

JUNE 1985



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

SOCIETY NEWS

1. A trip to the Old Greenwich Observatory has been arranged for Saturday, 15th June. Members interested in coming should contact Roy Gooding.
2. John Hood would like to start an observing night on Thursday evenings and requires a co-director. Anyone interested should contact any committee member.

NIGHT SKY

Constellations (all times G.M.T.)

The spring constellations of Bootes, Corona Borealis and Hercules are almost due south after sunset. The summer triangle of Vega, Deneb and Altair are now above the eastern horizon.

Sun Rises approx. between 03.40 - 03.35

Sets approx. between 20.10 - 20.25

Moon      ● 10th      ● 18th      ● 25th      ○ 30th

Occultations

24th	ZC 1684	mag. 7.0	D	21hr. 57.2m
29th	2290 <sup>+</sup>	" 2.5	D	19hr. 8.7m
29th	2290'	" 2.5	R	20hr. 0.3m
29th	2305	" 5.9	D	22hr. 44.6m
29th	2314	" 5.8	D	23hr. 48.7m

+ Delta Scorpii

Mercury Superior conjunction on the 7th.

Venus Rises about 2 hours before sunrise. Greatest elongation on the 12th (46°) Mag. -4.0.

Mars Sets at about 21.00 in mid month.

Jupiter Rises at about 23.00 in mid month. Mag. -2.2.

Saturn Observable all evening. Mag. 0.4.

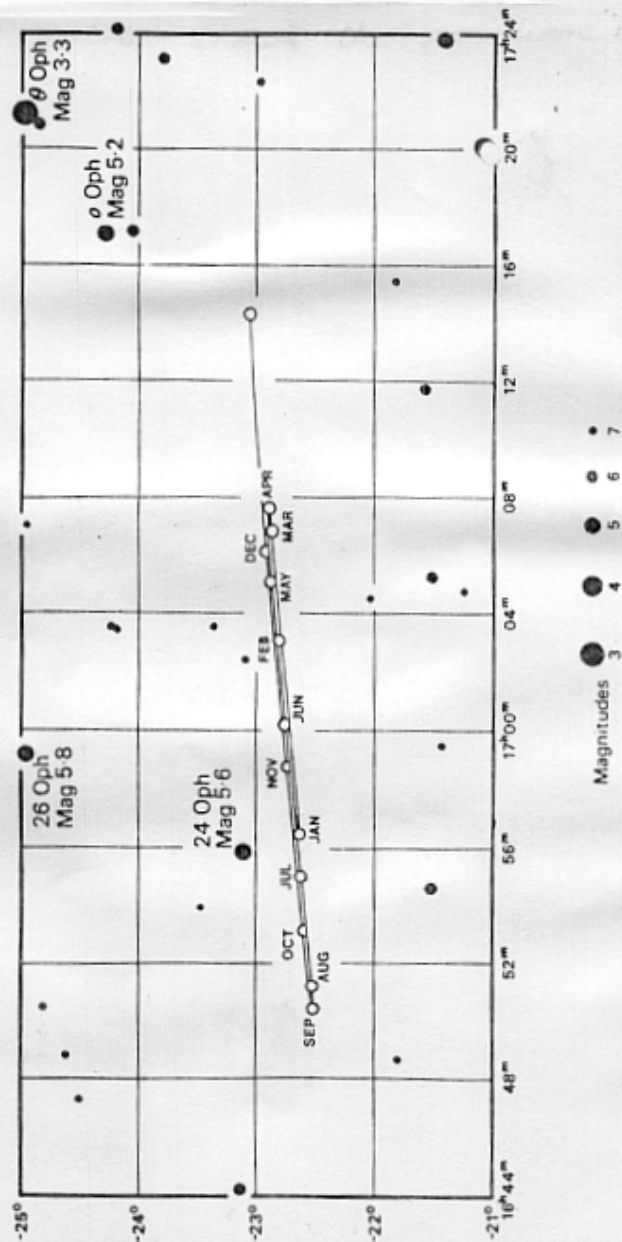
Uranus Rises before sunset. Opposition on the 6th. Mag. 5.8.

Neptune Rises before sunset. Opposition on the 23rd. Mag. 7.7.

R. Gooding.

On June 25th between about 22:10 and 22:20 a 9.2mag star (SAO 184819) will be occulted by the rings of Uranus. The planet will be very low down in the south east (about the same altitude as Antares) and will be difficult to observe. However if you have unrestricted views to the south and have access to a telescope of six inches or larger it could be worth spending a little time locating this planet and trying to observing this occultation.

## PATH OF URANUS 1985



The following are some Lunar occultations occurring during June:

Date	star	Mag	Ph	approx
June	IC No.			time
24	1684	7.0	D	22:58
29	2290	2.5	D	20:08
29	2290	2.5	R	21:00
29	2305	5.9	D	23:42
29	2314	5.8	D	01:47

NOTE: ALL TIMES ARE BST (UT+1)

The occultation of the star 2290 is particularly interesting as it will occur in day light. The star is quite bright and if moderately high powers are used, it should be visible in fairly small telescopes.

## PLUTO

The rather abysmal weather during April and May has considerably hindered observations of the planet Pluto. However after a couple of failures during early April due to hazy skies a first successful observation (for this year) was made at the Orwell observatory on Wednesday April 24th. This elusive planet was seen, with some difficulty, by three members: Roy Lobbett, Stuart Dedman and myself. Unfortunately the following night was cloudy and a second observation, to confirm that it was the planet and not a star, could not be made. The continuing bad weather or lack of opportunity delayed further observations until late May. On May 24th and 25th using my 10inch reflector I managed to make two! successive observations of the planet (I did try for a third on the 26th but moon light combined with poorer seeing conditions prevented observation. The observations are summarised on the chart below. The star at the bottom of the chart can be found on the BAA chart (see April Journal) at the RA and Dec shown.

25-5-85 24-5-85  
22:40 UT 23:00 UT



RA = 14h 22.8m  
DEC = 4° 10'

With the observations performed so far it has become apparent that you can spend quite some time associating the stars on the BAA finder chart with those observable with binoculars and the telescope. In order to help with this identification the following charts show the region of sky as mapped in the Nortons star map and also the Tirion Sky Atlas 2000. The approximate path of Pluto is shown on the two charts.

FROM  
'NORTONS'



FROM  
'Sky Atlas'  
2000

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R. M. CHEESMAN

## EDMOND HALLEY (1656-1742)

Edmond Halley was born in 1656 into a financially secure home. He was educated at Cambridge University but left before finishing his degree.

Influenced by John Flamsteed's Star Catalog of the Northern Skies, Halley sailed to St. Helena, an island in the South Atlantic, to map the Southern Skies. On his return in 1676 he published his Star Catalog of the Southern Skies containing detailed positions of 341 stars. This was not only the first catalog of the Southern Hemisphere stars but also the first mapping of the stars achieved using a telescope. These maps also established Halley's scientific reputation and he was given an honorary degree by Cambridge University on his return to England.

In 1679 Halley suggested that observations of the transit of Mercury or Venus across the sun's disc could be used to measure the size of the sun and the scale of the Universe. Because of the small size of Mercury and the difficulty of observing its transit across the Sun, Halley calculated the dates of the transits of Venus and predicted two of these, one in 1761 and the other during 1769. Although he died before these dates the two transits of Venus were observed throughout the world by astronomers.

During 1698 and 1699 Halley worked on the Naval Vessel "Palamour" to study and survey the magnetic fields of the earth and the oceans. In 1686 he published the first meteorological observations of the winds of the

globe. During 1718 Halley observed Sirius, Aldebaran and Arcturus and compared their positions in the sky with Ptolemy's Star Atlas and noticed that their positions did not agree and thus revealed the stars Proper Motions.

During the early part of 1680 Halley spent many hours with Isaac Newton discussing gravitation and he encouraged Newton to write up again, as Newton had mislaid them years before, his notes on gravitation.

As Halley was now on the salaried staff of the Royal Astronomical Society he asked the R.A.S. if they would finance the publication of Newton's Theory of Gravitation but they refused, as they had just financed the publication of a book, which was not selling very well, by Francis Willughby entitled "The History of Fishes". In fact the R.A.S. owed Halley fifty pounds salary but could not afford to pay him so they gave him fifty copies of this book in lieu of salary. Halley was renowned for having a strong sense of humour but whether he saw the joke was uncertain. As Halley could not get anyone to finance the publication of Newton's works, he financed the most famous scientific book of all time himself - Newton's "Principia".

At the age of 64 Halley was appointed Astronomer Royal in succession to Flamsteed. He continued his own work on the Motions of the Moon as, from as early as 1684, he had observed regular deviations of the Moon from it's predicted motion. During the remaining years of his life Halley observed the Moon through one entire Seros cycle of eighteen years. The results of his observations were published in 1749 and included tables of the

Moon and planets which he had prepared as far back as 1719.

He died before he could analyse these observations but they proved to be of great value to later astronomers in calculating the complex nature of the Moon's motion.

Throughout his life Halley was influenced by his friend Isaac Newton and for a time gave up his own astronomical work to further Newton's Theory of Gravity. Although Halley contributed to many branches of science he was best known for his work in calculating the orbits of comets. In 1705 he published his "Synopsis of Cometary Astronomy" in which he worked out the orbits of twenty-four comets. Three of these, the 1531, 1607 and the 1682 he noticed from old observations and reports were very similar, and concluded that they were one and the same comet with a period of about 76 years.

He predicted that this comet would return during 1758. The comet was first seen again on Christmas Day 1758 and as Halley knew that he would not be alive to see it, he wrote in his diary, "If the Comet should return according to my prediction, about the year 1758, impartial posterity will not refuse to acknowledge that this was discovered by an Englishman".

On the comet's return in 1758 it was given the name "Halley's Comet" in recognition of his outstanding work in astronomy.

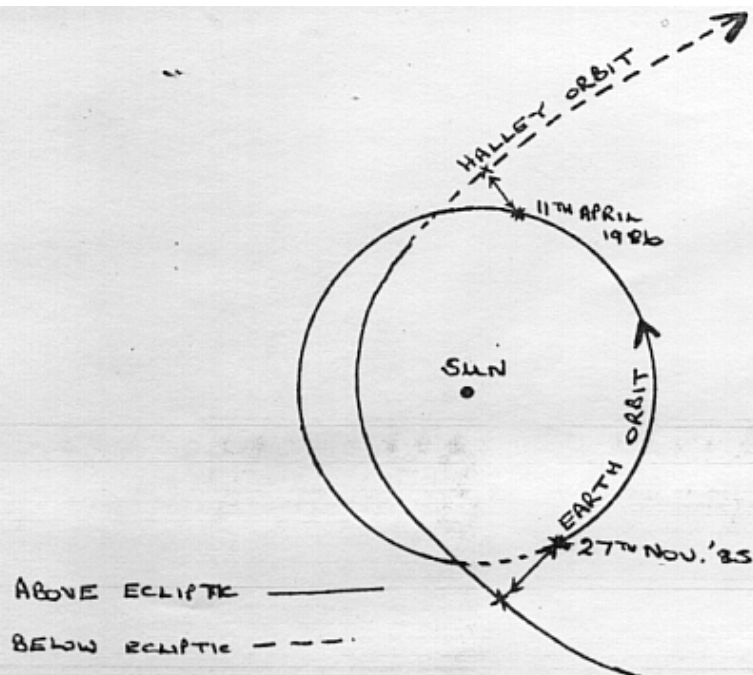
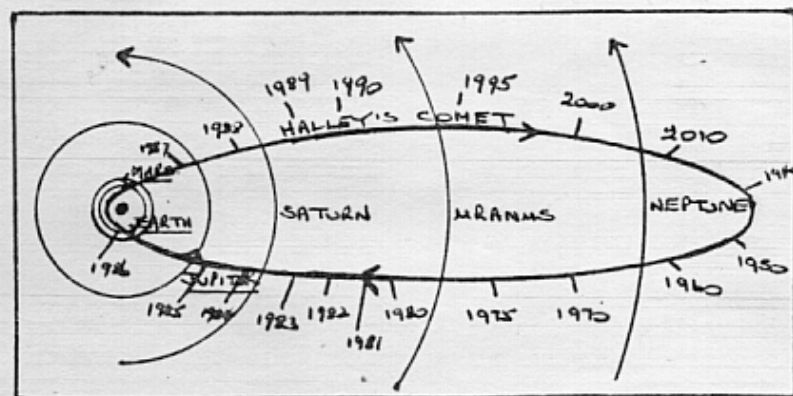


DIAGRAM SHOWING THE EARTH'S CLOSEST ENCOUNTERS WITH HALLEY'S COMET



THE ORBIT OF HALLEY'S COMET THROUGH OUR SOLAR SYSTEM



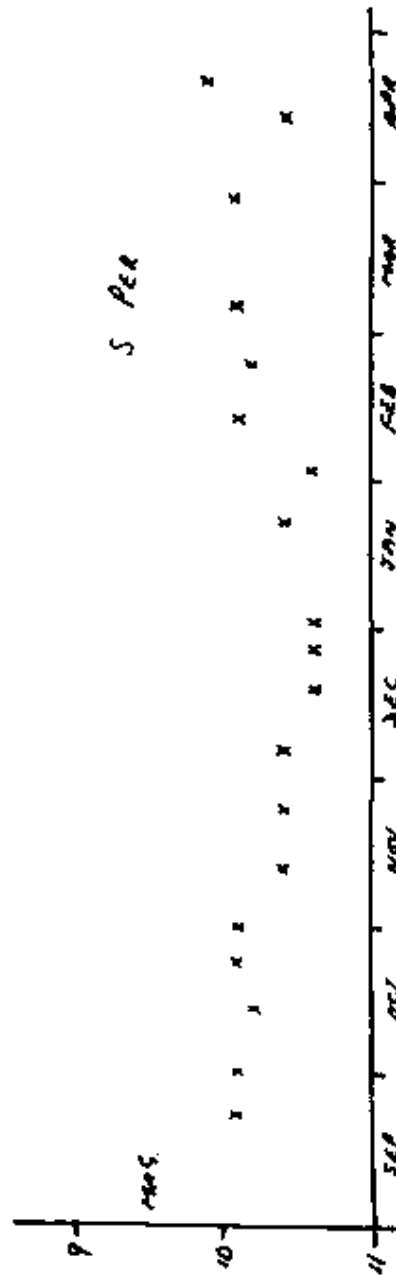
VARIABLE STAR OBSERVATIONS

by Mike Nicholle

This light curve shows S Persei from September 1984 to March 1985. This star is a member of the semi-regular class of variables; it is a red supergiant star and a probable member of the Perseus double star cluster.

The period is quoted as 326 days, ie well over 2 years, and a light range from 8.6 down to the 11th magnitude. On the light curve shown, it looks as though we have a minimum sometime around Christmas. Looking through past records, it is difficult to see a period as long as that quoted above, because a similar minimum occurred in May 1983, only 1 1/2 years previously.

Observations were made with an 8" reflector.



PROGRAMME FOR JUNE

MONDAYS from 8pm 3, 10, 17, 24 Until April	DOUBLE STAR & PLANETS SECTION Mr N Taylor [redacted], Farnlands Trimley Mr T Gillan [redacted], Felixstowe	Tel: Fel. [redacted] Tel: Fel. [redacted]
TUESDAYS from 7pm By Arrangement With Directors	GENERAL OBSERVATION SECTION Mr N Gage, [redacted], Trimley Mr R Newman [redacted], Felixstowe	Tel: Fel. [redacted]
WEDNESDAYS from 8pm 5, 12, 17, 26	NEBULEA & FAINT OBJECTS SECTION Mr M Cook, [redacted], Ipswich Mr D Payne, [redacted], Wickham Market.	Tel: Ips. [redacted] Tel: W.Mkt [redacted]
FRIDAYS from 8pm By Arrangement With Directors	VARIABLE STAR SECTION Mr R Gooding, [redacted], Ipswich Mr M Nicholls, [redacted], Capel St. Mary.	Tel: Ips. [redacted] Tel: Ips. [redacted]

1985 COMMITTEE

CHAIRMAN	D Payne	[redacted] Wickham Market, IP13 OSD	Work: [redacted] Home: [redacted]
VICE CHAIRMAN	R Cheesman	[redacted], Corringham, Essex SS17 9BU	Work: [redacted] Extn [redacted]
SECRETARY	R Gooding	[redacted] Ipswich IP1 6AE	Work: [redacted] Home: [redacted]
TREASURER	M Nicholls	[redacted], Capel St. Mary, Ipswich, IP9 2EX	Work: [redacted] Home: [redacted]
MEMBERSHIP SEC.	D Barnard	[redacted] Ipswich, IP4 5PP	Home: [redacted] Work: [redacted]
P.R.O.	D Barnard	[redacted] Ipswich, IP4 5PP	Home: [redacted] Work: [redacted]
MAINTENANCE	M Cook	[redacted] Ipswich, IP4 5QA	Home: [redacted] Work: [redacted]
FUNCTIONS	E Sims	[redacted] Ipswich, IP1 4HA	Home: [redacted]
LIBRARIAN	E Sims		