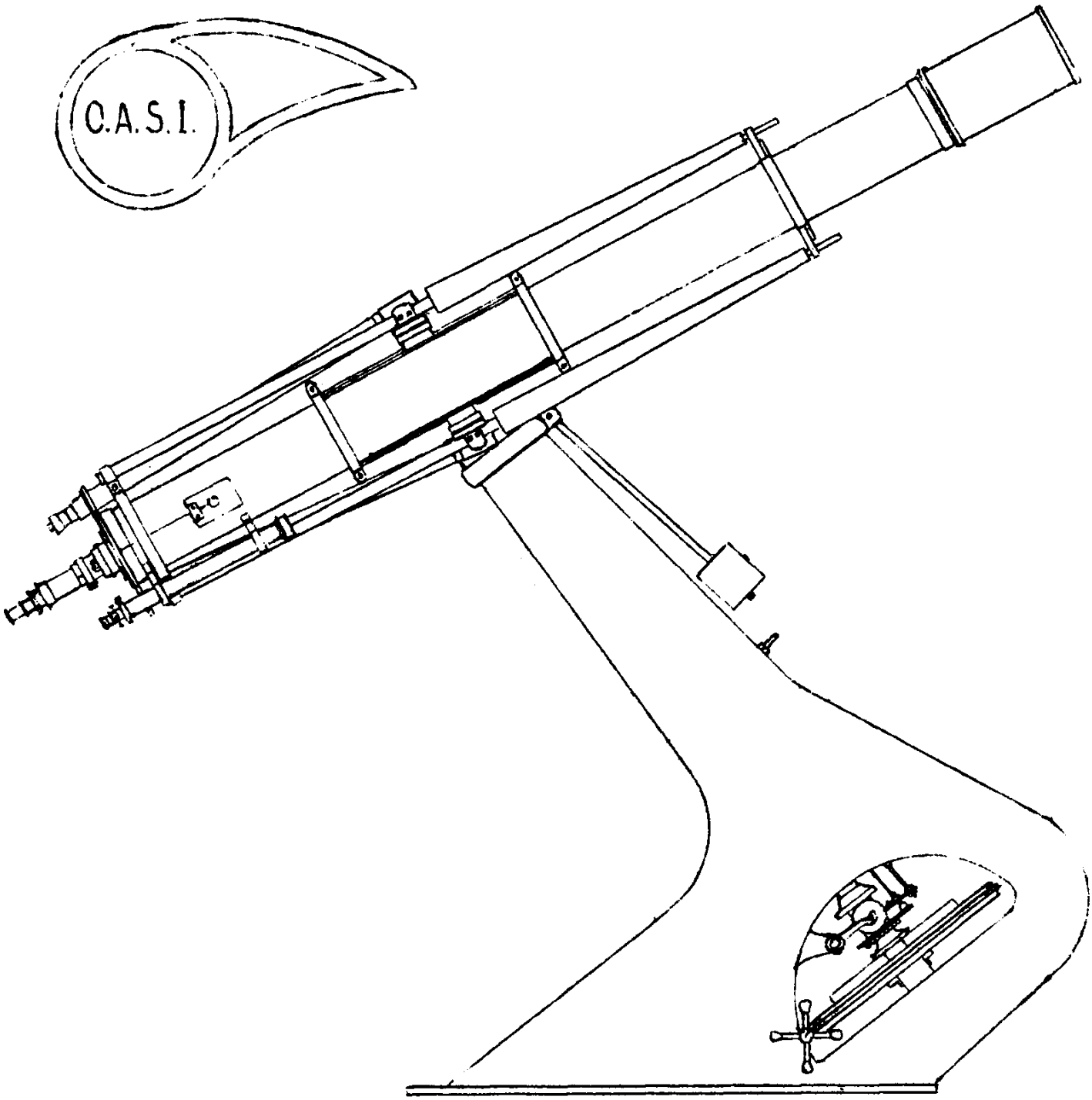
OCT 1978

THE JOURNAL OF THE O[illegible]L ASTRONOMICAL SOCIETY (IPSWICH)

Editor: Mr. Paul Burt, [redacted], Ipswich IP1 6PP 'Phone Ipswich [redacted]

Producer: Roy Adams, [redacted], Ipswich IP2 9ST 'Phone Ipswich [redacted]

Your submissions of items for the Journal will be welcome.



The Orwell Park Observatory 10-inch Astronomical Telescope at Nacton near Ipswich

The Milky Way stretches from east to west across the sky, running through Auriga, Perseus, Cassiopeia in the zenith, Cepheus and Cygnus respectively. The famous Sword-handle lies midway between eta Persei and delta Cassiopeiae and is best viewed through binoculars or on very low power to get both clusters in the same field. The very inconspicuous constellations of Pisces and Cetus can be found running alongside eachother to the south of Aries and Pegasus. Gamma Arietis - the faintest of the three major stars in Aries - is a fine optical double, both components being white and of almost equal magnitude (about 4.8) with a separation of 8 seconds arc.

THE SUN

Sunrise is at 06h10m at the beginning of the month, changing to 07h00m at month-end. Sunset changes from 17h30m to 16h30m. The Sun moves from Virgo to Libra during the month.

Eclipse There will be a partial eclipse of the Sun on October 2nd, from about 04h31m to 08h25m, the latter part of which will be visible from the UK. 0.69 of the diameter will be covered at maximum. (These figures are from Whitaker's Almanac 1978.)

THE MOON - Phases (October)

New Moon	2d06h41m	Full Moon	16d06h09m
First Quarter	9d09h38m	Last Quarter	24d00h34m
		New Moon	31d20h06m

Occultations

Star	Phase	Mag.	Time
**2680	D	5.8	8d18h53.3m
2685	D	7.0	8d19h07.5m
2687	D	6.5 to 7.3	8d19h32.7m
2986	D	6.4	10d18h26.2m
3155	D	6.8	11d21h44.1m
*1106	D	3.6	22d23h09.1m
*1106	R	3.6	22d23h44.1m

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

Grazing Occultation (occurring just north of Ipswich as detailed in last month's issue).

ZC No.	Mag.	Time	Limb of Moon
1344	6.8	25d01h25m	Northern

(LATE INSERT - URANUS' OCCULTATION OF ALPHA LIBRAE, OCTOBER 7TH/8TH. Uranus will pass between the components of Alpha Librae, RA 14h48m, Dec -16o. @

THE PLANETS

Mercury is an evening star this month, but too near the Sun for observation.
Venus reaches greatest brilliancy of mag. -4.3 on the 3rd, but will be closing in on the Sun rapidly through the month.
Mars is still in the evening twilight, setting an hour after the Sun at mag. +1.8 in Libra.
Jupiter is in Cancer, and will be rising at 2300h at mid-month, at mag. -1.7.
Saturn will be rising at 0200h at mid-month, at mag. +1.1 in Leo.

Source: BAA Handbook 1978 except where noted for solar eclipse.
Please note all times are UT (= BST - 1h).

Meteor notes appear later on in this Journal, in next issue, apart from brief on the mediocre showers this month - October 9th, Giacobinids, RA 17h28m, Dec +54o; Orionids, October 18th-23rd, RA 06h24m, Dec +15o.
(@ Late insert information above from Sky and Telescope, Jan. 1978; maybe more in Oct S&

NEWS BULLETINS S.G. Harvey

NASA 1978 August 23rd - NASA ASTRONOMERS DETECT CHANGES IN URANUS ATMOSPHERE

Dr. M.J. Klein of J.P.L.'s Planetary Atmosphere Research Section, and Dr. Turegano, a visiting research associate from the University of Zarogosa, Spain, have found that radio emissions from the Uranian atmosphere have become 30% stronger in 10 years. Observations were made with the 64-metre antenna at Goldstone, California. They say that radio emissions from the surface of Uranus can only be explained by changes in the radio opacity of the atmosphere. They argue that due to the unusual inclination of the planet, the temperature in the atmosphere could become 30% warmer in 10 years.

NASA 1978 August 30th - NASA SATELLITE TO BROADCAST U.N. CONFERENCE

The United Nations will use the world's most powerful communications satellite, CTS (Communications Technology Satellite), in a demonstration of satellite communications capability designed to evaluate the feasibility of remote simultaneous interpretation of a conference, and facsimile transmission of conference documents for remote translation.

The U.N. conference on technical cooperation between developing countries will be held at Buenos Aires, Argentina. Cooperating in this venture will be ENTEL and COMSAT. Transmissions will be passed by a Lewis Research Centre mobile terminal at U.N. headquarters in Washington to a COMSAT terminal at Buenos Aires.

FIREBALL REPORT - 1978 September 12th 22h03m UT. Observer: R. Manning.

Location: Bramford Lane (Ipswich). Magnitude: -6.
Compass bearing: NE. Disappearance: 30° above horizon.
Colour: White, breaking into 6 pieces.
Moon: 10 days old. Cloud: Wispy.

FROM OTHER JOURNALS ... and Paul Burt - TUNGUSKA - A COMETARY FRAGMENT?

As if in reply to my Tunguska article in the August OASI Journal, an article appeared in 'New Scientist' bringing to light a theory put forward by L.' Kresák in the 'Bulletin of the Astronomical Institutes of Czechoslovakia'. He proposes, from re-evaluated data inferred from eyewitness accounts, that the catastrophe was caused by a fragment of Comet Encke.

The co-ordinates of the Tunguska object seem to match those of the beta-Taurid meteor shower, at its peak on the very day of the catastrophe. The beta-Taurids are associated with Comet Encke in that they represent the debris strewn in its wake as it crosses the Earth's orbit. Comet Encke is a prolific producer of interplanetary debris, and may well have produced several cometary fragments. Kresák favours an extinct remnant as the culprit rather than an active cometary nucleus, in view of the absence of sightings prior to the impact, and the 100-metre estimated size of the Tunguska object.

MORE ON TUNGUSKA ... from your Producer ... and Mark Howe

Mark Howe in a recent letter to me included a reminder that he had some coverage on the subject in the OASI 1977 September Journal, mainly advocating a cometary cause. A small comet, he said, about 40m (metres) diameter, would have been visible for only about an hour in the dawn sky before an impact involving radioactivity caused in the same way as nuclear effects are in solar flares.

There is a whole chapter in a library book I have partially read recently, the book called 'UFO's From Behind the Iron Curtain' by Hobana & Weverbergh, re Tunguska.

The first of a series by R. Gooding centring on birth-dates of notable astronomers.

EJNAR HERTZSPRUNG AND HENRY RUSSELL were both born in October, on the 8th, 1873 and 25th, 1877 respectively. Both men independently discovered the relationship between the absolute magnitude and the colour of a star. The result was the Hertzsprung-Russell, or H-R diagram. The original, and the modern versions of the H-R diagram have greatly helped our understanding of the evolution of stars.

Hertzsprung had been educated as a chemical engineer, working for two years in St. Petersburg until 1901. During 1902 he returned to Copenhagen with a great interest in astronomy. After some seven years he was appointed as an astrophysical lecturer at Gottingen. Hertzsprung was one of the first to advance the idea of "absolute magnitude". (The absolute magnitude of a star is the magnitude a star would have if it was placed at a standard distance from the Earth, this distance being 10 parsecs or 32.6 light-years. This enables stars of differing luminosities to be directly compared.)

Hertzsprung specialized in stellar photography, photographing double stars and estimating stellar magnitude from photographs. This led to him publishing in a semi-popular manner his ideas about stellar colour and absolute magnitude in a photographic journal. The article went unnoticed for nearly ten years. During 1911 Hertzsprung discovered that the Pole Star was a Cepheid variable, varying by 0.2 magnitude in a period of about four days. He became a professor at Leiden in Holland in 1935, and upon his retirement, he returned to his native Denmark, dying on October 21st, 1967.

Russell was educated at Princeton University, New Jersey, receiving his doctorate in 1900. He worked for a short time in England before returning to teach at Princeton. Russell's research led him to his discovery of the luminosity-colour-spectral class relationships of stars. Russell presented his results at a meeting of the American Association for the Advancement of Science in December 1913. He published his work in 1914, some nine years after Hertzsprung.

Russell was one of the first to analyze the composition of the Sun from its spectrum in great detail, during 1929. He was rather surprised to find that its composition was mostly hydrogen, with helium, oxygen and nitrogen being the most important trace elements present. Russell died in February 1957.

ARTICLES TO READ - A Focus for Amateur Astronomy by Patrick Moore, in New Scientist, 14th September, 1978.

The article describes the evolution and work of the International Union of Amateur Astronomers (IUAA) since its inception in 1967.

PROJECT CAMEO 1978

The latest news on this, at time of 'going to Press' is that it has been postponed to later than October 5th, which is the latest news date of launch for the Nimbus G spacecraft. This is pending investigation of a suspected fault in the Nimbus G craft's instrumentation.

The original likely launch date was to have been either September 17/18th or 20/21st. If all goes well on October 5th, it is expected that the official answerphone service will be fed with information on possible release time predictions for each night which should be within 1 hour +/- of 0130UT (0230BST), the +/- 1 hour due to orbital coincidence variations. The answerphone service is ready for observers who have shown special interest, to hear the predictions and likelihood of 'go' or 'no go' for the lithium vapour release for the particular night, and for observers to report in local weather conditions hopefully to feed in to the decision-making process re 'go'/'no go'.

22 OCT

A clear NE horizon is needed to observe the lithium vapour cloud just after release, which should appear from Ipswich and most of the lower half of England, to show at about 10° elevation and 30° azimuth. More accurate figures on this are not possible at present owing to the orbital passage uncertainties on different nights, once everything is going correctly for the release.

From Release time to Release + 2 minutes, the cloud should be small and bright enough to be seen against suburban street lights. Naked-eye scans or binoculars should give best pick-up of the object very soon after release. Observers working photographically in the Project, having been informed of the vapour release time to an accuracy of about 1 minute or so, will already have their cameras set-up and pointing to the general area to best advantage, and have been advised to start their picture-taking sequence at least one minute before given lithium ejection time.

A fixed camera mount (with adjustment for better pointing to the new positions of the cloud after about three, five and possibly seven minutes as necessary) should be used, and a camera with a wide angle, preferably over 55° to 60°, and short focal length, 35mm or below, and wide aperture, F2.8 or more, lens, is really needed for involvement in the real Project Cameo photography, so exposure times can be kept to a minimum. Also apparently very desirable is a film which will give a high practical ASA speed rating on the rather far-red, 6 700Å lithium vapour cloud. The 6 700Å subject will render nominal ASA ratings changed - in some cases drastically reduced. Griff from Dr. Rees in charge of photo directions for the Project in this country suggests that Kodacolor, normal rating 400ASA, will be effectively only 10ASA on this subject, whilst the slide film Ektachrome 200 (which I have found readily available) normally 200ASA rating, is expected to be needing little derating on Cameo and seems an essential for its 6 700Å 120ASA.

A pre-arranged exposures sequence (choices have been recommended) so about 20 or 30 or perhaps more pictures can be taken accurately timed and spaced apart, is recommended. Using the faster combinations in equipment, exposure times of 2 seconds or less should be practicable, lending more accuracy and cloud edge definition to the pictures. All pictures for 'official recognition' should be in colour, though there is nothing to stop anyone taking b/w pics if they wish!

See also last month's Journal's article on Cameo - also written by Yours Truly, from BAA circular information briefed-down a bit. A few OASI members hope to do work on this project, including myself, if other commitments allow! Incidentally, there will be time now for later-interested folk to get the details on this, and purely visual (without camera) observations are also welcomed, I understand.

'Are you SURE this is EARTH and not JUPITER?' BCA

Roy Adams

FOOT-TABLE: PROJECT CAMEO/LITHIUM VAPOUR/ 6 700Å SUBJECT, NOMINAL FILM RATINGS/EXPOS.

FILM TYPE	MARKED ASA	ESTIMATED 6 700Å ASA	EXPOS. DURATN SECONDS
Ektachrome 200	200	120	2 to 5
Ektachrome 160	160Tungsten	80	4 to 10
Kodachrome 25	25	25	10
Kodachrome 64	64	30	10
Kodacolor II	80(or 100)	25(to 30?)	10
Sakuracolor	400	40	10
Fujicolor	400	20	10
Kodacolor	400	10	20

The exposure durations given are from Dr. Rees' 2nd Cameo Circular, 1st 4 minutes, for fast films and F2 or wider aperture.

The primary mission of the space shuttle is to deliver payloads to earth orbit. In a sense, it will be the workhorse of space exploration for years to come. Satellites will be placed in space and recovered by the shuttle. Orbital space research will be conducted aboard the shuttle. Construction crews building huge platforms in space will operate from this unusual orbital craft. Astronomers will greatly expand their knowledge of the heavens with telescopes borne aloft by the shuttle. In time, the shuttle may be flying earthmen to space factories and even space cities.

NEARER TO HOME - LETTERS TO THE EDITOR (& PRODUCER) This one fr[illegible]ark Howe via Roy [illegible]s

Dear Sir,

When I initiated the 'From Other Journals' column some time ago, the aim was not to produce a news service to rival other periodicals in speed. Rather, I conceived it as a means of conveying to members, news which they might not otherwise hear of (by the conventional means of T.V., radio and daily newspapers). In any case, the limiting factor in deciding how up-to-date a Journal news service could be is not the speed of the news service but the fact that the OASI Journal is monthly and can therefore take a (very) non-zero time to produce.

The OASI Journal has always been open to members' letters and contributions; indeed, these have been overtly encouraged. I don't really believe (although I would like to) that the symbolic creation of a 'Letters/Your Views & Questions' column would increase the volume of members' contributions. This is not to be thought of as a criticism - I am merely saying that, being such a small society, one cannot expect a regular influx of contributions from members.

The concept of an information service seems quite viable, though of course subject to the same considerations outlined above. What might work out better would be a regular feature simply on the subject of Astronomy. To make this clearer, what I am thinking of would be rather like a textbook of astronomy serialized in the Journal. Of course, this could be tailored each month to suit whatever is being discussed amongst members and in the Astronomical Community at large.

Producer's note: Mark Howe, most of us will know, was Editor of our Journal up until quite recently, so has some experience of Journal production. However, I would just like to make clear what Mark means about our being a small society: one-hundred or so single and family (and corporate) memberships of the OASI is a fair size for an astronomical society, but about 100 nominal memberships is possibly rather a small amount to draw from for certain specialist contributions, relative, say, to the larger BAA membership quantity.

I also think we may have the smatterings of a serialized textbook on astronomical matters in the start of Barney's articles on Meteor Observation last month, in the start of the 'Anniversaries' feature and in my writings about the Observatory Drives which can have relevance to telescope driving over a wider field in parts.

THE ORWELL PARK OBSERVATORY - A poem by young Robert Townsend of Stevenage, inspired by his visit to the observatory last year.

I will always remember that night in September,
The stars shining bold, the observatory cold.
Through the slit high above, shone the stars that I love,
The Milky Way high, stretching 'cross the sky.
The crescent moon low in the east,
No clouds to be seen, no, not in the least.
The ten-inch refractor was big, two tons all in all,
The lens reset by the great Horace Dall.
Yes, I was there that night, doing just what I like,
With wonderful friends; Charlie, Dave and Mike.
We sat on a stairway to see through the 'scope,
I saw the bounty of the Universe, and my life had more hope.
Among objects seen, the things that I dream,
Double stars, clusters, I say;
Comet Kohler and galaxies far, far away.

We had a long table, and lamp dim and red,
Looking at star-maps, long after folks were abed.
Again I must roam to that Orwell Park dome,
For 'tis there where I've been, and seen what I've seen.
So give me a night when the stars shine so bright,
The Milky Way high, stretching 'cross the sky,
And I'll be just fine, seeing the Universe divine.
The place as a whole has touched deeply my soul,
For I'll always be true to the things that I love,
The Orwell Park dome and the stars high above.

OBSERVATORY REWIRING It was intended to include a 'stop-press' notification in the last journal to the effect that the Observatory is being thoroughly rewired - this job started a few weeks ago and may not be finished until after the first week in October. To just say it is a rewiring job does not do the work anywhere near full justice - the wiring has to be in new conduits, and all lighting items, sockets and switches and the like are being renewed. It will be appreciated that the volume of the observatory and associated library, lower ring floor and stairways is extensive, and that the whole job is one the order of £1 000. It is hoped that any inconvenience caused by need for other light-sources at night, and the new clock drive having temporarily no power supply will be gladly foreborn considering the soon-coming long-term benefit to all users of the Observatory. Some small extra decoration to make good after the rewiring job will possibly extend until mid-October, after which all should be right again.

NEW-YEAR SUBSCRIPTION INCREASES - A LETTER FROM YOUR TREASURER

Dear Members (and prospective members),

Due to seemingly ever-increasing inflation and several extra expenses, particularly the purchase of new equipment for the large telescope, higher Journal costs, decorating and lecture programme expenses, we are forced to increase our subscription rates again, for 1979 membership. The new rates (due on January 1st, 1979) will be:

Junior £2 Ordinary £3 Family £4.

We regret having to do this, but hope it will be realized that most societies offer much less for the same or more money.

Pat Long

OASI STICKERS - If anyone is wondering where these have got to, we are currently experiencing some trouble with the suppliers we ordered them from. We asked particularly for front-surface-adhesive stickers, and instead, got a short quantity of back-adhesived ones. The firm concerned is Multi-Screen of Chatham.

ECLIPSE OF THE MOON 1978 September 16th 17h20m to 20h48m (totality 18h24m to 19h44m)

Several of our members journeyed to the Observatory perhaps somewhat earlier than usual in the gathering dusk, and were rewarded by good observing of the partial and total periods of the lunar eclipse. The event went true to predicted times (I managed at least to see the later stages myself and record these) and members are reminded of the partial eclipse of the Sun due for October 2nd. RCA

INCREASE IN SOLAR ACTIVITY After a spell of very little activity a few weeks ago, I was pleased to find today (September 22nd) that moving my small telescope into operating position was well worthwhile. I found the resulting drawing contained in the region of 40 separately resolvable sunspots which I would gladly publish in the journal now but for lack of space. With a telescope larger than the one I used in projection, 60mm o.g. I would imagine more could be seen. RCA

PROGRAMME FOR OCTOBER 1978 At ORWELL PARK OBSERVATORY, NACT[redacted]IPSWICH

TUESDAYS from 7 pm: Planetary Section October 3rd, 17th and 31st
Directors Mr. J. Deans, [redacted], Capel St. Mary 'Phone Gt. Wenham [redacted]
and Mr. J. Hood, [redacted], Ipswich
Tuesdays from 7 pm: Solar, Lunar and Planetary Section October 10th and 24th
Directors Mr. J. Hood, [redacted], Ipswich
and Mr. M. Barritt, [redacted], Ipswich
WEDNESDAYS from 8 pm: New Section October 4th, 11th, 18th and 25th (weekly)
Directors Mr. D. Payne, [redacted], Wickham Market, Suffolk
and Mr. M. Cook, [redacted], Ipswich, with assistance from
Mr. J. Ranson, [redacted], Ipswich 'Phone Ipswich [redacted]
THURSDAYS from 8 pm: Double Stars Section October 12th and 26th
Directors Mr. D. Bearcroft, [redacted], Ipswich 'Phone Ipswich [redacted]
and expectedly a director from another section, to be finalized.
FRIDAYS from 8 pm: Variable Stars Section October 13th and 27th
Directors Mr. R.S. Manning, [redacted], Ipswich 'Phone Ipswich [redacted]
and Mr. M. Siggers, [redacted], Ipswich
SATURDAYS from 8 pm: General Section October 14th and 28th
Directors Mr. M. Barriskill, [redacted], Ipswich 'Phone Ipswich [redacted]
and Mr. R. Adams, [redacted], Ipswich 'Phone Ipswich [redacted]
*As Mike works nights and for other reasons, 'phone times are somewhat restricted.

There is a METEOR SECTION, details of which one may still obtain from Director Mr. D. Barnard, [redacted], Ipswich 'Phone Ipswich [redacted] (subject to availability of Mr. D. Barnard). Meteor counts are held on Foxhall Heath (Saturdays). The next COMMITTEE MEETING is arranged for October 7th, at the same place as last time. OTHER MEETINGS at the Observatory and elsewhere are sometimes held, visits by prior arrangement, observation projects (see, for example, last month's Journal re the 25th October occultation project) and our new Winter Lecture Programme for Friday evenings generally at the Friends' Meeting House 39 Fonnereau Road, Ipswich, is given below:

OCTOBER 13th 1978	"Man in Space, Past, Present & Future" - C. Radley, BSc. including 'Sight and Sound' tapes and slides.
November 17th 1978	"Sun Worshipping" - P. Laycock (South Essex Astro. Society).
December 15th 1978	Short talks and slides by OASI members.
January 5th 1979	A.G.M. at Orwell Park School.
February 16th 1979	Speaker from Imperial College of Science and Technology - Dr. B.L. Morgan or colleague.
March 23rd 1979	"Interstellar and Intergalactic Matter" - Iain Nicolson.

NOVA CYGNI 1978 A BAA Circular was received on 12th September 1978 saying that a nova had been discovered in Cygnus by Collins, and that it was probably brightening. The magnitude of the nova was reported as 6.0, at RA 21h40m23.28s, Dec +43°48'09.8", (Epoch 1950) within a degree of Nova 1876. Has anyone who also received the circular or seen it, found anything that may be the new nova in this location given?

Well, the answer is quite a chorus of 'Yes' - but principal observers being Dave Barnard and Mike Barriskill, who on three nights have made comparative magnitude estimates at the Observatory. As seen from the aside-tabled results, the nova is dimming.

NOVA CYGNI 1978 - MAG. ESTMATES

Sept. 17 evening	6.9	D.B.; M.B.
Sept. 19 "	7.2	D.B.
Sept. 23d21h00mUT	7.8	M.B.*

*Mainly compared with 'Small B' Cygni, through finder and gaps in altocumulus.

MEMBER'S ADVERT: * FOR ALL CLOCK REPAIRS, BIG or small, ancient or modern by competent craftsman Society member, 'phone [redacted] (evenings) for all inquiries.

printed by EWEVALE LIMITED Ipswich Tel. 211654