

# ORWELL ASTRONOMICAL SOCIETY IPSWICH

## THE NIGHT SKY

(all times G.M.T.)

**SUN** Rises approximately between 06.10 - 07.00  
Sets approximately between 17.30 - 16.00



2nd



10th



18th



25th

**MERCURY** Mercury will be at inferior conjunction on the 11th and will be greatest western elongation on the 26th (18°) It will be visible in the morning sky, rising about 2 hours before the sun by the end of the month.

**VENUS** Venus is also visible in the morning sky, during the month it will be rising between 02.00 and 04.00. It reaches greatest brightness on the 19th when it will be at -4.0

**MARS** Mars will have risen before sun set and will be observable through out the night all month. Mag. -2.3

**JUPITER** Jupiter will be rising a short time after sunset and will be visible all night. Mag. -2.7

**SATURN** Saturn will be observatory in the early evening sky, low down in the west. It will be setting between 21.00 and 19.00 during the month. Mag. 0.6

**URANUS** Uranus follows Saturn closely in the sky. Mag. 5.9

**NEPTUNE** Neptune will be setting about 40 minutes after Saturn. Mag. 7.7

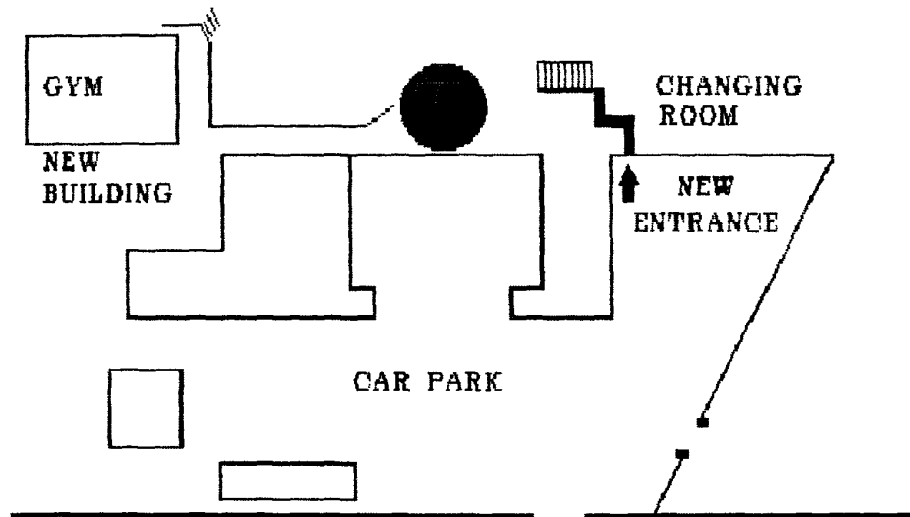
R. Gooding



David Payne

### 1 NEW ACCESS TO THE OBSERVATORY

The old route to the observatory is no longer available as an extension is being built by the school next to the gym. The new route to the observatory is via the changing room. The following sketch will help those members who do not know this alternative entry point. This route goes past some school staff flats, it would be appreciated if members entering or leaving would keep the noise down to a minimum.



### 2 MEMBERS ATTENDANCE AT THE OBSERVATORY

ALL MEMBERS arriving at the observatory must report to the club room so that their names can be entered in the observatory log.

While staying up until late evening/early morning to observe Mars near the central meridian, why not look about 40 degrees due east to M77 easily found about 1 degree south east of Delta Ceti.

M77 is a fairly bright and compact spiral galaxy about 60 million light years from the Earth. It was, with the Sombrero galaxy (NGC 4594), one of the first two galaxies to be detected with very large red shifts and introduced the concept of the expanding universe. It is visible in binoculars as a faint rather hazy star. With a three inch telescope the fuzzy star appearance is prominent. When a ten inch aperture is used the nucleus is seen as a bright almost stellar point with the spiral arms showing as a fainter halo surrounding it. The surface brightness of the galaxy allows moderately high powers to be used and under these higher magnification (200-250x) the nucleus remains small and starlike.

M77 is a Seyfert galaxy which are characterised by a small bright nucleus with bright emission lines in their spectra. Seyfert galaxies are also moderately powerful radio sources and appear to have undergone violent activity in the core regions. These galaxies have some of the characteristics of Quasars and may be considered as a miniature Quasar lying somewhere between 'normal' galaxies and the remote enormously energetic Quasi-stellar objects.

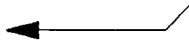
Take the time after observing Mars to look up this enigmatic galaxy it is quite easy to find!

Around the Sun in Eighty Eight Days.  
by J. Walsh.

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PLEASE CONTACT R.Gooding TO PLACE YOUR ORDER  
OR COME TO THE OBSERVATORY ON A WEDNESDAY

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Orbiting the Sun at a mean distance of 35,984,000 miles (57,910,000 KM) with it's long Rotation Period of 59 Earth Days, about 2/3 of it's Year of 88 Earth Days, is the tiny Planet Mercury. Smallest of the Inner Planets, only 3,013 miles (4,850KM) in diameter yet apart from Earth, has the greatest Density of any of the other Planets in the Solar System.

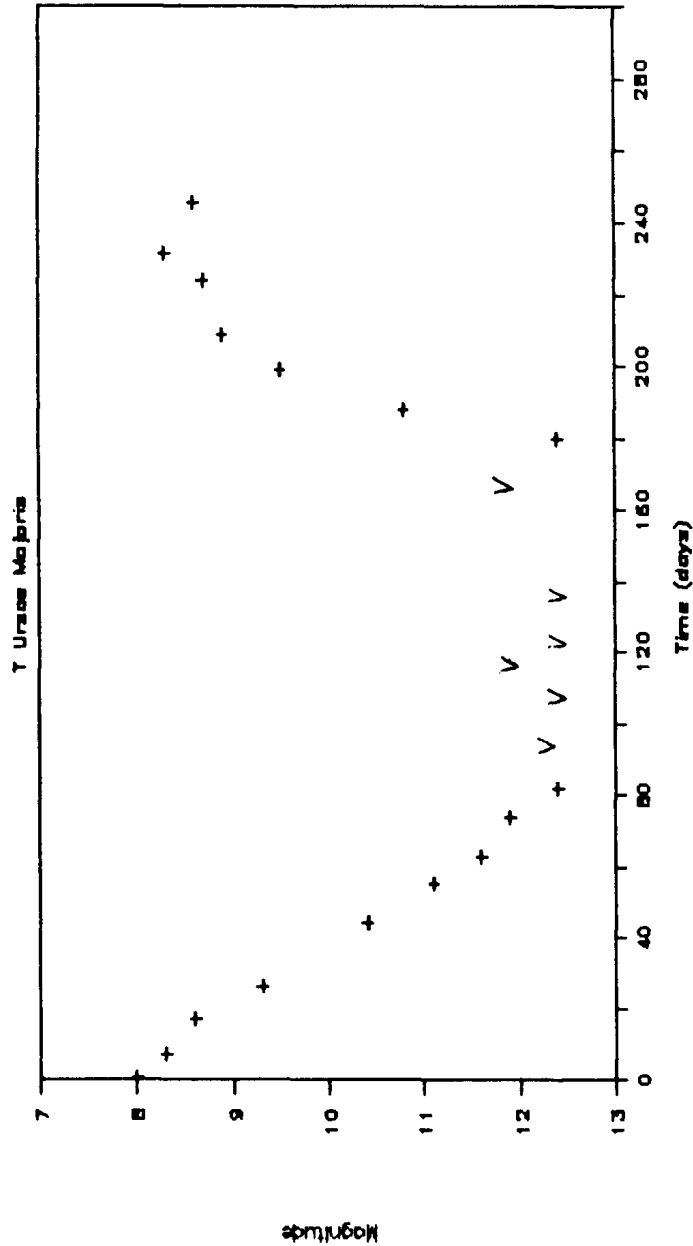
The Atmosphere is negligible only 1/100 of that of Earth, with the surprisingly low Escape Velocity of only 2.6 miles (4.2 KM) per Second, Mercury's Atmosphere will escape into Space in less than a Day if there was not a steady replenishment from the Solar Wind. This Equilibrium Atmosphere as it is called is made up of mainly Helium with smaller amounts of Hydrogen, Argon and Neon.

The Mean Surface Temperature in daytime can reach 700 K (800 F) while at night it can plunge to 100 K ( -280 F). This gives the greatest Temperature Range between Night and Day in the Solar System. This is because Mercury's tenuous Atmosphere cannot retain any heat, plus the very slow Rotation Period enables the surface to cool completely during the nighttime period.

Mercury's surface is very Lunar in appearance and appears to have the same Sillicate type rocks. Many people believe that the Moon and Mercury evolved along similar lines. The main surface feature on Mercury is undoubtedly the Caloris Basin, named so because Caloris is the Latin name for Heat, and being near the Sub Solar Point at Perihelion (closest to the Sun), temperatures in the Basin can reach 755 K (900 F). A very apt name for this torrid region. Other surface features include Valleys, Scarps, Ridges and Mountains. At the South Pole is the Crater Chao Meng Fu, while another Crater laying across the 20th Meridian is the Crater Hun Kal which ironically means the number 20 in Mayan. (The people of Maya used a base 20 number system.) Then there is the Crater Kuiper named after the famous Planetary Scientist who was working on the Mariner 10 project who sadly died before he could see his efforts bear fruit.

It is almost certain that Man would never walk on the surface of Mercury because of the very high temperature variations would make life as we know it impossible. But there is still a lot of Mercury's surface left unexplored so there is almost certainly a chance of more Planetary probes being sent in the near future.

# VARIABLE STAR OBSERVATIONS



This light curve shows T Ursae Majoris from January to September this year. It shows a decent to minimum followed by a rise to maximum again.

## PROGRAMME FOR OCTOBER

Mondays from 8pm		GENERAL OBSERVATION SECTION	
3-10	Mr R Newman	[Redacted], Felixstowe IP11 9DY	Tel. Fel. [Redacted]
17-24	Mr J King	[Redacted], Felixstowe IP11 9LQ	Tel. Fel. [Redacted]
31	Mr N Taylor	[Redacted], Trimley IP10 OXY	Tel. Fel. [Redacted]
Tuesdays from 8pm		GENERAL OBSERVATION SECTION	
4-11	Mr R Newman	[Redacted], Felixstowe IP11 9DY	Tel. Fel. [Redacted]
18-25	Mr J King	[Redacted], Felixstowe IP11 9LQ	Tel. Fel. [Redacted]
Wednesdays from 8pm		NEBULA AND FAINT OBJECTS SECTION / CLUB NIGHT	
5-12	Mr M Cook	[Redacted], Ipswich IP4 5PZ	Tel. [Redacted]
19-26	Mr D Payne	[Redacted], Wickham Market IP13 OSD	Tel. [Redacted]
Fridays from 8pm		GENERAL OBSERVATION SECTION	
14-28	Mr P R Richards	[Redacted], Ipswich IP1 2NW	Tel. [Redacted]
	Mr M Harlow	[Redacted], Trimley IP10 OXB	Tel. [Redacted]
	Mr R A Lobbett	[Redacted], Felixstowe IP11 8UJ	Tel. [Redacted]

On nights other than Wednesday ring directors to confirm dates.

### 1988 COMMITTEE

CHAIRMAN	D Payne	( Address above )	Home: [Redacted] Work: [Redacted]
VICE CHAIRMAN	D Barnard	[Redacted], Ipswich IP4 5PP	Home: [Redacted] Work: [Redacted]
SECRETARY	R Gooding	[Redacted], Ipswich IP1 6AE	Home: [Redacted] Work: [Redacted]
TREASURER	M Nicholls	[Redacted], Capel St Mary, Ipswich IP9 2EX	Home: [Redacted] Work: [Redacted]
MAINTENANCE	M Cook	( Address above )	Home: [Redacted] Work: [Redacted]
JOURNAL CO-ORD	E Sims	[Redacted], Ipswich IP1 4HA	Home: [Redacted] Work: [Redacted]
LIBRARIAN	P Richards	( Address above )	Home: [Redacted] Work: [Redacted]
EQUIPMENT CURATOR	R Newman	( Address above )	Home: [Redacted] Work: [Redacted]
SPECIAL EVENTS	N Taylor	( Address above )	Home: [Redacted] Work: [Redacted]