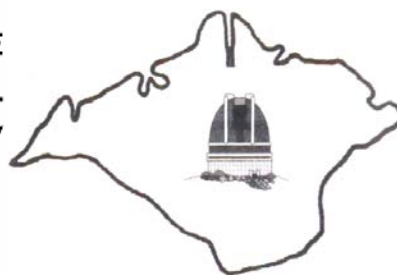


THE NEW ZENITH

THE MONTHLY
MAGAZINE OF THE
VECTIS ASTRONOMICAL
SOCIETY



VOLUME 14 No 8

SEPTEMBER 2006

WHAT IS A PLANET?

Surely everyone knows what a planet is: we all live on one, for goodness sake. However, it is not as simple as all that since, until midway through August, there had never been a proper definition of 'a Planet'. For ages astronomers have been deep in thought about a suitable set of words and finally came up with the answer. (No, not 42)

The **International Astronomical Union's Planet Definition Committee** resolves that planets and other Solar System bodies be defined in the following way:

(1) A planet is a celestial body that (a) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape¹, and (b) is in orbit around a star, and is neither a star nor a satellite of a planet.²

(2) We distinguish between the eight classical planets discovered before 1900, which move in nearly circular orbits close to the ecliptic plane, and other planetary objects in orbit around the Sun. All of these other objects are smaller than Mercury. We recognize that Ceres is a planet by the above scientific definition. For historical reasons, one may choose to distinguish Ceres from the classical planets by referring to it as a "dwarf planet."³

(3) We recognize Pluto to be a planet by the above scientific definition, as are one or more recently discovered large Trans-Neptunian Objects. In contrast to the classical planets, these objects typically have highly inclined orbits with large eccentricities and orbital periods in excess

of 200 years. We designate this category of planetary objects, of which Pluto is the prototype, as a new class that we call "plutons".

(4) All non-planet objects orbiting the Sun shall be referred to collectively as "Small Solar System Bodies".⁴

Notes

¹ This generally applies to objects with mass above 5×10^{20} kg and diameter greater than 800 km. An IAU process will be established to evaluate planet candidates near this boundary.

² For two or more objects comprising a multiple object system, the primary object is designated a planet if it independently satisfies the conditions above. A secondary object satisfying these conditions is also designated a planet if the system barycentre resides outside the primary. Secondary objects not satisfying these criteria are "satellites". Under this definition, Pluto's companion Charon is a planet, making Pluto-Charon a double planet.

³ If Pallas, Vesta, and/or Hygeia are found to be in hydrostatic equilibrium, they are also planets, and may be referred to as "dwarf planets".

⁴ This class currently includes most of the Solar System asteroids, near-Earth objects (NEOs), Mars-, Jupiter- and Neptune-Trojan asteroids, most Centaurs, most Trans-Neptunian Objects (TNOs), and comets. In the new nomenclature the concept "minor planet" is not used.

It was expected that a vote to accept the above definitions would take place on 24 August.

So, promotion to the Premier League for Charon. And will little Ceres now be classified as a vertically challenged planet? We wait with interest...

FROM THE EDITOR

Dear Readers

It is a sadness to have to announce the passing away of John Smith's wife, Pam. She had been ill for quite some time and spent her final days in St Mary's Hospital in Newport. John is now seriously thinking about handing over a lot of the work that he has been involved with on behalf of our Society. He has been Membership Secretary since Peter Burgess had to give up the post due to pressures of work. John also provides our regular feature on the monthly sky charts. It is now time for other contributions to be made if this regular article is to continue. What I have in mind is for those of our membership who know their way around the deep space regions to offer three or four recommended objects for viewing that can be included in New Zenith. If anyone can provide the necessary coordinates and a couple of descriptive paragraphs, they would be most welcome to get their favourites in print.

Please note that this office has been swept up on the tide of progress (yes, even down the communications black hole that is Alverstone Garden Village) your Editor is now on broadband. johnvl@tiscali.co.uk is the new address. Cheers!



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NEXT MONTH'S LECTURE

September 22nd

**LIFE IN THE UNIVERSE
James Fradgley**

at
7:30pm
**In the Parish Hall
Town Lane
Newport**

Membership News
(Good)
We have passed the 150 barrier as we now have 151 members signed up.
(Bad)
There are quite a number of the above who are seriously in arrears with their subs. It costs money to continually send out reminder letters and to mail this magazine. Come on, **COUGH UP!!**

September 2006 Subscriptions		
Will the following members please note that their subscriptions are now due. As usual, all cheques should be made payable to the Vectis Astronomical Society and sent to my Winford address.		
As the costs of postage continue to rise it would be appreciated if Members paid their annual fees due as soon as listed here and so reduce the need for reminder letters.		
Thank you		
John W Smith, 27 Forest Road, Winford, Sandown, IoW. PO36 0JY		
35	Mr R. Young	£17
151	Mr L. Burrige	£17
227	Mr T. Packer	£17
306	Mr G. Gilland	£13
327	Mr J. Abra	£13
352	Mr W. Akeroyd	£13
353	Mrs Akeroyd	£13
355	Mr A. Watts	£13
358	Mrs C. Adamou	£17
372	Mr A. Barrett	£17
412	Mr E. Butler	£17
413	Mr G. Salmon	£13

Constellations: The Myths & Legends

Peter Burgess



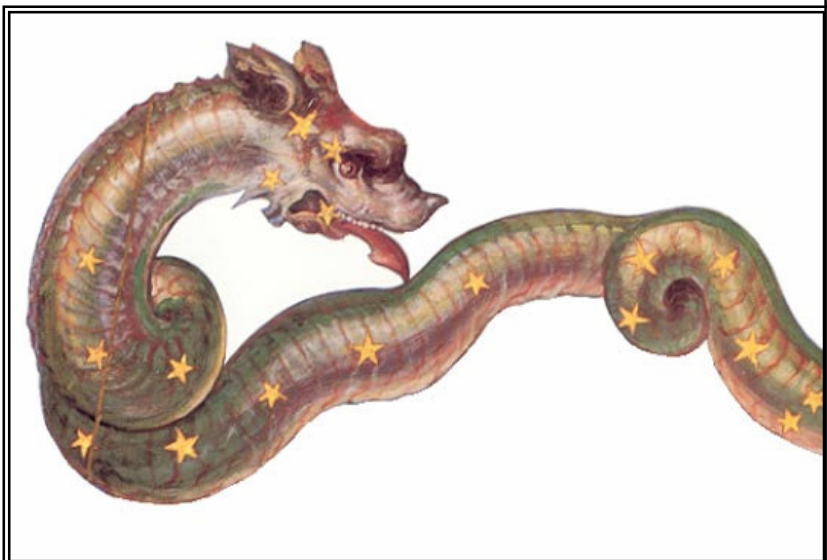
which kept the star patterns, the constellations as the central theme. Remember this was a time well before soap operas every evening on television and they had to make their own entertainment; and what better entertainment than to hear each night of the travails of mighty heroes battling against all odds to win the day, or tales of deceit and the revenge of spurned lovers. Seems familiar doesn't it? These legends were not just great yarns to be told in the evenings under the stars, like today's television entertainment; some also had a moral dimension.

Most of the ancient constellations are linked together in some way. The Andromeda group is the most obvious. The hero, Perseus, returning after slaying the unfortunate Medusa (she wasn't the evil monster often portrayed) found a beautiful young princess (aren't they all!) chained to a rock to be eaten by the sea monster, Cetus. Her mother, Cassiopeia, boasted she and her daughter Andromeda were more beautiful than the sea nymphs, so Poseidon the sea god sent the monster to ravage the seas to placate his daughters.

Most of us cannot find our way around the night sky without a map; why is that? Thousands of years ago star maps were non-existent, but people were still able to navigate the night sky with relative ease, and not just a knowledgeable elite few. The longevity of some of the constellations is testament to their being well known. How did people in those far off times remember the patterns they saw in the sky and why were they important to them?

To begin to find possible answers we have to put ourselves in their position for a while. Their food did not come from a processing factory or far-off lands as is the case today. It was grown locally and if that growing season was missed for any reason there would be famine. It was essential to know the time of the year to within a couple of weeks to be able to get the crops sown at the right time, wait for the weather to be warm enough or you could be too late. The stars can give you a reliable calendar, assuming that you can see them often enough of course, but how do you remember what star is what? Many 'improve your memory' schemes suggest linking objects together to form a pattern or story, and that is just what the ancients did: tell stories.

These stories were not just any old tale, they were of great deeds done by larger-than-life characters. Stories that could be embellished as time went on but



After consulting the local oracle King Cepheus was told that he had to sacrifice Andromeda to the sea monster to make the country safe again. Perseus killed Cetus and married Andromeda, and after a few more adventures, uncommonly for Greek legends, lived happily ever after, and had many children, one of which went on to create the Persian empire.

This area of the sky would have been very important to the ancient Persians as it told of their history. And where does the winged horse Pegasus fit into this group? He appeared from the neck of Medusa along with a warrior Crysoar when Perseus decapitated her. Perseus is commonly portrayed riding Pegasus: he did not, he didn't need to - he had Hermes' winged sandals. Pegasus was ridden by another hero Belerophon

(Continued on page 6)

September Skies

John W Smith

The Planets

Mercury is at superior conjunction so is not visible.

Venus is moving back towards the Sun and may be seen in the constellation of Leo.

Mars is not well placed for viewing as it lies too close to the Sun.

Jupiter, too, is close to the Sun so is not favourably placed.

Saturn is still too close to the Sun for observation.

Uranus is at opposition on the 5th.

Neptune is better placed for viewing. See map for details.

Meteor Showers

- *1. The Piscids have a double maximum this month; on the 9th and 21st. The second date is most favourable with rates of 5 per hour.
- *2. The alpha Aurigids reach their second maximum of the year on the 15th but the last quarter of the Moon intrudes the next day.

Moon Phases

New	1st Quarter	Full	Last Quarter
22 nd	2 nd & 31 st	9 th	16 th

Deep Sky Objects

for small telescopes and binoculars

M2 NGC7079 This globular cluster in Aquarius lies about 40,000 light years away, is relatively bright and easy to locate, so it is a good object for binoculars.

M52 NGC7654 An open cluster in Cassiopeia containing more than 100 stars.

M103 NGC581 Another open cluster in Cassiopeia with around 70 stars in the rich field of the galactic plane. This object is also a good and easy object for binoculars.

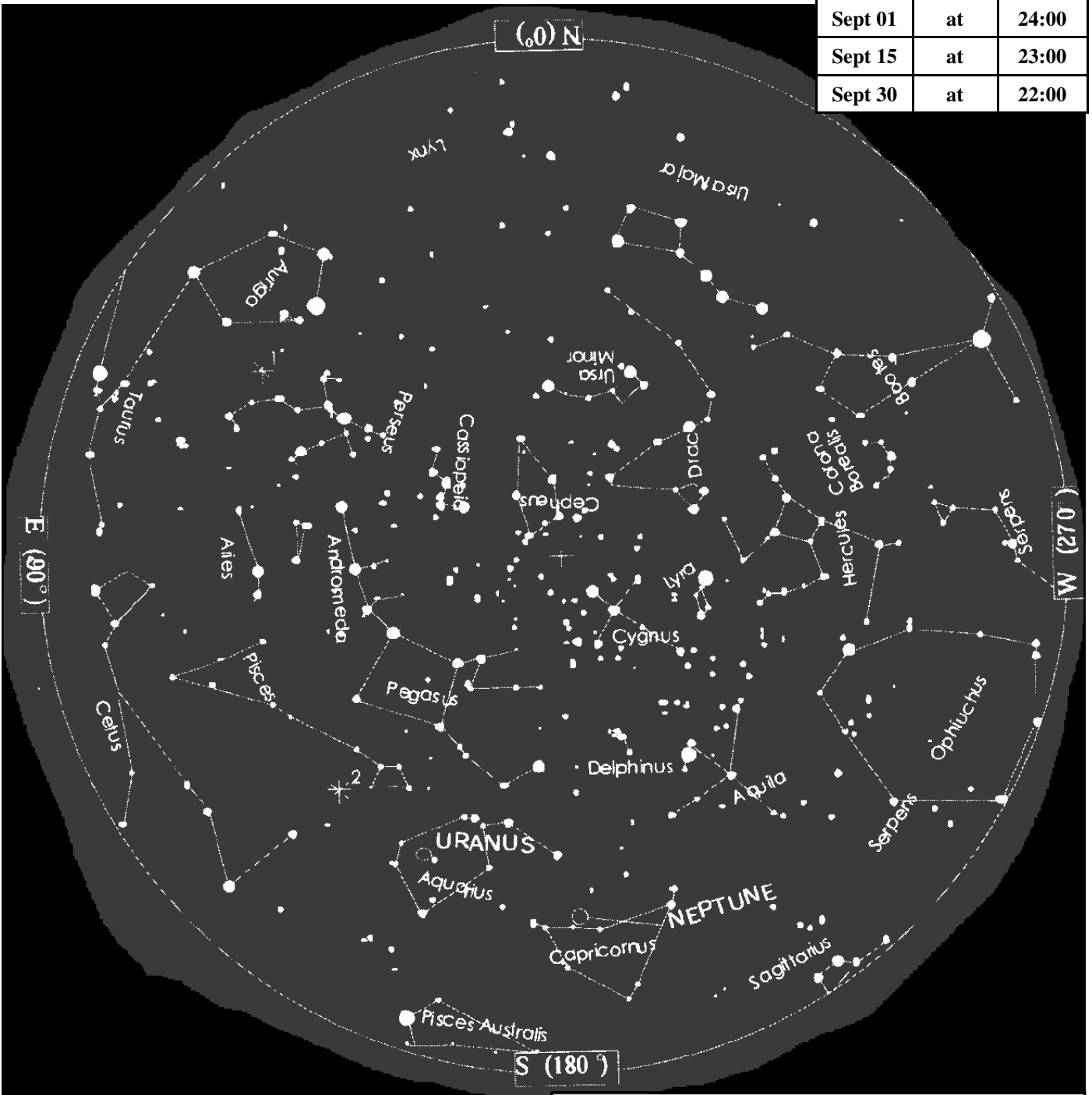
Coordinates (Maps on Page 10)

OBJECT	RA	DEC	MAG	SIZE (ARC MINS)
M2	21h 32m	-00deg 54m	6	8.2
M52	23h 23m	+61deg 29m	7	12
M103	01h 32m	+60deg 35m	7	5

NOTE

It is assumed that many VAS members have favourite objects in the sky that they would like to share with the rest of us. Much in the way that John Smith has provided for us in this half of his monthly piece. If so, please let the Editor know and your inputs could form part of our monthly entertainment. Thank you.

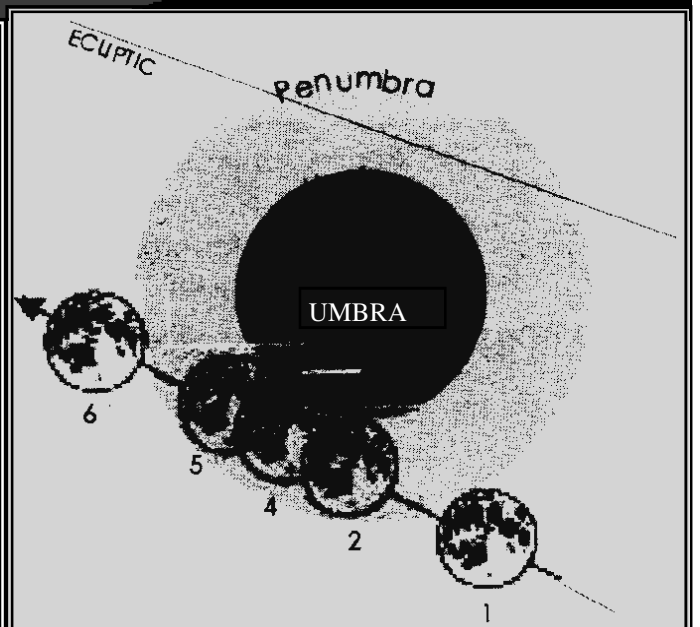
Sept 01	at	24:00
Sept 15	at	23:00
Sept 30	at	22:00



A THIRD ECLIPSE FOR 2006

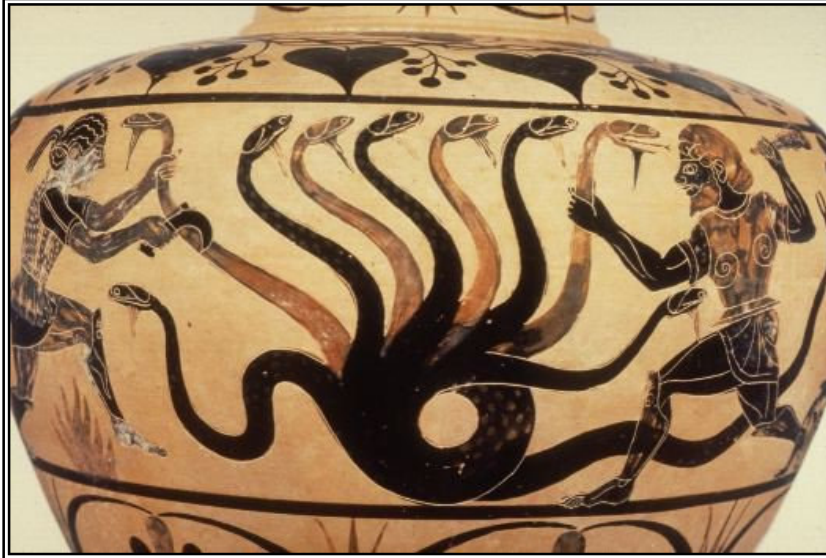
The constellation of Aquarius will provide the 3rd and final eclipse for this year for our hemisphere. A partial lunar eclipse will be seen but only 19% of the Moon's disk penetrates the Earth's umbral shadow. This will result to the North Polar Region of the Moon being in the shade.

The eclipse will begin around 17:42 when contact is made with the penumbra, then at 19:05 contact with the umbra itself will occur.



(Continued from page 3)

who used him to help him kill the Chimera, a fearsome beast with the head of a lion, body of a goat and tail of a snake; and just for good measure breathed fire as well. After killing the beast he had grand ideas of flying up to Mount Olympus. This annoyed king of the gods Zeus, who sent a gadfly to sting Pegasus who threw Belerophon who thereafter spent the rest of his days as a blind, lame outcast.



The whole group was placed in the sky such that Cassiopeia and Cepheus never enter the sea and Cetus rises from the sea after Andromeda and Perseus. Perseus is then seen flying over Cetus ready to attack him with his special sword.

Hercules is linked to the Andromeda group by a family tie. He was Andromeda's grandson. Hercules was one of Zeus' sons by a mortal mother, Hera, Zeus' wife who was always hostile towards his illegitimate offspring, but probably not more so than with Hercules. She sent two snakes to kill him while he was just a baby, but he strangled them in his crib. After he was married she made him mad and he killed his family. For that he was forced to perform 12 almost impossible tasks. Some of which are commemorated in the constellations. Killing the Nemean lion, Leo, the Lernean hydra, Hydra and Cancer. Hera sent a giant crab to distract Hercules when things were getting difficult with the 9 headed mon-

ster. It is possible that Draco, Bootes and Corona Borealis in different guise form part of the 11th labour, the Apples of the Hesperides. For this he had to enlist the help of Atlas, who was condemned to hold up the heavens for leading the Titans in opposition to Zeus. Atlas is represented by Bootes and the heavens by Corona Borealis. Draco is the dragon that guards the apples in the garden which is supposedly located in the north.

This linking can be carried on across the sky linking Centaurus, Ophiuchus, and Serpens. Probably the most famous of the constellations, Orion, can be traced back before the Greeks, to the epic of Gilgamesh. Here the hero Gilgamesh with his friend Enkidu defeat the Bull of the Heavens that is sent to destroy the city of Uruk. There in the sky is the mighty King Gilgamesh fighting with Taurus the bull.

One version of the Greek story has Orion the Hunter trying to impress the goddess

Athena by killing all the animals in the forest. She then sends a scorpion that kills Orion for taking more than he needs from the forest. The scorpion and Orion are placed on opposite sides of the sky to keep them from one another. A moral tale of over-exploitation still relevant today, set amongst the stars. The epic of Gilgamesh also has Gilgamesh meeting with scorpion beings while he searches for Utanapishtim (Noah) to learn the secrets of eternal life.

The constellations all predate the ancient civilisations and writing, so the only legends we have are probably very corrupted from the time when they were originally told. Many may even be based on actual events now lost in the mists of time. If we could only hear them in their original form, I'm sure that it would give us a great insight into the thinking of ancient man, even if the story line is no different from any of the soap operas that grace our TV screens every night.

Peter

NEWS ITEMS

It's still not too late to consider the Dark Skies Symposium in September on 15th and 16th. Details and application form were on Page 10 of the August New Zenith.

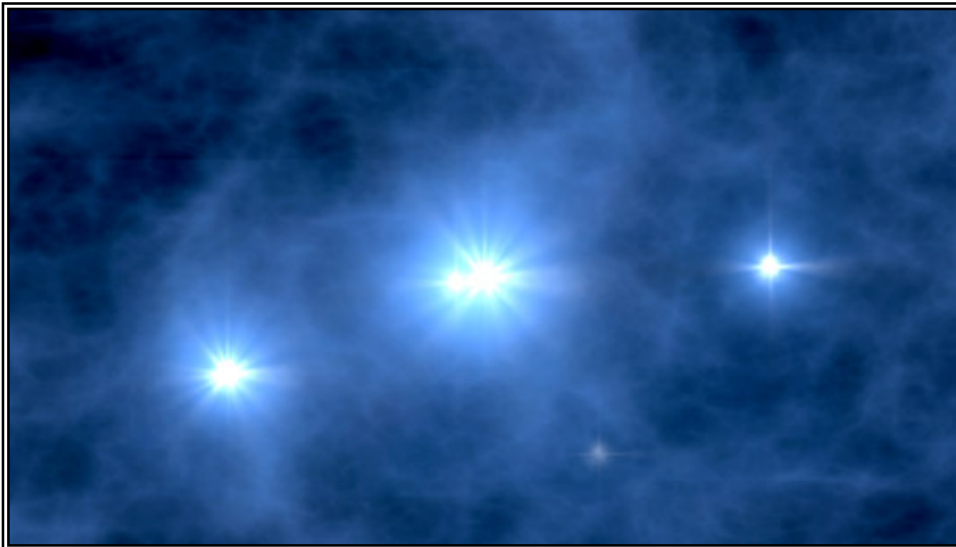
The list for the VAS 30th Anniversary Dinner on 4th November is filling up well. If you have not made a reservation and think you would like to join us, please send the Editor an email.

Open Lecture Evening

IET

Solent Network, Isle of Wight Section.
Cosmology for Everyone

by Barry Shorthouse.



Thursday 28th September 2006 at 7:30 p.m.

**QUAY ARTS CENTRE
SEA STREET,
NEWPORT.**

Order of Events:

19:00 Networking opportunity, tea and coffee (and pay bar) available.

19:30 Lecture

Newton brought order to the Heavens and Earth and Determinism ruled in everything. But the Newtonian wall had cracks that let in the Quantum and Relativity Theories. Beyond experience and imagination, almost unbelievable these theories were astonishingly accurate, predictive, correct but CONFLICTING. Enter strings, superstrings and p-branes. Beautifully simple, complete, all-embracing and able to explain, Big Bangs, Black Holes and Multi-verses of varying dimensions.

All to be confirmed or confounded at CERN in a few years... EXCITING, isn't it?

All VAS Members are invited to this evening, which is free of charge

STAR PARTY

A three day/night event is being planned down at the Observatory for October 12th, 13th and 14th. This is the first announcement, more details will appear in the October NZ, so make an entry in your diaries to come along. Roger Hayward is the person to talk to.

OBITUARY

On 13th August 2006, John Smith's wife, Pam, passed away peacefully in her sleep after a lengthy illness.

Her given name was Pansy but she preferred to be called Pam. She was born at Wootton and came to live in Newchurch with some maiden aunts when she was orphaned at the age of eleven.

John and Pam were married in 1956 and she always fully supported what he did to assist the VAS. In the subsequent years they held annual garden parties/fetes at their home to raise funds for the VAS. This was the main fund raising annual event for the VAS at that time. Pam organised the teas and refreshments; John grew hundreds of pot plants for sale and several members of the VAS put on excellent displays of astro equipment. John's observatory was also opened to viewing by the public. VAS committee meetings were regularly held at their home and Pam was always a good host.

Although Pam was not particularly interested in astronomy, she did look through the telescope at Halley's Comet when it was in our part of the Solar System. Above all, she was always a pillar of support in all of these functions.

Our sympathies go out to John and his family for their sad loss. All who knew Pam will understand what a great lady she had been, for the wealth of love she showed not only to her own family but for her friends and the Newchurch community.

ASTRONOMICAL VENUE THE ORRERY

Should you find yourself at a loose end in Ryde, why not pop down Union Street on the right hand side to discover the Orrery Cafe. This is a most amazing place, starting with the hanging globe over the entrance. At first glance it appears to be a mirror ball reflecting the street scene around the viewer. Look again - no yellow lines on the road? Very ancient vehicles parked by the kerbs? Your own reflection looking down at you is unfamiliar, then you realise that you *can* recognise the face; it is Sir Patrick Moore's! Even that is a mirage since Sir P's head has been grafted onto a totally different body. Weird, indeed.

Go inside the cafe, order a tasty coffee and sit at one of the round tables. Above you, hanging from a high ceiling, is the orrery. Put a coin in the collection box slot, switch on the Sun and the planets then sit and watch the Solar System whirl around. For an easier view look down at your table top - it's a mirror - and the neck ache disappears.

All around on the walls you will find constellations as if from Alice in Wonderland. There is a very good booklet available in the cafe describing the making of the Alice Globe itself. (See Website of the Month for images of this and many others).

But what lies behind the scenes? Wonderland indeed. **James D Bissell-Thomas**, proprietor extraordinaire, plans to build a huge replica of Bruegel's painting of the Tower of Babel, but in three dimensional form. Visitors will begin at the base level where the Big Bang will be depicted, then ascend in a gradual spiral up the tower through periods of time and cosmic history until reaching modern times. James explained that this project will take him up to four years to complete but his obvious enthusiasm surely will carry it through. He will also have a museum of globes and globe-making that will intrigue anyone vaguely interested about the planet we live on.

If you do call in, please mention your connection with the VAS: you will get a special welcome and maybe a personally guided tour. Allow plenty of time if you manage to penetrate the back rooms - there is a wealth of strange and interesting things to mull over.

50 for 50

Saturday evening, August 12th. The Perseid meteor shower was due, also a bright gibbous Moon to weaken their effect. Also present were many thick clouds obscuring most of the sky. About 7 Oktas worth in air-traffic-control-speak.

A group of hardy walkers were tramping through many of the Island's Areas of Outstanding Natural Beauty (AONBs) in celebration of the fiftieth anniversary of the very first AONB which was the Gower Peninsular in South Wales. The aim was to walk 50 miles, one for each year, hence **50 for 50**.

Intrepid UK champion long distance lady walker, Jill Green, led us off a blistering pace. We were due to finish at 7:30 am on Sunday in Shanklin Old Village, so no loitering.

Your trusty Editor had been invited to join the trek at the Chale Green checkpoint, by which time the ones who had started at the beginning were beginning to be nicely warmed up after their first 30-odd miles. My task was to entertain weary souls with descriptions of what could be seen up above in the heavens, being deemed an 'expert in such matters', ha-ha. The clouds made the job so much easier. I could now study where my feet were going instead of looking up and falling over hidden tree roots.

Chale is probably one of the darkest areas of the Island and the idea had been a good one. Nevertheless, we stumbled upward (lots of upward) and onwards. Through cloud gaps, Jupiter was glimpsed now and then. An occasional Perseid sped past leaving a bright yellow trail behind it.

I had taken the precaution of consulting heaven-sabove.com before setting off and had printed out the Iridium flare times for the area. There were three promised. At a point not far from Godshell, we were looking at the few constellations that were visible and I played the trump card. I mentioned that there was going to be a brilliant flare in the sky to the northnorthwest and right on time a magnitude minus 3 flash lit up the sky. From then on, Langley's word was Gospel!

The hoped-for view of Venus and Mercury close together in the pre-dawn sky on Sunday did not happen since it started to rain before we came away from the crest of Stenbury Down.

Out of a total of some 30 starters on the walk, 12 weary pairs of legs finished. The waft of hot coffee and croissants was most invigorating and cheered us all up.

John Langley

INTERESTING FACTS

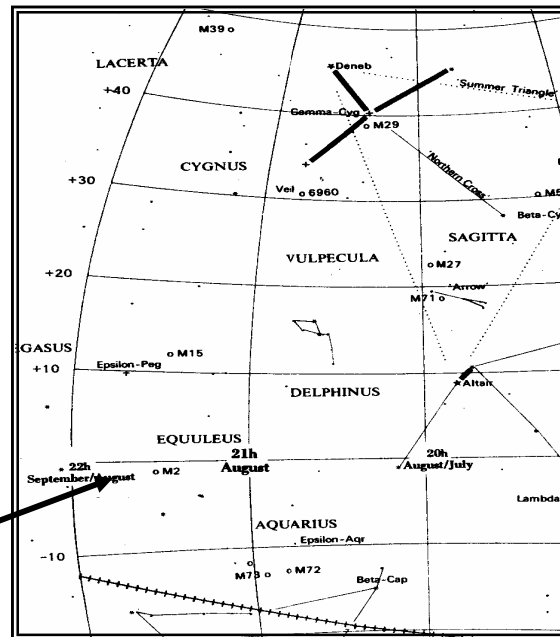
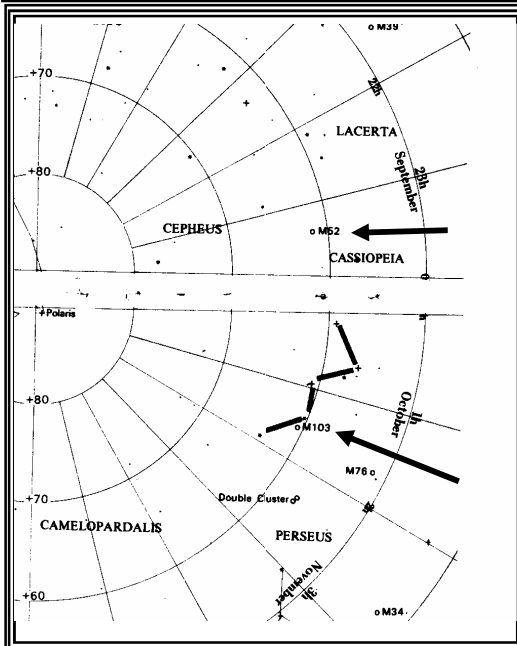
PART 24

The anagram of
ASTRONOMER
 is
MOON STARER

Website of the Month

www.greavesandthomas.co.uk

Take a fascinating look at this site for all manner of terrestrial and other globes. Well recommended for a rainy day activity!



Corrections

Apologies for errors in last month's NZ

Saturn is in conjunction (not opposition) in August and so will not be visible.

Uranus and Neptune are in opposition (correctly stated) and should be observable (Uranus in Aquarius, Neptune in Capricornus).

Both these notes should apply also for September.

Last Words

Please spare a thought for the difficult times that the previous Editor of this magazine is going through. Dennis Norris has been out in Pakistan helping with earthquake humanitarian relief. He applied for an exit visa to enable a return trip to the UK but has been refused permission to leave. Since he has a commercial interest out in Lahore, the local authorities deem that he has to go through diplomatic channels for his visa which have such a huge backlog that his turn is light years from the top of the pile.

Submissions to the NEW ZENITH are very welcome and should be sent to the the following address
 The Editor NEW ZENITH
 'Keepers Lock', Youngwoods Way
 Alverstone Garden Village
 Sandown PO36 0HF
 Tele: 01983 407098
 E Mail: johnvl@tiscali.co.uk (any attached files in Word Document format, preferably)

FIND VAS ON THE INTERNET

Members should note the Vectis Astronomical Society Website address:

<http://www.vectis-astro.org.uk/>

MATERIAL FOR THE NEXT ISSUE TO BE RECEIVED BY THE 6TH OF THE MONTH

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors