



JOURNAL OF THE
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

FEBRUARY, 1974.

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Comments

The past year has been the first complete year for this newsletter, and no major troubles have been encountered. Although I am editor by name, a large part of the work in producing this newsletter is done by the Chairman, Roy Cheesman. He does all the duplicating, and supplies me with the stensils. He also produces several pages himself. I would like to take this opportunity in thanking him for all his help in the past.

At the AGM assistant secretary and assistant editor were elected, with a view to replacing my self and Michael Hadden who will be forced to resign in about six months time, although I for one will not divorce all my connections with the society.

My assistant editor is John Deans, of "Windmills", [redacted], Capel St. Mary, Ipswich, telephone Great Wenhham [redacted]. For the present all enquiries and correspondence should still be addressed to me, but in future months, it should be sent to John.

John owns an 80mm(3.2")refractor.

Space Probes

February and March should be two very interesting months.

In early February, Mariner-10 should pass Venus and take the first close-up photographs of the planet's cloud mantle.

In mid and late February and perhaps early and mid March, the four Russian Mars probes should arrive one after another at Mars. They will probably all enter orbit around Mars, and two of them will probably attempt a soft-landing on the planet's surface. More details will be given in next month's edition, or whenever news reaches me.

In late March, Mariner-10 will reach Mercury, more details later

FIR^{FB} ALL

OASI member Micheal Haxell reports a fireball. Thursday January 10th at 17h35m, -4, orange coloured, lasting about 3 seconds. It moved from Andromeda to the Ram, passing 1° from the square of Pegasus. The sky was very clear. Total track length was about 25°, the train was 10° long at maximum. It disintegrated towards the end of its life.

Any ody else seen any fireballs? From time to time I receive reports. I would be very glad of anything publisheable. Anything at all, an observation, advert, an incident, a comment on observing techniques, anything.

Epilogue to Lunokhod-2:-

The 18th December edition of "Soviet News" published by the Novosti Press Agency contained a long article outlining the scientific findings of the Lunokhod-2 Moon Vehicle landed on the Moon a year ago. It landed in crater LeMonnier a lunar co-ordinates Long 30°27' East, Lat 25°51' North. Its progress was followed by the editions of this newsletter in the first half of last year. See May 1973 for lunar map of the area.

It drove off the flat mare landing site into a mountainous region. Some 10km south of the landing point was a 2 kilometres diameter crater which Lunokhod-2 studied during its first 2 or 3 lunar days. It then moved east past a feature nicknamed "Round Bay" by the Russians, on to a tectonic fracture, the main objective of the mission, nicknamed "Direct Furrow". The fracture was more recent than the crater Lemonnier itself. I have a copy of the article about L-2's findings if anyone wishes to read it.

Current Manned Spaceflight:-

Soyuz-13, manned by Pyotr Klimuk and Valentin Lebedev ended an eight-day mission on 1974 December 18th, during which they had performed many astronomical observations, concurrent with Skylab. They performed X-ray photography of the Sun (also being performed by Skylab). A telescope called "Orion-2" used a wide angle quartz crystalline lens (to withstand extremes of temperature in space) to obtain hundreds of spectrograms of stars brighter than magnitude 9.5, in the ultra-violet.

No doubt the two men also observed Kohoutek. The Skylab astronauts reported seeing Kohoutek with the naked-eye in early December. The record duration of the Skylab-4 mission (over 80 days) is likely to remain unsurpassed for several years, for no more long duration american spaceflights are scheduled until the 1980's at least, and the USSR are still in the experimental stage with their Salyut space stations.

Astronomy from Further South

The reason why I was not at the AGM was because I was spending a few days in the Canary Islands, exactly six months after the BAA expedition passed through to see the June 30th 1973 total eclipse of the Sun. For Las Palmas, stars of declination -60° can be seen, I saw Canopus. The planets Saturn and Mars, and the Moon were almost overhead! Orion is much higher in the sky, and I could see the whole of the constellation of Canis Major. One does not realise how bright Sirius really is from Britain, but when it is high in the sky, as in Las Palmas, it is certainly the brightest star in the sky.

I tried to see the comet Kohoutek, but did not succeed. I took a couple of photos of the area where it was, but I doubt whether they will show anything.

The Sun was at the same elevation as on a British summer day; during the Canarian summer it is nearly overhead at noon.

METEOR OBSERVATIONS

David Green has given me the following meteor observations; this is how members should present any meteor observations they make:-

Date:-26/10/73 Observer(s) D.Green, C.Green, K.Bantoft.

Station:58,Elmcroft Rd., Ipswich. Sheet no 1 of 1 sheet(s)

Observing Conditions Fairly Misty, esp low down, no Moon.

Limiting Magnitude: 4½ to 5.

Watch times:- Starts 19h35m end 20h20m duration 0h45m

Time	Magnitude	Reliability	Shower/Sporadic	Unusual features	observers
19h36m	1½	1	Sporadic		KB & CG
19h45m	-1½-2	2	"		DG
19h47m	3½	2	"		DG
19h56m	1½	2	"		DG
20h06m	2	2	"		KB
20h08m	-2	2-3	"	train for 1s, yellow	GD & KB
20h10m	1½-2m	1	"	slow	DG

Reliability is a number, 1,2, or 3. 1 being most reliable, looking directly at the meteor, 3 is seeing it out of the corner of one's eye for example. People have asked me, how is the magnitude of a meteor determined. It's not difficult, merely compare it with a few other nearby stars. Magnitude estimates are naturally somewhat inaccurate, but they are wanted by the BAA. Venus is -4.3 mag, Jupiter -1.6, etc. The limiting magnitude is the dimmest star visible to the unaided eye.

ASTRONOMY O'LEVEL

The next astronomy o'level examination will be in June 1974. Is anybody interested in taking it? I obtained an A~~SS~~, It is not too difficult. It involves a two part 2½ hours written paper, and three practical projects. On request I can supply the new syllabus, a text book by Patrick Moore, all the old examination papers, and my project (which was returned to me) as a basis to work from. I can also supply you with my illegible notes if you want them, and can attempt to answer your questions and help you generally. The examining board is London.

"What's Up?" The Planets in February

MERCURY is undergoing a favourable elongation this month, maximum on February 9th, 18°. It will be visible in the W-S-W after sunset for 1½ hours on February 9th. See last month's edition also.

VENUS reaches inferior conjunction on January 23rd, after which it becomes a morning star, visible in the East before dawn. Greatest brilliancy on February 27th.

MARS is still visible and quite prominent, but not really worth looking at.

JUPITER suffers the same fate as Venus, reaching conjunction on February 13th, after which it becomes a morning star not visible until April.

SATURN retrogrades slightly into Orion this month. It will be occulted by the Moon on February 3rd at 16h U.T., when the Moon will be gibbous before Full, and rising in the East at the time of the event. Saturn will be occulted again on March 2nd, at 23h. On February 3rd, disappearance will be about 15h, reappearance about 15h45m.

METEORS No meteors this month. A brilliant meteor lit up the north of England towards the end of 1973. Further details when available.

On 1973 November 21st, M.V. Duruy in France saw a Fireball in the North which could have been seen in Britain. Did anybody see anything that night, at 19h21m U.T.

MOON Phases:- First Quarter Jan 31, Full Moon Feb 6th, 23h24m; Last Quarter Feb 22, 05h34m; First Quarter March 1st 18h03m. Perigee, Feb 6th.

Remember occultations of Saturn.

COMPUTER FACILITIES

Computer facilities are available. At least ^{three} members of the society have access to the Civic College computer, and another friend of mine has access to a University computer. All have asked me to ask you to give them something to do. If you have any data or anything that you would like to have run through a computer for analysis, please let me know. The computer time is FREE!! An opportunity of a lifetime. The computing men would be willing to write programmes for you if you are unable to do so. All sorts of things can be done by computer. Predictions are usually made by computers. If you have a graph, they can be integrated and differentiated to find the rates and gradients of the graphs at any point, and integration tells you the total up to any given point on the graph. If you have lots of changing data, they can be run through the computers to have graphs made or tables. And so on, possibilities are endless; if interested, contact me. If you wish to have more complicated analyses done, it would be advisable to use the University computer, not the Civic College. If you use the University computer, a contribution towards the paper used would be welcome, but the computer time is free.

The convention of small astronomical societies originally dated for Feb' 2nd, has had to be postponed to May 11th. Any member who is able to go will be assured of a very interesting day. Tickets are 50p, and can be obtained from the secretary, Michael Hadden, [redacted], Ipswich, telephone Ipswich [redacted]. It will be held at Caxton Hall London on May 11th, Saturday. More details later.

FIREBALLS: "The "Astronomer" magazine (Jan 1974, Vol 10 No 117) pp 197/8 reports on recent fireballs. A full report on the fireball seen over North England, Scotland, and Northern Ireland on Dec 27 1973 mentioned by national press and radio. It was mag -18 at maximum, brighter than the Full Moon!! The lack of sonic booms and fragmentations means that it may have reached the ground, and an area 5x8miles (13x8km) ~~xxxxxxx~~ 8km NE of Ballymena, Co. Antrim, N. Ireland, where the trajectory ends, is being combed by Amargh Observatory (who have a 10" OG).

Composition of Saturn's Rings Radar and Infrared observations performed a year ago when Saturn's rings were widest open are interesting. Stars shine right through the rings seen from Earth, yet radar reflections from the rings are very strong. This suggests that they must be composed of widely spaced large boulders (1 metre - 1 km diameter). Radio observations give an overall average (mean) diameter of 2cm, and Infrared gives a mean diameter of 50-250 microns. The latter result is probably due to ice and silicates in the surface microstructure of the large boulders, so the radio reading is probably more accurate. Average size is 2cm, yet as mentioned previously, there must be many huge boulder, hundreds and thousands of times larger than these (about 1km). This means that there must be large amounts of very fine dust and microscopic particles in the rings also.

Meteor bombardment (as on the Moon) affects the rings, breaking up the larger particles into smaller particles all the time. One theory is that they were formed by a large Moon being torn into several giant hunks of rock by tidal forces, and these hunks being smashed up by meteors, and the process of pulverising the large boulders continues. The particles of the rings are also colliding with one another smashing each other up. This theory says that the dust is spiralling in towards Saturn, while the boulders and stones remain in the outer regions of the ring.

Presumably, as all the stones are turned to dust, they will all fall to Saturn, and the rings will shrink to obscurity.

KOHOUTEK failure, maximum seems only to have been second magnitude, more news later.

HAN WINCHESTER ASTRONOMY COURSE is well worth going to, Patrick Moore and many experts are there to explain and talk on astronomy. Apply now places are snapped up. Cost only £7.50!! For weekend board and lodgings, and course. Anyone who wants to go, contact me NOW. It will be held evenings Friday April 5th until Sunday April 7th. Observation will be performed in the evening, so if you have a portable telescope, bring it along. Applicants must be over 16 years of age.

International Astronomical Youth Camp July 28th to August 17th, in GERMANY (G.D.R.). Working language:- English. Applicants must be 14-21 years of age. All amenities at the Youth Hostel. Cost is about 250-300DM (don't ask me how much that is, I guess at £30)

STOP STOP PRESS

In this newsletter is reported a fireball seen by OASI Member Michael Haxell in Dovercourt, on January 11th. This has been confirmed by two other independent observers, one in Dartford, and one in West Drayton (Middx). Plotting data on my map of the UK, I have found that the object travelled entirely over the Thames estuary, or south north sea, starting at Long 01° 60' E, Lat 51° 50' N, ending at Long 01° 20' E, 51° 40' N, some 12 miles off the coast from a point between Clacton-on-Sea and Frinton-on-Sea. The track was about 16 miles long, (25 kilometres) starting 95 miles ± 10 miles above the Earth and ending at altitude 25 miles ± 6 miles = 42 km ± 6 km

On the three special nights in January for the general public to observe the Comet through the Orwell Park telescope we had over one-hundred and fifty visitors. On Wednesday 16th January we had about twenty visitors but this was hardly surprising since there was heavy rain and gale force winds, but between the clouds we did manage to observe Jupiter and Venus.

On the Friday the skies were dark and clear from 4.30 p.m. giving us the most favourable viewing conditions we had had for many weeks. From 5p.m. the observatory was invaded by over sixty visitors which provided the few members present a real headache. At 7p.m. more members arrived to help us out but with them crowds of visitors arrived. Urgent telephone calls were made to get more members to help and for a little while chaos reigned. On one occasion the observatory was so full of people we could not even move the telescope! Visitors were also queuing down the stairs and in the club room.

Although the sky was clear we were unable to find the dreaded Comet so we observed the two planets in the sky plus various parts of the heavens which kept our visitors happy.

On the Saturday evening the sky was clear again providing us with the opportunity of searching for Kahoutek. Before it was dark we had about twenty visitors and observed Jupiter and Venus again before they set. From 6p.m. until past 10p.m. we had a steady flow of people coming to the observatory but this time we were more organised in having more members to help out. Even so, we were all kept very busy. At 5.30p.m. we again looked for the Comet to no avail.

Although for the past two to three months we have spent many hours looking for the Comet only a few members have seen it. What was thought was going to be the biggest apparition in the Northern hemisphere this century has turned out to be nothing more than a 'damp squib'.

Observing the Comet from the ground has been very disappointing and we have heard that many American astronomers have had to hire an aeroplane to get above the clouds so that they could observe and photograph the Comet. Even so, they have been disappointed with its size and brightness. The only people to have really seen the Comet in its glory were the crew members of Skylab.

Never mind, we only have to wait another 17,000 / 74,000 years (I wish the mathematicians would make up their minds) before we can see it again.

MEMBERSHIP SUBSCRIPTIONS, 1974.

Some membership subscriptions are still outstanding . Those members wishing to renew their membership should send cheque/postal order made out to the Orwell Astronomical Society (Ipswich) to the Treasurer, Mr. G. Collier,

Church Street,
CHELMONDISPON,
Nr. Ipswich.

WANTED.

Older type 3" or 4" refractor, please contact Mr. Morris, Tel. Ipswich

LIBRARY BOOKS.

Many of the Society's books have been borrowed from the library for many months and those members who have books should get them renewed.

STAMPED ADDRESSED ENVELOPES.

As our membership keeps increasing the distribution of the monthly journal becomes more and more of a headache. To keep costs down please contact either the Chairman or the editor to see if envelopes are required from you.

ANNUAL GENERAL MEETING

held on 4th January, 1974.

The meeting was opened by the Chairman, Mr. R.M. Cheesman and was attended by about thirty members of the Society.

Apologies received from Miss J. Hayward, Messrs: N.C. Shute, C. Radley, C. Cornelius and R. Hazlewood who were unable to attend the meeting.

The minutes of the last A.G.M. were read and their adoption was proposed by Mr. T. Day and seconded by Mr. M. Stow.

The Chairman then gave his report for 1973. He informed the meeting that we were still waiting to have the lease for the observatory from the Orwell Park School but this was being delayed because the school was being purchased from the School's trustees by the Governors of Orwell Park School, and further discussion of the lease had been temporarily suspended. With Reference to the proposals he made at the last A.G.M. the Chairman stated that the observatory had been opened 117 times during 1973 compared with only 58 times during 1972 and thanked the directors of the club nights for making this possible. During 1974 it was hoped that the Lunar Section of the B.A.A. would hold their meeting at Ipswich. Also it was still hoped to hold an East Anglian Astronomical Convention which the Colchester Astronomical Society had proposed in 1973. A library had been established in the Club Room to which many members had contributed many good books on astronomy and the library was being used by many members. During the year many societies and clubs had visited the observatory and three lectures had been held during the latter part of 1973 which were well supported by members and the general public. The Chairman reported that many jobs still had to be done to the observatory but that the committee did not feel that they should direct too large a proportion of our funds to repairs until the future use of the observatory was secure.

The chairman stated that the new rates of membership fees proposed at the last A.G.M. were now in force, During 1974 he hoped that outings would be arranged as the one to Greenwich Observatory had to be cancelled because of lack of support.

The Secretary, Mr. M. Hadden, then gave his report for 1973:- 1973 had been a very successful year and not only had there been an increase in our activities and interest in the telescope but the society had brought itself to the public attention. There had been a very successful Open Day, several parties of people had visited the observatory, from other organizations and societies and there had been three well supported lectures during the last part of the year. The Society had enhanced its contacts with other astronomical societies including the B.A.A. The idea of an East Anglian Astronomical Convention had given way to the newly formed National Convention which had been held in London. From these meetings came the instigation of an Astronomical Societies Federation. Membership had increased during 1973 and it was noted that the new members had played an important part in our Society. In general the public reaction to our Society had been very good and was shown by the local press and the number of inquiries received by the secretary and other members. Several arrangements had been planned for the coming year, among them, meetings of the B.A.A. and the J.A.S. at Orwell Park or in Ipswich. Also planned was a trip to Cambridge to see the radio and optical observatories.

In the absence of Mr. C. Radley (Editor) the Secretary asked if members living outside Ipswich would send Mr. Radley stamped addressed envelopes for their monthly journal as the distribution was getting more and more difficult because of the ever increasing membership. Also if any member wished he could send in articles to be published in the monthly journal.

Following the Secretary's Report the Chairman called upon the Treasurer, Mr. G. Collier to give his report:

Mr. Collier stated that the Society's funds were good considering that during 1973 we had done a lot of repair work in the observatory and the balance of income over expenditure amounted to £132.0¹/₂d although there were bills still outstanding for the electrical work done in the observatory and a bill for duplicating paper. These two were estimated at approx £30. Mr. Collier stated that the high balance left was due to, two factors, 1. much of the expences for repairs to the observatory and and the refreshments at the Open Day and the lectures were given free by members, (2) we had received many donations to our funds.

The Chairman then pointed out variidus items on the balance sheet and explained them.

The Chairman then called for nominations to the committee for 1974 bearing in mind that he thought the present committee should be increase by another two so that when the editor and the secretary went to university later in the year we would have coverage for those two positions. The committee for 1973 was re-elected to represent the Society for 1974 together with Mr. J. Deans and Mr. P. Carrol.

The Chairman then gave his proposals for the coming year: - He hoped that the Society would continue in strength and that now the object lens had been done more serious work could be undertaken with the telescope. Also he hoped that more lectures could be held during 1974 together with outings . It was proposed that the Society should invest in some new eyepieces for the telescope as most of the ones we had were very scratched. It was also proposed that the members should hold a night in turn in their gardens where a few of the members could meet to do naked eye observations such as the meetings held at the Treasurer's house which proved to be very successful. Another Open Day was also proposed during the latter half of 1974. The Chairman said that therece was still a great deal of work to be done in the observatory especially to the dome itself which had during the last hundred years sunk into the brickwork by one-quarter of an inch. To repair this might be very expensive and as our lease was still under review it was felt that we should not spend our money on major repairs until we were on a more secure basis to use the observatory. It was felt that a larger part of our capital should be invested in a currant account at the bank so that it we had to move out of Orwell Park we would have a little money towards purchasing our own telescope.

Under Any Other Business, Mr. Bearcroft stated that as we were now using the telescope for photographic work we should invest in a sighting telescope of higher magnification that would work in conjunction with the existing sighting telescope so that we would be able to observe a smaller field of space to ensure that the automatic drive was still tracking the object being photographed. The Chairman said that he would investigate to see if we could get such a telescope at a reasonable price.

As there was no other business the Chairman called the meeting to a close.

Next Committee Meeting at the Chairmans house at 8p.m.
Monday, 11th February, 1974.

.....
Chairman.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH).

CLUB NIGHTS FEBRUARY, 1974

MONDAYS: from 8 p.m.

Directors: K. Harris, [redacted], Ipswich, Tel. [redacted]
and T. Day, [redacted], Elmsett, Tel. Offton [redacted]

February 4th
" 18th
March 4th

TUESDAYS: from 8 p.m.

Directors: G. Collier, [redacted] Church Street,
Chelmondiston, Tel. Woolverstone [redacted]
and A. Farthing, [redacted], Withesham.

February 12th
" 26th

TUESDAYS: from 8 p.m.

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

February 5th
" 19th
March 5th

WEDNESDAYS: from 7 p.m.

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

February 13th
" 27th

from 8.30 p.m.

February 6th
" 20th

FRIDAYS: from 8 p.m.

Director: M. Stow, [redacted], Ipswich.

February 1st
" 15th
March 1st

FRIDAYS: from 8 p.m.

Directors: J. Deans, [redacted], Chapel St. Mary
Tel. Ipswich [redacted]
and K. Dye, [redacted], Ipswich, Tel. [redacted]

February 8th
" 22nd.

R. Hazlewood, one of the directors with M. Stow on Friday evenings was involved in a road accident during December and we hope that he will soon be better again and the broken leg will soon mend. We are therefore looking for an assistant director to help M. Stow on his evenings and any member who would like to do so should contact Mr. M. Stow.