00hrs. U.T.

Occultations.

Dec. 3rd	01h 40.0m U.T.	SAO 097301	mag. 8.2	R
" 3rd	23h 12.5m U.T.	A Cnc	" 5.7	R
* " 4th	03h 56.4m U.T.	SAO 098174	" 7.8	R
" 4th	23h 52.3m U.T.	SAO 117836	" 7.8	R
" 6th	01h 16.0m U.T.	SAO 118388	" 7.5	R
" 7th	02h 32.6m U.T.	87 Leo	" 5.1	R
" 8th	05h 34.8m U.T.	SAO 138799	" 6.7	R
" 19th	20h 40.5m U.T.	51 Aqr.	" 5.8	D
" 20th	20h 36.8m U.T.	ZC 3397	" 7.4	D
" 21st	16h 31.6m U.T.	19 Psc.	" 5.3	D
" 25th	01h 45.1m U.T.	ZC 363	" 7.3	D
" 25th	17h 43.9m U.T.	54 Ari.	" 6.5	D
" 26th	00h 43.0m U.T.	53 Tau.	" 5.4	D
" 27th	02h 58.0m U.T.	227B Tau.	" 5.9	D
" 27th	16h 15.3m U.T.	Lota Tau.	" 4.7	D
" 31st	02h 20.3m U.T.	29 Cnc.	" 5.9	R
" 31st	05h 21.9m U.T.	84B Cnc.	" 6.4	R

* denotes star is a double.

Dec.4th	SAO.098174	mag. 7.9, 10.2	1".9 sep.
Dec.19th	51 Aqr.	mag. 6.6, 6.6	0".5 sep.

The occultation on December 19th (Thursday) at 20h 40.5m being relatively early in the evening should be worth watching through the 10" OG. The 0".5 sep. will also be a test for the telescope's resolving power. According to Dawes theoretical limit, the telescope should separate two 6th mag. stars at 0".456 sep. The best magnification for double stars with a 10" OG is supposed to be 50x - 200x.

METEOR OBSERVATION SECTION.

This month the well known Geminid meteor shower occurs from around the 7th to 15th, maximum predicted on Dec. 14th 15h U.T. Z.H.R. 58. The radiant transits the meridian at around 02hrs reaching 70° altitude, noticeable characteristics, very fine and favourable. No Moon on the night of the 14th. From Dec. 17th to 24th the Ursids will be visible, this shower badly needs observation. Maximum occurs on Dec. 22nd, the radiant is circumpolar and because of this fact and it being only 12° from the celestial pole, star trails will be shown on unguided photographs to be circling the pole with meteor trails superimposed at different angles.

FIREBALL REPORT.

At 4.10 on the morning of Nov. 10th Mr. Broom-Lynne observed a bright fireball which started on the Ursa Major/Leo Minor border at R.A. 10h 50m and Dec. +40 degrees, and ended on the Ursa Major/Draco border at R.A. 13h 30m and Dec +63 degrees. It had a magnitude of about -5 and it left a greenish tail which lasted several seconds. This fireball could possibly be from the Leonid Shower, although slightly premature its track seems to stem from the radiant in Leo at R.A. 10h 08m Dec. +22°. Although maximum of the shower was on Nov. 17th, the normal limits of the shower were from Nov. 15th to 19th.

Many thanks to Mr. Broom-Lynne for the report (Ed.).

SPACE NEWS.

Pioneer 11. This month more pictures of Jupiter should be sent back from Pioneer 11, the craft will then swing round Jupiter and start its' journey to Saturn, arriving in September 1979.

Soyuz 15. Launched August 26th, which landed just three days later failing to dock with the orbiting space station Salyut 3, appears to have had trouble catching up with the space station and only got within 100 km. in the allocated time. As a result the Russians were concerned about the possible drain on power supply onboard Soyuz 15 if the mission continued, so it was abandoned.

U.S. Viking Probes to Mars.

Sometime between mid August and mid September 1975 the U.S. are planning to launch two unmanned robot spacecraft to Mars by means of a Titan III rocket. The Viking probes will arrive in the vicinity of the planet approx. one year later. Each probe will orbit the planet first surveying the landing sites, then landing probes will be released to hopefully land safely and transmit information back via the orbiting craft to Earth. The Russian's have tried to land probes Mars 2, 3, 4, 5, 6 and 7. They have not had very much luck. Perhaps the little green men have been shooting them down.

Anti Gravity Propulsion: No doubt you have heard through the newspapers or television of the new invention which, as the result of a dream by Mr. Edwin Rickman and the assistance of Professor Laithwaite, has set scientists all over the world thinking again about Newton's laws of motion. The invention demonstrated to the Royal Institution

was seen to weigh 20lbs. It was then activated and weighed 15lbs. This invention employing gyroscopes is said to be far cheaper to construct and has a much greater thrust than the Ion propulsion engine currently being developed by the U.S. Mr. Rickman's invention is said to have the possibilities of opening the door to space travel to the far ends of the galaxy.

Luna 23 was launched by the Russians on October 28th and entered lunar orbit on November 2nd. Its objective appears to have been to land and collect soil samples then return to Earth but recent reports have mentioned the craft was too badly damaged on lunar landing to continue as programmed.

FORTHCOMING EVENTS.

B.A.A. Lunar Section: Patrick Moore and the B.A.A. Lunar Section are to hold a provincial meeting at Orwell Park on December 7th. The meeting starts at 2 p.m. and is expected to carry on until about 5 p.m. Among those attending will be Commander H. Hatfield talking about Lunar Photography, Geoffrey Buss talking about project Moonhole, Geoffrey Amery speaking on Occultations and project fade, plus, no doubt, Patrick Moore talking about everything in general. Dr. Cattermole will be the main afternoon speaker.

Refreshments will be provided and all members and guests are invited to the meeting.

EVENING LECTURE, 7th December, 1974.

Mr. Patrick Moore will be giving a talk on "Into Space" starting at 7.30 p.m. at Copleston School, Copleston Road, Ipswich. As we anticipate a great number of people as many members as possible are required to help during the evening. Although the seating is limited, we are reserving a number of seats for B.A.A. and O.A.S.I. members, but other people should apply for tickets (please see poster at back of Journal).

After reading the poster please display it in your front window, and if you are able, put a poster in a local shop, library, etc. Please apply to Mr. R.M. Cheesman for more posters.

ANNUAL GENERAL MEETING.

Friday, January 3rd, 8.00 p.m. at Orwell Park. Your opportunity to meet the committee, voice your likes or dislikes about the Society, and hear the reports of the Society's activities' achievements during 1974 and proposals for 1975. Renewal of annual subscriptions will also be dealt with, and below is listed the rates for 1975.

Full Membership	..	£1. 50p.
Junior "	..	75p.
Family "	..	£2. 00

New Members: We welcome to the Society the following new members:-

Dr. & Mrs. Stuart Harrison, [REDACTED], Barking, Ipswich.
L. Broom-Lynne, [REDACTED], Rectory Hill, East Bergholt.
J. F. Fleming, [REDACTED], Ipswich IP2 9SH.
A. Betts, [REDACTED], Ipswich.

Telescope for sale:

60 mm OG. Equatorially mounted refractor, Prinz 550 astronomical type, complete with tripod, 5 eyepieces, site scope and storage box - price £25. This would make an ideal Christmas present for someone. For more information telephone Hadleigh [redacted] or contact Mr. James Cage, [redacted], Aldham, Hadleigh, Nr. Ipswich.

VARIABLE STAR SECTION.

EG LYRAE	17 Oct.	12.3 TC		TC = T. Cardot
V360 CYG	17 Oct.	10.5 DB		
	31 Oct.	Unable to see,		DB = D. Barnard
		made "E" 11.5 DB		
R SCT	9 Oct.	5.75 TC, (27)	5.75 TC	
W CYG	9 Oct.	6.24 TC.		
AG Peg	27 Oct.	8.62 TC, (29)	8.42 TC	
GO Peg	27 Oct.	7.9 TC, (29)	8.16 TC	
W CYG	9 Oct.	6.34 DB.		

Correction - Nov. Journal - V360 CYG 18 Sept. should read 10.64, by DB.

DOUBLE STAR SECTION.

Here are a few words from your once a Tuesday, "every other week" man. First a few words about my efforts on my nights, to have a quick look at things of general interest, Planets, Moon, shipping on river, etc, and then move on to my double stars. We do not have any set series of stars, instead we choose a section of sky and work through the area with the aid of "Nortons". It is amazing how many objects are packed in any clear patch of sky, and using the pulling power of the '10"', we have seen some fine 'doubles' to date. We have also made drawings of features of Jupiter, positions of moons, Red spot and moon shadow on surface. My worthy helper on these occasions is David Ling, and more often than not, another fine pair, Mr.D.Barnard and Steve Flory, who are a great help, and a pleasant time is had by all. Do come along one fine night and see how the other half looks. Hoping to see you stagger up the spiral stairs.

Yours astronomically, D. Bearcroft.

LIBRARY NOTICE.

New books available in the library are as follows:-

- 1) Flying Saucers from Outer Space, donated by Dave Barnard.
- 2) Space, Discovering, donated by Dave Barnard.
- 3) Flying Saucers through the Ages, donated by Dave Barnard.
- 4) Telstar, Communication breakthrough by Satellite, donated by Dave Barnard.

[REDACTED]
Ipswich

Dear Member,

You are invited to come to the annual general meeting of the Orwell Astronomical Society (Ipswich) on Friday the 3rd January 1975 at 8p.m. The meeting will be held in the library of Orwell Park School, Nacton.

At this meeting the progress of the society over the past (1974-session), will be reviewed. New officers will be nominated and elected. Various other matters including legal documents concerning the society will be cleared up by the members.

ELECTION OF OFFICERS FOR 1975.

The indicated undermentioned officers elected at the last A.G.M. are willing to be re-elected if required. Any further nomination for officers of our society should be sent to myself by the 31st of December, 1974.

OFFICERS ELECTED AT THE LAST A.G.M.

Mr. R. M. Cheesman, [REDACTED], (Ipswich) (CHAIRMAN)
 Mr. P. Carroll, [REDACTED], Ipswich, (SECRETARY)
 Mr. G. Collier, [REDACTED], Church St. Chelmondiston (TREASURER)
 Mr. J. Deans, [REDACTED], Chapel St Mary, (EDITOR)
 Mr. D. Bearcroft, [REDACTED], Ipswich
 Mr. V. Wilkes, [REDACTED], Ipswich.
 Mr. M. Stow, [REDACTED], Ipswich.

Yours

faithfully

P. Carroll

(P. CARROLL-SECRETARY)

Church Street,
CHELMDISTON
Nr. Ipswich.

1st December, 1974.

Dear Member,

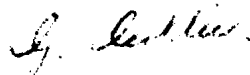
MEMBERSHIP SUBSCRIPTIONS 1975.

All membership subscriptions for 1975 become due on
1st January, 1975 and are at the following rates:

Junior Membership (those under 18 years of age)	.75p.
Full Membership	£1.50p.
Family Membership	£2.00p.

Cheques/postal orders should be made out to 'Orwell
Astronomical Society (Ipswich)' and sent to me at the above
address.

Yours faithfully,



G. Collier (Treasurer)

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PROGRAMME FOR DECEMBER, 1974.

MONDAYS: from 7.30p.m. Weather permitting. General Observation Period.

Directors: G. Collier, [REDACTED] Church St. Chelmondiston,
Phone Woolverstone [REDACTED]
and P. Carroll, [REDACTED], Ipswich.

9th December

TUESDAYS: from 8.30p.m. Double Stars Section.

Director. D. Bearcroft, [REDACTED], Ipswich, Phone [REDACTED]

10th December.

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

Director. R.M. Cheesman, [REDACTED], Ipswich.

3rd December

18th "

from 8.30p.m. 11th December.

THURSDAYS: from 9.00p.m. Variable Stars Section.

Directors. T. Cardot, [REDACTED], Ipswich, Phone [REDACTED]
and D. Barnard, [REDACTED], Ipswich, Phone [REDACTED]

5th December,

12th "

19th "

FRIDAYS: from 7.30p.m. Nebular & Faint Objects Section.

Directors. M. Stow, [REDACTED], Ipswich.

and R. Hazlewood, [REDACTED], Ipswich, Phone [REDACTED]

6th December,

20th "

FRIDAYS: from 7.30p.m. Lunar & Planetary Section.

Directors. J. Deans, [REDACTED], Capel St. Mary, Phone Gt. Wenham [REDACTED]

and K. Dye, [REDACTED], Ipswich, Phone [REDACTED]

13th December,

27th "

SATURDAY 7th December. British Astronomical Association, Lunar Section Meeting

Director. Patrick Moore at 2p.m. at Orwell Park School Nacton,
Nr. Ipswich, Suffolk.

B.A.A. Members, O.A.S.I. Members and invited guests only please.

SATURDAY 7th December at 7.30p.m.

Lecture by PATRICK MOORE on 'Into Space' at Copleston School,
Copleston Road,
Ipswich.

Limited seating . ADMISSION FREE by TICKET ONLY.

Please send S.A.E.s for tickets to

1. Mr. J. Haywood, [REDACTED], Ipswich

or 2. Mr. S. Flory, [REDACTED], Ipswich.

(these tickets apply to the general public only, B.A.A. & O.A.S.I members
admitted without ticket)

SATURDAY 14th December, METEOR SECTION. GEMINIDS METEOR COUNT.

Director. S. Flory, [REDACTED], Ipswich, Phone [REDACTED]

Meet at entrance to Foxhall Stadium, Foxhall, Nr. Ipswich at 9.00p.m.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PRESENTS

A TALK ON

== INTO SPACE ==

BY

PATRICK MOORE FRAS.

AT

COPELSTON SCHOOL

COPELSTON ROAD IPSWICH, SUFFOLK

ON

SATURDAY 7TH DECEMBER 1974

AT 7-30 P.M.

ADMISSION FREE BY TICKET ONLY

PLEASE SEND S.A.E. FOR TICKETS TO:-

MR. J. HAYWOOD,
37 MARLBOROUGH ROAD,
IPSWICH.

OR

MRS. S. FLORY,
11 CANBERRA CLOSE
IPSWICH.