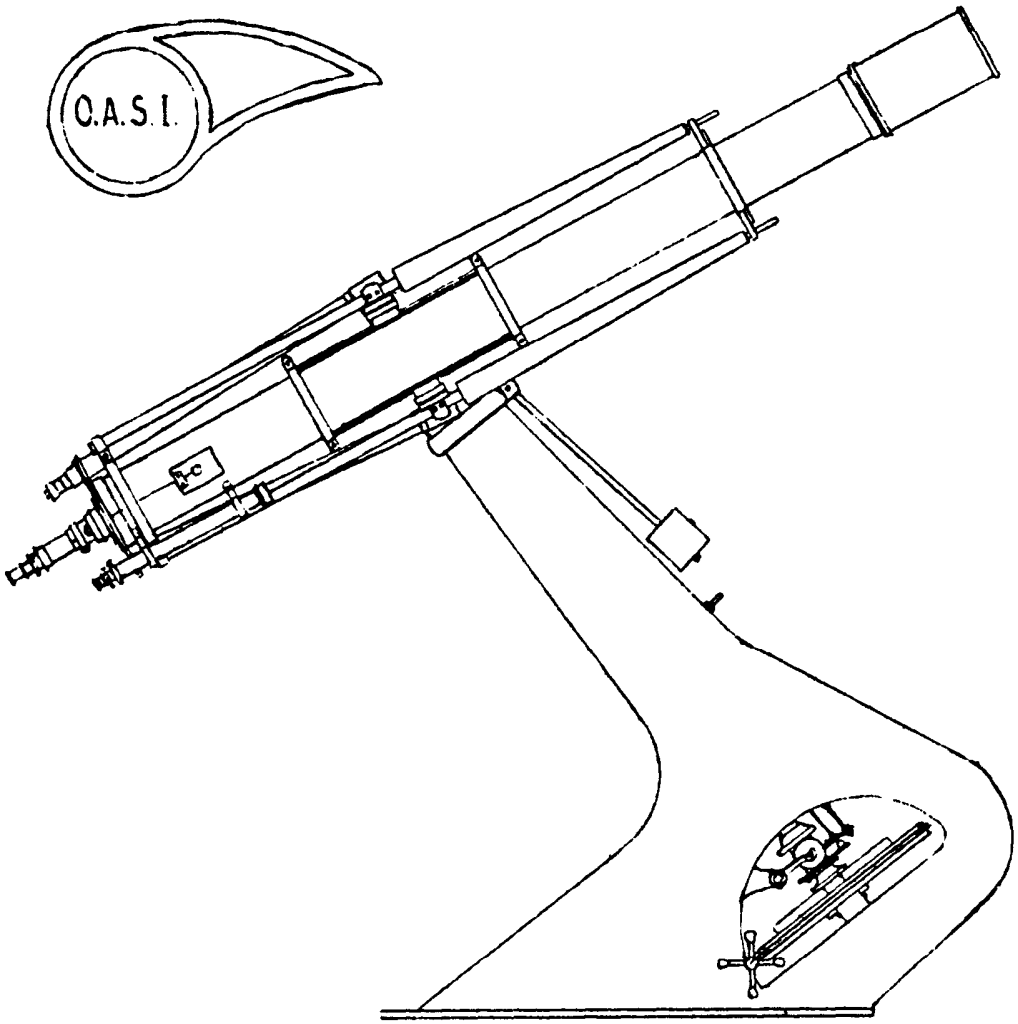
THE JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY (IPSWICH) JAN 1979

Editor: Mr. Paul Bart, [redacted], Ipswich IP1 6PP 'Phone Ipswich [redacted]

Producer: Roy Adams, [redacted], Ipswich IP2 9ST 'Phone Ipswich [redacted]

Your subsissions of items for the Journal will be welcome.



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

I have already wished all readers a Happy Christmas and New Year, but I forgot one thing - 'Good Resolutions!' (Even if only via your telescopes and cameras!)

Some of you may have heard that as from the January edition 1979, we were suddenly to go bi-monthly - that is, have six journal productions per year instead of 12. Indeed, if you were at the last ordinary committee meeting, you definitely did hear it! The 'why' for this is because the nett production cost of each Journal issue for the last three issues has been about £14.50 with a strong breath of increase in cost promised for the beginning of this year. Even without the mooted increase in cost, the committee of December 9th reluctantly decided to make a double move - a change to bi-monthly and a change of reprographic service. The changes were, however, to be trial only, and it was hoped that the new 'reprographic service' would in fact, be found able to cope with enough throughput to return to the monthly issue of the same amount of content. Paul, Roy Gooding and Simon Harvey, among others, then, prepared for the change of frequency, wondering how we would indeed cut down the content to one-half or five-eighths during the trial period. But the situation has been 'resolved' at the A.G.M., with-holding issue date for this being the main reason why the January Journal is a bit late. The Committee decision to go bi-monthly has been over-ruled and trust has been placed with those concerned with Production to do what they can for this and the next three issues to see if our fears for 1979 finances depletion by the Journal are 'a load of dogs barking at an empty cats' home'. We do not, in fact, expect to see any separation of charge for the provision of the Journal, or any sort of 'surcharge' on subs. for it, though such ideas have been suggested and held in abeyance (your Producer neither recommends nor supports such ideas).

What I do recommend and support, is (whilst on the subject of resolutions) that perhaps a few more members could become a little more involved in Society activities when they are able, and perhaps a few more faces could be reflected in the eyepiece end of the great big 10-inch we have use of. The greater the enthusiasm for our Society, the more it will flourish and carry off new-member drives (new 'blood', new ideas, new achievements) and other including fund-raising events. Visits to other observatories and similar interesting venues can be made viable. Quite a few possibilities have been mentioned in this direction for 1979.

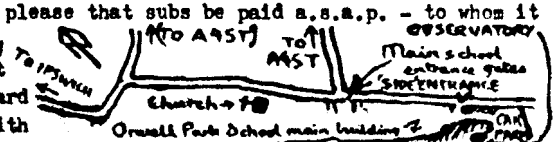
One other point of resolution: The Orwell Park 10-inch refractor is having considerable work done on it, including some good cleaning-up and modification of such items as the drive engagement mechanism. A basic extra counterweight is at the time of writing all ready to go on, and a second addition - a smaller sliding counterweight, is planned. Luckily, some members take more time on the mechanics than actually viewing.

Lastly, still on resolution, 'greubles' - a snow-like malignant fungus which may not be of German origin but which is certainly cutting threshold magnitude by at least three or four orders and defeating resolving power - has to be evicted from the 10-inch o.g., once again, and the lens will be taken out mid-month, and transported to and from Mr. Dall who will do the necessary while some of our members who have accepted this very responsible task, wait.

It is hoped that when the o.g. is well again, it is used by more members, and in good part for the observation of Jupiter this year - more detail on this separately.

A reminder that 1979 should see the peak of another sunspot maximum - there was plenty to see the other day when I looked. But take care!

And the usual other 'seasonal' reminder - please that subs be paid a.s.a.p. - to whom it may concern.



Occasionally, it has come to our ears that one or more cars have been parked in awkward places unwittingly by folk not familiar with Orwell Park School layout. Please use the proper car park abutting the South-East end of the School, via the South-East (not main) entrance; 5mph & quiet car & building doors, please!

 THE NIGHT SKY AS SEEN FROM ORWELL PARK IN JANUARY

Gemini is due south at midnight with Taurus to the west of it and Cancer to the east, the latter containing the Praesepe open cluster (Messier 44) which is easily found this month, being directly east of Jupiter. Just south of Gemini is Canis Minor with its main star, Procyon. Further south can be found Canis Major, containing, of course, the unmistakable Sirius. Apart from both being 'dog-stars', Sirius and Procyon have other similarities, in that they are both close to the Earth, relatively. (Sirius is 8.5 light-years distant, and Procyon 11 light-years.) They also both have a small, high-density white-dwarf companion, visible only through a large telescope. Orion is in its full glory to the south, and the quadrilateral shape which can be seen below it is Lepus. Leo is now in full view in the eastern sky by late evening.

THE SUN

Sunrise is at 08h00m at the beginning of the month, changing to 07h50m at month-end. Sunset changes from 16h00m to 16h40m. The Sun moves from Sagittarius to Capricornus during the month.

THE MOON - Phases

First Quarter	5d11h15m	Last Quarter	21d11h23m
Full Moon	13d07h09m	New Moon	28d06h20m

Occultations

Star	Phase	Mag.	Time
3465	D	6.5	3d20h08.5m
327	D	4.5	6d23h19.9m
*692	D	1.1	9d16h56.4m
*692	R	1.1	9d17h41.6m
878	D	5.5	11d04h22.8m
*1660	R	6.2	18d06h02.6m
1663	R	5.2	18d06h51.1m
**1850	R	6.5	20d01h23.0m

D = Disappearance
R = Reappearance
Stars listed according to Zodiacal Catalog (ZC) numbers.
* denotes double star
** denotes time is correct for latitude and longitude of Greenwich.

THE PLANETS

Mercury is a morning star visible until mid-month, rising an hour before the Sun, at mag. -0.3.

Venus is also a morning star, reaching greatest western elongation of 47° on the 18th. Its magnitude decreases from -4.3 to -4.0 during the month.

Earth is at perihelion on the 4th (distance 147 000 000 km).

Mars is not visible this month, reaching conjunction on the 20th.

Jupiter reaches opposition on the 24th, at mag. -2.2 in Cancer. See also below.

Saturn is retrograding in Leo at mag. +0.8, rising at 2000h by the end of the month.

MUTUAL PHENOMENA OF JUPITER'S SATELLITES

As briefly mentioned in last month's Journal, 1979 is a favourable year for these phenomena, which are (for the unenlightened) the occulting and eclipsing of Jupiter's four main satellites by eachother. The Table below gives the occurrences in January. In the 'Event' column, I = Io, II = Europa, III = Ganymede, and IV = Callisto. O = Occultation, E = Eclipse, P = Partial, and A = Annular. (For example, II O III P means that Europa partially occults Ganymede.) Times given are for mid-phenomena, and S.D. is the semi-duration (in minutes), which is the time from start to mid-phenomena.

Event	Time	S.D.	Event	Time	S.D.
II O III P	7d16h00m	81.8	II O III P	14d23h36m	9.0
II O III A	14d11h26m	25.7	II E III A	28d07h16m	27.0
II E III A	14d13h19m	29.2	II O III A	28d07h56m	28.2

Events occur next in June.

In 1931 a young radio engineer working at the Bell Telephone Laboratories was found to have an incurable kidney disease. Reluctant to 'pension him off', the Company asked him to investigate the hiss heard on their short wave receivers. They gave him financial help to construct a very crude receiver to pick up 15-metre wavelength signals and isolate the hiss. He set up camp on a potato farm at Holmdel, New Jersey. His name was Karl Jansky.

After extensive searches, he discovered that part of the hiss was due to thunderstorms and power lines, but still some hiss remained unaccounted for. He found that it seemed to move from east to west across the sky, and finally came to the conclusion that he was picking up radio waves from the Milky Way, though not much attention was paid to Jansky's discovery.

However, in 1937 another American, Grote Reber, built the first version of a radio telescope as we know it. It was a 9-metre parabolic dish able to receive wavelengths of the order of 60 cm. He also found that he could obtain better resolution by using a larger diameter receiver. This led to the discovery that radio waves were most intense in regions which did not correspond to bright visual sources.

Nowadays we have much larger radio telescopes that probe the galaxy and the stars within, as well as probing into deep space. One of the biggest is the Arecibo telescope, situated in Puerto Rico. Because of its size (300 metres in diameter) it has to be fixed, and is housed in a natural bowl in the ground, sufficiently remote from interference from any nearby terrestrial radio sources. Recently the trend has been toward larger and larger telescopes, enabling less intense radio sources to be detected, and providing better resolving power at the same time.

Radio telescopes have already found pulsars, quasars and Seyfaert galaxies. Who knows what other strange celestial objects they will help to uncover in years to come?

FROM OTHER JOURNALS - SPS Threat to Radio Astronomy

The Solar Power Satellite project, if implemented, could wipe radio astronomy off the face of the Earth, said Sir Bernard Lovell of Jodrell Bank, at the Royal Society Solar Energy meeting. The project entails putting solar cells into geostationary orbit to convert sunlight into microwave radiation, which is beamed down to Earth. This radiation could be considerably more intense than radio telescopes are designed to detect, and a single SPS could destroy a radiotelescope as a result of stray radiation concentrating at the telescope's focus. Sir Bernard said that if SPS technology caught on, radio astronomy could be an ancient science by the turn of the century. He admitted that the problem could be overcome by building radio telescopes in space, but large investments in radio astronomy are now under consideration, and money spent on these could be wasted if SPS goes ahead. (New Scientist)

Proposed Astrometry Satellite

Astrometry, the precise measurement of star positions, proper motions and distances, is at present a much neglected branch of astronomy. It may be rejuvenated, however, by ESA's proposed plans to launch an astrometric satellite, named Hipparchus, in the early 1980's. The project is receiving support from astronomers all over Europe, and the satellite itself would fly for two and a half years in a geosynchronous orbit, measuring the absolute positions and tracing the motions of 100 000 of the brighter stars. It would also determine stellar parallaxes, using the familiar method of employing the extreme points of the Earth's orbit as a baseline for angular displacement measurements. However, it would improve on ground-based parallax measurements in that they would be made much more quickly than the current tens of years that it takes to complete them. Also, stars out to a distance of 250 l.y. would be measured with an accuracy possible at present with only a handful of the nearest stars, thereby improving our known distance scales in space. (New Scientist)

Space Shuttle - Initial tests of the shuttle, plus external tank and two solid rocket boosters, at the Marshall Spaceflight Center, have assured engineers of the worthiness of the complete unit to survive noise and vibration caused by the shuttle's main engines at launch. Testing of the Orbital Manoeuvring System has now successfully completed its development phase. The system was fired a total of 100 times at 6 000 pounds thrust. (Rockwell)

The shuttle's main engine has passed a 16-minute static test firing, this figure being significant, as it is the length of time the engine must fire if there is a 'mission abort' during launch. The normal burn time for a shuttle main engine is 8 minutes, but the extra eight minutes is required in case one of the engines fails during launch. (NASA)

Astro-nosh - Next year's shuttle crews should get tasty meals with a much wider variety than has been previously possible, whilst still maintaining a balanced diet of 3 000 calories. A typical daily menu could be:

Breakfast - Orange juice, peaches, scrambled eggs, sausage, sweet roll, coffee.
Lunch - Cream of mushroom soup, ham and cheese sandwiches, stewed tomatoes, banana, biscuits and tea.
Dinner - Shrimp cocktail with sauce, beefsteak, broccoli au gratin, strawberries, pudding, biscuits and cocoa.

Ordinary eating utensils will be used, and the tray held on the lap or fixed to the wall! (NASA)

Naustar III - This 1 003 lb satellite, the third in a series of four, was launched on November 6th from the Vandenburg Air Force Base, and was declared 'operational' on November 20th, orbiting at 10 980 miles. The fourth satellite in the series was still awaiting launch at the time of writing. When all four Naustars are operational, they will constitute the 'Global Positioning System', which was demonstrated on the Panorama programme, 'The War in Space' a few weeks ago. The G.P.S. will provide time and position data to users with the appropriate receiving equipment. When the satellite system is eventually completed with the addition of even more satellites, it will be possible to pinpoint the location of objects being monitored on the Earth's surface to within 10 metres. (Rockwell/U.S.A.F.)

Seasat-A - After a month of continued unsuccesful attempts with Seasat-A, NASA's experimental oceanographic satellite, the mission has been formally ended. However, the data that has been collected during the satellite's 106-day lifetime will take more than a year-and-a-half to interpret. The satellite was designed to take photographs and measurements of sea ice, waves, coastal conditions, sea wind speeds and sea surface temperatures. A failure board working under the chairmanship of Dr. Bruce Lundin is trying to determine the fault causing loss of power. (NASA)

Project LACIE - This project, which began in 1974 to monitor world wheat production, has come to an end. Results of the experiments have been discussed by more than 200 delegates from 22 nations, at the Johnson Space Center.

The experiment used data fromLandsat and weather satellites to predict wheat yields. The major study areas were Canada and the U.S.S.R., and a prediction of 91.4 million tonnes was made for the wheat yield of Siberia for 1977. The official figure released by the Russian authorities was 92.0 million tonnes, which means an error of less than one per-cent. These results show great promise for larger projects to plan future global food crops. (NASA)

Venusian Experiments - NASA is asking scientists for experiments to board a proposed mission to view the surface of Venus in 1984. The spaceprobe, called 'Venus Orbiting Imaging Radar' (VOIR), would orbit Venus for roughly one Venusian year, providing a global map of Venus' surface by means of radar. The spaceprobe would be launched by shuttle, and given an extra kick to get it to Venus by use of an Inertial Upper Stage. (NASA)

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Telesat-D - Canada's [redacted]rth domestic communications satellite, alias ANIK-B, was launched from Ca[redacted]naveral on December 15th, and will replace ANIK-A1, positioned at 109° West. The satellite will participate in social experiments such as tele-medicine, tele-education, tele-conferencing and Eskimo broadcasting. (NASA)

Xenon - Cornell University scientists have produced metallic Xenon (Xenon in the rarest of the Earth's stable gases). A pressure of 320 000 atmospheres and a temperature of -241C had to be applied to produce the metal. The gas has been termed 'metallic' because during the experiment, its electrical conductivity rose by One hundred billion times. The pressure required in the experiment was six times that used to produce synthetic diamonds. (NASA)

NATO III - The third NATO communications satellite was launched on November 15th from the Kennedy Space Center. Apogee and perigee for the transfer orbit are 35 787 km and 185 km respectively. Eventually a solid propellant rocket on the satellite will be fired to circularize the orbit at 35 787 km. At this height the satellite will slowly drift eastward. When it is over the required position, a hydrazine fuelled jet system will boost it outwards a further few kilometres to geosynchronous altitude. (NASA)

Skylab - In early November NASA announced that further changes in Skylab's attitude were to be made to expose its Control Moment gyros (which sense the directional movement of the craft and positioning) to more sunlight, to prevent them freezing-up. However, as reported on television on December 19th, NASA have abandoned their attempts to save Skylab, and will allow the craft to re-enter in about 18 months' time.

Pioneer Venus - The Orbiter was placed in orbit around Venus at 7.55 Pacific Standard Time, on December 4th, and the five atmospheric probes successfully completed their mission on December 9th. To the delight of NASA scientists, one of the three smaller probes survived impact, and relayed data for a further hour before succumbing to the intense pressure and heat on Venus' surface. Preliminary data from the probes has revealed large amounts of Argon-36 gas in the atmosphere, which has thrown doubts on existing planetary formation theories. And infra-red measurements have shown that clouds over the polar regions are 5.1/2C warmer than at the Venusian equator. (NASA/New Scientist)

METEOR NOTES

I understand from Dave Barnard that there are no major streams this month. As we are anxious to get to copying, the promised-from-Barney meteor-observing text continuance (not yet in) will be included next month.

IJVTOP and Jupiter Observation Programme, 1979

I have written off to Peter Muller who is in charge of propagating data on the IJVTOP (International Jupiter Voyager Telescope Observations Programme) and expected by now to have had a reply with material that could have been included in this issue of the Journal as a Supplement, with extracts from certain texts available which can outline for members, methods of observing Jupiter. Amateur's well-recorded work on the appearance of Jupiter from Earth will be valuable in comparing with pictures sent back from Voyager. As we can wait no longer for this data, we will be including something next issue.

MEMBERS' ADVERTS

● FOR ALL CLOCK REPAIRS, B I G or small, ancient or modern, by competent craftsman Society member, 'phone [redacted] (evenings) for all inquiries.

● For sale: CROOKES VANE RADIOMETER, very useful instrument (and conversation piece). Rotates on incidence of less than 1/20 Watt (evacuated glass bulb), in sunshine simply whizzes round. Only £3.50. Contact R. Adams, [redacted], Ipswich ([redacted]).

REMEMBER we still have some stickers for sale for the society, and if you have any good fund-raising ideas - indeed, worthwhile ideas on anything for the Society activities or Journal, tell someone else. That is what your society is for.

 A REPORT ON THE RECENT TALK BY PETER LAYCOCK ON 'SUN [illegible]HIPPING'

Aspiring to be something of a solar observer I found the substance of Peter's talk and the items he brought along, very interesting. There were no bathing beauties of course, but if you like that sort of thing, solar astronomy in several months of the year is more conducive to having them around than is the night-time variety (except on the warmest of nights?)

Peter was seriously correct in saying that for those of us who might put away our telescopes in summer because of the short, twilighty nights, could leave them around for use on the Sun.

Although observation at certain times without a telescope is possible, always with precautions, use of the projection screen and other apparatus such as a spectroscope with a transmission grating (600 lines per mm!) and an open slit for viewing prominences, was the main coverage. A prominence telescope with a Hydrogen-alpha filter was detailed. Peter uses a coelostat which he made as a Project (something different, he says) and which can feed into various apparatus in his observatory. The technics of oscillating slits and variable blanking-cones were included in question discussion from the floor.

It is clear that this daytime astronomy should be indulged in, after all, the Sun offers us a star to study at very close range even if in winter, we moan that its heat is not quite enough. Solar astronomy offers a continually changing pattern of events and amateurs' observations can be of great value, especially in general bad weather when you may be the only one to record an event on the Sun which is of fairly short duration but of considerable strength.

Those present much enjoyed the evening and seeing the work that Peter had put into his apparatus. Being also a devotee of solar energy on a very down-to-Earth basis, I often wonder when solar astronomy ends and where meteorology begins! RCA

SUGGESTED SOLAR READING: The Sun - by Georgio Abetti (Pub. Faber & Faber). A 'must' for all serious observers. The Sun and the Amateur Astronomer - by W.M. Baxter (Pub. David & Charles). A very useful amateur's book. The Amateur Astronomer and His Telescope - by G.D. Roth (Pub. Faber & Faber). This has a good chapter on solar observation and details of Prominence Telescope construction.

OUR MEMBERS' ILLUSTRATED TALKS EVENING IN DECEMBER

On the 15th, we were treated to a sample of what our own chaps can do when called upon. Charles Radley gave us an account of the history of the Orwell Park Observatory, David Payne told us about Cosmology, and Colin Munford gave us a good deal of detail about variable stars.

After the coffee break, our Chairman, 'Royston'-for-the-evening Cheesman showed us how his home-made planetarium worked (and forgivably with all the gubbinses) very occasionally rested) and made us feel we had been transported to Marylebone for a while. I wonder Michael Bentine wasn't present as the show was on a squared-up room walls and ceiling, and one day, we will have to get Roy(ston) to take his kit out of the cistern and give us a show in the Observatory dome, where it was really designed for. The main projector consists of a large ball with - so it seems - countless - holes in it, slowly turning with a small light at its centre. A tape-recorded commentary aided delivery of changes of scenery appearing from another projector and put us in our very short place in time. We were very sorry when the sun came out at last after a great demonstration. The show lasts only a half-hour but the making took months. RCA

BRETMAIN LIMITED

I have been asked to inform readers that Bretmain Limited have recently moved from their (old) address at 2 Station Road, Rayne, Essex, to

99B Hamilton Road, Felixstowe Telephone, Felixstowe 75858.

They offer a free illustrated catalogue of slides, books, 'scopes and accessories. They have a special line in 3-D deepspace cards which sound very absorbing.

NOTABLE ASTRONOMICAL [illegible]VERSARIES - JOHANN BODE By Roy Gooding

January 19th marks the 231st anniversary of Johann Bode. He was born in Hamburg, becoming interested in astronomy at an early age. Throughout his life Bode wrote many books on astronomy, the first being published in 1766, when he was aged only 19.

Between 1774 and 1779 Bode discovered several nebulae of various types. At the end of December 1774, two nebulae were found in Ursa Major, M81 and M82, which are now known to be two galaxies, though at this time their true nature was unknown. Further objects were discovered in 1775 (M53) and 1777 (M92). Bode published a catalogue of some 75 objects during 1777. Many of the entries, though, were asterisms and non-existent objects obtained from early catalogues written by Hevelius and others. Only about 50 of the entries were in fact nebulae or star clusters, several of which had positional errors. (Bode's catalogue and those of early observers were used by Messier at this time to compile the most comprehensive and accurate catalogue of nebulae and star clusters yet to be achieved. The final version appeared in 1784.)

In 1781 William Herschel discovered the planet Uranus. After the discovery, Herschel wanted to name it Georgium Sidus in respect of George III. The name finally adopted was first proposed by Bode, who became greatly interested in the new discovery. During the subsequent months Bode started a search for any earlier observations of the object. A Tobias Mayer in 1756 had observed Uranus, and unwittingly included it in his star catalogue of 1775. In 1785 Bode found the earliest observation of the planet had been made in 1690 by Flamsteed. These early observations of Uranus helped in calculating the planet's orbit with more accuracy than would have been the case had positions since 1781 been used only.

Bode is primarily known for his Law of relative planetary distances from the Sun. This law is now only of historical interest, its importance being lost after the discovery of Neptune. Bode was not the originator of this law, but because he popularized it in his book, 'The Knowledge of the Starry Heavens', he received the most credit for it. The law had originally been discovered by Johann Titius who had published it in 1772.

In 1786 Bode became Director of the Berlin Observatory. He held this post for nearly 40 years, retiring in 1825. During 1801 he published a comprehensive star atlas with the title 'Uranographia'. This atlas was quite popular, containing many new constellations, none of which were ever officially adopted. The only remnant still remaining of Bode's new constellations is the Quadrantid Meteors of early January. The shower radiant is in the northern part of Bootes. Bode had given this area the name of Quadrans Muralis.

Bode died on November 23rd, 1826.

NOW RIGHT UP TO DATE WITH YOUR O.A.S.I. A.G.M. NEWS (in brief)

Twenty-one people attended the meeting on January 6th held in the Orwell Park School Library by courtesy of the Headmaster, Mr. Belle. In this large room with its enormous table, (specially made, it seems, so only words, not fists, can hit across it), the dus speeches were read, and as mentioned in the editorial, Journal matters particularly were thrashed out. The Committee for 1979 was elected, resulting in some changes: These were due in part to the standing-down of Mr. Wilkes and Mr. Deans, and we now have

Mrs. Pat Long, Treasurer
Mr. Mike Harriskill, Secretary
Mr. David Payne
Mr. Dave Barnard
Mr. Roy Cheesman, Chairman
Mr. Alan Smith, Assistant Chairman
Mr. Charles Radley

to guide us or push us as the case may be, sometimes assisted by others, through 1979. I believe some kind person or persons (unknown) proposed Yours Truly for a position on Committee, but as I have recently agreed to become a Trustee for the Society, the rules say this can not be, although I do have some 'say' in Committee affairs and attend. May I record thanks to valuable Members not continuing in Committee and welcome new ones. Jupiter and Saturn and faint objects were nominally chosen for observation projects. RCA.

PROGRAMME FOR JANUARY 1979 At ORWELL PARK OBSERVATORY, NACTON, IPSWICH

TUESDAYS from 7 pm: Planetary Section Jan. 9th, 23rd; Feb. 6th
Directors Mr. J. Deans, [redacted], Capel St. Mary 'Phone Gt. Wenham [redacted]
and Mr. J. Hood, [redacted], Ipswich. Whilst Mr. Deans is still a section director, his presence during the next few sessions can not be guaranteed owing to severe pressure of other work, but Mr. Hood will be there with others.

Tuesdays from 7 pm: Solar, Lunar & Planetary Section Jan.16th, 30th; Feb. 13th
Directors Mr. J. Hood, [redacted], Ipswich
and Mr. M. Barritt, [redacted], Ipswich

WEDNESDAYS from 8 pm: Nebulae & Faint Objects Section Jan.10th, 17th, 24th, 31st;
Directors Mr. D. Payne, [redacted], Wickham Market, Suffolk 'Phone Wickham Market [redacted] Feb. 7th & 14th
and Mr. M. Cook, [redacted], Ipswich 'Phone Ipswich [redacted]

THURSDAYS from 8 pm: Double Stars Section Jan.18th; Feb. 8th
Directors Mr. D. Bearcroft, [redacted], Ipswich 'Phone Ipswich [redacted]
and Mr. J. Ranson, [redacted], Ipswich 'Phone Ipswich [redacted]

FRIDAYS from 8 pm: Variable Stars Section Jan.19th; Feb.9th. On Feb. 9th, the meeting will start at 7.30 pm, as the Constable Ranger Unit girls will be on visit commencing then outside the Main Gate of the School.
Directors Mr. R.S. Manning, [redacted], Ipswich 'Phone Ipswich [redacted]
and Mr. M. Siggers, [redacted], Ipswich

SATURDAYS from 8 pm: General Section Jan. 13th, 20th; Possibly Feb. 10th
Directors Mr. M. Barriskill, [redacted], Ipswich 'Phone Ipswich [redacted]
and Mr. R. Adams, [redacted], Ipswich 'Phone Ipswich [redacted]
*Mike works nights; 'phone times somewhat restricted.

METEOR SECTION meets are usually held on Martlesham Heath outside Ipswich (note recent change of venue). Details of meetings and activities from Mr. D. Barnard, [redacted], Ipswich ('Phone Ipswich [redacted] subject to availability) or from Mike Barriskill.

COMMITTEE - Next meeting on 3rd Feb. at the usual place (not the Observatory).

WINTER LECTURE PROGRAMME MEETINGS: The Annual General Meeting, already history, took the place of a January lecture, and the next Lecture Meeting will be on FEBRUARY 16th, at 8 pm, (Friday) at the FRIENDS' MEETING HOUSE, 39 FONNEREAU ROAD, IPSWICH, when the Speaker will be either Dr. B. L. Morgan or a colleague, from the Imperial College of Science and Technology. We look forward to ample support for this event.

Other meetings occasionally take place, for example, visits of other organizations to us, and of us to them. We aim to arrange at least two or three visits to other big observatories this year, and to hold an Open Day or similar home event. Sometimes special observing projects are organized, such as for timing a grazing occultation - another of these is due this year, for which we hope there will be more patient weather.

FOR MORE DETAILS ABOUT THE ORWELL ASTRONOMICAL SOCIETY and activities, please contact any of the people already mentioned in the Observatory Programme, Editor Paul Burt, or Assistant Chairman, Mr. Alan Smith, [redacted], Ipswich, 'Phone Ipswich [redacted], or Treasurer, Mrs. P. Long, [redacted], Ipswich, 'Phone Ipswich [redacted].

PROSPECTIVE NEW MEMBERS ARE ALWAYS WELCOME. Ones and twos can be shown the Observatory (and weather permitting, some views through the telescope - the o.g. should be out only a few days) after making sure someone will be or is up there (or if you come on spec. you may be disappointed). All GROUP visits, however, must be arranged only through Chairman, Roy Cheesman, [redacted], Ipswich (direct contact week-ends only, but in emergency contactable via Roy Adams or certain other members).

PLEASE NOTE WE HAVE A GOOD STOCK OF STICKERS FOR SALE at 10p each. If one likes to put them in a car or house window, a piece of clear p.v.c. self-adhesive with the sticker placed facing out (or in - or indeed, one facing one way and one the other, back to back), will allow good advertizing and enhance your window or file box or whatever. If in a window, of course, the window should be well dried first.