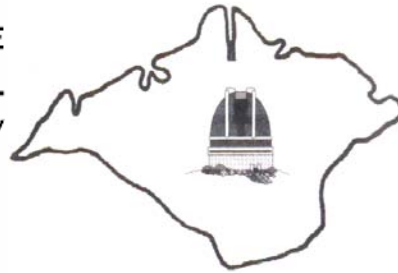


THE NEW ZENITH

THE MONTHLY
MAGAZINE OF THE
VECTIS ASTRONOMICAL
SOCIETY



VOLUME 14 No 5

JUNE 2006

THREE DAY STAR PARTY AT OBSERVATORY



Clearly out of touch with reality, the above helpers(?) try to establish the Sun's location for the photographer's benefit down at the Observatory. To spare any embarrassment, names have been omitted, but the good old pantomime shout of "It's behind you!" would have been sufficient.

The first of its kind for VAS, this event was quite successful in that it pulled in a steady flow of visitors, despite poorish conditions at times. The solar scope was very popular with the public. The **IW County Press** gave a good write-up in their May 5th edition, featuring Bert Paice demonstrating the attributes of the solar instrument. It is hoped to repeat the event later this Autumn. See Page 8.

FROM THE EDITOR

Dear Readers

Down at the Observatory at the end of the week following Easter, a quiet event took place. It was the three day Star Party. Our revered Chairman, Tom Watson, was persuaded to appear in front of the TV cameras of Solent TV to explain what was going on in the night sky, but more intriguingly, the day time sky. Star of the show was the Sun, and perform it did. Magnificent eruptions took place before our very eyepieces, possibly the best ever seen by Members present. Any road up (as they say Oop North), Tom's happy smiling features seemed to do the trick since many of the subsequent visitors on site mentioned seeing his broadcast! We have learned a lot from this pilot party and will ensure that the next one, in the Autumn, will be even better, with queues winding out through the entrance to the field.

Your trusty Editor will be bobbing up and down on the seas around the Land of the Midnight Sun in June as Missus Editor fancied a little cruise to celebrate our major birthday this year. I have found out that Astronomy Lectures will be part of the on-board entertainment, so she should be ecstatic with joy! Bye for now...

PS Any articles, etc for next New Zenith (July) please give to Bill Johnston* who will be helping produce the paper in my absence. Thank you.



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OBSERVATORY NIGHTS

Do not forget that every Thursday evening is Observatory Night. From 7:30 pm onwards, pop on down to Watery Lane and discover how to drive the Society's latest equipment, perhaps have your own telescope set up for you, or just have a cuppa and a gossip. No charge.



NEXT MONTH'S LECTURE

Development of the Calendar
by
Keith Brackenborough
at
7:30pm
June 23rd
In the Parish Hall

* Contact Bill on mobile
07881601172 / home 01983 248566

June 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.

Thank you

**John W Smith, 27 Forest Road,
Winford, Sandown,
IoW. PO36 0JY**

88	Mrs P. Cooper	£13
129	Mrs S. Burgess	£17
130	Mr P. Burgess	£17
204	Mr D. Norris	£13
332	Mr J. Young	£7
333	Mr J. Gaudian	£17
370	Mr N. McGrath	£17
371	Mr E. McGrath	£17
374	Mr R. Ebsworth	£17
378	Mrs L. Tremaine	£17
379	Mr P. Cox	£17
401	Mr R. Bowyer	£17
402	Mrs R. Nickless	£17
403	Mrs J. Davis	£17
404	Miss F. Jordan	£17

Galactic Surveys

Jon Loveday

University of Sussex

By observing the distribution of galaxies throughout the Universe they can be shown to exhibit very detailed structure. Clusters of galaxies are joined by long filaments across otherwise vast empty regions. Theories as to how the structure developed try to show how galaxies have developed since they first started to appear about 400,000 years after the Big Bang.

The cosmic microwave background exhibits tiny fluctuations that were the seeds for galaxy formation. The total density function of the Universe determines whether the Universe is open or closed: i.e. whether it will go on expanding forever or eventually shrink back again to a 'Big Crunch'. Observations regarding the motion of galaxies indicate that the total density function is about one – the value required to just stop the expansion. However, 74% of the Universe is made up of dark energy and 85% of the remainder is dark matter that we cannot see.

Current structure theories and galactic models are quite good at predicting the statistical properties of galaxies – the luminosities, clustering etc. The precise structure that we observe with deep sky surveys cannot be precisely calculated since it was subject to random fluctuations soon after the Big Bang.

Galactic surveys help refine and verify the structure theories. The first surveys were carried out by Charles Messier (1730-1817) who catalogued areas of nebulousity so that they would not be confused with comets. Later, the Herschels made more detailed surveys in the 18th and 19th centuries and Henry Dreyer created the New Galactic

Catalogue (NGC) with 13,000 nebulae and star clusters in 1907.

In 1923 Edwin Hubble measured the distance to M31 using Cepheid variables and demonstrated that it was a separate object from our own galaxy. This was the first time it had been realised that the Universe was not contained within the Milky Way. By 1931, Hubble had derived his distance/velocity law showing how distant galaxies are receding with a speed proportional to their distance.



Jon Loveday

In more recent times, surveys are divided into photographic/CCD imaging and red-shift surveys. The earliest of these included the Lick galaxy survey conducted from 1946 to 1958 and the APM galaxy survey in 1990 which first showed how galaxies cluster. The CfA red-shift survey (1975-1995) measured

5000 galaxies and the Las Campanas 20000 galaxies. The 2degree field (2dF) survey completed in 2003 surpassed this with 250,000 galaxies and showed detailed clustering with filaments and voids.

Currently, the Sloan Sky survey using both imaging and red-shift will eventually map a quarter of the sky in five colours and record 50 million galaxies and 2 million red-shifts. The latest survey is the UKIDSS (UK IR Deep Space Survey) that started in May 2005 and will conduct five surveys using four near-IR filters.

Planned future surveys include VISTA later this year that will concentrate on the southern hemisphere. A large format CCD is planned in Chile for 2009-2014 and a large, square kilometre array for 2010.

Reported by Roger Young

June Skies

The Planets

Mercury Although this planet is theoretically visible in the evening sky, a good clear, low north western horizon is necessary.

Venus is slowly getting higher in the pre-dawn sky as it moves through Pisces, Aries and Taurus.

Mars lies in the Praesepe star cluster. On the 18th it forms a triangle with Saturn and the star delta Canceri.

Jupiter is still well placed for observation and lies almost due south at around midnight.

Saturn follows Mars for the first three weeks of the month.

Uranus & Neptune may be viewed due south at 05:00 hours.

Meteor Showers

There is one active shower this month.

*1 The Ophiuchids occur on the 10th and 20th of the month but rates are normally low, some 5 per hour.

Moon Phases

New	1st Quarter	Full	Last Quarter
25 th	3 rd	11 th	18 th

John W Smith

Deep Sky Objects for small telescopes and binoculars

Although there are a huge number of globular clusters to be seen during May and June, the vast majority of these are only visible to those who live in the southern hemisphere.

M5 NGC5904 Globular cluster in Serpens about 25,000 light years away. It is one of the oldest known clusters and has a number of RR Lyra variable stars with periods of less than a day. A good object for most instruments.

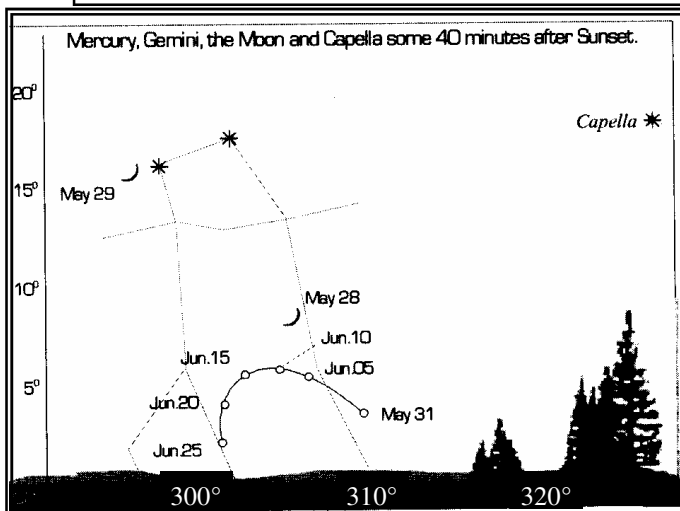
M13 NGC6205 This superb globular in Hercules is a must for virtually all instruments. It is believed to contain about half a million stars. A large telescope will start to resolve its nucleus.

M92 NGC6341 Another good globular in Hercules though frequently overlooked due to its magnificent neighbour, M13. It contains some 200,000 solar masses and is a good object for most instruments.

M12 NGC6218 A fine globular cluster in Ophiuchus about 25,000 light years away. High power with a medium telescope will just begin to resolve the edges.

Co-ordinates

OBJECT	RA	DEC	MAG	SIZE (ARC MINS)
M5	15h 18m	+02deg 11m	6	12.7
M12	16h 46m	-01deg 55m	7	9.3
M13	16h 41m	+36deg 38m	6	10.0
M92	17h 17m	+43deg 10m	6	8.3

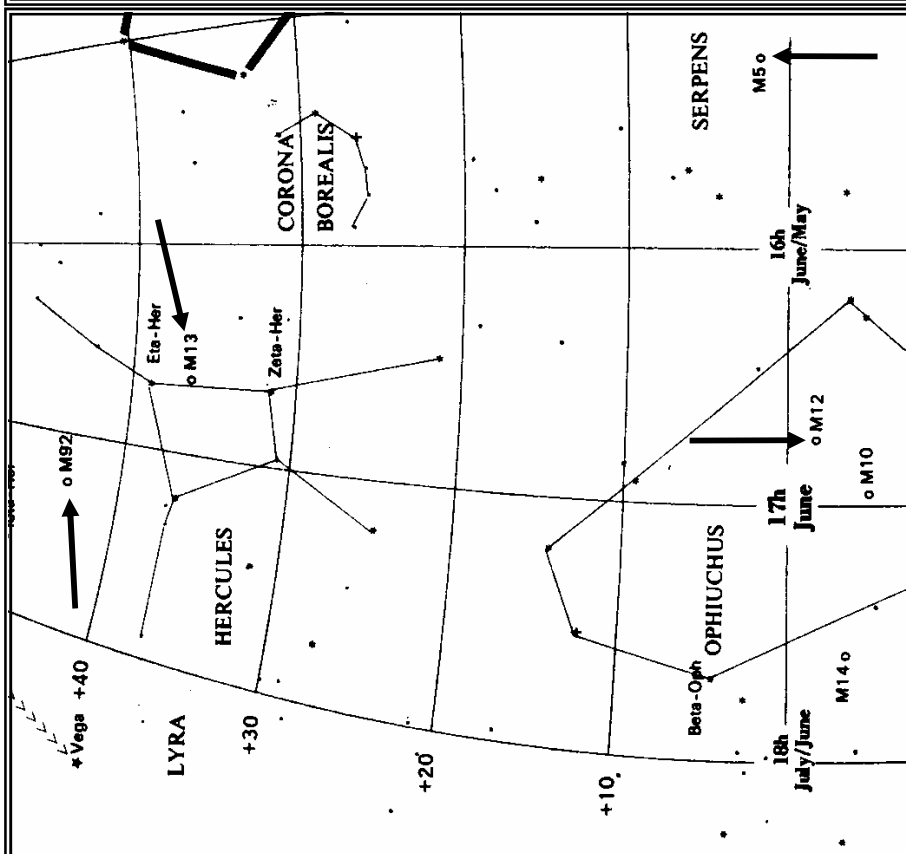
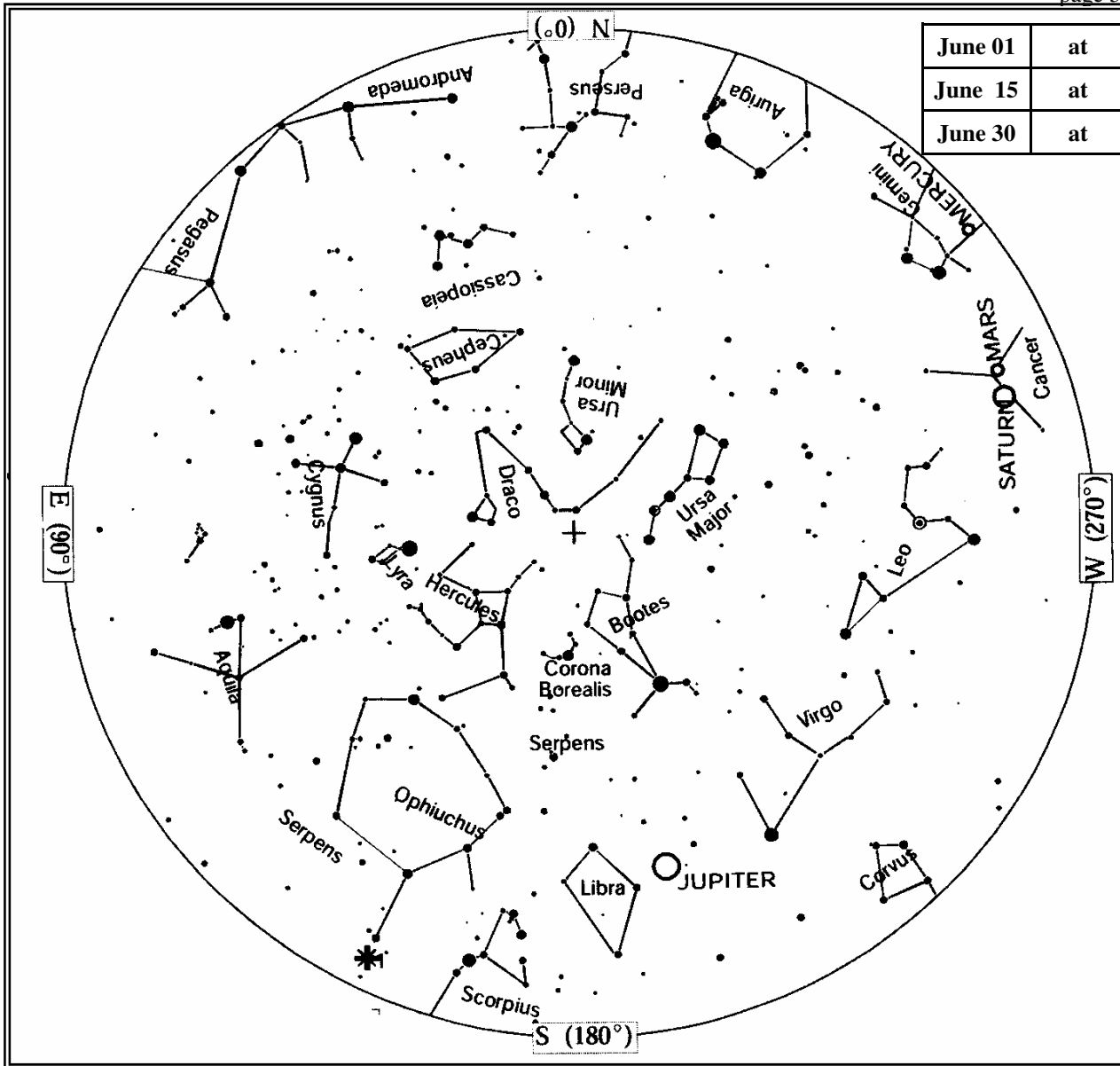


MERCURY IN THE EVENING SKY

The second evening apparition of the year is not as favourable as January's but with the constellation of Gemini harbouring Mercury and the bright star Capella above and to the right, you may be in with a shout of locating the planet. Follow the Moon as it leaves the confines of the Sun a few days before the apparition and note where it lies. As Mercury's altitude gets higher you will be able to better relate the area to your horizon.

When found for the first time, many people are surprised at just how bright it actually is - don't forget, it is quite close to the Sun and there is therefore a lot of light to be reflected.

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



TURKISH DE-LIGHT!

This account from distant VAS Member in Telford (Shropshire), Barbara Allen, complements the previous month's narration from Peter Burgess. She writes:

Having been so lucky in seeing the 1999 eclipse of the Sun from a ferry in the middle of the English Channel, I had no hope of ever seeing another, but my daughter suggested going to Turkey and try seeing the 2006 eclipse. So, last summer we booked our trip, (at least we could enjoy a holiday in Turkey, even if the weather was against us for the eclipse).

We arrived at our hotel near Side on the 28th March, and realised most of the guests were there for the same reason as we were. Several of us had grave doubts about the weather as our brochure gave us "Sun and Showers" for Turkey in March.

We needn't have worried, we awoke the next day (the 29th) to brilliant blue skies, not a cloud in sight, and the temperature was in the 70s.

After breakfast we made our way to the coast at Side. There were crowds of people going the same way. We waited, sitting amongst the Roman ruins for the "show" to begin. A young man quietly strummed on his guitar, it was pure magic!

As the Moon started its journey across the face of the Sun, we moved to the sand dunes above the beach, better to see the final stages over the sea.

The last sliver of Sun began to disappear, the crowd fell silent. The temperature dropped from 70° to very cold. Then at last - we had total eclipse! Spontaneous clapping broke out, with a great deal of "oohs" and "ahs".

There were the Baily's Beads and the Diamond Ring. Flares stretched out

from the upper left hand side and the lower right hand side, but the corona was not as wide as in 1999. Looking a little away, we saw Venus shining brightly. Then we looked at the horizon over the sea and saw the most beautiful colours of pink, turquoise, purple and yellow. We felt very emotional.

All too soon, it was over. The temperature returned to normal, and the crowds began to drift away.

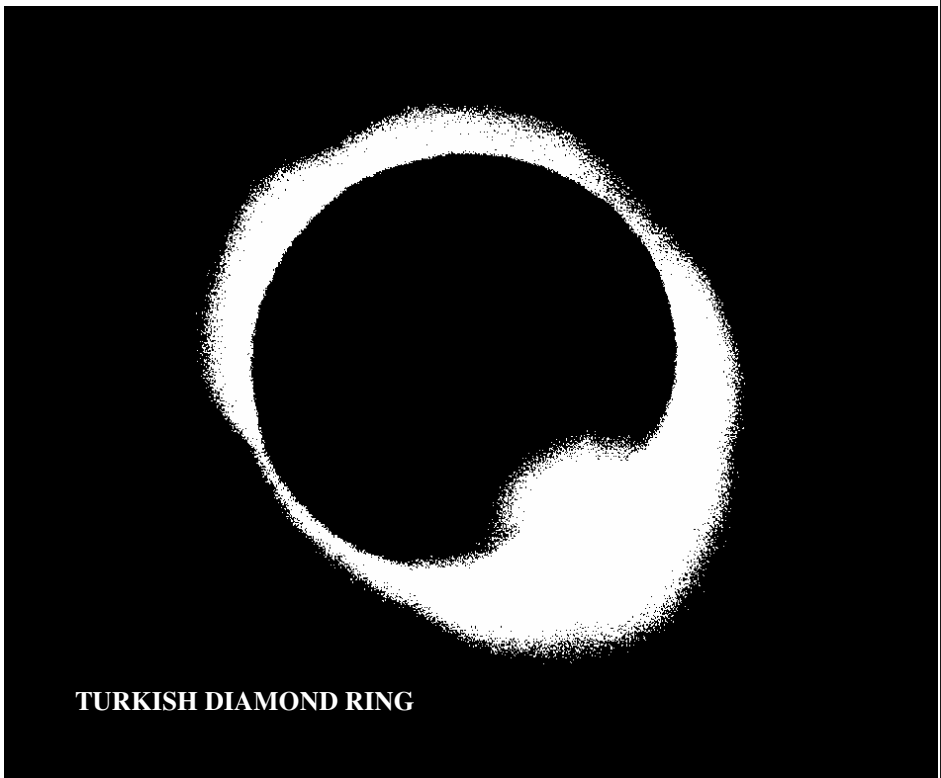
It was not until we returned to the site, two days later, that we realised that during the eclipse we had been standing near the ruins of the Temple of Apollo - the Sun God! What a coincidence...

In our hotel we met two Native Mexicans who had travelled all the way to Turkey to perform a sun dance which we watched on video. It looked very impressive.

We had had a wonderful time, despite long queues at the airport; being cramped in the aircraft for nearly four hours and all three of us catching colds. We had seen THE 2006 ECLIPSE OF THE SUN.

Now for the next one.

Barbara Allen



TURKISH DIAMOND RING

NEW ASTRONOMY MAGAZINE FOR AMATEUR ASTRONOMERS

“PRACTICAL ASTRONOMER”

“Astrum Publishing is pleased to announce the publication of a new printed monthly magazine dedicated to amateur astronomers.

Practical Astronomer is, as the title suggests, aimed directly at the world's practising amateur, and is a more focused approach to this modern evolving arena of astronomical imaging and observing.

The magazine is written for an English speaking audience and is full colour throughout. It features a unique appeal to global amateurs. Practical Astronomer deliberately sets out to invite and involve all practising amateurs into feeling a part of this global hobby, and to share and exchange knowledge and experience for the benefit of all readers.

Practical Astronomer will provide the centre point; the meeting place for all contributing aspects and faces of the global amateur astronomical community.

Regular features will include:

In depth ‘how to’ articles on image acquisition, observing techniques, image processing etc.

The most detailed and ‘to the point’ equipment reviews in existence

Regular articles on ‘understanding optics’

Meet an amateur - a regular interview with some of the top amateurs in their field

And more

You can read all about it here: <http://www.practicalastronomer.com> and we hope, take up a subscription.

Practical Astronomer is published and printed in England”

The above advertisement fell into the Editorial In-Tray recently. If any of our readers has tried a copy of this new publication and fancies writing a personal review of its merits (or otherwise) please contact the Editor of New Zenith, who would be pleased to print their findings.

Julia Plant Memorial Award

VAS is represented on the Executive Committee of the IW branch of the Campaign to Protect Rural England (CPRE) by myself. My interest with this group is the prevention of light pollution around our area and both CPRE and VAS have a strong mutual interest in this aim.

Some months ago, Julia Plant, one of the West Wight members of CPRE, died tragically without any warning. She left a devastated husband and family. Julia was a person who loved the beauty of this Island of ours and worked hard to prevent its being despoiled by pollution of various kinds. Her personal popularity was such that her funeral service in Brighthstone Church was full to overflowing. Bert Buckett (VAS Member) provided a PA system so the mourners still outside in the churchyard could keep up with the Order of Service.

Since that day there has been a noted absence of her ever-smiling face at CPRE meetings, so much so that it has been agreed that a permanent award in her memory be established - the Julia Plant Memorial. The background to this award is that each year two trophies will be publicly handed over: one to a domestic recipient, the other to a commercial organisation, in recognition of their installation of lighting schemes that do nothing to harm our night skies.

Since the bringing onto the Statute Book of the Government's *Clean Neighbourhoods and Environment Act 2005*, persons causing light pollution may be charged with committing a criminal offence. CPRE do not wish to have people thrown into prisons to rot for a lifetime for putting up an ‘insecurity’ light on the front of their houses, but on the other hand it is felt that a little positive encouragement for people to think about what their actions result in should the wrong type of light fitting be installed, may just help persuade the rest out there to keep our skies dark.

So, the positive encouragement will be in the shape of this annual Award, possibly commissioned from the Island Glass company in St Lawrence. The same sort of thing already exists in the annual Best Kept Villages awards so no snags in running this new scheme have been foreseen.

If you think that a business on the Island, or a neighbour perhaps, has taken exceptional care to install sky-friendly lighting, then let me know. I will pass the details on to CPRE.

“Because the Skies Belong to Everyone”

John Langley, Director Astronomy Services

FAS CONVENTION 2006

Samuel George, Secretary of FAS, has announced a change of venue for this year's Convention. In previous years the preferred location has been Cambridge but there has been a suggestion to the FAS Executive that the old venue is somewhat inaccessible for some delegates.

This year, for the first time, the Convention is to be held in the Midlands at the Birmingham and Midland Institute (BMI). BMI is a mere 5 minute walk from the nearby Birmingham New Street rail station.

And the date? September 30th, which is a Saturday.

For more details contact Sam at:

samuel@krioma.net

30TH ANNIVERSARY DINNER

On November 5th 1976 something momentous happened: the Vectis Astronomical Society was born. In order to celebrate the 30 years that have since gone by (or will have done in November this year) your Committee decided that we should hold one of our splendid dinners. Questions such as: where, when, how much, immediately flash up and this is where you do your bit. We now have 151 Members and should they all decide to come along for a good nosh up, the Executive could look a bit red-faced if all that has been booked is the burger van next to Newport bus station! You all deserve better, you will agree, so **PLEASE** let me know very soon if you would like to take part. We do have a date however - Saturday November 4th. Venue depends on potential customers hence the reason to know how many wish to come. Likewise, cost per head will depend on how much we can screw out of the provider of victuals. Without any commitment on your behalf as to money up front at present, let me know (contact details at bottom of Page 10 as per usual) who you are, any guests or family accompanying and also if you require special dietary provision. I will also need to have your contact mail or email address. Remember: **No commitment as of now but potential numbers determine the venue and cost per person.** Try to get the information back to me by end of June.

EDITOR

Three Day Star Party

Make a note in your diaries that this event is scheduled for 12th, 13th and 14th October. More details later.

FOR SALE

I am writing to you as a private individual to advise VAS members of three telescopes that I am selling on behalf of my brother which are now surplus to requirements as he has recently purchased a new telescope and also needs the room. The telescopes are as follows:

Meade ETX 90 RA (M) 90mm Maksutov-Cassegrain (Not UHTC Version) Telescope includes: Eyepiece: Meade Super Plossl 26mm LP Multicoated Finder Scope: Meade 8x21mm. Note this does not come with a computer or tripod but is supplied with the standard battery-driven equatorial mount which can be fitted to a Meade tripod or a heavy camera tripod (not included). Selling Price: £150

Meade LXD75 AR6 AT 6" Refractor This computer-controlled telescope includes: Autostar Computer Controller Handbox. 2" to 1.25" Eyepiece Adaptor, Finder Scope Bracket. Eyepiece: 26mm Super Plossl. Finder Scope 8x50mm Star Diagonal 1.25". Meade Battery Pack (in Black Plastic Case). Meade LXD75 German Equatorial Computerised Tripod Mount (white, including Arm and Balance Weights). Cast Aluminium Frame Tube (mounts the telescope tube on the mount). Meade LXD75 Tripod (White). Selling Price: £700

Meade ETX 90 EC 90mm Maksutov-Cassegrain (Not UHTC Version). This computer-controlled telescope includes: Autostar Computer Controller Handbox, Eyepiece: Meade MA 25mm, Multi Coated Spotting Scope: Meade 8x21mm. 884 Deluxe Tripod with carrying bag. Compass and levelling unit fitting in eyepiece socket to line up telescope. Selling Price: £300. (Only cash will be accepted for these telescopes. They are sold without any warranty or guarantee expressed or implied as they are sold as seen. They cannot be purchased on approval. All telescopes must be collected by the purchaser. These telescopes are in excellent condition and if you compare them to current prices offer excellent value for money.)

Kindest regards. Andrew Williams. Location: Walsall West Midlands, emails to:

andrew.williams2006@talktalk.net

Garlic Festival 2006

This year the Garlic Festival will still run but with a change of management. The Newchurch Parish Sports and Community Association (NPS&CA), who originally thought the whole idea up, have handed over to a commercially run management group and will have no more to do with the Festival. VAS, on the other hand, look as if we will be requested to provide the usual bodies to act as site marshals, so Richard Flux is waiting to hear from the usual suspects willing to sign up for up to two days of relentless fun during the event. Contact Richard on 883062 and offer to sell your body to him for whatever time you can spare.

AGM

It will soon be that time again - August 25th - so put that date in your diaries as well. But also think about whether you could serve some time as a Committee Member, helping to guide your Society towards the goals that you think it needs to aim for. Perhaps we need a change of Elected Members? (Chairman, Treasurer or Secretary). More next month, but suffice to say that nomination forms will be available at the June and July meetings.

KIDS' STUFF?

At the April Newport Meeting, two new Members were welcomed to our company. Ten year old James Dymock, together with his Dad, Ryan, then sat through that deeply technical lecture by Jon Loveday concerning Galactic Surveys. I must admit being somewhat concerned about how they were coping with such an esoteric subject but I needn't have worried. James took it all in and seemed ready for more. Good for him!

Next time I came across the Dymocks, was down at the Observatory, a couple of Thursday evenings ago. Obviously keen, they were seeking knowledge about how to operate the Society's Meade 12 inch job. Roger Hayward was just their man to do so.

However, before the tuition began, I was button-holed by young James, who is a pupil at the Ventnor Middle School. He told me that he was puzzled by two things astronomical. I expressed surprise that only two things existed that he couldn't get a grip on! Totally unfazed about my flippant remark, James replied that he was not yet old enough to be able to realise what further things he had no idea about (if you catch my drift). Suitably put in my place, I asked this astute young Member what his first puzzle was. It was at this point that I became to realise that we had got a very deep-thinking person in our midst. James's question was utterly simple. The kind that sits down on the table in front of you, doing absolutely nothing for a microsecond or two, then explodes in your mind like a miniature Big Bang.

Question: You have a big box with a well-fitting lid allowing no light to enter. In a well lit room, containing said box, you then remove the lid. Light flows into the box, filling it. (Are you still with me?) You then put the lid back on. If you now turn off the lights so that the room is totally dark and once more remove the lid, why does the trapped light not stream back out into the room? Where did all the boxed light go to?

As I said at the top of this page: Kids' Stuff? Young James is obviously someone who thinks about his surroundings a lot, but can anybody out there give this budding Einstein a suitable answer?

His second puzzle, just as profound as the first, was: Does all light travel at the same speed? I tried to rationalise the situation with the fact that light can travel at different speeds according to the medium it is passing through - air, vacuum, liquids or solids - but this did not seem to be the answer James was seeking.

Again, if anyone can put up a reasonable argument, understandable by a new (*mere?* - *I do not think so!*) ten year old Member, in the explanation of these phenomena I would be pleased to print the solutions.

Something I can be sure of - if new members are all as thoughtful as our newest, then some of us older fogies had better watch out!

Ed

IW Walking Festival 2006

Readers may have noticed, upon browsing through their copy of listings of the various walks on offer for the two weeks of flattening the Island's footpaths this May, two walks based at the Observatory. Entitled "A Short Stroll Around the Solar System", walkers seeking something different were invited to pop along to try a meander from the Sun out to distant Pluto. Based on our Daisy's* original *Stringy Thingy* scale model of the Solar System, it was found that a scale of 1metre to 40 million kilometres was just the right size to cross the adjacent football field from corner to diagonal corner. The planets were laid out in order along the string ready to be discovered by curious visitors. On the due day, 12 visitors arrived for a morning walk and later on a further thirteen came for

the afternoon repeat. The second showing turned out to be the better one as the Sun made an appearance to the delight of all who looked through the solar telescope to discover what activity was present up there. Quite a lot, in fact. Two large prominences were seen, but no sunspots. After the last walker disappeared over the horizon, we broke open the donations box and found that VAS was richer by £40:50.

Thanks to Members who assisted with the event: Roger Hayward, Graham Osborne and Bryn Davies. Lots of interest generated in the VAS and its activities and I am positive that we could have some new Members as a result.

John Langley

* *Daisy Watson, a distant member, living in exile in darkest Wales with her Mum, Helen. Daisy was our youngest member a few years ago and made great contributions to the Society.*

INTERESTING FACTS PART 21

The Japanese car manufacturer Subaru uses an astronomical star group as its company symbol. 'Subaru' is the Japanese word for Pleiades. Look up their logo for confirmation.

Jean Williams would like offers for this fine example of a Prinz 330 refractor telescope. Exclusive to Dixons, the kit is still in its original box and is virtually unused. Complete with tripod, various eyepieces, terrestrial inverter and finder scope. Not recommended for serious scientific use but might make an interesting present for a youngster!

Contact her on 01983 566766 if interested.

Website of the Month

<http://www.practicalastronomer.com/>

This is the web address of the latest magazine for Astronomers

Please see the note on Page 7 asking for comments.

FOR SALE



Last Words

Going back to last month's Last Words regarding the manufacture of complex molecules that would take for ever to build using conventional assembly line techniques - the simple answer is to use lateral thinking. Bacteria will just about gobble anything and if one fine-tunes the appropriate kind of slimy goo, then given the right ingredients, conditions and catalysts, these friendly bugs will churn out almost anything to order, not in ones or twos, but by the bucket load. Nano-technology is about to become big (forgive the unintended pun) especially in countries such as China and Japan. One of the biggest customers will be in health with the advent of tiny cameras capable of passing through the digestive system, transmitting what they see in real time. Electric motors the size of just a few atoms; lenses made of conditioned sludge, the list goes on. Future editions of New Zenith could well appear thanks to salmonella perhaps!

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: john@vlangley.freemove.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