THE NEW ZENITH

THE MONTHLY MAGAZINE OF THE VECTIS ASTRONOMICAL SOCIETY

VOLUME 14 No 3

APRIL 2006

JUNIOR SUCCESS

Pictured above with VAS Chairman, Tom Watson, Junior Member Mitch Horrocks receives his well-earned certificate for completing the recently run Junior Astronomy Course at the Observatory. Despite much interest expressed beforehand in such a course to be organised for the younger VAS membership, Mitch was the only student to complete 100% attendance for the six individual elements of his studies. Bert Paice and John Langley spent many hours in preparation of materials and handout paperwork and were somewhat underwhelmed by the apathetic attitude shown by previous would-be students.

However, Mitch applied himself with enthusiasm being made of sterner stuff, although Lake Middle School SATs examinations cast a shadow at the beginning of his astro-studies.

Bert Paice is of the opinion that the course could be run again later this year, provided enough youngsters are willing to attend six half-hour sessions over a six week period. Anyone knowing of a Junior VAS Member who would like to win one of the prestigious certificates should contact Bert or John Langley who would be pleased to put them on the waiting list.

VAS Director Astronomy Services

FROM THE EDITOR

Dear Readers

Just when everything seems to be running like clockwork, a metaphorical bit of grit fouls up the system. On Page 7 you can read for yourselves about just how much we have become totally dependant on an electronic means of presentation, and what results when that lump of hard matter spoils our fun. Not the end of the world, hopefully?

Keen-eyed readers spotted John Smith's deliberate error in his March Skies page. He had said that BST began when the Vernal Equinox occurred, but meant to say that BST started on Sunday 26th March, not the 20th. Anyone who believed the statement and missed an hour's sleep should have paid more attention!

And speaking of misinformation, it being the merry month of April, it is customary to bewilder honest readers with a little prankette to celebrate the 1st day of the month. See if you can spot the item in this month's edition.

Cheers.

IN THIS ISSUE

FREE TELESCOPE ON OFFER

Anybody willing to accept a free telescope for a very limited one day's free trial should call

277453665

and listen to the recorded announcement

NEXT MONTH'S LECTURE

Galaxy Surveys

by

Dr. Jon Loveday

at

7:30pm

April 28th

In the Parish Hall
Town Lane
Newport

April 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

1	Mr B. Abraham	£17
4	Mr J. Butler	£17
148	Mr R. Hayward	£17
175	Mr D.J. White	£13
196	Mr T. Watson	£17
239	Mr R. Sheath	£17
272	Mr T. Wheeler	£17
304	Mr A. Kent	£17
364	Mr S. Jackson	£17
367	Mr T. Tuckwell	£13
373	Mr W. Johnson	£17
397	Ms J. White	£13
398	Mr J. Davies	£17

Astronomy down the Microscope

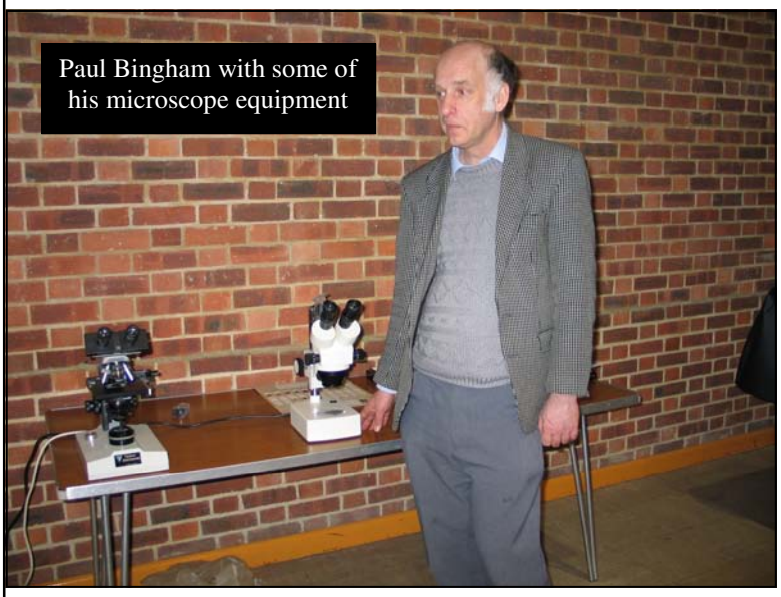
Paul Bingham

By definition, astronomy is the study of individual celestial bodies and structures such as galaxies. This study can be carried out in three ways:

Ground based observations, e.g. visual, radio, etc.

Space based such as probes to other planets and satellite telescopes.

Laboratory analysis.



Paul Bingham with some of his microscope equipment

The last of these is not an obvious method but is a direct result of sending probes to the Moon as well as studying meteorites.

In October 1959, Luna 3 was the first probe to view the far side of the Moon and to send pictures back to Earth. In February 1966, Luna 9 made the first landing and in July 1969 Apollo 11 was the first manned mission. As a result of the Apollo landings, 21.7kg of Moon rock was brought to Earth. In addition, the Luna 16 mission of September 1970 returned with 101g of material from a different region of the Moon to those chosen by the American missions.

As with Earth rocks, one of the best ways to analyse the content of lunar rocks is to take thin sections and examine them under the microscope.

In 1982 it was realised that some meteorites are of lunar or Martian origin. Laboratory analysis of these meteorites therefore provides an insight into the 'geology' of other planets. Also, many meteorites come from comets and these consist of material dating back to the time of the formation of the solar system. Astronomy down the microscope can thus contribute to our understanding of the formation of the solar system.

Amateur Astronomy

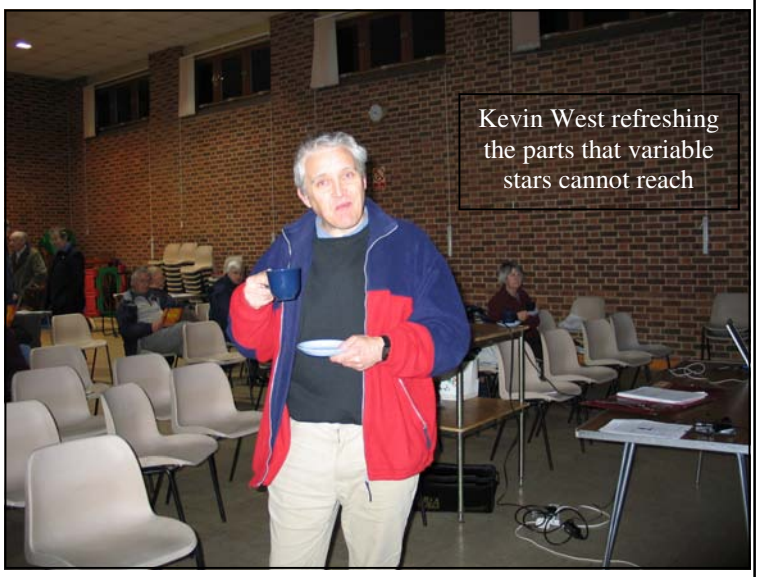
Kevin West

Astronomy is a science where the amateur can make a valuable contribution and have results published in professional magazines. This is because professional astronomers do not have time to study all the stars in detail and there is a lot of data that can be gathered with affordable equipment.

One such example is the study of variable stars. The period of variable stars can be very short, demanding frequent observations, to very long when an occasional record may be sufficient. The accuracy of measurement of a star's brightness can be estimated by comparison with other nearby stars. However, the absolute brightness is not the main factor, but the variation over time. By plotting the variation in brightness against time the period of the star is shown. There are many stars that are known to be variable but the periods are unknown so all data that can be recorded will be useful to further our understanding of how stars evolve.

Stars often exist as multiples such as in binary systems. If they eclipse each other as they orbit, as seen from Earth, then this will cause a variation in brightness. By measuring the period, the sizes of the stars, their separation and masses and some details of their internal structure can be inferred.

By making such observations the amateur observer can make a valuable contribution to science and have the satisfaction of seeing their name in print alongside the professionals.



Kevin West refreshing the parts that variable stars cannot reach

Reported by Roger Young

April Skies

John W Smith

The Planets

Mercury is at its greatest elongation but is unfavourably placed for viewing.

Venus skirts the south eastern horizon as its azimuth continues to decrease.

Mars crosses the meridian during the evening but it now appears as a very tiny disk and continues to fade as the Earth/Mars distance increases.

Jupiter lies south in the early hours and will be found in the constellation of Libra.

Saturn now moves from opposition and will be located in the western sky during the evening. The rings are beginning to close but it is still a very worthwhile object for study.

Uranus & **Neptune** continue to be unfavourably placed for viewing.

Meteor Showers

Three active showers occur this month.

*1 The *Virginal* and alpha *Virginal* showers are unfavourable due to an almost full Moon on the 12th when they appear. Rates are unlikely to exceed 5 per hour.

*2. The nights of the 22nd/23rd see the April *Lyrids* reach their maximum. The waning Moon interferes after midnight.

On the 12th, the alpha *Scorpiid* stream reaches its favourable maximum. The radiant is below the horizon of the associated map, on next page.

Moon Phases

New	1st Quarter	Full	Last Quarter
27th	5th	13th	21st

Deep Sky Objects for Small Telescopes and Binoculars

M65 NGC3623 A spiral galaxy in Leo about 20 million light years away. It is believed that this galaxy is considerably larger than our own Milky Way.

M66 NGC3627 Another spiral galaxy in Leo. Blocks of obscuring dust can be seen with the aid of a medium sized telescope..

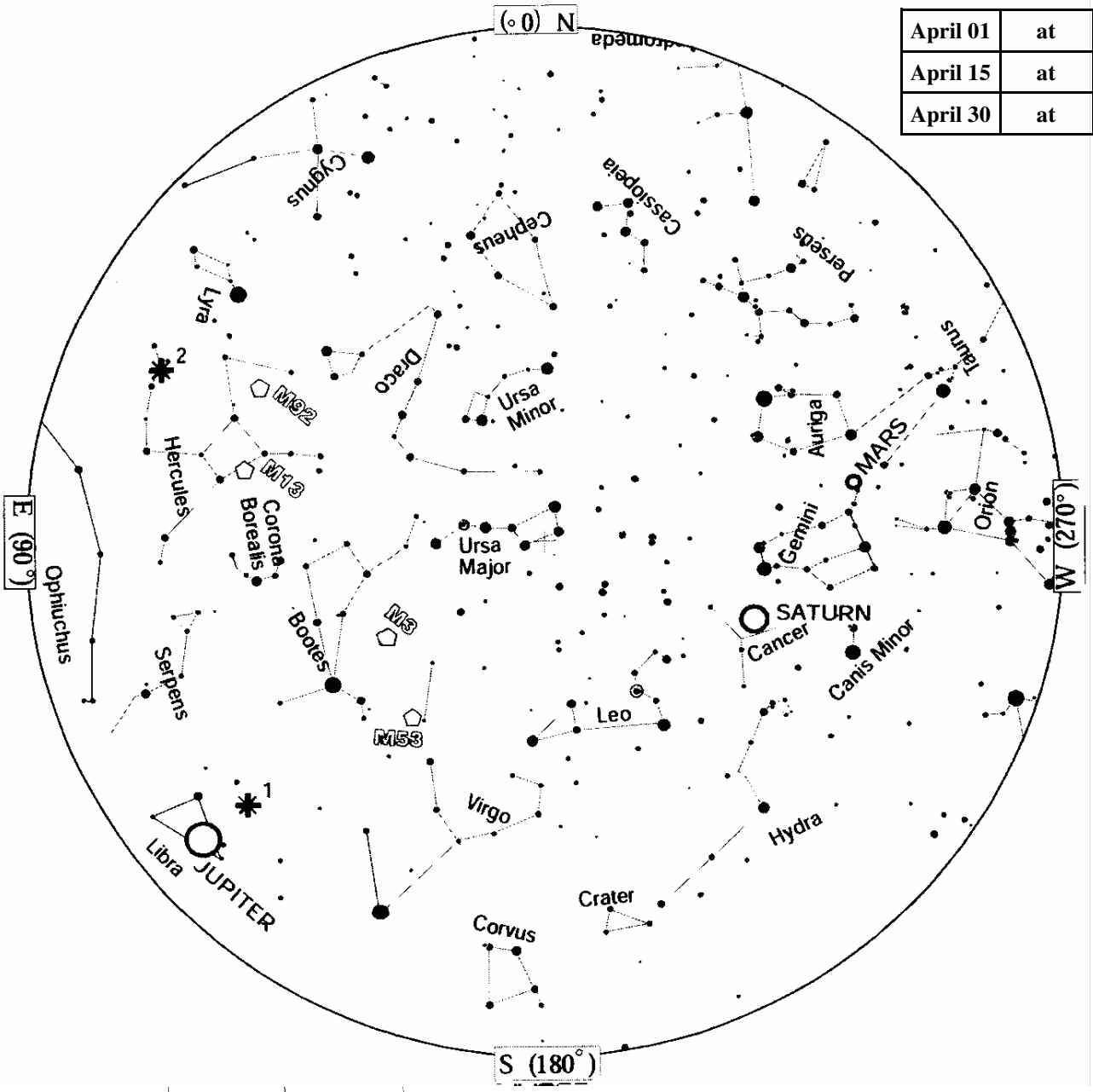
M95 NGC3351 This spiral in Leo lies about 25 million light years away. It can easily be seen with a small telescope.

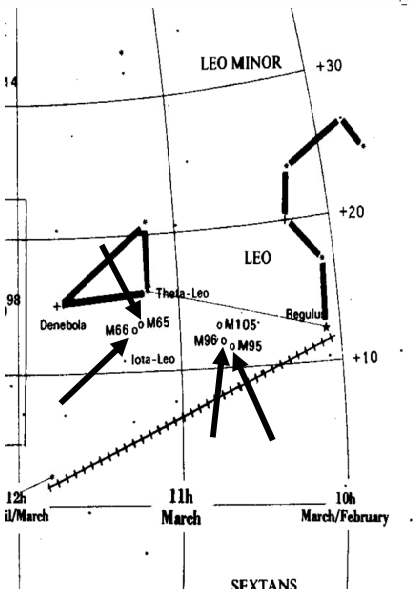
M96 NGC3368 This spiral may be seen in the same field as M95 if a wide angle lens is used, although M96 is the brighter of the two.

Co-ordinates

OB-	RA	DEC	MA	SIZE (ARC
M65	11h 18m	+13deg 05m	10	7.8 x 1.5
M66	11h 17m	+13 deg 17m	9	8.0 x 2.5
M95	10h 43m	+11 deg 49m	10	6.1 x 3.9
M96	10h 46m	+11 deg 56m	9	5.0 x 4.0

April 01	**at**	**24:00**
April 15	**at**	**23:00**
April 30	**at**	**22:00**





The Reflection of Heavenly Bodies on the Art of Dancing

Hossein Azarmer

The origin of dancing movements related to the need for communication between prehistory human beings. Apart from that, apparently they tried to exhibit the sensational enjoyment received on looking at the sky, stars and nature to fellow beings through body movements, 'Dance'. In some religions Dance is a part of ritual which is performed for praying to the Lord as the Creator of the Universe.

In the 16th century, the theory of the Solar System model was written by Copernicus and a longhand sketch of it privately circulated to people. He called it the "ballet of the planets". One of the old major works of European dance literature called: 'Choreography, or the Art of Describing the Dance' related to Raoul Feuillet a Frenchman, again in the 16th century.

This book was translated into English by John Weaver in 1706. He was also a dancer, choreographer and teacher who worked mainly at the Drury Lane Theatre, London. In 1717 he produced one of the first serious ballets without words: 'The Loves of Mars and Venus'

The Sufi's linked circle dance which puts them into ecstasy is a ritual dance. The Hora Dance, in Greek mythology, is also a traditional dance of children of Zeus. Zeus was chief deity of the Greek pantheon, a sky and weather god, subject only to fate, and identical with the Roman god Jupiter. Zeus as ruler of heaven led the gods to victory against the Giants (offspring of Earth and Tartarus) and successfully smashed several revolts.

Pictured above is the Romanian version of the Hora, extracted from
Editura Encyclopedica Romana, Bucuresti

NEW VAS SECRETARY APPOINTED

At the January Extraordinary General Meeting, it was planned to hold an election for the post of VAS Secretary. The vacancy has arisen resulting from Rosemary Pears' standing down after a very successful management of the job at hand.

Now, whether or not that Rosemary's brilliant tenure frightened off the remaining members qualified to take over the reins, it came to pass that a sole person put up a hand to signify their willingness to sit in the hallowed chair.

That person was Faith Jordan, pictured below. Faith had actually taken over the task on an acting basis prior to the election. The VAS Executive Committee needed its proceedings minuted in the interim and Faith rose to the occasion.

Well, with there being no counter proposal, Faith was elected to be the VAS Secretary. Anyone needing to contact her on matters concerning our Society can call her on **01983 406787.**

Projector explodes!

Readers will be aware that VAS have been fortunate enough to win another grant from **Awards for All** to enable us to commission a second projector and laptop computer. Rosemary Pears had stressed our need for this new equipment as being vital to our extra-mural activities across the Island where we give talks on astronomy to various groups and bodies. It had been pointed out that our existing equipment was being used quite heavily and to relieve the burden on it, a second set was really necessary.

I had first hand cause to remember those predictive words during a talk being given to the Bembridge Horticultural Society in their village hall on a Friday evening a couple of weeks ago.

All was going well when with a terrific **BANG**, smoke and sparks shot out of the projector's rear air vent and the picture on the screen died immediately.

A lady's quavering voice from the back of the hall enquired, "Oh dear! What does that mean?" I informed her that it meant that the illustrated part of the talk had ceased to be but if the audience could cram themselves around the laptop they might get a small glimpse of what would have been projected onto the screen

Consequent searches around the internet revealed very bad news as far as VAS was concerned. A replacement lamp would be of the order of £150 if one were available. After a few short years our esteemed projector had been delegated to the graveyard by being declared obsolete. A small glimmer

of hope was forthcoming when it was found that the manufacturer had a modification in hand to adapt our machine to enable it to be fitted with a newer type lamp. The sting in the tail was that the unit would have to be shipped out to The Netherlands to their European service station and it would have a turnaround time of some two months.

At the time of writing this piece, our brand new projector has not been delivered although the new laptop computer has. It is only hoped that we can get, beg, borrow or steal a temporary replacement in time for the March meeting!

John Langley

BLOOD STORMS FROM SPACE?

I was browsing through my copy of *New Scientist* recently and came across an interesting article about an event in India that happened back in 2001. In the State of Kerala, southern India, it was monsoon time. To the astonishment of the local population it didn't rain rain that year, it rained 'blood'. There was no logical explanation of why or how this could have occurred but subsequent analysis proved that it was definitely not an up-rush of wind causing red dust to be sucked high into the upper atmosphere to return in torrential rainstorms back to the ground.

Godfrey Louis is a physicist at the Mahatma Gandhi University in Kottayam. He collected and examined many samples of the weird fluid after it fell. The grains of matter seen under the microscope seemed rounded, not angular as expected if they were dust grains. They had no resemblance to lichen spores or pollen. Instead, the closest guess was that they looked extremely like mammalian blood cells.

According to the New Scientist, there is no logical explanation for the red rain unless, and this where a sideways shift in belief is needed, what fell that year came from outer space. According to local reports at the time of this strange event, several people had heard a loud sonic boom that shook buildings in the area. Thunder or military aircraft activity was dismissed as a cause since it was too loud and also went on too long. What caused it could have been a meteor entering Earth's atmosphere and exploding high up in the air.

Back in the 1960s Professor Sir Fred Hoyle supported the theory that life could exist throughout the Universe in the form of microbes drifting around looking for a friendly planet to colonise. We know that bacteria can survive in hard vacuum and low temperature conditions by the recovery by an Apollo crew of a camera that had been on the Moon's surface for several years. Back on Earth, when the camera was dismantled for metallurgical inspection, bacteria were found happily thriving inside the body having been there since before it was originally launched into space.

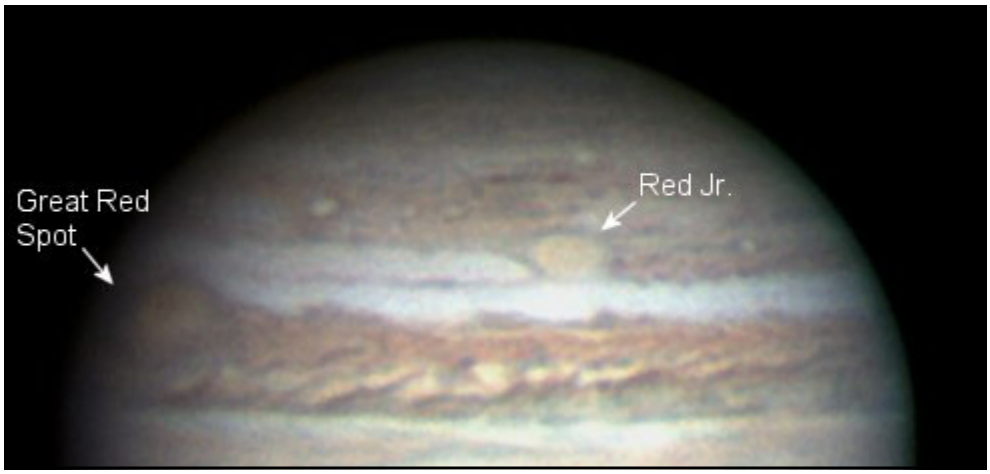
Hoyle went as far as to suggest that influenza viruses could have originated in space and carried to Earth on the backs of passing comets or meteorites. This theory was treated then with derision but since the Indian event, not so many are pooh-poohing the possibility. Why so? Examination of the strange objects carried down in the rain have been tested for DNA but so far none has been found. This in itself does not rule out life itself since while avian (bird) blood contains DNA, mammalian blood does not.

Our old friend Monica Grady, of the Open University, is an expert on meteorites. In fact she has presented the subject to us at our monthly meetings. She is quoted in the national press as saying that the idea of anything living in meteorites really stretches her incredulity. That is not to say that such a thing is impossible. And the theory of alien life cannot be ruled out completely. Godfrey Louis is so determined to further research into the red rain that he is having a paper published in the *Astrophysics and Space* Science journal.

As a final thought, Michael Hanlon who is Science Editor of the *Daily Mail* commented that NASA could save huge sums of money in sending expensive spacecraft to Mars and beyond looking for signs of alien life. Why not sit tight at home and wait for the next shower of red rain?

JL

Jupiter's New Red Spot



Jupiter is growing a new red spot. Christopher Go of the Philippines photographed it (above) on February 27th using an 11-inch telescope and a CCD camera:

The official name of this storm is "Oval BA," but "Red Junior." might be better. It's about half the size of the famous Great Red Spot and almost exactly the same colour.

Oval BA first appeared in the year 2000 when three smaller spots collided and merged. Using Hubble and other telescopes, astronomers watched with great interest. A similar merger centuries ago may have created the original Great Red Spot, a storm twice as wide as our planet and at least 300 years old.

At first, Oval BA remained white—the same colour as the storms that combined to create it. But in recent months, things began to change:

"The oval was white in November 2005, it slowly turned brown in December 2005, and red a few weeks ago," reports Go. "Now it is the same colour as the Great Red Spot."

Dr. Glenn Orton, an astronomer at JPL who specializes in studies of storms on Jupiter and other giant planets, said. "This is convincing. We've been monitoring Jupiter for years to see if Oval BA would turn red—and it finally seems to be happening." (Red Junior? Orton prefers "the not-so-Great Red Spot.") Why red? Curiously, no one knows precisely why the Great Red Spot itself is red. A favourite idea is that the storm dredges material from deep beneath Jupiter's cloud tops and lifts it to high altitudes where solar ultraviolet radiation--via some unknown chemical reaction—produces the familiar brick colour.

"The Great Red Spot is the most powerful storm on Jupiter, indeed, in the whole solar system," says Orton. The top of the storm rises 8 km above surrounding clouds. "It takes a powerful storm to lift material so high," he adds.

Oval BA may have strengthened enough to do the same. Like the Great Red Spot, Red Junior. may be lifting material above the clouds where solar ultraviolet rays turn "chromophores" (colour-changing compounds) red. If so, the deepening red is a sign that the storm is intensifying.

"Some of Jupiter's white ovals have appeared slightly reddish before, for example in late 1999, but not often and not for long," says Dr. John Rogers, author of the book "Jupiter, The Giant Planet," which recounts telescopic observations of Jupiter for the last 100+ years. "It will indeed be interesting to see if Oval BA becomes permanently red."

See for yourself: Jupiter is easy to find in the dawn sky. Step outside before sunrise, look south and up: Jupiter outshines everything around it. Small telescopes have no trouble making out Jupiter's cloud belts and its four largest moons. Telescopes 10-inches or larger with CCD cameras should be able to track Red Junior. with ease.

(*Blatantly extracted from the Science@NASA website*!)

INTERESTING FACTS, PART 19

In April, in years ending with the digits --06, there is a grave dearth of anything at all interesting to report

Website of the Month

http://spaceweather.com

Visit this site for details of a blue Sun seen in Egypt

An excited group of pupils from Node Hill Middle School spent an educational day at the Observatory a couple of weeks ago. They discovered how the Solar System works, including the concepts of optics, gravity, light speed and time. How Moon craters appear and how to catch fragments of exploded stars also featured. The highlight of the day was a spectacular rocket launch to demonstrate the Newtonian laws of action and reaction. Thanks are due to VAS members Paul England, Bert Paice and Roger Hayward for making it all go with a bang...

John Langley

LAST WORDS No, I definitely cannot smell gas!

Submissions to the **NEW ZENITH** are very welcome and should be sent to the the following address
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Tele: 01983 407098
E Mail: john@vlangley.freeserve.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.wightskies.fsnet.co.uk

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