

Editor: C.F. Radley, [redacted], Wetherstead, Ipswich, IP2 8NQ., Suffolk. Telephone: Ipswich.



THE OPEN DAY OF THE ORWELL PARK OBSERVATORY WILL BE HELD ON SATURDAY APRIL 21st (EASTER SATURDAY). We are still short of members to help in the many tasks on this Open Day in the afternoon and evening. Please could anybody who can help telephone a committee member before April 6th, or me after April 6th, until then I will be away.

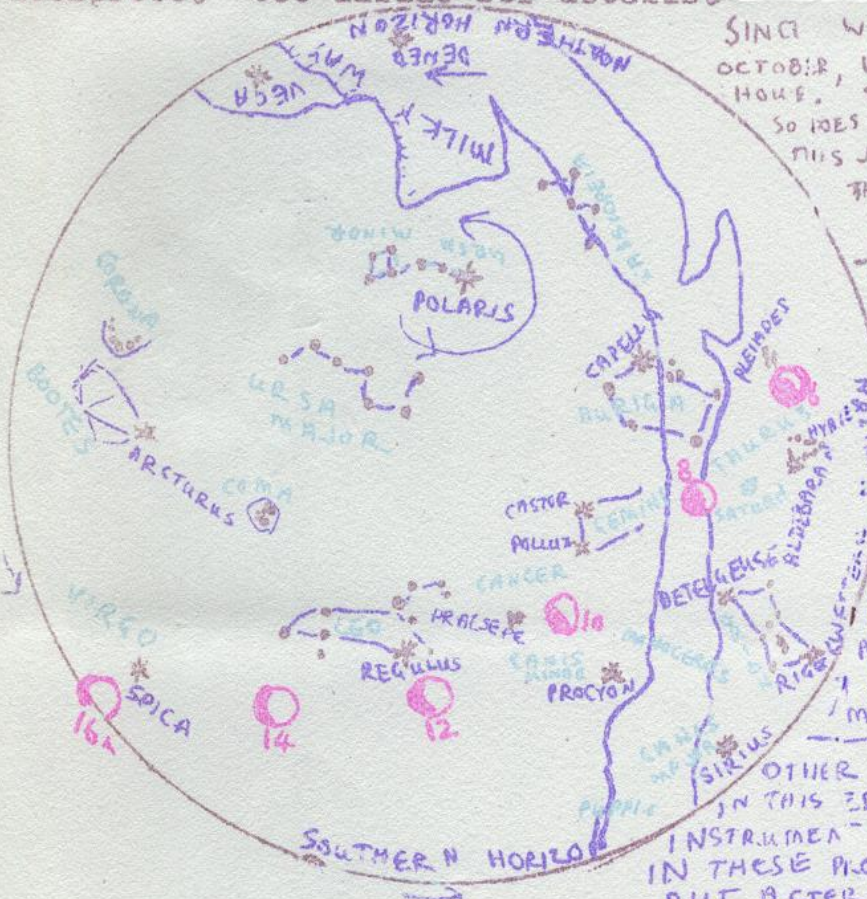
IMPORTANT: We have been invited to an astronomical convention all day at Carlton Hall on Saturday 12th May in London. Tickets are 35p, M. Hadden, Secretary OASI, [redacted] Rd., Ips., Tel: Ips [redacted], can obtain them for you. Applications for tickets should be made as soon as possible. We hope that this society can make its contribution to this meeting.

RECENT DISCOVERIES: Saturn's Rings Recently the first radar beam was bounced off Saturn's Rings. It revealed that they are formed of many boulders in the region of one metre across. The boulders are very closely packed, & would be hazardous to spacecraft venturing nearby. A Pioneer probe to be launched in 1977 will pass Jupiter, and reach Saturn in 1981, passing at the safe distance of 270,000kms. This space probe is the substitute for the Grand Tour. The rings of Saturn are only about 1km thick, but measure 272,300 from outer edge to outer edge.

The Orange Soil discovered on Apollo-17 was not due to volcanic action after all. Under electron & visible light microscopes it was found to consist of many tiny glass spheres. The orange colour is probably due to high Iron & Titanium content. This means that none of the Apollo missions succeeded in finding either an extinct, dormant or active lunar volcano. Since almost all the rocks brought back by the Apollo missions are volcanic, this leaves the problem, where did all this volcanic rock come from, since no volcanoes have been found. Shorty crater was found to be due to meteorite impact.

Lunakhod-2 has discovered a large (1 metre) slab of rock thrown out by a recent meteor impact. It is extremely hard, the largest such slab discovered by a moonprobe. See inside for details.

SINCE WE ARE NOW STUCK WITH B.S.T. UNTIL OCTOBER, U.T. DIFFERS FROM OUR LOCAL TIME BY ONE HOUR. SUNSET OCCURS 1 HOUR LATER NOW THAN IN U.T., SO DOES DAWN, UNLESS OTHERWISE STATED, ALL TIMES IN THIS JOURNAL ARE IN U.T.



THIS STAR CHART IS ACCURATE FOR:

DATE	U.T.	B.S.T.	THE MOON'S POSITION & PHASE IS SHOWN FOR THE
START APRIL	1 a.m.	MIDNIGHT	6 th , 8 th , 10 th , 12 th & 16 th APRIL.
MID APRIL	MIDNIGHT	11 p.m.	THE MOON IS IN RED.
END APRIL	11 p.m.	10 p.m.	

WHENEVER YOU SEE A METEOR, REMEMBER TO NOTE THE EXACT TIME & DATE, & HOW BRIGHT IT IS COMPARED TO OTHER STARS, NOTE IF ANYTHING UNUSUAL HAPPENS (eg TRAIL, ~~FLASH~~) AND COMMUNICATE THE OBSERVATION TO ME AS SOON AS POSSIBLE.

OTHER OBSERVATION PROGRAMMES ARE OUTLINED IN THIS EDITION, VARIABLE STARS etc. need an INSTRUMENT SUCH AS 10". MEMBERS WISHING TO HELP IN THESE PROGRAMMES PLEASE CONTACT ME SOON, BUT AFTER APRIL 5th.

VERY IMPORTANT:-

PLEA TO MEMBERS: This plea was made last month, and I make no apologies for repeating it here. A great deal of member participation is needed for our Open Day on April 21st, in the afternoon and evening. Members are needed for the following jobs: car parking, sell raffle tickets, collecting admission fees, showing visitors the way up to the telescope, selling refreshments, guiding visitors to the film shows, watching over the exhibits in the club room, and watching over people in the dome room itself. We need several people for each of these jobs, so please can we have YOUR help to make the Open Day a success.

In addition we need the following to be borrowed only for the day, protected from clumsy hands by members lurking in the shadows of the Club Room where they will be displayed: Moon Maps, Star maps, Apollo photo's, Lunar Photo's, any other photo's, drawings of celestial objects, magazine cuttings including lots of pictures of celestial objects, galaxies nebulae etc-etc., Also your binoculars and telescopes. IF YOU CAN HELP IN ANY OF THE ABOVE WAYS, TELEPHONE ME AFTER APRIL 6TH ANY TIME OF THE DAY, BEFORE APRIL 6TH, TELEPHONE ANOTHER COMMITTEE MEMBER.

On the Open Day, as last year, there will be: (1) displays of telescopes, cameras, binoculars and so on by DIXON'S camera shop. (2) Displays of telescopes, photographs and so on by members. (3) General Displays of star maps, drawings, photographs and so on. (4) Film and slide show in the main hall of the school. (5) Refreshments. (6) Raffle (7) GROUNDS OF THE 18TH CENTURY MANSION OPEN TO WALK ON BY THE RIVER (8) ONE TEN INCH REFRACTOR.

In case you had not gathered by now, the Open Day will be held on SATURDAY APRIL 21ST, which is EASTER SATURDAY. Last year the Open Day was very successful, raising much money and public interest. More than two hundred people came throughout the course of the afternoon and evening, and at one point the queue to look at and through the telescope stretched down almost the entire length of the spiral staircase from the observatory room down to below the club room level. There are nearly four metres, vertical of spiral staircase from the club room level up to the observatory room. This year the OPEN DAY starts at 2 p.m. and runs on to midnight.

ASTRONOMICAL CONVENTION

We have been invited to an Astronomical Convention to be held in London on May 12th. Do any members wish to go along? Full details of its meetings are given in the "Astronomical Society Meetings" article and the "Forthcoming Events of the Year" article.

OBSERVATIONS BY THE SOCIETY (1) METEORS.

The Society has joined the Variable Star and Venus/Mercury Sections of the BAA. I have already mentioned in previous editions of the journal to set up a meteor programme of observation, involving simply members writing, phoning or telling me the TIME, DATE, POINT OF OBSERVATION, and MAGNITUDE of the meteor. A few members have already started telling me when they saw meteors, but I would hope for more. It is not much effort to simply tell me when you happened to look up and saw a meteor. A few people have asked me how one can determine the magnitude of the meteor. It would be incorrect to say that this is a hit and miss affair, but until experience is gained, only a rough approximation of the magnitude can be made. To find a meteor's magnitude, simply look at the stars around it, and see which one's brightness it matches the best. Often the meteor is brighter than any of the first magnitude stars or planets. If Venus is visible, it may even be brighter than that even. If this is so, do not attempt a magnitude estimate, unless you are quite experienced, simply say that it was very bright.

Occasionally a meteor that is extremely bright can be seen. Much brighter than Venus, possibly even as bright as the Moon. This is called a fireball, or could be an artificial astellite burning up in the atmosphere, as frequently happens. If you see one of these, much more data is needed, its track across the sky, time of start and end, colour and magnitude if possible, should be determined if at all possible.

Enough said about meteors, too much perhaps. Let me just finish by stressing once again that this is perhaps the most important field in astronomy for us at the moment as it involves little experience, can be done any night or time of night, does not need any optical aid, and is scientifically valuable.

Enough said about meteors, too much perhaps. Let me just finish by stressing once again that this is perhaps the most important field in astronomy for us at the moment as it involves little experience, can be done any night or time of the night, does not need any optical aid, and is scientifically valuable. Meteor observations I receive I shall forward to the BAA after a little analysis.

(2) MOON Unfortunately, really useful observations of the Moon can only be performed by experienced and well equipped members, with the important exception, of course, of OCCULTATIONS. I have mentioned one interesting occultation in this month's "WHAT'S UP" feature. Observations of occultations are simply timing occultations to great accuracy $\frac{1}{2}$ second or better is useful. A useful method of timing occultations is using a mains tape recorder or some sort. Mains, because they are much more accurate. Battery machines can only be used, really, if they have brand new unused batteries in them. Switch on your machine the minute or so before the event, and tape record the speaking clock throughout off the telephone, or simply record the speaking clock for a minute, go outside and record the event by making a noise into the mike at occultation, go back and record the speaking clock again without turning the machine off. Predictions for occultations can be found in the BAA handbook, Whitacker's Almanac, Astronomical Ephemeris etc., available from the public library. BAA Handbooks can be purchased from me, money in advance please only 95p.

Once again, I think I have said too much, but I'm not finished yet'. Apart from occultations, a fair amount of experience is needed. For the inexperienced amateur the generally accepted course for becoming experienced is to take a small telescope, two or three inches aperture, take a map of the Moon, pencil and paper and draw every named feature on the Moon at various phases of the Moon. This will take months, maybe a year or two, but by the end of it, before you have finished even, you will thoroughly know your way around the Moon, and will be able to contribute useful observations. In passing, I have not completed the above, I am still making drawings through my 6cm telescope.

The BAA Lunar Section have an extensive lunar programme, including projects: Photography, South Polar, TLP, Moonhole, Occultation and many smaller projects. The entire Lunar Section programme is outlined in the "Guide to Lunar Observers", or the BAA Lunar Section Handbook, available from me at only 30p, money in advance please.

(3) Variable Star. The society has joined the BAA Variable Star Section, and has been designated four variable stars to observe. They are only really observable through the 10 inch OG. The Stars are: Aurigae, S. Virginis (long period variables of irregular period), and X Leonis and CN Orionis. S. Virginis is marked in Norton's Star Atlas, but the others are not. S. Virginis is very close to Uranus and Spica in the sky.

There is a binocular group to the Variable Star Section, I am trying to obtain charts of the stars that they observe, and hope to say more in the next journal.

Members wishing to participate in Variable Star observations through the 10-inch OG should contact me as soon as possible.

(4) Venus and Mercury. These planets can be observed usefully through the 10-inch OG. Unfortunately, both are particularly badly placed this year for observation, they can both be observed in daylight using the 10-inch, and a yellow coloured filter. The BAA recommend a Kodak Wratten 15 filter for this purpose. These can be ordered as 2 x 2 inch gelatin squares from Turner's in the Walk, for 36p.

Above I have outlined the programmes which I consider worthwhile, and more important, feasible. I shall have more to say on observations of Jupiter and Mars when they appear in the Autumn. I feel it is too late to outline a programme for Saturn, this year.

There are now five nights a fortnight running using the observatory, and observations can be done then. Observation need not even be confined to those five nights, the Observatory is often open during the year for special phenomena, if it is a particularly good night, or if a club or society wish to use the telescope. These occasional nights are arranged at short notice, (one was organised at half an hour's notice!!) and usually too late to advertise in the Journal.

If you wish to do observations in the above outlined programmes through the Orwell Park telescope, telephone me at Ipswich [redacted] after April 6th (before then I will not be at home). After April, I will only be in during the evenings, but not every evening, as, of course, I frequent the observatory.

If transport is a problem, I may be able to help you out.

FORTHCOMING EVENTS LATER IN THE YEAR.

It is hoped to invite the BAA Lunar Section to have a meeting in Ipswich in the Autumn, but this is not definite.

It is hoped to hold an East Anglian Astronomical Dinner in September. This is not definite, but it would probably be on the last Saturday in September, in Colchester, about 75p of real money per ticket. At this there would be a good meal during which people from the various societies in East Anglia could have a discussion. Afterwards there would be speakers from the various societies to outline what the society has done during the past year. People coming along could bring photographs perhaps, or drawings to be on display around the dining room.

On the first Saturday in September, the Society will make a visit to the Old Royal Observatory at Greenwich, London. A coach will be laid on, and the fare will only be around £1.00, a normal coach or train fare would be £2.00 or over. The old R.G.O. has its own Planetarium, and we will book a show or two in there for the afternoon. There is a massive 28 inch refractor at the old R.G.O. which we hope to be allowed to have a look at. In addition, there is the National Maritime Museum just down the hill, and at the top of the hill in the old R.G.O. proper there are all sorts of exhibits of the history of Astronomy. Modern Astronomy proper started at the old R.G.O. with such men as Flamstead, Halley, Newton, Herschel

In the autumn, we hope to start a programme of talks and lectures. We also hope to have a film show. It is hoped that they can be held in the middle of the town, not at Orwell Park which is rather out of the way. We have two prospective speakers, and we hope that we may have more.

VERY IMPORTANT There will be an Astronomical convention on Saturday May 12th, at Caxton Hall, Caxton Street, in London. It starts at 11.30 a.m. doors open at 10.30 a.m. It goes on until 5.30 p.m., with breaks for lunch at 1.00 p.m. and tea at 4.00 p.m.

There is a very interesting agenda for this convention, and the Orwell Astronomical Society has been officially invited to come along. Tickets for this occasion are 35p each. Anybody can go along, if you would like a ticket, they can be obtained from me, Roy Cheesman (Chairman O.A.S.I.) or Michael Hadden (Secretary O.A.S.I. of ~~IPSWICH~~), telephone Ipswich ~~73,00~~). Please let us know as soon as possible if you wish to go. We hope this Society can contribute towards the convention. The nearest tube station to Caxton Hall is St. James Park.

ASTRONOMICAL SOCIETY MEETINGS

For meetings of the Orwell Astronomical Society (Ipswich) see separate sheet. Meetings are at the observatory of Orwell Park School. Five Meetings a fortnight. If the weather is particularly bad, the Director may not open the observatory that night, in case this happens it is wise to telephone the Director on that night the previous evening to confirm that he is going. Alternatively, telephone me.

The CLACTON Astronomical Society hold their meetings on the first Thursday of each month at the Quaker Hall, in Granville Road, Clacton - On - Sea. Meetings start at 7.30 p.m. There will be meetings on Thursday the 5th April and Thursday 3rd May.

The NORWICH Astronomical Society hold meetings on the Third Saturday of each month, at the Spinney Community Centre, Earham Five Ways Norwich. Their meetings start at 7.30 p.m.

The BRITISH Astronomical Association hold their meetings in the afternoon on the last Wednesday of each month, starting at 3.00 p.m. or 04.00 p.m. in the summer. The meetings are usually held at 23, Saville Row, London, W.1. There will be a meeting at Saville Row on Wednesday 25th April. These meetings are well worth attending

if you have the chance.

The EXHIBITION Meeting of the B.A.A. will be held on Wednesday May 30th, at the Rooms of the Royal Commonwealth Society, Craven Street, London, W.C.2., not at Saville Row, and not at Northumberland Avenue. Craven Street is near the Strand, Charing Cross, and Trafalgar Square. Nearest Tube stations: The Strand, Charing Cross and Trafalgar Square are not very far away.

The exhibition meeting of the B.A.A. is well worth attending, tea will be served, and there will be a large number of exhibits of much astronomical interest. It is hoped that we can display some exhibits at this exhibition meeting.

LUNOKHOD-2

The second Lunar Day for this vehicle started on February 9th. The vehicle had been switched off during the lunar night, as without sunlight it cannot charge up its batteries. On January 29th, the external temperature was minus 183°c. It was the first time that such a measurement had been made, and was performed using sensors attached to a magnetometer arm. The result is interesting, since the wheels of the vehicle were never colder than minus 128°c. The vehicle's systems stood up well to the cold, the instrument compartment was probably kept at a similar temperature and pressure as the Earth's atmosphere.

At 3.00 p.m. (Moscow Time) the vehicle was interrogated as to its condition, it was found that it had used less power than had been available. The vehicle had been parked on the edge of a crater which was small but deep with an outcrop of bedrock on its edge. A study of these outcrops will help reveal the chemical composition of the material of the transitional zone in the "Coastal" section of the Mare Serenitas.

On February 9th, a communications session lasting eleven hours was held, Magnetic measurements were made of the rock of the crater mentioned, and areas up to 30 - 40 metres from the crater. The vehicle covered 364 metres, and made 120 turns. Panoramic pictures of the Moon were taken. L.2 passed many boulders and craters which while relatively small, were difficult to negotiate. On a number of occasions it sank in loose rock up to the hubs of its wheels. During the session, the crew controlling L.2 was changed twice. Two more sessions were held on February 10th and 11th, in which the vehicle covered more than two kilometres, 1,636 metres on February 11th. Observations of the 30 metre crater were made, and then L.2 travelled in a south easterly direction, towards the Taurus-Littrow mountains. En route measurements of the physical and mechanical properties of the rock and of the strength of the magnetic fields were made, and a panoramic picture obtained.

The route abounded in small craters and rocks in some sections, and this considerably hindered L.2's progress.

On February 14th the vehicle discovered an unusual piece of moonrock. It was thrown out from the Moon's interior during the birth of a large crater. It was about one metre in length, and resembled a panel of the sort used in prefabricated buildings. It proved to be an extremely strong monolith, a pressure of 100 atmospheres was applied to it, and left only slight traces on the thin layer of surface dust. The object had a smooth surface whereas rocks lying nearby are pockmarked with tiny craterlets.

Most of the rocks studied in the region of the foothills of the Taurus Mountains by L.2 were tens and even hundreds of millions of years old, this slab seemed to be much younger than that. The area where the slab was found was 300 metres higher than L.2's landing site, and nearly 5 kms away from it.

Lunokhod's astrophotometer has found that the sky of the moon is 10 - 15 times brighter after sunset than Earth's. Andrei Severny, Director of the Crimean Astrophysical Observatory, which designed the instrument, said that this information provides clear evidence for a

dust atmosphere on the Moon, in which minute dust particles play the role of gas molecules. "The dust atmosphere may well produce the strong glow, since its particles disperse the light from the Earth and Sun" he said.

On February 16th in a communication session the vehicle covered more than $2\frac{1}{2}$ kms, travelling in a Southerly direction, and entering a new area where it is surrounded by a number of gently sloping hills 100 - 150 metres high. It reached a point 5,700 metres from the landing site. Already it was without a doubt in an area much older than the basalt of the Mare Serenitas.

The vehicle had to end this second programme of Lunar exploration on February 23rd, as sunset occurred on February 24th. The vehicle endured a second extremely cold Lunar night in hibernation. Sunrise occurred again on March the 10th and the vehicle was reactivated during a communications session on March 11th. During the Lunar night it had been parked next to another very interesting crater. This crater is a mile across, and some 3,500 million years old. On March 11th the vehicle recharged its batteries from the sun, and moved about 30 metres, taking T.V. pictures as it went. On March 12th it was poised on the edge of the interesting crater. It has been announced that the vehicle will spend the rest of this third Lunar day, which ends on March 25th, exploring this crater and the region surrounding it. The vehicle will be driven into the middle of this crater

At the time of writing, the vehicle is still operating.

PIONEER 10 has left the asteroid belt, and has completed half the trip to Jupiter. It will reach Jupiter in December, and after a few years it will leave the Solar System. Pioneer 11 will be launched towards Jupiter this April and will reach its target in early 1975.

"WHAT'S UP" The Planets in April

MERCURY In April, the planet Mercury cannot be seen to the unaided eye. However, this elusive planet can be found fairly easily in daylight using a telescope, the 10" refractor would be a fairly good instrument for this. The planet reaches maximum Western elongation of 28° on April 10th, and will therefore be best visible for a few days around this date. This Month's elongation is the furthest from the sun this year, and therefore will be the best. Unfortunately conditions in the Northern hemisphere are not so good this month as in the Southern hemisphere for observing Mercury. The planet is a Morning Star, being best visible shortly before 11 hours U.T. or noon B.S.T. Co-ordinates of the planet can be obtained from publications such as the Astronomical Ephemeris of the B.A.A. Handbook. Copies of the Handbook can be ordered through me, money in advance please. The planet is to the west of the sun, preceding it.

Mercury will also be visible well in June as an Evening Star, although it is impossible to see it with the naked eye. In June it will be to the West of the sun, and can be found using its co-ordinates and the setting circles of a telescope such as the 10 inch

VENUS is not visible this month, being very close to the Sun in the sky and being very close to the Horizon. Venus reaches superior conjunction (Is the other side of the Sun from the Earth) on April 9th.

MARS can be seen very clearly in the morning and before sunrise, but it will not be well seen until autumn.

JUPITER is in the constellation of Capricornus. It is a Morning Star, but because it has a Southerly declination, it hugs the horizon and is not clearly visible. It will be placed better in May, and again at the very end of the year.

SATURN is still visible, but by the end of the Month will have moved quite close to the Sun, and be difficult to observe. After the end

of the month Saturn will not be seen again until 1974.

MARS AND JUPITER can be well seen on the early morning of April 6th, before sunrise. Then they will only be 0.8° apart, less than two apparent Moon breadths apart. They will both be in the constellation of Capricornus, rising in the South-East at around 04.00 hours U.T, 05.00 hours B.S.T. The pair will be best visible between 05.00 hrs B.S.T. and 05.40 B.S.T. Jupiter is magnitude -1.7 and Mars is magnitude +0.9, Jupiter is therefore the brighter of the two. The pair will be seen slightly further apart the following morning.

THE MOON New Moon occurs on April 3rd. A couple of days later the Moon can be seen as a very thin crescent in the bright sky in the West at sunset. On April 6th, perigee occurs, when the Moon will be closest to the Earth. The Moon will become an obvious sight, reaching the first quarter on April 10th.

Full Moon occurs on April 17th, last quarter occurs on April 25th. New Moon occurs again on May 2nd. The Lunation from New Moon on April 3rd and New Moon on May 2nd is number 622.

OCCULTATIONS Usually I do not publish occultation predictions. However, this month an interesting occultation will take place. On April 10th the following star will be occultated: Eta Cancri. This star is a double star, and so will not suddenly snap out as usually occurs on occultations, but will change in brightness by one or perhaps two steps before disappearing. A small telescope or even binoculars will be suitable for observing this event. The star consists of three components. Two are extremely close together, being 5.0 and 5.7 magnitudes respectively. The third is magnitude 5.5, and is 5.4 from the other two, which are roughly 1" apart. When occultation occurs, it will be well worth timing the exact relative moments when the three disappear, i.e: when the apparent sudden changes in brightness occur. The changes in brightness will probably be separated by a matter of seconds. The predicted time of the occultation, corrected for Ipswich is; 23hours 39.8 minutes U.T. which is 00 hours 39.8 minutes B.S.T. April 7th.

METEORS This month there is one predicted meteor shower. The April Lyrids. They last from 19th until 24th April roughly. The predicted maximum occurs on April 22nd at 01.00 a.m. B.S.T. or midnight U.T. on the night of the 21st/22nd April. The Open Day of the telescope will be held on the 21st April which will allow us to see the maximum of the shower. The predicted rate is 14 meteors per hour, which means perhaps a meteor every five minutes will be seen, weather permitting. There should be bright meteors.

Another meteor shower is predicted for the beginning of May. From May 1st until May 8th this will be the Eta Aquarids. Maximum should be on the two days May 4th and 5th, when there is a predicted rate of 23 meteors per hour, meaning that perhaps one meteor may be seen in five minutes. The Eta Aquarids are usually with persistent trains, the shower is favourable this year.

Here is a brief run down on showers predicted for the coming year: Two in June, Seven in the period July 10th to August 25th !!!, Two in October, Two in November, Three in December.

If you see a meteor, let me know: The time and date you saw it, where you were at the time, how bright it was, unusual phenomena (if any) eg: fragmentations, trains, detonations.

April 1973

MEMBERSHIP SUBSCRIPTIONS 1973

Some members have still not renewed their membership for 1973 and if we do not hear from them by the next issue of our journal we will assume that they no longer wish to be members of our Society.

If you wish to renew your membership please send postal order/cheque made payable to "Orwell Astronomical Society (1973)

to the Treasurer: G Collier,

Church Road,
CHESHAM DISTON
NR Ipswich

Membership fees

Full membership	£1.00
Family "	£1.50
Junior "	.50p

OBSERVATORY OPEN NIGHTS APRIL, 1973.

MONDAY. Directors: T. Day [redacted] Te. Oifton [redacted]
K. Harris [redacted] Ipswich [redacted]

from 8p.m. April 16th
" 30th

TUESDAY Directors: A. Farthing
C. [redacted], Church Road,
Chelmsford.
from 8p.m. April 10th
" 24th

WEDNESDAY. Directors: R.M. Cheesman, [redacted], Ipswich.
8p.m. April 11th
9p.m. " 18th plus meeting of all members to discuss
final arrangements for Open Day

THURSDAY: Director. D. Bearcroft [redacted] Ipswich [redacted]
from 8p.m. April 5th
" 19th
and May 3rd.

FRIDAY: Directors. M. Stov, [redacted], Ipswich.
R. Hazlewood, [redacted] Ipswich
From 8p.m. April 13th
" 27th
Tel. [redacted]

SATURDAY: Director R.M. Cheesman, [redacted], Ipswich.
from 5 a.m. (Morning)
viewing of Venus, Mars & Mercury
weather permitting.

As the nights are now pulling out unless stated in next month's journal the observatory will be closed until late August for major repairs such as having the object lens of the telescope re-polished and repairs to the tower providing of course that we have the necessary money which we hope to raise on our Open Day and also if we can rely on YOUR HELP.



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.,

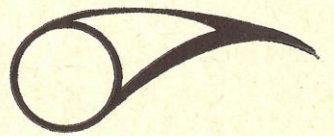
Please contact: R.M. Cheesman 3 Tasmania Road, Ipswich

D. Bearcroft, Tel. Ipswich 73851

D. Brown, Tel. Ipswich 54306

or

C. Radley Tel. 55231.



**ORWELL ASTRONOMICAL
SOCIETY (IPSWICH)**

OPEN DAY

AT

**ORWELL PARK OBSERVATORY
NACTON, IPSWICH**

21st APRIL, 1973, at 2 p.m.

**You are invited to inspect the 100
year old giant telescope and tower**

EXHIBITION OF THE TELESCOPE'S HISTORY

Refreshments

Mansion Grounds Open for Viewing

ADMISSION: Adults 15p. Children 5p.

FILM SHOW AND SLIDES

**Open during evening for viewing
through the telescope**