

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

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IMPORTANT ANNOUNCEMENT

Please note that this is not just an advertisement, it is plain fact and good sense. Norton's Star Atlas is at last ~~xxx~~ about to be published. Publication date is 19th November 1973. It is a completely revised edition containing: 10 pages of useful tables, information on the solar system, stars, nebulae and galaxies, telescopes & accessories. Also map of the Moon, and (new feature) Map of Mars, as well as the famous 16 star charts with notes on observable nebulae, clusters, double & variable stars, index of constellations with culmination dates.

Obtainable through any bookseller, for just £3.75, or directly (and more quickly) from the publishers (plus extra 25p P&P) at Gall & Inglis, 13. Henrietta Street, London, W.C.2.

This book is a must for all amateur astronomers. Equipped with Norton's and a BAA Handbook he is equipped to do observations in most fields of astronomy.

B.A.A. at Norwich Saturday September 15th, the BAA held their Provincial Meeting in Norwich. After the meeting there was an enjoyable dinner, followed by the highlight of the evening, a fascinating talk by Dr. Simon Mitton on Quasars, which rivetted all our attentions for two hours. Eight of us were at the lecture, which has whet my appetite for Simon Mitton's three day appearance on 21-23 Sept. Belstead House Astro course, just about to start at the time of writing.

J.A.S Provincial at Clacton due for Sept 29 should be written up in the October OASI news.

Outing to Herstmonceux Observatories ORGANISED BY J.A.S. on October 13th (Saturday). For further details and booking form send S.A.E to L. Green, [redacted], Clapton, London, E5. Since OASI is affiliate to JAS (we are JAS member 6998, remember to mention that fact) Price is thus 85p. Coach leaves Charing Cross (London) at noon, returns to Charing Cross at 7p.m. If you need a lift to London I might be able to arrange one. The tour will look at telescopes not normally open to the general public.

October 27th, JAS Meeting in London, a talk on stars and Apollo included Meeting at the Alliance Ball, Palmer Street, Westminster, London, SW1. Nearest tube station St. James Park (District and Circle Lines). 2p.m.

BAA London Meeting at 23. Saffron Hill London, nearest tube station is Piccadilly. Start at 3p.m., with tea before, during and after the meeting on Wed Oct 31st.

No book published by Patrick Moore and Arthur Cross contains the first maps of the entire surface of the planet Mars based on the photographs taken by the American Mariner probes, particularly Mariner-9. I have no more details at the time of writing, but if you want to get hold of a copy telephone me as I should receive details soon.

The 10" Objective:- The Orwell Park School Observatory is now back in action. The 10" O.G. was collected on Sunday August 26th, and reinstalled into the telescope on Wed' Aug' 29th.

Thanks to Horace Dall of ~~xxx~~ Luton who did such an excellent job in refiguring the objective. The last time an experienced optical expert looked at it was when Dr. W.H. Steavenson inspected it in 1936, performing some minor adjustments. Mr. Dall read the report on Steavenson's findings and carried on where he left off. Here are Mr. Dall's findings:

Luton August 25th 1973 C.A.S.I. Merz Refractor (1872)

f/15.1 { Clear aperture 258mm or 10.16" } Refigured by H. Dall Aug 1973
{ Focal length 3894mm or 153.3" }

The zonal errors of spherical aberration as reported by Dr. Steavenson in 1936 and confirmed by H.E. Dall in 1973 are now mostly removed. The two deep zones set in the ~~#~~ central 4½" area are gone and the general overcorrection of 0.243 inches is now removed. Astigmatism at the present orientation of the elements (not the same as found on receipt) is undetectable at steady temperatures. With good seeing conditions the instrument should now give good planetary images up to 400x or more, and generally take high power eyepieces.

Dr. Steavenson did not notice the spherical aberration overcorrection because of 2 deep zones in a region which masked the error. The only aberrations left now are on a surface I have not worked on, and they are feeble, having no effect on performance. The zonal spherical errors originated in Merz workshops, and have been there for 100 years or more. i.e. the telescope lens is now better than when made, the Victorians did not seem to be capable of such high standards, Ed.')

6 eyepieces in wooden box have been cleaned and powers measured as follows:-

- 1) Large Ramsden f=2.05" = x75 (52mm)
- 2) Large Huygenian f=2.00" = 51mm = x77
- 3) Huygenian f=0.90" = 23mm = x170
- 4) " f=0.60" = 15.2mm = x256
- 5) " f=0.374" = 9.5mm = x410
- 6) ~~MONOCULAR~~ f=0.300" = 7.5mm = x512

Remains of Merz(?) Micrometer eyepiece (off transit telescope, Ed.')

Whilst I have tidied this wrecked instrument & replaced a few missing screws, there is so much damage & vital parts missing that I cannot consider restoring it.

The other work on the transit telescope optics is now completed.

signed H. Dall, June-Aug 1973.

Ed-. I am not surprised that the micrometer eyepiece is wrecked, it was found abandoned in a cupboard with ~~xx~~ a toffee paper in it when we arrived at Orwell Park a few years ago.

The Fireball of July 30th :- I have combined the report from Percy Fulcher and a gentleman from Luton, Mr. S.J. Anderson, and worked out an approximate track. The fireball seems to have started somewhere near Dieppe on the French coast, travelled north crossing the English coast near Eastbourne, travelling over Herstmonceux, and finishing overhead at the Essex/Cambridges' border, near Saffron Walden.

This is only approximate. If somebody can give me a nother observation of this fireball I will be able to obtain a more accurate track. It seems to have started somewhere between Herstmonceux & Dieppe, probably nearer Herstmonceux, ~~xxxx~~ at an altitude of about 100 miles, and finished over Saffron Walden at about 40 miles altitude.

Congratulations and thanks to Percy Fulcher for his observation, I would like to receive more desperately if anybody saw it. more details in the last edition of the OASI newsletter. The yellow colour and track of the fireball suggests to me that it was associated with the Alpha Capricornid meteor shower. Alternatively it could have been a Delta ~~xxx~~ Aquorid.

Mercury is not well visible this month, east elongation October 18th. In November the planet will transit across the face of the Sun. I shall give more details at the October & November OASI meetings, and the November newsletter.

VENUS is still very low above the horizon, you may be able to glimpse it with the naked-eye in the south-west after sunset, I have done. It will best be visible in December. The planet will be 1.9 north of Antares on October 17th in the evening.

MARS is well seen this month in ~~the~~^{ARIES} ~~stars~~. Opposition on October 25th, closest approach however will be on October 17th, when the distance from Earth will be only 0.4360 A.U. (1 A.U. = distance of Earth from Sun) = 65.2 million kilometres. Opposition on October 25th is at 03h a.m. U.T., 04h B.S.T. Diameter at closest approach will be 24"5 arc. Declination at opposition will +10°. This will be a very favourable opposition as far as Britain is concerned. Brightness at closest approach will be -2.3, as bright as Jupiter. Mars should be well worth looking at thru' the 10".

JUPITER still visible this month, after passing its stationary point in Sept 28th. It is fading, visible low above the southern horizon after sunset. As promised in the last newsletter, here are predictions for mutual phenomena of Jupiter's satellites:-

Date	Time	Phenomenon:-of...by..	Times(U.T.)	Configura...
Oct 1st		Occultation	II I	20h56m--21h54m	432/1J
" 14th		Eclipse	I III	19h01m--19h07m	42J3/1
" 15th		Eclipse	III II	middle at 18h48m	43/21J cont.
xxx times of above phenomenon Penumbra start 18h41m, umbra: 18h44m, middle; e 18h48m//Umbra end: 18h53m//End 18h55m. Total eclipse					
Oct 18th,		eclipse of	III by I	21h19m--21h15m	42J1/3
" 21st		eclipse	I II	18h52m--18h56m	4/2/3/1-4
" "		"	I III	see below	as above
Times of above: st pen: 21h50m/st umbra: 21h52m/middle 21h55m/umbra end 21h54m end: 21h57m					
Oct 22nd		eclipse	II III	see below:-	3/21J4
st: 22h19m/umbra st: 22h22m/umbra end: 22h30m/ end 22h32m.					
Oct 28th		eclipse	I II	Times below:-	3/21J4/3/21J
st: 21h05m/umbra: 21h06m/umbra end: 21h08m/end: 21h09m					
Oct 28th		eclipse	I IV	st: 23h14m--end 23h21m	
Oct 30th		eclipse	III IV	Times below	J4321

Times are in U.T. By configuration, it simply is a representation of the relative positions of the satellites, J stands for Jupiter, and the numbers for the four satellites I/1 to 4/IV. In an astronomical telescope left and right are inverted, so the series will be seen back to front. The following of the above mentioned phenomena are likely to be the best:- Oct 1st, 15th, 22nd and 30th.

There is an uncertainty in the predicted times of a few minutes, it is worth starting to observe several minutes too early, it may even be several minutes too late. It would be useful if you could time the minimum of the apparent brightness as it fades and then brightness, accurate to one second if possible. If you make such an observation, please forward it to me.

SATURN is well visible in the morning sky before dawn rising at about 9p.m. It is retrograding through constellation GEMINI after October 17th. Before that date it moves direct. Also on October 17th Saturn is occulted by the Moon; this event occurs in daylight however, and will therefore be visible only in a large telescope. However, Saturn will be seen very close to the Moon until it disappears in the dawn twilight on October 17th. This year Saturn will be extremely well placed for British observers.

COMET KOHOUTEK at the time of writing no more news, tension is mounting (as far as I am concerned anyway). In October it may be possibly (depending on how bright it is) to recover it with the 10" CG. My predictions start on October 5th, and I shall start looking. Its magnitude could be anywhere between 11.0 and 9.0, needing a large telescope.

It starts in Sextans, on Oct 12th it crosses into Leo, ~~Nov~~^{May} 26th it crosses border into Crater, ~~Nov~~^{Nov} 9th it touches Virgo(!), Nov 10th, enters Corvus. It will therefore be visible only in the morning sky shortly before dawn, maximum elongation west being on about November 15th.

It will then move back towards the Sun, conjunction being on December 28th. After that it will be visible in the evening sky immediately after sunset.

Corvus, It will therefore be visible in the morning sky before dawn, maximum elongation west being on about November 15th, after which it will move towards the Sun again, and be lost in its glare around December 28th. It will then reappear after that date in the evening sky immediately after sunset each evening.

METEORS Orionid meteor shower is predicted. October 16th-27th, maximum on October 21st. Due to the position of the radiant it will be best seen around 04h20m U.T. At that time on October 21st you will be able to see the crescent Moon in the East, and Saturn. Maximum is predicted as 38 per hour with the radiant overhead. Orionids often have persistent trains.

THE MOON After New Moon on September 26th, it will be visible as a crescent after sunset, first quarter being on October 4th, Full Moon on October 12th and Last Quarter on October 18th. New Moon again on October 26th. That lunation is number 629 in Brown's series. Perigee on October 16th, apogee on October 3rd and 31st.

COMMENT It should be worth the effort to rise early on October 21st (even though it is a Sunday) for you will see many Orionid meteors, the crescent Moon and Saturn, and Mars in the west. Dawn on October 21st will be at about 06h40m U.T. Why not rise at 05hrs U.T. or even 04h30m if possible. Add one hour for B.S.T.

B.S.T. versus U.T.(G.M.T.)

I understand that on October 28th we yet again drop that strange B.S.T., and return to the proper U.T.(known to laymen as G.M.T.!!)

KODAK FILMS If you are wondering what films ~~hexbugxinxexkiden,xdrak~~ in colour you want, don't buy Kodak, due to an industrial dispute it is taking many weeks to process each film. Sneezums of Ipswich can give you a two day wait(excellent) for slides processing. Boots colourslide is the cheapest. Agfa Ansachrome is 500ASA speed, with blue base colour, which makes it very good for astronomy purposes. Sneezums only process Kodak Etkachrome, so you can beat the strike by using them.

The Mutual Phenomena of Jupiters' satellites has already started to reveal new data about them. Dr.Millis of Lowell Observatory, Flagstaff Arizona in a letter to "Nature" magazine explained that during observation of an eclipse of Satellite(II)(Europa), byt satellite I(Io), the decrease in Europa's brightness was much greater than predicted; yet the predicted time of the phenomenon was correct, so it cannot be explained by an error in calculating the satellites' orbits. Millis concluded that Europa has a polar cap on its north pole, like the Earth and Mars, extending down to latitude 30 North approx. This polar cap is brighter than the rest of the satellite, and when eclipsed explains the large decrease in brightness. It also goes to explain why Europa has a total surface reflectivity greater than the other three large Jovian Moons. Europa's true surface is of about the same surface reflectivity, but the polar cap covers the true surface, making it appear brighter. Millis urgently request more observations of such phenomena, saying the magnitude of Europa at minimum, and the time of minimum. Such phenomena can be seen on October 1st, October 15th, Oct 22nd.

SOCIETY TOWN MEETINGS have been arranged as follows:-

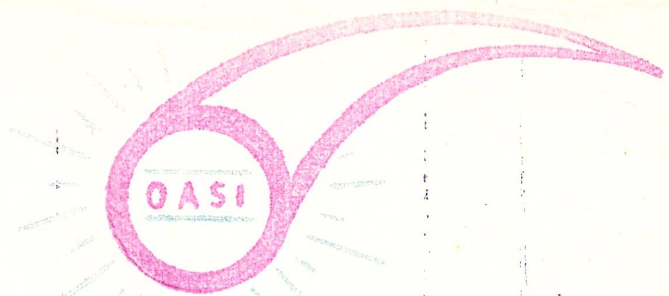
- October 5th, G.E.Curtis BSc., on Stellar Evolution/Herzsprung Russel Diagram
- November 2nd, M.J.Hendrie F.R.A.S., on Comets.
- December 7th, C.Munford F.R.A.S., on Variable Star Observation.
- January 4th(?) Annual General Meeting at Orwell Park School.

THE RUSSIAN MARS PROBES are still going strong, Mars-6 made a scheduled course correction on August 13th at 2.45a.m. Moscow Time, and Mars-7 made a course correction on August 16th at 11.0p.m. Moscow Time. On August 17th the probes were as follows:-

Probe	Distance from Earth in miles/kilometr
mid-February Mars-4	5,490,000
mid February Mars-5	4,640,000
early March Mars-6	2,570,000
mid-March Mars-7	1,730,000

approximate ETA: (1974)

Mars4&5 course corrections on July 30 & /IDENTICAL / on August 3rd.



ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PRESENTS

A TALK AND DISCUSSION ON

THE EVOLUTION OF THE STARS

(HERTZSPRUNG RUSSELL DIAGRAM)

by

MR. G.E. CURTIS B.Sc.

AT THE

FRIENDS MEETING HOUSE

39 FONNEREAU ROAD

IPSWICH

ON FRIDAY 5th OCTOBER 1973

AT 8 P.M.

ADMISSION FREE

REFRESHMENTS AVAILABLE

Secretary Mr M. Hadden

Phone Ipswich 78762

CLUB NIGHTS OCTOBER, 1973.

MONDAYS from 8p.m.

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

October: 1st
15th
29th.

TUESDAYS: from 8p.m.

Directors: D. Bearcroft, [redacted]. Ipswich,
Phone Ipswich [redacted]

October: 2nd
16th
30th

TUESDAYS: From 8p.m.

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

October: 9th
23rd
November: 6th.

WEDNESDAYS: from 7p.m.

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

October: 10th
24th
November: 7th

From: 8.30p.m.

October: 3rd
17th
31st.

FRIDAYS: From 8p.m.

Directors: M. Stow, [redacted], Ipswich
and
R. Hazlewood, [redacted], Ipswich
Phone Ipswich [redacted]

October: 8th
12th
26th
November: 9th.

Note: Thursday 1st November booked for tour of observatory by the
Woodbridge Round Table Assoc. organised by D. Bearcroft

If there is any member who would like to hold a regular evening
at the Observatory please contact R.H. Cheesman, [redacted]. Ipswich

Minutes of the Committee Meeting
held on the 10th September, 1973.

Present: R.M. Cheesman (Chairman) M. Hadden (Secretary) G. Collier (Treasurer)
M. Stow, C. Radley, V. Wilkes.

Apologies: J. Easty.

The minutes of the previous meeting were read and agreed.

Matters arising.

LECTURES:

Concerning the planned lectures it was decided that the chairman together with Mr. M. Stow should visit the lecture hall to make final arrangements. It was agreed that those involved in the organisation of the arrangements for the lecture should arrive at approx. 7p.m. The committee agreed that unless the lecturer specified his fee the Society should pay the lecturer £3 to cover expenses. The chairman reported that he had printed over 250 posters advertising the lecture and thanks to Mr. P. Fulcher who had drafted up the poster he had printed them at no cost to the Society. Alternative plans were discussed in case the lecturer did not turn up and it was agreed that some member of the society should try to give a talk on the subject for that evening together with the showing of the Society's slides.

INSURANCE.

The Chairman reported that he had received £1.20 as commission on the three insurance policies and he had given the cheque to the treasurer.

CONDUCTED TOURS OF THE OBSERVATORY.

The chairman reported that he had given a conducted tour of the observatory to the Ipswich Young conservatives and that they had enjoyed their visit and had contributed to the society's funds.

FEDERATION OF ASTRONOMICAL SOCIETIES.

The Secretary informed the committee that he had received papers concerning the formation of the above from the Astronomical Convention held in 1973. The committee felt that a federation was a good idea and together with the secretary the chairman filled in the questionnaire.

BANK BALANCE.

It was estimated that after paying all our bills the Society's bank balance at the end of the year would be about £40.

JUNIOR MEETING OF THE JUNIOR ASTRONOMICAL ASSOCIATION.

It was suggested that the meeting of the above should be held at Orwell Park if possible about one month after the B.A.A. Lunar Section had held their meeting in Ipswich.

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

Next meeting Monday 8th October, 1973.