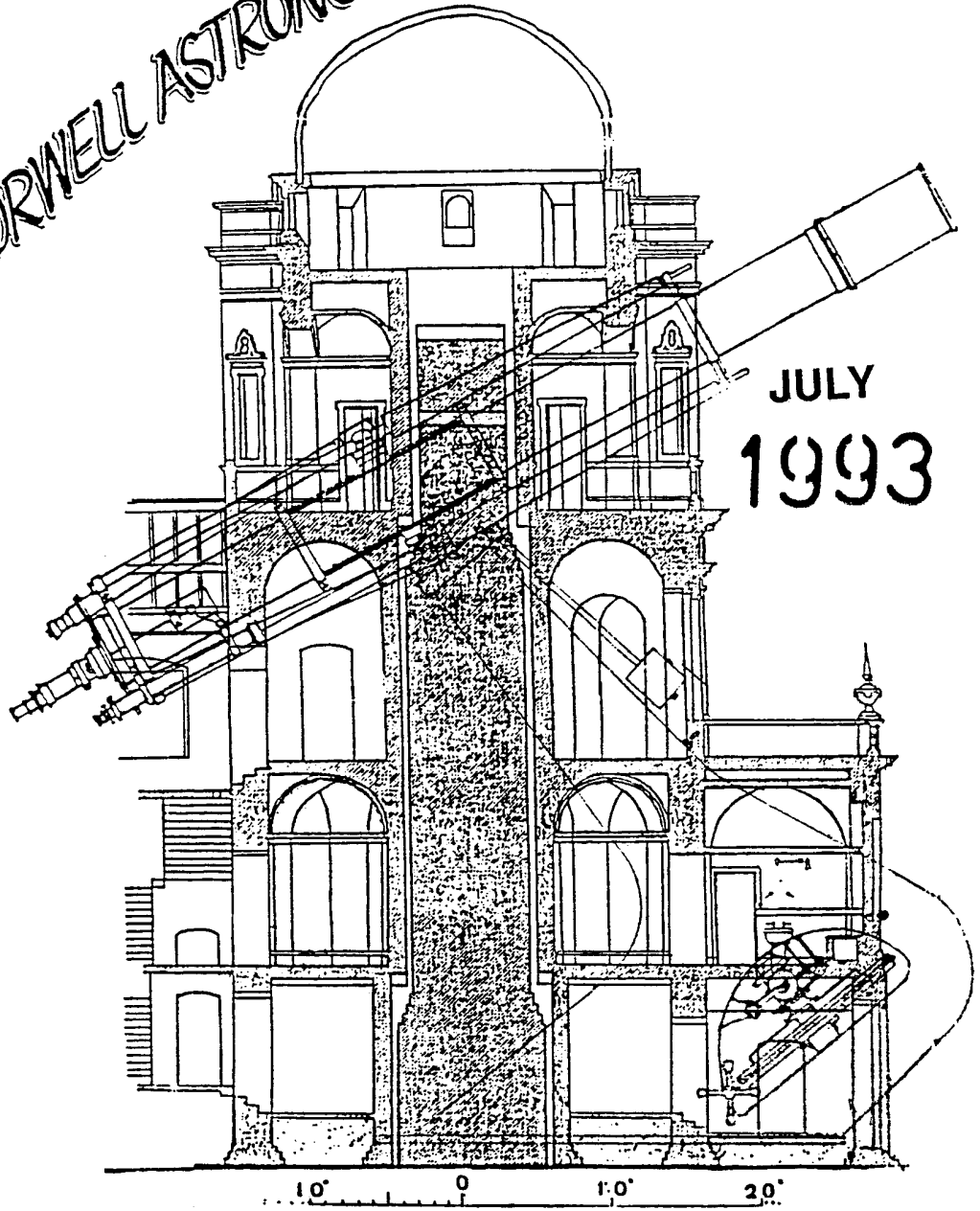


ORWELL ASTRONOMICAL SOCIETY IPSWICH

JULY
1993



SOCIETY NEWS

1 COMMITTEE MEETING

The next committee meeting will be on Saturday 24th July, with a start at 7.30pm in the club room. As usual this is an open meeting and any member who wishes to attend will be welcome.

NIGHT SKY

All times GMT

SUN Rises approximately between 04.00 to 03.30
Sets approximately between 19.30 to 20.30

MOON



4 th



11 th



19 th



26 th

MERCURY Mercury will be at inferior conjunction on the 15th, before reappearing in the early morning sky. It will be rising about one hour before the sun at the end of the month.

VENUS Venus will be rising about three hours before the sun by the end of the month. Mag. -4.1.

MARS By the end of the month Mars will be entering the twilight sky. It will remain in this region of the sky for rest of the year. Mag. 1.6.

JUPITER Jupiter will be setting by 22.00 by the end of the month. Mag. -2.0.

SATURN Saturn will be rising at about 21.20 in mid month. Mag. 0.6.

URANUS Uranus will be rising at opposition on the 12th. Mag. 5.6.

NEPTUNE Neptune will also be at opposition on the 12th. Mag. 7.9

R. Gooding

FAS CONVENTION

SATURDAY 25th SEPTEMBER

The 1993 FAS Cambridge Convention is on Saturday 25th September.

Tickets cost £3.50 each, with an additional £4.00 if you require a Ploughman's lunch.

Please contact Roy Gooding if you are interested in going along.

Speakers should include :-

Professor Andrew Fabian
Dr. Carole Jordan
Dr. Bob Lambourne
Iain Nicholson
Dr. Ken Smith

In the Begining . . .

BY J. WAKSH

About $4\frac{1}{2}$ Billion Years ago a cloud of gas in a remote part of one of the trailing arms of our own Milky Way Galaxy began to collapse. Why? We don't know. This is prehaps the greatest mystery of creation.

After about 100,000 Years, the cloud had changed shape to a whirling disc, and under immense pressure the core began to heat up. As the core got hotter and hotter, it

vapourised everything for 400,000,000 Miles around but for heavy rocky particles. These particles were to become the building blocks of the inner Solar System, while further out in the cooler part of the disc the particles were a mixture of rock and ice. These were the building blocks for the outer planets. For millions of years with increasing violence, these rocks crashed into one another, fusing together under the influence of more and more gravity. Each lump of rock fighting for it's own place within the infant Solar System. Some of these rocks settled within the gravatational turbulence between the core and the huge mass of the developing Jovian system, because of this turbulence, these rocks stayed much as they were and never accreted into a planet. This, today is the Asteroid Belt.

Meanwhile, the core was approaching the temperature when Hydrogen Atoms fuse to make a Helium Atom(20,000,000^oF). When this happened, the initial explosion and resulting Solar Wind reaching speeds of up to 2,000 miles per hour stripped away the atmospheres of the inner planets. The outer planets protected by vast distances and, because they were much bigger and had more gravity were able to hold on to their atmospheres, and have not changed much to this day. For hundreds of millions of years after the Sun had burst into life the the surrounding planets and their moons were subject to an endless bombardment of meteors that ploughed into their surfaces, in fact, today you can still see this in the surfaces of the Moon, Mercury and Mars. The larger planets Venus and the Earth due to their much greater mass still have a thick atmosphere. Venus, due to the nature of it's atmosphere has no seas or vegetation to hide the larger craters, and indeed these have been seen in recent radar pictures. Earth however has seas and vegetation to hide all but the largest craters.

Over millions of years the surfaces of the various planets became cooler, the volcanic activity died down. Large terrestrial planets like the Earth and Venus are still volcanically active, while the Moon, Mars and Mercury are now dead. The large gaseous planets still retain their large atmospheres same as they have for millions of years. The Asteroid Belt is truly a window back in time when the Solar System was young and still forming. - The Begining

SCORPIUS

Scorpius is an ancient and important constellation which is best seen in summer for northern hemisphere observers. It has many bright stars and their outline is remarkably like the animal they represent. Scorpius lies in the western part of the summer Milky Way which provides many objects of visual and photographic interest.

The heart of the Scorpion is a red giant Alpha (α) star Antares. Antares has a diameter of between 400 and 700 times that of the Sun depending on which books you read, and is also surrounded by a huge red nebula. This is a mostly photograph-ed subject since the eye sees little colour at these low intensities.

Scorpius is the host to many globular clusters, one of the best examples is M 80 a compact-type globular located almost halfway between Antares and Beta (β). It is somewhat difficult to resolve as the stars are mag 14 and fainter but the whole cluster is relatively bright. M4 is a nearby globular of a less concentrated type. Here the stars resolve easily and the nucleus is not particularly bright. There is a bar of 11th mag and fainter stars running almost vertically across the center. M 4 is ideal for any telescope and one of the better globulars for even the smaller instruments. The open clusters near the sting are a fine example of their type N.G.C. 6231 is visible to the naked eye and is a tight group of brilliant white stars. N.G.C. 6242 is another group not so bright and needs an 8 inch telescope or better, but a bright orange star on the edge makes it worth finding. M6 and M7 are large bright open clusters which are naked eye

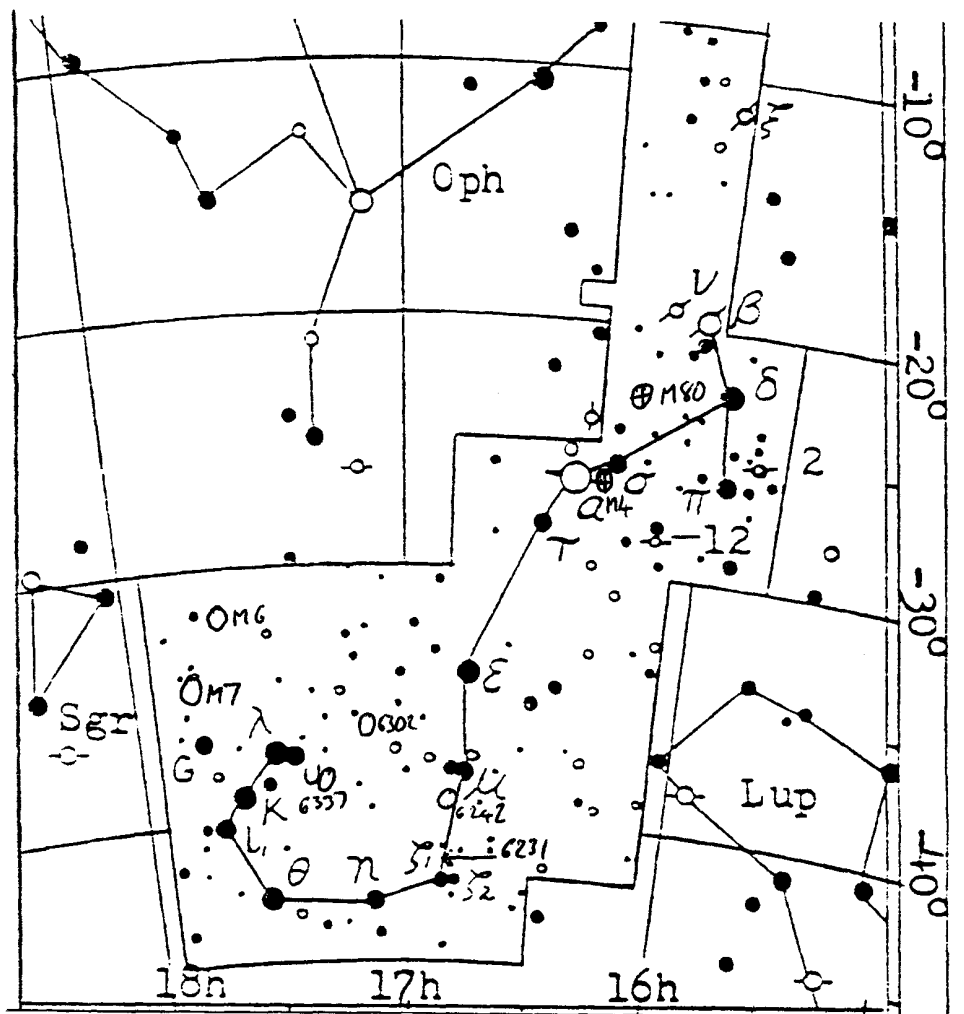
objects. They can be appreciated in any instrument from binoculars to the larger amateur telescopes. M7 is much the larger of the two appearing as a fuzzy spot to the naked eye against the background of the bright Milky Way. The diameter is nearly double that of the full Moon and contains about 80 stars of 10th mag and better. M 6 is known as the Butterfly Cluster and can be seen with the naked eye as a fuzzy star almost directly north of Shaula (λ Sco). The Butterfly description comes from the arrangement of the principle stars into a butterfly-like shape with a body and two wings formed by four rough lines of stars extending approximately east west.

N.G.C. 6302 known as the "Bug Nebula" is a peculiar object classed as a bipolar nebular a two-lobed nebular apparently the product of gas and dust being thrown off a central star. Through the telescope we see a nebula with a dark lane though it unsymmetrically making it look like a galaxy with an off center nucleus. Nearby is N.G.C. 6337 a beautiful ring nebula about 40 arcseconds in diameter with several small stars involved. It is rather faint and requires a telescope of 10 inches and better.

Double Stars

Pos.	1	m 2	D	d"	P A	No.
155025	4.8-7.3	c	2.5	272	2	
160111	4.9-4.9	b	0.4	141	$\xi_{1,2}$	
	4.2-7.2	b	7.9	54		
0219	2.9-9.7	b	0.8	105	$\beta_{1,2}$	
	2.9-5.0	c	13.7	23		
0919	6.5-4.3	c	41.4	335	v	
	6.8-7.8	b	2.1	50		
	4.4-6.4	b	1.0	2		
0928	5.8-7.8	b	3.9	75	12	
2626	1.2-6.5	c	2.9	274	a	

$\xi_{1,2}$ White and gray. In the same field is struve 1999.
 $\beta_{1,2}$ Blue-white pair.
 v Colorful double-double.
 a ANTARES is bright red with difficult green companion.



In all this is a very interesting constellation for all types of star-gazers, optical and photographic. Objects include double and multiple stars globular and open clusters also several nebulæ of both diffuse and the planetary varieties as well as the dark dusty shapes best shown by long exposure photography. The red nebula around Antares is well worth setting up a camera for.

E.Sims

PROGRAMME FOR JULY

DAYS & DATES	DIRECTORS	SECTION & ADDRESSES	PHONE INC. STD CODE
Mondays from 7.30pm GENERAL OBSERVATION SECTION			
5-12-19-26	Mr R Newman	[REDACTED], Felixstowe, IP11 9DY	[REDACTED]
	Mr J King	[REDACTED], Felixstowe, IP11 9LQ	[REDACTED]
Tuesdays form 7.30pm GENERAL OBSERVATION SECTION			
6-13-20-27	Mr R Newman	(Address above.)	(Number above)
	Mr J King	(Address above.)	(Number above)
Wednesdays from 8.00pm NEBULA & FAINT OBJECTS SECTION			
7-14-21-28	Mr M Cook	[REDACTED], Ipswich, IP4 5PZ	[REDACTED]
	Mr D Payne	[REDACTED], Wickham Market, IP13 0SD	[REDACTED]
Thursdays from 7.30pm OBSERVATORY VISITS FROM OUTSIDE GROUPS			
1-8-15-22-29	Mr P Richards	[REDACTED], Nacton, Ipswich, IP10 0HS	[REDACTED]
	Mr G Marriott	[REDACTED], Ipswich, IP4 4JB	[REDACTED]
Fridays from 7.30pm (may be postponed to Saturday) PLANETARY & LUNAR SECTION			
2-9-16-23-30	Mr P Richards	(Address above.)	(Number above)
	Mr R A Lobbett	[REDACTED] Felixstowe, IP11 8UJ	[REDACTED]
	Mr G Marriott	(Address above.)	(Number above)

All members are welcome to come but, on nights other than Wednesdays please check with directors that the observatory will be open. Directors will also be able to tell you if a group visit is taking place. All of the sections observe anything of interest but the title of each section suggests a popular subject.

Lectures and other events: COMMITTEE MEETING

The next committee meeting is on Saturday 24th July at 1930 in the club room as usual this is an open meeting so all members are welcome to attend.

1992 COMMITTEE

	Home Phone:	Work Phone:
CHAIRMAN	D Payne (Address above)	[REDACTED]
VICE CHAIRMAN & MEMBERSHIP SECRETARY	D Barnard [REDACTED], Ipswich, IP3 8RN	[REDACTED]
SECRETARY	R Gooding [REDACTED], Ipswich, IP1 6AE	[REDACTED]
TREASURER	M Nicholls [REDACTED], Capel St Mary, Ipswich, IP9 2EX	[REDACTED]
MAINTENANCE CO-ORD	M Cook (Address above)	[REDACTED]
JOURNAL CO-ORDINATOR	E Sims [REDACTED], Ipswich, IP1 4HA	[REDACTED]
PUBLICITY & VISIT CO-ORD	P Richards (Address above)	[REDACTED]
EQUIPMENT CURATOR	J King (Address above)	[REDACTED]
SPECIAL EVENTS CO-ORD	A Smith [REDACTED], Ipswich, IP4 5RZ	[REDACTED]