

PRIME FOCUS

Volume 2 Issue 4

May 1997

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PRESIDENT'S REPORT

Hello and welcome to all our members and guests. This is our first Bi-monthly Newsletter which will keep you up to date with all the latest happenings within the Society. Every alternate month, we will have a bumper issue of Prime Focus our MAS Journal.

It's been a very hectic two months with the astronomy Society holding talks at the University for gifted and talented children, two appearances at the Lapidary Club, talks at Sackville Street Public School and at MAS by myself. A big thank-you to Peter, Eric and Noel for their splendid effort and assistance on the Lapidary Club talks. Also a big thank-you to John, Sharon, Noel, Carmen, Laura, (refreshments), Eric, Dave, Phil Macey & friend, Peter, Carol Oliver (help and use of University), Dave McBean, Terry, and anyone else who came on the Special school night at the University. Special thanks to Sally & Noel for organising this successful event. 130 people attended - we expected about 30-60.

EVENTS

- 1.) 20th May (TUES) -- Ron Royal of the Sydney Observatory is showing us how to build telescopes (mainly the lens and mirrors).
- 2.) 16th June (MON) -- Jonathan Nally from Sky & Space will speak to us on the Mars Pathfinder, Global Surveyor missions that will in only two weeks and two months respectively arrive at the Red Planet. More about the spacecraft and its hopes and goals in Prime Focus Issue 9, Vol.1, plus regular updates in later issues.
- 3.) 21st July (MON) -- Seth Shostak of The SETI Institute in the United States is speaking on the topic "The Science of Star Trek" (**NOT SCIENCE FICTION**). Come and hear this amazing guest lecturer. He is easily the most experienced and top quality speaker I have ever heard.
- 4.) 26th July (SAT) **SPECIAL EVENT -- Star Night** in conjunction with SETI and the University Of Western Sydney. We are holding an Open Day/Night with special guest speakers, lectures, and star gazing.

5.) 18th August (MON) -- You asked for it in the survey, so we are starting to plan a work shop for our regular Monday night meeting. Any suggestions on what topics you would like to see covered will be of great help so we can start to organise this event. Please see Phil, Noel, Peter, Bob, Karen or David. If we receive enough ideas we may hold 2-3 different workshops (in parallel) on the night.

6.) 22nd September -- Guest Lecturer on Solar Observing -- Yet to be confirmed.

7.) 20th October -- Steve Manos on The Space Camp and Space Travel.

8.) 17th November -- Not yet confirmed. Possibly a society member on his Kennedy Space Holiday.

9. 7th December -- not yet confirmed, our Society B.Y.O. BBQ at Pembroke Park.

President -- Phil Ainsworth ■

FOR SALE--- 2 Celestron Possol eye pieces 6.3 mm & 17 mm, selling for \$100 for the both. See Lou Timtano.

36 Years Ago

May 5th, 1961 Alan Shepherd became the first American to orbit the Earth in the small Mercury 7 Spacecraft.

Have you seen Hale-Bopp?

No? Well, time's running out. Use the attached sheet with our *unique* comet finding guide - go outside - and see it.

COMET NIGHT

On a cold, wet, miserable night on 10th May, 70 residents from the Macarthur/Liverpool region battled the elements and were treated to Hot Dogs, Coffee, and a slide presentation by myself on the Solar System (No Darth Vader). They were then treated to a 10 minute discussion on how to find the Comet by Noel Sharpe, and also short talk by SETI representative Philip McKenzie.

The night ended up quite successful thanks to some quick organisation by Ragbir, Carol (SETI) and Nicola (of the Nepean Astronomy Society / SETI) Also I'd like to thank John Casey and Steve Hutchinson on some fantastic photographs of the comet (Hale-Bopp) and also Peter Druery for his tireless effort and help in all areas. Any one I may have forgotten, thank you for assisting on the night.

Phil Ainsworth

Mystery Galaxy

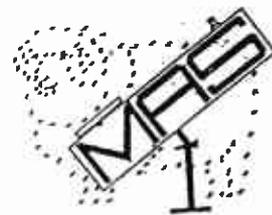
Yes, you may have guessed it, but you didn't tell me - except Peter Druery who correctly informed me that the Mystery Galaxy from Issue 3 of Prime Focus was ... (drum roll)... Centaurus A (NGC5128) in Centaurus (of course). Well done, Peter!

Constellation Star Names

No-one has given me an answer to my other question about the constellation with the most individually named stars. I think I'll hold that over to the next issue of Prime Focus. Start counting.

Bob Bee ■

COMETS



WHAT IS A COMET?

Often described as a dirty snowball, a comet is a loosely packed collection of frozen carbon monoxide, methane and water - and dust. These comets swing their way through our Solar System in extremely elongated orbits, skim past the Sun at its closest point (called perihelion), then race back past the planets to return to its furthest point from the Sun (aphelion). Then, it starts its long run back in again.

Some comets have very short periods (Comet Encke has the shortest known at 3.3 years). Halley's Comet returns every 76 years, while others take 1000s of years for each orbit. Like Comet Hale-Bopp.

WHERE DO COMETS COME FROM?

Over a third of the way to the next nearest star (more than one light year) in the cold 'emptiness' of space between stars, is a cloud of comets (called the Oort Cloud) surrounding the Sun, like moths around a street light. Astronomers estimate there are over 1000 million of them. Every so often, the gravitational affect of passing stars nudges comets from the Oort Cloud and they start their long 'fall' towards the Sun.

However, a closer swarm of comets lies just beyond the orbit of Pluto. This is the Kuiper Belt. It is believed the shorter period comets come from this belt.

Whichever belt they start from, if the comet is large enough, we see them from Earth as those glowing apparitions that have sparked fear and wonder into many a civilisation.

HOW BIG ARE COMETS?

Though the solid core of ice and rock may only be from 100 metres to a few kilometres across (Hale-Bopp is unusually large - reputed to be 40 km diameter, compared to Halley's 10 km), as it approaches the Sun, its frozen surface gases begin to boil off, producing an enormous (but extremely thin) envelope of ice crystals, dust and ionised gases (called its *coma*) which may be over 150,000 km in diameter.

The solar wind blows the envelope, making it stream behind in a tail which may be incredibly long - even hundreds of millions of kilometres.

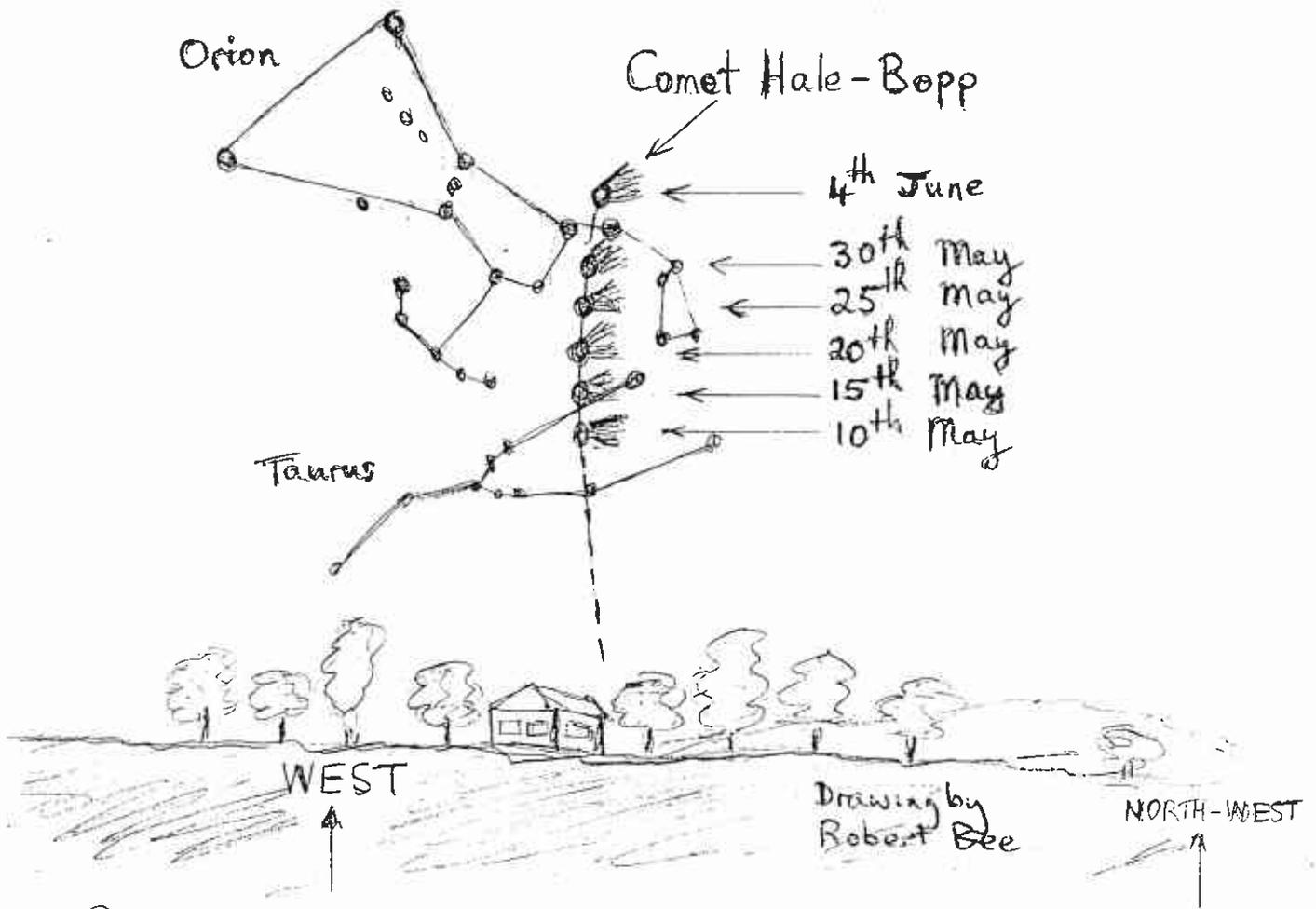
It is important to note that the tail always points away from the Sun, because it is being blown by the Solar wind, like a flag. So, when the comet has passed perihelion and is retreating away from the Sun, it actually goes tail first.

AFTER THE COMET?

After the glorious sight of the comet has past, that's not quite the end of it. Because the dust lost from the comet as it boiled by the Sun's warmth, disperses into space, and as the Earth moves through this remnant dust, we see those magnificent meteor showers in the night skies... but that's another story.

(Robert Bee - MAS Editor/Prime Focus)

HOW TO FIND COMET HALE-BOPP



When is Hale-Bopp visible? About ½ to 1 hour after sunset.

Where to look?

Look for a fuzzy light patch about 10° above the Western horizon. Its locations in May and early June are shown in the sketch above, as the comet moves through the constellations Taurus and Orion (The Saucepan).

The Discovery of Hale-Bopp:

Comet Hale-Bopp was discovered in July 1995 by Alan Hale and Thomas Bopp in the USA, using 300mm and 340mm amateur telescopes. It was the most remote comet ever discovered by direct visual means, being about 900 million km (or 6 times the distance of the Earth from the Sun) from Earth when Hale and Bopp first saw it.

Hale-Bopp reached its closest point to the Sun (perihelion) on 1st April this year and is now racing back to the Oort Cloud, located about 1/3 rd the distance between the Sun and Alpha Centauri, the next nearest star.