

THE NEW ZENITH

THE MONTHLY
MAGAZINE OF THE
VECTIS ASTRONOMICAL
SOCIETY



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JULY 2007

INTERNATIONAL SIDEWALK ASTRONOMY NIGHT



FASCINATION OVER THE MOON AND PLANETS AT RYDE

The first International Sidewalk Astronomy Night was held on Saturday 19th May. Astronomers all over the world took scopes out onto the streets and showed members of the public objects in the night sky. Vectis AS joined in and took a couple of scopes onto Ryde Seafront. Between about 20:00 and 23:00, at least 50 members of the public looked at the moon, Venus and Saturn. Comments such as "Wow" and "That looks like a photo" made the event very worthwhile. Children, teenagers, holiday makers and dog walkers all took the time to peer through the 80 mm Scopos refractor and the club's 10 inch Dobsonian. The worldwide results are posted on the website <http://www.sidewalkastronomynight.com/> - click on ISAN results. Many thanks to VAS Members who turned up and helped.

Lucy Rogers

FROM THE EDITOR

Dear Readers

Oh dear, that's the last time that Perkins, the editorial moggy, is allowed into my study when the computer is left on. It must have been his walking across the keyboard that gave rise to a dreadful error in June's NZ where the note of the June lecture was horribly wrong. This time we hope to get it right - sorry for any inconvenience caused.

(PERKINS: Miaow Culpa!)

We have got a very full magazine this month, with various ideas and views being expressed within these pages. To any reader about to self-destruct from apoplexy on seeing the printed words herein, may I refer them to the disclaimer at the bottom of Page 10. New Zenith exists as a platform from which any Member may set up a soapbox and expound a controversial view or two. Should this get up one's nose, the answer is to write in and get your own views aired. Healthy debate is a good thing.

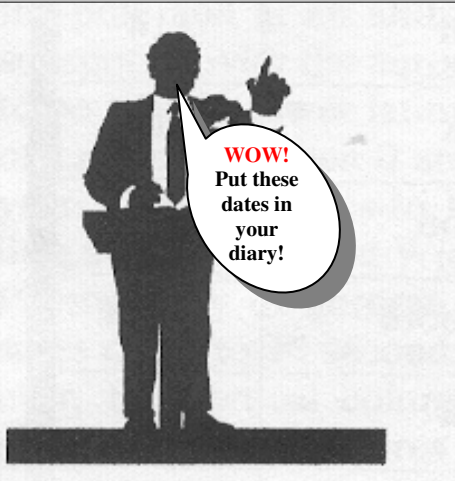
Having said that, can anyone explain why Venus rotates the 'wrong' way round? Like Uranus which is supposed to have suffered a massive collision that tilted it over, thus making it also spin the wrong way, could Venus have been struck so violently that it tilted over by 180 degrees in its past life? Has there been any evidence to support this theory? I just happened to ponder upon it recently.

All the best.



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SAGAS VISIT SOON

July 14th (Bastille Day for Francophiles!): VAS are the hosts this year for the Summer Rally of the Southern Area Group of Astronomical Societies (SAGAS). Richard Flux is still wanting to hear of anyone willing to help out at the Newchurch Pavilion next to the Observatory. We will need providers of transport between Sandown Rail Station and the venue, for example, plus able bodies to serve the lunches.

An added incentive to be there is that Dr John Mason is pencilled in to give us one of his splendid talks. We've no idea of his subject, but it is one guaranteed to entertain.

JULY LECTURE

The Astronomical Researches of Robert Hooke

Professor Allen Chapman
Oxford University

**July 20th
(Note: 3rd Friday)**

7:30pm
In the Parish Centre
Town Lane, Newport

This promises to be the lecture of the year for VAS

JULY 1st

8:30pm to 4:30am at the Observatory in Newchurch, an all night viewing (weather permitting) to see a near occultation of Venus and Saturn and on to see 10 of the 11 planets in our system. (only Mercury will be missing that night)

11 Planets? Yes, the Sun will be included since the dictionary definition of the word planet comes from the ancient Greek *planetes* meaning 'wanderer.' Our star certainly wanders around the Milky Way. *11 if the Moon is up.

Why Pluto Had To Go

Robin Gorman

(Hampshire Astronomical Group)

In 1781 William Herschel discovered Uranus as a result of his systematic cataloguing of the stars. Prior to this only six planets had been known. Nicolas Copernicus, in 1543, was the first person in modern times to correctly model the Solar System with the Sun at the centre and the Earth as one of the planets in orbit with the Moon orbiting the Earth.

Between 1801 and 1845 four asteroids were discovered during sky searches due to their motion against the background stars. Perhaps to preserve the importance of his own discovery, Herschel always held that these were not to be considered as planets. But then, in 1846 from calculations on the orbit of Uranus, independently by Le Verrier in France and Adams in England, a further large planet beyond Uranus was discovered – Neptune.

Throughout the 19th and early 20th Centuries many more asteroids were discovered, mostly orbiting the Sun in a belt between Mars and Jupiter. Then, in 1930, Clyde Tombaugh, a research assistant at Flagstaff Observatory, Arizona, was comparing photographic plates of the night sky taken a few days apart. Any objects within the Solar System would show motion against the background stars when comparing two plates of the same area of the sky. On 13th March Tombaugh announced the discovery of Pluto.

From this discovery, until 2006, the Solar System was described with the Sun at the centre with nine planets and their satellites in orbit plus the asteroids and comets. However, the inclusion of Pluto as a planet was becoming increasingly insecure with the discovery of more large objects in the Kuiper Belt. This is a belt of material left over from the time of the formation of the Solar System orbiting the Sun beyond the orbit of Neptune. As instruments like the Hubble Space Telescope investigated this region it

became clear that Pluto is just a large member of the belt.

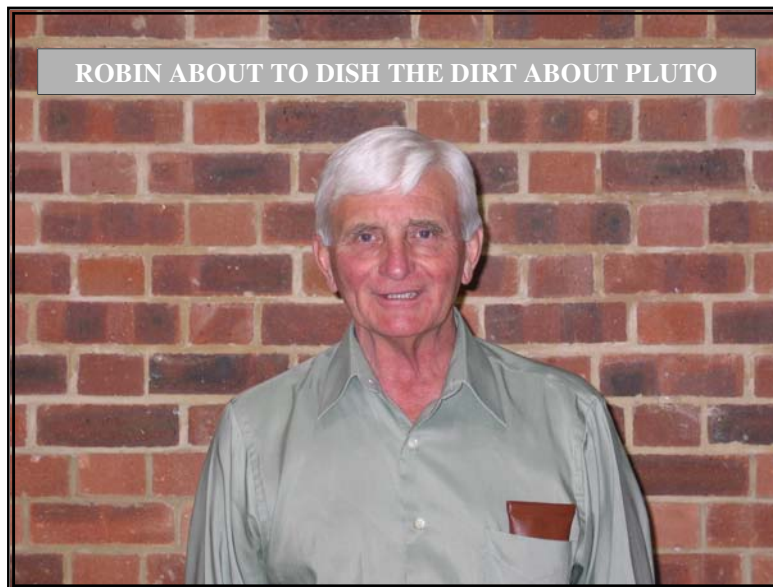
In 2006 the International Astronomical Union (IAU) defined three types of object in the solar system (other than the sun).

Planet. In orbit around the Sun. With sufficient mass to collapse to a sphere. To have cleared its immediate neighbourhood around its orbit.

Dwarf Planet. Not a satellite of a planet. Has not cleared its immediate neighbourhood.

All other objects – Satellites of planets, asteroids, comets, etc.

Under this definition Pluto is not a planet but comes into the dwarf planet category since it is within the



Kuiper Belt. In fact, many Kuiper Belt objects have orbits that come within Neptune's orbit – Pluto for instance. So it could be argued that Neptune has not cleared its immediate neighbourhood. However, all of these objects are at inclined orbits to the ecliptic so Neptune can be

envisaged as orbiting in a clear region that it has made within the inner edge of the Kuiper Belt.

Under this definition the Solar System is neatly defined into precise regions. Closest to the Sun are the rocky planets. Then there is the asteroid belt separating the rocky planets from the gas giants. Beyond Neptune, the outermost gas giant, is the Kuiper Belt and then, in a roughly spherical region from 5000 to 50,000 AU, the Oort Cloud.

Pluto is neither an inner, rocky planet nor a gas giant and its orbit is eccentric and inclined to the ecliptic – the plane within which the Earth orbits and the other seven planets orbits are inclined by only a few degrees. Hence, Pluto fits better to the definition of a Kuiper Belt object than a planet.

Reported by Roger Young

July Skies

John W Smith

The Planets

Mercury gives a poor showing on the 24th about 40 minutes before sunrise in the north east sky.

Venus is rapidly descending in altitude as it falls into the twilight glare and so will soon be lost to view.

Mars apparently increases in size and so appears brighter, although only just over 80% of its daytime surface is visible. As it pulls away from the morning twilight it becomes a more worthwhile object for observers.

Jupiter is low in the south but being bright it is easy to locate and the obscuring dust and thick atmosphere do not provide too much of a hindrance at this low elevation.

Saturn is near conjunction so is unfavourably placed for viewing.

Uranus and **Neptune** are close to opposition but a good star map is necessary to locate these tiny objects. Of the two, Uranus is brighter and easier to find but a good telescope is necessary for Neptune.

Meteor Showers

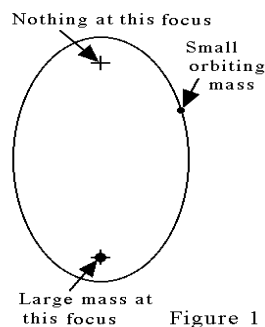
There are three showers that peak this month.

1. On the 21st the alpha *Cygnids* are favourable for a display of about 5 meteors per hour.
2. The *Capricornid* stream has three peaks these being on the 8th, 15th and 26th. The moonlight will intrude on some of these.
3. The delta *Aquarids* have an unfavourable peak on the 1st. Their predicted rate is around 20 per hour.

Moon Phases

New	1st Quarter	Full	Last Quarter
14 th	22 nd	1 st & 30 th	7 th

The two figures to the right refer to Dr Guy Moore's article on Page 9



Deep Sky Objects for small telescopes and binoculars

M57 NGC6720 This is the famous planetary nebula known as the "Ring" as it resembles a tiny doughnut in space, although I prefer to think of it as 'a mint with a hole'. Although it is relatively small, it is quite bright. Unless suitable magnification is used it looks like a star. The progenitor central star is around magnitude 14.

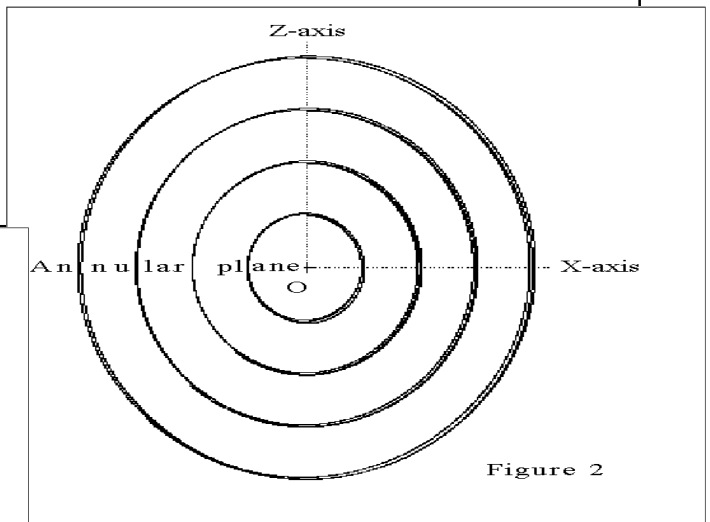
M56 NGC6779 A very compact globular cluster lying some 40,000 light years away in the constellation of Lyra. Shows up well in small instruments but a larger telescope is needed to resolve the stars.

M27 NGC6611. This is the famous "Dumbbell" nebula in Vulpecula and is the brightest planetary nebula in the northern hemisphere. It is easily one of the most favoured objects for viewing by amateurs and almost any instrument will present a good image. Also, ideal for photography enthusiasts.

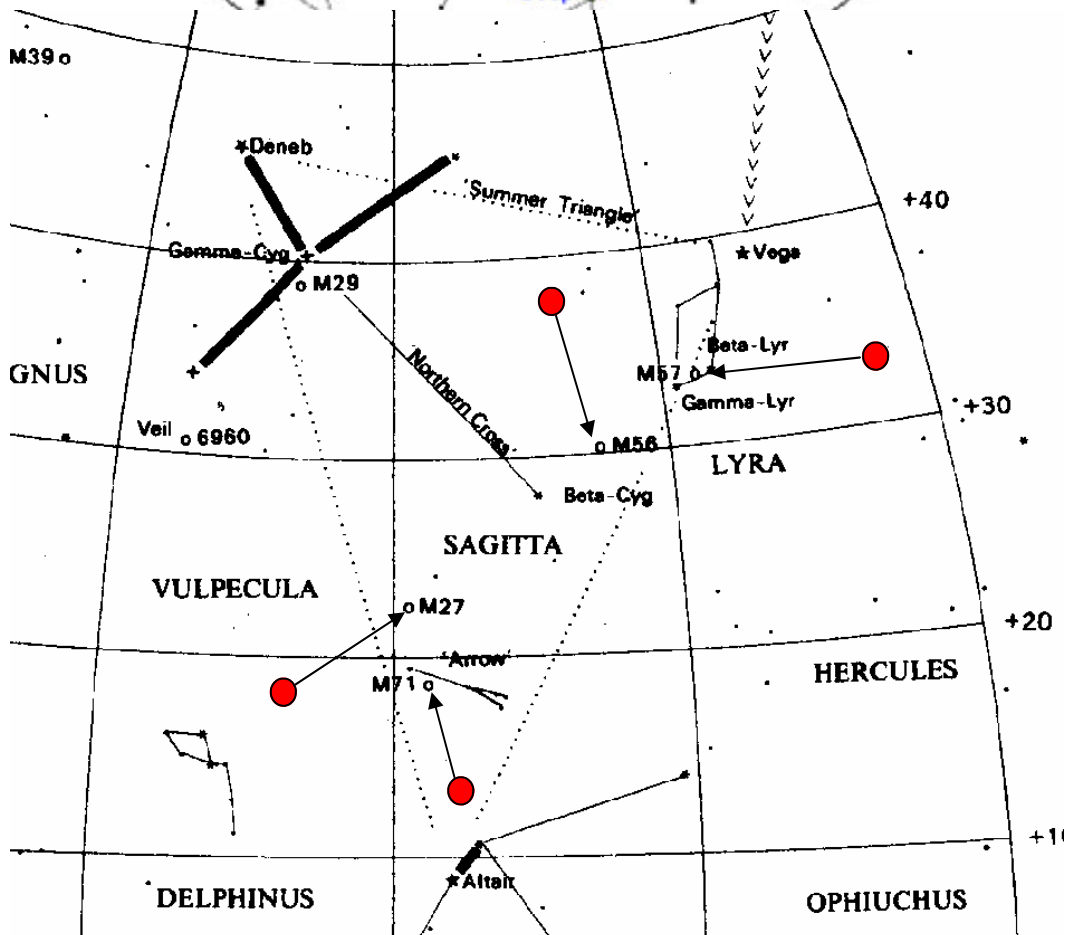
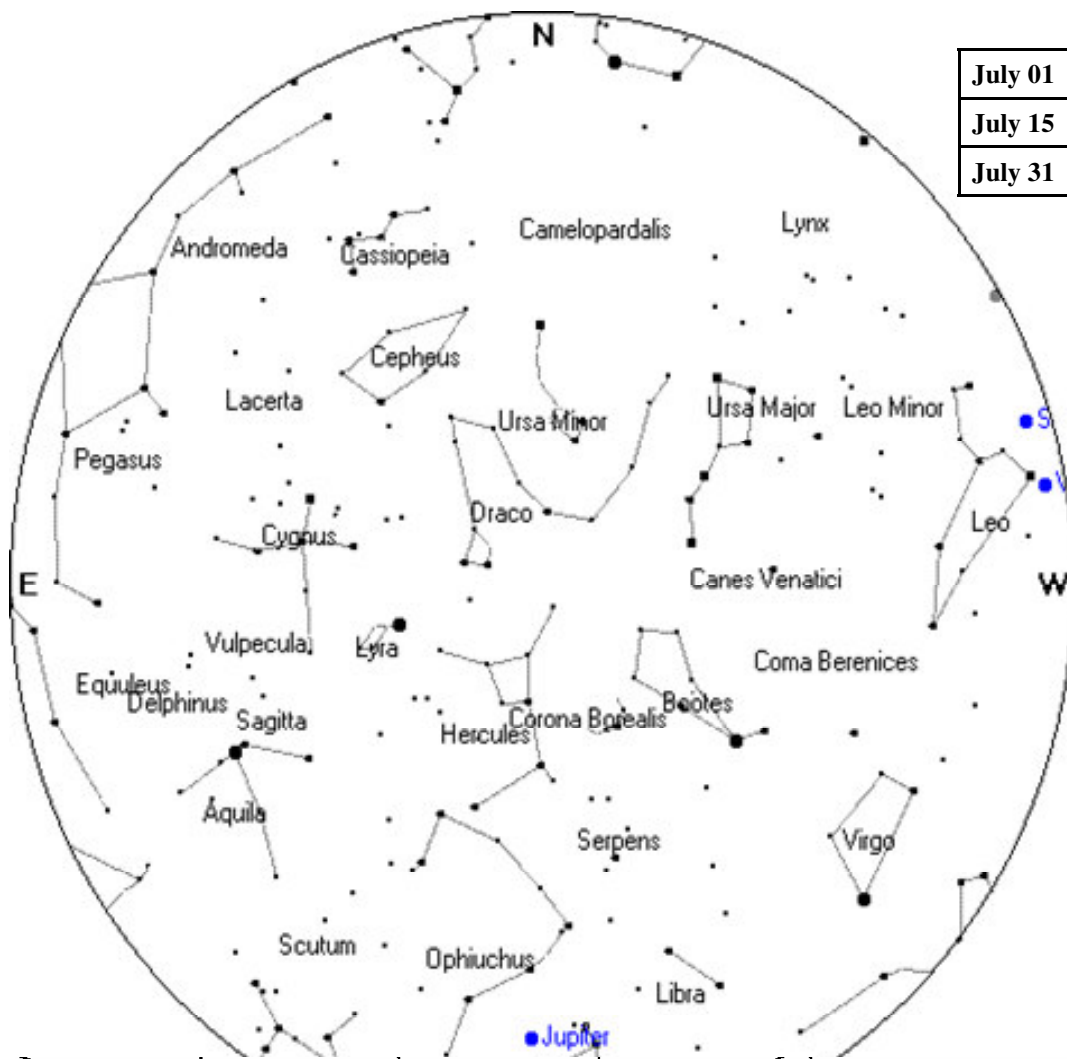
M71 NGC6838 A remote globular cluster in Sagitta. A small telescope will give some resolution but it is best seen through a larger instrument. It is relatively bright, so is easy to locate..

Coordinates

OBJECT	RA	DEC	MAG	SIZE (Arc mins)
M27	19h 59m	+22deg 40m	8	8 x 4
M56	19h 16m	+30degs 08m	8	1.8
M57	18h 53m	+33degs 01m	9	83 x 59 (arc secs)
M71	19h 53m	+18degs 44m	7	6.1



July 01	at	24:00
July 15	at	23:00
July 31	at	22:00



THE MARTIAN ENIGMAS (Part 3)

Alan Matthews

In its haste to “debunk” the Face on Mars, the European Space Agency (ESA) chose to flaunt a computer-generated illustration of the Face in which a prominent, previously unnoticed “horn” is seen protruding from the unusual feature’s “brow.” Much ado has centered on this odd, steeple-like protrusion seen in this perspective which heads the subsequent ESA September 2006 article, and, unsurprisingly, this was the image snapped-up by mainstream media. As the steeple, or “horn,” only detracts from the Face’s resemblance to a humanoid face, it would seem to be good evidence that the controversial Face mesa is indeed nothing more than a lumpy hill. But only if the horn is a genuine formation.

Mars-watchers who’ve followed the Cydonia controversy have seen the Face formation modeled repeatedly by computers in an attempt to assess its shape, and peer at it from angles inaccessible from orbit. Interestingly, ESA’s “horned face” is the first such computer-derived image to indicate a steep conical protrusion near the purported “brow”; this invites the question of whether we’re seeing actual surface topology; an error introduced by ESA’s software, or even a deliberate attempt to make the Face appear less face-like (a challenge to which JPL rose in 1998 with its infamous “cat-box” release). Curiously, a review of “shape-from-shading” images based on reliable spacecraft data fails to show a feature corresponding to ESA’s “horn.” Or, for that matter, anything particularly close. For example, the photos taken by the THEMIS camera aboard the Mars Odyssey, and the Mars Global Surveyor images of the Face shows essentially what we expected to see from the 1976 Viking images. No obvious sign of a “horn.” In fact, in one of the THEMIS images, the low sun-angle should all-but-ensure that we see its shadow on the Face’s distorted eastern side. Alas, we don’t. More tellingly, we don’t see it in any of the professionally-constructed digital models or in painstaking forensic sculpture analysis. Why not? Because, simply, it’s very likely *not there*. But assuming it is, certainly expedites the “debunking” process -- the “horn” then perhaps belongs on the forehead of the ESA “devil” who produced this perspective.

Interestingly, ESA produced a second western (left) synthetic-perspective view of the Face. This “alternate” Face lacks the conspicuous horn. This time there’s really no argument, it looks spookily face-like. But which image most accurately reflects the actual Martian surface? Comparison with photos for which the source imagery is publicly available suggests the markedly less-publicized image is a more faithful portrayal - elsewhere in this ESA release, are still more realistic renderings of the Face compatible with most other digital-generated perspectives.

Unfortunately, as we have seen, this inexcusable misrepresentation of space science data is nothing new in the strange, ongoing case, of the “Face on Mars”. The effect is that as a whole this image will be accepted uncritically, just as most people accepted NASA’s own 1998 “perspective” cat-box reconstruction of the Face which was equally as bad but doesn’t show this erroneous peak. Few people seem to notice the ever-changing shape of the landform in these “scientific” renderings. All they seem to remember is that they’ve seen a bunch of pictures over the past years of a lumpy bumpy something or other, so anyone who would suggest that it might be artificial must have a screw loose.

Why are these individuals and agencies behaving in blatantly anti-scientific ways? Perhaps any result that creates public support for manned space missions is apparently perceived as not in long-term financial interests because the space agencies and their contractors get funds, personnel, control, and media exposure only for robotic space missions, not for manned missions. In the case of the only space target that has thus far switched from robotic missions to manned missions, our Moon, since it became the subject of manned missions, NASA’s JPL has not been assigned any further robotic missions there in over 30 years. This has remained the case even though manned missions were suspended in the mid-1970s. It cannot escape notice that any recognition that there are artificial structures on Mars will impel on-site exploration by archaeologists, cultural anthropologists, and even artists, as well as other scientists. This would mean replacement of robotic missions by manned missions. Is the drive to protect turf compromising scientific integrity? Beyond that, we have no way to be certain of motives. Because of their key roles in observational discoveries in the space program, these agencies have the attention of the media whenever they wish. So individuals with these organisations have the power to ridicule any image, interpretation, or scientist whomsoever they choose; to make sound-bite pronouncements off-the-cuff without peer review; and to prejudice the media, the journals, and the public on any subject within their purview, or to poison the climate for its reception. When such power is wielded, the results can set back scientific progress indefinitely. What better way to divert attention from a potentially explosive discovery?

The fact remains though, it looked like a face, STILL looks like a face (more so even, in some ways, in the ESA pictures), must BE a.... But instead of an honest and objective analysis of the new photos, we get the usual Fa(r)ce on Mars! Any thoughts to New Zenith or, conversely, I can be e-mailed at

alan.matthews3@jobcentreplus.gsi.gov.uk

For an interesting 3-D video of the area, log on to

Climate Change

by John Smith

I read with considerable interest the comments made by Jules in the last New Zenith, following his review of the book "The Chilling Stars - A New Theory of Climate Change". Although only a layman in this subject, I have for many years closely studied books and journalistic articles by a range of "experts" in the field of climatology. This gives me reason to think that Jules' conclusion (that we are unlikely to experience runaway global warming for next few million years) is a rather rash statement.

The study of climate change is extremely complex as so many variables come into any equations used for predictions. It appears from serious study and analysis of deep ice cores and other dating methods that a major cause of Ice Ages result from changes in the tilt, angle and eccentricity of our planet's orbit around the Sun. This shows up very well in the graphs produced using the Milankovitch Theory. Sometimes these variations are in phase and have an enhancing effect on climate change, but at other times they may cancel out thus causing only minor climatic alterations.

Also, it seems very likely that the movement up and down of our solar system through the Orion Arm of the plane of the Milky Way will result in changes of local star density and inter-stellar dust. This could cause climate variations over very long periods of time and maybe "The Chilling Stars" will enable us to have a better understanding of its effects on climate change. I shall purchase this book.

At present we appear to be coming to the end of an inter-glacial (warm period) that has lasted about 12 to 15 thousand years, and on that basis we should be heading into the next ice age cycle that lasts about 90 thousand years. However, due to the burning of fossil fuels this descent into another cold period is being delayed due to increasing CO₂ in the atmosphere. This is shown very well in a graph by Professor John Imbrie in his book on "Solving the mystery of Ice Ages" published in 1979.

(See his figure 48, right)

Whether this "super inter-glacial" period will extend further than what he predicted or whether the CO₂ levels and other greenhouse gases such as methane will increase sufficiently to cause a runaway greenhouse effect remains to be seen.

If the melting of the northern ice cap continues at its present rate, the Gulf Stream may change course, weaken or cease, dependent on the salinity and temperature of the north Atlantic Ocean. This could result in the British Isles experiencing a "Mini Ice Age" like the one that occurred from 1440AD to 1850AD, and we would have a climate similar to that of Canada with hot summers and very cold winters. Even if this does not occur, due to rising sea levels we could experience devastating flooding in coastal and low lying areas of this country.

Meanwhile, I think we ignore at our peril the findings by that learned body known as the Intergovernmental Panel on Climate Change (IPCC) because we may not get a second chance. Politicians always have the next election in mind so are reluctant to advocate policies that the electorate would find difficult to accept. Politics and big business are very powerful factors that control much of the media and may even influence the wording of statements issued by the IPCC, so are the findings of this Panel reported as fully and as honestly as they should be? I fear that any necessary worldwide solutions recommended to avoid a potential disaster will be too little, too late, and mankind's folly could cause a major mass extinction of life on Earth as occurred in the Permian period some 250 to 300 million years ago.

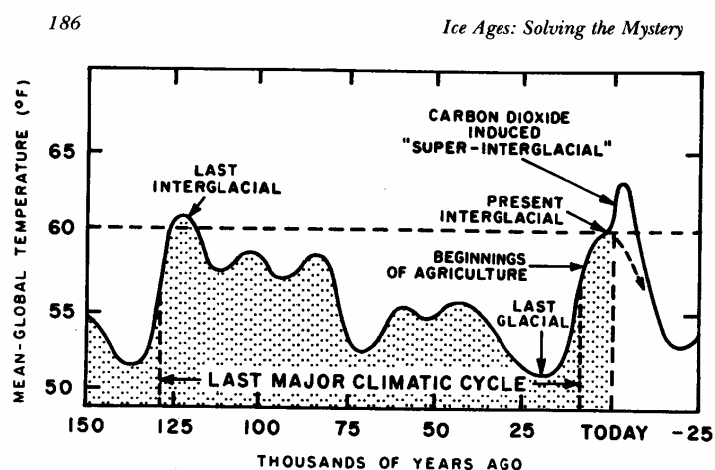


Figure 48. Climatic forecast of the next 25,000 years. According to the astronomical theory of the ice ages, the natural course of future climate (shown by the dashed line) would be a cooling trend leading to full glacial conditions 23,000 years from now. The warming effect of carbon dioxide, however, may well interpose a "super-interglacial," with global mean temperatures reaching levels several degrees higher than those experienced at any time in the last million years. In that case, onset of a cooling trend leading to the next ice age would be delayed until the warming had run its course, perhaps 2,000 years from now. (Modified from J.M. Mitchell, Jr., 1977.)

Note from the VAS Secretary

As many of you will know I was Secretary for about 19 years in the earlier days of the VAS and have held other positions since that time and took the vacant Secretary's job on again just after the start of this year. I did this as an interim measure to help the Society but now the AGM is coming up in August, I have decided to step down from any official position in the VAS as my hearing is getting worse and I'm nearly 84 years of age. Time to retire I think. I have enjoyed all of the posts that I've held, but now we have so many younger new Members I believe it is time for someone else to take on the job of Secretary. I shall of course remain an OAP Member and continue to take an interest in the progress of the Society. I would like to thank all of those who have made my time in office over the years so interesting and enjoyable.

John W Smith

Note from the Editor

There is no cause for alarm! The good ship VAS is still afloat and is in no danger of sinking... But, to have a major officer tendering his resignation (Tom Watson, NZ last month) closely followed by John Smith wishing to bequeath his Secretarial hat to a younger Member, I am somewhat reluctant to offer my own notice of standing back from my position as the Editor of this monthly magazine.

By the time of this year's AGM, I shall have been in the chair for 9 years and I feel that I have brought the old magazine out of the 'Stone Age' when it was made up with a lot of sticky glue and photocopying, to the present time when the entire issue is 100% electronic in its production. I have just one further idea that I would like to see come into being and that is the ability for readers of the eZenith to be able to click on a picture and see the actual event being depicted come to life. (A bit *H. Potterish*, I suppose). Anyway, that's the plan - the stumbling block is my lack of expertise to bring it off. So, there must be at least half a dozen whizzy types in our Society who could take over the reins: all they have to do is fill in an election nomination form and get voted in. Good luck.

Book Review

TRAVELLERS' GUIDE TO THE SOLAR SYSTEM

AUTHOR: Giles Sparrow

PUBLISHER: Collins

ISBN: 10: 0-00-723410-4

13: 978-0-00-723410-3

PRICE: £12.99 Softback 224pp

Sub-titled: **Long-haul holidays and mini-breaks in our cosmic neighbourhood**, this compact guide is somewhat reminiscent of the more famous Hitchhiker's Guide to the Galaxy. Or so I thought: although this useful semi-fictional manual describes the excitement that space travellers will encounter on (near) future travels, its secret lies in that solid science is presented in such a manner that bored younger members of the family will undoubtedly absorb all that given to them in its pages. Not just kids either, adults will find loads of interest within. I found it fascinating, full of interest and guaranteed to grab the attention of almost anybody with a mind to look beyond the Earth.

Beautifully illustrated with well drawn diagrams and amazing colour photographs giving improbable close up details, the entire Solar System is laid out in the familiar style of other well known travellers' guidebooks back on Earth. Choose any destination and this book will provide the pros and cons of going there. Completely up to date, even the relegation of Pluto is not overlooked, but if the outer reaches are too cold, you could always book a passage to the Vulcanoids thought to be circling the Sun within Mercury's orbit.

As you might expect, Health and Safety matters are with us still in the future. One piece of good advice caught my eye: when climbing on low gravity bodies having no atmosphere, remember that should you fall off a tall cliff, there would be no terminal velocity to slow your descent. You will continue to accelerate until hitting the ground below with fatal consequences. Be warned...

Whatever trip you plan away from Earth, make sure you have this essential guide to hand: it could just save your life.

Spiral galaxy simulation, Part 4: Ellipses extraordinaires!

Dr. Guy Moore

“Very exciting surprises” in this field of computer simulation have been assured (NZ June, p7). Here is one, others follow.

Starting with normality, elliptical orbits are the bread and butter of astronomy, formed when a small object like a planet moves freely within the influence of the gravitational field of a large object, like a star, see Fig.1. (*Figures 1 & 2 appear on Page 4*) Newton’s inverse square law of gravity and mathematics tell us that the large object occupies one of the foci. I have to admit, if I had never studied physics or mathematics, I would doubt that the orbit is truly elliptical - shouldn’t the orbiting object make a tight turn around the gravitating mass at one focus, but only a gradual turn around the empty focus at the other end of the orbit, giving an egg-shape, wider towards the apogee? Physics and maths bluntly say, “no, the orbit is a perfect geometrical ellipse, with the massive body at one focus, the other focus empty of matter”. For more than three centuries the world of science has become used to this fact.

Now imagine a very curious day, you get out of bed one morning, everything seems normal, but as you join a bus queue you overhear a strange conversation. Someone is explaining to someone else that it is possible to have an elliptical orbit with no gravitating matter at either focus of the orbit. Are you dreaming? A diagram would help - have a look at Fig.2. What do you see? Ellipses? Yes, near perfect ellipses. Is there gravitating matter at the foci of any of the ellipses? No, none!

Fig.2 gives the computed orbits of four stars orbiting in a plane perpendicular to the plane of the special annulus, described in NZ May p7. I warned then of the ‘remarkable properties’ of this annulus. This is one of them! The plane annulus (in the xy-plane), with local matter area density inversely proportional to the distance from its centre, **bisects** this family of elliptical orbits. The centre O of the annulus is at the centre of the orbit family. Each star is launched, parallel to the x-axis, from a point on the z-axis. The launch speed of each star is the same, being near 0.6 of the ‘flat rotation velocity’ of the annulus. Each star passes through the annulus with speed approximately equal to 1.6 times this velocity. (These numbers happen to be near to the ‘golden ratio’ numbers, 0.618 and 1.618 respectively). If this is the first report of the possibility of an elliptical orbit of a freely moving body with gravitating matter absent from both foci, then bravo for the New Zenith!

Fig.2 is the ‘perpendicular equivalent’ of what happens in the annular plane seen by running the program below, using the BBC Basic Emulator available at www.rtrussell.co.uk. In this program 8 stars are launched each with the rotation velocity around the simulated spiral galaxy, from points at various distances from the centre. The program can be typed, or copied from eZenith and pasted to the Emulator and run as usual. (196 instead of 200 for the velocity in Line 90 stops ‘overprinting’ so you can see where each star is). New readers need to know that the physical justification for Line 190 was given in the May NZ p7, and comes from the application of Newton’s inverse square law to this special annulus. A perpendicular orbit program will follow, then you will be able see other astonishing orbits plotted on your PC.

```

10 MODE 0
20 DIM x(8): DIM y(8)
30 DIM xVel(8) : DIM yVel(8)
40 REM NZ July, 2007, galactic race
50 PLOT 69, 500, 500 : REM centre
60 dt=0.0001 : K=200*200
70 FOR N=1 TO 8
80 x(N)=0 : y(N)=50*N
90 xVel(N)=196 : yVel(N)=0
100 NEXT N
110 steps%=0
120 REPEAT
130 steps%=steps%+1
140 FOR N=1 TO 8
150 PLOT69, x(N)+500,y(N)+500
160 x(N)=x(N)+dt*xVel(N)
170 y(N)=y(N)+dt*yVel(N)
180 radius= SQR((x(N)^2)+(y(N)^2))
190 gravity= -K/radius : REM see text
200 Xacc=gravity*x(N)/radius
210 Yacc=gravity*y(N)/radius
220 xVel(N)=xVel(N)+dt*Xacc
230 yVel(N)=yVel(N)+dt*Yacc
240 NEXT N
250 UNTIL steps%=400000
260 END

```

‘N’ should really be ‘N%’ to make it an integer, but ‘N’ is simpler here. ‘REM’ is a remark, ignored by the program. Colon avoids using a fresh line. DIM x(8) sets up x as an array, holding x-coordinate data on eight stars, etc.

I express thanks to the rtrussell website for use of the BBC emulator available there. I hope all this computing will catch on, and that readers will later purchase the full package - my bigger programs, involving interacting stars, will need it. My interest in this is the advancement of amateur astronomical computing, plus ancillary educational effects.

Next topic, the **Kuiper Belt**:- following the very interesting lecture on ‘*Why Pluto Had To Go*’, by Robin Gorman it occurred to me that the Kuiper Belt, and perhaps the Oort Cloud too, constitute an annular ring of matter, with the Solar System of planets inside the ring. But, unlike a spherical shell, since a planar ring gives a radial outward gravitational field inside the ring (see NZ April p7), then the Kuiper Belt should ‘knock a bit off’ the gravitation due to the Sun and slow the planets slightly, the effect increasing with orbital radius. In the absence of such a ring of matter, squaring the orbital velocity and multiplying by the radius should yield a constant, the same for every planet - does the Kuiper Belt detectably upset this rule? Grabbing an old copy of *Astrophysical Quantities* C W Allen 1976, I calculated the following values for this ‘constant’. Mercury 887.79, Venus 887.60, Earth 887.44, Mars 887.18, Jupiter 887.41, Saturn 886.44, Uranus 889.58, Neptune 886.25, Pluto 886.12, (units: AU x km squared per second squared). Apart from Uranus, there is a general trend downwards for this ‘constant’ that might tally with the gravitational effect of the Kuiper Belt - am I onto something significant here? A ring of matter just inside Uranus’s orbit would speed Uranus up - does anyone know of one? (I am also looking for an old car to replace my smashed up one, then on a cloudy, rainy, Thursday evening I can bring a Mac G3 to the Observatory and provide a small demo.)

INTERESTING FACTS PART 32

SURPRISE, SURPRISE!

Brighton Police have come to the conclusion that at times of a Full Moon, people seem to get strange behaviour, such as being more fractious and argumentative. Extra coppers are being drafted in to cope with the onset of temporary lunacy.

A bit like being up at the Observatory when the dark skies are wiped out by the Moon's brilliance...

Caption Contest



What on Earth has got into the Observatory stalwarts in this picture? An Editorial bottle of wine for the funniest caption expressing Roger Hayward's thoughts. Email to Editor by July 12th.

Pic submitted by Lucy Rogers, for which thanks are due.

RECOMMENDATION

Both the Editor and VAS Treasurer have been fortunate enough recently to experience the quality services provided by Ryan Dymock for house decorating and renovation. Ryan is a VAS Member and can deliver interior and exterior decorating, wallpapering a speciality. He will carry out general refurbishments to property and is clean, tidy and above all, reliable.

Ryan has a vast experience of decorating in all styles of properties, to all kinds of tastes and will be happy to oblige with a ready estimate for the proposed work.

We highly recommend that you give him a try for that job you have been meaning to do yourself and just haven't found the time to begin.

Telephone 07810 361 915 (mobile) or evenings on 01983 730870.

LAST WORDS

Taking note of the above **Interesting Fact**, can anybody make a guesstimate of when our bureaucratic masters in Brussels take it into their heads to issue a European Directive making Full Moons illegal and thus forcing the UK Government to have the pesky night object taken down?

You may think that this is a joke. It is, but someone out there could well be planning a career boost in presenting the necessary paperwork before the European Parliament.

Now, who could that be banging on my front door at 5 o'clock in the morning? Good job the Moon is full so I can see the bunch of Euro storm-troopers out there with their black van to carry me away...

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)

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

FIND VAS ON THE INTERNET

Members should note the Vectis Astronomical Society Website address:

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