ASTRONOMICAL SOCIETY OF FRANKSTON INC.

P.O. BOX 596 FRANKSTON 3199

NEWSLETTER JUNE 1988

MEETING WEDNESDAY JUNE 8th

The talk at the Society's June meeting will be entitled "Does the Sun have a Companion ?" and will be delivered by Barry Adcock who is the Director of the Lunar and Planetary Section of the ASV. Members will remember Barry's talk of May last year concerning the 1986 opposition of Mars. This talk was illustrated with excellent photographs of Mars taken by Barry with the aid of the telescope he made some years ago. (Note that the talk concerning satellites will be given in August)

The meeting will be in Room F6 of the Upper School, Peninsula School, Mt. Eliza, commencing at 8 p.m.

OBSERVING NIGHT SATURDAY JUNE 11th

An Observing Night will be held on Saturday June 11th on the slope above the previous site of the Society Observatory at Peninsula School. As a result of the dismantling of the Observatory on April 30th, it will be necessary to observe with members' portable telescopes, so if you would like to try out your instrument at a good local observing location why not bring it along - and maybe some friends as well.

The evening will be close to New Moon, and

and if suitably dark and clear will be our best remaining opportunity this year for location of remote Pluto in telescopes of 25cm aperture or more. Numerous open clusters and globular clusters will also be visible in the Scorpius/ Sagittarious region and in addition Saturn will be high in the sky for viewing. Should Saturday night be clouded then Sunday, 12th June will become the month's observing night.

SOCIETY NEWS

Following the dismantling of the Society's Peninsula School Observatory, as required by School authorities for playing field development, the Society Committee presented an outline of future plans for reprovision of Observing facilities to the Meeting of May 11th. These plans included the offering for sale of the dismantled Observatory and a request to the Peninsula School that their offer to defray the cost of concrete for re-establishment of an Observatory be replaced by a donation to Society's funds in lieu thereof, such donation to be used towards providing mobile observing facilities in the form of a Dobsonian mounted telescope utilising the Society's 16 inch aperture telescope mirror. It is hoped to retain use of Peninsula School facilities as a base for a Society telescope and for meeting and viewing nights. To assist with finance a Fund Raising Committee, headed by Bob Heale and Clive Nicholls is to commence operations. This outline of planning was approved by the Meeting.

The speaker for the May meeting was Bruce Tregaskis, who described his visit to Banka Island, off eastern Sumatra, to observe the total eclipse of the Sun on March 18th.

Bruce was one of a group of Australian amateur astronomers who were based at a tin mine on the island, and observed from a variety of locations; in Bruce's case from a site close to a beach where the eclipse was seen with little interference from cloud.

Bruce showed a range of slides of different phases of the eclipse, with solar corona, chromosphere and prominence visible, and in addition showed slides of the Australian party and of the islands beaches and tin mines.

As pointed out by a member at the meeting, Banka Island has had other, less happy associations with Australians in the past, being the site of a Japanese massacre of Australian nurses in World War II, as described in the book - "Captives - Australian Nurses at War".

Also at the meeting member Keith Ward showed a number of slides taken by himself of the house of William Herschel in Bath, England. William Herschel, who discoverɐd Uranus whilst observing from this house in 1781, was a pioneer in the use of large reflecting telescopes, and the slides showed both domestic and astronomical aspects of his life there.

SKY NOTES

Constellations. The evening skies of June show the curved "Sickle" of Leo near the western horizon as Scorpius and Sagittarius, the constellations of the galactic centre, rise higher in the east.

To the north is Arcturus, a bright orange yellow giant star in Boötes with a luminosity

some 115 times that of the Sun. Arcturus is remarkable in that it is passing rapidly through the plane of the Galaxy rather than moving in the plane of the Galaxy, as do most of the stars in the sky. At the present time, at its distance of about 37 light years, it is at about its minimum distance from our system and within about 500,000 years it will have passed below naked eye visibility from the Solar system.

In 1933 at the "Century of Progress Exhibition" in Chicago the light from Arcturus was focussed on photoelectric cells and was then used to switch on the lights at the Exhibition, the choice of Arcturus light having been made since the light had commenced its journey from the star around the time of an earlier Chicago exhibition in 1893, thus graphically illustrating the enormous distances of even the closer stars, such as Arcturus.

To the east of Boötes and Arcturus can be seen the "Keystone" shape of the central four stars in Hercules, between the two western stars of which, Zeta and Eta Herculis, may be found, close to the limit of naked eye visibility, the "Great Cluster in Hercules", M13 - the brightest globular cluster visible to Northern Hemisphere astronomers.

Lyra, with the bright bluish leading star Vega, rises to the east, whilst in the southern sky the two Magellanic Clouds may be seen above the bright stars Achernar and Canopus near to the horizon.

High above, between the tail of Scorpius, the Scorpion and the large triangular shape of

Triangulum Australe lies the constellation of Ara, the Altar. In Ara lies another globular cluster of interest NGC 6397 located to the east of a line joining Alpha and Beta Ara. Whilst not as large or spectacular as Omega Centauri or 47 Tucanae, 6397 is thought to be the nearest of the globulars at a mere! 8,200 light years distance.

Planets. For the month of June, the most easily visible of the bright planets is Saturn on the Scorpius/Sagittarius border. The ringed planet reaches opposition on June 9 and will offer many opportunities for viewing the marvels of its ring system and satellites over the next few weeks.

Further east in Aquarius, Mars is steadily increasing in brightness as its distance from Earth diminishes and surface features may be identified with a suitably steady atmosphere and a Martian albedo type chart.

The far outer planets Uranus, Neptune and Pluto may also be located in June evening skies, Uranus, with luck, with the naked eye. (See ASV Yearbook 1988 for charts for these bodies).

The inner planets, Venus and Mercury, are both poorly placed for viewing in June, both being in the morning twilight. However, as the year advances Venus will once again become a bright object, this time in the morning sky.

THE MOON

New Moon	June 14	July 14
First Quarter	June 22	July 22
Full Moon	June 30	July 29
Last Quarter	June 07	July 06

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The Moon a chip off the old block?

The Age : 20.5.88

By GRAEME O'NEILL

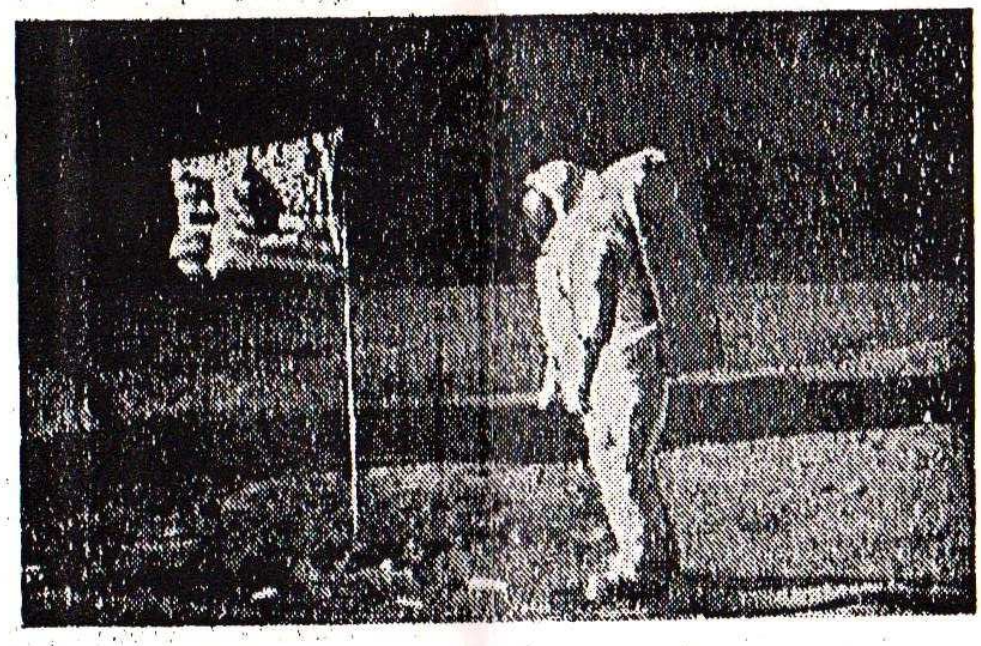
Actor David Niven wrote that the moon is a balloon. In reality, it's more like a foam rubber Nerf ball, a foamy sphere torn from the Earth by a stupendous collision with an interplanetary wanderer about 4.4 billion years ago.

The wanderer was the size of Mars, and it struck the newly formed Earth a glancing blow, tearing off a huge fragment of low-density material, according to Dr Stuart Taylor of the Australian National University's school of earth sciences.

Dr Taylor, in an article released at the ANZAAS congress yesterday, described the unusual characteristics of the moon that have led him to this conclusion.

He says the Earth-moon system has no parallel among the inner planets. Venus has no moon, and Mars makes do with Phobos and Deimos, probably two small and slightly used asteroids that were lured within its gravitational influence.

The moon's orbit aligned neither with the Earth's equatorial plane, nor the great sun-centred plane occupied by the planets, indicating that it did not condense from gases rotating in an orderly manner. Instead, it inclined at an angle of 5.1 degrees to the latter plane, and its orbital energy is anomalously high when compared with other planets that have moons.



The man on the moon — the Nerf ball that developed a severe case of meteorite-induced acne — is American astronaut Edwin Aldrin. The year is 1969.

Further, it is composed of "fluffy", silica-rich rocks to a depth of 1000 kilometres. On average, the moon's density is only 3.34 times that of water, while the Earth's figure is 5.54 times. The moon also seems to have a small metallic core, some 50-300 kilometres in diameter.

The moon seems to have melted completely, forming a smooth surface soon after it was formed, only to develop a severe case of meteorite-induced acne that still blights its face today.

Theories about the origins of the moon fall into five groups, Dr Taylor says:

- Capture from an independent orbit.
- Spin-off from a rapidly-rotating Earth
- Formation with the Earth as a double planet.
- Disintegration and re-accretion of incoming asteroid-like objects called planetesimals.
- Impact by a large planetesimal.

The last possibility best accounts for the unique nature of the Earth-moon system, Dr Taylor says. With considerable understatement, he describes an "exceptional event" that spawned the object beloved of poets and lovers.

It was the size of Mars — a 10th the mass of the Earth — and probably formed by accretion of smaller objects somewhere in the Earth's neighborhood. It probably had a metallic core surrounded by a low-density silicate mantle.

It struck the Earth a glancing blow, tearing off a hot disk of material that eventually formed a solid sphere.

Computer simulations indicate that the material that makes up the moon today came primarily from the impactor, not the Earth itself. This explains the light silicate mantle of the moon today: the moon wears its creator's skin.

When we gaze up at it, we are seeing the awesome visitor's remains, wrapped around its heavy heart and leavened with some material from the Earth.

Such impacts were not uncommon in the early history of the solar system, Dr Taylor says. Indeed, an equally huge rogue probably stopped Venus in its tracks in a head-on impact, and caused the planet to begin rotating in the wrong direction.

Yet another impact ripped off Mercury's silica coat, leaving a dense naked core to be explained by romantic planetary geologists.

Mornington Peninsula Astronomical Society