MACARTHUR ASTRONOMICAL SOCIETY Inc.

Journal

PRIME FOCUS

Volume 4 Issue 1 **February 1999**

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PRESIDENT'S REPORT

Welcome all astronomy lovers to the start of what promises to be an exciting 4th year with the Macarthur Astronomical Society. Guests this year I am hoping will be Leon Darcy, Carol Oliver, Paul Butler, Alan Vaughan, Don Whiteman, Pete & Bobbie Elston, A Trivia night with a promise of more space related questions, star nights at our new site at Camden. Plus 1-2 viewing nights on a Monday meeting.

The Society early this year is also looking forward to the University's 16" Meade which is currently under construction. It is hoped we will have a big opening day/night for the University, the Society and for the public. More on this when it is closer to the date of completion.

Throughout the year, Prime Focus will once again be a monthly Journal/Newsletter. Please forward any interesting astronomical information to Bob or myself no later than 3 Sundays prior to the Monthly Monday meeting. The information can be a quiz, book review, your favourite astronomical topic, an interesting astronomical event you which to share with us.

During our break so much has happened astronomically, I will try to cover most areas in my latest news column. I will be completing the articles on the Mercury flights, covering the Gemini missions and starting, if time this year, the space shuttle missions.

Annual General Meeting

The meeting on 15th March will be the Society's AGM. All members are encouraged to attend to hear the retiring officers' reports and also vote for the incoming Officers and Committee.

The following positions will require to be filled:
President; Vice-President;
Secretary; Treasurer;
3 Committee persons.

Nomination forms are available at the February meeting. Please support your Society by nominating (and having seconded) someone for these positions, then hand them in at the end of the February meeting.

Membership Fees

All current membership of MAS expire this February (except for very recent new members). Membership Fees are due again. (You can't have all this fun for free!)

This copy of Prime Focus contains a Membership Application/ Renewal form. Please take it home and fill it in, then return it with your cheque/cash by the end of March. You can return it at the March meeting, or mail it to the PO Box as indicated on the form.

Please assist your Committee by joining up or renewing membership promptly.

Don't forget the **Option** to have Prime Focus mailed to your home (if you miss a meeting) for only $5 extra.

Library News

This year we are aiming at more use of the Library. Members are encouraged to look on the library list and mark down the item they wish to borrow. I will then bring those items to the following meeting. There is a book to sign whenever materials are borrowed, simply so I can know who has what item.

Whilst this is not entirely a library issue it does concern borrowing. Our Society scope MacDob is currently available for any member to borrow, just see Bob at the meeting or ring him for details.

Mercury

Mercury - Atlas 6
Friendship 7

On February 20th, 1962 the famous John Glenn became the first American to orbit the Earth. We all know of course his latest adventure at age 70+ on the space shuttle late last year.

Glenn, during his correspondence with Earth, told of the magnificent sunsets and the lights over Western Australia where it was midnight.

The flight despite its success did have its problems. During orbit a faulty telemetry signal indicated that the landing craft Friendship 7's splash down bag and heat shield had been deployed during orbit. On Ground Control they instructed Glenn to not jettison the retro rockets so he could slow re-entry and prevent the heat shields falling off. To add to the challenge Glenn's autopilot became erratic forcing him to fly the craft manually.

After 3 orbits and almost 5 hours in space, John Glenn fired his retro-rockets over California.

As Friendship 7 descended, portions of the rocket package flew past the portal in flames. Glenn was said to quote "That was a real fireball". He successfully splashed down safely off the coast of Bermuda.

Astronaut and now Senator John Glenn demonstrated that humans were not just passengers, but essential for spaceflight. Mankind showed that intelligence was required if humans were to explore other planets, for it was realised only humans can make a decision on the spot, much quicker than relying on monkeys and copters.

Mercury-Atlas 7 *Aurora 7*

May 24th saw Scott Carpenter successfully orbit the Earth three times to prove it was no fluke that Americans could continue to fly in space.

Carpenter had a huge schedule to fulfil as he had to study the effects of weightlessness on liquids, and test out new foods for space. John Glenn in his mission thought he noticed what looked like fireflies. Carpenter tapped the interior of the spacecraft and saw that it was frost flakes shaken loose from the exterior of Aurora 7.

Whilst orbiting and pitching Aurora 7 to have a better view of the Earth, and busy with his experiments he almost used up all of his fuel, plus was also 3 seconds late in firing his retro-rockets.

His late firing of the retro-rockets made him 400 kms off the splash-down target. Despite a radio beacon

functioning, he was out of radio contact for over 41 minutes. After 3 hours of searching, and much worry, Scott Carpenter was located bobbing up and down in a rubber raft next to Aurora 7, unaware of all the consternation.

Paul Butler E-Mail

The recent claimed detection of an earth-like planet actually has very little basis in reality. This object was detected from micro-lensing. The parent star is about 30,000 light years away, ie. it can not been seen, there can be no follow-up observations by any other technique, and the micro-lensing signal can never be repeated. The amount of information from a micro-lensing event is very limited. It can not uniquely specify the mass or the orbit of the suspected companion. The actual scientific abstract of the announcement claims the putative object is most likely Neptune-mass, ie. not at all like an earth-like planet. It is very unfortunate that members of the micro-lensing team have decided to publicize this as a detection of an earth-like planet. I have become rather cynical about such press announcements, eg. the Hubble planet announced earlier this year – do you hear anything about it at this anymore?

Printed with permission of Paul Butler.

Many thanks for the invitation to speak to your Astronomical Society. My schedule is completely full through the end of August. I will be able to schedule events for next semester after the next round of telescope schedules becomes public, probably around next July.

Best wishes,
Paul Butler
Anglo-Australian Observatory
http://astron.berkeley.edu/~paul

Latest News

Extra-Solar Planets Discovered

Astronomers have discovered 2 more extra-solar (ie around other stars) planets making the number now 17. One of the latest findings announced on Jan 9th is called HD 195019 which is 3.5 Jupiter size and is in a slightly eccentric orbit. It orbits its star every 18.2 days making it extremely close and very inhospitable for life.

The second planet orbiting HD 217107 is slightly smaller at only 1.27 times Jupiter and orbits in its slightly eccentric way around the star every 7.12 days. However Paul Butler tells us "There is no reason to despair with so many Jupiter size and bigger worlds being discovered in close orbits because 95% of the systems found so far have the larger planets further out leaving a great chance for smaller Earth-like worlds to be in the habitable zone."

The Hubble Telescope is currently observing accretion disks with large gaps which should have planets orbiting their stars. NASA is under way for further studies of Earth-like worlds with projects such as viewing nearby stars with The Space Infrared Telescope, The Space Interferon Mission and The Terrestrial Planet Mission finder. Between 2003-2010 these telescopes should be discovering a wealth of data confirming other worlds more like our own.

Missions

The much unpublicised Japanese Planet-B mission July 4th 1998 on a Japanese M-V rocket last year has been undergoing some problems. To give the spacecraft enough injection to leave the Earth-Moon system it orbited the Earth, spun around and received gravity assistance from the Moon. The spacecraft was due to rendezvous with Mars by September this year. However, due to using too much fuel in course correction, the mission has been delayed till 2003. The spacecraft to conserve its remaining fuel is going to orbit the Sun and wait for a favourable time when Mars is closest and still be able to achieve its objectives.

The goals and hopes of the now renamed Nazomi mission is to analyse the Martian magnetic field, test the composition of the atmosphere and the ionosphere. It will just arrive and achieve these objectives four years late.

CASSINNII

The last of NASA's big space missions is well on the way to Saturn after a slightly shaky launch.
The mission is to explore the ringed planet for four years and send a space probe into Titan to land and find out more about this exciting little world. It is due to rendezvous with Jupiter in 2000 and finally orbit Saturn in 2004.

Mars Climate Orbiter –

The mission to Mars continues—It launched successfully in Dec 4th on a Delta-2 rocket and is well on the way to the red planet. By the 16th it was 1.2 million kms away and accelerating at 3.41 km/sec.

The Mars Polar Lander –

Also launched Jan 3rd to eventually land on Northern Polar Cap and do geological experiments and locate water hidden under the pole. It is hoped it will arrive in September this year.

While on Mars, it has been discovered by the current Mars spacecraft still orbiting and collecting excellent data that the Northern Polar Cap has less water than originally thought. Most of the expected water now either is locked up in the Southern Polar Cap or as permafrost under the Martian surface. The map shows 1200 kms and 3 kms thick, it is less than 10% the size of the ice cap around Greenland.

SPACE SHUTTLE MISSION/ISS

The International Space Station is now under way. The first modules have been put in place and connected up by Russia and American astronauts. Endeavour launched successfully and after 3 EVAs, all 6 hours long the astronauts were happy to announce that they had been totally successful in their mission

ASTRONOMERS DISCOVER QUASAR
The latest Quasar to be discovered is likely to be 10 billion years old. It has a redshift of 5.0. The current theory is that Quasars are fuelled by massive black holes.

IMPACT—
It is believed an impact crater, from over 3.3 million years ago, found in Argentina dramatically altered Earth's atmosphere and killed off many forms of life. Fossils from 36 animals have been discovered. Some of these are Sloths, a flightless bird, an Armadillo-like creature. As well as the impact the Earth's weather changed and certainly contributed to the animals' extinction.

The comet impact is not believed to be the cause of the extinction of the Dinosaurs.

EUROPA
The latest findings on Europa (A Galilean moon about Jupiter) indicate a huge fault which has recently moved 50 kms in recent geological history. Life is thought to be under this ocean. The Fault is called Astypalaea and is 810 kms in size.
Callisto, another moon, is also known to have muddy ocean like qualities.

NEPTUNE:
Not often in the news but NASA scientists have discovered Menthyl, a product of Methane, which is broken down by the Sun in Neptune's atmosphere. This may explain the questions about the composition and dynamics of all the gas giants. It may also explain why ethane, formed by the combination of Methyl molecules, is found in concentrations in all the gas giants.

MIR
Mir fortunately has not featured in the news recently. However, 2 Russian Cosmonauts and 1 French Astronaut are currently living up there.

A wealthy business man associated with the Russian Energia rocket is said to be very interested in maintaining

the space station. All I can say is he must have plenty of money as it takes 250 million per year to keep Mir operational. If this investor doesn't come through than Mir is going to slowly be dropped into the ocean by July 1999. Russia currently only has 150 million of government funds to operate its space agency and launches. The ISS requires 230 Million per year from Russia. Interesting where the money will come from isn't it ?

From JPL—The Deep Space Probe -1 with the Ion drive is currently 22 times further out than the Moon. The drive has successfully been tested several times and is currently being hailed as extremely successful. One small problem does occur. Not quite enough power in the batteries can make the ion drive work to its capacity. However, solar power that it acquires lets the spacecraft operate to almost its full throttle capacity. One further problems is going to occur when the spacecraft gets further out - it won't be able to rely on the same amount of solar power.

INTERESTING
Finally, a next book on Mars is being written by author Greg Benford (title yet unknown) and also a BIG movie is being made about the first colony on Mars. More on this when the information is available.

Phil Ainsworth (President)

VIDEO – DEEP IMPACT

This love story starts out with our young love finding a comet on a collision course with the blue planet, confirmed by a tragic, lone astronomer. The world rallies with an outerspace mission to defeat the fatal fireball.

While the world is being destroyed around them, our two young lovers go to great lengths to stay together and keep their love strong (reminiscent of Romeo and Juliet).

The tidal wave produced from the impact has to be seen to be believed. So if you have a surround sound big screen television, this video is an experience. This is a movie to curl up next to your beloved with. Rating: ***

Daniel Ross ■

MacDob:

Bob Bee is 'custodian' of our 150mm MacDob, meaning he will issue and receive the 'scope from those who wish to borrow it.

There is no hiring fee for MacDob, but to cover maintenance costs, you are invited to make **a voluntary donation** consistent with the pleasure that MacDob has given you.

Borrowings are usually from one meeting to the next, but in times of heavy bookings, it may be shorter.

Members are advised that they will be asked to sign a form acknowledging receipt of all the components, and also accepting responsibility for any damage to the 'scope while in their care (other than reasonable wear and tear).

It's very easy to use, so why not borrow it to increase your star viewing pleasure. That's what it's there for.

Contact Bob Bee on (02) 46251623 for your loan of MacDob. ■

MOVIE – STAR TREK INSURRECTION

The Next generation crew is back in action, this time fighting injustice and conspiracy. Lt. Data is helping on a scientific mission, where his actions attract the attention

of the Enterprise and all that sail on her.

The crew gest involved in an intergalactic plot to displace some advanced beings for dishonest purposes. The Next Gen. Crew step in to save this race from extinction and I won't spoil the ending.

Well worth a look and a must for any Star Trek fan.

Rating ***1/2

Daniel Ross ■

MACDOB HEADS SOUTH FOR THE SUMMER

I arrived down at Sanctuary Point with my prized cargo secured on the back seat of my car (it's the only place where MacDob will fit). Dusk seemed to take forever to arrive so I passed the time with normal holiday delights.

Night fell and the heavens darkened, and although not a dark sky site, the fuzzy patches of the Magellanic Clouds could be made out with the naked eye. The only problem was that M42 (Orion Nebula) was behind a darn big gum tree and wouldn't come out for another hour. Pleiades looked superb as the seven man stars glimmered with the wide view lens in.

Two of the brighter objects of the sky were Jupiter and Saturn. Trained on Jupiter, the tropical bands were apparent, with three bright moons visible. The crowd of future in-laws oohed and aahed. The rings of Saturn were slanted about 20° and visible. Sarah's sister asked if I has stuck a picture on the end of the telescope as she finally moved her head away from the eyepiece. Needless to say they were suitably impressed with MacDob.

Sirius seemed too bright with the 17mm eyepiece, and with limited view SE, I trained the scope towards a fuzzy patch just below the Small Magellanic Cloud, 47 Tucanae. The globular cluster showed up its distinctive bluish colour.

Finally M42 had moved around enough to be viewed. The reddish tinge of the nebula was readily visible, and even more so, magnified with the 2x Barlow lens.

This continued for another two nights before a change brought with it a heavy cloud cover. On the third night Sarah, in a beach chair and with binoculars, raked a slow moving satellite from ENE to SSE for a minute and earned herself a new name – Sarah the Satellite Tracker.

By all means, do borrow MacDob. I is there for all the Society to use, and the view is well worth it.

Daniel Ross ■

NEW DARK SITE

The Committee is pleased to announce that, following intensive negotiations by Noel Sharpe with Camden Council, we have received permission to use a large Council site at Cobbity.

At Cuthill Rd Reserve, Cobbity, the site is flat, large, only small properties around (few lights), a low remote tree horizon, and a good sky all round. Great northern sky with little glow.
And it has a loo.

Due to a small lake nearby, you will need the Aerogard.

Details of access are still being sorted with the Council. All details of the site and conditions of use etc, will be passed on to members at the March meeting, with details of our first star night there.

This site is going to be great.

Well done, Noel.

BULLSEYE IN THE CARPARK

Astronomers can be a strange lot. Who would ever suggest that after a monthly meeting we would "boldly go where no-one has gone before" – ie the carpark, set up some scopes and just observe?

Well, the suggestion was followed up and what happened next was very

interesting indeed as a fine ensemble of instruments was paraded, including the Society's MacDob, Dick Everett's home-made 8" reflector (very impressive) and a small 3.5" refractor.

A small but enthusiastic group gathered and several astronomers were observed using slingshots to take out or most common enemy, the University's 1000 MW light monster that illuminates all before it.

Despite very difficult conditions, a number of objects were sighted through the pollution and many conversations took place, both for novice and expert alike.

It was very reassuring that this was our society in action, and I tender the following as some fine examples of the general repartee.

"I'd like to join your society, but I don't know anything." (Reply – "No problem")
"Antares is splendid with some wonderful star fields adjacent."
"Please explain about optical tube currents and mirror cool down times."
" What's that star pattern that looks like a giant shopping trolley?" (Answer: "It's really a saucepan or a pot")
"Capella is a spectacular star to observe."
"Oh Wow! Look at this. First time look at Saturn through high power, It's just like a cartoon."
"On defocusing, I'm getting oval shaped star patterns."

A lot of things were seen and learnt that night and some fun was had by our so called 'experts' showing exactly what not to do by trying to locate Saturn using a high powered eyepiece. Hard yakka!

The carpark observing reinforced our claims of being a most friendly society and we hit a bulls eye. But in act the real bulls eye belongs to a star called Aldebaran. Aldebaran successfully defeated the light monster atop Building 21 and gave a perfect image in the telescope despite being a stones throw from the light, pun intended.

Fact File on the 'Bulls Eye'
Aldebaran is noted as being the flaming red eye of the Constellation Taurus the Bull. Its distance from earth is 68 light years or 646 million million km. Aldebaran is a red giant (about 40 times the solar diameter) of the 1st magnitude (varied from +0.75 to +0.95)

Afterwards that night, some astronomers scored their own bulls eyes with their sling shots and in a battle that rivals the war between Starfleet and the Borg, the light monster was defeated and in darkness the magnificence of the night was revealed to all... well, the three people left anyway.

Noel Sharpe ■

Ancient Mysteries

Since the dawn of mankind, many puzzling mysteries have surrounded our fascinating world and left a lifetime of questions unanswered. From technologically accomplished civilisations far more superior than ours that predated the pharaonic periods to thousands of years old structures that were used to observe the night sky.

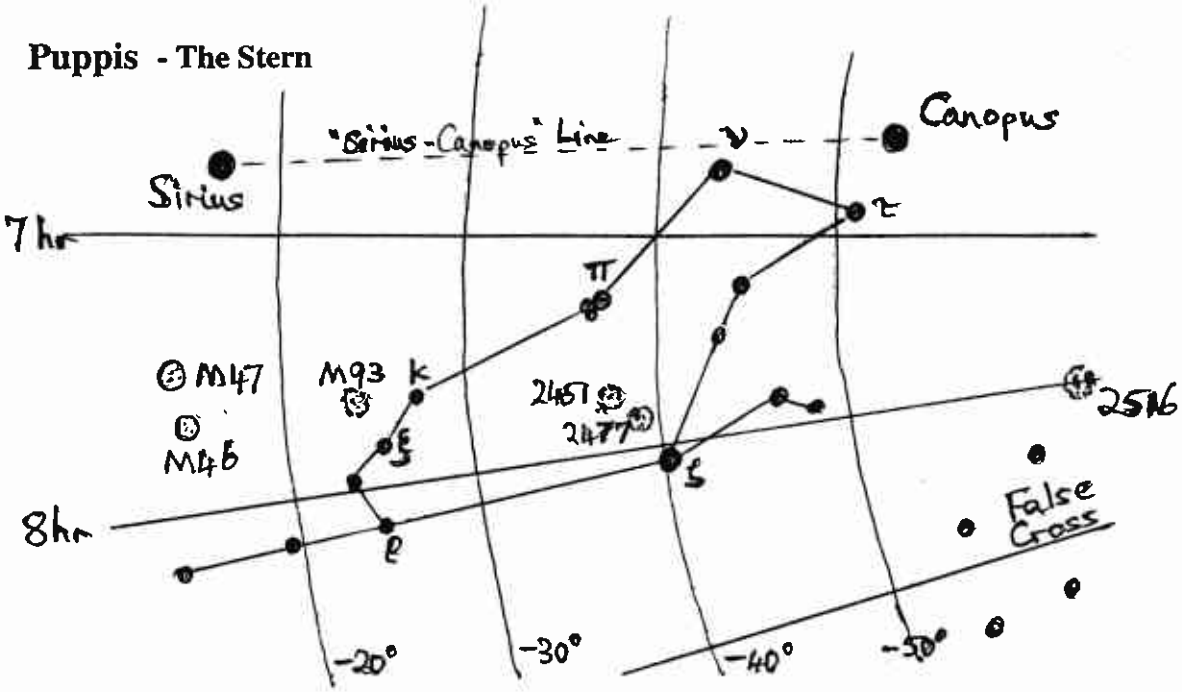
Where did these people come from?
How were these great structures constructed when even with our state of the art technology it would be impossible to duplicate?
And what kind of answers did our skies have for these so called "nomads"?

When facing strange evidence that defies common historical explanations, we find ourselves with unlimited conclusions.

In the next article, we will observe some of these riddles and many more that have been haunting the human mind for hundreds, maybe thousands of years.

Attila Kaldy ■

Puppis - The Stern



Puppis is the third constellation created by the 'breaking up' of the ancient constellation Argo Navis which represented the ship of the famed Argonauts. The other two sections were Vela (the Sails) and Carina (the Keel).

Puppis (the Stern) is the largest of the 3 newly formed constellations but not that easy to find in the sky because it does not have any immediately obvious bright stars. Its brightest star is Zeta (ζ) Puppis at mag. 2.2 (there is no Alpha or Beta etc because they stayed with Carina when the split occurred. eg α Argo Navis became α Carina which is Canopus, the second brightest star in the sky.

Because it is located in the Milky Way, there are plenty of star clusters to see and admire. Some are very suitable for binoculars and small scopes. You don't need high magnification for these.

Where do you find it? Firstly, you find it on your Starwheel. Sirius and Canopus are convenient sign posts. If you draw and imaginary line between Sirius and Canopus, this marks the Western extreme of Puppis. It also indicates the 'top' and 'bottom' extent of Puppis.

Also, if you go from the bottom star of the False Cross and follow a line roughly parallel to the Sirius- Canopus line, this marks the Eastern boundary of Puppis..

So, that's where it is. All you have to do is identify the stars from the chart provided here. Let's have a look at some of Puppis's features.

ζ (Zeta) Puppis is called Naos (the ship). At mag. 2.2, it's Puppis's brightest star. It's a blue-white supergiant, one of the most luminous stars in our galaxy. It is about 1400 l.y. away and has a luminosity of about 60,000 of our Suns. It is one of the hottest stars known.

A good thing about ζ Puppis is that it acts as a focal point for a number of interesting star clusters, such as NGC 2477, 2451 & 2546, which are within a few degrees of it. (8hrs 7m, -40°)

ν (nu) Puppis is a 3.2 mag. blue-white star, about 425 l.y. away. The nearest to our 'Sirius-

Canopus' line, it should be easy to find. It has a luminosity of about 1600 Suns. (6hr 32m, -43°)

ξ (Xi) Pup., Azmidiske mag. 3.3, is a yellow supergiant with an estimated luminosity of about 5000 Suns, about 650 l.y. away. See if you can observe the mag. 5.3 (unrelated) orange giant companion star. ξ Pup. is close to the cluster M93. (7hr 49m, -25°)

π (pi) Puppis is a mag. 2.8 moderate sized orange giant about 140 l.y. away. It has a luminosity of about 100 Suns. (7h 17m, -37°)

It is a very rewarding area for viewing. Don't miss it...

k Puppis (Markab) is a 3.8 mag. binary with blue-white components of mags 4.5 and 4.6. It's about 350 l.y. away. You should be able to resolve these with a small telescope. (7h 39m, -27°)

And now for the clusters:

M46 (NGC2437) is visible to the naked eye in the Milky Way as a bright knot of stars. Comprising about 150 10th mag. stars, it is a 6th mag. open cluster looking like a small circular cloud, about 1/2th a degree diameter (the same as our Moon). M46's brightest stars are blue giants. It is about 5400 l.y. away.
For fans of planetary nebulae, there is one (NGC 2438) on M46's northern edge. The nebula is 10th mag and is in M46's foreground about 3000 l.y. away. (7hr 42m, -15°)

M47 (NGC 2422), about 1.5° west of M46, is less concentrated than M46 but still visible to the naked eye, covering an area about the size of our Moon. There are about 45 stars in the cluster, mostly young of the A and B classes. M47 is about 1550 l.y. away. (7hr 37m, -15°)

M93 (NGC 2447), a cluster reputedly visible to the naked eye under excellent sky conditions, is clearly visible in binoculars and scopes. At 6th mag. it has a bright concentrated wedge shaped appearance, extending to about 18' diameter. There are about 60 to 80 member stars, and it is about 3500 l.y. away. (7hr 45m, -24°)

NGC 2451, another bright open cluster in the vicinity of ζ Puppis. About 4° NW of ζ, it is a large cluster of about 40 stars, with the 3.6 mag orange giant c Puppis at its centre. (7hr 45m, -38°)
NGC 2477 is a very rich open cluster about 2.5° NW of ζ Puppis. At 6th mag, it has about 200 members crowded into a 20' field (2/3rd the Moon's diameter). Recognised as one of the finest clusters in the Puppis area of the Milky Way, it looks great in binoculars, like a fairly loose globular cluster with pretensions of having arms. About 4000 l.y. away. (7h 52m, -39°)

I was checking Puppis out with my binoculars (dare I say I gave it a stern look?) over the weekend. It is a very rewarding area for viewing. Don't miss it.

Bob Bee ■

Time on the 40 inch Telescope at Siding Springs with Reverend Bob Evans.

We as amateur astronomers, who are fanatical about our hobby, eager to learn and as sufferers of aperture fever have a quest to view galaxies in search of supernovae. After having met Rev. Bob Evans and spending time under his instruction learning how to identify a supernova within a galaxy, we have devoted our observing to searching for supernovae. After a few false alarms we still haven't found one yet, however Rev Bob had realised that we were serious about supernova searching and invited us as his assistants on the 40 inch (1 metre) telescope at Siding Springs, to search for visual supernovae.

Driving up the mountain before sunset and opening up the observatory was and still is one of the astronomical highlights of our lives. The anticipation of the vistas and the thrill of opening the observatory alone, and the trust that was put in us to do this, was wonderful.

The objective of this four day run on the 40 inch telescope was to visually observe as many galaxies as possible for supernova candidates. A supernova candidate is a star which is seen in a galaxy which is not evident in existing photographs, and could therefore be considered as a possible supernova. Rev. Bob had the Uranometria hot and ready for blast off. Close to six hundred different galaxies were observed during this particular run. Bob's usual technique using his 16 inch, is to star hop and look at galaxies using his photographic memory and various charts to confirm his findings. The 40 inch telescope, however, is slightly different as the telescope is driven from a console which directs the telescope to the coordinates of the galaxies to be viewed. One person drives the telescope, one person viewing and one to scout, which includes driving the dome and making sure the floor (which can be elevated) is not driven into the telescope itself and visa versa. The person viewing at the eyepiece also has a control to position the galaxy precisely in the field of view.

The galaxies we were observing were not always very bright. Some were in fact so faint that the star pattern in the field of the galaxy was the only way of identification of certain galaxies. This is characteristic of many galaxies which are surveyed in search of supernovae. However because of the larger aperture of this telescope we could observe very faint galaxies. The stars within the field of the galaxy were counted and their position noted. This was often difficult as depending on where in the sky the observation was done, the compass points were reciprocal of the actual, due to the earth's rotation, making identification of compass points quite difficult at times, even Bob Evans sometimes taking about 30 seconds to figure it out!! (Meanwhile we would still be struggling to figure it out five minutes later!).

The Messier galaxies are among the brighter galactic objects and can be quite spectacular even through a modest 8 or 10 inch 'scope, however we were able to include in the run some of these bright objects and they really were some of the highlights of our viewing. An example of such an apparition was the Sombrero Galaxy, M104 viewed through the 40 inch. This particular object was virtual reality. It almost felt like you were arriving there on a space ship and looking for a landing site. The dust lane was so marked and detailed and the whole galaxy was so incredibly bright it was surreal. The same can be said for NGC 253.Many other galaxies with such magnitude as these were as spectacular.

One night, Rev. Bob was feeling a little tired and took a rest for half an hour however, we decided to take advantage of Bob's little nap and postponed his designated wake up time, and went on a little sky tour of our own for an hour and visually observed all our favourite objects. Jupiter was absolutely fantastic, every

band was pristine and Mars, both North and South Poles were clearly visible.

When Bob woke up, (well we woke him up) we tried to convince him that we got stuck on a few galaxies as he left us close to 100 galaxies to observe. We later confessed to Rev. Bob of our little journey through space and Bobs wife, Elaine, was happy that he had had more sleep, being the insomniac that he is.

The Milky Way from Siding Springs Mountain casts a shadow on the ground, so as far as dark skies go you can't get much better than that.

The sun rising and setting over the mountains of the Warrumbungles was awe inspiring to say the least. After the fourth morning the sun came up and sadly marked the end of an unforgettable experience for us both, and we realise how fortunate we have been to have had such a wonderful opportunity.

We continue our supernova search with our 10 inch Dobsonian telescope and when we have a possible candidate, we contact Rev. Bob for confirmation of our findings. So far all our findings have been either asteroids or active galactic cores.

In our next article we will discuss techniques of supernova searching we use.

Pete and Bobbie Elston.

Vice-President's Report

We are now entering our 4th year and I feel this will be our most exciting year yet. My expectations are as follows:

1) Regular monthly star nights maybe even twice a month on occasions.
2) The University telescope being on line
3) The Society's endless reference material via the Internet and our Library being utilised.

These are my goals for the Society and as of time of writing, I've had official confirmation that our observing site has been approved courtesy of Camden Council.. As time is late, breaking full details to members may be included in March's Newsletter.

It was a real buzz for me to watch many members get their hands dirty in the car park. Maybe we should do this more often. It was a lot of fun and educational as well.

Another of my goals is to engage more of our members into using their telescopes more often and with better results. I'm very keen to assist the novice to the 'not so novice' in any way I can, and more important, when we do observe an object, say the 'buggered if I know' (BIIK) star cluster, we apart from using the correct magnification, know and understand exactly what we're looking at. For example:

The BIIK cluster is actually NGC 2516 lying in the constellation of Carina. The brightest star in Carina is Canopus (Alpha Carinae) magnitude is –0.7. It's the 2nd brightest star in the sky and used for spacecraft navigation. Halfway between Canopus and the Southern Cross (Crux) is a group of 4 stars. These stars form the False Cross, although 2 of these stars are in another constellation , Vela.

At the base of the False Cross is NGC 2516, absolutely splendid in a telescope (or binoculars…Ed). NGC 2516 is an Open Cluster of about 80 stars, 6th mag. or fainter. It has a strong central concentration and is at RA 7hr 58m, -60°52'.

So with that information, go out and observe it, or I'll show you next time in the field. It's one of my favourites.

Next issue I will put on my other hat and give a report on our Treasury situation, complete with income and expenditure and balance sheet returns for our AGM.

All the best

Noel Sharpe – Vice President

WHAT'S TO SEE THIS MONTH?
15TH FEB – 14TH MARCH

THE PLANETS:

Mercury is setting half an hour within sunset, so you'll need to be quick.

Venus is setting just before the end of twilight but at mag –4.0 it's hard to miss. There are some interesting meetings with other objects during late February and early March. Jupiter (mag –2.1) and Venus come close about 18th to 26th February, and come within 0.6° on 24th. All in the western twilight sky, of course. These should be quite spectacular, particularly on 24th. Who's going to take some photos?

In early March, just after sunset, Mercury, Venus and Jupiter will be forming a tight congo line, with only about 6° between them each. Worth missing Judge Judy for!

Mars is rising from about 10.30pm to 9.30pm over the month. At mag. 0, it spends most of the month in Libra.

Jupiter is close to the twilight, but as described before, will have some interesting encounters with Venus and the Moon. After this month, it's tatas to Jupiter for a while.

THE CONSTELLATIONS:

What's up there at the moment? Well take your pick.

Orion, with the famous M42 Nebula (magnificent in my binoculars the other night), Rigel the white supergiant, Betelgeuse, the 'Giant's Armpit', blazing red in its old age.

Hyades in Taurus is still viewable, with all its doubles, Aldebaran (the Follower) and the Crab Nebula (M1) if you've got enough aperture to resolve it.

Sirius and **Canis Major** are right overhead (always good for a stiff neck).

Puppis (see the article in this issue) with its plethora of Milky Way clusters.

Cancer, with my favourite M44, **the Beehive Cluster**. This is easily found by spotting Regulus (in Leo), the Gemini twins Pollux and Castor, and Procyon (Canis Minor). M44 is slap in the middle of the triangle they form. Beautiful!

The False Cross is high overhead, with Noel's 'buggered if I know' cluster NGC 2516.

And that means. Of course, that Vela and Carina are there too, with all their clusters.

The **Large Magellanic Cloud** with the **Tarantula Nebula** looked great the other night, slightly south but up high.

Of course, our own **Southern Cross** is beginning to climb high again, with its glorious **Jewel Box** (off Beta Crux). My 12x50 binoculars split **Alpha Crux** into its two components the other night. I was most impressed.

So... they're all there. It's a regular smorgasbord this time of the year.

So, out with your Star Wheel, locate the objects mentioned above (and all the others in between) – and go get'em.

Good Seeing
Bob Bee ■

UWS OBSERVATORY

UWS Macarthur has received the 16" (400mm) Meade LX200 telescope ordered, and the telescope is awaiting the arrival of the 4.5m diameter dome. The dome is similar in shape to the one used at keck Observatory in Hawaii.

Two central piers have been poured, along with the foundations for the housing. The dome base will be poured shortly.

Next to the dome will be a large slab where MAS members can set up their own telescopes on observing and open nights.

Daniel Ross