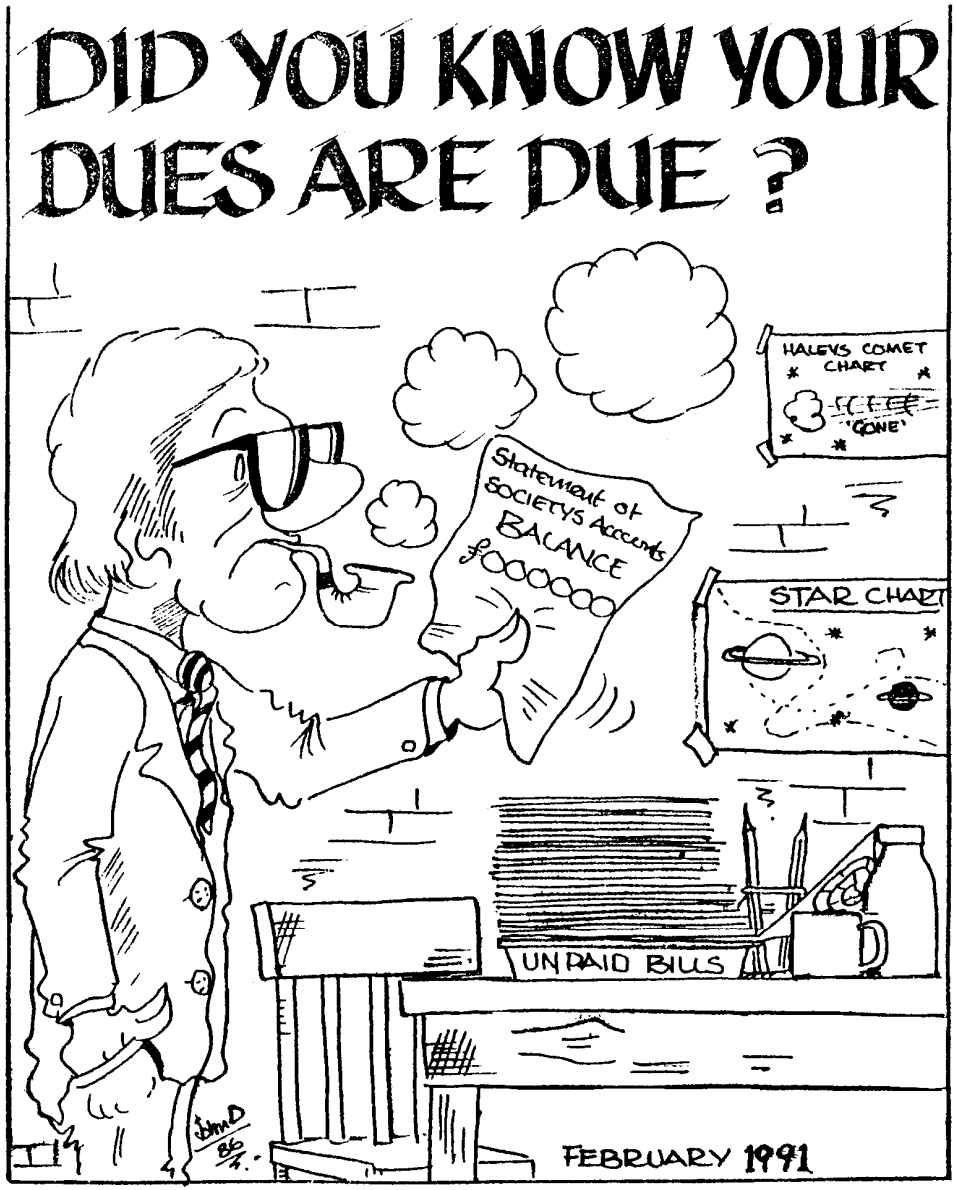
ORWELL ASTRONOMICAL SOCIETY IPSWICH.....



SOCIETY NEWS

1 1991 Subscriptions

Membership subscriptions are due on 1st January of the new year. Please either send monies directly to David Barnard or pay at the AGM on 12th January.

Rates for 1991 are:-

Child & OAP	£ 7.00
Adult	£10.00
Family	£11.50

2 COMMITTEE MEETING

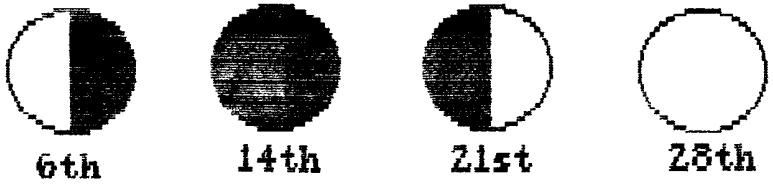
The first committee meeting of the year will be on Saturday 9 th February from 7.30pm in the club room. As usual this is an open meeting and any member who wishes to attend will be welcome.

THE NIGHT SKY

All times GMT

SUN Rises approximately between 07.50 to 06.50
Sets approximately between 16.40 to 17.30

MOON



MERCURY Mercury is a morning sky object this month, but will be difficult to see as it is close to the sun in the sky. Mag.-0.5.

VENUS Venus will be visible in the evening sky. This month it will be moving away from the sun in the sky, and by the end will be setting about 3 hours after sunset. Mag.-3.8

MARS Mars remains a prominent evening object, even though its brightness will be fading to Mag.0.6. By the end of the month it will be setting at about 02.30.

JUPITER Jupiter will be well placed for observing all night. Mag.-2.6

SATURN Saturn will be visible low down in the morning sky. It will be rising at about 2 hours before the sun at the end of the month. Mag.0.6

URANUS Uranus will be rising about 1 hour before Saturn.

NEPTUNE Neptune lies between saturn and Uranus through out the year

R.Gooding

Some Deep Sky Objects in Gemini

David Payne

Dominated by Castor and Pollux the heavenly twins, Gemini is well placed high in the evening sky throughout February. Although designated beta, Pollux is the brighter of the pair at magnitude 1.16. It has a luminosity 35 times that of the sun, a diameter about 11 times the sun and lies at a distance of 35 light years. Alpha Geminorum, Castor, is a much more interesting star system it lies at a distance of 45 light years with a total luminosity of 36 suns. In moderate telescopes Castor is a beautiful easy double star with components 'A' magnitude 1.99 and 'B' magnitude 2.85 giving a total apparent magnitude of 1.59. These two components orbit each other in a period of around 400 years with angular separations from 1.8" (occurred around 1965) to a maximum of 6.5" Currently the separation is about 3" making it a fairly easy object in a three inch telescope. A much fainter (mag 9.1) third component Castor C lies 72.5" away at Position Angle 164 degrees. All three visible components are also spectroscopic binaries making the Castor system one of the most complex multiple star systems in the sky. Castor A and B are separated by 8.4 billion miles only slightly greater than the diameter of the solar system while the components of A and B are separated by only 4 million and 3 million miles respectively. Castor C is about 100 billion miles from A and B with the components of 'C' separated by only 1.7 Million miles.

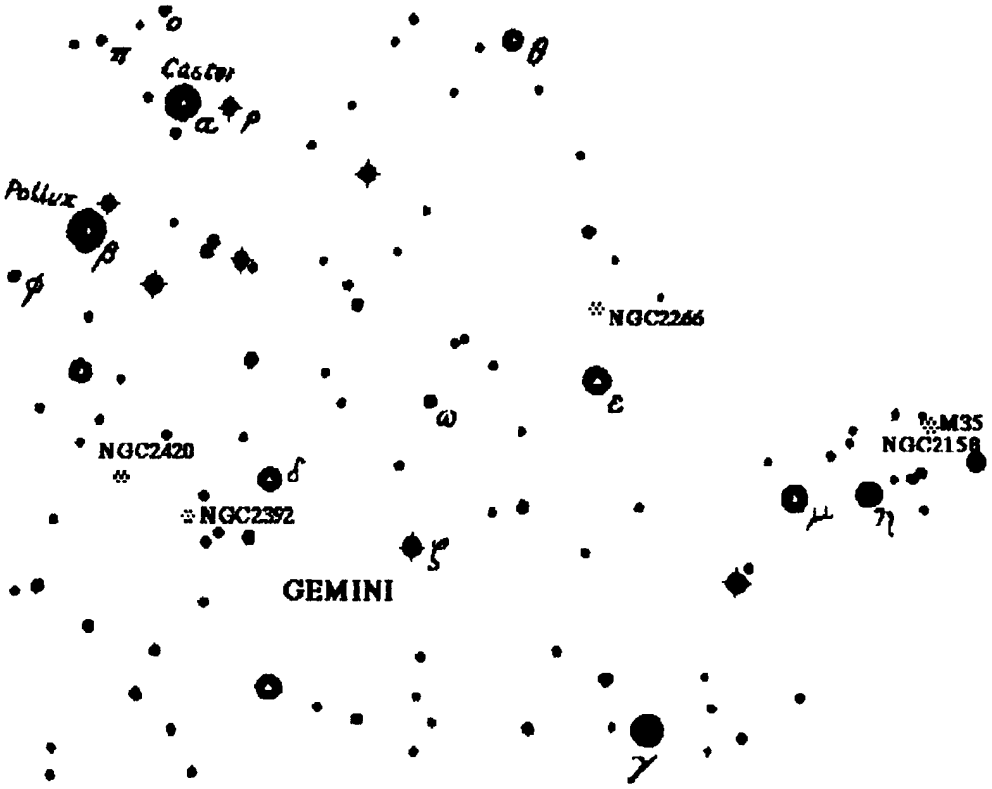
In addition to Castor and Pollux, Gemini contains several bright stars that enables star hopping to locate deep sky objects relatively easy. The largest and brightest deep sky object in Gemini is the galactic cluster M35. At an integrated magnitude of 5.5 this cluster can be glimpsed without optical aid on very clear, dark nights and is a fine sight with binoculars in which the brighter stars can be resolved. The cluster is between 30' an 40' across and therefore needs low power eyepieces with wide fields to be well seen in telescopes. M35 lies at a distance around 2500 light years (estimates range from 2200 to 2800) and contains about 120 stars within the range of moderate telescopes.

NGC2158 is a faint compact cluster lying about half a degree south west of M35. At magnitude 12 it is not an easy object for small telescopes although it can be glimpsed with a 4" telescope under good conditions.Although difficult it is worth searching for because of its close proximity to M35. The brightest stars are magnitude 16 so very large instruments are required to visually resolve it. The density of stars and the spherical distribution suggest that it may be a cluster intermediate between galactic clusters and globular clusters. also the distance of around 16,000 light years puts it on the rim of the galaxy where these older and larger clusters appear to form.

NGC 2266 is another galactic cluster fairly condensed with about 30 stars in a diameter of 5'. The integrated magnitude is around 10 with individual magnitudes ranging from 11 to 15 making it a good object for moderate telescopes. The cluster lies almost 2 degrees due north of Epsilon Geminorum and is fairly easy to locate.

The planetary nebula NGC2392 known also as the Eskimo Nebula is well worth searching for particularly with larger instruments. Planetary nebula are gas clouds surrounding and emanating from very hot central stars. The luminosity from the gas cloud is due to fluorescence produced by the intense ionising ultra-violet radiation from the hot central star. In NGC2329 the central star is magnitude 10 and in a small telescope this star is seen surrounded by a pale disk about 40" in diameter. With larger telescopes this disk resolves into an inner brighter disk surrounded by a fainter annular ring. The Eskimo name comes from some faint features in the central disk which with imagination can resemble a face with the outer halo being the eskimo's hood.

The nebula probably lies around 3000 light years from the sun giving a diameter of 0.6 light years for the outer ring. However as with all planetary nebula distance estimates are very uncertain and in this case estimates range from 1370 to



3600 light years. The nebula lies about half a degree south east of 63 Geminorum which lies 2 degrees east of the 3rd magnitude star Delta Geminorum.

While in this part of the sky centre, the telescope on 63 Geminorum and then scan 2.5 degrees east to the 9th magnitude galactic cluster NGC2420. This cluster contains about 20 stars visible in moderate telescopes and although not as condensed as NGC2266 it is fairly rich inside a diameter of 7'.

EXMOOR STAR PARTY

Members of the Bristol Astronomicle Society are arranging one of their regular star parties on Exmoor on 16th March. The Orwell Astronomicle Society have been invited to join them. Anyone interested in more details contact Pete Richards (phone nos on back page).

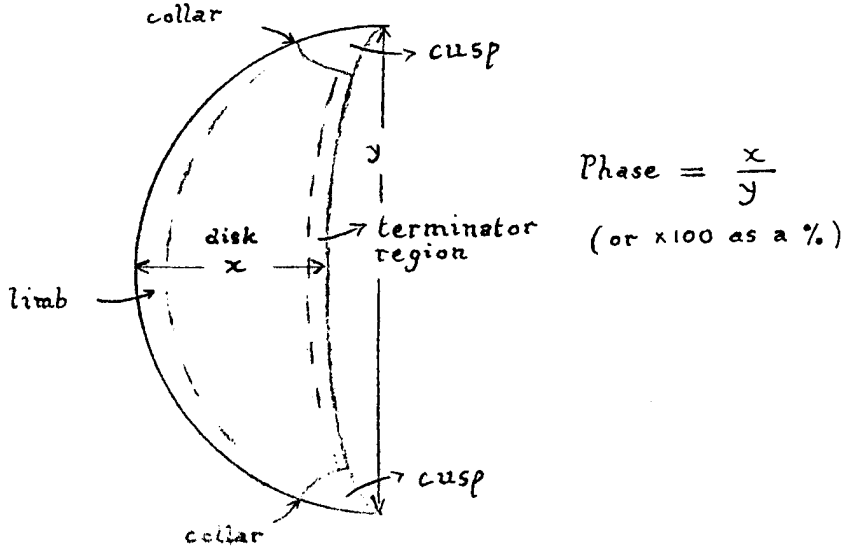
CONTINUATION OF THE OBSERVING GUIDE TO VENUS

2.Albedo detail

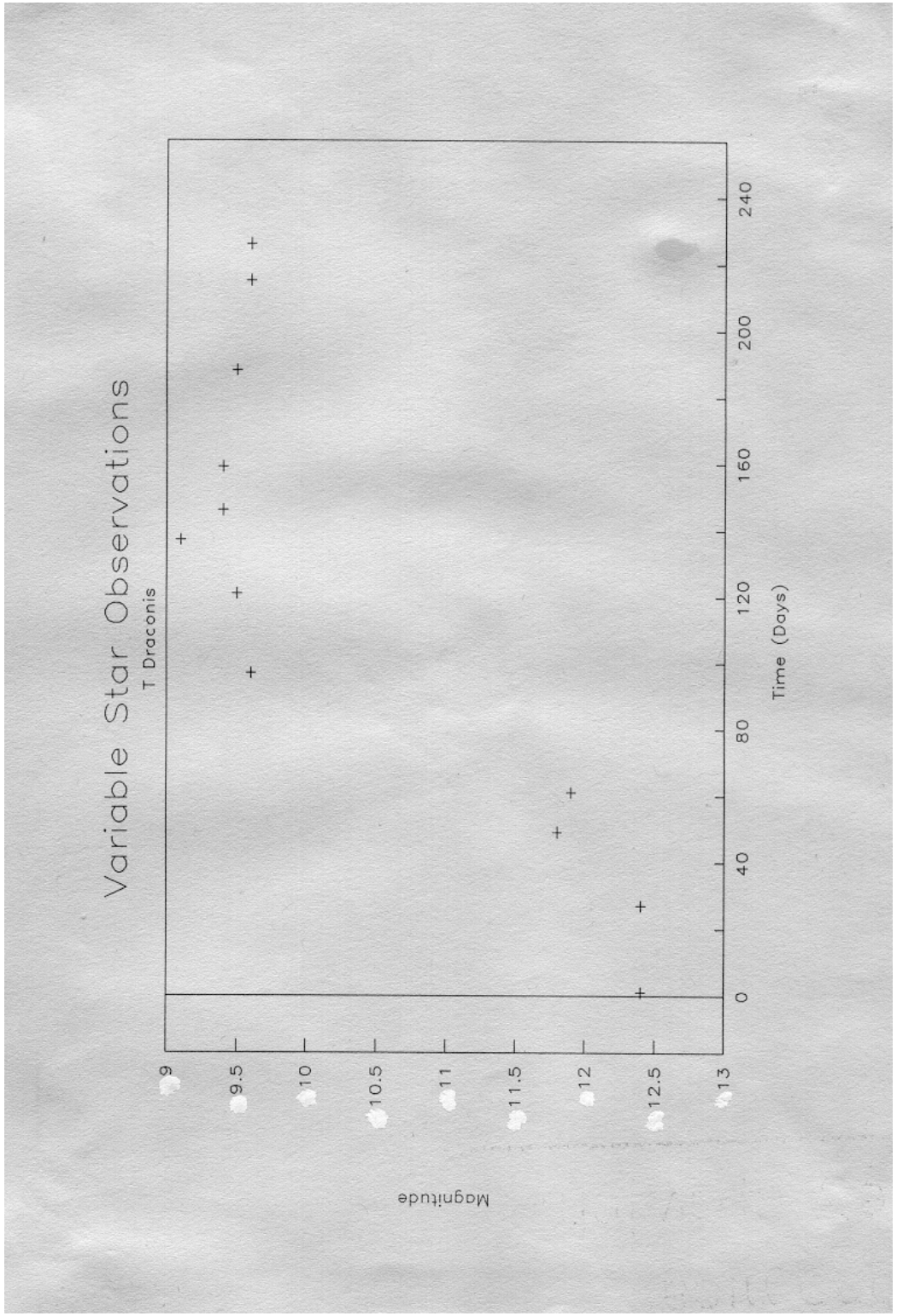
Although often appearing completely devoid of detail to the novice, with patient practice subtle brighter or shaded areas may be discerned on the disk. The terminator often appears shaded and diffuse but bright areas have been observed. The apparent poles are often bright ,these being known as the cusp caps ,and these in turn may be bordered by dark cusp collars.All these features are nearly always of an ephemeral nature and an intensity scale can be used to describe them. The scale, due to Patrick Moore, is as follows:

0 Extreme brilliance (exceptional white spots)
1 Bright areas (cusp caps etc.
2 General hue of the disc
3 Elusive shadings, on the limit of visibilty
4 Shadings which can be seen without doubt
5 Unusually dark shadings

It is a good idea to record intensity estimates on a separate sketch. Cloud shadings recorded carefully can often show the four-day retrograde rotation of the atmosphere.



MORE NEXT MONTH IF SPACE IS AVAILABLE



PROGRAMME FOR FEBRUARY

DAY	DIRECTORS	SECTION	PHONE No.s
Mondays from 8.00pm		GENERAL OBSERVATION SECTION	
4-11 18-25	Mr R Newman	, Felixstowe, IP11 9DY.	Tel. Fel.
	Mr J King	, Felixstowe, IP11 9LQ.	Tel. Fel.
Tuesdays from 8.00pm		GENERAL OBSERVATION SECTION	
5-12 19-26	Mr R Newman	[Address above.]	Tel. Fel.
	Mr J King	[Address above.]	Tel. Fel.
Wednesdays from 8.00pm		NEBULA AND FAINT OBJECTS SECTION	
6-13 20-27	Mr M Cook	, Ipswich, IP4 5PZ.	Tel. Ips.
	Mr D Payne	, Wickham Market, IP13 0SD.	Tel. W.M
Fridays from 8.00pm		PLANETARY AND LUNAR SECTION	
1-8 15-22	Mr P Richards	, Ipswich, IP4 1QB.	Tel. Ips.
	Mr R A Lobbett	, Felixstowe, IP11 8UJ.	Tel. Fel.
	Mr G Marriott	, Ipswich, IP4 4JB. [Assistant Director]	Tel. Ips.

All nights are open to all members, but, on nights other than Wednesdays, ring directors to confirm. Directors will also be able to tell you if a group visit is taking place. All sections observe anything of interest, but the title indicates the main specialism.

Lectures and other events : COMMITTEE MEETING

The next committee meeting will be on Saturday 9th February at the observatory starting at 19.30. As usual this will be an open meeting and any member may attend if they wish.

1991 COMMITTEE

CHAIRMAN	D Payne	[Address above.]	Home: Work:
VICE CHAIRMAN /VISITS CO-ORD	D Barnard	, Ipswich, IP4 5PP.	Home: Work:
SECRETARY	R Gooding	, Ipswich, IP1 6AE.	Home: Work:
TREASURER	M Nicholls	, Capel St Mary, Ipswich, IP9 2EX.	Home: Work:
MAINTENANCE CO-ORD	M Cook	[Address above.]	Home: Work:
JOURNAL CO-ORD	E Sims	, Ipswich, IP1 4HA.	Home:
LIBRARIAN	P Richards	[Address above.]	Home: Work:
EQUIPMENT CURATOR	J King	[Address above.]	Home:
SPECIAL EVENTS CO-ORD	A Smith	, Ipswich, IP4 5RZ.	Home: Work: