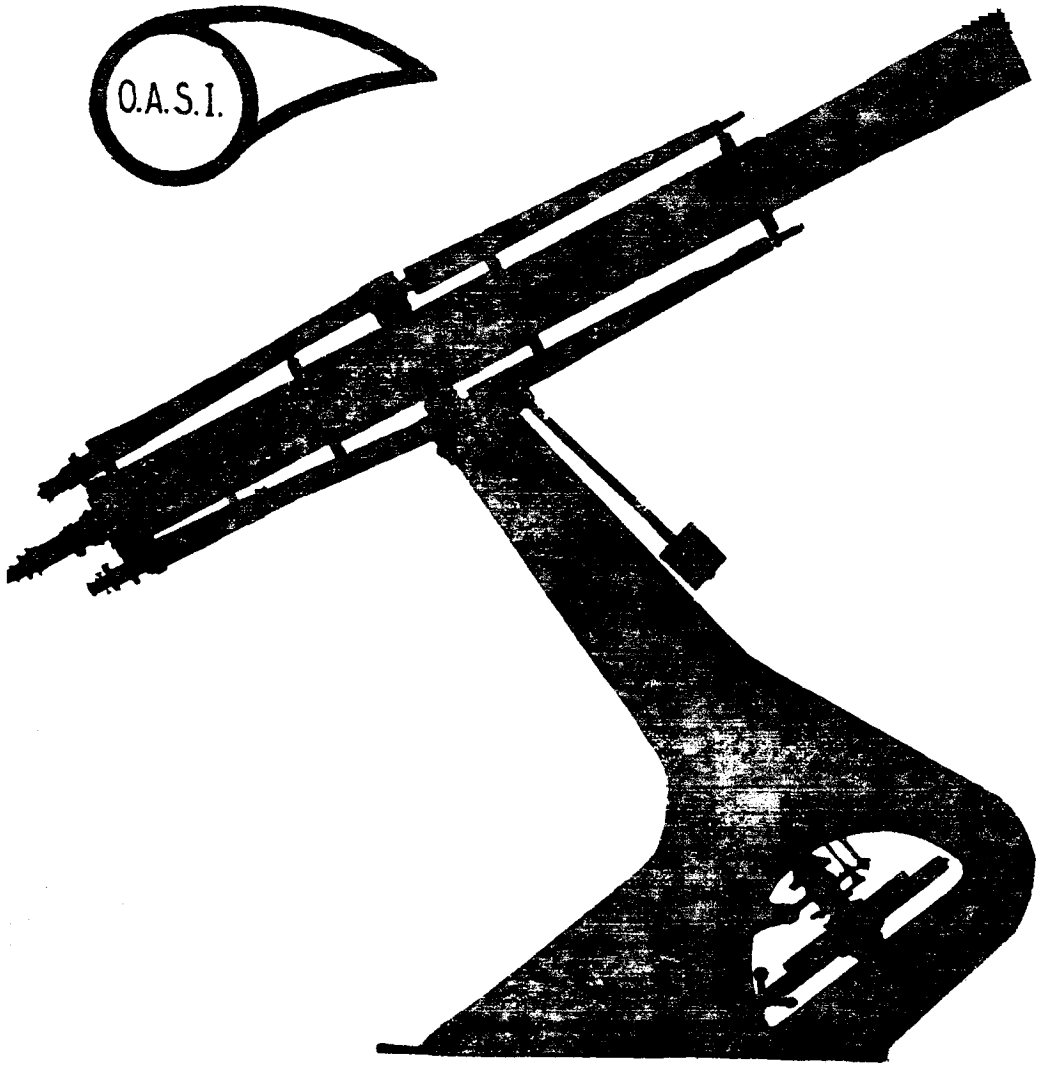
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

MAY 1984



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

SOCIETY NEWS

Cambridge Visit

Any member who wishes to come on the visit to the Cambridge University's Optical and Mallard Radio Telescope Observatories on Saturday, 5th May, please contact either R. Gooding or D. Payne before Wednesday, 2nd May. Telephone numbers on back page.

VISITS

Tues 8th Visit by 14th Ipswich Scouts 8:00pm.

Wed 23rd Visit by Braintree and Halstead Asronomical Society 8:00pm.

COMMITTEE MEETING 9TH JUNE 7:30pm AT THE OBSERVATORY.

JOURNAL ARTICLES TO DAVE PAYNE BY 10th MAY FOR JUNE JOURNAL.

NIGHT SKY

Constellations (all times G.M.T.) See map on opposite page

Sun Rises approx. between 04.30 - 03.50 (hopefully)
Sets approx. between 19.30 - 20.10

Moon ● 1st. ◐ 8th ○ 15th ◑ 22nd

Occultations

5th	ZC 1055	mag. 5.8	D	22hr. 4.0m
9th	ZC 1569	" 6.8	D	20hr. 49.7m
12th	ZC 1937	" 6.1	D	23hr. 16.3m

Mercury Visible before sunrise. Greatest Western elongation on 19th (26°)

Venus Rising between 04.10 - 03.30

Mars Opposition on 11th mag.-1.6
Rising before sunet.

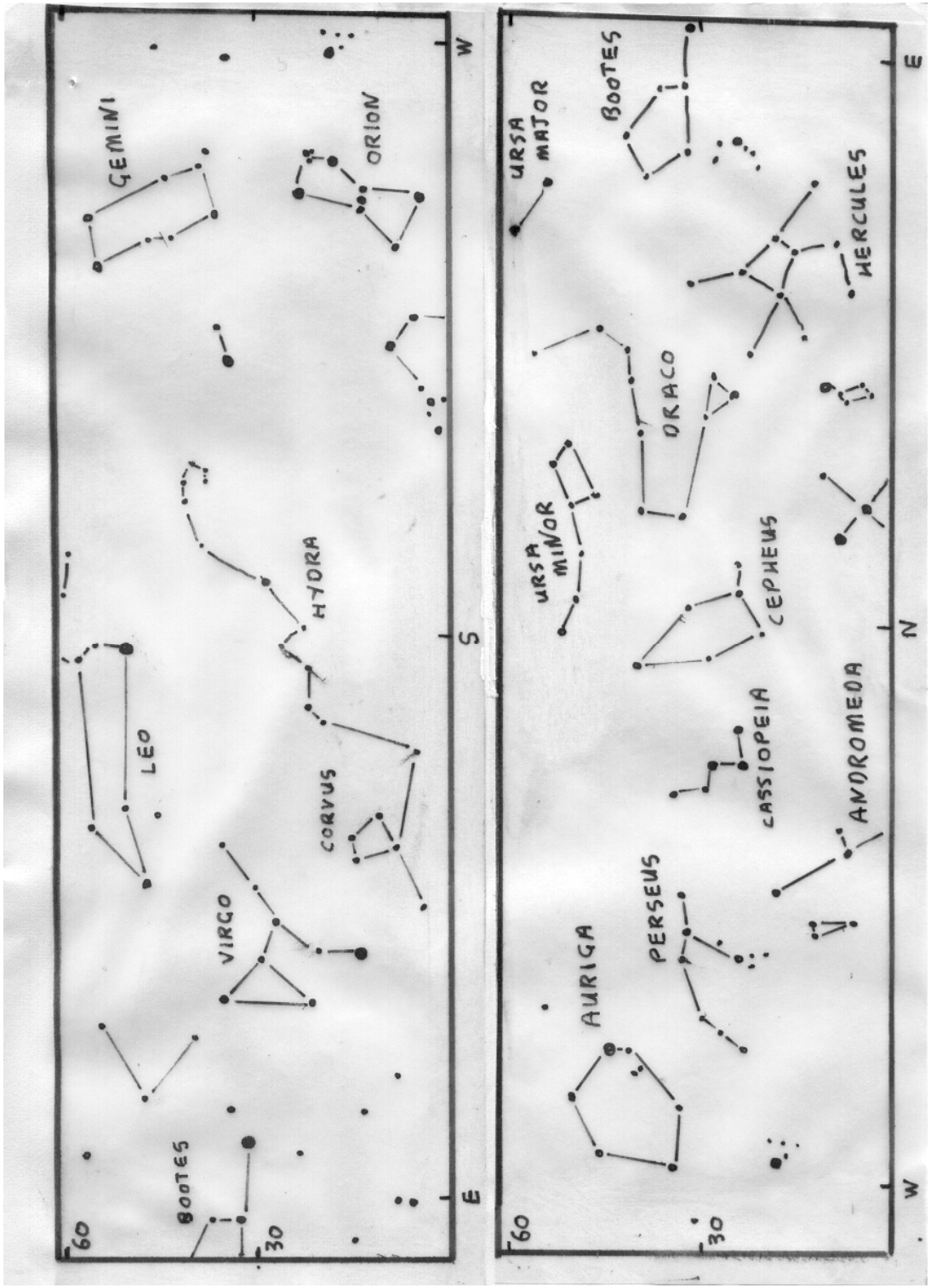
Jupiter Rising between 00.20 - 22.10 mag.-2.0

Saturn Opposition on 3rd. mag. 0.4
Rising before sunset.

Uranus Rising between 22.10 - 20.10 mag. 5.8

Neptune Rising between 23.30 - 21.30 mag. 7.7

R. Gooding



The 4 inch Guide Telescope D Payne

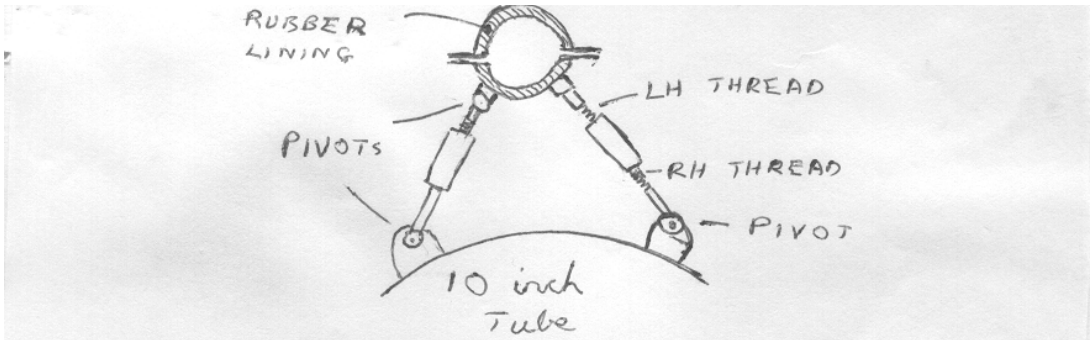
Following on from the report in the December Journal on the guide telescope for the 10 inch refractor, I can now report on the completion of the installation stage of the project.

When photographing faint objects such as nebulae and distant star clusters, time exposures as long as 30 minutes (or even longer if one has the patience) may be required. It is very difficult to engineer a telescope drive system that can track stellar objects to the required accuracy for this length of time, with out some fine adjustment of the telescope position. With the drive for the 10 inch Orwell Park telescope there is a small wobble on the Right Assension drive of about 8 arc seconds over a period of one minute. This periodic wobble can be compensated for, by using the hand control unit to stop and speed up the drive, while observing a star and keeping it centered on cross wires in the field of view of the guide telescope.

When photographing faint nebulous objects it can almost be guaranteed that there will be no convenient star close to the centre of the field of view of the guide telescope. For this reason it was necessary to mount the four inch refractor on to the 10 inch, in a manner that allows some independent adjustment of position. After much deliberation and numerous sketches (much of this design work necessarily carried out with the aid of a pint at the Ship Inn) we came up with the design shown in the sketch below. The front mount is a circular clamp approximately 1cm greater in diameter than the four inch telescope tube. This mount is lined with rubber. This rubber lining acts as the front pivot without the need for moving parts. The rear mount is similar except that instead of the clamp being rigidly mounted to the tube of the 10 inch telescope it is mounted via two extendable linkages. These are simply bored cylinders with a left hand thread one end and a right hand thread the other. Rotation of the cylinders one way expands the linkages and the other way contracts them. This enables movement of the guide telescope in two directions, nominally at right angles, giving coverage of a square approximately 2 x 2 , about the centre of the field of the 10 inch telescope. Hopefully a suitable guide star will be found some where in this area around the object being photographed!

Now that the guide telescope is fitted and the drive working with the hand control unit, why not bring your camera up to the observatory and have a go at some astro-photography. We have various adaptors and fittings for the standard 42mm pentax thread that will allow both prime focus and eyepiece projection to be used. If your camera does not have the 42mm fitting you will need to buy an adaptor that will convert your camera fitting to the 42mm fitting. These are available for most SLR cameras from any good photographic dealer.

Suggested films are Ilford HP5 for black and white photographs (this is a 400 ASA speed film that can be safely uprated to 3200 ASA, helping to cut down exposure times or recording fainter objects) or Kodak Tri X. For colour photographs it is worth trying the new 1000 ASA print films although I have yet to try these, they are reported to give good results.



REAR MOUNTING FOR FOUR INCH GUIDE TELESCOPE

Pictures by Roy Adams.
16 Fitzwilliam Close, Ips.

Jan.30 1984 N ← Jan.25 1984. → N
1046hrs. Exp.0.008s 1213hrs. Exp.0.002s
Zenith E 710mm. 48mm O.G.140X Filter. 32A.S.A.

The Opposition of Mars - May 1984

Oppositions of Mars occur at intervals of just over two years but not all are equally favourable as regards the apparent diameter of the disk and altitude of the planet above the horizon.

The last opposition occurred in March 1982 when the apparent diameter of Mars was only 14".7. The opposition occurring on May 11th. This year will, however, be more favourable as regards the diameter of the disk which will reach 17".4 but less favourable as regards the meridian altitude of the planet which will be only about 20°, in the constellation of Libra; in fact it may hardly rise above the trees in the gardens of some observers! Here lies the advantage of observing with the Orwell Park telescope perched in its high tower above the tree tops.

The north pole of Mars will be turned towards the Earth enabling observers to study the surface features of the northern hemisphere such as Mare Acidalium, Nepenthes-Thoth (which is liable to striking changes) and the north polar cap.

Useful observations will be possible until the end of August when the apparent diameter of the planet will be reduced to 9".0, so make the most of this opportunity!

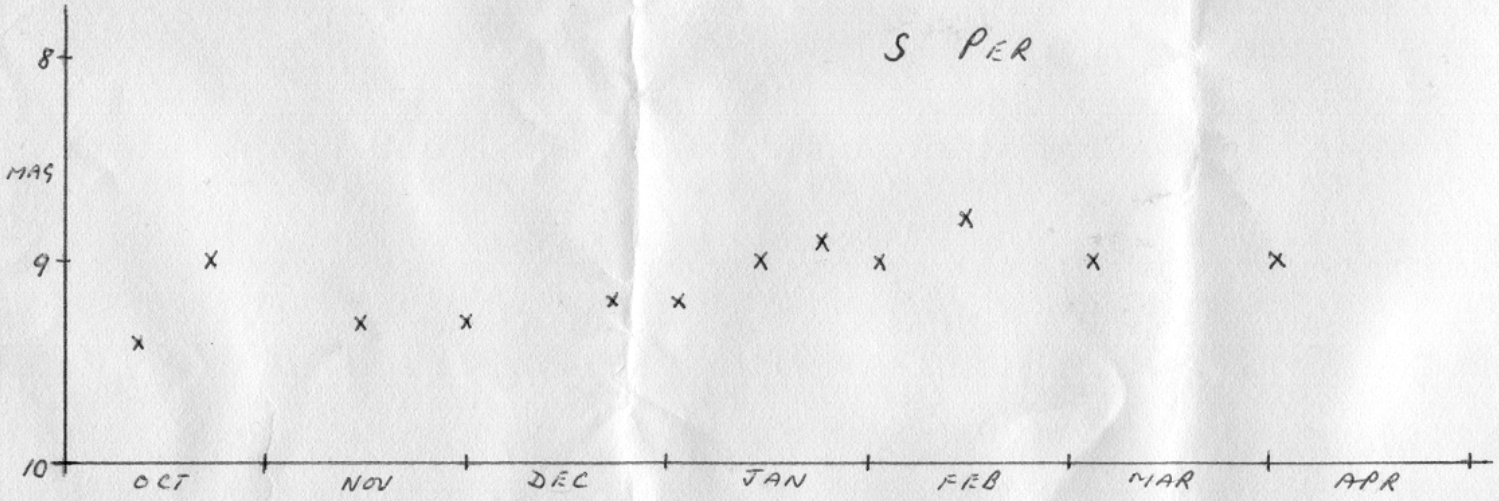
E.H.Collinson.

VARIABLE STAR OBSERVATIONS

by Mike Nicholls

This light curve shows S Persei from October last year to April this year. This star is a member of the semi-regular class of variables, and is an old red giant. The light range quoted is from magnitude 8.6 to 12, with a period of approximately 826 days. The light curve here shows what must be a maximum, and with a period of around $2\frac{1}{2}$ years, not much variation would be expected. With a semi-regular, however, the period could shift considerably from cycle to cycle.

Observations were made using an 8" reflector.



PROGRAMME FOR MAY

MONDAYS from 8pm	DOUBLE STAR & PLANETS SECTION	
7, 14, 21, 28	Mr N Taylor, Farmlands, Trimley	Tel:Fel.
	Mr T Gillan, Felixstowe	Tel:Fel.
TUESDAYS from 7pm	GENERAL OBSERVATION SECTION	
1, 8, 15, 22, 29	Mr N Gage, Trimley	Tel: Fel.
	Mr R Newman, Felixstowe	Tel: Fel.
WEDNESDAYS from 8pm	NEBULEA & FAINT OBJECTS SECTION	
2, 9, 16, 23, 30	Mr M Cook, Ipswich	Tel: Ips.
	Mr D Payne, Wickham Market.	Tel:W.Mkt
FRIDAYS from 8pm	VARIABLE STAR SECTION	
11, 25	Mr R Gooding, Ipswich	Tel: Ips.
	Mr M Nicholls, Capel St. Mary.	Tel: Ips.

1984 COMMITTEE

CHAIRMAN	D Payne,	Work:
	Wickham Market, IP13 0SD	Home:
VICE CHAIRMAN	R Cheesman, Corringham,	Work:
	Essex SS17 9BU	Extn
SECRETARY	R Gooding, Ipswich	Work:
	IP1 6AE	Home:
TREASURER	M Nicholls, Capel St. Mary,	Work:
	Ipswich, IP9 2EX	Home:
MEMBERSHIP SEC.	M Barriskill, Ipswich	
	IP1 2EZ	Home:
P.R.O.	D Barnard,	Work:
	Ipswich, IP4 5PP	Home:
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