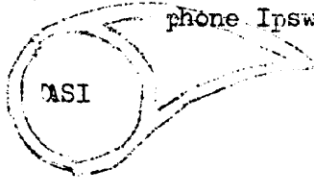


JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

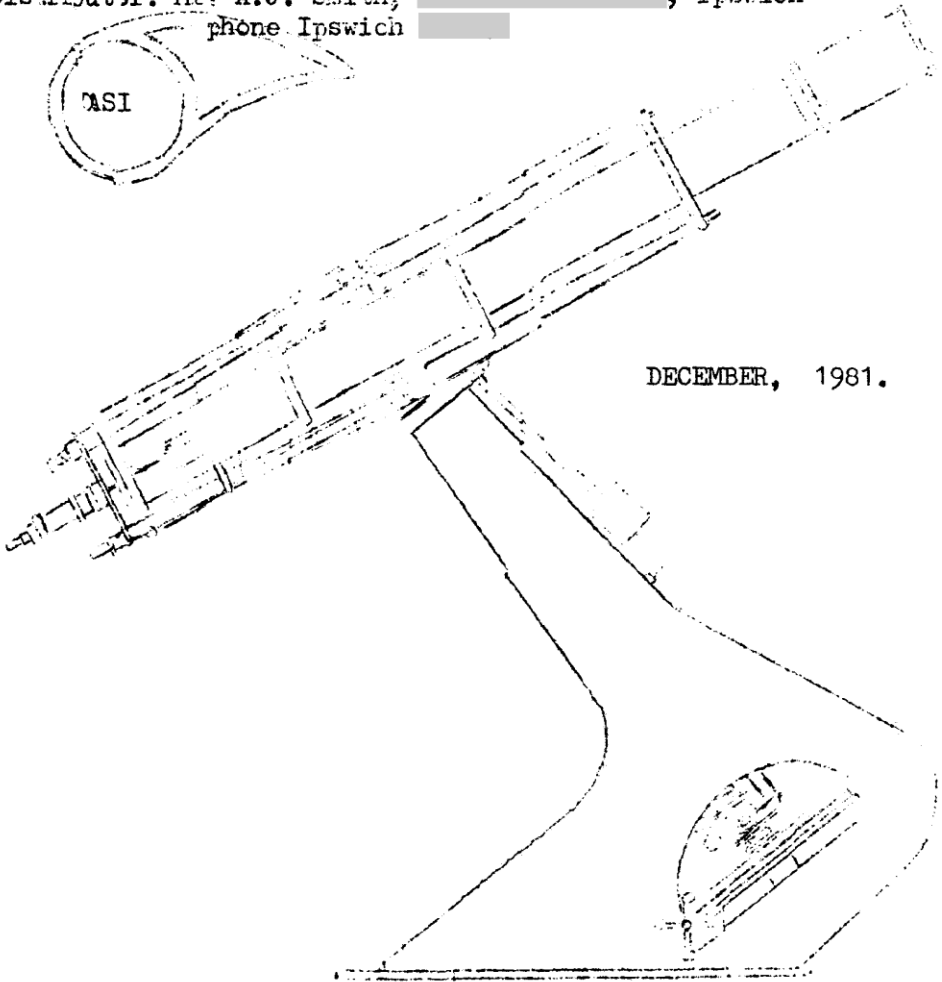
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DECEMBER, 1981.



Orwell Park 10 inch Astronomical Telescope
at Nacton, near Ipswich.

[REDACTED],
IPSWICH,
Suffolk.

26th November, 1981.

Dear Member,

ANNUAL GENERAL MEETING

You are invited to attend the Annual General Meeting of the Orwell Astronomical Society (Ipswich) which will be held in the Library of Orwell Park School, Nacton on Saturday 9th January, 1982 starting at 8p.m.

At this meeting the Society's progress during 1981 together with future plans for 1982 will be discussed. Also at this meeting a new Committee will be elected to represent you for 1982.

The Committee for 1981 was:-

Mr. D. Payne (Chairman)
Mr. R.M. Cheesman (Vice-Chairman)
Mr. R. Gooding (Secretary)
Mr. A.J. Smith (Treasurer)
Mr. M. Barriskill (Membership Secretary)
Mr. D. Barnard.
Mr. M. Cook.
Mr. M. Nicholls
Mr. J. Hood.

Apart from Mr. A.J. Smith who does not wish to stand for re-election onto the 1982 Committee all the other members are willing to stand for re-election and Nomination Forms are not necessary. If you wish to nominate any member to stand for election please use the Nomination Form in this month's Journal. Extra Forms can be obtained from the Observatory.

Yours faithfully,

(signed) R. GOODING (HON. SECRETARY 1981)

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 midnight. The south-eastern aspect is filled with the unmistakable constellations of Taurus, Orion and Gemini, while the south-west requires a slightly more trained eye to identify Eridanus, Cetus and Pisces, in a little line from south to west. Andromeda and Pegasus lie in a verticle line from the zenith to the western horizon, while 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 visible by the end of the month, as will Sirius, above the south-eastern horizon.

THE SUN

Sunrise is at 07hours 50 minutes at the beginning of the month, changing to 08h 10m at month-end. Sunset remains at around 15h 50m throughout the month. The Sun moves from Scorpius to Sagittarius during the month.

THE MOON - phases.

First Quarter	4d 16h 22m	Last Quarter	18d 14m
Full Moon	11d 08h 41m	New Moon	26d 11m

Occultations:

<u>Star</u>	<u>Phase</u>	Mag.	<u>Time</u>		
			<u>d</u>	<u>h</u>	<u>m</u>
3271	D	7.1	3	18	55.8
3529	D	6.8	5	19	12.6
405	D	4.4	8	21	16.5
**3358	D	7.2	31	18	19.5

D=Disappearance. Stars listed according to Zodiacal Catalog (ZC) numbers ** denotes time is correct for Latitude and longitude of Greenwich.

THE PLANETS:

Mercury reaches superior conjunction on the 10th and will not be visible this month.

2a.

Venus reaches greatest brilliancy of mag. -4.4 on the 16th it will be setting more than three hours after the Sun is at Winter Solstice on the 21st at 22hrs 51m.
Earth
Mars is rising around mid-night, passing from Leo into Vir during the month, increasing in magnitude from $+1.3$ to $+0.9$.

Jupiter is rising at around 0300hours at mag. -1.4 between Libra and Virgo.

Saturn rises an hour before Jupiter at mag. $+1.0$ in Virgo.

Minor Planet Flora reaches greatest mag. of $+9.1$ on the 22nd in Taurus. R.A. 5h 46.8m Dec. $+18^{\circ} 54.2'$

All times are U.T. Source: B.A.A. Handbook 1981.

FROM OTHER JOURNALS: by Paul Burt.

New Venus Probes: Two new spacecraft, Venus 13 and Venus 14, were launched by the Soviet Union on October 30th and November 4th, and are due to reach the planet next March. The mission appears to be similar to that of Venus 11 and 12 in 1978. Both craft will eject landing capsules onto Venus, which will then analyse soil samples and take photographs of the planet's surface, as well as making various measurements. It is also assumed that the mother craft will move off into deep space after orbiting the planet for some time. The latest report from Venus 11 and 12 flight control centre on 25th March last year stated that Venus 12 was being used to study the Bradfield Comet

- New Scientist

SOLAR ROTATION DISCOVERY

A team of astronomers from Birmingham University observing from Tenerife have announced that the Sun's core is rotating once every 3 days as opposed to 25 days on the surface.

This conclusion was reached by a method based that rotation has on the vibrations of a spinning body. The results conform with current theories that the Sun rotated much faster in it's early days, and has lost it's momentum due to the outflow of solar wind particles. This loss would have slowed the rotation of the outer layers while the totally fluid core could have retained it's original rotation rate

METEOR NOTES by David Barnard.

There are two major showers this month:-

THE GEMINIDS

The maximum of this shower occurs on December 14th, with a ZHR of 58 rich in bright fireballs and is a fine shower to observe. The normal limits are between December 7th and 15th with a radiant of 07hrs 28m and a Declination of +32°.

THERE WILL BE A SPECIAL METEOR WATCH TO OBSERVE THIS SHOWER ON SATURDAY DECEMBER 12th.

Meet outside the 'Levington Ship' public house at 8.30p.m. irrespective of weather conditions.

Remember last year's display? Over 280 meteors were seen by only five members so come along this time!

2. THE URSIDS

The Ursids shower is the other major meteor shower this month, a shower which badly needs observatio. The lack of data about this shower is probably due to bad weather and Christmas festivities. Anyway, maximum is on December 22nd with the normal limits falling between December 17 to 24th. The radiant is R.A. 14hours 28minutes and Dec. is +78°, Moonlight does not interfere this year.

DO NOT FORGET TO COME ALONG ON THE 12th.

David Barnard.

VARIABLE STAR OBSERVATIONS

by Mike Nicholls.

The light curve on page 5 is that of SS Cygni from May to November this year. This star was last described in the May Journal. It is a member of the group known as 'Dwarf Novae' or 'U Geminorum' variables. These stars remain at minimum for most of the time, then suddenly rise up to a maximum quite rapidly. The period is described as irregular, but by observing this light curve, and the previous one in May, an average period somewhere around 45 days emerges.

Observations were made using an 8" reflector.

LECTURE:

The Society is holding a lecture at the Friends Meeting House, Fommeraau Road, Ipswich on Friday 18th Dec. starting at 8p.m. This illustrated lecture is entitled 'The history of the telescope' and will be given by our Chairman Mr. David Payne.

Admission is free and everybody is welcome to come long.

DEADLINE FOR JANUARY'S JOURNAL:

Because of the Christmas rush and holidays the deadline for January's Journal is Monday 14th January. All items for inclusion in the Journal should be sent A.S.A.P. to

Mr. R.M. Cheasman, [REDACTED],
WEST HANNINGFIELD, Chelmsford, Essex.
CM2 8 Lq.

ANNUAL GENERAL MEETING:

Just a reminder to what you read on page one that the A.G.M. of our Society will be held in the Library of Orwell Park School on Saturday 9th January, 1982 starting at 8p.m. Please make a note in your new diary NOW.

MAINTENANCE OF THE OBSERVATORY

6.

Report by David Payne.

Since early June of this year there has been almost continuous activity at the Observatory. Not the expected activity of a bunch of astronomers but more that of a demolition team. Chief demolition expert has been Martin Cook who only has to threaten a door with the dreaded crow-bar as it would almost leap from the wall. This fact happened to the lift shaft door in the Observatory. After careful and delicate inspection of the door and frame by David Barnard, Roy Gooding and Martin Cook (crow-bar in hand of course), the door frame was found to be suffering from a severe bout of wet rot. The only course of action was door and frame removal. I leave you to guess who and with what this was achieved. With Roy Gooding's able assistance and use of the School's woodwork room, a new door frame was constructed and duly installed. The door was re-shaped and rehung and now actually opens and closes! There is only one key to this door and it is to be kept locked at all times on account of the 50 - 60 feet drop on the other side of it!

The lift shaft door was only the beginning of the renovation work. Removal of the door frame coincided with the removal of large areas of the 'cement' and plaster around it. Also at this time David Barnard was going around the walls of the Observatory looking for loose paint and plaster and, I must add, had some considerable success in finding it! The work was now becoming a major reconstruction job. Bags of sand, cement and plaster were hauled laboriously up the 111 steps to the dome room. As you can imagine, the Observatory was looking like a construction site and it was while it was in this state that the decision to rip down the mahogany interior of the dome was taken. We think that this was the first time since 1972 that the dome woodwork had been cleaned so thoroughly. Sanding the dome proved a very arduous task but this is where the stamina of Peter Parish came to our rescue. Where most of us could only stand half-an-hour or so of continuous sanding, Peter would spend

...hours on the scaffolding apparently tireless.

While all this activity inside the dome was going on, our Colin (Spiderman) Button was inspecting the outside of the Observatory walls. Suspended over 60 feet from the ground by harness and ropes he found considerable frost and weather damage to the pointing and brickwork. As nobody else was brave enough to use his rig, Colin was given the task of re-pointing the worst areas of the exterior dome walls. Not to be outdone in this high altitude maintenance, David Barnard took to stretching down from the transit room roof in order to repoint some of the brickwork on the outside walls of the transit room. He also carried out repairs to the roof of the transit room and hopefully it is now waterproof.

The major engineering job of the re-construction work involved the dome shutter. It had been found that some of the bolts holding the bottom shutter track to the support brackets had been scraping the lead from the roofing when the dome was rotated. This was one of the causes of damp in the Observatory. It was necessary to raise the support brackets of the shutter track before the lead could be repaired and it was while attempting this task that disaster struck. The story is quite complicated but the main gist is as follows:- The shutter track is (or was) supported by three cast iron brackets. One of these had been removed for repositioning the track. The extra load on the remaining brackets proved too much for one of them and after 110 years of faithful service, gave up and broke. The remaining bracket, suddenly required to support the load of the shutter alone, also decided to give up and we were left with two useless track support brackets. However, do not despair, with the help of Martin Cook and Anglia Grain Installation Ltd. of Wickham Market a pair of new brackets were fabricated. These we managed to fit into new positions where they would not damage the roof, and being fabricated out of steel, should be much stronger than the original iron ones.

Slowly the reconstruction work was completed and decoration began. Gallons of polyurethane was applied to the dome woodwork and paint to the observatory and transit room walls. The dome floor was sanded and varnished, this wasn't done just to make it look pretty (although it does now look fine) but in the hope that it might reduce the perpetual dust problems. New rubber tyred wheels have now been fitted to the observing chair allowing much easier movement and also protection to the floor surface.

We now had a nice shiny observatory the only eyesore was the telescope! As we thought that that the telescope might come in useful sometime (between decorating sessions and if the skies ever cleared) we decided we ought to keep it. Martin Cook, David Barnard and others set to it with tins of battle ship grey paint and gave it the once over, just in time for the Open Day.

Finally having done all this work this year, is there anything left to do? Unfortunately the answer is 'yes'. The guttering set into the wall below the dome has corroded to non existance and leaks like a sieve. This means that we will still suffer from wet walls this winter and this must be repaired next year. Also one of the shutter support wheels needs replacing, further pointing of the external walls will be required and stair roof, lift shaft and transit room all requir further attention.

Finally, I would like to mention a few additional names of members who gave their valuable time in helping in this program of work. Names which spring to mind are: Alan Smith, Wayne Button, Stewart Dedman and Robert Adams of Felixstowe.

I would also like to thank on behalf of the Society Mr. Derck Cook and Anglia Grain Installation, Ltd. for the use of their facilities when fabricating the new brackets.

Anyone I have not mentioned please forgive me, your offences were very much appreciated. Thank You

David Payne
Chairman, O.A.S.I.

OCCULTATION SECTION

by David Barnard.

Report of the occultation of Sigma Sagittari on
Tuesday 18th November

The weather did seem fairly promising for this event in the morning but as usual this event joins the others which were obliterated by cloud!

There were two of us up the dome and although we had the telescope set up on where Venus should have been at 1530 hours the clouds persisted. Reappearance was supposed to have been at 1539 hours but the sky was still clouded out.

Then, a few minutes later, with the event over, the clouds rolled back and Venus became visible with the star (mag. 2.9) easily visible close to the illuminated side of the planet. Another fifteen minutes earlier and the event would have been witnessed - still we can keep trying!!!

AURORA SECTION

by David Barnard.

Although I've not exactly had sackfuls of mail from members wishing to travel up north on January 16th 1982, interest is mounting. There is still time (just) to go.

Accommodation will either be in a chalet (at Aultbea, overlooking the Outer Hebrides near the famous 'Gruinard') or in hotels on the northern coast between Durness and Thurso. Final details will be published in the January Journal.

Aurora can easily be photographed. For black and white the normal film is 400 ASA eg TriX or HP5 films are suitable faint Aurorae say, a 30 second exposure, for fast moving around 10 seconds exposure is necessary.

Colour film: Agfacolor CT24, Ektachrome 200 are the best.

So if you are interested in coming on this trip to see one of nature's most exciting spectacles, give me a ring A.S.A.P. on Ipswich [redacted] or at work on Ipswich [redacted] (except Mondays).

David Barnard.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PROGRAMME FOR DECEMBER.

at the Observatory, Orwell Park, Suffolk.

TUESDAYS: from 7p.m. Solar, Lunar & Planetary Section.
Directors: Mr. J. Hood, [REDACTED], Ipswich

Tel Ipswich [REDACTED]

Mr. J. Ranson, [REDACTED], Ipswich

1 15 22 & 29th

TUESDAY 8th December. Visit to Observatory by the 14th Ipswich
Venture Group, organised by Mr. D. Barnard.

WEDNESDAYS from 8p.m. Nebulae & Faint Objects Section
Directors: Mr. D. Payne, [REDACTED], Wickham Mt.

tel: Wickham Market [REDACTED]

Mr. M. Cook [REDACTED], Ipswich

tel. Ipswich [REDACTED]

2nd 9th 15th and 23rd.

FRIDAYS: from 8p.m. Variable Stars Section

Directors. Mr. M. Nicholls, [REDACTED].

Capel St. Mary, Tel. Gt. Wenham [REDACTED]

Mr. R.T. Hodgkiss [REDACTED].

Ipswich

December 4th only.

FRIDAYS 11th November from 7.30p.m. Astronomy for beginners
everybody welcome to come along to this
meeting.

SATURDAY 9th January 1982 at 8p.m. Annual General Meeting
in the Library of Orwell Park School.

OTHER MEETINGS:

FRIDAY 18th at 8p.m. at the Friends Meeting House

Fonnereau Rd. Ipswich lecture given by

Mr. D. Payne on 'The history of the
telescope'

SATURDAY 12th December Meteor Section.

Director Mr. D. Barnard, Meteor watch to observe
the GEMINIDS SHOWER. Meet OUTSIDE the 'Levington
Ship' public House at 8.30p.m. everybody welcome to
come along for a few hours.