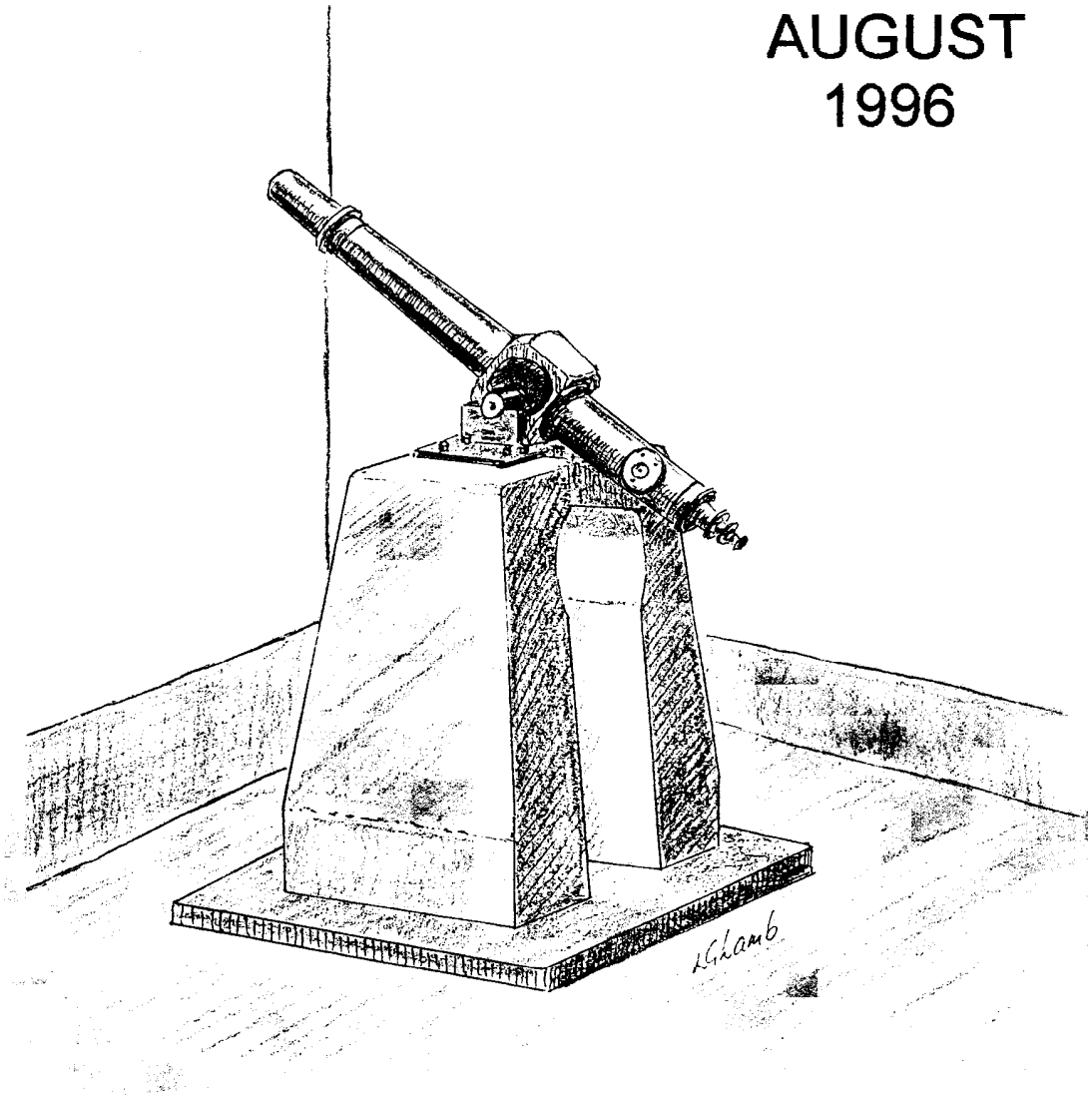
ORWELL ASTRONOMICAL SOCIETY IPSWICH

Charity No 271313.

AUGUST 1996



TRANSIT TELESCOPE
(ORWELL OBSERVATORY)

SOCIETY NEWS

1 Committee Meeting

The next committee meeting will be held on saturday 7th September at the observatory, from 1930. This will be an open meeting an any member is welcome to attend.

2 Events for 1996

This list of events was first presented at the AGM.

Astro Camp	11th Aug.
Horncastle Weekend	6th Sept.
National Astronomy Week	21 to 28 Sept
FAS Cambridge Convention	5th Oct.

Christmas Meal

By popular request the Christmas meal this year will again be at the Shepherd & Dog, 11th December.

A £5 deposit will be required to be sure of a place. I have booked 20 places again this year.

3 Open Weekend September 20th, 21st, 22nd, 23rd

We will be holding another Open Weekend to coincide with National Astronomy Week, on September 20th, 21st, 22nd, 23rd

The observatory will be open between 20:00 to 22:00.

As usual many members as possible will be needed to look after our visitors.

NIGHT SKY

All times GMT

SUN

Rises approximately at 04:30 to 05:00
Sets approximately at 19:40 to 19:00

MOON

6 th **14 th** **22 nd** **28 th**

MERCURY Mercury will be low down in the evening sky this month, and will be very difficult to see.

VENUS Venus will be rising at about 01:00 in mid month. Mag. -4.3. Venus will be greatest western elongation on the 20th

MARS Mars will be rising at about 01:00 in mid month. Mag. 1.5.

JUPITER Jupiter will be visible up till midnight most of the month. By the end of the month it will be setting at about 00:00. Mag. -2.6.

SATURN Saturn will rising by 20:50 in mid month. Mag. 0.6.

URANUS Uranus will be setting at about 03:00 in mid month. Mag.5.7.

Neptune Neptune will be setting at about 00:00 in mid month. Mag. 7.9

Roy Gooding

OCCULTATIONS DURING AUGUST 1996

The table lists stellar occultation disappearance events which occur during the month under favourable circumstances. The data relates to Orwell Park Observatory, but will be similar at nearby locations. (Note: four events are predicted between 20:00 and 21:00 UT on the night of 24th August.)

Date	Time (UT)	Lunar Phase	Sun Alt (°)	Star Alt (°)	Min Dist (radii)	PA (°)	Star (D = double)	Mag
Sat 24 Aug	20:14:46	.79+	-11	19	.28N	69	ZC2685	7.1
Sat 24 Aug	20:34:53	.79+	-14	19	.56S	118	ZC2687	6.9
Sat 24 Aug	20:45:50	.79+	-15	19	.58S	120	SAO161576	7.5
Sat 24 Aug	20:49:31	.79+	-15	19	.06S	87	SAO161582	7.2
Mon 26 Aug	22:41:47	.95+	-26	23	.97S	149	Tau Cap (D)	5.2
Tue 27 Aug	01:12:41	.95+	-26	14	.23N	58	ZC3027	6.7

James Appleton

Noctilucent Clouds

Pete Richards

When blue moons seem to be more common than clear nights, and then the light evenings of midsummer arrive, it is tempting to give up looking for celestial objects and try studying cloud formations instead. In fact there is an area of astronomy that does involve looking at clouds: Noctilucent Clouds (NLCs) to be exact. The term noctilucent comes from the Latin for night and luminous and refer to these cloud formations which, because of their altitude remain in sunlight and glow long after sunset. They are worthy of being classed as celestial objects - hence of interest to astronomers - because they occur at a height of over 80km (50 miles) whereas most 'terrestrial' clouds occur below 10km (about 6 miles). They form in the cold of the summer polar mesopause and can be seen when the Sun is between 6 and 16 degrees below the horizon. The NLC season is from mid-May to mid-August, peaking for a few weeks either side of the solstice.

They are thought to be composed of small ice-coated particles, but their precise nature remains a mystery. It has been suggested that they form from dust left by meteors: so does this mean that the Persied Meteor Shower this month will produce NLCs? The first reports of NLCs were made in the 1880s and they've been increasing in frequency in recent decades. It seems unlikely that earlier observers simply didn't recognise them and one alternative theory suggests they are related to methane generation by intensive cattle farming.

They usually appear as complex interwoven streaks or knots. They are usually pearly white, sometimes with a blue tinge, and may have a golden lower edge. They look similar to cirrostratus and there is a risk of mistaking normal cloud illuminated by moonlight or street light for an NLC. NLCs can be seen from latitudes of 50 to 70 degrees. Below 50 degrees they do not occur, above 70 degrees it doesn't get dark enough to see them. The UK is a particularly good place to observe from.

OASI members have been observing and photographing NLCs in recent years. A film speed of 200 ASA is suitable with exposure times between a few seconds and a few tens of seconds at stops from f2 to f5.6.

The study of NLCs is mainly done by amateurs. However, there are some academic groups, for example at the University of Colorado.

For rigorous observing of NLCs their height and position in azimuth should be recorded and their structure and visibility noted. The time of the observation should be noted and the observations repeated every 15 minutes.

There are some variations in the classification systems.
Structure types usually include: 1. 'Veil' (a structureless sheet); 2. 'Bands' (straight or slightly curved lines, parallel or crossing a shallow angles); 3. 'Billows' or 'Waves' (herringbone or ripple patterns) ; 4. 'Whirls' (complete or partial loops); and 6. 'Patches' (small discrete units). One system has a 'complex' structure type instead of the 'patches' type.

The visibility may be classed in a three point system being 'Very faint', 'Moderate' or 'Brilliant and intense'. Some schemes use a five point scale:

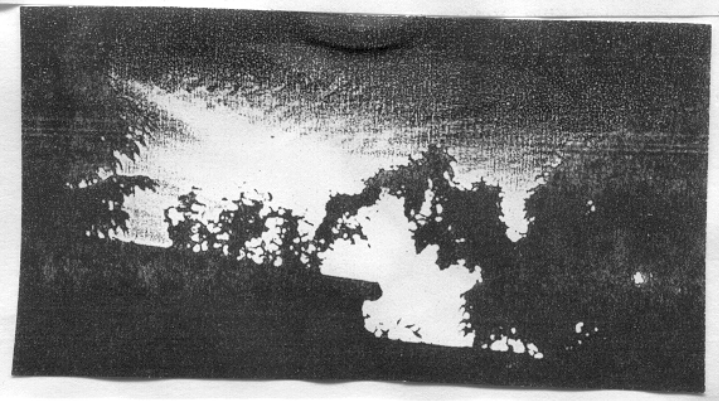
1.Very weak NLC, which are barely visible against the twilight sky.
2.NLC clearly detected, but having low brightness.
3.NLC clearly visible, standing out sharply against the twilight sky.
4.NLC very bright and attracting the attention of casual observers.
5.NLC extremely bright and noticeably illuminating objects facing it.

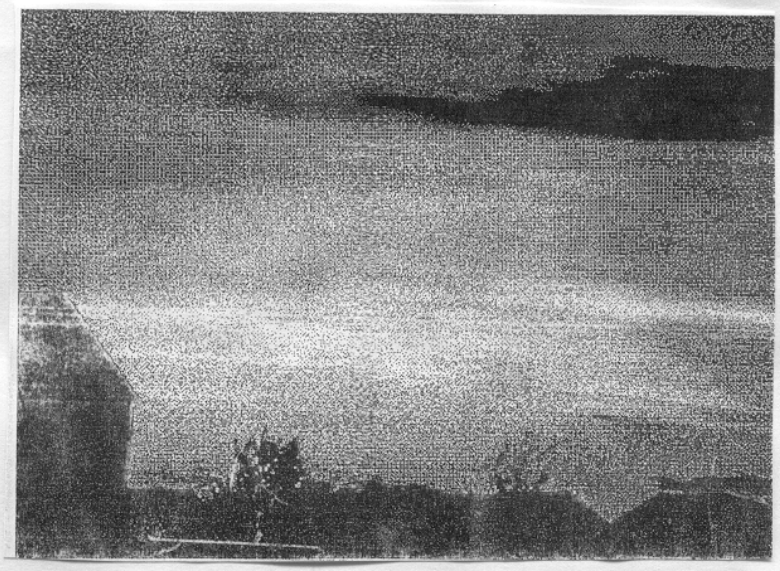
OASI Members who want to be on the society's early warning system for NLC, Aurora and other events should contact me or Roy Gooding.

Observations of NLCs in the UK are co-ordinated by the BAA Aurora Section at:

BAA Aurora Section
Dr David Gavine
[redacted]
EDINBURGH EH15 2JJ
SCOTLAND
UK

Noctilucent Cloud Photos by OASI members Mike Harlow and Martin Cook:





News from the Dome

The observatory, like the Forth Road Bridge, always has something that needs painting. This summer it s been the turn of the balcony doors to get a lick of paint. Attention has been givenparticularly to one door which has needed urgent attention in order to stop the rot setting in irrevocably.

When the novelty of the DIY wears off there has been the opportunity to do some observing. The 10 inch refractor has been turned on Comet Hale-Bopp. The prospects look good for this comet being at least as spectacular as Hyakatake next year and it should become visible to the naked eye during this August.

One Wednesday this month we tried a bit of radio astronomy. Tuning in to 18mhz on an amateur radio rig we were unsuccessful mainly because our aerial was non directional: in fact it was a piece of wire strung from the ceiling of the club room. In the near future we are hoping to team up with the Felixstowe and District Radio Club (also based at Orwell Park) and try again with a better aerial.

During July we ve been enjoying evening sunshine on many of the Wednesday sessions and now we re looking forward to some dark but warm observing nights in August.

Pete Richards, July 96

OPEN EVENINGS

In September we are holding four open evenings to start off National Astronomy Week . The evenings will be Friday 20th Saturday 21st Sunday 22nd and Monday 23rd. Each evening we will be open to the public from 8.00pm till 10.00pm but if the sky is clear and a lot of people are interested then we usually stay open a bit longer.

What we need to make these evenings go smoothly is lots of help. All members are welcome, and if you can offer to help it will make the evenings much more enjoyable for every one.

No experience is necessary, there are a whole list of jobs to do including car park attendant, guiding people in the right direction for the telescope, collecting donations at the door, showing people round the observatory, pointing out the constellations, instructing people on how to use a telescope and many many more.

Now all we need is for you to volunteer your services for one or more evenings. All you have to do is let any member of the committee know then we will be ready to welcome you on the night or nights.

I look forward to hearing from lots of you in the very near future then if enough members get hooked on astronomy using the 10 inch telescope at the observatory then perhaps we might be able to open up a few more evenings a week.

E. Sims

Loughton Astronomical Society
Presents:-

THE 2nd EQUINOX STAR PARTY.

Commencing Friday 6th September
Until Sunday 15th September

At the DOWER HOUSE TOURING PARK,
EAST HARLING, THETFORD, NORFOLK.
Booking form & full details available June.
Send a S.A.E to:
MIKE COOK.
[redacted].
ROMFORD.
ESSEX.
RM7 8RD

PROGRAMME FOR AUGUST

Mondays from 7.30pm *No Directors available for this night*	*GENERAL OBSERVATION SECTION*
Tuesdays from 7.30pm *Mr D Barnard* [redacted]	GENERAL OBSERVATION SECTION *daytime only*
Wednesdays from 7.45pm *Mr M Cook* [redacted]	NEBULA & FAINT OBJECTS SECTION *Mr D Payne* [redacted]
Thursdays from 7.30pm *Mr P Richards* [redacted]	OBSERVATORY VISITS FROM OUTSIDE GROUPS
Fridays from 7.30pm 2nd - 16th - 30th *Mr J Hood* [redacted]	DOUBLE STARS *Mr M Barritt* [redacted]

All members are welcome on any night, but on nights other than Wednesday please check with the director of the night that the observatory will be open.

Lectures and other events:

COMMITTEE MEETING -------- On Saturday 7th September at 7.30pm in the club room at the observatory. All members are welcome to attend.

OPEN EVENINGS ---- SEPTEMBER 8 pm to 10 pm Each Day.
Friday 20th, Saturday 21st, Sunday 22nd, Monday 23rd.

e-mail enquires to oasienq@btbcs.bt.co.uk
WWW url http://www.ast.cam.ac.uk:80/~ipswich/

1996 COMMITTEE

		Home Phone Work Phone
CHAIRMAN	D Payne	[redacted]
SECRETARY	R Gooding	
TREASURER	M Nicholls	
MAINTENANCE CO-ORD	M Cook	
JOURNAL CO-ORDINATOR	E Sims	
PUBLICITY & VISIT CO-ORD	P Richards	
EQUIPMENT CURATOR	M Harlow	
SPECIAL EVENTS CO-ORD	A Smith	
LIBRARIAN & COMP SOFTWARE	J Appleton	

JOURNAL ARTICLES TO E Sims [redacted] Ipswich Suffolk IP1 4HA
CORRESPONDENCE ADDRESS R Gooding OASI Secretary
[redacted] Ipswich Suffolk IP1 6AE