

THE NIGHT SKY AS SEEN FROM ORWELL PARK DURING
DECEMBER.

by Paul Burt.

Auriga occupies the zenith area this month, with it's main star Capella directly overhead in mid-month around mid-night. The southern sky contains a mixture of the obvious and not so obvious constellations of Gemini, Taurus and Orion which fills the south-east quadrant, while Eridanus Cetus and Pisces, in a line from south to west, requires more than a passing glance for identification. Andromeda and Pegasus lie in a vertical line from the zenith to the western horizon, and to the north-west Cassiopeia, Cepheus and Cygnus are also in a line from the zenith to the horizon. To the east, Cancer and Leo will be well visible by the end of the month, as will Sirius, above the south-eastern horizon.

THE SUN

Sunrise is at 07h 50m at the beginning of the month changing to 06h 10m at month-end. Sunset remains at approximately 15h 50m all month. The Sun moves from Scorpius to Sagittarius during the month.

THE MOON

Phases:

New Moon	7d 14h 35m	Full Moon	21d 16h 08m
First Quarter	15d 01h 47m	Last Quarter	29d 06h 32m

Occultations:

Star	Phase	Mag.	Time		
			d.	h.	m.
**1733	R	5.2	1	2	20.2
49	D	6.3	15	21	52.2
453	E	5.3	18	19	21.4
462	L	5.0	18	21	23.5
et 606	E	6.0	19	20	16.4
1335	R	6.5	25	6	20.5

D = Disappearance R = Reappearance

Stars listed According to Mediaca Catalog (# Numbers). * denotes double star. ** denotes time is correct for latitude and longitude of Greenwich.

THE PLANETS:

Mercury is a morning star, at mag. -0.9, rising 2 hours before the Sun at the beginning of the month, but drawing towards the Sun to reach superior conjunction on the 31st.

Venus rises 3 hours before the Sun at the beginning of the month at mag. -3.4, appearing to increase in size during the month.

Earth Winter Solstice is at 23^o 27' 52" S.

Mars is setting 2 hours after the Sun at mag +1.4.

Jupiter is rising at around 0100 hours in Virgo, at mag. -1.5.

Saturn is rising within 2^o of Jupiter this month, at mag.

- Source: B.A.A. Handbook 1980
All times are U.A.

FROM OTHER JOURNALS:

New Supernova discovery:

On October 28th, a supernova was discovered in the spiral galaxy NGC 6946, by Paul Wild of the University of Berne. After confirming its existence the following night, he alerted the I.A.U. who in turn distributed the news to astronomers throughout the world. The first spectrum to be taken was by the International Ultraviolet Explorer Satellite, three hours after the I.A.U. alert, which revealed the supernova to be near maximum brightness and at 20,000^oC. Subsequent observations by astronomers at Herstmonceux in Sussex revealed its maximum magnitude to be 11.5, and this had reduced by 30% by November 5th. The position of the

supernova in a spiral arm of NGC 6946 suggests that it is a type II which is a young heavy star of about 10 solar masses.

The NGC 6946 galaxy is a prolific source of supernovae, producing five in the last 63 years. Supernovae as bright as the latest discovery are very rare, occurring on average twice per decade.

- 'New Scientist' 13th November, 1980.

METEOR NOTES FOR DECEMBER by David Barnard.

This month we have two showers to look forward to, a. the GEMINIDS and b. the URSIDS. Last month's meteor count of the Taurids Shower was clouded out.

1. THE GEMINIDS SHOWER.

This stream is an excellent one with abundant fireballs. The maximum occurs on December 14.2 and has an hourly rate of about 50, although it remains active from Dec. 7 to the 15th. The crescent Moon in the west during the evening should not affect observations. Radiant is R.A. 0728 and Dec. $+32^{\circ}$.

2. THE URSIDS SHOWER.

A stream badly needing observation because of its proximity to Christmas and bad weather usually associated with late December. The Z.H.R. is about 5, although this is uncertain. The maximum occurs on December 22nd with the normal limits running between December 17th and the 24th. The radiant is R.A. 14hrs 26m and Dec. is $+76^{\circ}$. The full Moon will seriously affect observations so we will have to try to observe this shower next year.

A METEOR COUNT WILL BE HELD ON SATURDAY 13th December to observe the Geminid Shower which is the day of the maximum. Everybody welcome to come along for a few hours. Meet OUTSIDE 'The Livingston Ship' at 8.30p.m.

David Barnard, [redacted], Ipswich,
 Director-Meteor Section.



SUPPLEMENT

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

██████████,
IPSWICH,
Suffolk.

1st December, 1980.

Dear Member,

MEMBERSHIP SUBSCRIPTIONS FOR 1981.

All Membership Subscriptions to Orwell Astronomical Society (Ipswich) become due for 1981 on the 1st January. and are at the following rates:-

Junior Membership (those under 18 years of age or still in full-time education)	£2
Full Membership	£3
Family Membership	£4

If you would like to renew your membership to our Society for 1981 please send me your cheque/postal order made out to 'Orwell Astronomical Society (Ipswich) as soon as possible please.

Yours faithfully,

signed.. M. Barriskill
Hon. Sec. Orwell Astronomical Society (Ipswich)

NOMINATION FORM FOR THE 1981
COMMITTEE OF ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

We wish to nominate to stand on the
Committee of O.A.S.I. for 1981

Signed.....

Countersigned.....

----- //

We wish to nominate..... to stand on the
Committee of O.A.S.I. for 1981

Signed.....

Countersigned.....

Note: All proposers must be countersigned by a member of
O.A.S.I. and the person nominated must agree to his/her
nomination.

Further Nomination Forms can be obtained either from
the Observatory or direct from me.

Signed. M. Barriskill,
....., Ipswich.

Hon. Sec. Orwell Astronomical Society (Ipswich)

All Nomination Forms must be returned to me by
31st December, 1980.

IPSWICH,
Suffolk.

1st December, 1980

Dear Member,

ANNUAL GENERAL MEETING.

You are invited to attend the Annual General Meeting of the Orwell Astronomical Society (Ipswich) which will be held on SATURDAY 17th JANUARY starting at 8p.m. sharp in the Library of Orwell Park School, Nacton near Ipswich.

At this meeting the Society's activities during 1980 will be discussed together with plans for the Society for 1981.

Also at this Meeting a new Committee to represent you for 1981 will be elected.

Yours faithfully,

Signed-

M. BARRISKILL

Hon. Sec. Orwell Astronomical Society (Ipswich)

██████████
IPSWICH.

1st December, 1980.

NOMINATION FORM FOR THE
O.A.S.I. COMMITTEE FOR 1981.

All members of the Orwell Astronomical Society (Ipswich) retire as at 31st December, 1980 and a new Committee to represent the Society for 1981 must be elected at the A.G.M. which will be held in the Library of Orwell Park School, Hacton near Ipswich on Saturday 17th January, 1981 starting at 8p.m.

The Committee for 1980 was:

Mr. H.M. Cheesman (Chairman)	Mr. A.J. Smith (vice-Chairman)
Mr. M. Barriskill (Secretary)	Mr. F. Long, (Treasurer)
and Mr. D. Bernard.	
Mr. M. Cook	
Mr. D. Payne.	

Apart from the Chairman all the other members of the Committee are willing to stand for re-election and no nominations are necessary.

Under the Constitution of the Society effective from the 1st January 1981 the Committee will consist of one Chairman and eight (8) other members.

If you would like to nominate any member of the Society to represent you on the Committee for 1981 please fill in the form overleaf and return it to me to arrive by no later than 31st December, 1981.

Please note that all proposers of nominations must be countersigned by another member and that the nominated person must agree to his/her nomination. Extra forms can be obtained from the Observatory or direct from me.

signed. M. Barriskill.

by Simon Harvey.

All the items contained in this publication are original, and therefore I should like to express thanks to the credited organisations for supplying stories. For those who are interested in further details of these and other items please contact me by writing to : S.G. Harvey, [redacted], Needham Market, Ipswich, Suffolk. IP6 8A.

Sept 4th. Yet another Jovian Moon Discovered:

Dr. Stephen Synnott of the Jet Propulsion Laboratories, after discovering the 15th moon of Jupiter a few months ago, has done it again and discovered a 16th. Dr. Synnott used imagery from the two N.A.S.A. Probes, Voyagers 1 & 2. The 16th satellite is tentatively named '1979 J3'. It has an orbital period of 7hours 4minutes 30 seconds and has a diameter of about 40km. For a while he thought that the satellite was J14, but when expensive calculations were made of J14's and J16's orbit, it was found that they were two separate satellites. The two Voyagers are now headed for Saturn and Voyager 1 will encounter the ringed planet during mid-November.

- N.A.S.A.

Sept 2. Four Shuttle Astronauts undertake CEIT Tests.

Columbia astronauts John Young and Bob Crippen together with Joe Engle and Dick Truly are about to undertake the third and final crew equipment interface tests (CEIT) with shuttle 'Columbia'. The tests are part of the run up to the first shuttle flight (STS-1, OPT-1) scheduled for next March. Called CEIT for short, the tests are all based on operation of the shuttle vehicle while in orbit. Amongst other things, the crews will assure procedures for checking that shuttle cargo bay doors are latched shut.

- ROCKWELL SPACE SYSTEMS GROUP.

AUG 20th. N.A.S.A., TRW Joint Sponsors to Shuttle Payload.

NASA and TRW, Inc. are jointly sponsoring the Explorer Club of the Boy Scouts of America to place experiments in orbit on the Space Shuttle. The experiment or experiments will be self contained and resemble what N.A.S.A. calls 'Get-away-special'. A small payload taking up excess capacity in Shuttle capacity days. The 'Get-away-special' was designed to allow small companies, groups and institutions access to space on a relatively cheap basis. The joint sponsors will judge all national entries made by bonafide explorer groups. Project 'Pepper' as it is called even provides for winning entrants to visit Goddard Spaceflight Centre to examine their experiments. However, groups must raise their own money for experiment development and construction. The panel of sponsor representatives will include among others, the former astronaut Jim Lovell.

- T.R.W. Defense and Space Systems Group,

SEPT 12th. FIRST COMMERCIAL SATELLITE SERVICE BEGINS.

TELESAT, the Canadian National Satellite Telecommunications Organisation, is about to embark on what is called 'The World's First Commercial 14/12 GHz Satellite Service'. TELESAT will use the R.C.A. built ANIK-B satellite to re-transmit French language programs to a number of Quebec cable T.V. lines. The antenna has already been placed on the top of Bell Canada's Building in the centre of Montreal. The system is the forerunner of the communications system that will be in common use with the launch of the first ANIK-C in 1982. The higher frequency band enables earth terminals to be placed in Urban areas without encountering the interference associated with the 'old' 6/4 GHz satellite systems. Both T.V. and digital data will be transmitted over this link.

- TELESAT

DEADLINE FOR JANUARY JOURNAL:

Please note that the deadline for the January Journal is by 1st post to me on Monday 15th December. ALL items for inclusion must be sent to: R.M. Cheesma, [REDACTED], WEST HANNINGFIELD, Chelmsford Essex. CM2 8LQ.

SEPT 30th. STUDIES FOR SPACE OPERATIONS CENTRE

Boeing, under contract from N.A.S.A. is to study the feasibility of placing a permanently manned space station in low earth orbit. The station or 'Space Operations Centre' (SOC) would be placed in a 200-250 mile orbit and depend to a minimum the need for earth re-supply and maintenance. From the SOC, engineers could check and service both satellites and manned orbital vehicles such as the Space Shuttle. The SOC would also serve to re-fuel orbital transfer vehicles - robots which are planned to succeed all Shuttle upper stages. The SOC differs from all previous space station plans in that it will be operational rather than scientifically operated. Space Shuttles would be used to transport units of the station to the required orbit. The modules would be 14 feet in diameter and 40 - 50 feet long. Power for the station would be provided by two large solar arrays. If N.A.S.A. decides to adopt the study, a four man crew would be inhabiting the station by the late 1980's.

- Boeing Aerospace Company.

SEPT 19th. GOES-D ON IT'S WAY UP INTO ORBIT:

GOES-D satellite has been successfully launched from Kennedy Space Centre's Complex 17 on September 19th. The satellite is now on station over the south American country of Columbia at 75° West Longitude and at an altitude of 22,300 miles. GOES-D is largely an experimental satellite and it's mission will be to monitor severe storms, floods, typhoons and hurricanes, and all adverse weather conditions. Hughes Aircraft Company is building three identical GOES satellites under a \$39.4 N.A.S.A. contract. N.A.S.A. is procuring the satellites for the U.S. National Oceanic and Atmospheric Administration. That organisation will then process the data and disseminate it as needed. GOES-D will transmit 'whole earth images' every thirty minutes.

- HUGHES SPACE AND COMMUNICATIONS GROUP.

