

JOURNAL of the
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

June, 1975

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What's Up? the Solar System as seen from Ipswich June, 1975.

SOLAR SECTION.

The Sun will be in the constellation of Taurus and Gemini this month.

Rotation number 1628 commenced 11th May 11.93d
" " 1629 commences 8th June 8.14d

Heliographich Co-ordinates as at noon U.T.

	P	Bo	Lo		P	Bo	Lo
1st June	-15.5°	-0.6°	87.9°	17th June	-9.0°	+1.3°	236.1°
5th "	-14.0°	-0.2°	35.0°	21st "	-7.2°	+1.8°	183.2°
9th "	-12.4°	+0.3°	342.0°	25th "	-5.5°	+2.2°	130.2°
13th "	-10.7°	+0.8°	289.1°	29th "	-3.7°	+2.7°	77.3°

Partial Eclipse May 11th.

As might have been expected 'Spode' played his hand and the morning sky was overcast at Ipswich, of course when the partial eclipse had ended, in the afternoon the Sun was visible. An observation made during the afternoon showed no Sunspots but did show faculae.

O.A.S.I. Sunspotting Project.

As the evenings are lighter and the Sun is visible for a considerable part of the day, the section directors have decided to concentrate particularly on the observation of the Sun for the next few months starting from June 1st. Anyone who wishes to join in is more than welcome to do so. The aim is to record the progress of Sunspots on a day to day basis so that as many drawings are required as possible. To standardise observations all drawings should be made 60mm diameter.

We will be reproducing some of the drawings in the Journal over the next couple of months and hope to have a string of drawings to display at our next open day in September. Please if you have the time send us some drawings, the odd one or two maybe just what we need to complete a set.

PLANETARY SECTION:

Mercury will be in inferior conjunction on the 10th at 18h U.T. and therefore unobservable.

Venus is very favourably placed for observation and reaches 45° eastern elongation on the 18th at 16h U.T. A crescent Moon will be near Venus on the 13th.

EARTH The summer solstice occurs on the 22nd at 00h 27m U.T. i.e. longest daylight and shortest night.

Mars rises very shortly after 00hrs U.T. and will be quite close to Jupiter, the latter being brighter of the two planets. Mars will reach 68° western elongation by the end of June and will attain magnitude 0.8

Jupiter will be rising shortly after Mars and the two planets will be 0.5° apart on the 16th at 06hrs U.T. On the morning of the 5th a waning Moon will be near both planets.

Saturn is now starting to run into daylight and by mid June will become difficult to see.

LUNAR SECTION.

Moon Phases:

Lunation 648

New Moon	June 9th 18h49m U.T.
First Quarter	" 16th 14h 58m U.T.
Full Moon	" 23rd 05h 28m U.T.
Last Quarter	July 1st 16h 37m U.T.

Apogee	June 2nd 04h U.T.
"	" 29th 23h U.T.

Perigee June 14th 22h U.T.

OCCULTATIONS.

June 15th	57 Leo	22h 02.1m U.T.	Disappearance	mag 6.9
" 20th	147B Lib	22h 20.7m U.T.	"	mag 6.1
" 27th	46 Cap	23h 50.2m U.T.	Reappearance	mag 5.3

METEOR SECTION. - for further information contact the director Mr. S. Flory.

The June Lyrids will be visible from the 10th - 21st and maximum will be on the 16th, the ZHR is given as 8 at maximum. The radiant will rise about 15h30m U.T. As it is circumpolar, it will transit the meridian at 01h U.T. on the 16th at 73° altitude. Bluish meteors are expected. If anyone sees any meteors who do not attend the meteor count would they please send all reports to Mr. S. Flory.

FORTHCOMING EVENTS.

An International Astronomical Youth Conference will be held in Gt. Britain next year from 17th July 1976 to 31st July. It will be held at Burwell House, Burwell, about 10 miles from Cambridge. If you are interested in attending or can help with the organisation please contact Mr. C. Radley, [REDACTED], Wherstead, Ipswich.

PICTURE PAGE.

We are currently working on the idea of a picture page in the Journal whereby any drawings, be they of Lunar features, Phase drawings, Sunspot drawings, starfields, nebulae, U.F.O.s, spacebrobes or any other items that would be of interest can be reproduced from the originals. So if you have anything please send them to the editor, we hope to have something for the next Journal please keep them reasonably small in order that we can reproduce several illustrations on a foolscap sheet.

DOUBLE STAR NOTES.

D. Bearcroft, Director Double Stars Section.

Well dear readers, I have been pestered by my faithful fan for another trilling episode of 'Double Star Notes'

Mainly due to the light evenings we have not made any new Earth-shattering discoveries on my nights, but we have not been idle. We have been in battle with repairing the telescope drive system. This work went not without incident. When a member of my Tuesday night band, Mr. D. Barnard, was ordered below the floorboards to adjust the liner which carry the main drive weight. All went well, after much crawling around under the dome floor to the accomplishment of ribald remarks such as "spot the looney", wonder mouse" and "super-mole" and until I advised him that there were probably spiders, termites and bats sharing the space under the boards with him. Our hero decided that enough was enough and tried to exit via the air-hole that he went in to! Unfortunately he got stuck, and after much pulling and pushing we decided that an arm would have to be removed. Our hero did not go a lot on this idea or the idea of leaving him there and feeding him once a week. Aided by three other people we managed eventually to extradite him all in one piece. Still it was all in a good cause for now the clock system is now back into operation and running better than ever.

I attended the Mercury and Venus Section Meeting and found the transit of Mercury facinating. Mr. Hedley Robinson proved to be a thoroughly pleasant person and got along well with all.

We got mixed up with two Meteor Counts on Foxhall Heath, the first was very interesting as we saw and recorded a lot of meteors and at 1a.m. we induged in a game of football by the light of the setting Moon to warm up. This was a difficult game to the lack of a goal.

On the second Meteor Count the weather was not too favourable and we closed down about mid-night.

Let's hope for better weather on the Lyrid Meteor Count. Hoping to see a few more new faces on my Tuesday evenings and at the Meteor Counts, the next one being on Saturday 14th June at 10p.m. at Foxhall Stadium.

D. Bearcroft.

OBSERVATION OF THE SUN.

The Sun is the centre of our solar system it is also an ordinary star if 'ordinary' is the correct word to use. Like the Earth the Sun revolves on its axis, this rotation relative to the stars is called 'siderial rotation'. The siderial rotation of the Sun with respect to any particular fixed star is 25.38 mean solar days.

The Earth is not stationary relative to the Sun and in the course of the 25.38 solar days it moves something like 25° of it's 360° orbit around the Sun, so that the Sun has to turn about another 25° on it's axis for it to complete one rotation relative to the Earth. This period of rotation is called its 'Synodic period of axial rotation'. As the Earth's daily motion is affected by the many gravitational perturbations (thus the equation of time) we use mean solar days to measure the Synodic period of rotation which is 27.2753 mean solar days. The Synodic rotation number is given in the Journal each month.

The Earth revolves around the sun on a plane referred to as the 'Ecliptic' both the Sun and the Earth's axis are inclined to the edliptic plane. As we orbit the Sun on our planet Earth, the Sun's axis appears to Nutate, in January the Sun's south pole is pointing towards us whilst in July it is pointing away from us, it appears to complete a revolution in one year. The Sun's axis for the point of explanation in this article is fixed negative to the stars and only appears to Nutate once a year due to the Earth orbiting around it.

The Sun's axis is inclined to the ecliptic plane $7^{\circ}15'$ and the Earth's axis $23^{\circ}27'$ so that a combination of the two can result in an angle of $26^{\circ}5'$ approx to the hour circle

If one looks at the Sun the line of sight connecting the observer and the Sun will be the ecliptic place, if one then imagines a line from the north Celestial Pole through the centre of the Sun's disc continuing to the South Celestial Pole this will be part of what is known as the hour circle, irrespective of the time of day there will always be an hour circle through the points mentioned. As explained earlier the Sun's axis is inclined to the ecliptic and appears to Nutate, thus as we look at the Sun it's axis may be inclined to the hour circle. This inclination is called the position angle and is denoted by the letter P which is given either a +ve or -ve sign depending on whether the Sun's north pole is East +ve, or West -ve of the hour circle. Sunspots crop up from time to time and are seen to move across the face of the Sun over a period of days, this is mainly due to the rotation of the Sun. But how can we plot the position of any sunspot?, well the answer is, that we have to imagine the Sun to have lines of longitude and latitude like our Earth and so that we can determine the position of sunspots relative to a line of longitude we keep track of the line of longitude which is directly in line with the hour circle at noon each day, this line being perfectly straight from the Sun's north to south pole (see Fig 1)

The longitude of the Sun's central meridian is indicated by (Lo) and is given in the Journal at noon. This does not mean that you have to make your observations of the Sun at noon, observations can be made at any time the Sun is visible. The true longitude of the centre of the Sun's disc at the time of observation can be interpolated.

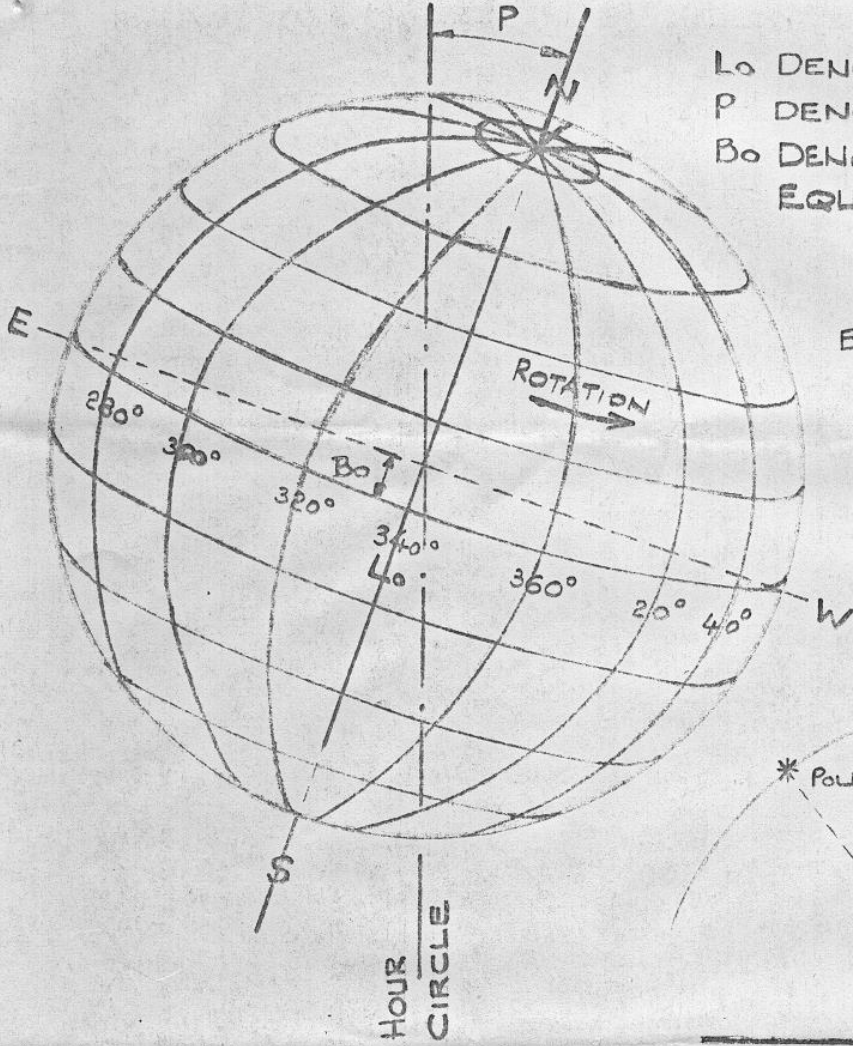
Because the Sun's axis is tilted slightly towards us or away from us, we see the Sun's equator curved either upwards towards its north pole or down to its south pole. The number of degrees on the Sun's 'sphere' that the equator is tilted is measured in ^{degrees} of latitude denoted (Bo) along the Sun's 'axis' not hour circle, this is given either a +ve or -ve sign depending on whether the equator is curved South+ve or North-ve. See fig 1 showing the lines of longitude.

When making an observation, it is not necessary to plot the lines of longitude and latitude but it is reasonably important to ensure that the hour circle on your diagram is in line with the hour circle at the time of observation, This is fairly easy to do if you possess an equatorial mount but it is not unsurmountable with an alt-azimuth mount if you possess the latter mentioned you can always make an observation when the Sun is on your meridian.

Finally depending on how you make your observation will govern N.S.E.W. positions on your drawings, page 45 of Nortons Star Atlas will give most computations but to illustrate the point see fig.2.

Heres hoping that at least some member might have grasped the basics and will submit some drawings for publication in the Journal.

Remember to note down the time and date of your observation and the instrument and magnification used.



L_0 DENOTES LONGITUDE AT MERIDIAN
 P DENOTES POSITION ANGLE.
 B_0 DENOTES NUMBER OF DEGREES
 EQUATOR IS CURVED.

EXAMPLE SHOWS -VE 'P'
 +VE 'Bo'
 340° 'Lo'

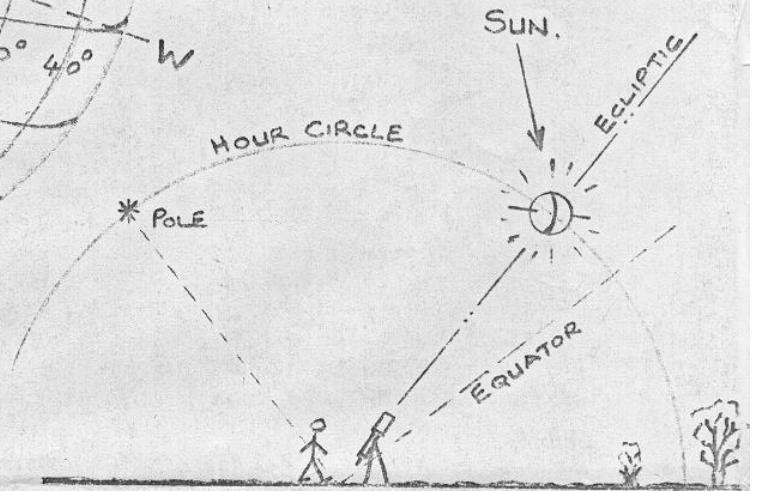
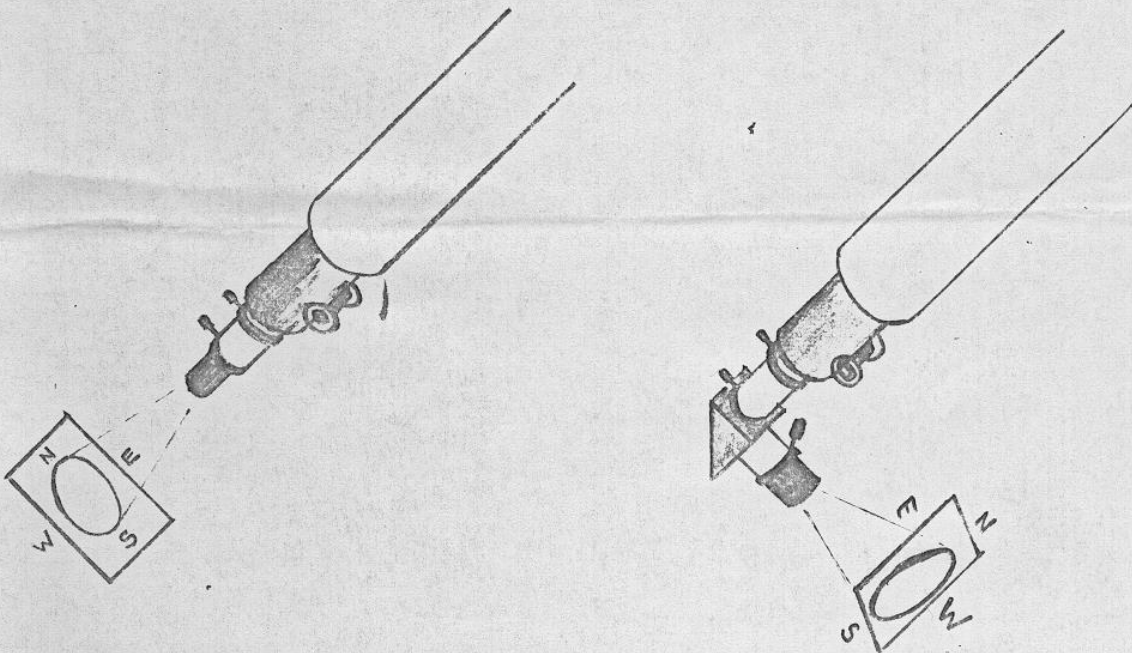


FIGURE 1
NAKED EYE SUN

FIGURE 2
PROJECTED IMAGES



In a recent edition of the Journal a member was derided for the fact that he thought he saw an Unidentified Flying Object during one of the Society's 'observing specials' (a meteor watch if I remember correctly). Perhaps the opinion was that UFOs do not exist; I think the opinion was more likely that 'that sort of thing doesn't happen in East Anglia'. Let me say now that it does happen, and has happened at least three times in the past twelve months.

On March 27th of this year I went to investigate an alleged UFO sighting which had occurred on the 24th February over Sizewell Power Station. The observer was a postman, Mr. Tom Wells Mayer, who was walking his dog at the time (6.55). According to his signed testimony the object started off like a meteor, coming from the north-east. Within seconds it was only twenty-two yards away from him, six feet from the ground (hovering). It was "pumpkin in shape" and had green and yellow lines across it. A warm, fan-like effect seemed to emanate from the object, and it was as if it was rotating, although he did not see any signs of this. It gave off a peculiar pungent, acidy smell, like acid drops. Mr. Mayer was "transfixed to the spot, because it was a wonderful thing to see", but his dog cowered in fear behind him. When the object, which was twelve feet in diameter, sped back to the north-east, the dog Titus ran away and waited for him by the Power Station (he'd never ran away before, in five years).

Mr. Mayer was somewhat mesmerized by the object. He said of the fan-like effect "..... it was warm, not unpleasant, it did not seem insidious, whatever it was." After having spoken to him, I am certain that he was not lying. His life seemed to have been profoundly affected by the incident. His outlook on life had been changed, he told me. Whereas before the incident he had ridiculed UFO sightings, the sighting had humbled him.

I made the investigation on behalf of the British UFO Research Association. Not long before, the Regional Investigations Co-ordinator for Norfolk had been investigating a sighting made at Bulcamp Marshes near Blythburgh. At the time of writing (2nd May) I have not got any more details of this sighting, but I should be finding out more soon, and anyone who wishes to know more about this and the Sizewell UFO is welcome to telephone or write to me.

Another sighting which occurred in East Anglia was investigated by B.M. King, another BUFORA investigator. Again I'm afraid I cannot tell you much, only that the sighting happened at 7:45p.m. on the 11th May and occurred in Chingford, Essex.

A fourth UFO incident happened in Essex just before Christmas in 1973, when a designer, Caroline Ebborn, noticed an array of lights in the sky near Abridge. A red, pulsating object rose higher into the sky, paled, and then came towards her rapidly. It was diamond-shaped, had yellow lights, neon-red lines at the back, followed by a green fluorescent light. This was reported in the worlds most respected UFOlogical publication, 'Flying Saucer Review'.

As a matter of fact, the number of UFOs seen in East Anglia recently seems to be well above the average for the rest of the country over the same period.

I hope this article I have written has interested you, and perhaps I have won some converts. If anyone is interested in joining BUFORA or subscribing to FSR, please write to me and I will supply you with some information. On a slightly different key, I would be extremely grateful if anyone who believes that they have seen a UFO could contact me at the address below, or alternatively ring me up.

Mark Howe,

[REDACTED],
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Telephone, Bury St. Edmunds [REDACTED]

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PROGRAMME FOR JUNE 1975

TUESDAYS from 8p.m. Double Stars Section.

Director Mr. D. Bearcroft, [REDACTED], Ipswich, 'Phone [REDACTED]

10th June

24th "

WEDNESDAYS, from 7p.m. Solar, Lunar & Planetary Section.

Director. Mr. R.M. Cheesman, [REDACTED], Ipswich.

4th June

11th "

18th "

25th "

THURSDAYS: from 8.30p.m. Variable Stars Section.

Directors. Mr. T. Cardot, [REDACTED], Ipswich, 'Phone [REDACTED]

and Mr. D. Barnard, [REDACTED], Ipswich, 'Phone [REDACTED]

5th June

12th "

19th "

26th "

FRIDAYS: from 8.p.m. Lunar & Planetary Section.

Directors. Mr. J. Deans, [REDACTED], Capel St. Mary,
'Phone GT. WENHAM [REDACTED]

and Mr. K. Dye, [REDACTED], Ipswich, 'Phone [REDACTED]

20th June

FRIDAYS from 8.30p.m. Nebular & Faint Objects Section

Directors. Mr. M. Stow, [REDACTED], Ipswich
and Mr. R. Hazelwood, [REDACTED], Ipswich 'Phone [REDACTED]

13th June

27th "

SATURDAY 14th June from 10p.m. Meteor Section.

Director Mr. S. Flory, [REDACTED], Ipswich, 'Phone [REDACTED]

JUNE LYRIDS METEOR count. Meet at entrance to Foxhall Stadium
irrespective of weather conditions at 10p.m.

If the weather conditions are too bad for observations the Meteor Count
will be postponed to SUNDAY 15th June, same time same venue.

***** FRIDAY 6th June.

Committee Meeting at Observatory at 8.30p.m. to which all members of the
Society are invited