

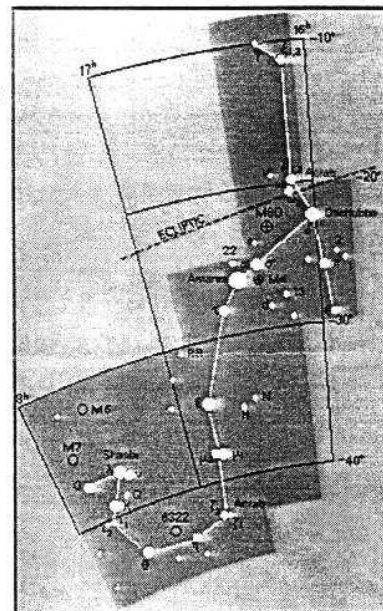


SCORPIUS

The Journal of the
Astronomical Society of Frankston Inc.
P.O. Box 596, Frankston, Victoria 3199

Volume V, No. 6 1996

(Nov - Dec)

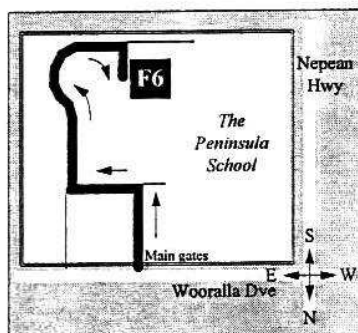


The Astronomical Society of Frankston was founded in 1969 with the aim of fostering the study of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general public. The Society holds a General Meeting each month for the exchange of ideas and information. Regular observing nights, both private and public are arranged to observe currently available celestial objects. For decades the Society has provided *Astronomy on the Move* educational presentations or observing nights for schools and community groups exclusively in the area bounded by Moorabbin, Dandenong and Tooradin.

Meeting Venue: Peninsula School, Wooralla Drive, Mt Eliza (Melways map 105/F5) in room F6 at 8pm on the 3rd Wednesday of each month except December.

Internet: <http://www.peninsula.starway.net.au/asf>

Visitors are always welcome!



Annual Membership	
Full Member	\$30
Pensioner	\$25
Student	\$20
Family	\$40
Family Pensioners	\$35
Newsletter Only	\$10

Due 1st of January each year

President & Editor
Peter Skilton (03) 9776 5898

Vice President & Briars Viewing
David Girling (059) 76 2806

Treasurer
Peter Brown (03) 9789 5679

Secretary
Don Leggett (059) 85 4927

Committee
Ken Bryant, Bob Heale,
Peter Lowe, Ros Skilton, Ken Stratton

Phone calls before 8:30pm please.

FUTURE EVENTS

General Meetings:

Wed 20th November '96

Session 1: Annual General Meeting, followed by Roger Giller getting high on *Tides*.
Session 2: Feedback from the *Leonid All-Nighters* & Bob Heale dishes out *Christmas/New Year Fare in the Skies*.

December '96

Remember there is no meeting held this month.

Wed 15th January '97

Session 1: Roger Vodicka of the ASV streaks in with *Meteors*.
Session 2: Bob Heale will explain *Of What is that Celestial Object Made?*

Wed 19th February '97

Session 1: Video on the top secret history of Australia's Woomera rocket range.
Session 2: *The Life of a Star*.

Viewing Nights:

Members Only:

Sat Nov 9th, Dec 14th, Jan 6th & 13th all at *The Briars*, Nepean Hwy, Mt. Martha (Melways 145/E12).

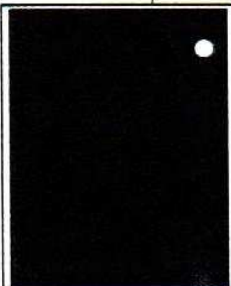
If weather forecast for the Saturday looks bad, the Friday before may be used instead. New attendees must always confirm with David Girling on the phone number above before attending. Follow the signs at *The Briars* from the Visitor Centre. Remember you can only attend on planned Members' Nights, unless by prior arrangement with David.

Public, School & Community Groups Viewing/slide nights:

If you can assist, please contact the Secretary.

- Rosebud Secondary College on Tues 19th Nov at 7:30pm. About 100 Year 9's, Melways 170/A3, Eastbourne Rd.
- Braeside Park public viewing on 13th Dec at 7:30pm. Melways 88/D8. About 150 came last time.
- Summer Public Viewing Nights at *The Briars* Visitors

October's meeting, chaired by the President, was attended by 35 hearty souls who correctly turned up at *The Briars* for the evening. As usual, Bob Heale presented the *Sky for the Month* and, together with David Girling, the pending *Orionids* and *Leonids* meteor streams were covered. After the break, the property's Ranger, John Goss, gave a most professional slide show, with dual projectors, about the habitat and fauna of *The Briars*. The group then split into two, with almost the entire contingent heading off into the darkness on the Macho Session behind John's torch, on a 45 minute nocturnal trek around the surrounding wetlands. Biting insects posed no problem at all. Bob and David bravely rugged up and fended questions from those who preferred to stay behind in the Wimp session. The single-file trek followed a mostly dry, meandering walking track that passed up and down hills, through the middle of wetlands, and stopped to spotlight several creatures, including a koala, possums and flying fox. Conditions were cloudy during most of the walk, with the skies clearing upon returning to the Visitors' Centre. This enabled the contingent to view the naked eye comet Hale-Bopp near Sagittarius (or was it really M8 they saw?). No sightings of the great Andromeda galaxy were had due to thin cloud near the North horizon. The planets Jupiter and Saturn were easily visible to the eye. Without exception, all who embarked on the trip (and who did not fall foul of the carnivorous plants we



John Goss leads the way with his torch.

encountered) agreed the experience was magic. Meeting closed at 10:15pm.

NEW LIBRARY BOOKS

The library has some new arrivals, procured by the book section. Some have been suggested by our members this year. Remember that members can borrow them for 1 month at meetings.

Guide to the Sun - details all that is known about our nearest star.
Cambridge Star Atlas - just released, gives star charts to magnitude 6.5, and lists special objects visible in each map.
Discovery of Neptune - marks the 150th anniversary of its discovery in September.
The Great Comet Crash - chronicles the spectacular Collision of Comet Shoemaker-Levy-9 and Jupiter.
Variable Stars - all about the categories of stars that vary in brightness from night to night.

RECENT VIEWING NIGHTS

About 30 attended the viewing night at Mentone Girls Secondary College on 21st Oct, about a third that expected. Many member scopes were in supply. Thanks is extended to the participants who assisted me: Ken Bryant, Sharron Fletcher, Roger Giller, David Girling, Bob Heale, Don Leggett, Peter Norman, Richard Pollard, Bruce Tregaskis.

A talk on *The Far Flung Planets* by the editor was well received by the Mordialloc Lapidary Club on 25th Oct.

OZ ASTRONAUT VISIT

Astronaut Dr. Andrew Thomas is the only Australian in the NASA Astronaut Corps. He flew in the Space shuttle STS77 mission in May this year, conducting experiments in aerospace materials, biotechnology, and cryogenics. As announced at September's meeting, he gave several free lectures in Melbourne to the public, and several members attended to hear his highly inspirational presentation. He described the mission, including the training involved, the lift off, and the experiments conducted.

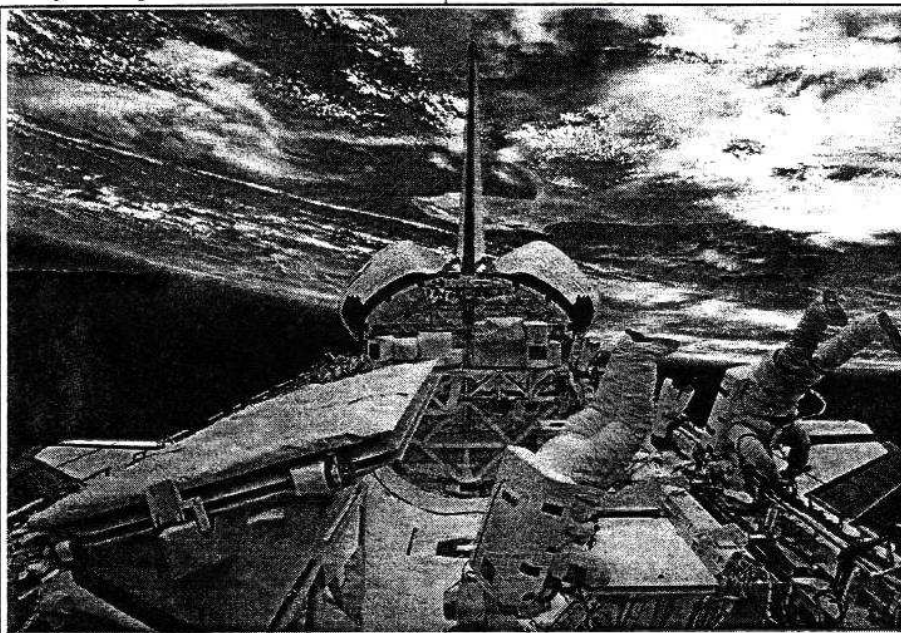
One experiment deployed a parabolic dish, which was inflated with nitrogen gas until it formed an astronomical mirror surface the size of a tennis court! This successfully demonstrated the ability to build large, rigid structures in orbit using gas pressure alone, without the necessity for heavy metal frames, something that might be integrated into future space station designs. Not being able to fold it up again, the astronauts left the dish to burn up in our atmosphere a few days later.

Andrew also colourfully described the sensation of blast off from the ground. He likened the feeling to being in a truck with 4 flat tyres and driving full bore along a dirt road. The vibration is so severe that writing anything is impossible. He was seated in the shuttle looking back down at the ground through the back window, peering into the exhaust gas fire pit, during liftoff. Within 8 minutes of ignition, the shuttle is in orbit, the payload doors are

opened, and the astronauts are working, apparently all before the people on the ground could get back to the carpark after watching the launch. Coming back is also an ordeal. During their stay in orbit, an Astronaut's spine stretches by about 4 cm, making it quite difficult to get back into their gear for re-entry...it's just too small.

field of view. About 1 minute before 8pm, Peter Skilton saw the star disappear for a few seconds, indicating the minor planet had passed in front of it, blocking off the starlight from view. Other Peninsula members who gave it a go, were either foiled by cloud at the time, uncertain of star identification due to hasty setup of equipment

To answer this question from an earlier meeting, it is best to say ... well it did. Fifteen million years ago a large rocky body would have slammed into a possibly life-rich region on Mars. Most of the surrounding areas would have been sterilised by the blast and energy released, though it is not beyond belief to imagine large chunks of life-bearing rocks, on the edge of the impact zone, being thrown high into the Martian atmosphere. If the impact was at the correct angle and of sufficient force, fragments could have exceeded Mars' escape velocity, propelling them elsewhere in the Solar System. A purely volcanic origin for an ejected rock is also plausible, but not as likely.



Space shuttle view from orbit, with cargo bay open and astronauts working.

After a voyage lasting maybe millions of years, playing interplanetary billiards, some of these fragments could be caught by Earth's gravity and pulled into our atmosphere. This is what happened some tens of thousands of years ago.

FLINDERS EXPEDITION

The planned expedition to Flinders on Sunday morning 6th Oct did not proceed due to rain. The next event is on 19th Nov at Gippsland in twilight.

ALEXANDRA THE GREAT

Just before 8pm on Thursday 17th Oct, minor planet number 54, called Alexandra, passed in front of a faint magnitude 11.5 star and occulted it for observers on the Peninsula. Predictions of this *priority 1* event were distributed at the monthly meeting the preceding night. Finding the star was quite easy as the top of the lid of the Teapot (λ Sagittarii) was in the

3 minutes before event time, or even forgot the event was on and did Lunar total events instead! Only one report came in from an ASV member at Wandin, who reported no disappearance. This indicates that Frankston was clipped by the Northern end of the asteroid's shadow as it crossed southern Australia. The time it took the shadow to cross me will enable the minor planet's diameter to be estimated, though other observations could have enabled a shape determination.

JUST FOR STARTERS

WHY DIDN'T THE METEORITE FROM MARS BURN UP ON RE-ENTRY?

The meteors you see streaking across the night sky are typically about the size of a pea initially, though are pulverised into fine dust by aerodynamic stress after even a brief passage through the dense gases of our atmosphere. The incandescent glow as it disintegrates, gives a meteor its characteristic trail. This fine dust eventually settles on the ground, adding to Earth's mass.

If the original body striking our atmosphere is larger, say the size of a large pumpkin to that of a garden shed, then the aerodynamic braking forces imposed upon it during re-entry only have time to partly ablate,

or wear away, the rock before it reaches the ground. The interior is left intact. The surface might be charred, blackened or melted, but the interior may be pristine. This is also the principle behind spacecraft re-entry shields: wear away the disposable material in the shield, and leave the astronauts in the capsule intact.

Once a body has reached the ground, the problems haven't finished. Rain, wind, weather and erosion can continue to wear away or dissolve bodies of extraterrestrial origin. Hence it comes as no surprise that the Martian meteorite (designated ALH84001) was found in Antarctica in the Allan Hills, one of the driest places on the Earth, ensuring not only its survival for 13,000 years, but augmenting its ease of discovery in 1984 by its contrasting colour against the white snow landscape.

But how do we know it is Martian? Analysis of gases trapped inside the meteorite show a composition of elements that match the atmosphere of Mars, and not that of the Earth. Could the microscopic fossil evidence be Earthly contamination? This is unlikely since samples were taken at differing depths into the rock. The concentration of cellular evidence increased, the deeper the scientists went into the meteorite. Contamination from

Earth would be expected to show the reverse behaviour.

IN THE NEWS

LIFE ANNOUNCED ON MARTIAN METEORITE

New Fossil Hunting Grounds

During the last few decades the sciences of astronomy, geology, chemistry and biology



Fossils were not the evidence some people hoped to find from Mars.

have been working together to explain the formation of life on Earth.

It is widely believed that life originated spontaneously on Earth because the right environmental and chemical conditions existed for long

enough that self replicating molecules could form in the early oceans. While a beautiful theory has been developed to show how life developed within this early ocean, there has been a major problem. No fossil records exist on Earth older than 3.5 billion years ago (ie. 3,500 million years ago), so we cannot see the evidence for the early chemical evolution and we do not know of any other sites where life has developed.

This has always meant we do not really know if life on Earth is unique, or whether terrestrial life is just one of many locations throughout space where life exists. All this may have changed with the discovery of micro-fossils on a meteorite

found in Antarctica. The meteorite is believed to have originated from the Martian highlands because of the similarities between it and results from the Viking landers. If this finding proves correct, then we have just entered a new ball game with regard to understanding how life forms.

Firstly, if life is very rare, we would expect the next nearest inhabited planet to be very far away and certainly not on the planet next door. It is known that Mars and Earth had similar surface conditions early in the Solar System formation, and this fossil finding supports the hypothesis that life formation happens easily provided the right conditions exist for long enough. Furthermore we know that the planetary formation phase, when life could not have existed, ended some 4 billion years ago, and the oldest fossils known on Earth are found in Australia at 3.5 billion years ago. There is therefore a lot of evolution going on between these times, a period of only 500 million years.

Now on Earth all the fossil records seem to have been destroyed by erosion, however, on Mars this may not have been the case. It is believed that the conditions on Mars slowly froze as the surface water settled onto the polar ice caps or into the ground and the atmospheric carbon became chemically bound into the surface rocks. This process is thought to have taken a billion years. Therefore, contained within the Martian surface, there might be a fossil record of the early formation of Martian life. Apart from surface wind erosion, it appears the

surface has not significantly changed since the surface froze.

While this early life record no longer appears to exist on Earth, it may exist on Mars. In fact a serious possibility is that this early life may in fact be frozen into the sub-surface soils. Without doubt paleoastronomers will be champing at the bit to get into those Martian highlands for a look-see. I wonder if the Martian life will be based on the same right-handed spiral DNA/RNA chemicals we find on Earth. If so, this opens up an even broader question about what life might be like in the universe about us. No doubt the next few decades will be just as exciting as the last few.

Peter Lowe

[Recent reports suggest that NASA has now detected signs of life in a second meteorite from Mars, apparently a billion years younger than the first].

NO MAN ON MARS

The USA has formally abandoned all hope of landing astronauts on Mars by 2019. This goal was originally announced to the world by George Bush in 1989, in a speech reminiscent of that of John F. Kennedy before launching the race to send a man to the Moon. Instead, the aim is now to have a permanent robot presence on the Red Planet by the year 2000. Human exploration will only occur if the robots find something special. The original manned effort was estimated at \$100 billion, well beyond current NASA means. The first lander is scheduled to arrive on the 4th July next year (the USA's Independence Day by chance).

FEATURE

FIRST DISCOVERED BY AN ENGLISHMAN - HALLEY

It is now a decade since periodic comet p-Halley graced our skies, and many will remember the apparition well, especially those who were lucky enough to catch its magnificent tail in the few days it was visible in 1986. I still remember what I was doing at that time. However, past roundings of the Sun have produced absolutely spectacular views of this visitor, far better than ours. To see this, I have gathered press material on past visits. The earlier material is from the archives at the University of Melbourne, while the 1910 and later material is from Don Leggett, who still has the original newspapers. You'll notice the earlier material, has unusual spellings testament to how our language has evolved with time.

Throughout history comets have been feared as being portents of doom and disease and it is only in very recent times their true nature has been understood.

John Milton (born 1608) wrote in *Paradise Lost*, that:

*Incens'd with indignation Satan stood
Unterrifi'd, and like a comet burn'd,
That fires the length of Ophiuchus huge
In th'arctic sky, and from his horrid
hair*

Shakes pestilence and war.

Even William Shakespeare (born 1654) wrote in *Julius Caesar*:

*When beggars die, there are no comets
seen,
The heavens themselves blaze forth the
death of princes.*

Nearly 3 centuries ago, Edmund Halley noticed the orbits of 4 recorded comets seemed to be

remarkably similar. These orbits were all laboriously calculated by hand. The appearances were:

1456 (seen May 27 to July 3),

1531 (seen late July to August 23),

1607 (seen Sept 21 to October 26),

1682 (seen August 15 to Sept 24).

"Domestic Intelligence: or, News from City and Country Impartially Related", 1682 Sept 21. Plimouth, Sept 20. This Morning a Comet appeared to the South-Wejt, Elevate 3 Degrees above the Horrizon.

From the separation of each appearance by about 75 or 76 years, Halley predicted a re-appearance this far into the future, well after his own death.

Edmond Halley, 1705

Whence I would venture confidently to predict its return, namely in the year 1758. If according to what we have already said it should return again about the year 1758, candid posterity will not refuse to acknowledge that this was first discovered by an Englishman.

The 1759 Appearance

The comet did indeed reappear as predicted, earning it the name of Halley's comet.

The Universal Chronicle, 1759 April 14. Paris, April 6. The Comet of 1682, foretold and expected by the Astronomers, was observed here on the 1st and 2d inst, near the tail of Capricorn. It will be seen till the 23d, when it will disappear for some days. It will be afterwards observed in the evening during all the month of May.

The 1835 Appearance

Extra Supplement to the Allgemeine Zeitung. On the 7th of October, a little before midnight, 0 hours 32 minutes, sidereal time, there was observed at the Observatory of Milan, an occultation by Halley's comet of a small but very bright star in the constellation of the Lynx. Notwithstanding the light of the moon, the star was visible not only through the tail, but also through the nucleus of the comet.

St. Petersburg Oct 6 - Halley's Comet - Extract of a letter from Professor Struđe, in Dorpat - It was on the 29th September that I first saw a proper tail, but it was still very faint. At the same time I succeeded in observing a completely central occultation of a star of the ninth magnitude, which did not become invisible for an instant, but shone with undiminished brightness through the comet. This proves that the comet has no solid nucleus of any diameter at all considerable.

M. Arago, Professor of Astronomy at the Royal Observatory has communicated to the Academy of Sciences new information relative to the physical constitution of the comet, which he has derived within these four days. In all previous observations on comets no irregularity had been noticed in the luminous circumference. Such is not the case with the present. A singular modification has been remarked by M. Arago, assisted by a glass of considerable magnifying power. On Thursday last, in the part opposite the tail, this astronomer perceived a luminous sector perfectly distinct - a circumference of importance in as much as it decides a great question - viz that of the rotation of comets upon themselves. The rotation of the planets was only discovered by the successive appearance of certain spots in different parts of their disk. Comets hitherto having presented no irregularity susceptible of being noted, it was impossible to arrive at conclusions of the same nature. On Friday, Halley's comet was again examined; the luminous segment seen on the previous day was not visible. On Saturday, in another part of the comet, a much larger segment was seen.

The 1910 Appearance

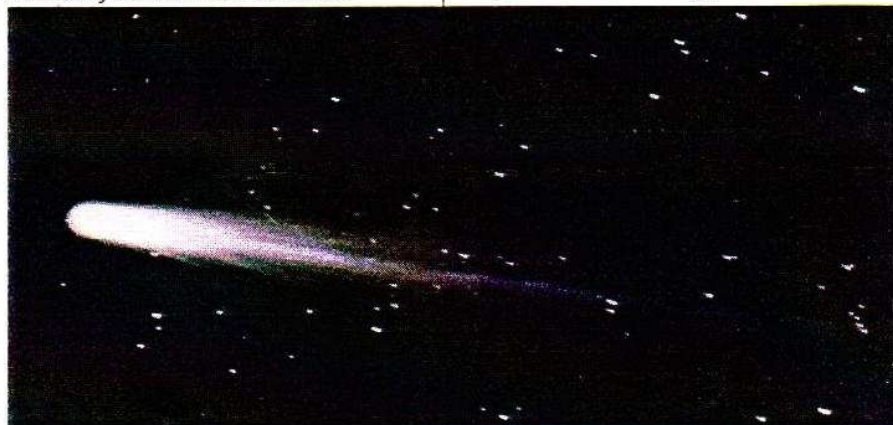
The Age, 1910 May 21 "Passage Across the Sun - Few Successful Observations"

Few observatories were successful in obtaining photographs of the passage of Halley's comet between the Earth and the Sun on 19th May. Brilliant auroral displays were seen in the United States, but none of the observatories there was able to observe the passage of the comet across the face of the Sun. The observatory at Capetown reported that there were no

indications there that the Earth was passing through the tail of the comet.

Splendid photographs were secured by the observatory at Helwan (15 miles south of Cairo) by means of a Revnoid's reflecting telescope. These photographs show a vivid nucleus enveloped in a tail with a parabolic outline.

The passage of the comet was seen at Aden. The head was invisible, and the tail resembled a search light. The American observatories report that the tail of the comet is still in the



eastern horizon. The observatory at St. Thomas, one of the Danish islands in the West Indies, reports that an enormous beam of light is stretched across two-thirds of the firmament.

The observations of astronomers in France yielded no result. Many of the people of Paris stayed up all night. Some spent the time in feasting and others in praying, as they expected the end of the world would come. German observatories obtained merely negative results, except that at Munich, where a glimpse of the comet passing across the sun's disc was obtained. French and German astronomers observed the three large black spots on the sun. At the town of Oklahoma, in the United States, some religious fanatics seized a girl of sixteen years, and, after clothing her in spotless white robes, were about to kill her as a sacrifice to the comet. The police interfered in time to save her.

At Constantinople, many families withdrew their children from school with the idea that all the members of their families might die together when earth passed through the comet's tail. Thousands of people at Constantinople slept the night on the roofs and terraces of their houses.

The Argus, 1910 May 23. "The Receding Comet - Astronomer's Suggestion: Electric Rays in the Tail" Professor Hale, director of the solar observatory of the Carnegie Institution of Washington, at Mount Wilson, California, saw Halley's comet despite the moonlight, after its transit of the sun. The tail showed a distinct spread fanwise of several degrees. The observations showed that the comet was disappearing in the distance.

As the result of his observations at the Finmark Observatory, in Norway, Professor Birkland suggests that the

comet's tail is formed principally of electric rays.

Halley's comet made its first appearance in the evening sky, so far as Melbourne is concerned, last night, clouds having obscured the sight of it on Friday and Saturday evenings. It has diminished very perceptibly in apparent size and brilliance. A thin scum of cloud and a moon a couple of days from the full aided to destroy the comet as a spectacle. An excellent view was obtained of the comet this evening from Ballarat. For the first time since its transit the comet was seen in the north west. It was at its best at about half past 6 o'clock. A brilliant view of Halley's comet was obtained from Ballarat this evening at about half past 6 o'clock. The size of the nucleus was fully three times the diameter of the largest comet to date and the tail was not only of larger proportions than previous comets, but its peculiar features were also visible. The illumination, which is so marked in connection with the tail, was visible in front of and around the head or nucleus, and resembled a halo. I, with several others, noticed a very remarkable appearance in the western sky this evening, between the hours of 8 and 9. There were streaks of light

shining through a misty vapour. They were focussed at a point in the western horizon in the direction where the sun set, and spread out like a search light, reaching to the zenith. They were not visible beyond it. The whole was distinctly fan-shaped. I have been a close observer of the sky, but have never noticed a similar appearance. If this was not due to the comet it would be interesting to have it explained.

The Australasian, 1936, Feb 1, P.Crosbie Morrison, MSc. The rarity of naked-eye comets and their awe-inspiring appearance has caused them to be associated with many superstitions. There is the impression, still widely held, that the tail of a comet is composed of poisonous gas, and that if the Earth were to pass through it every living organism on the Earth would die. In 1910, when the Earth actually did pass through a comet's tail, and that the largest comet on record, no-one except the Astronomers knew that anything extraordinary was happening. Actually there is less material in the tail of a comet than in the most perfect vacuum man can produce. Comets are associated also with dire events on Earth, and that is why folk were so ready to believe that Venus was a comet when they saw it last week [Ed: any guesses at the event he was referring to?]. The belief that comets were associated with the death of kings was strong even in Shakespeare's day, and Shakespeare, opening his King Henry VI, Part I refers to the death of Henry V in these words:

*Hung be the heavens with black, yield day to night!
Comets, importing change of times and states,
Brandish your crystal tresses in the sky,
And it then scourge the bad revolting stars
That have consented unto Henry's death.*

The belief was revived strongly when, in 1910, the reappearance of Halley's Comet after an absence of 76 years coincided with the death of King Edward VII. It was a remarkable coincidence, but it was nothing more; that view is supported by the many appearances of comets which have been unattended by any terrestrial catastrophes, and by the many terrestrial catastrophes which have

arrived unheralded by any abnormal celestial phenomena. Should an unusual event on Earth occur about the same time as an unusual event in the heavens, it is natural that the two should be associated in the minds of people who, finding no sufficient cause for either, link the two as cause and effect. As the objects in the heavens are becoming more completely understood, the old superstitions are dying, but they are dying hard.

It is known that Halley's comet will return in 1986. It had appeared at regular intervals of 76 years centuries before Halley's time, but it was Halley who discovered the regularity of its movements and who asserted that all these previous apparitions were one and the same comet. As one distinguished Astronomer was moved to write in 1910:

*Of all the objects in the sky
There's none like Comet Halley!
We see it with the naked eye
And periodically,
The first to see it was not he,
But still we call it Halley;
The notion that it would return
Was his originally.
Who, then, knowing that the comet
travels on a course as well defined as a
railway line, and that its punctuality
would put the Earth's most efficient
railway companies to shame, will have
the temerity to predict that because
Halley's Comet will reappear in 1986 a
British monarch is doomed to die in
that year?*

While the 1986 apparition of Halley's comet was quite benign to the monarchy, the 1910 passage of the Earth actually through the comet's tail clearly provoked much consternation. This is summed up best by James Thurber, a Social Historian in his memoirs:

Nothing happened, except that I was left with a curious twitching of my left ear after sundown and a tendency to break into a dog-trot at the striking of a match or the flashing of a lantern.

Peter Skilton

LA NINA MEANS NO STARS

Without doubt 1996 is shaping up to be a really bad year for amateur observing. We've had some wonderful objects to look at, possibly the best comets of the century and what do we get: RAIN. The recently higher than normal rain fall results from the reversal of the El Nino ocean current that flows north of Australia. This reversal is called the La Nina condition and produces more cloud, less Sunlight and more rain. The last La Nina to affect us was in 1989.

Since 1990 to early 1995, Australia has been in the grip of widespread droughts typical of El Nino conditions. El Nino is a warm Pacific ocean current flowing south along the west coast of South America and is related to shifting air movements over the tropics. Every five to ten years El Nino returns and brings cooler sea surface temperatures to northern Australia thereby reducing rainfall. La Nina brings warmer sea temperatures to Australia and increases rainfall. For amateurs and professional astronomers alike, all we can do at this stage is grin and bear it. Fortunately, past La Nina situations have not lasted long before we see a move back to drier conditions.

Peter Lowe

SOLAR FILTERS

I recently purchased a Thousand Oaks solar filter for my 80mm refractor. It works marvellously well, giving a very nice yellow image. However, should you be thinking of purchasing one, I strongly recommend you wait a while. In this way, you can

avoid the frustration I feel in still not having seen one sunspot. This period of minimum sunspot activity is really minimal. I recall always seeing at least one sunspot during the last minimum period. Does anybody have different recollections?

Renato Alessio

[Renato has written several items of interest to appear in the near future]

FROM AROUND THE PLANET!

Astronomical Societies as a rule exchange each other's newsletters to assist in sharing items of interest. This column grabs some of the highlights of recent receipts. You can find out more in the library.



Sutherland Astron. Soc. (NSW) - They'll host the 1998 NACAA and are looking for a theme. Info is provided on Galileo's flyby of Ganymede, and the observation of a distant galaxy, apparently older than the Universe! Their new roll-off roof Observatory is nearly ready to receive a 15 cm refractor, and the council has added road signs to find. The Society participated in the making of a BBC Children's TV show that featured Junior Astronomy. They were visited by the Hyakutake family in April.

Latrobe Valley Astron. Soc. (Vic) - Considering a name change to be the Gippsland Astro Society. An ATCO hut is now on their Wirilda site and will shortly have a parking area. Updates given of the Near Earth Asteroid Rendezvous mission, and they answer "What did the Moon missions do for people on Earth?"

Astron. Soc. Alice Springs (NT) - Mission details given of Mars Global Surveyor and Mars Pathfinder, the latter will deploy a rover vehicle onto the Martian surface. Good coverage and many pictures and details are provided of the Martian meteorite containing bacteria-like lifeforms.

Astron. Soc. of West Aust. (WA) - They have a membership of 130, with monthly meetings drawing 50. Star charts and good info are provided for finding our nearest stellar

neighbour, Proxima Centauri, which is now thought to have a Jupiter-size planet.

Astron. Soc. of South West (WA)

- The society will not oppose the microwave tower, but ask that it be moved away from the ecliptic. Their local Rotary Club has installed a septic system for the Observatory's toilets. The June 14 lunar occultation of Mercury was observed and reported by one member. Here's an idea:- a plastic shower cap as your scope's dust cover!

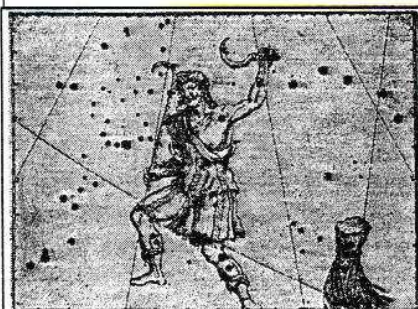
Astron. Soc. New South Wales (NSW)

- History given of their site Wiruna. Articles on Jupiter, our Moon, observing aids, the planetary nebula Abell 70, naked eye stars in the Coal Sack, Measuring Distances in Space, the Small Magellanic Cloud, and the Moons of Mars [which answers a question from our monthly question box]. Many other articles including the expansion of the Universe, the Hubble telescope, and Double Stars.

Ballaarat Astron. Soc. (Vic)

- Items given about comets, a precis of the 17th NACAA and a biography of James Oddie, namesake of their Observatory's telescope.

Astron. Soc. Vic. (Vic) - Articles on Ganymede & CCD's. Their bulletin board service has been closed in favour of the Internet. The developer plans for the Old Melbourne Observatory are shown and do not augur well from a lighting perspective. Their Heathcote site now has toilets, water and a shed. The Society is trying its first t-shirts and windcheaters for sale to members. A precis of the Shoemakers' lecture in Melbourne is given. Gene & Carolyn Shoemaker discovered the comet that



Boötes with his crook and sickle, taken from the German amateur Astronomer Johann Bayer's *Uranometria* 1732 edition. Arcturus is at the bottom of his tunic.

plammed into Jupiter in July 1994.

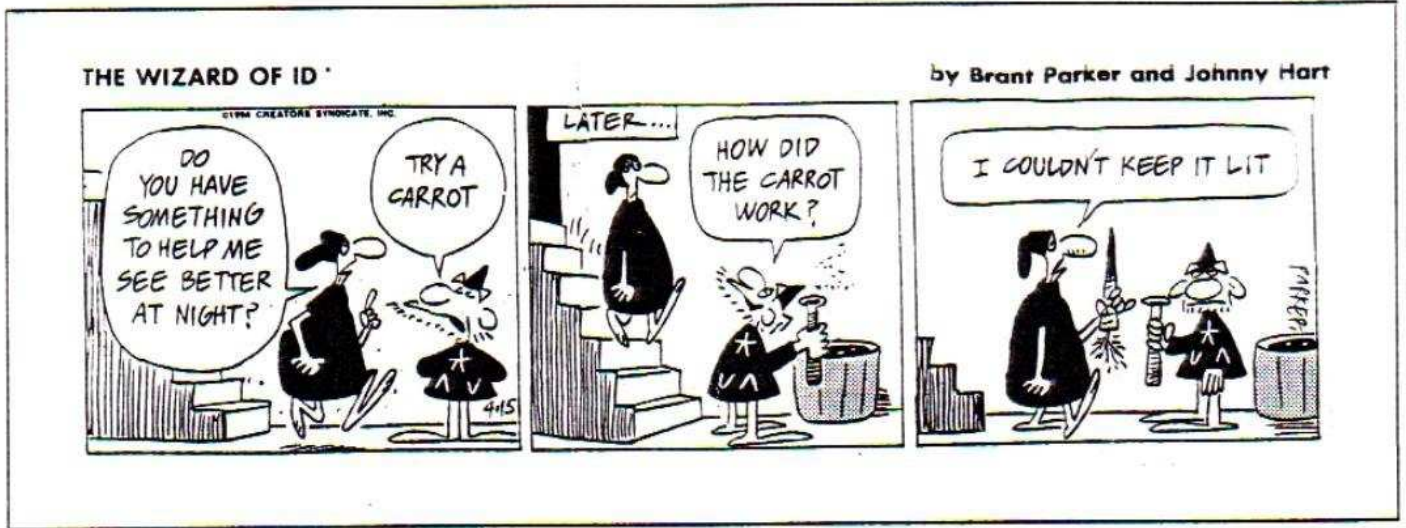
FINAL PRONOUNCEMENT - BOÖTES

The Northern constellation of Boötes, the Herdsman or the Ploughman, was known to Ptolemy in the year AD140, being included in his original list of 48 ancient constellations. The herdsman is driving a bear, being the constellation of Ursa Major. Its name is correctly pronounced "bow-oy-teez". The constellation is the 13th largest in the heavens, and has 53 stars visible to the naked eye. It has no Messier objects, and sports 4 minor meteor streams; the α Boötes, the ϕ Boötes, the June Boötes and Quadrantids. Boötes is dominated by the 4th brightest star in the night sky, the bright orange star Arcturus. Arcturus was the first star (other than the Sun) to be observed in the daytime, in 1635. You won't get sunburnt from it though, being the equivalent of a candle positioned 8 kilometres from you. The star's light was apparently used in 1933 to open the Chicago World Expo. Starlight was focused by a telescope onto a photocell, which turned on the lights during the first night of the Expo. At the time, Arcturus was thought to be 40 lightyears away and Chicago had had another expo 40 years prior to this one, hence the 1933 fair was opened by light that left the star at the time of the previous Expo.

If you have any Astronomical query that has been niggling you, drop it in the question box at a General Meeting and let us look into it for you.

NEXT ISSUE

150th Anniversary of the discovery of Neptune.



Left - ASF Xmas BBQ at the Briars on the 7th December 1996
 Photo - By John Cleverdon



If this box is ticked then membership needs renewing and this may be your last edition of the newsletter, so please contact the Treasurer in this case. Newer members who join late in a calendar year will have this time taken fairly into account when renewing in January, and should remind the Treasurer of this.



All the outer planets of our Solar System that have been visited by spacecraft have been found to have ring systems. Neptune, currently the furthest planet from the Sun, and celebrating 150 years since its discovery, is no exception as shown here in an over-exposed Voyager 2 image. Notice the brighter areas of both ringlets where dust is coalescing under gravity to eventually form new Neptunian moons.