JOURNAL OF THE ORWELL ASTRONOMICAL SOCIETY(IPSWICH)
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OASI

THE ANNUAL GENERAL MEETING OF THE ORWELL ASTRONOMICAL SOCIETY(IPSWICH) WILL BE HELD ON WEDNESDAY 3rd JANUARY 1973.

At this meeting the progress of the Society over the past year will be reviewed, officers elected for the 1973 session of the OASI. Looking forwards to meeting you all again at the AGM

Subscriptions for the 1973 session of the OASI will be due on the 31st December 1972.

The We would like to welcome these new members to the Society:
57.Mr.M.E.Martin, [redacted], Ips.
Mr.Malcolm Laurie, [redacted], Walton, Felixstowe,Tel Fel [redacted]
67 Dr. &Mrs.D.M.Craig, [redacted],Woodbridge, Tel Woodbridge [redacted]
61.Miss N.Parker, [redacted], Bentley,Ips IP9 2BL
62.Mr.P.Skinner, [redacted], Felixstowe.
64.Mr.Barry Horne, [redacted], Felixstowe. Tel Felix [redacted]

ADVERTISEMENT:FOR SALE:-6" Reflector, home made, 2 eyepieces. Apply Richard Matthews, [redacted], Ips. Tel Ips [redacted]

Mr.Laurie owns a 35mm reflex camera. Dr.Craig owns 8x40 binoculars. I would very much like to know what instruments other members own.

Early on Some Mornings in December I might go to the Nacton Observatory to observe Mercury, the Moon, Venus, Mars, Neptune,(all visible in the south-east before sunrise) and to listen to the Voice of America breakfast show for the latest news on Apollo-17. If members wish to use the telescope early in the mornings(5.45 a.m. onwards)in December, contact Roy Cheesman, Mr.G.Collier(Tel [redacted]) or myself. We will only go if it is clear. The most likely dates are Sunday 10th & 17th.

Richard Matthews donated 50p for posting journals to those members I usually post journals to, and a few more. However, 50p. substantial sum that it is, can only post 20journals, and the readership of the Journal is 2½x that number. Once more I plea, will those who live outside Ipswich, and those who live within Ipswich if possible, please send me some stamped addressed envelopes. It will mean that you will receive Journals the day they are published, with the minimum of bother to me and other members of the committe. My thanks to Richard Matthews for his donation. My thanks to those members who have allready sent me stamped addressed envelopes.

It seems that the Civic College are holding two courses in Astronomy early in 1973, and advanced course and an elementary course. Two members of the society have allready applied to take the advanced course. Other members may be interested. The first session is on Feb 14th, & & follow at weekly intervals for nine weeks. Applications must be made well in advance.

Nights Using the Observatory: The Observatory will now be used every Wednesdays by Mr.Roy Cheesman on every alternate Wednesday, and Mr.David Bearcroft every Wednesday. For enquiries, telephone Mr.David Bearcroft at Ipswich [redacted].

HOPE TO BE SEEING YOU ALL AT THE ANNUAL GENERAL MEETING ON 3rd JANUARY 1973

On November 18th there was a coach trip to Norwich, some 20 or more people came along. Mr.D.J.Brown, a member of our society, coach driver by proffesion, ably held the helm all the way to Norwich and back, rendering his services free of charge, and thus greatly reducing the cost of the expedition. The films were interesting, and hosted by the Reverend Cyril Blount, secretary of the Norwich Astronomical Society.

What's Up? The Planets in December.

This motnh, the planet most worth watching out for is Mercury. Mercury will be bisible in the early morning sky before dawn. An article giving details is below.

Venus is still visible in t e morning sky before dawn, but is no longer very prominent. On December 3rd at 23h GMT Venus is 1.3° North of the Planet Mars, in the constellation of LIBRA, not far from Mercury, and Neptune. Mercury will be 0.2° North of Neptune on December 18th at 06h GMT.

This means, then, that Mercury, Venus, Mars and Neptune will all be very close together in LIBRA, rising at about 6a.m., an hour before the sky becomes bright. Sunrise occurrs late in Dece,ber(of course!) and thus it is most convenient for morning astronomy. This December we are particularly lucky in that there is plenty to see in the early morning sky as well.

Venus is at magnitude -3.4, Mars +1.5, Mercury +0.7 to -0.3.

Jupiter is not very well visible this month.

Saturn is once more becoming the most well positioned planet this month. Opposition with Saturn occurrs on Dece,ber 9th, when it will rise atsunset, will be Mag -0.3(its brightest possible). The rings are wide open, and Saturn's south pole is visible. It is moving retrograde through the constellation of Taurus, co-ordinates: R.A. 5hours Declination 21°North. As it rises, it appears to be to the left of Aldebaran, both about the same altitude above the horizon. Aldebaran appears below and to the left of the Pleiades.

METEOR SHOWER The only prominent meteor shower this month is the Geminids. This starts on Dece,ber 7th, ends on December 15th, reaches a maximum of 55meteors per hour on Dece,ber 14th, at 05h GMT. It is rich in fireballs and faint meteors.

THE MOON On December 3rd it is a very thin crescent, 7°North of Venus. Another object to be looked at on Dece,ber 3rd in the early morning. Dec 4 Apogee. Dec 5 New Moon. Dec 13 18h30m First Quarter. The Eastern limb of the moon will be well seen due to Libration on December 13th. The southern limb will be well seen due to libration on December 15th in the evening. Perigee occurrs on December 19th Full Moon occurrs on Dece,ber 20th at 09h45m GMT. Last Quarter Occurrs on Dece,ber 27th at 10h27m GMT. Apogee occurrs again on Dec 31st. The North limb and West limb of the moon will be well seen due to libration from December 24th to December 29th.

Date	RA	Declination	Mag	Diameter	Phase	Distance(AU)	GMT Rises at:
Dec 4	15h39.3m	-16°51'	+0.7	8.6"	0.227	0.775	1¾ 06h20m
9	15 41.9	16 55	+0.1	7.5	0.449	0.890	1¼ 06 00
14	15 57.3	18 08	-0.2	6.6	.623	1.000	2 06 00
19	16 20.3	19 46	-0.3	6.0	.743	1.113	1¾ 06 20
24	16 47.7	21 22	-0.3	5.6	.823	1.202	1½ 06 30
29	17 17.7	22 43	-0.3	5.2	.878	1.275	1 06 45

Explanation of above data:
Declination is in this case, the number of degrees south of the celestial equator, and is to locate the planet on a star chart, alongside RA(Righ Ascension)which is often written as a Roman Numeral.
Mag(Visual magnitude)is on a logarithmic scale, the smaller the number, the brighter it is.
Phase is the fraction of the disk illuminated by the Sun. 0.5=Half full, 0.0=completely unilluminated apparently, 1.0=Full, etc. Less than 0.5 is a crescent.
Distance is measured in AU(Astronomical Units). 1 AU=Average distance of the Earth from the Sun=149million kilometres, 93million miles.
The column to the left of "Rises at" denotes the number of hours before sunrise that Mercury-rise occurrs.

APOLLO-17 Each moonwalk will be up to 7hours long. A total distance of 23miles, 37 kms, will be covered on the LUNAR ROVING VEHICLE.

SEE YOU AT THE A.G.M., 8p.m. JANUARY 3rd 1973.

APOLLO-17 Special Report.

Apollo-17 is the last Apollo mission to land on the Moon(there may just possibly be an Apollo in 1974 to orbit the Moon)and so I hope you will excuse my devoting quite an amount of space to this mission.

How to Obtain Up to The Minute Information:

In the past Apollo missions, the BBC & ITV coverage of the Apollo flights, although good enough for most purposes, has not been as extensive as I would have liked. During Apollo-16, I took up the practice of listening to the VOICE of AMERICA whenever British Radio & TV were off the air. For example, at one point during the mission, when the spacecraft was in selenocentric orbit a few hours prior to landing, the landing guidance computer seemed to be giving trouble, and the landing was postponed. If the fault was not corrected within a few orbits, the landing would have had to be cancelled. This happened in the evening(BST)and when the British radio & TV went off the air, the fault had not been corrected. I picked up VOICE OF AMERICA about the ITV went off the air. I heard an extremely informative commentator (better than those supplied by the BBC with all due respect to Mr.Patrick Moore, and colleagues,who do really do a good job)and live voices from the spacecraft. Thus I was one of the first people in Ipswich (I think) to learn of the fault's correction. I could have stayed on to hear the landing live on the Voice of America, but as that had been rescheduled to occurr at 5a.m.(BST) avid Apollo follower that I am, i eventually decided to give it a rest. For once the Apollo coverage was more than I could cope with!

I shall definitely listen to Voice of America during the Apollo-17 mission, whenever British stations are off the air. Voice of America (VOA) can be heard on medium wave(AM)at 1190 Kc/s, 245metres(very close to BBC Radio-1 medium wave). It can be found quite easily in the earky morning(Breakfast show starts 6a.m. GMT and 7.30a.m. GMT)and in the evening(9p.m. GMT onwards). VOA can also be heard at 0790KHz, about 394metres)Medium Wave, AM. VOA can also be heard on several Short Wave frequencies, but reception is best at 250metres, where it can be found quite easily; reception of VOA is about the same as reception for Radio-1, better than Radio-1 in the evenings. It is broadcast to Europe by a relay, which means the voices sound as if spoken over a telephone, but they are quite clear.

Another American station that can be tuned into is the: AMERICAN FORCES NETWORK(AFN). This can be heard, intended for US servicemen stationed in Germany, at 335metres Medium Wave(AM)or 900Kc/s very close to BBC Radio-4(which is at 330 and 334 metres). Another frequency at which AFN can be found is at around 270metres, 1100Kc/s. AFN is a very faint station, but can be heard quite clearly at one of these two frequencies on any evening, AFN can be picked up more readily on a mains powered radio receiver rather than a battery powered one.

I have devoted a great deal of space to picking up American stations, because I think it is worth keeping in touch with Apollo-17 a great deal, being the last Apollo mission which is definite.

I have allready included the APOLLO-17 in the two previous journals, but I think it is worth repeating it:

Event	Date	Time(GMT)	
LAUNCH	December 07th	02h53m	(TV)
Enter Moon Orbit	" 10th	19h49m	
MOONWALKING	" 11th	19 55	
EVA-1 start	" 11th	23 35	(TV)
EVA-2 "	" 12th	22 13	(TV)
EVA-3 "	" 13th	21 33	(TV)
Lunar Lift-off	" 14th	22 56	(TV)
Start to Earth	" 16th	23 33	
Transearth EVA	" 17th		(TV)
SPLASHDOWN	" 19th	17 24	(TV)

(TV)Indicates that live, colour TV is available.

The place where Apollo-17 is due to land is close to the North-east limb of the moon, in the TAURUS mountains close to the crater Littrow.

The phase of the Moon at launch will be just after New Moon, the phase of the Moon at EOI (December10th) will be a crescent, visible in the south-western sky shortly before and after sunset. It is just possible that with the 10-inch refractor, a TLP might be visible. The Sea of Crises seems to be a possible area. The Apollo-17 S-IVb saturn rocket stage will impact onthe moon some time in the evening of December 10th. It is NOT ADVISEABLE to assume it will impact at the NASA announced on Apollo-16 due to fault guidance it impacted hours late.

OBSERVATORY LOGBOOK

Wed October 18th '72 :— Supervised by Roy Cheesman, some members were using the telescope in the evening, when Janet Haywood noticed a moving point of light, the artificial balloon sattelite Pageos-A, launched by the USA sev ral years ago, it is 100feet(30metres) in diameter. The telescope was swung around and sighted on to the sattelite. As it was moving accross the sky at a rate of some fractions of a dgree arc per second, and the telescope is heavy, it was not easy. Roy Cheesman manned the sighting telescope, two people wound the dome round, and other members took it turns looking through the main 'scope. Under 80x and 250x magnification, the satelite was clearly visible as a round white disk, as opposed to a point of light. -///-

Wed Nov 15th:- The Moon was very well visible. The air was extremely cold and therefore very steady. Moon was just past first quarter(half full) the terminator ran through crater Copernicus. It took sveral photographs in black and white of the moon and Satu n. Roy Cheesman also took several photographs in colour.

NOTES ON THIS MONTH'S STAR CHART(VIIb)

M-38(Auriga) , a striking loose cruciform cluster, in g;orious neighbourhood.

M-36(Aurigae)open cluster mag 8-14 mag stars,regular pattern, 2° from ϕ Aur

M-37(Aurigae)Fine open cluster, ruddy 9th Mag star at centre.

M-42(Orionis), the Great Nebula, in Orion, easily visible to the naked eye as a large bright fuzz of light below the belt of Orion. Gaseous g green irregular mass, best seen in binoculars or low power. It is the birthplace of young stars within it.

M-34(Perseus),fine loose cluster, just visible to naked eye, contains double star Σ44, low power required to cover large field.

PLEIADES The largest distinct open cluster visible. To the unaided eye, six stars are normally visible. A faint nebula near Merope(bottom right star)is visible through large telescope. The Pleiades are blue hot youhg stars, like those being born in M-42.

M-1 The Crab Nebula, not well seen in telescopes of low aperture, but i. well seen in a telescope such as the Cawell Dark 10". Near S it is a faint gaseous nebula, probably the result of the supernova of a star in 11th century.

BETELGEUSE is one of the reddest of the large stars, its angular diameter measured by interferometry by 100" telescope,as actual dia 300million miles large than Earth solar orbot, the diameter seems to vary irregularly. The mean density of Betelgeuseis 1 millionth of water, 1/1000th of air.

Rigel is a very hot very very bright young star, which is using up nuclear fuel so fast that it will soon burn out. It is one of the most distant stars visible to the naked eye, being 850 ly yrs away,Deneb is 1500 lt yrs.

Algol, the demon star, is a binary variab le (eclipsing binary) star, with a period of about 5 days, with a deep minimum.

In addition to the members on the front page, we would like to welcome,

Michael Bird of [redacted], Brantham, Ipswich, tel Manningtree [redacted].

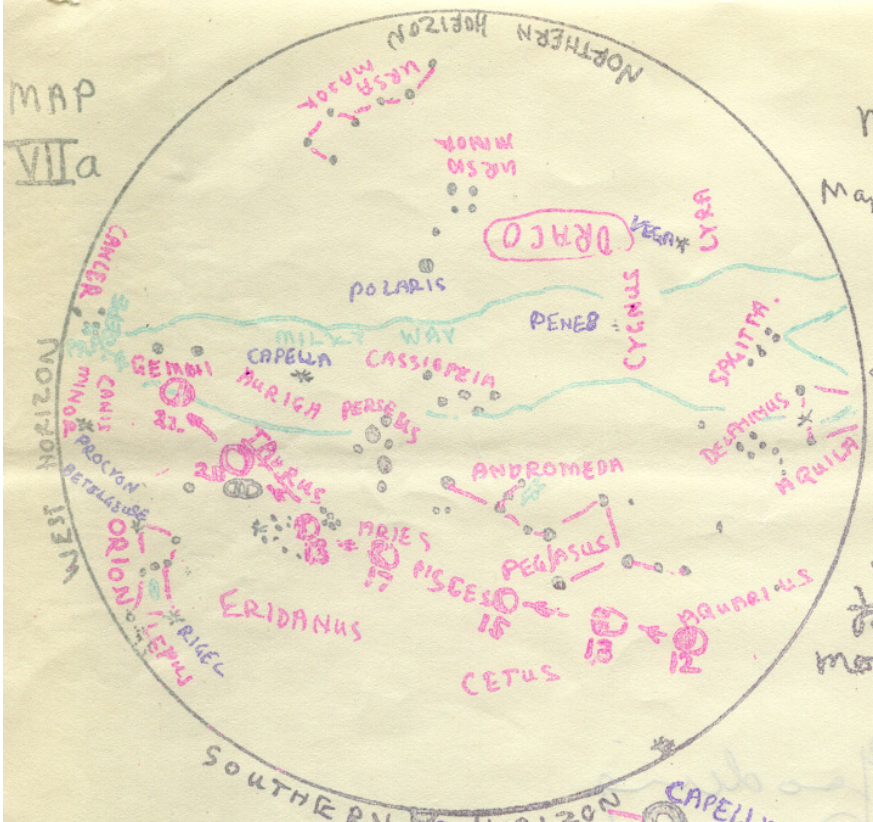
65Peter Nembury & Family, [redacted], Ipswich. into the O.A.S.I.

APOLLO-17 with be manned by :Eugene Cernan(Commander), Harrisson H.Schmidt (Lunar Module Pilot), and Thomas(Ken)Matting;y(Commande Module Pilot) Harrisson Schmidt is the first ~~xxxxxxxx~~ scientist to go into space (Apart from two russians in 1965). An scientist-astronaut is a qualified scientist whox has been trained to be an astronaut, rather then an astronaut who has been trained to be a scientist, which is the usual case. They(Schmidt & Cernan, Mattingly stays in th commad module)will land on the Moon in the region of the Taurus mountain near crater Littrow, near the north-east edge of the Moon at co-ordinates:

Apollo-17 will lift-off at night time, and so will be well worth watching on a colour television if possible, a fitting end to a truly magnificant pro ram not only from the scientific point of view, but as a human achievement.

The Space Probe orbiting Mars, Mariner-9, has been shut, having run out of fuel for its manouvering rockets, its took its last photo on October 27th, making a total of 7,329 pictures, mapping the whole surface of Mars. The two Russian orbiter were shut down in August this year. The next chance to launch probes to Mars comes in August 1973, The USSR will launch 2 soft landing probes, the USA will not launch any. The Russian moonprobe LUNA-19, in orbit round the moon, still operates, taking photos & scientific measurements. It has made over 4,000 moon orbits. The USSR say that the probe is nearing the end of its lifetime.

MAP VII a



Map VI was the November Map

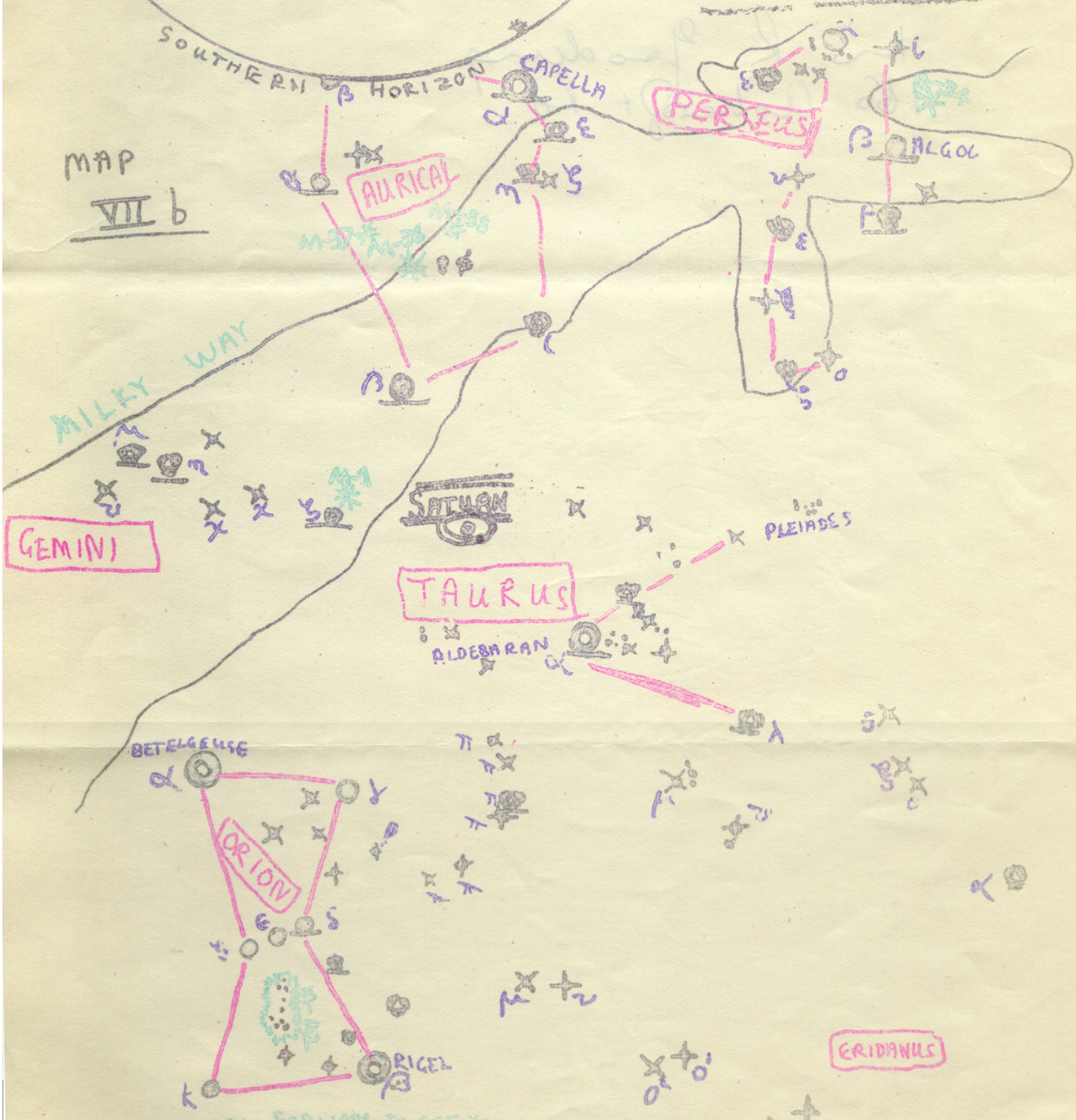
Map VII A (left) is for

10 p.m. (GMT) at the START of DECEMBER
9 p.m at the MIDDLE of DECEMBER.
8 p.m. at the END of DECEMBER.

VII A is not comprehensive, it is to give some idea of the positions of stars & constellations.

The position & phase of the moon are indicated in red for several days either side of the month on (Chart VII a)

MAP VII b



LOOK FORWARDS TO SEEING YOU AT THE 24th ON Wed JANUARY 3rd 1973