

NOV. 90

JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

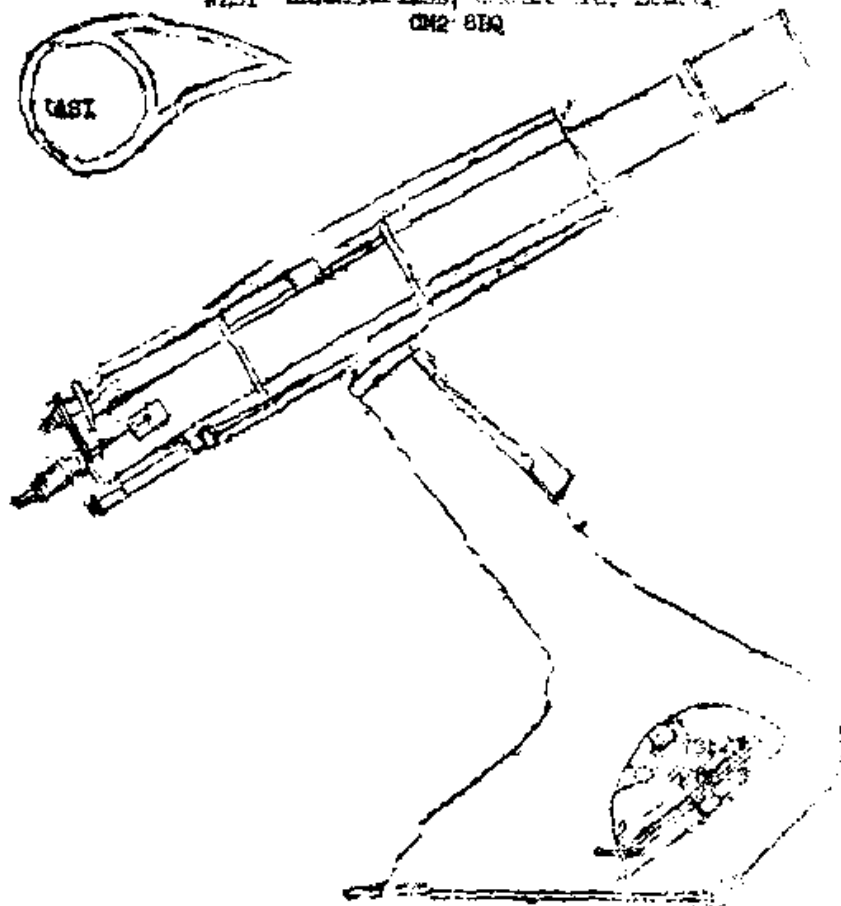
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Phone Ipswich

President: Mr. J. M. Chapman.

WEST DAMMERSFIELD, Chelmsford, Essex.

CM2 8HQ



The Orwell 15.0 Inch Astronomical Telescope  
shown near Ipswich.

THE NIGHT SKY AS SEEN FROM ORWELL PARK

DURING NOVEMBER

by Paul Burt.

The zenith this month is occupied during late evening by the famous sword-handle double cluster, which lies mid-way between eta Persei and delta Cassiopeiae. The eastern sky is now filling with the winter constellations of Taurus, Orion, Auriga and Gemini, while the southern aspect looks quite sparse at present, containing (from south-east to south-west) Eridanus, Cetus, Pices and Aquarius, the latter lying directly below Pegasus. Between Pegasus and Taurus, the small constellations of Arias and Triangulum can be found, crossing the meridian around mid-night. To the north-west, Cygnus and Lyra are still visible, being fairly high up until the late evening.

THE SUN:

Sunrise is at 07h00m at the beginning of the month, changing to 07h 50m at month-end. Sunset changes from 16h 30m to 15h 50m. The Sun moves from Libra to Scorpio during the month.

THE MOON:     -     Phases.

Last quarter	1d 03h 18m	first quarter	17d 03h 47m
New Moon	9d 02h 50m	Full Moon	23d 20h 52m
		Last quarter	30d 16h 33m

COMETARIONS:

YEAR	PERSE	MAG.	TIME		
			D.	H.	M
*1487	D	1.3	1	11	27.8
*1487	B	1.3	1	12	25.7
3056	D	5.9	14	15	59.7
3233	D	6.7	16	17	11.0
3347	D	6.2	16	19	45.2
3351	D	6.8	16	22	14.8
362	:	4.3	20	17	12.0
ACF	D	4.4	21	2	00.7

STAR	PHASE	MAG.	TIME		
			D.	M.	H.
692	D	1.1	22	21	45.2
692	R	1.1	22	21	22.5
832	R	4.7	23	49	23.3
836	R	5.5	23	13	51.3
*1415	R	6.2	28	2	13.2

D = Disappearance      R = Reappearance

Stars listed according to Zodiacal Catalog (ZC) numbers

\* Denotes double star

### THE PLANETS:

Mercury is in inferior conjunction on the 3rd, after which it will be a morning star, reaching greatest elongation on the 19th, rising 2 hours before the Sun at mag. -0.2.

Venus is still rising more than 3 hours before the Sun at mag. -3.5. It will be 0.6" south of Saturn at jd 27th

Mars is in the sunset glow, setting 1 1/2 hours after the Sun, at mag. +1.5

Jupiter will be rising at around 2h 30m in Virgo at mag. -1.4.

Saturn Will be rising just after Jupiter at mag. -0.2

Source: S.A.A. Handbook 1980. All times are U.T.

### RECENT BOOKS READ:

"Is the Solar System Unique?" - New Scientist 2nd Oct.

A look at how constantly improving techniques are helping the search for planetary systems amongst our stellar neighbours.

"Tuning in to the Universe" New Scientist 9th Oct.

A history of radio-astronomy, together with a description of the world's big radio telescopes and their capabilities.

METEOR NOTIS FOR NOVEMBER by David Bernard.

There are three major showers this month.

1. The TAURIDS SHOWER.

The maximum date for this shower is on November 7th with the normal limits falling between October 20th to November 30th with a maximum Z.H.R. of about 12. This shower has a double radiant being R.A. 03h 44m, Dec. +14° and +22°. This shower is rich in bright fireballs and there is no Moon to interfere with observing.

2. The CEPHEIDS SHOWER

The maximum for this shower falls on the day after the max of the Taurids shower, i.e. November 8th while the normal limits are between November 7th to the 11th with a Z.H.R. of 8 meteors per hour. The radiant is 23h 30m and the Dec. is 63°. This is a 'new' stream which badly needs observing and as there is no Moon to interfere with the observation if anyone has any reports please send them to me.

3. The LEONIDS SHOWER

The maximum of this shower is on November 17th and the shower's normal limits are only between November 15th and the 19th. The Z.H.R. is estimated at about 10 meteors per hour and the shower has shown a lot more activity over the last few years. The radiant is 10h 08m and Dec. is +22. The Moon unfortunately interferes with this shower this year.

**THERE WILL BE A METEOR WATCH** to observe the TAURIDS and the CEPHEIDS SHOWERS on **SATURDAY NOVEMBER 8th.**

Meet at the 'Livingston Ship' at 8.30 p.m. irrespective of weather conditions.

FIREBALL: A fireball was reported to have been seen over Ipswich on Tuesday 7th October at 1905U.T. The mag. was approx -5 to -6 moving from NW to SW. The fireball lasted about 4 seconds and was white in colour and the approx altitude was in the region of 35°. If anyone saw this fireball please contact me A.S.A.P. The Society fireball camera was in operation at the time and we hope that it was photographed.

ORANGE COUNTY COMMUNITY COLLEGE (1956-57)

SECOND DRAW RESULTS

20th SEPTEMBER, 1956.

<u>NO.</u>	<u>WINNER</u>	<u>PRIZE</u>
3866	R.M. Harvey [redacted] Needham Market	Black Radio
2380	Christine c/o J.L.W. Coaches	Digital watch
4366	E. Cooper, [redacted] Ipswich	Sherry
2460	C. Button, O.A.S.I.	Biscuits
1235	A.J. Mills, [redacted], Ips.	Scotchmac
1170	P. Gage, O.A.S.I.	Cinzano
1328	I.C. Fowler, c/o P.O. Martlesham	Wine
4789	Parker, [redacted], Ipswich	Wine
3221	C. Laws, [redacted], Felixstowe	Dairy Box
4130	Len, c/o Levington 'Ship'	£2 book token
1423	S. Pandal, [redacted], Ipswich	Watchmakers
2390	Maurine, c/o B.P. Oil, Ipswich	'Party Four'
1803	B. Crawford, [redacted], London	Dairy Box
4447	T. Durrell, [redacted], Brightlingsea	Torch
2432	D. Gaffer, [redacted], Ipswich	Shortbread
5020	C. Norman, c/o Pinons, Levington	£2 Book token
2654	G. Carr, [redacted], Ipswich	Dairy Box
2600	D.A. Brown, c/o Cranfield Bros. Ips.	Shortbread
1231	Carol Mills, [redacted], Ips.	Week-end Choc.
3094	A. Bradley, [redacted], Ips.	Fruit Jellies
1337	A. Gumbs, c/o P.O. Martlesham	Dairy Box
2258	B.D. Jennings, [redacted], Kesgrave	Fruit Sweets
4610	A.R. Cox, [redacted], Essex.	Dairy milk
3772	C. Parrish, [redacted], Ipswich	Diary milk

## SOCIETY NEWS:

We would like to welcome the following new members to our Society.

Mr. K.J. Barnett, [REDACTED], Felixstowe, Suffolk.  
Mr. J.R. Belton, [REDACTED], Ipswich  
Miss Brenda Butler, [REDACTED], Leiston,  
Suffolk, IP16 4PU  
Mrs. D. V. Street, [REDACTED], Oulton Broad, Sfk.

The Society would also like to welcome the following new member to our Society born to our Treasurer Mrs. Bearchroft on Sunday 21st September, 1980. Our congratulations to Trish and David for encouraging new membership. We hope that young Ian David Bearchroft will take up astronomy like his parents. (a spokesman for the new member said that they thought that he would be an astronomer because he seems to be awake all night and sleep during the day!)

### CHANGE OF ADDRESSES:

Please note that the following members have recently changed their addresses.

MR. M. BARRITT to [REDACTED], Ipswich.  
MR. & MRS. K.A. SANIGAR to [REDACTED], BOCKING,  
Braintree, Essex. CV7 6AU.

### ORWELL BRIDGE:

The following is an extract from a letter received by our Mr. P. Chatfield from Mr. S.G. Telford, Dept. of Transport for the Orwell Bridge construction:-

'I write to confirm our discussion after the presentation of my paper to the Suffolk Centre of the Institute of Builders at Needham Market last night.

'There will be no permanent 'street lighting' on the bridge and the carriageways are considered simply as rural unlit trunk roads

'I am sure your friends at the observatory in Orwell Park will be pleased to learn this.

signed. S.G. Telford,  
Resident Engineer.

OPEN DAY the 20th September, 1980.

After a terrible Friday night weather wise together with so many other functions going on in and around Ipswich not to mention the 'Home Match' at Portman Road many of us thought that this year's Open Day might not come up to expectations especially as the weather was not so good on the Saturday.

But, after a lot of hard work by many, many members over thirty of our members turned up to help and we at first thought that we would out-number the visitors. Our worries were unfounded and at twenty-to Two people started arriving and we seemed to have more visitors than ever before.

As we could not use the new school's sports hall we returned to the Gym again which was filled up by games, astronomical equipment and displays. The video-T.V. game was overbooked and we kept on losing the colour on it and had to switch it off every half an hour or so. The astro games seemed to play second best to the boxing game and at 10p a go over nine pounds was made towards our Society funds. Our thanks go to Mr. Parish and Mr. Barriskill for the use of their equipment. Meanwhile, at the other end of the gym David Payne was getting quite a queue to play on his home-made 'Shoot the U.F.O.' and at the end of the day had a kitty of nearly fifteen pounds! The ladies worked endlessly on the food counter making a net income for the Society of about £28. The spot the nova game made another £7 pounds while the sale of posters, books, histories and stickers shew another £15.50.

Meanwhile, back at the gate, Mr. William Crooks spent the whole afternoon collecting entrance fees which came to the staggering amount of £111.80!

In the gym Mr. & Mrs. Sanigar was doing a roaring trade on Draw Tickets and the total sale of tickets came to £172.57½ (someone had half of a ticket!) Our thanks go to every member for selling Draw Tickets especially as

a bit tight this year and nearly every member had some responsibility in selling tickets. Special thanks should of course go to David Barnard who organised the Draw.

During the afternoon we were entertained by about six films which Charles Hatley had borrowed from N.A.S.A. In fact he brought so many films back we did not have time to show them all.

Up in the observatory we had a constant flow of visitors, some of whom thought that the 'Barrell Telescope' in the Club Room was the 10"Orwell Park Telescope.

From the conversations that our members had with the visitors it seems that the Open Day exceeded their expectations, as indeed it did ours.

At the end of the day at a quick calculation, taking into consideration all costs we estimated that the Society Funds was boosted by £246.92.

I personally would like to thank every member for doing so much to make this Open Day a tremendous success. to mention names would be unfair as so many of you did so much.

Royston Chessman.  
Chairman.

(We now have the pleasure of looking forward to April when there is a 'National Astronomy Week' between the 20th and the 26th when we shall be holding various functions in the Observatory and in Town).



GRAZING OCCULTATION OF VENUS on 5th October, 1980.

Report by Alan Smith.

Observers: Messrs. Smith, Cooks, Barriskill and Gooding.

The mobile 'Looney Eyeballers Section' of the O.A.S.I. took to the road again on Sunday 5th October at 4a.m. (some of us had stayed up all night after attending the Committee Meeting at the Observatory) to observe a grazing occultation of Venus. This event is quite a rare event and could only be seen along a short path just North of Norwich. The four members of the Section that had travelled to Cape Wrath to observe the aurora that had invented the Looney Eyeballers' Breakfast (cornflakes, All Bran, blackcurrant jam, milk and sr.....rum) met on the Norwich Road in Ipswich and travelled to Horning on the Norfolk Broads. Having selected a suitable site we set up the portable telescopes and waited for 6.36a.m.

As the graze approached so did the by now traditional cloud that had dogged the last five years of observing grazing occultations, but for once the expedition was a complete success! The graze itself lasted for about seventeen minutes and provided the observers with a spectacular sight. Venus could be seen dodging behind the Lunar mountains and crater rims. An outside broadcast team from Radio Norfolk was on hand at the site chosen by the Norwich Astronomical Society and they too had a good view.

After the event we travelled to Wickham Market to see how another member had got on. Being south of the graze path, David Payne saw only a near miss, but by using the combined observations we managed to compute the Earth-Moon distance quite accurately.

Remember there are many expeditions arranged by the Society to observe various astronomical phenomena and everybody, including friends are welcome to come along.

BOEING TELLS OF SOLAR CELL BREAKTHROUGH:

Boeing's Engineering Technology Organisation has produced a new thin film solar cell with an energy conversion efficiency of over 9%. The company is under contract to the D.O.E.'s Solar Energy Research Institute (S.E.R.I.). The aim of the S.E.R.I. solar program is to produce cells with an efficiency of 10%. The cells are composed of Copper Indium Selenide/Cadmium Sulfide and which in twelve months past achieved 6.7% efficiency now have risen to 9.4%. Silicon solar cells have an efficiency of 15% and cost \$10 per watt. The new thin film cells are expected to be rated at 50cents a watt by 1990.

Now Boeing is trying to see if it can devise ways of mass producing them, as well as cutting out some of the constituent elements to reduce costs. It is possible thin film cells will be used for solar power satellites depending on various cost, power and weight factors.

- Boeing Aerospace Company.

CONTRACT AWARDED FOR COMMUNICATIONS EQUIPMENT.

Hughes Aircraft has been awarded a contract to supply components and technical services for 20 rural Earth Terminals to the Indonesian Government. Indonesia is soon to have the services of two national domestic satellites presently being built by Hughes. Designated 'Palapa B-1' and 'Palapa B-2' their signals will be compatible with the earth terminals being supplied.

Hughes has already supplied ten earth terminals in a previous contract. Those stations used the technique of single channel per carrier, frequency division multiplying, and demand assignment multiple access. In short, Hughes offered Perumtel (the state owned telecommunications company) a system whereby any user could obtain the use of a satellite

channel without having to pay the whole-year price for a satellite circuit. Perumal at present owns and operates forty earth terminals and the one ordered under the new contract are expected to be working sometime in late 1981.

- Hughes Aircraft Company.

### SATELLITE BUSINESS SYSTEM TAKES ONE STEP FURTHER.

S.B.S. has filed application with the Federal Communications Commission (F.C.C.) to provide certain innovative services through the use of its satellite network, the first satellite of which is to be launched in November. The filing splits into three categories:-

1. C.N.S.-A. the name of S.B.S.'s high volume one user, system designed for the use of organisations which require high data handling rates. Available during January 1981.
2. C.N.S.-B, based on C.N.S.-A but is designed for lower data volume users and requires the sharing of facilities, available during January, 1982.
3. A system providing cheap interstate metropolitan communications. Probably would be an alternative to the present telephone system.

S.B.S. already has eight customers signed up for C.N.S.-A. of which scaling is one. The document has been submitted to the F.C.C. for approval of tariffs (or unit time costs). To date COMSAT General Corporation, Aetna Life and Casualty and I.B.M. Corporation have invested \$175 millions in the venture. Hughes Aircraft is building the satellites (or space segments), two of which will be in orbit, and one will be spare.

- SATELLITE BUSINESS SYSTEMS.

DEADLINE FOR DECEMBER JOURNAL: Monday 17th November.  
All items for the December Journal should be sent to  
direct to Mr R.M. Cheesman at West Hargravefield

CENTRAL ASTRONOMICAL SOCIETY (IPSWICH)  
MEETINGS FOR NOVEMBER  
1980

at the Observatory, Orwell Park School, Ipswich.

TUESDAYS: from 7 p.m. Solar, Lunar & Planetary Sections

Directors: Mr. J. Hood, [redacted], Ipswich  
Mr. J. Ransom, [redacted], Ipswich  
Tel. [redacted]

Mr. M. Barritt, [redacted], Ipswich

November 4th 18th & 25th

WEDNESDAYS from 8 p.m. Nebulae & Faint Objects Section

Directors Mr. D. Payne, [redacted]  
Wickham Market, tel. Wickham Mkt. [redacted]  
Mr. M. Cook [redacted], Ipswich  
tel. Ipswich [redacted]

November 12th & 26th

SUNDAYS from 8 p.m. General Observations Section.

Directors: Mr. M. Barriskill, [redacted], Ipswich  
Mr. R. Adams, [redacted], Ipswich  
tel. [redacted]

November 2nd 16th & 30th

SATURDAY 15th November at 8 p.m. Committee Meeting to  
which all members are invited to attend.

VISITS TO OBSERVATORY:

Friday 7th Nov. 1st Westerfield Cub Pack.  
organised by Messrs. Barnard, Cook & Stow  
Tuesday 11th November, Ipswich 18 Plus Group  
organised by Messrs. Barnard & Cook & Hood  
Wednesday 19th 27th Ipswich Cub Pack  
organised by Messrs Barnard & Cook  
Saturday 22nd Nov. Ipswich Natural History Soc.  
organised by R.M. Cheesman.