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JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY (ISSN 0022-0782)

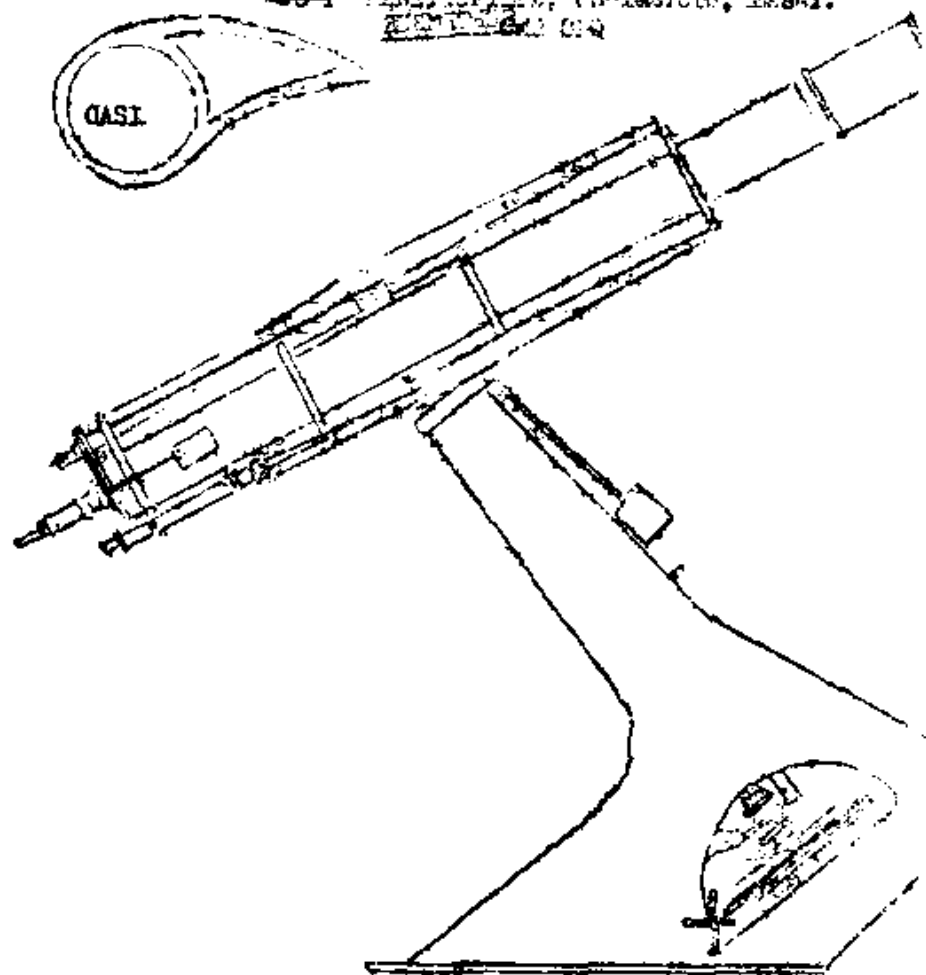
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The Orwell Park 15 inch Astronomical Telescope
at Naeton near Ipswich.

1.

THE NIGHT SKY AS SEEN FROM ORWELL PARK IN

SEPTEMBER.

Cepheus and Lacerta occupy the zenith area during late evening this month, bordered by Cassiopeia to the east and Cygnus to the west. The less obvious constellations of Aquarius and Capricornus can be seen above the southern horizon at midnight, while in the south-east the small Delphinus and Sagitta constellations can be found between Cygnus and Aquila. Hercules lies directly below Vega in the west, and over to the east Perseus and Pegasus dominate the sky, with Pisces running horizontally below the latter.

THE SUN.

Sunrise is at 6h 10m at the beginning of the month, changing to 06h 10m at month-end. Sunset changes from 18h 50m to 17h 40m. During the month the Sun moves between the constellations of Leo and Virgo.

THE MOON. - Phases for September.

Last Quarter	1d 18h 00m	First Quarter	17d 13h 54m
New Moon	9d 10h 00m	Full Moon	24d 12h 08m

OCCULTATIONS

Star	Phase	Mag.	Time		
			d.	h.	m.
741	R	5.7	2	3	13.6
1195	E	5.3	5	3	36.2
→→→ 273a	D	5.4	18	21	35.8
228a	D	5.1	19	21	16.4
3017	D	5.3	20	18	54.4
3181	D	5.9	21	22	09.8
495	D	4.4	27	3	46.8
495	R	4.4	27	4	50.9
508	D	4.3	27	21	15.4
504	R	4.3	27	22	08.6
669	R	4.0	28	21	48.9

Star	Eclipe	M.E.	Time			2.
			d.	h.	m.	
674	R	3.6	28	21	47.0	
877	R	4.8	28	22	40.1	
685	R	6.5	29	00	34.0	
*692	L	1.1	29	00	09.85	
*692	R	1.1	29	01	1.6	
836	R	5.5	30	00	40.8	

D = Disappearance R = Reappearance

Stars listed according to Zodiacal Catalog (ZC) numbers

* Denotes double Star ** Denotes time is correct for
Lat. & Long. of Greenwich

THE PLANETS:

- Mercury is an evening star this month, but too close to the Sun for observation
- Venus is a morning object rising 4 hours before the Sun at Mag. -3.8
- Mars is in the sunset glow, setting an hour after the Sun at Mag. +1.5
- Jupiter will be in conjunction on the 13th, and not visible this month.
- Saturn is also not visible this month, being in conjunction on the 23rd.

Source: B.A.A. Handbook, 1980. All times are U.T.
(= B.S.T. minus 1 hour)

FROM OTHER JOURNALS:

Sunspot cycle linked to gas belt activity.

Astronomers at the Mount Wilson Observatory have discovered that the gas making up the Sun's outer layers moves in belts parallel to its equator, and these belts appear to control the solar sunspot cycle.

In 1966 the team began observing the velocities of

24000 points on the Sun's surface, and discovered a totally unexpected pattern of velocities when they analysed the data last year. It has long been known that the poles of the Sun takes 8 days longer to make a revolution than the equator (which takes 25 days), and in the 1950's it was proposed that the Sun's magnetic field is 'wound up' by this differential rotation, which causes the 11 year cycle. (Actually 23 years, due to magnetic field reversal). The Mount Wilson team discovered that there are also 'streaming' motions within this framework. At any one time there are two fast currents and two slow currents in each hemisphere, which vary from normal velocity by about 5 m/s. These currents move from the poles to the equator over a period of 22 years, and the regions of heaviest sunspot activity occur exactly on the boundary between fast and slow currents.

The team can already identify adjacent fast and slow currents near the poles which will produce the next sunspot maximum, even though the first spots will not appear for another three years.

- 'New Scientist'

ARTICLES TO READ:

"Whatever happened to the Space Shuttle?" - New Scientist
31st July 1980.

A case history of the setbacks which have befallen N.A.S.A.'s Shuttle Project since its conception in 1972.

METEOR NOTES: by David Burnard.

The meteor watch held in August again was clouded up apart from an odd ten minutes or so around mid-night. We had one or two new faces come along to the watch and hope that they were not too disappointed in their first meteor watch with the Society. Our correspondent in West Mallingfield observed the shower on the Sunday for an hour after mid-night and reported over 14 bright meteors and many fainter ones belonging to the Perseid Meteor Shower.

There are no meteor showers during September but look forward to meeting you all again during October for the 1980's Perseid meteor shower group of us up to Bony Scotland!

NEWS REVIEW by Simon Harvey.

Only a couple of pages of what has been going on because of lack of room in this month's Journal, but next month's Journal we will catch up on all the space news, meanwhile if you would like more information please contact me direct - address in last month's Journal.

June 6th. It's Plink.....Plink..... Fizzled for Ariane
L32, but E.S.A. Presses On.

Following the failure of Ariane 103, E.S.A. try to continue the flight certification program on schedule, treating the failure as an 'anomaly'. The third test is scheduled for November of this year. C.N.E.S. officials have begun an investigation into the failure, believed to reside with one of the Viking 5 engines and will only halt 103 launch preparations if they see hardware modifications are necessary. It now seems that a very high frequency resonance built up in 'engine D' causing the chamber pressure to fluctuate. After many fluctuations, a measured temperature gradient of 100°C at 63.8 seconds caused the pressure to fall. Although she was still on course, at 104 seconds the roll rate reached 60° per minute and engines A & B lost pressure. At 108 when the chamber pressure of engine C began to fall, it is suspected monitoring instruments picked undue strain and the self destruct system was actuated.

A flotilla of boats is now working at a place called 'Devil's Island', 20 miles downrange trying to salvage the engines. So far parts have been raised, but not the right ones. The amateur radio satellite OSCAR and the German science instrument FIREWHEEL were both lost in the launch
COSPAR/'AVIATION WEEK/'SATELLITE NEWS'

Search and Rescue Terminal:

N.A.S.A.'s Goddard Space Flight Centre has selected a Canadian firm to provide local User Terminals to process signals from the search and rescue instruments to be placed aboard certain satellites. Contract worth is put at \$3.042 million. The first terminal will be installed at Kodiak, Alaska and must be in place within 19 months. The contractor must also offer 15 months of maintenance post-installation. Signals will eventually be received from N.A.S.A.'s third G, to be launched in the early 1980's.

BOULDER NEWS:

Day out to Greenwich on 4th October.

If you would like to go on this trip please advise David Barnard, [redacted], Ipswich, Tel. Ipswich [redacted] A.S.A.P. The list will close on 1st September, full details of the trip, if there is enough people to make it possible, will be advised in next month's Journal which we hope to have out to members before the Open Day.

OCTOBER'S JOURNAL:

Because of all the work involved around the Open Day the deadline for articles for the October Journal should be sent to R.M. Cheesman, [redacted], WEST HANNINGFIELD, Chelmsford to arrive no later than Monday 6th September.

DRAW TICKETS:

Just a reminder to return all money, counterfoils and unsold tickets to David Barnard by 1st September please.

OPEN DAY

As you all should know by now our OPEN DAY this year is on SATURDAY 20th SEPTEMBER, official opening time at 2p.m.

As many members and their friends are required to help not only on the opening times but also during the evenings of the week before and on the Saturday morning to get everything ready. Even if you can only help for an hour or so this will be much appreciated. Also if you have anything of astronomical interest which we can put on display please bring it along, it will be well looked after. If you decide to come for all the Day on Saturday we will be at the Observatory from 9a.m. then going up to 'The Ship' at Levington for a quick bite to eat and getting back by 1.30p.m. the latest. We hope that we will close up at about 11.30p.m. and then we will return at 10a.m. on the Sunday morning to clear up.

PLEASE.....PLEASE COME ALONG AND HELP!!

It will not be all hard work all day, you will be able to walk around and see the films and exhibits.

NEWS REVIEW by Simon Harvey (continued from page 4)

June: Award given to U.S.A.I. for S.R.B. retrieval.

United Space Boosters Incorporated (USBI) a division of United Technologies has been awarded a \$7.2 million contract to retrieve spent S.R.B.s from the beach. The contract is in addition to payments already made by NASA of \$78.8 million, and which provides for similar operations at the U.S.A.I.'s Vandenberg Air Force Base. The division is now responsible for assembly, integration, checkout, launch and refurbishment. To pick up the S.R.B.'s from the Atlantic Ocean two specially built ships have been constructed. Called 'UTC Liberty' and 'UTC Freedom' each vessel has a displacement of 1081 tonnes and is able to maintain a speed of 14 knots (14 nautical miles per hour) with a range of 6,000 n.m.

In addition to two engines generating 2,900 HP each, both have 425 ER water jet thrusters for navigation up the Banana river to Canaveral Air Force Base. It is hoped that the endangered manatees living in those waters will then be free from the threat of propellers. The ships use all 'mod-cons' even satellite navigation. 'UTC Liberty' will be operational during the third quarter of 1980 and the 'UTC Freedom' during the first quarter of 1981.

- Chemical Systems Division of United Technologies Inc.

June 4th: COMSAT General forms new subsidiary.

COMSAT GENERAL has formed a new subsidiary company - 'Satellite Television Corporation'. The move follows an earlier attempt at an alliance between COMSAT and Sears to provide direct to home pay T.V. service. COMSAT GENERAL cites its purpose to provide multiple channels of entertainment and information to U.S. customers for a monthly subscription fee. John A. Johnson, heading the new subsidiary company said that "COMSAT GENERAL is committed to the concept of a direct broadcast service".

- COMSAT.

MEETINGS FOR SEPTEMBER.

AT THE OBSERVATORY, ORWELL PARK SCHOOL, NETON

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

Directors: Mr. J. Hood, [redacted], Ipswich
Mr. J. Ranson, [redacted], Ipswich
[redacted] phone Ipswich [redacted]

September: 2nd 9th 16th 23rd & 30th.

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

Directors: Mr. D. Payne, [redacted]
Wickham Market, *Phone Wickham Market [redacted]

September: 3rd 10th 17th & 24th.

SATURDAY 20th SEPTEMBER from 2p.m. to approx mid-night.

OBSERVATORY OPEN DAY

Week Commencing 15th September, observatory open every evening from approx 8p.m. to get things ready for the Open Day, as many members (and friends) as possible please to help. Also help is required on the Saturday morning to finalize exhibits, etc.

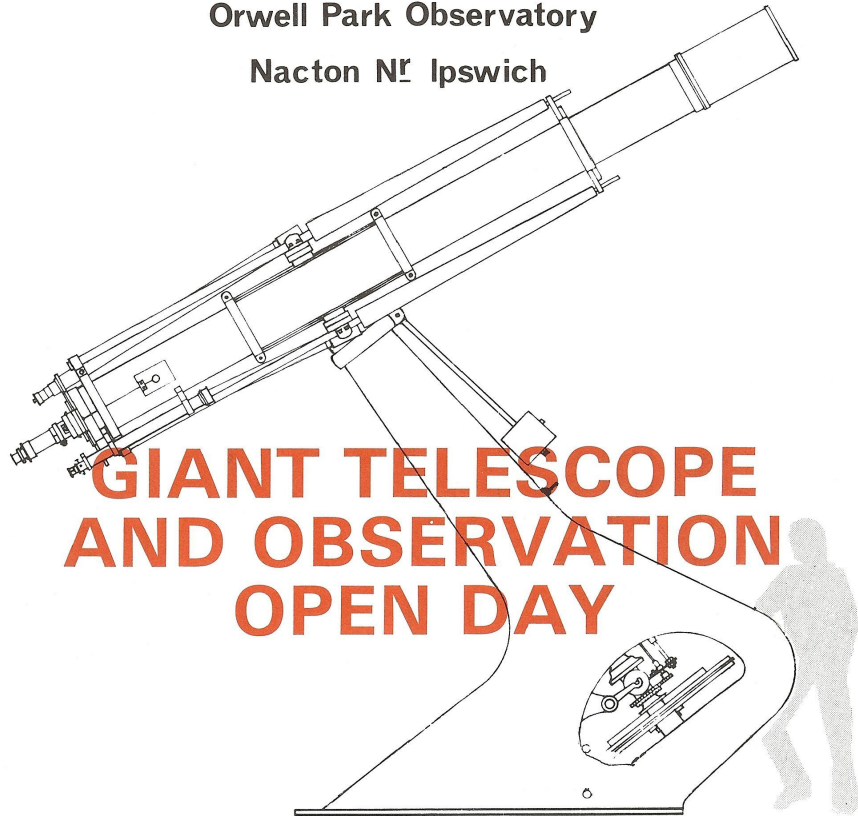
SATURDAY 6th September at 8p.m.

OPEN COMMITTEE MEETING to which all members are invited. The main topic of this meeting will be to discuss arrangements for the Open Day.

Orwell Astronomical Society (Ipswich)

Orwell Park Observatory

Nacton Nr Ipswich



GIANT TELESCOPE AND OBSERVATION OPEN DAY

THE ORWELL ASTRONOMICAL SOCIETY PRESENTS
THEIR 108 YEAR OLD TELESCOPE AND OBSERVATORY
FOR PUBLIC VIEWING ON:-

Saturday the 20th September 1980 — from 2 p.m. — 11 p.m.

ATTRACTIONS INCLUDE

U.F.O. CORNER; PLANETARIUM; SLIDE & FILM SHOWS
EXHIBITIONS; ETC. DURING AFTERNOON & EVENING
GRAND DRAW

REFRESHMENTS AVAILABLE

Open during the afternoon & evening for
viewing the heavens
(Weather Permitting)

Admission Adults 30p
Children 15p

Secretary: Mr. M. Barriskill
15 London Road
Ipswich