

Society News

August AGM

As I am sure you know, the August monthly meeting in Newport includes our Annual General Meeting. Although I'd like to think not, I'm also sure a few of you will be saying "Oh no, not that again, I think I'll give that a miss."

An AGM is a very important part of any organisation and really needs the support of the members. Decisions and elections made on the night will help ensure VAS continues to provide facilities and services to its members.

Perhaps the most important part of the evening is the election of Committee Members. These Members decide the future direction of **YOUR** Society as well as organising:

- Special events,
- Speakers and monthly meetings,
- Education and outreach visits for schools, scout groups and the general public,
- Financial control,
- Monthly newsletter (NZ) publishing and distribution,
- Equipment and facilities maintenance,
- and a whole lot more....

Without the right people willing to give their time, VAS simply would not function. The AGM gives you a chance to mould the Society to your needs.

The Nomination Form for Committee is again attached to this issue but please feel free to use it if you would like to help out generally (*there's plenty of blank space on the back of it!*). I would really welcome anyone interested in helping with computer, telescope and dome rewiring.

Please get involved this year and, together, let's take The Vectis Astronomical Society on to bigger and better things.

Clear Skies!
Brian Curd
Observatory Director

VAS Website: www.wightastronomy.org

Submissions or letters to New Zenith are always welcome and should be sent to:

The Editor New Zenith
35 Forest Road
Winford
Sandown PO36 0JY

Tel: 01983 864303 or email: editor@wightastronomy.org

Material for the next issue by the 6th of the month please.

VAS Registered Office

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

Registered Charity No 1046091

Observatory Diary

| | |
|------------------------------|---|
| Monday, 19.30hrs | Members Only. Telescope and night sky training. |
| Thursday, 19.30hrs | Members and Public. Informal meeting and observing. |

Contents this Month

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Monthly Meeting Calendar 2011

Check the website for up to the minute information.

Travel for our monthly speakers is sponsored by:



| Date | Subject | Speaker |
|--------|--|-------------------|
| 22 Jul | Pluto | Greg Smye-Rumsby |
| 26 Aug | Image Processing Techniques for the Amateur Astronomer + AGM | Dr Jon Whitehurst |
| 23 Sep | Discs round Stars and Galaxies | James Fradgley |
| 28 Oct | Glow Bows and Haloes | Richard Fleet |
| 25 Nov | An introduction to visual observing and equipment | John Slinn |

All details correct at time of publication.

New Members

A very warm welcome to VAS for our new members:

- Danny Carmichael
- Mark Williams
- Sean Barsdell

August Meeting

Please don't forget that the August monthly meeting in Newport is also our AGM.

The meeting will start at 7pm prompt in order to complete the business of the evening.

Garlic Festival 2011

20th & 21st August

Our major annual fund-raising event needs volunteer marshals.

If you can help, please contact
Richard Flux 883062

VAS SUMMER BBQ

THURS 11TH AUGUST 7PM

At the Observatory, Watery lane Newchurch
Please bring your own food to cook on the BBQs
The society will provide drinks, bread rolls and sauces

So that we can have an idea of numbers please let a committee member know if you intend coming along

Stargazing Live 2011

Wed 21st September 2011 at the Observatory, Watery lane, Newchurch

Following on from the success of our previous Stargazing Live event (even though it was cloudy) we are hosting another open evening.

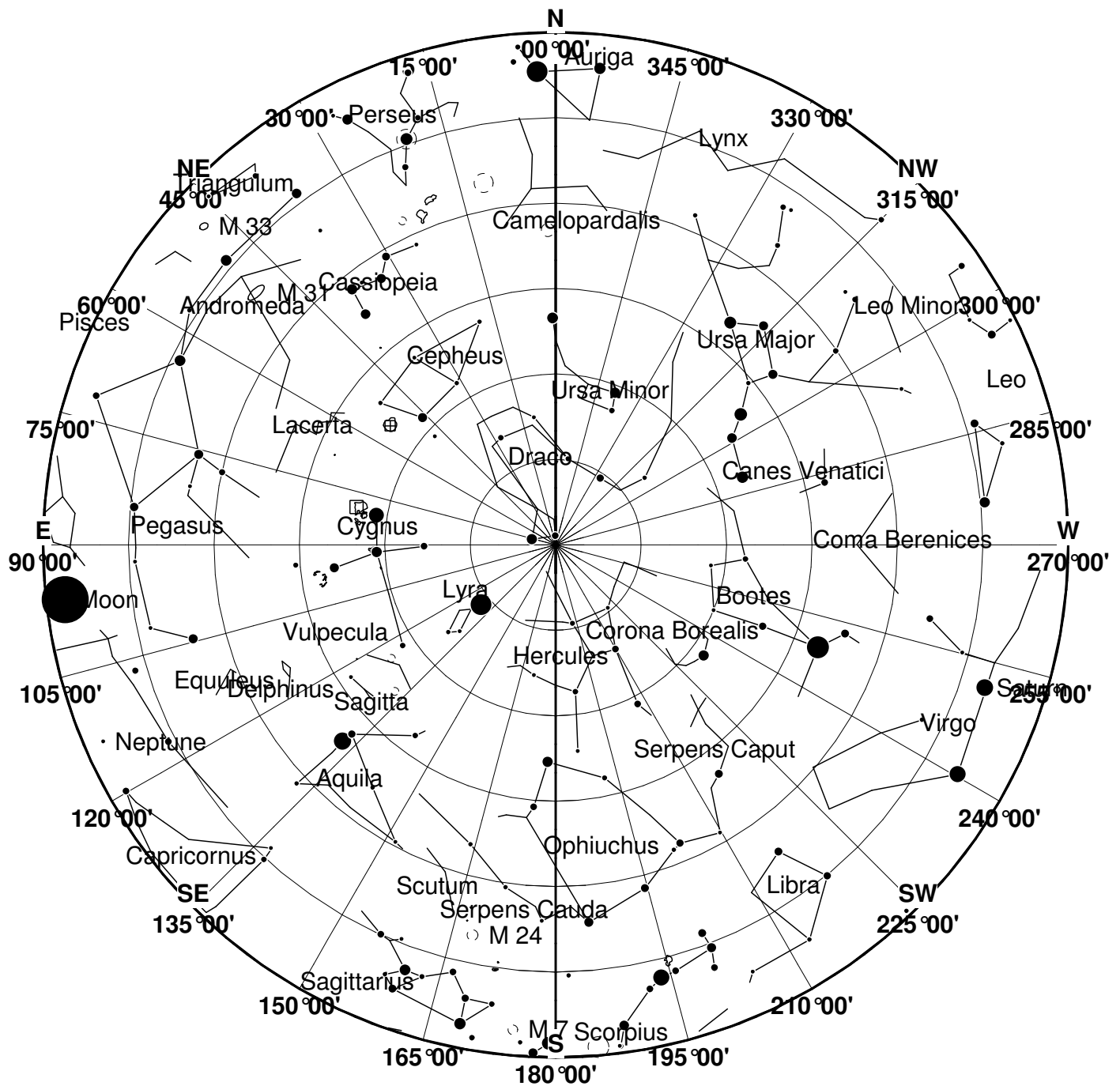
Can you bring your own telescope or binoculars?

**Can you help to point out constellations?
Can you help marshal the crowd?
Or just help in any way**

Please contact Elaine Spear if you can come along and help in any of the ways mentioned above - or if you have any other suggestions.

**Elaine Spear
Programme Organiser
progorg@wightastronomy.org**

This Month's Sky Map



View from Newchurch Isle of Wight UK - 2100hrs - 15 August 2011



M57 was discovered by Antoine Darquier de Pellepoix in January, 1779, who reported that it was "...as large as Jupiter and resembles a planet which is fading." Later the same month, Charles Messier independently found the same nebula while searching for comets. It was then entered into his catalogue as the 57th object. Messier and William Herschel also speculated that the nebula was formed by multiple faint stars that were unable to resolve with his telescope.

*This article is licensed under the [GNU Free Documentation License](http://www.gnu.org/licenses/fdl.html).
It uses material from the Wikipedia article "Ring Nebula"*

This Month's Night Sky

Moon Phases

| New | 1 st Qtr | Full | Last Qtr |
|------|---------------------|------|----------|
| 29th | 6th | 13th | 21st |

Planets

Mercury - during the last week of the month the crescent Mercury rises away from the Sun to start its best morning apparition of the year. This will last well into September.

Venus - is on the other side of the Sun too close to be seen.

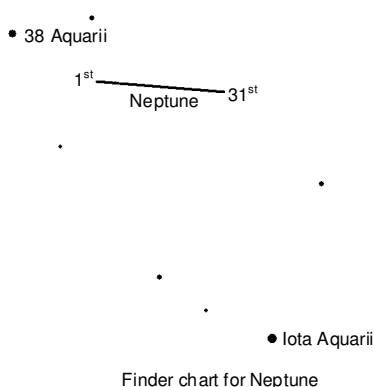
Mars - is now in Gemini and visible throughout the 'wee small hours'. Its disk is still too tiny to show much in the way of detail, but this situation will change rapidly as we catch up with it in its orbit later in the year.

Jupiter - rises before midnight and is well placed for observation during the early morning hours.

Saturn - is poorly placed, quite low down in the west at sunset and only available for observation for a short time.

Uranus - is now becoming a more favourable object, observable against the dim stars of Pisces from early hours of the morning until daybreak.

Neptune - is at opposition towards the end of the month and ideally placed for observation. It can be found a little south west of the 5th magnitude star 38 Aquarii, drifting further west as the month progresses.



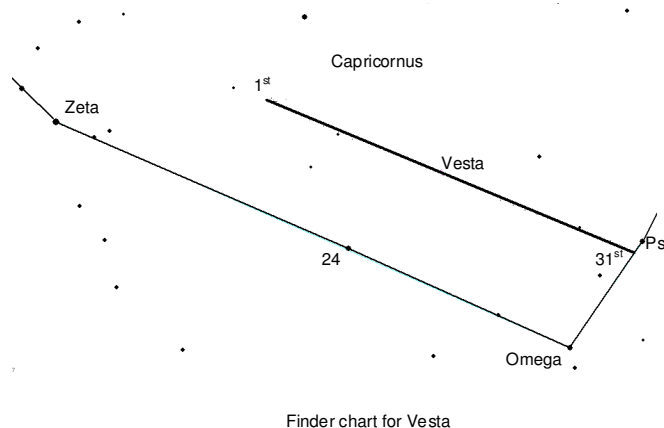
The finder chart shows stars in the area to about magnitude 9; fainter than Neptune's magnitude 7.8. There are no bright stars nearby to guide us to the planet so a little work with a star map to locate the rather dim stars of Aquarius will be needed.

Meteors

August is always a good month for observing meteors; unfortunately this year, the dependable Perseid meteor shower on the 12/13th falls during the full moon making observation of all but the brightest meteors difficult.

Vesta

The asteroid Vesta is rapidly crossing the Capricornus. At magnitude 5.7 it may be possible to spot this object with the unaided eye. It is however rather low down in the southern sky so it would be a challenge. A pair of binoculars will show it quite easily against the faint stars of the sea goat. The chart shows stars to magnitude 7.



Deep Sky Objects

M57 The Ring Nebula RA 18h 54m Dec 33°2' mag 9.5

This tiny smoke ring in the sky is easily found with a small telescope between Sulafat and Sheliak, the bottom two stars in Lyra. A planetary nebula is the last display of a star similar in size to our Sun. As the star runs out of fuel the outer layers are blown off and the remaining core shrinks to become a white dwarf. The intense ultra violet radiation from the white dwarf causes the surrounding gas to glow as it slowly dissipates into space. In stellar life times this is just a fleeting moment. The ring nebula formed approximately 20,000 years ago.

NGC6940 Open Cluster RA 20h 35m Dec 28° 20' mag 6.3

With its location surrounded by dark dust lanes the impression is of all the stars in the locality brushed into a small pile leaving the surrounding area relatively empty. This is a rich cluster with many multicoloured loops, chains and groupings.

M11 Wild Duck Cluster RA 18h 51m Dec -6° 16' mag 7.0

Easily seen in binoculars as a fuzzy patch in the Scutum Star clouds, this cluster gets its name from the V shape formed by two long chains of stars on its northern edge. They are supposed to represent the V formation of a flock of wild ducks flying across the Milky Way.

M29 Open Cluster RA 20h 24m Dec 38° 32' mag 6.6

Located in the Cygnus arm of the Milky Way this cluster is somewhat over shadowed by the surrounding star fields. It is also dimmed by the dust along our line of sight. Despite all this it is a worthwhile cluster to observe; its brightest members form two opposing arcs that give the impression of a miniature version of the Pleiades.

Peter Burgess

Playing with a CCTV Camera



A while ago I was given a Samsung SDN-520PH CCTV camera. Brand new and still in its box, it is just like the one above except that mine came with no lens.

I thought it might come in handy at some point for a little astronomical experimentation and recently I have set about getting it setup for use on the observatory telescopes.

Interface

The output from the camera, instead of being the standard webcam USB connection, is a BNC connected composite video output. For initial testing I used a BNC/RCA (phono) adaptor to prove the camera was OK and connected the composite output to an old TV tuner card and that all worked fine. Next was to find a solution that would work on a laptop; that meant converting to USB somehow.

After a fair bit of net searching I came across a device called EasyCap, which despite very mixed reviews on Amazon was very cheap (about £7) and as some reported it as being easy to use I ordered one on a Friday. It arrived on Saturday!



The EasyCap works just about perfectly with both PC (*Windows 7*) and Mac (*Snow Leopard*). Once the drivers were installed I found software could “see” the camera and my free webcam software allowed me to stream the output with no problems.

Another Adaptor

After another internet search, I found a small adapter, converting the C-type lens thread (a CCTV standard) to a more usual 1.25” barrel, this now meant I could simply slot the camera straight into the eyepiece holder of a telescope and use that as the lens.

First Results

For initial testing, the camera was slotted into a 2x Barlow lens which in turn was inserted into the eyepiece holder on the VAS observatory’s Meade LX200.

Of course the output from the camera was captured as a movie file and its format is dependant on the software and platform used. The usual way to convert the movie into one picture is to capture the file as a .AVI file and to use a PC and an application like Registax to do the hard work.

Having taken a look at the latest version of Registax and being very keen to see some results, I decided on a different solution and chose the Apple Mac route and a much simpler program called (*imaginatively!*) “Keith’s Image Stacker” which uses the Apple movie format .MOV as its input.

It was a very windy night and the seeing wasn’t too good but there in all its glory was Saturn bobbing in and out of view between the clouds. After some minor problems with focussing I started the capture which ended up with a .MOV file containing about 4000 frames.

After a little fiddling with “Keith’s Image Stacker”, but without rejecting any of the frames, out came the image you see below.



I’m very pleased with it as a first attempt and am looking forward to exploring the setup, and the software, further.

Brian Curd

Transit of Venus 2012

Robin Gorman DSc - Hampshire AS

24 June 2011 Lecture report

Recently retired from electrical engineering at the University of Portsmouth, Robin had become interested in astronomy in the 1950s, hoping to see various events such as Halley's comet 1985/6 and the total eclipse of 1999. After bad luck with viewing conditions, even in Hawaii, eventually he was well rewarded in Turkey with seeing a fantastic total eclipse.

A show of hands indicated that half the audience of some sixty persons, had seen the Venus transit of 2004, one of the rarest events that can be predicted. These events occur closely spaced by 8 years, making a pair, followed by more than a century before the next pair. Each pair occurs either in June or December, alternating across the centuries. Our second chance to see a transit occurs in 2012.

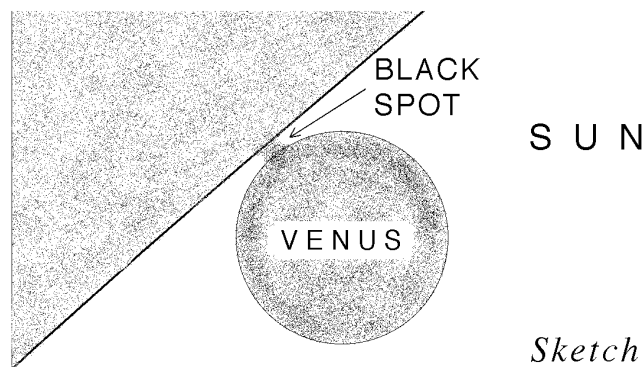
Kepler predicted the transits of 1631 and 1639 (both in December) but Europe was too cloudy to see the first. It was of the egress type, when Venus would be seen emerging after crossing the Sun's disc, during sunrise. **Horrocks** saw the one of 1639, of the ingress type, when as Venus starts to cross the disc, the phenomenon vanishes into the sunset. But apart from misty days, since Venus only subtends 1 arc minute to the eye, observing transits awaited advances in appropriate optics (such as the marine sextant with solar filters). The next pair of transits would be in 1761 and 1769 (both in June).

The one of 1761 was observed by Lomonsov, who concluded that Venus has an atmosphere and could support life. Refraction causes the apparent limb, the edge, to be smaller than the true limb.

**NEVER LOOK DIRECTLY AT THE SUN OR
POINT YOUR OPTICAL INSTRUMENT
TOWARDS THE SUN OR ALLOW CHILDREN
ACCESS TO IT WHO MIGHT!**

The June 2004 transit was very rare, being totally visible throughout in the UK, enabling the four contacts to be timed during low solar activity. The 1st contact is during ingress when the Venusian disc just touches externally the Sun's disc, and the 2nd contact, about 20 minutes later occurs internally. Then the 'black spot' appears, *Sketch 1*, caused by Venus's dense atmosphere, followed by 'transit' across the solar disc, with a speed depending upon the speed of the observer related to their

location on the rotating Earth. During egress, the black spot appears, followed by internal contact = the 3rd contact, followed in twenty minutes by the 4th contact as the weeny bite out of the solar disc shrinks to nothing and that's the end of the event - or not quite, for if the Sun is very active, such as may happen in 2012, solar prominences may prolong the spectacle.



Sketch 1

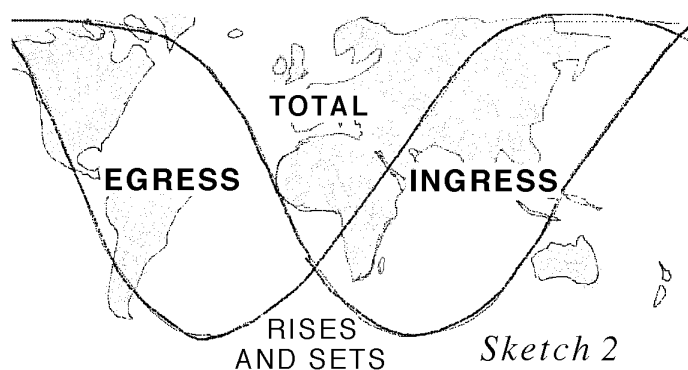
Gilbert White observed the transit of 3 June 1769 during sunset, in conditions of "three tenths cloud and great showers" from his garden at Selbourne, Hampshire, which can still be visited. Captain Cook in Tahiti also saw it from a location now known as "Fort Venus". Transits of Mercury are more frequent, but only subtending 12 arc seconds, are less spectacular. In New Zealand is a 'Cook Beach' where he first made landfall, and a 'Mercury Bay'.

Guillaume Le Gentil had less luck, sailing in 1760 to Pondicherry in India, but naval warfare delayed his arrival, so he saw the transit from a heaving ship. He waited in India, building an observatory ready to see the next transit in 1769, but an unusual storm obliterated viewing. Presumed dead, he arrived back in Paris, having to contest the loss of his estate.

Edmund Halley suggested using the 1761 and 1769 transits to measure the astronomical unit. This depends upon timings made by widely spaced observers to determine the 'parallax' of the Sun, or the different angle it appears in the sky from points on a known baseline, yielding its range. The angle is the same as the angle subtended by the Earth for a notional observer at the centre of the Sun. More measurements were done in the 1874 and 1882 transits, and by then photography had got started.

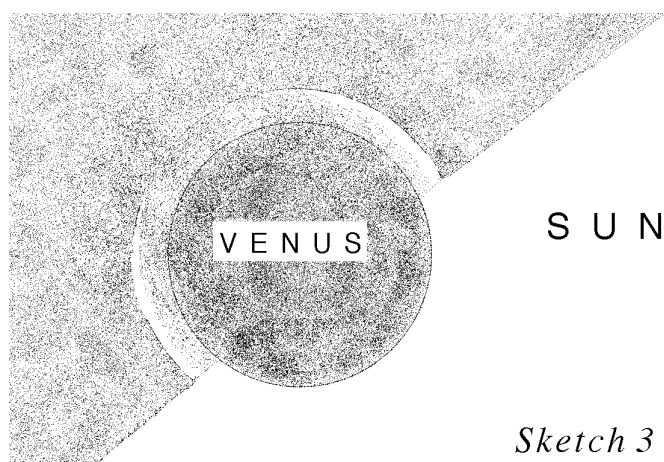
The next transit included the first of the pair in June 2004. In Britain the entire transit could be observed lasting six hours twelve minutes. The last time this theoretically happened was in 1283 AD, but there are no records of anyone chancing to see it, through a thick mist, for example. The Mercator map, *Sketch 2*, shows our favourable British location. North of Antarctica, where the Sun rose and set for a few hours, Venus was transitting but both egress and ingress were hidden below the horizon. One team who went to Egypt set their instruments on the wrong segment of the Sun. At the **Clanfield Observatory**

(**Hampshire AS**) they planned things very carefully, did accurate timings, taking a picture in white light using a webcam, projecting the image inside in their club room. Graham Bryant (lecture report May 2010 NZ) set up another system looking for the black drop. Their measurements resulted in calculating the Astronomical Unit to a remarkable 0.12% accuracy, considerably bettering the Open University result. Observations in Italy showed the atmosphere of Venus glowing outside the solar disc, *Sketch 3*.



What next? In 2012, June 6th is a Wednesday, and there is the **Diamond Jubilee holiday** June 2-5, Saturday to Tuesday. On June 6th, sunrise is at 0352 UT at Clanfield. 3rd contact is at 04hrs 37m 18sec, 4th contact at 04hrs 54m 37 sec, when the Sun's altitude is 7.5 degrees. You will need a clear view of the north-east horizon. Mid-transit occurs at 0135 UT. In Australia the entire transit will last for 6 hours 40 minutes.

If you happen to be in the right place on Mars on a certain day in 2084, martian weather permitting, the Earth and Moon will both be seen transiting the Sun.



Further information from "*Cooks Voyages of Discovery*" John Barrow, Adam & Charles Black, London, 1910, pp.48-49. "THE TRANSIT OF VENUS [of 1769]. In consequence of some hints given me by Lord Morton, I determined to send two parties to observe the transit from other situations ; hoping, that if we should fail at Otaheite [in Tahiti], they might have better success.

"At daybreak of June 3, they got up, and had the satisfaction to see the sun rise without a cloud, and to make a most successful observation of the first internal contact of the planet with the sun.

"The observation was made with equal success by the persons whom I had sent to the eastward ; and at the fort, there not being a cloud in the sky from the rising to the setting of the sun, the whole passage of the planet Venus over the sun's disk was observed with great advantage by Green [the astronomer of the voyage] Solander and myself [Captain Cook] : Green's telescope and mine were of the same magnifying power, but that of Solander was greater. We all saw an atmosphere or dusky cloud around the body of the planet, which very much disturbed the times of contact, especially the internal ones ; and we differed from each other in our accounts of the times of the contacts much more than might have been expected. According to Mr.Green,

Morning: The first external contact, or first appearance of Venus on the sun, was ... 9h 25m 42s

The first internal contact, or total emersion ... 9h 44m 4s

Afternoon: Second internal contact or beginning of emersion ... 3h 14m 8s

The second external contact or total emersion... 3h 32m 10s.

The latitude of the observatory was found to be:

- 17 degrees 29 minutes 15 seconds [South],
- and longitude 149 degrees 32 minutes 30 seconds West of Greenwich."

Dr.Guy Moore

Island Planetarium @ Fort Victoria

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Why it is dark at night?

(Part 1 - up to the 20th Century)



Astronomy is amazing. It encompasses all interests from just looking at beautiful images of stellar objects, through developing and refining the technologies for viewing and observing, right up to the edge of knowledge in mathematics and cosmology.

It is estimated that there are more stars in universe than grains of sand in all the beaches in all the world. There are over 200 billion suns just in the Milky Way galaxy, the Milky Way is just one of more than 100 billion galaxies in the cosmos.

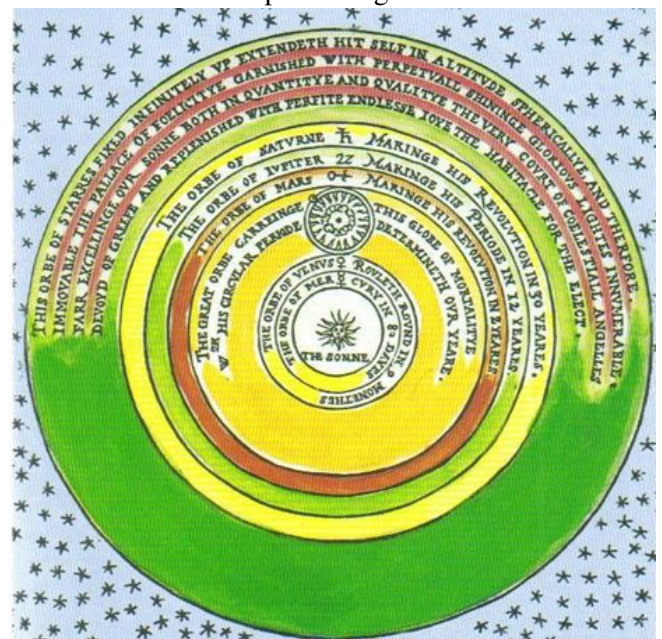
Just how big is everything? What is the story of everything? Remarkably we have managed to understand the shape size and origin of everything by mere observation and deduction, small and insignificant though we maybe in the universe. What is the totality of everything there is - does space go on forever or does the universe have an edge?

Today we begin to understand the complexity of this question - but 500yrs ago it seemed there was a simple answer. It was believed earth was enclosed in a vast thin shell of rotating shell of fixed stars - but an exploding star event in the 16th C occurred - a type 1A supernova - 5billion times as bright as the sun in 1572 suddenly visible - known at the time as “the phenomenon” - it was visible during the day This was so shocking Many sought a religious explanation - some intellectuals at the time thought this was the “wise men” star which shone over Bethlehem and had returned - was God about to arrive on earth again? MP of Wallingford in Oxford at the time Thomas Diggs inspired by this event studied it but then the

star it grew dimmer - his friend and mentor fellow astronomer John Dee suggested it was a moving star - previously thought impossible - maybe growing brighter on approach to earth and faded as it was receding

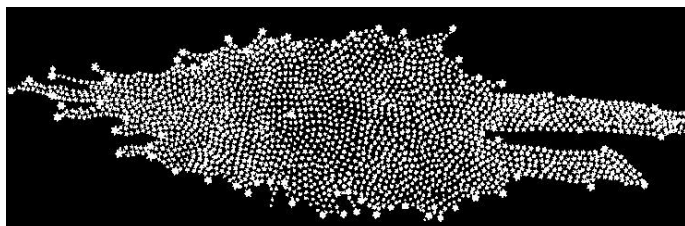
Diggs was further inspired to think about stars and their arrangement - maybe the stellar shell “stelarum fixarum” was just an illusion - Diggs added his thoughts to the famous solar system diagram in a translation of the works of Copernicus.

Copernicus' revolutionary idea was that the sun was at the centre of the universe. In a further leap of imagination Diggs scattered the fixed stars infinitely out - Diggs' diagram was a radical new picture of the cosmos - stars in night sky existing in infinite space, a sphere of stars “fixed infinitely up”. Diggs new picture was revolutionary - now we were no longer suspended in a static universe. But a paradox soon became evident - if the universe has an infinite number of stars, the sky should always be full of stellar light. So why is it dark at night? In a static infinite universe of infinite stars we would see light coming from every star, so the sky should be bright always and never dark - but it isn't. This was known as Olbers Paradox. Not until the 20thC was a satisfactory answer found. Solving Olbers Paradox required many great scientists thinking radically differently. Stuck here on earth we can't do interstellar travel to find out about the universe, so we have to make intellectual leaps of imagination.



It wasn't until the beginning of the 18thC before another big leap in imagination occurred. Up until then astronomy was the study of the solar system, stars were just a backdrop. In the city of Bath - Herschel, assisted by his sister built and developed a new generation of telescopes enabling a phenomenal leap in observational methods. Herschel perfected Newtonian telescopes with metal mirrors as these captured much more light than

refractors. Herschel had a home furnace for smelting metals, he experimented with various mixtures of metals until the best was found. After many long hours of polishing and perfecting, Herschel and his sister used these powerful new telescopes to observe and catalogue stars in the night sky - a place of endless wonder. Herschel discovered Uranus and with this fame he became the King's astronomer - he then tried to map all the stars in universe, attempted to draw a picture of everything. In 1785 he published an approximation of the Milky Way - he described how we are part of a disk of stars with a clear boundary. Herschel seemed to have seen to the edge of everything.



But dotted around the sky Herschel and others observed strange objects they called nebulae, some with complex structure - perhaps the Milky Way wasn't everything there was, maybe there were big galaxies like ours in deep space. But it was impossible to answer this question as there was no way of accurately measuring distances in space. Long After Herschel's death the stellar parallax method was developed. How does this work? Try holding a finger in front of your face and view it from each eye in turn - viewed from two vantage points the finger shifts position - observing how much it shifts can be used to calculate an estimate of its distance.

Friedrich Bessel took pictures of stars at either side of earth's orbit around sun and found that they showed a parallax shift in position and that this could be used to calculate their distance - eg the star 61 Cigney was now estimated to be 100 trillion km away. But this method was limited as the diameter of earth's orbit is 300 million km - so parallax method can only measure out to 300 trillion km - a fraction of the Milky Way size. It was clear many objects were more distant, eg nebulae - but it wasn't until the start of 20thC that this was proved.

Chris Wood

The Griffith Observatory



Having read Faith Jordan's article about deep space astronomy and her pleas against the effects of light pollution, I was reminded of my recent visit to my daughter in Hollywood, USA. Her house is not far from the famous Griffith Observatory which is in the foothill area of Mount Hollywood. I paid it a visit and found the place overrun by various rugrats on their schools' Spring Break (Half Term in Britspeak), yelling that it was all so "Awesome". But there again, to most of the populace in that wondrous city, most mundane happenings turn out to be totally awesome...

Later that evening I decided to have a visual eyeball's worth (having only one that functions near normal!) of the local night sky, or what passes for night sky in those parts Well, there was a dim Sirius up higher than we are used to with Island latitudes, but only four other stars were visible in a cloudless sky. No constellations hung around, nor was the Milky Way to be seen that night. What was truly "Awesome" to my mind though, was the sight of the Griffith Observatory up on the hillside, its pure white marble walls totally visible from well across downtown LA, gleaming brightly from the magnificent uplit floodlighting....

Ah well, every little helps, I suppose.

John Langley

Most Elliptical Galaxies Are 'Like Spirals'

ScienceDaily (July 15, 2011) — The majority of "elliptical" galaxies are not spherical but disc-shaped, resembling spiral galaxies such as our own Milky Way with the gas and dust removed, new observations suggest.

The results come from Atlas3D, a survey of all 260 early-type ('elliptical' and 'lenticular') galaxies in a well-defined volume of the nearby universe. Atlas3D shows a much closer link between 'elliptical' galaxies and spiral galaxies than previously thought. The findings are likely to change our ideas of how galaxies form and see astronomy text-books rewritten.

Read More at: <http://www.sciencedaily.com/releases/2011/07/110714101631.htm>

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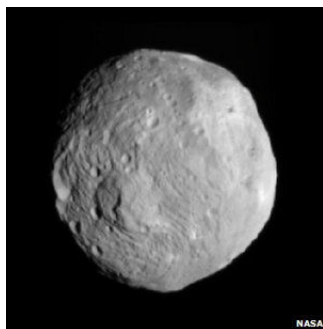
LINKS, COMMENTS AND OBSERVATIONS

Dawn probe orbits asteroid Vesta

By Jonathan Amos - Science correspondent, BBC News

The Dawn probe has successfully entered orbit around the asteroid Vesta.

Nasa's robotic satellite sent data early on Sunday confirming it was circling the 530km-wide body.



The probe has taken almost four years to get to Vesta and will spend the next year studying the huge rock before moving on to the "dwarf planet" Ceres.

Asteroid Vesta looks like a punctured football, the result of a colossal collision sometime in its past that knocked off its south polar region.

"Today, we celebrate an incredible exploration milestone as a spacecraft enters orbit around an object in the main asteroid belt for the first time," Nasa Administrator Charles Bolden said in a statement.

"Dawn's study of the asteroid Vesta marks a major scientific accomplishment and also points the way to the future destinations where people will travel in the coming years. President Obama has directed Nasa to send astronauts to an asteroid by 2025, and Dawn is gathering crucial data that will inform that mission."

Read More at: <http://www.bbc.co.uk/news/science-environment-14160135>

On the shoulders of space giants

London paid tribute to Yuri Gagarin on Thursday, unveiling a statue of the cosmonaut just a few metres back from The Mall.

The figure stands, arms outstretched, looking across the road to another great explorer, Captain James Cook.

Gagarin's achievement in circling the Earth on 12 April 1961 still seems remarkable - a step into the complete unknown.

His link with the UK goes back to the world tour he undertook shortly after returning to Earth. He was invited to Britain by the National Union of Foundrymen.

Read More at: <http://www.bbc.co.uk/news/science-environment-14161940>

VAS 35th Anniversary Dinner

Thursday 3rd November 2011

The Isle of Wight College, Medina Way,

Newport, Isle of Wight, PO30 5TA

Further details as we get closer to the event

Observatory

For your own safety, when visiting the VAS observatory, please bring a torch. Also, please make sure you close and lock the car park gate if you are the last to leave - if you need the combination to the lock, please contact a member of the committee.

Articles Needed

New Zenith welcomes letters, articles or pictures related to all aspects of astronomy. Contributions to the Editor at the email or postal address on the front page.

*“Observing quasars is like observing the exhaust fumes of a car from a great distance and then trying to figure out what is going on.”
under the hood.”*

Carole Mundell, 1998

Quotations

*“Astronomy?
Impossible to understand and
madness to investigate.”
Sophocles, c. 420 BC*

*“My goal is simple.
It is a complete understanding of
the universe, why it is as it is and
why it exists at all. . . .
We see the universe the way it is
because if it were different, we
would not be here to observe it.”*

Stephen Hawking, 19988

VAS Officers and Committee Nominations 2011/12

For those wishing to stand for election at the AGM of the Society to be held on Friday 28th August 2009 at 7.00pm.

Name and Address of Nominee:

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Standing for

- Chairman
- Treasurer
- Secretary
- Observatory Director
- Membership Secretary
- Program Organiser
- Observatory Outreach Co-ordinator
- Committee

Proposed by:

Seconded by:

Signature of Nominee:.....

Notes

1. No person can be elected to more than one position.
2. Only adult fully paid-up members may stand for election (or propose or second).
3. All completed nomination forms to be received by the Secretary in writing at least 7 days before the AGM.
4. The Committee consists of not less than six members.