

## TRANSIT OF VENUS

### First to see the transit

From: "Dale Ireland" To: "Solar Eclipse List Date: Mon, 7 Jun 2004

I am wondering if anyone knows how long it takes the edge of the shadow of Venus to sweep across the Earth? It looks like first contact should first be seen along the line from SW Australia to Alaska, just considering the slight parallax in the view from Earth. So someone in Alaska or Australia may be the first human to see the transit in 122 years. Am I reading that right? Dale

From: "Jean Meeus"

To reply to Dale's question : Maybe a map with isochrones is given in the Astronomical Almanac? I don't know, as I don't have that book. (An isochrone is a curve for all points of which the event begins at the same instant. It is, in fact, the outline of the "penumbra" of Venus at a given instant.)

On page 320 of the 'Journal' of the British Astronomical Association, Peter Macdonald gives a map for the Venus transit, with some isochrones. It appears that Venus' penumbral cone will first touch the Earth in the Pacific Ocean close to New-Zealand. Hence the first observers to see the transit may be those of New Zealand, although the Sun will be extremely low on the horizon. The best observers to see the transits first will be those on the eastern coast of Australia. Jean Meeus

From: "Francis Graham"

Dear List At the apparition of Comet Halley in 1985-86, at the Buhl Planetarium in Pittsburgh, we held a Two Timers' Dinner for people who saw Halley's Comet twice. I recall the joy of octogenarians stepping up to the eyepiece of the siderostat telescope. The dinner was free to the two-timer (but we charged the other family members).

Somewhere out there, hopefully, a number exceeding a dozen of 3 or 4 year olds will watch the transit of Venus, youngsters who also have all eight great-grandparents still alive in their 90's. With some considerable (but not unimaginable) luck, and some (not unimaginable) medical advances in gerontology, one of these lucky toddlers \*may\* become the first to see three transits of Venus.

If any observers know of such toddlers with all or almost all great-grandparents still alive past 90, now is the time to invite those little children for a look.

It's not impossible. Last month, a resident of a nursing home in North Lima near Kent State here in Ohio, died at age almost 115. She was lucid and conversant up until her death. Her family also had a history of longevity. Francis Graham

From: "Thomas Goodey"

One presumes the Howard Families will be interested in offering membership to these little fellers! Thomas Goodey, the Heinlein lover...

### High res illustratie bij persbericht Venusovergang

From: "Carl Koppeschaar" To: info@venusvoordezoon.nl Date: Fri, 4 Jun 2004

Geachte redactie, Bij het persbericht 'Venus in het vizier' (donderdag 3 juni) was een illustratie bijgesloten die gemaakt was vanuit de ruimte door de zonsverkenner SOHO.

Inmiddels is een duidelijker en hogere resolutie (gif, 800 Mb) te downloaden via [http://soho.estec.esa.nl/data/realtime/javagif/gifs/20040603\\_2018\\_c3.gif](http://soho.estec.esa.nl/data/realtime/javagif/gifs/20040603_2018_c3.gif)

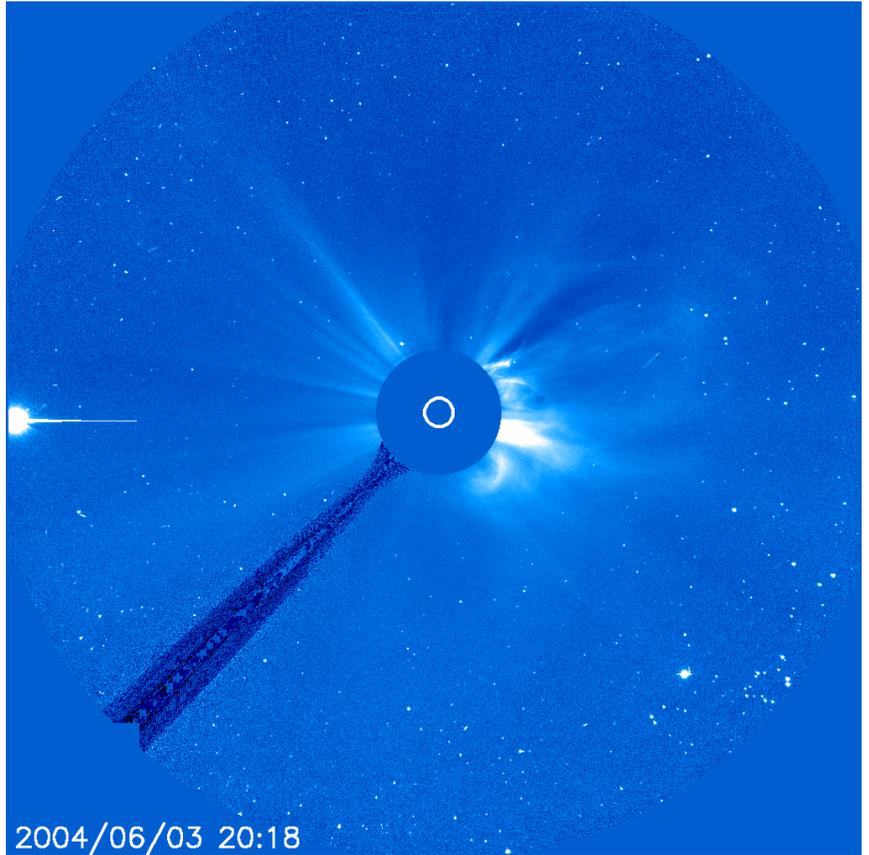
Uitleg foto: De heldere planeet Venus is sinds donderdag 3 juni zichtbaar in het beeldveld van een speciaal soort telescoop aan boord van de ESA/NASA-zonsverkenner SOHO die op 1,5 miljoen kilometer afstand in de ruimte zweeft. In het midden is de zon-

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neschijf afgedekt, zodat de lichtzwakke zonsatmosfeer, of corona, zichtbaar wordt. Venus is de heldere 'ster' links aan de rand. Venus beweegt zich in de komende dagen naar het midden toe, richting zon. Op dinsdag 8 juni trekt de planeet van de aarde af gezien voor de zonnenschijf langs. Dit uiterst zeldzame schouwspel is van 07.19 tot 13.23 uur in zijn geheel vanuit Nederland en België te volgen. De website [www.venusvoordezoon.nl](http://www.venusvoordezoon.nl) brengt die dag live webcasts van het verschijnsel en geeft informatie over hoe het veilig waar te nemen. Foto: [Venusvoordezoon.nl](http://www.venusvoordezoon.nl)/ESA/NASA Vriendelijke groet, Carl Koppeschaar ---- Carl Koppeschaar Hoofdredacteur Kennislink <http://www.kennislink.nl> Bezoekadres: Laan van Nieuw Oost-Indië 300 -- 2593 CE Den Haag Postadres: NWO - afdeling V&C -- Postbus 93138 -- 2509 AC Den Haag T 06-20621593 -- F 070-3440912 -- E [carl.koppeschaar@kennislink.nl](mailto:carl.koppeschaar@kennislink.nl)



### The Mystery of the Black Drop - solved?

Date: Thu, 10 Jun 2004 From: "LARRY KLAES" To: [HASTRO-L@LISTSERV.WVU.EDU](mailto:HASTRO-L@LISTSERV.WVU.EDU)

As reports on the Venus transit come in from around the world, the burning question in the observational community surrounds the "black drop": Why did some people see it while others did not? Did it happen at all? The black-drop effect is seen when a dark patch appears to connect Venus with the dark sky past the edge of the Sun, sometimes giving Venus a teardrop shape. It was widely observed and commented on in the 18th and 19th centuries. Yet most observers didn't report seeing a black drop this time. Of those who did, most saw something much less pronounced than the effect observed in the past - so much less pronounced that they hesitated to call it a black drop at all.

Opinions range as to why there is a discrepancy. The leading theory cites today's better telescope quality. Unusually good atmospheric seeing has also been suggested.

[http://skyandtelescope.com/news/article\\_1277\\_1.asp](http://skyandtelescope.com/news/article_1277_1.asp)<[http://skyandtelescope.com/news/article\\_1277\\_1.asp](http://skyandtelescope.com/news/article_1277_1.asp)>

From: "John M. McMahon"

Such was my experience: a thin darkened area between the (projected) dark disk of the planet and the darkness surrounding the solar disk. In that sense it was hardly elongated in that the planet was extremely close to the point of third contact before I saw it. JMM / LMC

From: "Richard H Sanderson"

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When the time for third contact arrived, I decided to stop taking pictures, put an eyepiece into my telescope (6-inch Astro-Physics refractor at about 150 power), and watch for the black drop. At that power, there was some turbulence. I focused my attention on the circumference of Venus's orb, which was a perfect circle, and extrapolated that circular curve into the region where Venus was about to contact the Sun's limb. To me, it appeared that the sliver of



sunlight between the silhouette of Venus and the limb of the Sun disappeared about 10 or 15 seconds earlier than it should have. Venus didn't appear in the shape of a drop, however. It looked more like a dark vertical shaft was connecting Venus to the Sun's limb (perhaps caused by the turbulence). With the tens of thousands of images that were taken of the event, I'm sure photographic evidence will be forthcoming. I wonder if any images were taken from space. That might prove whether or not the black drop is an atmospheric effect. Rich Sanderson Springfield, MA

From: "Frank Reddy"

My experience, from the shore of Lake Michigan, was similar to what you describe. I found the effect to be quite subtle, much more so than I expected.

> I wonder if any images were taken from space.

Indeed, there were. White light images from the Transition Region and Coronal Explorer (TRACE) show a hint of a black drop: [http://vestige.lmsal.com/TRACE/transits/venus\\_2004/](http://vestige.lmsal.com/TRACE/transits/venus_2004/)

So do Swedish 1-m Solar Telescope images in red (705 nm) light: <http://vt-2004.solarphysics.kva.se/movies/> Frank Reddy

From: "Stephen Tonkin"

I did not. I observed 3rd contact with one of those cheap Chinese 80mm f/5 refractors, so I would hesitate to attribute black drop to lack of optical quality. -- Stephen Tonkin

From: "Balthasar Indermuehle"

Hmm... I seem to remember that the black drop is an optical artifact produced by the optics. No matter how good optical quality, it will show, the telescope design has an influence however.

The encyclopedia of astronomy and astrophysics actually calls it an "optical phenomenon". Cheers - Balt

From: "Dr.\_Michael\_A.\_Rappengluck\_M.A."

I noticed a small "black drop"-effect while observing the VT in H-alpha light (0.6 A) with a 8"-refractor of our observatory. I took a photo from this event, which also shows Venus closely to a solar eruption. We have taken some more pictures, but haven't finished image processing. Here is the URL: <http://www.astrogilde.de> Dr. Michael A. Rappengluck M.A.

### Why demonize Venus?

Date: Thu, 10 Jun 2004 From: ECOLING@AOL.COM To: HASTRO-L@LISTSERV.WVU.EDU

Regarding demonization of Venus, Sepp asks

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>Was it only to overcome former pagan calendars?

Highly plausible. More generally, to overcome even anything scientific in another culture that could reinforce authorities they were trying to defeat. I have been told that they even destroyed irrigation systems near Mexico city to blot out the memory of preceding greatness.

Why Venus? Perhaps because it announces the sun, is a very weak light, a "false sun" by comparison, etc. That would be a natural kind of metaphor, and need not have originated with the opposition between Christianity and another religion. It may be much older.

A similar metaphorical analogy would be that Mars is the youngest (fastest), Jupiter the middle-aged, and Saturn the eldest (slowest). Lloyd Anderson Ecological Linguistics

From: joanneco@MAINE.RR.COM

First, what is the evidence that Venus was demonized? And when? It has remained a "good" planet in Western and Hindu astrology to this day AFAIK. What evidence is there that the alleged demonizers were creating a calendar? How many calendars are based on Venus? Are there any outside of Meso-America?

>Why Venus? Perhaps because it announces the sun, is a very weak light, a "false sun" by comparison, etc. That would be a natural kind of metaphor, and need not have originated with the opposition between Christianity and another religion. It may be much older.

I thought Venus' brightness, like Jupiter's, was supposedly the reason for the beneficence of the two benefics. Joanne Conman

From: ECOLING@AOL.COM

Sorry, in terms of demonization of Venus, I should have mentioned the equation with "Lucifer", both "bearer of light" (literal etymology of the name) and "the devil" (usage). Lloyd Anderson Ecological Linguistics

From: "Dr. Chad Hansen"

In reply I would just like to say that it is my understanding that a particular mythical motif of the creation theme can be derived from the eight-year cycle of Venus. And of course, this natural creation scenario repeats itself at regular intervals, following the eight-year time-table. For, as Venus, the crescent Moon, and the Sun (just after sunset) return to the same configuration and the same constellation among the background of the stars (approx.) every two thousand nine hundred and twenty days, the creation scenario starts again. As a result, this recurrent, luminous celestial drama was more or less continuously visible to both Upper-Paleolithic hunter-gatherers and Neolithic farmers of a very early date (with respect to the latter, easily as much as eleven thousand years ago). In fact, as is readily illustrated from widespread occurrences in global narrative, this eight-year cycle or octaeteris, as it is commonly called, served as one of the earliest forms of the calendar, thereby instilling the idea of regularity in the minds of those who implemented many agrarian festivals. It was certainly known to the Sumerians, who often carved just these three symbols—the Sun, Moon, and Venus—on the top of their monuments and stelae. Significantly enough, on these artifacts the planet Venus is invariably represented by an eight-pointed star. For the Greeks, who inherited much from Mesopotamia, the octaeteris—which is also a period of almost exactly ninety-nine New Moons—constituted the Great Year, providing, among other things, a time-table for the Olympiads (see Jane Harrison's "Themis"), and comprising the term of many instances of propitiation for various crimes. At the same time, this eight-year cycle can also be found in the so-called Ethiopic "Book of Enoch", where—albeit in somewhat corrupted form—it serves to culminate the section aptly known as the "Book of the Revolutions of the Luminaries of Heaven". And finally, this very same cycle can be seen to underlie the reckoning of time in the following Zuni myth where, oddly enough (except for an additional, second year), it involves the same time intervals—three, five, and eight years—as in the "Book of Enoch" version. As the Zuni myths tells us:

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The man who went to the Sun was made Pekwin. The Sun told him, "When you get home you will be Pekwin and I will be your father. Make meal offerings to me. Come to the edge of the town every morning and pray to me. Every evening go to the shrine at Matsaki and pray. At the end of the year when I come to the south, watch me closely; and in the middle of the year in the same month, when I reach the farthest point on the right hand, watch me closely." "All right." He came home and learned for three years, and he was made Pekwin. The first year at the last month of the year he watched the Sun closely, but his calculations were early by thirteen days. Next year he was early by twenty days. He studied again. The next year his calculations were two days late. In eight years he was able to time the turning of the sun exactly. The people made prayer sticks and held ceremonies in the winter and in the summer, at just the time of the turning of the sun. (From "Living the Sky", p91).

Hopefully, if my speculations are not too far removed from reality, these notes will shed some light on the question. Cordially CH

From: "Dr. Chad Hansen"

And don't forget Lucifer's evening counterpart, Lucifuge, who flees ('fugus') from the sky, taking the light with him or her. A. E. Waite's edition of the medieval Grimoire of black magic demonizes this character as Lucifuge Rofocale. Unfortunately, I have not been able to decipher the term 'rofocale', but the drawing accompanying this name looks strikingly like the Joker from our card decks, which itself derives from the so-called Fool card of the Tarot cards (which I do not believe in as a prognostic device). Cordially, CH

From: joanneco@MAINE.RR.COM

So? How does applying this Roman name to the European devil equate with the demonization of Venus as a planet? As I've already said, Venus was never demonized by astrologers. You seemed to be suggesting in your first post that was somehow linked to the destruction of the Mayan calendar....

Joanne Conman

From: "Sepp Rothwangl"

Joanne, have you never heard of Luzifer and Noctifer (Nosferatus)? (in Latin verbially Lightbringer and Nightbringer) Regards Sepp Rothwangl

From: "LARRY KLAES"

As I recall from my ancient mythology class in college - not to mention the syndicated TV series Hercules - Venus was the goddess of love:

<http://gallery.euroweb.hu/html/b/botticel/allegory/><<http://gallery.euroweb.hu/html/b/botticel/allegory/>>

From: "Marilynn Lawrence"

According to the below message, it appears Venus was demonized due to the removal of the literal meaning (the fall of a king of Babylon or Assyria) with a metaphorical meaning - morning star. Marilynn

From: joanneco@MAINE.RR.COM

Hi Marilynn, The passage in Isaiah is probably derived from older sources. There is a Canaanite myth about Helel, who is the son of the god Shajar. A poem from Ugarit tells of the two divine children of El and Athirat, Shajar (dawn) and Shalim (dusk). If interested, see Canaanite Myths and Legends by J. C. L. Gibson (T. & T. Clarke Ltd., Edinburgh, 1977).

There are many, differing ideas about the nature of deities linked with Venus (in Mesopotamia alone) that are discussed in "A Catalogue of Near Eastern Venus Deities," by William Heimpel, Syro-Mesopotamian Studies, 4/3 (Undena Publications, 1982). If you

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begin to look in other cultures, even more ideas appear.

I can't see what any of these stories has in common with a story about a bird from Meso-America or with the creation of calendar by Christians.. Joanne Conman

From: "Sepp Rothwangl"

German mythologist Ralph Koneckis (Mythen und Maerchen. Was die Sterne darǖber erzahlen. Franck-Kosmos) suggests that the 100 years of the fairy tale of little Thornrose represent in fact this 99 month. That would fit also to the lifetime of the little girl, who comes in the age of being married 8 years after the "falling asleep". Also the 13th aunt is representing a 13th lunar month which does not fit into a solar year. Many Grimm's fairy tales must be considered representing celestial run.

See e.g. Hair&Hedgehog: [http://www.calendersign.ric.at/en/astro-myths/hare\\_and\\_hedgehog/](http://www.calendersign.ric.at/en/astro-myths/hare_and_hedgehog/) Sepp Rothwangl

From: "Sepp Rothwangl"

Joanne, What do you want to express with this saying? Venus was not demonized at all? I know of an ancient Graffito at an ancient St. Mary Monument in Ephesus, where Austrian archeologists excavate (sorry I don't remember its name now). In this now a St. Mary chapel and there is found the ancient inscription: "On this place in former times stood a monument of DAIMON ARTEMIS". Isn't this another hint, how Christians incorporated former pagan belief and in same time demonized it. Why is one of the graves of St. Mary is said to be in Ephesus, the Greatest sanctuary of Artemis in Antiquity?

Christians demonized! In particular astrology and astronomy. Nearly all Christian names of demons are related to stars! See e.g.: Beelzebub from a (Bee) star near Aries (the first of flies), daimon meridian (Milky Way), 666 (from Precession), Satan, Satyr, Lucifer, , etc. Why? Why? Why? I see only one reason: To keep off people from studying stars and calendars in order to obtain the monopoly of the church, which's business plan is to sell time, on Earth and in beyond ... Regards Sepp Rothwangl

From: "Dr. Chad Hansen"

For the Greeks, who inherited much from Mesopotamia, the octaeteris which is also a period of almost exactly ninety-nine New Moons constituted the Great Year

German mythologist Ralph Koneckis (Mythen und Maerchen. Was die Sterne darǖber erzahlen. Franck-Kosmos) suggests that the 100 years of the fairy tale of little Thornrose represent in fact this 99 month. That would fit also to the lifetime of the little girl, who comes in the age of being married 8 years after the "falling asleep". Also the 13th aunt is representing a 13th lunar month which does not fit into a solar year.

Many Grimm's fairy tales must be considered representing celestial run. See e.g. Hair&Hedgehog:

I would agree with this, and in fact have conjectured the same with respect to the 100 months of Herakles' expiation, as well as the 100 sons of Dritarashtra in the Mahabharata, among many other things. That Hindu text has all of the appearances of a struggle between two groups with different calendars: the Kauravas with their 100 moon octaeteris calendar and the Pandavas with their new Solar calendar. This idea, however, is still of the nature of conjecture on my part. Cordially, CH

From: joanneco@MAINE.RR.COM

Sepp, Have you never heard of giving a direct answer to a direct question? Joanne Conman

From: joanneco@MAINE.RR.COM

Sepp, You're seriously confused about a number of points. A "daimon" or a "daemon" is not the same thing as a "demon." Christian names of "demons" that you list are not taken from star names. "Beelzebub" means "Lord of the Flies"...it doesn't mean "bee".

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"Satan" comes from the Hebrew word for "adversary." 666 is not "from Precession." A satyr is a creature from Greek mythology. Joanne Conman

From: "Stephen Tonkin"

You may save yourself further embarrassment if you look up and understand the etymology of the word "demon" (and its alternate spellings, "daimon" and "daemon").

Clue: Philip Pullman's *Northern Lights* trilogy. -- Stephen Tonkin

From: "Sepp Rothwangl"

> You're seriously confused about a number of points. A "daimon" or a "daemon" is not the same thing as a "demon."

Joan, if you like hairsplitting, pls explain me the difference.

> Christian names of "demons" that you list are not taken from star names. "Beelzebub" means "Lord of the Flies"...it doesn't mean "bee".

And it represents the old constellation BEE, North of Aries.

> "Satan" comes from the Hebrew word for "adversary."

What is Sabbath, Saturday?

> 666 is not "from Precession."

The ancient constant of precession 666y/10°

> A satyr is a creature from Greek mythology.

Roman! With horns and shoes like a goat, the animal of Chronos/Saturn Regards! Sepp Rothwangl

From: "Sepp Rothwangl"

My English/German dictionary translates demon simply as "TEUFEL".

Regards Sepp Rothwangl

From: "Sepp Rothwangl"

US citizens have an example of Christian demonization of starlore in front of their own doors:

Devils tower, a significant mountain of ceremony of native tribes. It's myth is clearly linked to ancient starlore, which could be summarized: Devil's Tower, Wyoming, a volcanic plug or neck. In Kiowa Indian mythology it was said that: Once upon a time seven little girls were playing in the woods far from home and they came upon some bears that chased after them. They found refuge on a great rock, that rose into sky with them on it, making them into stars. The bears tried to pursue them, but all their efforts were in vain. You can still see the struggle and their claw marks in the rock that makes up Devil's Tower. More legends, citing that in the original myths there was "no devil at the work", but only stars: <http://www.nps.gov/deto/stories.htm#arapaho>

BTW, US Devil's Tower has a parallel in Austrian "Teufelstein", a prehistoric monument, which is also astronomically aligned with myth.

Another of the many examples of demonization of former, or foreign culture, or non-Christian star-lore. Regards Sepp Rothwangl

**Transit TV program**

From: "Dale Ireland" To: "Solar Eclipse List Date: Thu, 10 Jun 2004

Hi You can watch the transit in white and Ha light as broadcast live on NASA TV by the Exploratorium team in Athens, at this link <http://http.earthcache.net/www.exploratorium.edu/venusEC/index.html> Dale

From: mrk@iac.es

The BBC is preparing a Venus transit special in its "Sky at Night" series (now in its 48th year) which will be available via the BBC science website. It will include "live" observations from southern England and images from all around the world. Mark Kidger

From: "Harvey Wasserman"

Here is the 1st and 2nd contact in Windows Media Stream from the site that Dale provided: [http://fcn-01.media.globix.net/COMP006390ARC1/venus\\_low.wvx](http://fcn-01.media.globix.net/COMP006390ARC1/venus_low.wvx)

This is the Real Media video: [http://fcn-01.media.globix.net/COMP006390ARC1/venus\\_low.ram](http://fcn-01.media.globix.net/COMP006390ARC1/venus_low.ram)

In watching 2nd contact, they switch between white light and Halpha in real time. The Ha image clearly shows 2nd contact well before the white light image (by a number of minutes, I believe).

Does the Ha sun surface (if one may call it that) extend further out than the photosphere? Is there another explanation of this? Thanks, Harvey Wasserman

From: "Dale Ireland"

Harvey It is the chromosphere. I don't think you can call it the "surface". The videos show that you can't do contact timings with a Ha filter. Dale

**Make your own black drop effect**

Date: Fri, 11 Jun 2004 From: "David Iadevaia" To: HASTRO-L@LISTSERV.WVU.EDU

You can make your own black drop effect as you sit watching your monitors....hold the tips of both index fingers such that they are just touching...do this while placing your finger tips close to your eye...look past the tips of your fingers to the computer monitor...move the tips closer together but not touching..you will see a "black drop" form between them...indeed what you are seeing is a diffraction pattern caused by the light diffracted around your fingerprints!!...a similar phenomena may be occurring with regard to Venus' limb as it approached the Sun's limb...neither is smooth... David Iadevaia <http://ecc.pima.edu/~diadevaia/>

**Venust Transit from Crete - No Black Drop Seen**

Date: Sat, 12 Jun 2004 From: "Francis Graham" To: SOLARECLIPSES@AULA.COM

Klipsi, Evan and list, I used a 16 cm. f/15 refractor, similar to those used in days of yore (in fact, the lens is quite old!). It gave a view similar to similar 19th century equipment. We did not have an unambiguous black drop, although, it looked like it might momentarily, but then went to full 3rd contact. Francis Graham

From: Jay.M.Pasachoff@williams.edu

What do you mean by "it looked like it might momentarily"? That sounds like a black drop to me. Jay Pasachoff

**Naked-eye transit**

Date: Thu, 10 Jun 2004 From: "Richard H Sanderson" To: HASTRO-L@LISTSERV.WVU.EDU

I watched the transit from a park in Wilbraham, MA that has very low horizons. For me, what will undoubtedly be my most cherished memory of the event is running with a bunch of stargazers to a vantage point where we could see the rising Sun through fog at a low spot in the distant trees. The Sun floated above the horizon with a couple cloud tendrils silhouetted against its deep red orb, and Venus was easily visible as a bold black dot to the unfiltered naked eye. I could see Venus immediately and with no difficulty.

After witnessing that stunning view and hearing many similar reports of naked-eye sightings without filters, I'm convinced that there must have been observations of Venus transits prior to 1639, especially since naked-eye sunspots were recorded before to the invention of the telescope.

A word of warning to novice stargazers who may read these accounts of observers spotting Venus in front of the Sun without using solar filters: It is almost always extremely dangerous to look at the Sun without using a specially-made filter. In rare cases, if the Sun is near the horizon and atmospheric conditions are right, the atmosphere itself can filter the Sun enough to allow brief naked-eye observations - but even that is discouraged. Transit-viewers who did this, myself included, did so at their own risk. Richard Sanderson Springfield, MA

From: "John M. McMahon"

Richard H Sanderson wrote: After witnessing that stunning view and hearing many similar reports of naked-eye sightings without filters, I'm convinced that there must have been observations of Venus transits prior to 1639, especially since naked-eye sunspots were recorded before to the invention of the telescope.

I tend to agree. Here's my take on that based on my own observations (snipped from a posting I made to Classics-L a little more than an hour after the event):

>>> My initial naked-eye visual encounter with the sun so low on the horizon leads me to think that such an event would readily be visible under similar circumstances to ancient observers. Now, the coincidence of all those factors that I was very fortunate enough to experience (a low sun in a cloudless sky, the heavy/damp atmosphere that allowed for direct observation, any part of an actual transit event taking place at the same time, a casual -- or intentional -- observer actually in a position to catch sight of the event and/or to think to or be able to communicate it clearly, etc.) would be pretty iffy at any time in history, of course.

OTOH, a transit event with the Sun higher in the sky but shining through clouds thin enough to allow the disk to be seen would also work. (In fact, I observed the 2000 Xmas Day partial solar eclipse without eye-protection from the same [observing] spot at mid-day under the latter conditions.) <<<

John McMahon Classics Le Moyne College

From: "David Iadevaia"

From my observing site, although cloudy and hazy...the Sun was much too bright to see Venus with the naked eye...see <http://ecc.pima.edu/~diadevaia/page7.html> for my personal take on the transit. David Iadevaia

From: "Stephen Tonkin"

Just because something is possible, it does not mean that it actually happened. Recall that sunspots can be significantly larger than Venus appears, that Venus-sized-or-greater sunspots are far more common than Cytherean transits, and that a sunspot transit takes considerably longer. The probability of sunspot observation is therefore several orders of magnitude greater. Given the relatively few ancient reports of observed sunspots, I would be particularly surprised if Venus was observed in this way. Given its colour change from bright white at all other times to black during a transit, I would be even more surprised if it was recognised as being Venus! -- Stephen Tonkin

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From: "Frank Reddy"

A quick comparison of entries in Axel Wittman's Catalog of Large Sunspots. 165 B.C. to 1992 -- <http://alpha.uni-sw.gwdg.de/~wittmann/> -- with Fred Espenak's Six Millenium Catalog of Venus transits -- <http://sunearth.gsfc.nasa.gov/eclipse/transit/catalog/VenusCatalog.html> -- shows no observations of large spots at times of Venus transits over the period. Frank

From: "LARRY KLAES"

You are right in that the odds of someone in ancient times just happening to be glancing at the Sun one day and seeing Venus on its disk, then recording the event so that it would survive into our era are quite small. Not impossible, but small. As a not terribly scientific example, had I not been aware of the transit in advance, the odds of my being up and traveling on a road at 5:45 am just to see the Sun rise are also small.

But if you are from a culture that religiously (and I use that term in both senses of the word) tracked the path of Venus across the sky, then the chances are you would know when Venus and the Sun met. I would presume such an event would be a big deal to that society and would be witnessed and recorded. The question is, are such records now waiting to be found in some dusty museum basement or library?

I will never forget being able to see the large black dot of Venus on the Sun that Tuesday morning. I can only imagine the impression it would make on people from an earlier era. Larry

From: "LARRY KLAES"

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From: "Richard H Sanderson"

I agree that just because something is possible, that doesn't mean it ever happened. Perhaps there are no records of Venus transits from pre-telescope times. However, the fact that a transit of Venus is easily visible to the naked eye, given the right conditions, is important information to researchers because it proves that such observations were possible.

Regarding sunspots, I've seen hundreds of them through filtered telescopes, and on several occasions I've glimpsed naked-eye sunspots due to the natural filtering effects of haze and fog. As of Tuesday, I've also seen Venus under similar conditions. I must emphasize that to the naked-eye and through a telescope, the silhouette of Venus was much much darker than a sunspot. I can't imagine any sunspot appearing as vividly as Venus did, even a sunspot covering a larger area. Rich Sanderson Springfield, MA

#### **Pre-Telescopic Transit of Venus Observations**

Date: Sat, 12 Jun 2004 From: "Gent van R.H." o: HASTRO-L@LISTSERV.WVU.EDU

LARRY KLAES wrote

*(Continued on page 57)*

(Continued from page 56)

> You are right in that the odds of someone in ancient times just happening to be glancing at the Sun one day and seeing Venus on its disk, then recording the event so that it would survive into our era are quite small. Not impossible, but small. As a not terribly scientific example, had I not been aware of the transit in advance, the odds of my being up and traveling on a road at 5:45 am just to see the Sun rise are also small.

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Hi, Claims for pre-telescopic observations of a Venus transit have been made several times in the past. For an overview of the literature, scroll down to the bottom of the section "Various Topics" in <http://www.phys.uu.nl/~vgent/venus/venustransitbib.htm> Presently, no such claim can be proven.

### Venus Transit from Luxor

From: "Luc Van den Brempt" To: SOLARECLIPSES@AULA.COM Date: Thu, 3 Jun 2004

Hello shadow chasers, In a couple of hours I will travel from Brussels to Luxor in Egypt. I will stay at the Isis Hotel in Luxor.

Webcam images can be found at [www.vandenbrempt.be](http://www.vandenbrempt.be), then click on "Venus Transit" button on the left. Clear skies Luc Van den Brempt

From: "James Huddle"

We saw the entire transit from the pool at the St. George Hotel in Luxor, Egypt. Temperature peaked about 14:00 local time at 109 degrees F - that's with the temperature sensor hanging in the flowers, which were in the shade of a pool umbrella. One of my buddies has photos that appear to show the Black Drop. I did not see it - the battery in the camera on my Questar ran down just before 3rd contact. But I did observe Lomonosov's phenomenon just after 3/C, as did others in my group. Ray Brooks had a Coronado H-alpha machine, and it was awesome! Have not heard from the Winters, but assume they saw the transit, too, since they were only a few hotels away. More complete report to follow after I return home - am staying on to scout sites for 2006.

Egypt is great, we felt very safe. We had a security professional with us at all times, courtesy of the Egyptian Government, I presume, and officers from the Tourist and Antiquities Police were very visible in their starched white uniforms. The plainclothes security professionals seemed to be packing 9-mm of Russian design but Egyptian manufacture, the T&A Police packed the AKs that seem ubiquitous in this part of the world. Food was good, Egyptian people went out of their way to make us feel safe and welcome. Jim Huddle and the group from Innovations in Travel

### "Momentary" black drop

Date: Mon, 14 Jun 2004 From: "Francis Graham" To: [solareclipses@aula.com](mailto:solareclipses@aula.com)

>What do you mean by "it looked like it might momentarily"? That sounds like a black drop to me. Jay Pasachoff Quoting Francis Graham

This is what was seen. As we viewed the approach to third contact, there seemed a small barely imperceptible increase in the grey level (black = high) between the limb of the photosphere and the limb of Venus. But it never increased more, and it was easy to see where third contact occurred, which is the problem with a true "black drop" effect.

This was seen by all, myself, Jim Hoburg, Woody Hoburg, and others. As this was a public demonstration, we did not use scientific imaging devices, although we did take some photos of the projected images.

In fact, I had planned to pass a spectrograph slit across Venus near 3rd contact. But when the other telescopes began to have difficulties, and the crowd grew, I left the spectrograph in the box and devoted the telescope to the public demonstration program, because a successful public program was very important for the hosting organizations. I wish I had time for the actual science too.

Jay, did you get spectrographic results with better equipment or hear of any? (My spectrograph is an old-fashioned photographic kind). I'd love to hear the results! Francis

**Renaming the "Black Drop"**

From: "Fraser Farrell" To: "eclipses" Date: Mon, 14 Jun 2004

To all, Glenn Schneider proposes that we expand our terminology for the phenomenon, popularly known as the Black Drop, that is seen during Venus transits. And more recently reported from Mercury transits too.

The name "Black Drop" is currently being used to describe many phenomena; from barely-detectable darkenings between the limbs at 2nd and 3rd contacts, right up to prolonged noncircular distortions of the planet - sometimes with dark protrusions, ligatures or circumplanetary arcs. So what does the name "Black Drop" really mean anyway? You need to clarify it with pictures or other detailed description.

As an analogy: I use a "telescope". And the people at the Space Telescope Science Institute also use a "telescope". Their telescope sees a lot more than mine does (but mine doesn't need astronauts to fix it :-)

Many of the historical descriptions of "Black Drop" are clearly the result of inferior optics and/or poor observing conditions. Remember that the typical portable telescope in the 1760s was a small aperture refractor, with a non-achromatic objective lens and Huygens eyepieces. A telescope that we would regard as junk nowadays. I have recently confirmed from my own reproduction of Horrox's observing setup that "Black Drop" -might- have been seen at the 1631 or 1639 transits. If the 2nd or 3rd contacts had actually been observed. Unfortunately Horrox was a bit late getting home from church.

The name "Black Drop" also carries a lot of historical baggage that tends to bias subsequent observers. Several observers back in 1874 commented on this; and I'm certain that some of the 2004 observations of prominent "Black Drop" are from people reporting what they -expected- to see.

But some of you are thinking "what about all those photos of Black Drop?" Well as Glenn has already pointed out, there's the question of the actual Point Spread Function of the telescope & camera being used. Which is going to depend upon the aperture and magnification and optical design. Previous Venus transits were mostly observed with long refractors. In 2004 a majority were using Newtonians or Schmidt-Cassegrains.

I also note that irradiation effects (and overexposure) will alter the apparent sizes of sun and transiting planet. How bright was -your- sun image on June 8? Some of the digital photos I've seen of "Black Drop" are overexposed, thereby degrading the image. Some show artifacts from lossy image compressions. And many digital cameras perform automated pre-processing of the image - including "speckle removal" or "hot pixel removal" or "contrast control". Think about how the slender tips of light at 2nd and 3rd contact, surrounded by all those black pixels, are going to be treated by such a camera? This is an entirely new way to create "Black Drops" unlike anything we had before! And a lot of people will see the resulting image, assume The Camera Must Be Right, and convince themselves that they too saw a "Black Drop".

So I think that using the name "Black Drop" for the 2004 phenomena is just going to confuse the astronomers of the future. Some of this year's "Black Drops" have different causes than in the past. And we don't seem to have replicated some of the historical observations at all. So I propose that we discard the name "Black Drop" entirely. Relegate it to history; alongside epicycles and phlogiston and the Medician Stars....

Let's call the 2004 phenomena "The Transit Kiss" or "The Venus Kiss" instead. For two reasons:

- In all of the pictures and animations I've seen, it begins (or ends) with the limb of Venus extending from one small region toward the limb of the sun. Now imagine looking at a silhouette of a kiss. The sort of kiss mothers give their small children at bedtime.

- "Kiss" seems especially appropriate, for a phenomenon displayed by a planet named after the goddess of love.

**Venus Transit from Florence Italy**

From: "Mark Friedman" To: "Solar Eclipse Mailing List" Date: Sun, 13 Jun 2004

(Continued on page 59)

*(Continued from page 58)*

Just returned from a wonderful two weeks in Italy, in part to catch the transit of Venus. My original plan was to observe from the grounds of the house where Galileo lived for the last thirteen years of his life after being excommunicated. The house is located at Arcetri Observatory just north of Florence. Numerous attempts, both pre-departure and during the trip, to gain permission to observe from this location were unsuccessful. Instead I settled on Piazza Michelangelo, a large square on a hill on the south bank of the Arno River, just east of the center of Florence. Weather was nearly perfect on transit day, no clouds and some slight haze, probably smog. We had a 5:33am sunrise with first contact occurring at 7:20am local time. Marlene and I arrived at the Piazza just before 7am and immediately spotted two other people already setup with cameras and a scope. One was from San Jose, CA and the other from Salem, OR. My equipment was 10x50 binos with Thousand Oak filters, a Nikon D70 with a 300mm lens, 2x teleconverter and a Baader solar filter, and various hand-held filters for naked-eye observing. I had planned to collect data for Dr. James Huddle of the US Naval Academy for calculation of the Earth-Venus-Sun distance in a variation of the method that Edmond Halley proposed in 1716. Though I have yet to review my data set to determine whether it meets the criteria for submission, I expect that my lack of rigorous preparation and the "circus" atmosphere at the Piazza distracted me from that planned task. Many people stopped to ask what we were doing and each was rewarded with ample opportunity to view the transit. Though the Piazza is a major tourist destination because of the picturesque views that it offers of Florence - it seemed to be primarily the locals, including the garbage collectors, who took the time to stop. The most unusual event of the day, other than the transit, was our sight of a woman and her young son, perhaps 10 years old, who were observing naked eye using exposed pieces of x-ray film. We made a mad dash over to them trying to explain that their use of the film was dangerous and invited them over to view through our equipment. I wish I had thought about snapping their picture, it would have been a classic. Unlike a total solar eclipse where you have a few precious seconds to observe, the long duration of this transit, excepting for the ingress and the egress, provides ample time to share this rare event with others and to meet many people and make new friends.

Both Marlene and I saw the Black Drop effect during ingress through the binos; my photos appear to show it also. I hope to be able to review my 80+ transit photos more thoroughly over the next few days.

Post Script: The day prior to the transit we visited the Museum of the History of Science in Florence where several of Galileo's original telescopes and one of his middle fingers is on display. It is incredible to me what Galileo accomplished observationally with that equipment. The big highlight for me however was the museum's large collection of astrolabes on display.

From: Jay.M.Pasachoff@williams.edu

I'm glad the viewing in Florence was so good. Let me comment on your comment on "exposed pieces of x-ray film." If they looked through dense parts of exposed and developed x-ray film, that's not dangerous. In fact, it is probably thicker and harder than Mylar solar filters and therefore safer--less likely to get pinholes or tears. Jay Pasachoff

#### **Report from Mauritius**

From Judy Anderson Date: Mon, 14 Jun 2004 To: "Solar Eclipse Mailing List"

I wanted to report that the group of ten people who joined Paul Maley in Mauritius were all successful viewing the entire transit. We split up and viewed from several locations on the island. We had clear skies for all 4 Contacts with a few sporadic clouds during the event. I was located at our hotel at 20.17deg. S latitude and 57.76deg. E longitude; time was UT+4 hrs. I did not see the 'Black Drop Effect' through my Coronado Solar Max 40 Ha telescope using 33% magnification. One person in our group made some excellent photos of the 'Black Drop' through Baader filter material. I did think that Venus appeared three-dimensional in front of the sun.

I would have liked to have taken more photographs but I tried to share my telescope views with the public that gathered around, except during ingress and egress. This was not as exciting as a total solar eclipse but it was very enjoyable and interesting from a very lovely location. Judy Anderson, Mobile, AL USA

**Venus as False Sun**

Date: Fri, 11 Jun 2004 From: ECOLING@AOL.COM To: HASTRO-L@LISTSERV.WVU.EDU

I am very grateful to the person who posted what is quoted below. (From: "Edward Moore" <emoore@theandros.com>) So the metaphor is early, pre-christian in both hemispheres.

The metaphor for Venus as "falling from high position due to tyranny and malice" or even as merely "aspiration of this brightest star to climb to the zenith of the heavens and its extinction before the rising sun" has a full parallel in the Quich' Mayan (Guatemalan) book The Popol Vuh, where a bird Vucub Caquix perches in a tree and sets himself up as a (false) sun, then is shot down, his bright jewels removed so he is revealed as an impostor.

Such a metaphor is not the same thing as demonization, it is true, but is not too far distant from it. Best wishes, Lloyd Anderson Ecological Linguistics

From: "Sepp Rothwangl"

Lloyd, You mean, that would describe the fact, that Venus is extinct by the rays of the Sun and thus never arrives visibly at zenith? In fact, that would be a rational and pictorial explanation of the many failing attempts of Lucifer to climb up to the (zenith) of heavens ! Thx for that idea. Regards Sepp Rothwangl

From: ECOLING@AOL.COM

Venus's sudden descent:

I think the failure of Lucifer to succeed in aspiring to heavenly status may result from the pattern:

Venus appears (as evening star), climbs steadily away from the sun for about 270 days, then falls suddenly (at inferior conjunction between the earth and the sun), rises suddenly (as morning star), then descends slowly as morning star to superior conjunction. The slow climb followed by sudden fall appears in a number of metaphors around the world, I believe. Am trying to accumulate examples, where Venus can of course go under many names, and where it is also too easy to assume that without proof. So a secure argument to show this will be difficult. For now, see The Etana legend of Mesopotamia. The Nanabozho legend of the Algonquian peoples. (I may have the last one spelled wrong, not checking just now. Lloyd Anderson Ecological Linguistics

From: "Dr. Chad Hansen"

Lloyd: The latter half of these climb-and-dive cycles of Venus seem to point at the "Earth-Diver" myths that are so widespread across the northern parts of the world.

**Myths**

Date: Mon, 14 Jun 2004 From: "Joan Griffith" To: HASTRO-L@LISTSERV.WVU.EDU

From article in Times of India online, 6/7/04:

Hindu Mythology : The planet Venus is known as Sukra in Vedic astrology. Shukra means 'white', or 'bright' in Sanskrit. Venus is a karaka, or indicator of spouse, love, marriage, comfort, luxury, beauty, prosperity, happiness, all conveyances, art, dance music, acting, passion and sex, healing and the saying of mantras.

In one episodic Vedic myth, the Asuras repeatedly kill Kacha, the son of Brihaspati (Jupiter) - with whom Sukra's daughter, Devyani, is enamoured - while Shukra brings him back to life with the mantra of immortality. Finally, the demons grind Kacha into fine powder and put him in Shukra's wine. Shukra repeats the mantra, but has a stomach ache as Kacha speaks from inside him. Shukra then reveals the mantra of immortality to Kaca, so when Kacha tears himself out of Shukra's body he will repeat the mantra and raise Shukra from the dead. This myth explains why all Brahmins committed to spiri-tual life

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are not allowed to drink wine. One of the epithets of Venus is: the one who produces stomach problems.

Mayan : Mayan myths too represent Venus as a man. Mayans offered numerous human sacrifices to Venus and the Sun. Venus was the patron planet of warfare for the Mayans. That is why the dates of several battles are connected with a key position of Venus cycle.

Historian Sahagun also writes that when Venus (the morning star) rose, people stopped up their chimneys so that no harm from its light could get into their houses.

### Harvard PR Director seriously underestimated public interest in Venus Transit

Date: Mon, 14 Jun 2004 From: "LARRY KLAES" To: HASTRO-L@LISTSERV.WVU.EDU

For Scientists, It's Hard to Love Venus June 13, 2004 By KENNETH CHANG

THE last time Venus passed in front of the Sun, in 1882, Britain, France, the United States, the Netherlands, Germany, Spain and every other country that fancied itself a scientific superpower mounted expeditions to far-flung parts of the world to watch.

Astronomers then hoped to use the eclipse, or transit of Venus, to calculate an important, unknown astronomical quantity: the distance between the Earth and the Sun. (It didn't work. Distortion of Venus' shape as it passed over the edge of the Sun made accurate estimates impossible.)

This time, when Venus eclipsed the Sun on Tuesday, most professional astronomers didn't care, at least not scientifically. They had long ago pinned down the Earth-Sun distance at just under 93 million miles using other means. A transit of Venus is today as unsurprising as a grandfather clock that does indeed chime 12 times at midnight.

For example, David A. Aguilar, director of public affairs at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass., admits, "I was pretty blasé about it."

Although Venus was once regarded as Earth's sister planet because it is almost the same size, planetary scientists have of late given it short shrift, instead devoting attention and a parade of space probes in the opposite direction, toward Mars.

Venus' 900-degree, sulfuric acid-laden atmosphere not only makes it a difficult place to explore, but would have obliterated evidence of past life had anything evolved in its younger days. NASA currently has no plans to return, although the European and Japanese space agencies are planning to send spacecraft to orbit Venus.

Expecting just a smattering of curiosity, Mr. Aguilar assigned one volunteer to handle calls from the public about the transit. "We thought we'd be lucky if we got five phone calls the last day," Mr. Aguilar said. "You just never know."

Instead, Mr. Aguilar's single volunteer was swamped. Ten others joined in answering questions. The Harvard-Smithsonian astronomers put 22 telescopes on the roof of the building and spent last weekend making devices to allow people to watch the eclipse safely.

On Tuesday, around the world, millions looked up at a Sun with a black hole in it as Venus leisurely loped in front before sliding off again six hours later. Still more people watched the planet's movement on video streamed across the Internet.

Instead of a scientific event, this transit of Venus was a communal one, a once-in-a-lifetime event - twice if you live another eight years. The next transit of Venus occurs June 6, 2012. But after that there will not be another transit until Dec. 11, 2117. <http://www.nytimes.com/2004/06/13/weekinreview/13ken.html?ex=1088188425&ei=1&en=7ce290c7e265b5b3><<http://www.nytimes.com/2004/06/13/weekinreview/13ken.html?ex=1088188425&ei=1&en=7ce290c7e265b5b3>>

**Transit of Venus and education**

Date: Tue, 15 Jun 2004 From: "Prof. S.D. Agashe" To: HASTRO-L@LISTSERV.WVU.EDU

Dear Fellow-members: What has all the fanfare about the transit of Venus achieved as far as the common man and formal learners (in schools and colleges) are concerned? It may have enhanced the status of Astronomers in their eyes, but have they been brought any closer to understanding how astronomers are able to do all these things? Astronomy is perhaps the oldest "science" of observation and theory, and its history-not narrative but technical-should provide a good example of how a science of observation and theory has developed over several millenia. Could we make a collective contribution to this end? With best wishes from a rainy Mumbai(=Bombay,India), S D Agashe

From: "Chuck Bueter"

The full impact of the transit of Venus as an educational opportunity will take time both to be realized and to be recorded. In the interim, below are comments on some transit of Venus experiences from the affective domain. The first comment, excerpted from a larger story, is by reporter Mary Beth Danielson:

"Here is the part that awes me.

Jeremiah Horrocks did his calculations when he was 19 years old. He was the first person to accurately predict and witness the Transit of Venus, which he did when he was 20. His intellect and calculations, his observation and detailed writing laid the foundation for modern astrophysics. Two years later, at age 22, he died.

My daughter did observe the Transit for a good 20 seconds, until she was mobbed by astronomy nuts. She said the vision was worth the effort.

These days the Transit of Venus, for most, is simply a lovely novelty. We've learned what we can from it, astrophysics has moved so far beyond a hand-held telescope and hand-written equations. Modern scientists have calculated and spied to the edge of our universe, and what they found was - more universes.

Did I see the Transit of Venus? No.

I paid homage to something that awes me even more than a rare celestial alignment.

I wondered at our human hunger for knowledge. I contemplated the grit and brilliance of bright young people when they are trying to understand the next thing.

Write to Mary Beth Danielson c/o The Journal Times, 212 Fourth St., Racine, WI 53403."

The second comment is from Gene Zajac, Director of the Shaker Heights Planetarium in Shaker Heights, Ohio:

"The haze lasted much longer than I expected as the funnel viewers did not work until 6:30. Same for the telescopes. Then it all came together. One teacher from my high school had a particularly great time...Jane stayed the entire time, until 7:15. She came to me later that day, at 4 PM, in the planetarium. I was headed home and she wanted to share a thought.

She started by talking about a trip she was on with her Latin students to Rome a number of years ago. They were in Rome and some students wanted to go to the vesper service. Jane is not Catholic but decided she would take them. As they neared the area she noticed how the crowd kept growing. People grew very quiet and then she discovered the reason for the large crowd. The Pope was doing the service. They were 10 feet away from him. One of her fondest memories was being there and feeling the soft breeze on her back as she savored the moment.

Tears welled in her eyes while stupid me was wondering what the point was. She said, "Today I was on the hill with the gentle breeze blowing on my back. You and Kelly [Jons] had all these people excited about what we were seeing. I felt the same chill I did back in Rome. Thank-you!" We ended with a hug.

Jane added a wonderful memory into my life with her words. I found a picture of her in the pictures Rob Sylak took for me.

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She is all smile with her hair blowing in the wind."

Third is from an observer in Chicago:

"It was a clear and cloudless morning in Chicago with about a thousand people and a lot of expensive star gazing equipment at the waters edge. With all the various devises, even computer screen images, the most effective was a telescope with a side projection chamber attached to it that Debra L. set up. It was great for the kids. It was simple and gave a good sense of the spherical nature of the sun and projected light rather than just an image... The event and the people outside were just great."

Fourth, reporter Dave Rumbach of the South Bend Tribune writes:

"Ray Balogh, an Elkhart city official, went to the fest to represent the mayor's office but found himself caught up in the spirit. 'This is the kind of thing that brings childlike wonder and curiosity back to the mind of an old man,' Balogh said."

And fifth, from John McMahon of LeMoyne College on HASTRO-L:

"Moreover, the combination of the actual visual event, the absolute quietness of the surroundings, the heavy perfume of the drying hay, the swallows, the redwings, the killdeer ... all contributed to one of the finest intellectual and sensual experiences I've ever had."

I would certainly encourage and welcome a "collective contribution" made by Hastrolians, as S D Agashe proposes.

Sorry to hear about the rainy weather in Mumbai, Chuck Bueter

### **Black drop doesn't exist**

Date: Tue, 15 Jun 2004 To: SOLARECLIPSES@AULA.COM From: "Sheridan Williams"

Having just returned from Sharm El Sheikh, Derek Hatch, Mike Foulkes and myself are convinced that the blackdrop is a "seeing" or "resolution" effect. It is not apparent on high quality views whether observed optically, or photographed with a webcam or camera. However it can be simulated by displaying the photographs on a monitor screen and donning unsuitable spectacles or squinting.

From: "Crocker, Tony (FSA)"

Ingress: Yes, but I would call it a gray area between the solid black circle of Venus and the edge of the sun.

Egress: No

Instrument: Canon 10x30 IS Binoculars

Viewing Method: Filtered (eclipse shades duct-taped over objective lens of binoculars)

Place: Top deck of Celebrity Galaxy cruise ship, docked at port near Dubrovnik, Croatia 42.56N, 18.25E

I was on the ship for all 4 contacts with spotless clear skies for the entire transit. Mid-transit I was on a walking tour of the Dubrovnik city walls. I had the binoculars along for occasional observation, shared with others on the tour. On the main street in Dubrovnik, the local Korcula Astronomical Society had set up 3 telescopes. There was a great view through an 8-inch scope but the view through 2 smaller ones looked similar to my Canon IS binoculars. With just solar eclipse glasses Venus was visible, but smaller than the sunspots during November 1999 Mercury transit.

Bill Kramer and one other person had scopes set up on the top deck of Galaxy and were up there for the entire transit. Bill's scope had a H-alpha filter which showed a spectacular prominence around first contact which disappeared within an hour. The observers with the scopes on Galaxy also saw some degree of black drop effect during ingress but not egress.

The cruise line provided no notice or publicity whatever about the transit. Since the top deck was short and only near the bow, there was very little casual traffic. Many cruisers were unaware that it had happened or saw it only on CNN.

**Venusovergang**

From: "Guido Gubbels" To: "Poitevin Patrick Date: Wed, 9 Jun 2004

Patrick, .../... Door allerhande omstandigheden, om niet te spreken over het goede weer op 8 juni, nam ik de overgang waar vanuit Herentals. De overgang kon gevolgd worden van begin tot einde zonder ook maar één hinderpaal. Ik maakte naast timings ook een hele reeks tekeningen, uiteraard vooral nabij de contacttijdstippen. Dit alles gebeurde met een 114 mm Newton, F = 900 mm en een vergroting van 36 x (positiemetingen op zonneschijf) en 180 x (waarnemingen contacten I, II, III en IV). Van zodra het venusschijfje de zonnerand raakte was de atmosfeer aan de donkere zijde zichtbaar (doorheen baaderfilter) maar ook op de zonneschijf zelf. Naast enkele gewone effecten tekende ik eveneens enkele atmosferische (aardse) effecten in zo kon zag ik op een gegeven ogenblik aan weerszijde van de planeet een kleine heldere baai ter hoogte van de zonnerand bij intrede (5.33.04 UT). Het zwarte druppel-effect was miniem te noemen rond tweede contact maar was wel duidelijk aanwezig. Onmiddellijk nadat dit effect was verdwenen keek ik met een eclipsbrillette waar het schijfje met het blote oog duidelijk aanwezig was op de zonneschijf. Het ging daarbij niet over een zwarte punt maar een duidelijk schijfje! Tijdens de overgang was het zoals ik al verwachtte vingersdraaien en af en toe de positie van de planeet intekenen t.o.v. de aanwezige kleine vlekengroepen. Daarbij was de atmosfeer van de planeet zichtbaar als een wat donkerdere ring (t.o.v. het zonsoppervlak) rond de planeet. De donkere planeetschijf liep op van pikzwart in het centrum naar zwartgrijs aan de rand (centrum = 10, rand = 9 op zwart schaal waarbij 10 = zwart en 0 = wit). Bij derde contact was de seeing slechter dan bij eerste en tweede contact (normaal gezien het tijdstip) maar om 10.59.30 UT ontstond een kleine uitstulping in de venusrand aan de zijde van de zonsrand. 30 seconden later ontstond er eveneens een uitstulping aan de zonnerand die er naartoe groeide. Te 11.00.49 UT werden deze twee uitwassen verbonden door een fijne zwarte draad. Vervolgens kreeg ik een soort 'grijze' druppel-effect gevormd door de venusatmosfeer en de zonnerand te 11.01.06. Deze werd minder breed maar wel donkerder. Vanaf het ogenblik dat tweede contact optrad was weer de atmosfeer van Venus zichtbaar op de donkere zijde als een fijne dunne streep. Naast atmosferische verschijnselen zag ik ook een aantal verhelderingen in de atmosfeer aan de duistere zijde (die aan de zonnzijde was constant zichtbaar tot Venus volledig van de zonneschijf af was). Iemand van onze groep (Wesley Verbraecken) maakte webcambeelden en door tussendoor bij hem eens een kijkje te nemen (tijdens de overgang zelf, niet op de belangrijke ogenblikken van contact) bleek dat de visuele waarnemer een streepje voor hadden op de (onverwerkte) webcambeelden. Daarop was immers tijdens de contacttijdstippen geen spoor van atmosfeer te herkennen terwijl de waarnemer zelf kortstondig visueel waarnam en het verschijnsel wel opmerkte! Uiteraard zal latere verwerking van beeldjes wel heel wat meer opleveren! Wat betreft spektakelwaarde van de overgang moet ik zeggen dat die op de tweede plaats komt te staan wat mij betreft. Enkel het spektakel van een totale zonsverduistering steekt er nog bovenuit! Aanwezig op de waarnemingsplaats waren naast mezelf Koen Geukens, Jan Van Elst, Carine Van De Kerckhof, Wesley Verbraecken, Joris Cuypers, Frans Dillen, Greet Dillen. Tot na tweede contact waren ook Maarten Puls, Herman Puls en Sam Puls aanwezig. Groetjes, (ook aan Joanne natuurlijk) Gubbels Guido Terbeemden 67 3980 Tessengerlo

**Transit report from Sharm el Sheikh**

From: "Andrew White" To: SOLARECLIPSES@AULA.COM Date: Tue, 15 Jun 2004

We have updated our website with a blow by blow account of the transit as we viewed it from Sharm El Sheikh.

[http://www.vanda.eclipse.co.uk/images/Astronomy/2004\\_transit/Sinai/Transit\\_Day.htm](http://www.vanda.eclipse.co.uk/images/Astronomy/2004_transit/Sinai/Transit_Day.htm)

The page features a few images (including H-alpha image of jumbo sized prominence close to ingress), original sketches of Val's observation of Black drop, a few other pictures, some timings and some temperature details. Val and Andrew White



**Transit of Venus and education**

Date: Wed, 16 Jun 2004 From: "Daniel Fischer" To: HASTRO-L@LISTSERV.WVU.EDU

My own impression (watching the transit together with South African students) as well as some reports I found on the web indicate that - as with solar eclipses - it is not so much the event itself that impresses lay and young people alike: it's the fact that "we" astronomers (i.e. in fact Fred Espenak et al. :-)) are able to predict the times of the contacts, esp. of first contact, with enormous precision. In the case of Venus my fellow observers were all the more impressed as they had just learned in a talk (by Bill Sheehan) that J. Horrocks calculated the day of the 1639 transit all by himself: How he did that at that time (I have no idea) was a question well on their minds. So the one message many may have taken home is: The Universe, at least our solar system, is a giant clockwork - and man c a n understand it. Whether that actually encourages one to study so much science that one gets to the (mathematical) bottom of the matter and is eventually able to do calculations of the same complexity is a different story, though ... Daniel Fischer (just back from South Africa and busily compiling the most impressive images and best reports about the transit; at <http://www.astro.uni-bonn.de/~dfischer/mirror/277.html> you can watch the collection grow over the next few days)

**TOV 2004 - TRACE INGRESS PRELIM. REPORT & IMAGES**

Date: Wed, 16 Jun 2004 From: "Glenn Schneider" To: SOLARECLIPSES@AULA.COM

All, Jay Pasachoff and I worked with (badgered?) the TRACE science and operations folks - who were enormously helpful and cooperative - in defining a high temporal and spatial "white light" imaging sequence for the Venus transit ingress and egress. I now have completed a preliminary (but quite mature) reduction/post-processing of the ingress sequence. No quantitative analysis yet - but "pretty pictures". I thought many on this list might be interested:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_2004\\_TRACE\\_INGRESS.mov](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_2004_TRACE_INGRESS.mov)

"Black Drop"? - If this doesn't settle it - I'll eat my hat.

For those interested - we did acquire the lunar reflectance spectral data, but it will be a while before that is all reduced and we understand what we have (or don't have!). Paul Smith is hard at work on that. Stay tuned. Cheers, Glenn Schneider Associate Astronomer & NICMOS Project Instrument Scientist Steward Observatory, University of Arizona Tucson, AZ 85721 <http://nicmosis.as.arizona.edu:8000>

From: "Govert Schilling"

Wonderful movie!

> For those interested - we did acquire the lunar reflectance spectral data, but it will be a while before that is all reduced and we understand what we have (or don't have!). Paul Smith is hard at work on that. Stay tuned.

I don't understand what this is about. --Govert

From: Jay.M.Pasachoff@williams.edu

Glenn can reply in more detail later, but since it is very early in the morning where he is, here is a preliminary reply: Glenn arranged, with Paul Smith also of the University of Arizona, to use a large telescope of the Steward Observatory to observe spectra of the moon when it had a transit with Venus, five hours after the Earth had a transit. They are looking for changes in the spectrum over time. A reflectance spectrum of the moon gives you the integrated solar spectrum, similar to the way we get light from the whole surface of a distant star at one time. Jay Pasachoff

From: "Glenn Schneider"

Hi Govert, I was taking a short cut and cc'ing that email to a number of people also off SEML with whom I am collaborating on a number of transit related experiments. It was very late and I need to get to sleep, and appended that note on to save time sending separate emails. I noted this earlier in an email to SEML. Basically, the transit was seen from the Moon as

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well - five hours after the transit was seen from the Earth. From Kitt Peak the Moon was up app 30 degrees before the start of morning twilight near the end of the selenocentric Cytherian transit. Using the 2.3 meter Bok telescope on Kitt Peak

I was doing a differential spectroscopic experiment - to see if we could detect a specific absorption signature by the atmosphere of Venus as it was in transit against the photosphere by looking sunlight scattered off the surface of the moon. By doing so I was "looking" at the entire Sun, i.e., each point on the moon (about 100 spectroscopic channels used) was "seeing" and reflecting light from the entire solar disk - so you can see this is a VERY high contrast experiment (a tiny signal). I did this as an analog to one of the methods which is under consideration for characterizing (after detecting!) extrasolar TERRESTRIAL planets in transit in front of their host stars. So, interest in the Venus transit it not only with it's historical liason, but looking toward the future as well. Results? We are just beginning to calibrate all of the data - stay tuned. -GS-

From: "Glenn Schneider"

All, I see in my earlier email I had only pointed to the transit ingress "movie", out of additional context. I had meant to point to the page where it is explained (and linked). Please do see: [http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_TRACE\\_INGRESS.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_TRACE_INGRESS.html) Cheers, -GS-

### **The Transit, and a Voice From the Past**

Date: Wed, 16 Jun 2004 From: "Richard H Sanderson" To: HASTRO-L@LISTSERV.WVU.EDU

A couple years back, during a vacation in New York's Finger Lakes region, I stopped in at an antiquarian bookstore in Ithaca, where I was pleased to find an 1875 edition of Richard Proctor's beautiful book "Transits of Venus" (written in 1874, just prior to the pair of 19th century transits). When I got home, I placed it on my bookshelves and there it sat until a few months before the transit, when I began scrutinizing this book and its handsome multi-colored transit maps with intense interest. Suddenly, when I came to page 231, I experienced an acute sense of the isolation imposed by time as Mr. Proctor, speaking to me from across the ages, discussed the 2004 transit, which was 130 years in the future for him. On the verge of experiencing his own pair of transits, Proctor was dreaming about the transits of the future, of our transits. He undoubtedly wished he was privy to the technology and knowledge which we now enjoy, but from which he was isolated by time. I'd like to share his words with those of you who haven't seen the volume.

Proctor wrote, "We cannot doubt that when the transits of 2004 and 2012 are approaching, astronomers will look back with interest on the operations conducted during the present "transit season;" and although in those times in all probability the determination of the sun's distance by other methods..... will far surpass in accuracy those now obtained by such methods, yet we may reasonably believe that great weight will even then be attached to the determinations obtained during the approaching transits. I think the astronomers of the first years of the twenty-first century, looking back over the long transitless period which will then have passed, will understand the anxiety of astronomers in our own time to utilise to the full whatever opportunities the coming transits may afford; and I venture to hope that should there then be found, among old volumes on their book-stalls, the essays and charts by which I have endeavored to aid in securing that end (perhaps even this little book in which I record the history of the matter), they will not be disposed to judge over-harshly what some in our own day may have regarded as an excess of zeal." I think Mr. Proctor would be pleased at the "zeal" with which the 2004 transit was received, as well as the fact that copies of his 19th century book about the transits are still to be found among the old volumes on the "book-stalls" of the 21st century. Richard Sanderson Springfield, MA

### **Venus in various metaphors**

Date: Thu, 17 Jun 2004 From: ECOLING@AOL.COM To: HASTRO-L@LISTSERV.WVU.EDU

I am at a loss to understand why such resistance to the idea that various cultures have had both positive and negative metaphors involving Venus. No one here needs to be \*advocating\* a negative view of Venus. Most of us who are interested in how peoples have viewed Venus are interested in that question simply as fact. So also no need to find some substitute (like a comet) as an object of the negative metaphors. Both the positive ones and the negative ones can easily have been applied to Venus itself, not to something else. ??? I just don't understand, unless what is involved here is a religion which needs to have an artificially pure positive-only Venus and for which the existence earlier of both positive and negative metaphors is uncomfortable. ??? Best wishes, Lloyd Anderson Ecological Linguistics

**Black Drop photographed in Ha**

Date: Wed, 16 Jun 2004 To: SOLARECLIPSES@AULA.COM From: "Jen Winter

Vic and I have just processed our film shot during the transit.

Our group of 70 observed from the roof of the Luxor Sheraton in Egypt. I imaged digitally in white light with a 300mm / a 1.8x teleconverter and a D100 Digital SLR and observed no black drop in those images.

Additionally, Vic and I observed and imaged with instruments of our own design at very high resolution. We were at 3600mm prime focus using a 4" flourite / a 4x powermate and a .3 angstrom Solarin Filters Ha Filter. We shot using Technical Pan ASA 25 black and white film (in 35mm and in 120mm on Mamiya 645), and process using high contrast Agfa Rodinal developer.

We were able to observe the black drop effect photographed very clearly in 3 images coming in at 2nd contact - and in one image going out at 3rd contact. What we did note was that as we bracketed in our exposures, the black drop was visible in LONGER exposures, but not in the shorter exposures. It seemed as the longer exposure was required to create the contrast distinction whereas the effect was visible on the film.

The location of the effect was not observed in the outer chromosphere, but rather inside the photosphere - exactly as depicted in the earlier drawings.

The images are not scanned-in yet. They are very hard to digitize with good contrast and may take a some time. When they are scanned, I will post them to [www.icstars.com](http://www.icstars.com). Clear Skies, jen

From: "Dale Ireland"

Jen 116 F in the shade, a black bodied camera.. Is this the same D100 that was in Antarctica. Nikon might like to have it or pay you to make a commercial... :) Dale

From: "Jen Winter

.... This was, indeed the same D-100 used at -120(F) in Antarctica. That would make a 236degree(F) variation between events. - It did perform in both environments better than our own fingers did....

I have another question for observers who did or did not observe black drop. How many observers chose to bracket exposures during ingress / egress? We did bracket 2 stops in either direction and found the black drop only appeared in the longer exposures. It was NOT visible in shorter exposures (adjusted for surface detail), but only in the longer exposures adjusted for prominences. How many people bracketed their exposures? jen

From: "Glenn Schneider"

Hi Jen et al, Brrrr... -120F !?! That's colder than I experienced in the two years I worked at the South Pole during the day (austral summer). Must have been brutal on the Coast. I don't envy you that! I do suspect NIKON would be interested in this delta-T(temperature) swing in your use of their D-100, and indeed maybe promotionally.

With halation in photographic emulsions, exposure depth will indeed contribute to a recorded "black drop effect", and should correlate to the degree of overexposure until you pop off the top of the linear part of the H&D curve. A separate question is the difference between monochrome and color films as the dye layers will scatter differently - and of course suffer HIGH end differential reciprocity failure when you bracket open to saturate on the bright part of the photosphere in order to cover the low-end of the dynamic range better near Venus. This is the case even if you expose monochromatically (i.e., in H-alpha) as the photons still have a scattering path through the color layers.

Another separate, but related question is regard to "video" black drops. Several people have sent me video clips which, which have very obvious JPEG artifacts when you separate out the color planes. The "issue" is that most attenuating filters are not overly broad band (think Chromium in the orange; Nickle in the green; Aluminum in the Blue). And, of course with

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H-alpha, everything meaningful is Red. So the R, G, B, separations have very different S/N (i.e. N/S in some cases!) outside the meaningful passbands - which induce huge (relative) gradient edge artifacts in the JPEGs planes not filter-centered. When you "play that back" as a video (digital or analog) with R, G, B combined this is a 21st century cause of enhancement to an instrumental "black drop". RAW imagery is what is really needed - but many commercial video cameras are not so accomodating.

I believe it really is time to relegate the "black drop" to a note of historical astronomical import/interest - as the observational systematic effect it is due to limitations in seeing and optical/instrumental quality - not some intrinsic property associated with Venus. A transit like this gives a high contrast target which makes PSF (optical + atmospheric) convolution (blurring) readily apparent - but it would be there under similar conditions no matter what you look at. I really think it is time to move forward on this, unless we too wish to befuddle the generation of astronomers with tales of the "black drops" of the 21st century three generations hence after the 2012 transit.

Do note the lack of any ground-based like "black drop" in the TRACE imagery: [http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_TRACE\\_INGRESS.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_TRACE_INGRESS.html) thanks to the lack of an atmosphere to look through and a VERY stable point spread function. In different stretch you could see the low-level "blurring" effects due to the instrumental optical diffraction of the 30 cm telescope - but nothing intrinsic to Venus.

The WONDERFUL AO image of Venus nearly fully on the solar limb taken by Dan Kiselman at the SST has a VERY high intrinsic spatial resolution greater than TRACE (factor of ~3 improved due to ratio of apertures) but as you will see exhibits a faint dark halo around the limb of Venus which still can conflate a "black drop" with Venus near an interior tangency. Though I am not one to speak in detail on this particular image, I am certain the diffuse halo is due to a combination of an imperfect Strehl in the instantaneous AO correction (i.e., diffuse wings in the PSF outside of the core) and, perhaps, internal instrumentally scattered light. This seems to be one of those very best and quite spectacular frames acquired with this experiment on the SST - at a moment of good "natural" seeing when the AO system was doing everything as close to "right" as it could. It is interesting to see their movie of all of the frames: <http://vt-2004.solarphysics.kva.se/movies/EGRESSm42i-tio/vt-2004-TiO-egress.mpg>

As you will see for many frames AO system really performs well, but occasionally the wavefront correction gets pretty off the mark. When this happens you see a "black drop" when it's performing well you don't. Go forward in that movie to the point of third contact, and there is no significant "black drop". Then, frame by frame back up through about -14 frames. As Venus "separates" from the limb (interior) you see no "black drop", then on frames -15 through -20 the AO system goes bonkers and LOOK a "black drop", go further back and the wavefront control recovers and no "black drop", etc.

The "nice" thing about a space-based system like TRACE is that it has a repeatable PSF in every frame. The nice thing about an AO augmented telescope like SST is that by the virtue of its larger size it can achieve, linearly, higher spatial resolution, but that is variable with the instantaneous natural seeing and gives rise to transitory "black drops".

For those more interested in the whole issue of AO "vs." Space, just the facts, not the hype (but not in the context of solar observations, unfortunately for this forum) see: <http://www.stsci.edu/hst/proposing/docs/nicmos-ao-whitepaper.html> CHEERS, Glenn Schneider Neigh-sayer of Martian Canals, Faces, and Cytherian Black Drops!

P.S. (Jen) How are your TSE 2005 plans coming? (reply off SEML)

#### Plane and venus

Date: Thu, 17 Jun 2004 From: "Klaas Wiersema" To: SOLARECLIPSES@AULA.COM

Hi all, I saw this gorgeous little movie (\*.gif format) on the web: [http://www.kopfgeist.com/ccd/vtransit/venus\\_plane.gif](http://www.kopfgeist.com/ccd/vtransit/venus_plane.gif)

It's venus with an ariplane + contrails. Cheers, Klaas

**Black Drop and Seeing**

From: nickturner@onet.co.uk To: SOLARECLIPSES@AULA.COM Date: Thu, 17 Jun 2004

Our observations made from the south coast of England support the conclusion that the black drop is a seeing effect.

Visually a black drop of limited extent was seen at the ingress and egress. Video of these events (made with an 8 inch SCT and Baader film) shows a similar appearance. However, when inspected frame by frame, those frames which are sharp ie those made in moments of good seeing, do not show any black drop. Nick and Andrea Turner

**Venus phases visible?**

Date: Thu, 17 Jun 2004 From: ECOLING@AOL.COM To: HASTRO-L@LISTSERV.WVU.EDU

In a message dated 6/17/04 4:10:49 PM, abe@RAHUL.NET writes:

>I recall reading (sorry, no citation) of tests confirming that people with extraordinary vision in very clear skies can see the crescent phases of Venus. These were naive observers who were able to correctly identify the orientation of the crescent.

I read that it was possible only in skies with a certain degree of small particulates to suppress glare (or something more or less like that).

I would love to know whether this is factual or fantasy, and what exactly the conditions are which favor seeing this, if there \*are\* any once fantasy has been excluded. Best wishes, Lloyd Anderson Ecological Linguistics

**Venus etymology**

Date: Thu, 17 Jun 2004 From: ECOLING@AOL.COM To: HASTRO-L@LISTSERV.WVU.EDU

Thanks to Joanne for her corrections. Here one more:

>The words "wine" and "to win" come from the same root.

American Heritage Dictionary lists "wine" as from Latin /vīnum/, a circum-mediterranean word, presumably a loan into Indo-European. "win" as related to 'desire, love' and Venus from the 'love' sense. Personally I suspect Venus and Sanskrit Vishnu might be related, if so perhaps both from something like \*ViH-nu, but testing that may have to wait for another generation. Best wishes,

**More Venus Transit Imagery from TRACE**

Date: Wed, 23 Jun 2004 From: "Glenn Schneider" To: SOLARECLIPSES@AULA.COM

FYI, The web page: [http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_TRACE.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_TRACE.html)

now has images and movies of both the Venus transit ingress AND egress as seen from TRACE (this replaces the earlier noted URL). Cheers, -GS

**URL's about the transit of Venus**

Date: Wed, 23 Jun 2004 From: Jay.M.Pasachoff@williams.edu To: solareclipses@aula.com

We have put various links to transit images at <http://www.transitofvenus.info> They include the new movies from the Schneider/Pasachoff collaboration, the TRACE Website at Lockheed Martin Solar Astrophysics Lab, the Swedish Solar Telescope site, and links to other sites compiled by the European Southern Observatory and Daniel Fisher. They also include links to the International Space Station's double transit (ISS + Venus). This site is maintained on behalf of the Commission on Education and Development and the Working Group on Eclipses of the International Astronomical Union. We will compile more links and add them.

**Report from PP**

Successful observation of the transit of Venus from Mykolos, Greece

Having observed 3 Transits of Mercury and never been able to watch a Venus Transit, the selection of observation site was crucial. After Crete, the choice was, due to very cheap flights, Athens. Joanne, Laura and I travelled to Athens June 3rd. There we met Derryl, Pam and Michelle.

We checked quickly the roof of the hotel, far above any other building in Athens. Ideal to observe the transit of Venus. That was the spot to be. Nevertheless we tried to observe from the Acropolis. But one office sent us to another office, and another, and another. To get permission? We better give up and stick to the hotel roof option. From the roof of the hotel, at breakfast, the moon was nicely visible above the Acropolis. The weather was quite nice.

Of course some excursions, such as Delphi and a relaxing 5 hours ferry trip to Mykolos, a southern island. A perfect blue sky and no cloud and a perfect sunset but no green flash.

We had to head back to Athens, to get our equipment and for the observation of the transit. When we had our trip back to Athens, the day before the transit [night before], about one hour prior being in Athens, very heavy clouds appeared and were obviously coming from the Greece peninsula. We could see that clouds were covering inland and that the islands were cloud free. I checked on the ferry already some options to return to Mykolos. Though no possibilities that night or early morning. I called in Belgium our server friend Jan Van Gestel. He checked the weather maps of the occult WebPages. Back in the hotel we had back contact with Jan and we decided to book the first flights (back) to Mykolos and the hotel we stayed only a ferry trip earlier.

The forecast showed that clouds were coming in country from the northeast and moved westwards. In the east of the peninsula it would have been cloudy, the south looked better, but the islands should be the best.

We packed all gear and left at a very early morning after only about 3 hours sleep. Athens looked very clear when we left. The flight was only 20 minutes southwards and we were with only 10 passengers. The closer we were to the island, the place to be, the more clouds we saw from the plane ... That was really scary. We left Athens because of the clouds and travelled back to Mykolos, and we notice more clouds, while Athens being clear ...

Sunrise was 05h03 local time, first contact 08h19 and we landed at 6h20. Local time is UT + 3h and our position 37 degrees 24.84 arc minutes north and 25 degrees 20.55 arc minutes east. All tight but the island was not that big. Quickly picked up at the airport, checked in and unpacked the instruments.

Observation from the balcony of the room and it was clear. Here and there some scary clouds. Ideal, and all set-ups ready half hour prior to first contact.

Ingress to be 08h19 but was more 20 past. Derryl with his H Alfa saw Venus about 1 min before we could notice in to type 2 filter C90. Derryl with H Alfa saw about 2 min detach before us filters. We never saw the atmosphere and black drop that obvious, and it was more as sunset or sunrise deformation then a black drop.

It was all clear to see, clouds only small and for few seconds and not at crucial moments. Venus size was a big difference with Mercury size, we observed a few times before. Venus was nearly 1 arc minute and the sun was 31 arc minutes. Venus was about 5 bigger then Mercury last year during the transit.

From 9h on, or after 40 mins; we had now and then a cloud, or a little more often. Venus was visible with the naked eye and eclipse shades.

We moved at about 9h50 because of the sun altitude and the sealing of terrace of the room. We went at 10h next to swimming pool.

I observed with C90, 18mm eyepiece, focal length 1000mm with TO type 2 filter. Jo as well parallel 1000mm C90, with 26mm eyepiece with TO type 2+ filter, and Sony optical lens 25x. Derryl 100mm Orion F600, 20 mm eyepiece and 40 Solarmax Coronado KT10. Laura with Sunspotter projection.

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At 10h19 still clouds now and then and from 10h35 all blue sky now, perfect. A Norwegian guy with Sony 72 optical lens took picture with my TO filter. Beautiful blue sky but stronger wind near the pool.

At 11h22 mid transit and perfect blue sky. Slight and small clouds came in again after mid transit. We thought it was our eyesight, but IN Venus it is not that black, looks like white or lighter pattern. Jo and me saw and Derryl confirmed. Derryl thought it was a kind a silhouette on Venus. Jo even observed a greenish and a reddish side.

Sun was really getting high at 11h48. We had thoughts about so many years ago, when all those travels took place, people died, so many years on the way, etc. Now, a transit at a luxury swimming pool, with beer, crisp and Haagen-Dazs ice-cream ...and ... blue sky ...

Here and there some visitors, but in general no big deal. One from Norway, another from Colorado. At 13h30 still a bit tiny clouds, but still overall blue sky. At 14h04 it should be contact III, and then 19mins after, contact IV. At 13h45 it was and very close - only 1.5 Venus diameters from sun edge. Sun was in such position that it looked like same place or position in telescope as III at end time - funny in fact. At 13h50 less then Venus diameter from sun. Quickly to the bathroom... About 1/2 a Venus diameter at 12h58. And 14h04 contact III, no drop, no bridge. Derryl observed with H Alpha, a bit less then 2 min later the touch. No atmosphere. No extended ring. The fun in the sun is about done ...

At 23m07 Venus is gone for me, For Derryl about 23s after Jo, whom was about 7sec after me.

Quickly check mailing list and read first reports, all positive and with black drop not seen - report, red and greenish seen, etc. In the evening coverage on CNN for the States and Australia with sunrise or sunset mid transit. Next day all papers had coverage off clear sky observations.

**D 100 problem**

From: "wiegman" To: SOLARECLIPSES@AULA.COM Date: Thu, 17 Jun 2004

Dear group, Has someone experienced the following problem?

During the Transit of Venus my D100 turned warm, after cooling down in the shade it made BLACK pictures also with Nikon lenses. My camera was attached to my telescope with solar filter.

Can someone tell me if a photochip can burn through if youre taking images in eyepieceprojection?, Can it also occur through long telephotolenses if your taking images of the diamondsring?.

I see your reaction hopley very soon. A. Wiegman

From: "Jen Winter

We have photographed diamond ring with a 600mm lens, and have imaged eyepiece projection (with solar filter) from the D100 - both without incident.

Our camera was left in the shade with us on the roof of the sheraton which reached a shade temperature of about 116. The only thing which comes to mind was the problem our thermometer experienced. When the LCD screen reached a temperature of 139 degrees, the screen began turning all black. I know the D100 viewscreen is LCD. It's remotely possible that the pictures were being taken, but the lcd screen was blackened due to overheating??? Does your camera still take black pictures - or is it back to normal now? - and what temperatures were you observing in? jen

To: solareclipses@aula.com

Check to make sure the mirror isn't stuck. Then try your question in the yahoo digital\_astro group. Dale

From: "Jean-Luc L. J. DIGHAYE"

Dear all, I have to report that one of my Nikon D100 images of the TOV taken from Skinakas, Crete in NEF/RAW format surprisingly came out as \*black and white\*. The other images in the series, taken with the same settings, are OK. Temperature at Skinakas was 10 to 15°C. Also, the monitor sometimes failed to display images by fairly warm weather (30°C). I'll tell you how the D100 performs in actually warm circumstances after ASE 2005 which I intend to observe from Libya as a preparation for TSE 2006. I hope I'll have a full frame digital SLR with decent Halph rendering then! Jean-Luc Dighaye, EurAstro <http://www.eurastro.de>

**ISS and Venus double transit**

From: "Evan Zucker" To: SOLARECLIPSES@AULA.COM Date: Fri, 18 Jun 2004

(Continued on page 72)

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I've been waiting to see if anybody managed to photograph the ISS transiting the sun simultaneously with Venus, and somebody did:

<http://science.nasa.gov/spaceweather/venustransit/08jun04o/Maruska1.jpg>

[http://atm.zaciatok.sk/atm/atm.nsf/vdb\\_AllByDate?OpenView&count=10](http://atm.zaciatok.sk/atm/atm.nsf/vdb_AllByDate?OpenView&count=10) -- EVAN

From: KCStarguy@aol.com

Evan Hope things are well since that forest fires you all had. That is a real cool picture amazing in fact. Yeah I saw the pictures of this transit earlier in the morning on space-weather.com but I was too busy to place it on SENL as I was trying to put my eclipse stuff from 6 eclipse adventures on DVD. I've been wanted to do that for a long time. Meanwhile while thumbing through old Sky and Telescope Page 14 Sept 1997 25 years ago, I noticed in the left hand part of the page of pictures of the 1972 eclipse on the front cover which shows a diamond ring and a corona shot.

Anyone have copies of the accounts of that issue? I thought I had it hear but no.

From: "Daniel Fischer"

A website describing this success is available at <http://atm.zaciatok.sk/atm/atm.nsf/0/0F3E5E0223691EF4C1256EB50034B66F?OpenDocument>

check out <http://www.astro.uni-bonn.de/~dfischer/mirror/277.html> for a growing collection of links to sites with unusual or amazing results from the transit. Know a really cool one that's missing there? Send it in! Daniel

From: "Dave Balch

Could someone please re-post the address of the animation of the ISS transit during the Venus transit? Thank you! Dave

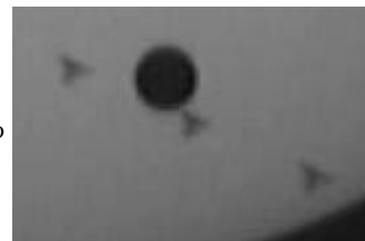
From: "Evan Zucker"

<http://atm.zaciatok.sk/atm/atm.nsf/0/0F3E5E0223691EF4C1256EB50034B66F?OpenDocument> -- EVAN

From: "Dave Balch

Thank you Evan... the page you gave me has a link at the bottom for a DivX 5 AVI file.

In this group, I remember seeing a link posted for an animated GIF of the same thing - do you have that link as well? Dave



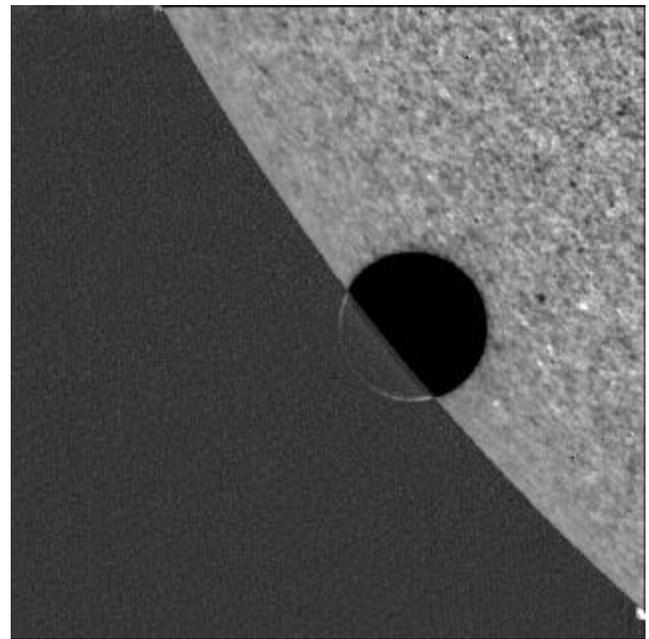
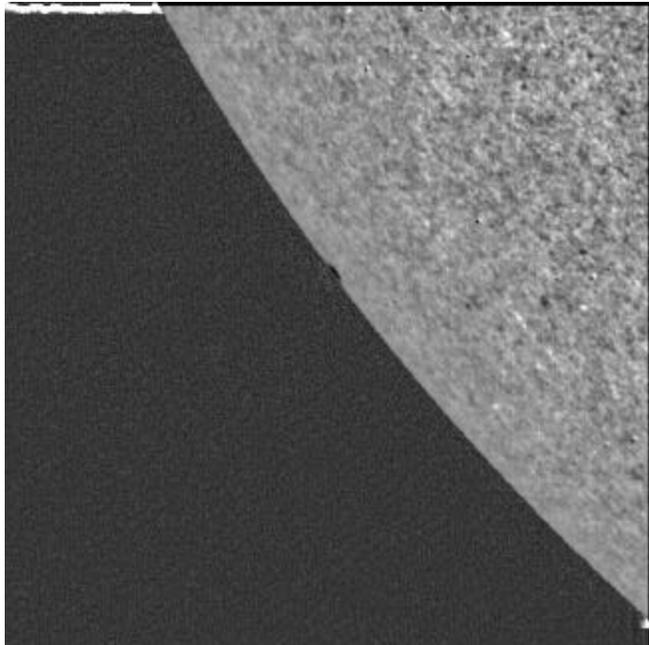
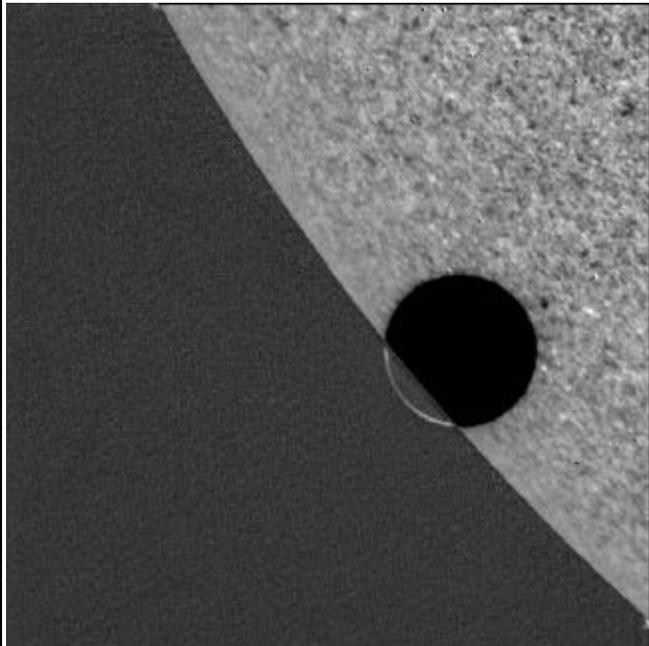
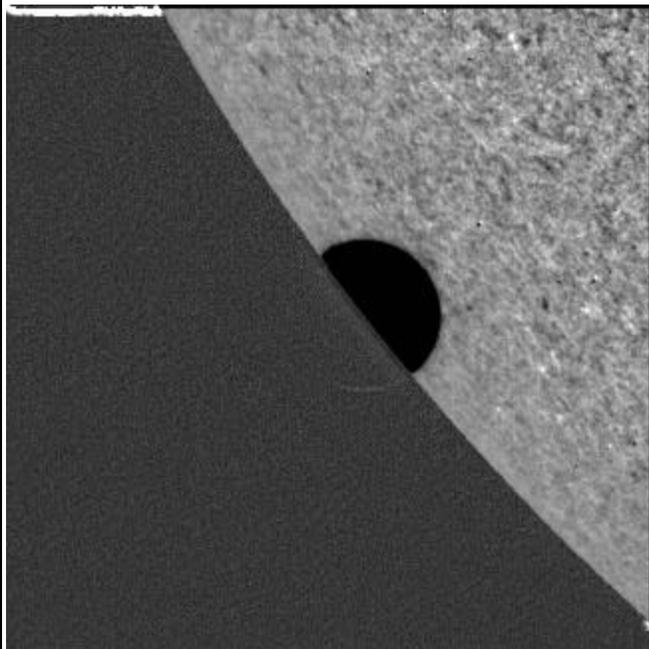
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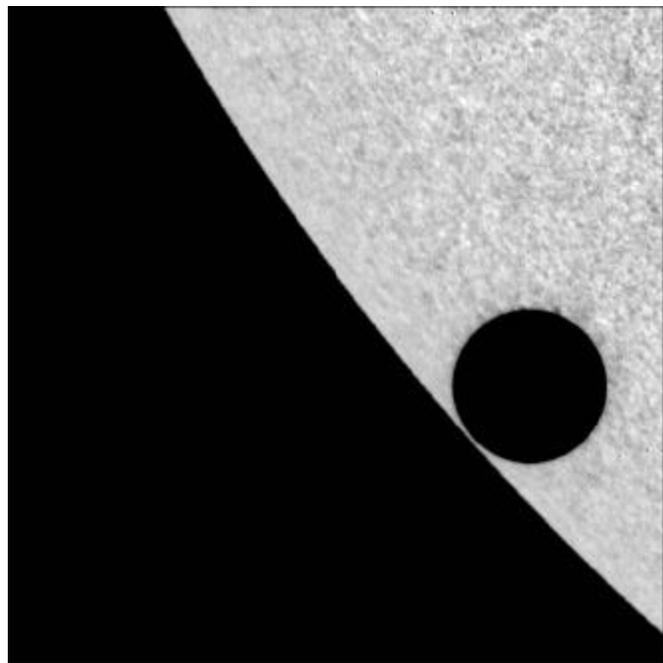
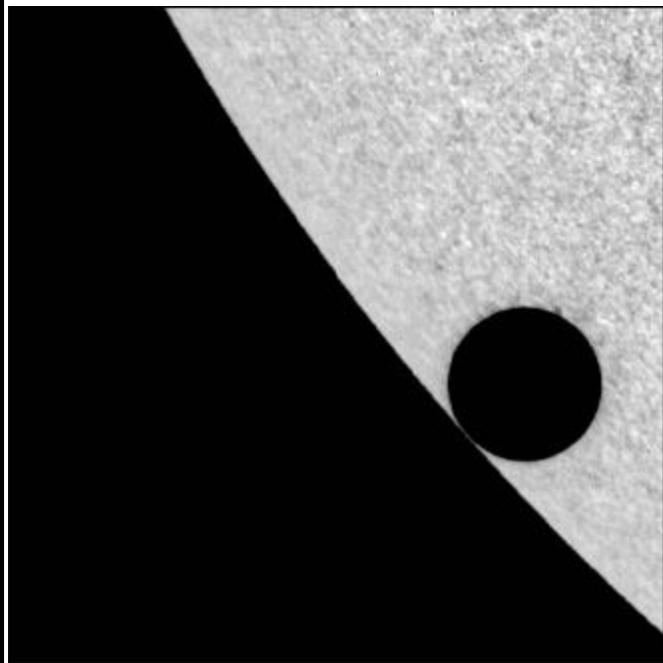
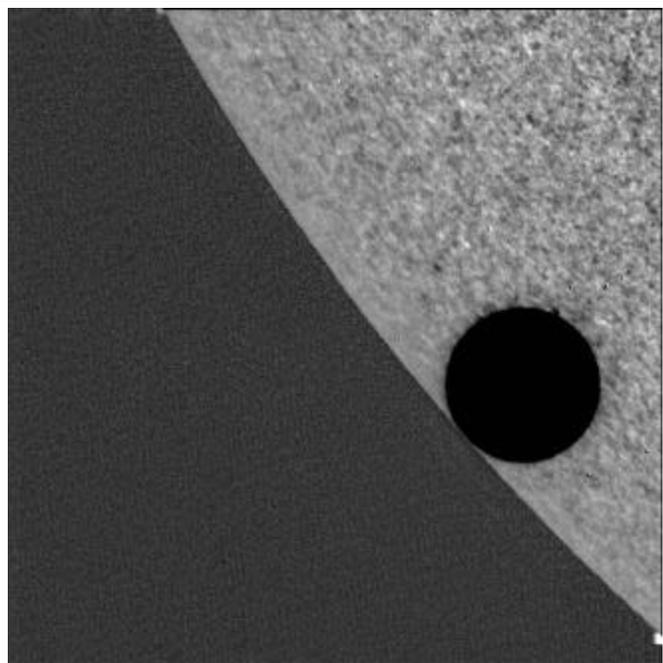
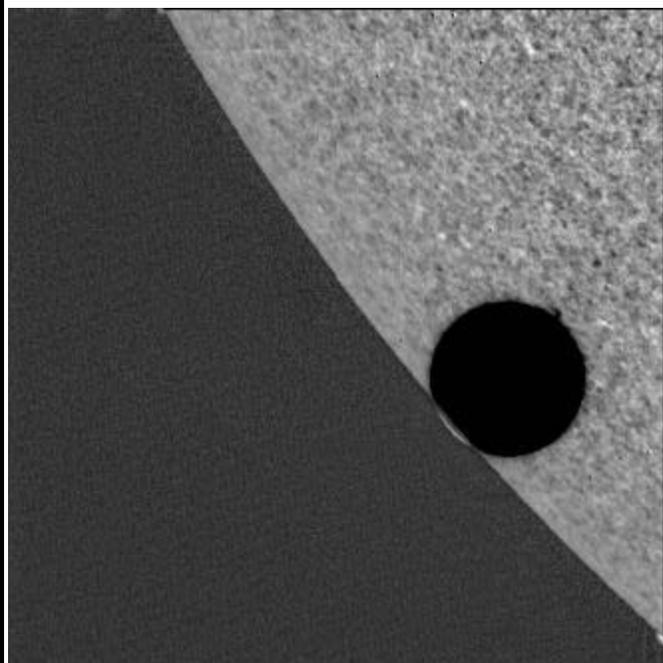
**Two stretches are better than one**

Date: Sat, 19 Jun 2004 From: "Glenn Schneider" To: SOLARECLIPSES@AULA.COM

FYI, If you re-load: [http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_TRACE\\_INGRESS.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_TRACE_INGRESS.html)

there has been some improvement in instrumental calibration/post-processing of these data - and I have regenerated and image set accordingly. (Yes, I know, some of the downloads are large, but so is the data set). -GS-



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S**C'est Venus!**

From: "Evan Zucker" To: SOLARECLIPSES@AULA.COM Date: Wed, 23 Jun 2004

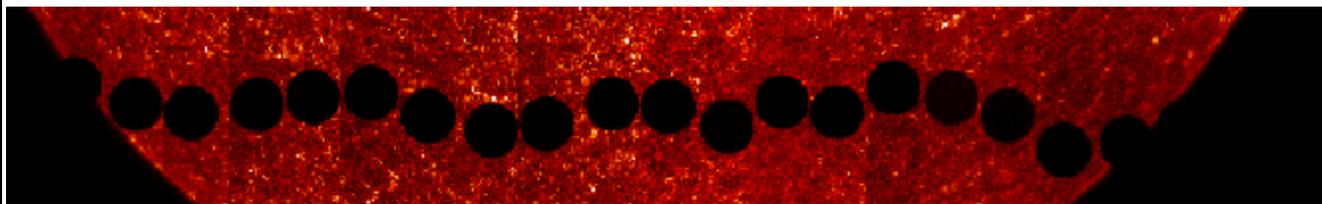
> We have put various links to transit images at <http://www.transitofvenus.info>

I love the child's drawing at <http://www.vt-2004.org/Gallery/images/vt-2004-yuki2.jpg>. It appears on the ESO transit home page at <http://www.vt-2004.org/Media/vt-comm-07.html>, which is linked to by Jay's site. I also love the processing Glenn did on the images of the ISS crossing the sun at <http://www.williams.edu/astronomy/eclipse/transits/2004%20Venus%20transit.html>. It looks like Tomas Muraska saw the ISS cross in front of not only the sun but also Venus itself. <http://atm.zaciatok.sk/atm/atm.nsf/0/0F3E5E0223691EF4C1256EB50034B66F?OpenDocument> -- EVAN

**Official TRACE POD Site**

Date: Mon, 21 Jun 2004 From: "Glenn Schneider" To: SOLARECLIPSES@AULA.COM

The TRACE project maintains its own "picture of the day" site. Today there is some more transit imagery. See: <http://vestige.lmsal.com/TRACE/POD/TRACEpod.html> before it is tomorrow! -GS-

**Persbericht: Democratisch bepaalde zonsafstand**

From: "Carl Koppeschaar" To: Venusovergang@astronet.nl Date: Mon, 21 Jun 2004

**PERSBERICHT**

Democratisch bepaalde zonsafstand bedraagt 143 miljoen km

Als het aan Nederlandse waarnemers van de Venusovergang ligt, draait de aarde niet in ruim 365 maar in 341 dagen om de zon. Dat concludeert de website [Venusvoordezoon.nl](http://Venusvoordezoon.nl) aan de hand van een eerste bepaling van de zonsafstand. De Venusovergang, waarbij de planeet Venus als een grote zwarte stip voor de zon te zien was, ondervond wereldwijd grote belangstelling van het publiek en sterrenkundigen.

"In Nederland trok de nationale website [Venusvoordezoon.nl](http://Venusvoordezoon.nl) ruim een half miljoen bezoekers," meldt Carl Koppeschaar, hoofdredacteur van Kennislink ([www.kennislink.nl](http://www.kennislink.nl)) en een van de initiatiefnemers voor het doen van de waarnemingen. "Een deel daarvan gebruikte de website voor het op een veilige manier waarnemen van het hemelverschijnsel, anderen zochten naar informatie en lesmaterialen over de Venusovergang. Op veel scholen en volkssterrenwachten hadden leraren zich gewapend met van speciale zonnfilters voorziene telescopen en verrichtten met scholieren serieuze tijdwaarnemingen. Aan de hand daarvan kon de afstand van de aarde tot de zon worden berekend. Gecombineerd met waarnemingen uit Australië, India, Iran, Afrika, Zuid-Amerika en de Verenigde Staten leverde dat een waarde op van 143 miljoen km. Dat is slechts 5% minder dan de echte waarde van 149,6 miljoen km."

Hoe dichtere een planeet bij de zon staat, des te sneller haar vaart is en des te korter haar omloopstijd. Bij de 'democratisch' bepaalde zonsafstand van 143 miljoen km zou een omloopstijd horen van ruim 341 dagen. Ons jaar zou bijna 24 dagen korter duren dan in werkelijkheid. Bij een geringere zonsafstand hoort ook een grotere hoeveelheid opgevangen zonnestraling en een hogere temperatuur op aarde.

"Gelukkig is dat niet zo," vervolgt Koppeschaar. "Met radar- waarnemingen is de gemiddelde afstand van de aarde tot de zon tegenwoordig zeer nauwkeurig bepaald op 149.597.870,691 kilometer. Puur wetenschappelijk gezien had het dus geen enkele zin de zonsafstand opnieuw te meten. Maar het ging dit keer om een educatief experiment, waarbij scholieren en andere belangstellenden via internet de beroemde Venusexpedities uit het verleden konden herbeleven."

In de zeventiende eeuw was de afstand van de aarde tot de zon nog allerminst bekend. De Britse astronoom Edmond Halley (naar wie de beroemde komeet is genoemd) realiseerde zich dat een Venusovergang kon worden gebruikt om de 'immense afstand van de aarde tot de zon' te bepalen. In 1761 en 1769 organiseerden sterrenkundigen expedities naar de uiteinden van de aarde om zo'n 'driehoeksmeting van het zonnestelsel' te kunnen uitvoeren. De resultaten vielen tegen, vooral ook omdat wanneer Venus aan de zonsrand kleefde, een 'zwarte-druppeleffect' optrad dat de tijdwaarnemingen verstoerde. Expedities in 1874 en 1882, waaraan ook Nederlandse sterrenkundigen deelnamen, gaven evenmin het gewenste resultaat. De zonsafstand kon niet nauwkeuriger worden bepaald dan tussen 148,1 en 149,7 miljoen kilometer.

Naast de kleine honderd Nederlandse metingen hebben ook duizenden waarnemers over de hele wereld hun observaties via internet

(Continued on page 76)

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gecombineerd. De centrale website [www.vt-2004.org](http://www.vt-2004.org) van de Europese Zuidelijke Sterrenwacht (ESO) ontving inmiddels 3700 bruikbare metingen. Uit dat grote aantal is een nog veel nauwkeuriger zonsafstand berekend van 149,608 miljoen kilometer. Die is slechts tienduizend kilometer groter dan de met radarwaarnemingen bepaalde waarde.

"Om de zonsafstand via de Venusovergang te bepalen, zijn gelijktijdige metingen nodig door twee waarnemers in verschillende delen van de wereld," legt Robert Wielinga, hoofd van Museum Sterrenwacht Sonnenborgh, uit. "Bij meer dan twee waarnemers kan men tussen alle mogelijke paren een basislijn trekken die een nieuwe meting van de zonsafstand oplevert. Het is opmerkelijk dat de gemiddelde waarde op basis van die vele metingen zeer weinig afwijkt van de 'echte' waarde. De combinatie van een groot aantal basislijnen en amateurmetingen blijkt dus een veel beter resultaat op te leveren dan het kleine aantal metingen door professionele sterrenkundigen in de achttiende en negentiende eeuw, met de beste apparatuur die in die tijd voorhanden was. De conclusie is dan ook dat amateurastronomen en groepen scholieren tegenwoordig in staat zijn tot geweldig nauwkeurige astronomische metingen!"

Venusvoordezoon.nl is een samenwerking tussen de informatieve website Kennislink ([www.kennislink.nl](http://www.kennislink.nl)), de faculteit Natuur- en Sterrenkunde van de Universiteit Utrecht, de Nederlandse Onderzoekschool voor Astronomie (NOVA, [www.astronomy.nl](http://www.astronomy.nl)), Museum Sterrenwacht Sonnenborgh, Volkssterrenwacht Copernicus in Haarlem, de Dutch Open Telescope (DOT) op de Canarische Eilanden, het Instituut voor de Geschiedenis en Grondslagen van de Wiskunde en de Natuurwetenschappen, Steven van Roode van het Newman College in Breda, het Universiteitsmuseum Utrecht, Volkssterrenwacht Mira in Grimbergen (België), website Astronet en de Europese Zuidelijke Sterrenwacht (ESO).

Zie ook: <http://www.kennislink.nl/web/show?id=113108>

Noot (niet bestemd voor publicatie)

Voor meer informatie over de resultaten van de Venusovergang kunt u contact opnemen met de volgende personen:

Carl Koppeschaar, hoofdredacteur Kennislink en woordvoerder van Venusvoordezoon.nl, mob. 06-20621593, e-mail: [carl.koppeschaar@kennislink.nl](mailto:carl.koppeschaar@kennislink.nl)

Steven van Roode, Newman College te Breda, tel. 076-5810450, e-mail: [s.v.roode@newmancollege.nl](mailto:s.v.roode@newmancollege.nl), privé tel. 0164-244954, e-mail: [stevenvanroode@hetnet.nl](mailto:stevenvanroode@hetnet.nl)

Arnout Jaspers, Nederlandse Onderzoekschool Voor Astronomie (NOVA), tel. 020-5257480, mob. 06-53327812, e-mail: [ajaspers@science.uva.nl](mailto:ajaspers@science.uva.nl)

Frans Snik, Dutch Open Telescope (DOT), mob. 06-28053375, e-mail: [f.snik@astro.uu.nl](mailto:f.snik@astro.uu.nl),

Robert Wielinga, hoofd Museum Sterrenwacht Sonnenborgh, tel. 030-2302818, e-mail: [r.p.wielinga@sonnenborgh.nl](mailto:r.p.wielinga@sonnenborgh.nl)

Robert H. van Gent, Instituut voor de Geschiedenis en Grondslagen van de Wiskunde en de Natuurwetenschappen, e-mail: [r.h.vangent@astro.uu.nl](mailto:r.h.vangent@astro.uu.nl)

### Transit of Venus compressed

From Francisco Diego

Dear colleagues, for a few years, I have been collaborating with John Adderley, a superb cameraman who has an impressive collection of equipment to film virtually anything. The transit of Venus has been a very exciting and challenging project. John managed to film the entire event from London. He used a 35mm movie camera on a very steady equatorial mount driven by computer controlled stepper motors. The transit was shot at one frame every five seconds using a catadioptric lens giving a total focal length of 1300mm, at which the entire image of the sun almost fills the screen. I have seen the result and it is really amazing. Venus comes in and glides smoothly across the Sun and the 6 hours have been compressed to only 4 minutes. Further compression would be possible in post production if required. If you are interested in using some of this material, please contact John at [john@adderley.net](mailto:john@adderley.net) The film can be transferred to any digital format, including DVD

**Getting the AU from Venus transit astrometry**

From: "Daniel Fischer" Date: Sat, 26 Jun 2004 To: SOLARECLIPSES@AULA.COM

As you can read in <http://www.geocities.com/skyreports/2004/venus.html> or <http://www.astro.uni-bonn.de/~dfischer/skyreports/2004/venus.html> I've tried to determine the value of the AU from the parallax of Venus between South Africa and Germany during the transit via relative astrometry to two sunspots. The method seems to work (at face value it delivers 1 AU = 145 million kilometers), but further data sets are needed to improve the statistics. One arc sec resolution would be nice.

Meanwhile at <http://www.astro.uni-bonn.de/~dfischer/skyreports/2004> or <http://www.geocities.com/skyreports/2004> you can also find a detailed report about various recent astronomical adventures in Southern Africa, including the above-mentioned transit observations but also the May 4 lunar eclipse that coincided with a rare grazing star occultation (during which I actually discovered something interesting). Enjoy! Daniel

**Transit of Venus and Egypt**

From: KCStarguy@aol.com Date: Sun, 27 Jun 2004 To: SOLARECLIPSES@AULA.COM

Vic and Jen Winters showed a nice powerpoint slide show of their Transit trip to Egypt during the Saturday night session at the Astronomical Society of Kansas City in KC,MO. It was interesting to see the nice pictures of Egypt, the transit and more. Jackie Beucher, who also went (she is the Astronomical League secretary) also showed some nice shots. Vic and Jen said they would have pictures up on their website soon.

One interesting point was a picture of the hotel pool. A series sequenced shots showed a person in the pool simulating Venus transiting the (sun) as a pool. That was cute and very innovative. Thanks for showing Jackie.

It was interesting that it was said that people cried when they saw some of the stuff in the Egyptian tombs and architecture. I thought the crying was for eclipses!!!

That was somewhat like a shot I took before we went on a trip the morning of the 1999 eclipse in Hungary. I look out the window below and there was a picture of a big dark sewer cover with a white rim around it which reminded me of an eclipse that we were to see later that day.

We number of the club members also showed us their other pictures taken of the transit they managed to see through a whole in the clouds in Iowa. Dr.Eric Flescher

**Venus Transit to blame for flooding in China!**

Date: Tue, 22 Jun 2004 From: "LARRY KLAES" To: HASTRO-L@LISTSERV.WVU.EDU

Who says we're more advanced than our ancestors?

**VENUS BLAMED FOR FUTURE CLIMATE DISASTERS**

News24, 20 June 2004

[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)<[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)>

From: "Paco Bellido"

Dear Larry This article needs registration. Could you copy and paste it to the list? Thank you in advance.

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Nice regards Paco Bellido

Blame it on Venus 20/06/2004 12:52 - (SA)

Print article    email story

Related Articles

Healers honour Venus

Venus could stir trouble

Rare sight as Venus appears

Factfile on Venus

Beijing - The recent spectacular transit of Venus across the face of the Sun may lead to disastrous flooding along China's Yellow River, a leading scientist warned in the local media Sunday.

While millions were marvelling at the celestial show earlier this month, Geng Guoqing, an expert on natural calamities, was more worried about the consequences for China's second-longest river, the Xinhua news agency reported.

He compared historical records reaching 2 187 years back and found a clear correlation between Venus transits and serious floods along the river's middle and lower reaches, according to the agency.

The reason could be that Venus blocks part of the Sun's radiation that should have been transmitted to Earth, said Guoqing, a researcher at the Special Committee on Natural Calamities Forecasting under the China Geophysics Society.

This causes climatic disturbances across the globe, he argued.

As the flood season approaches, officials along banks of the 5 464km Yellow River are not taking any chances.

Four silt-stirring vessels started a 24-day operation on Saturday morning to remove tonnes of silt from the river, in one of many efforts to prevent flood waters rising, Xinhua said in a separate report.

Torrential rains and flooding were responsible for nearly 2 000 deaths in China in the first nine months of last year.

Edited by Tisha Steyn

From: "LARRY KLAES"

VENUS BLAMED FOR FUTURE CLIMATE DISASTERS

News24, 20 June 2004

[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)<about:blank>

Beijing - The recent spectacular transit of Venus across the face of the Sun may lead to disastrous flooding along China's Yellow River, a leading scientist warned in the local media Sunday.

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Torrential rains and flooding were responsible for nearly 2 000 deaths in China in the first nine months of last year. Edited by Tisha Steyn

[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)<[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)<[http://www.news24.com/News24/Technology/News/0,,2-13-1443\\_1545270,00.html](http://www.news24.com/News24/Technology/News/0,,2-13-1443_1545270,00.html)>>

From: "Paco Bellido"

Thank you for the post Larry. This is really incredible...specially the reason argued by Guoqing. Nice regards Paco Bellido

From: "LARRY KLAES"

And here is Phil Plait's response to this "bad astronomy":

[http://www.badastronomy.com/bad/misc/venus\\_flood.html](http://www.badastronomy.com/bad/misc/venus_flood.html)<[http://www.badastronomy.com/bad/misc/venus\\_flood.html](http://www.badastronomy.com/bad/misc/venus_flood.html)>  
Larry

From: "Axel Harvey"

When a scientist's work is reported by mass media, we must always suspect that what we are reading is the confused perception of the reporter and/or editors, not the scientist's actual reasoning.

From: "Stephen Tonkin"

By this reasoning, the climatic effects of solar eclipses, even partial ones, must be truly phenomenal. I really should pay more attention next time... -- Stephen Tonkin

From: "Paco Bellido"

You're right Axel. You should have heard what they said on TV in Spain during the transit. They mixed up some ideas and broadcasted a confuse and hilarating report on the Venus transit.

I don't understand why big mass media don't have a scientific counselor o an expert in the same way that they have journalists specialized in soccer.... Nice regards Paco Bellido

From: "Daniel Fischer"

[http://www.badastronomy.com/bad/misc/venus\\_flood.html](http://www.badastronomy.com/bad/misc/venus_flood.html) is already commenting - the self-cleaning forces of the web at work ...  
Daniel

P.S.: In <http://www.astro.uni-bonn.de/~dfischer/skyreports/2004/venus.html> you can find a quick 'paper' on an attempt to derive the AU from the ToV in a different way than tried in the 19th (let alone 18th) century - I wonder whether this approach is better than the Halley method when applied properly, and whether it may have been considered before the 1874 and 1882 transits

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**Venus transit in stereo?**

Date: Thu, 01 Jul 2004 From: "Glenn Schneider" To: SOLARECLIPSES@AULA.COM

Fraser Farrell wrote: To all, Is anyone (or any group) doing a -stereo- image or movie of the Venus transit? You would need two very widely separated cameras taking simultaneous shots at prearranged times.

Because Venus was moving w.r.t. the Sun "in the background", one really didn't need two separated cameras operating in simultaneity. Just one camera with exposures spaced appropriately apart in time to yield a Venus/Sun parallax when put side by side. I actually arranged a few "image pairs" on my TRACE Venus transit imaging page:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/TRANSIT\\_04/TRACE/TOV\\_TRACE.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/TRANSIT_04/TRACE/TOV_TRACE.html)

in just this manner. I "cheated" a bit - because the "camera" (TRACE) was also moving, around the Earth, and thus rather quickly giving a sufficient parallax in relatively closely time-spaced frames. Because the images were also processed to accentuate the photospheric granulation, the small temporal changes in the background add to the "3D" effect.

If you can do the old "slightly cross your eyes and focus beyond the page" stereo viewing trick, I think you will find some nifty "3D" image pairs on that page.

After loading the page scroll down to the "SELECTED FRAMES FROM INGRESS IMAGING SEQUENCE" section and put the third pair of left/right images (053706 and 053850 UT) on your computer display. Sit back about a meter from the screen, look between the two and let your eyes "cross" and relax as you focus beyond the screen. Wait a few seconds for your eyes to adjust (if you are nearsighted you should use your glasses, even if the screen is normally in focus for you at that distance). Venus will "float" in front of the Sun with its atmosphere hovering against the sky. Do the same with the next pair of higher contrast, images (053850UT and 052924UT) and you will be rewarded with a non-flat view of second contact. You can try this also with the "atmospheric arc" image pairs for both ingress and egress - but you may have to tilt your head a few degrees to the right to get the images to fuse, and the parallax is pretty extreme (caveat emptor - no complaints of eye strain accepted).

A 3D movie? - not yet - but I'll add that to my "to do" list. Cheers, Glenn Schneider

## HYBRID ECLIPSE 2005

**Society Expeditions Eclipse Cruise Industry Update**

Date: Mon, 28 Jun 2004 To: SOLARECLIPSES@AULA.COM From: "Jen Winter

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

From: "Jen Winter

Several friends have written me off-group to ask if this was the ship we represented for the Tahiti eclipse cruise in 2005.

It is not.

There are still three cruises headed to intercept Totality in April, 2005 from various sources.

They are:

Ex Galapagos:

the MV Galapagos Legend

- Jay Pasachoff
- Fred Espenak
- Dave Eicher

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Ex Tahiti:  
the MS Paul Gauguin (a Radisson Seven Seas ship)  
- David Levy  
- Dr. Michael Reynolds  
- Michael Bakich  
- Michael Bennett  
- Olivier "Klipsi" Staiger  
Note: Discount deadline expiring in a few days

Tahiti - Peru:  
the MV Discovery (a Discovery Cruises ship)  
- Rick Fienberg Note: ALMOST SOLD-OUT  
about 15 cabins remain

From: bverreau@sbcglobal.net

Just got this email from TravelQuest..

Dear Wake of the Bounty Traveler,

It is with great regret and disappointment that I write to inform you that Society Expedition (SE) ceased operations last week. This means our 2005 Wake of the Bounty eclipse cruise has been cancelled.

### 2005 Total Solar Eclipse

Date: Fri, 2 Jul 2004 From Roy Mayhugh To: "Eclipse Chaser"

Greetings Eclipse Chasers, Both Eclipse cruises to view the total part of the 2005 Hybrid Solar Eclipse are very nearly full - the cancellation of the Society Expeditions Eclipse cruise has caused an unexpected run on the few cabins left on the other two ships. This is your last chance to get on one of these cruises. Here is the status (as of this morning) of each cruise.

MV Discovery total eclipse cruise - officially this ship is full. However, there are two ways to still get on this cruise.

1) Couples - a few cabins are under option (meaning they are reserved but the deposit is not yet paid). Some of these may become available in the next couple of days. Whatever becomes available is strictly "first come first served". Call me ASAP if you're interested in one of these.

2) Singles wanting to share with others. I do have 8 non-smoking male shares (doubles, triples and quads) and two non-smoking female shares. Prices start at \$2,500 for shares. For details about this cruise visit: <http://www.astronomyvacations.com/discovery.html>

Paul Gauguin total eclipse cruise - the situation is a little better here - as of today, there are 19 cabins still available. However, prices go up 10% next Friday (July 16th) so I expect this ship to fill up before then. In addition, there are a few single share cabins (all are double non-smoking males) on this cruise too. For details about this cruise visit: <http://www.astronomyvacations.com/Hawaii.html>

As always - Lowest Prices are guaranteed!

Please call me ASAP if you, or someone you know, is interested in seeing this total eclipse.

I am also sending this email to those already booked on one of these cruises because some have friends considering going. Best Wishes,  
Roy ---Roy Mayhugh Astronomy Vacations by Mayhugh Travel -  
cst# 2049910-40 Toll Free (888) 412-5317 Direct (760) 446-0050  
Fax (760) 446-0049 <http://astronomyvacations.com>

### "Eclipses During 2005"

Date: Tue, 6 Jul 2004 To: SOLARECLIPSES@AULA.COM From: "Fred Espenak"

Two central solar and two lunar eclipses occur in 2005 as follows: 2005 Apr 08: Hybrid Solar Eclipse— 2005 Apr 24: Penumbral Lunar Eclipse—2005 Oct 03: Annular Solar Eclipse — 2005 Oct 17: Partial Lunar Eclipse

I have recently completed my annual contribution on eclipses "Eclipses During 2005" for the Observer's Handbook 2005 of the Royal Astronomical Society of Canada. The article covers predictions for all eclipses which are summarized in a series of diagrams. World maps show the regions of visibility for each eclipse. The lunar eclipse diagrams also include the path of the Moon through Earth's shadows. Contact times for each principal phase are tabulated along with the magnitudes and geocentric coordinates of the Sun and Moon at greatest eclipse. Path coordinates and local circumstances from major cities are listed for the two solar eclipses. Although the article will not be published until fall 2004, it is now available from the NASA eclipse web site. The URL is: <http://sunearth.gsfc.nasa.gov/eclipse/OH/OH2005.html> Please let me know if you find any errors or broken links. Special thanks to National Space Club summer intern Christopher Barrow for his valuable assistance in adapting this article for the web. - Fred Espenak

**An independent climate analysis of Libya vs. Turkey in 2006 ...**

From: "Daniel Fischer" Date: Mon, 28 Jun 2004 To: SOLARECLIPSES@AULA.COM

... has just been published at <http://home.tiscali.de/astrohardy/libyen/libyen.htm> - H. Luethen looked hard at weather sat images from several years and deduced the probability of seeing the eclipse. This technique was worked well in the past, and the result is very clear: Only the Libyan desert offers a near-100% probability of clear skies, while Turkey has a high probability of clouds. Too bad, it would have been sooo much easier - and cheaper - to reach.

In other Libya-related news a 2004 documentary by Arte that was shown repeatedly on Deutsche Welle TV last week had a lot to say about the travel conditions for tourists: The situation is changing rapidly and mostly for the better, esp. since Libya will run out of oil eventually and wants to make tourism the source of income #1 in the coming years. However there are some obstacles, of interest also for us umbraphiles:

- There is an acute shortage of 4x4 (4WD) vehicles in the country as the government is afraid someone could use them for military operations against them. Only a few tourism operators have access to desert-qualified vehicles at the moment. But the restrictions on 4x4 imports could be lifted in the near future, to aid tourism.

- Travellers are always guarded/shadowed/you name it by officials who call their superiors all the time, reporting on what you are doing. The feeling of being in a police state can be very strong.

- But some things are really good in Libya already: E.g. gas costs just 10 cents a liter, there is unrestricted internet access (!), and Libya is doing its utmost to guarantee safe travel in the desert. "Secure desert tourism" is a recent slogan used in advertising actually.

Sounds all not too forbidding to me (esp. in the context of the recent recce trips by Tiedt and Huddle). Regarding the 4x4 shortage I wonder whether one can rent one in Tunisia and take it over the border: Flying into Tunisia is much cheaper (from Europe) than into Libya anyway, at least right now (a few hundred Euro vs. one thousand for a direct Frankfurt - Tripolis flight). Daniel

From: "Fred Espenak"

Daniel - Can you translate some of this page into English? Just the table headings would be a big help. Thanks, fred Espenak

From: "Daniel Fischer"

Here is the explanation of the table in <http://home.tiscali.de/astrohardy/libyen/libyen.htm> Fred asked for:

A = where the central line cuts 20 deg. longitude

B = Wau el Namus

O = where the Bengasi-El Jawf road cuts the central line

worst/best/Mittelwert (Chance in %) = estimated probability of seeing the eclipse as guessed from looking at the sat pix; the third column is the average probability for that location at eclipse time.

Tage mit 50% Chance oder schlechter (%) = days with a 50% chance of seeing the eclipse or worse [thus you want to minimise \*that\* number. In Antalya it is 70 to 90 percent, in the Sahara it drops to essentially zero (except in 1997 which Luethen calls "an unusual year")]

The conclusions Luethen draws read: "Turkey is [expletive], but I still have to look harder here. Libya is better, even at the Mediterranean coast the chances are already quite good. The farther inland you go the better the chances get. Disclaimer: climate is what you expect - weather is what you get. This page is a broad assessment of the \*climate\*. I am not liable for clouds ..." Danie l

**Turkey 2006 - a survey**

Body: Hallo everybody,

**T** As this is my first post here, I would like to spend a few lines introducing myself. I am a 38 years old self-employed software consultant. I have observed plenty of partial eclipses from Denmark, but there hasn't been a total solar eclipse here for some hundred years. Then in august 1999 I went to the southern part of Germany which was well inside the path of totality. Unfortunately it was pouring down form a dark gray sky that day, so all we saw was the rather eerie darkening during totality. Minutes after the eclipse I said, just for fun, to my girlfriend: "Well, then we just go to Africa in 2001!". And that we did! We observed the eclipse from a tiny island on the Zambesi river in Zambia, surrounded by crocodiles and roaring hippos thinking it was getting night. Wow, that was fantastic!

**S** And now to the 2006 eclipse. I have been traveling in Turkey regularly since 1989, spending a total of almost one year in the country spread over 20 visits or so. I speak enough Turkish to get by and know the Mediterranean Region around Antalya particularly well since that is one of my preferred areas in Turkey. Furthermore, that region is probably one of the best places in Turkey to observe the eclipse for various reasons so I am very thrilled about this upcoming chance.

**O** Two weeks ago I made a survey trip to the area. I will report my impressions here along with some questions to more experienced eclipse chasers.

**O** Antalya is the biggest city on the Mediterranean Coast and the 4th biggest city in Turkey. The region is very touristed although Antalya itself is not. In fact, when most Europeans go on charter vacation to Turkey, they land in Antalya's large airport but that is usually the closest they come to this very nice city. They are immediately transported to the smaller towns or resorts east or west of Antalya. Since the city is well within the path of totality one could theoretically leave the plane, observe the eclipse from outside the airport and take the next plane home. But finer views are certainly available!

**6** Exactly on the center line about one hour's drive east of the airport lies Side (pronounced see-day, quite appropriate for the eclipse! I saw a real estate sign saying "Side Real Estate" which I of course read "Sidereal Estate"). Side is a harbour (marina) town that attracts very many tourists and thus holds all kinds of facilities. It is too touristed to my taste, but given the position on the center line it makes a fine base for observing the eclipse. Accommodation can be found in all price ranges from about 15 Euro for a plain double room in a family driven pension up to whatever you like in the big luxury hotels. And there is a lot to choose from, especially in March which is outside the season. Side has a very interesting and well-preserved roman theater and some temples. Both would be good places to observe the eclipse, of course depending on the amount of gear you intend to bring. From the temples which is situated a few meters from the sea, you look south in the direction of the moon shadow. There is an entrance fee for the theater; admittance to the temples are free. The beaches around Side are good.

Also on the center line, 7-8 km north of Side, is the larger town Manavgat. Hardly any tourists come they except for a half-day trip from Side to see the small waterfall or for a relaxing boat trip on the river. But accommodations are available should you choose to stay here.

12 km east of Manavgat is the main road to Konya. It passes the Taurus Mountains but the road is important to the region and thus in a very good shape. At least up to the town Akseki (which is as far as I went) it has no steep curves at all and you can easily keep an average of 80 km/h. It is nearly parallel to and very close to the center line so it makes an excellent "escape route" in case of bad weather. Furthermore, there are many great views along the picturesque road, some with adequate space for even large groups of observers. There are few places where you can deviate from the main road and most roads are pretty bad, but it \*is\* possible to leave the road if you really need to in case of clouds.

If Side is too small and touristed to your taste, I would suggest staying in Antalya. The best place then is the old city (Kaleici) near the marina where you will find a multitude of pensions and small hotels.

It would certainly be possible to observe the eclipse from Antalya, but the places mentioned above is within 1-2 hours drive and easily accessible from Antalya in a rented car (ca. 40 Euro a day). Another fine spot would be Cirali (or Olympos) 80 km SW of Antalya. Even though you go west, you actually come a great deal closer to the center line at Cirali/Olympos. Apart from it being a beautiful and relaxed place with gorgeous nature, it is famous for the eternal flames, the Chimera, which for thousands of years has burned from the rocks a little up the mountain side. Especially at night time the flames are a magical experience, and I figure it

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would be very special to see the eclipse from that place. It is an easy 20-30 minute walk from the parking lot but it would be somewhat difficult to bring a lot of gear with you.

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There are many wonderful sceneries around Antalya which all would make fantastic settings for observing the eclipse; far too many to mention here. But altogether the region is very well-suited for the purpose. It is a major tourist center, has a lot of facilities including a large airport pretty close to the center line. The roads are good and driving is actually easy in Turkey (except for the rush hours in the cities!). The Turks are friendly people and traveling in general is easy. Public transport between towns is cheap and very well-functioning with modern coaches. They are all non-smoking - and people obey it. The weather at that time of year is usually fine and sunny (temperatures often around 20 degrees centigrades) but rain \*does\* occur. There are other great areas in Turkey to observe from (Kapadokya being the most interesting) but to my present knowledge the chances of good weather are better at the Mediterranean Coast. Furthermore, the duration of the eclipse is longer the more south you go. Most Europeans (if not all) don't need a visa to enter Turkey. I don't know for Americans. Prices are very cheap in Turkey, both accommodation, transportation, restaurants, clothings etc.

I hope my report is useful for some of you. Now follows some questions I have thought of:

1. How much does a total solar eclipse influence tourism in an affected area? Are prices likely to go considerably up in the days around the eclipse? Will traffic increase heavily?
2. Would you stay as close to the centerline as possible or would you favor a fantastic, scenic place nearby even though you would miss, say, 15 seconds of the eclipse? Note: I intend to bring a handful of friends who are not scientifically interested in the eclipse.
3. Is it in general better to observe from the coast or from mountains looking down at the coast? Is the approaching moon shadow something not to miss? If so, is that best seen from the beach or from the mountains?

Best regards, Martin Larsen Denmark

From: "Sheridan Williams"

Martin Larsen's report is great, but Jay Anderson says the cloud cover prospects are 40-50%, same as Cornwall was in 1999 and look what happened.

I prefer Turkey to Libya, but the stats are bad. Brazil sounds a better bet.

From: "Evan Zucker"

Thanks for the wonderfully detailed report Martin. I suspect opinions could vary on all your questions, but here's my point of view:

1. How much does a total solar eclipse influence tourism in an affected area? Are prices likely to go considerably up in the days around the eclipse? Will traffic increase heavily?

I can definitively say -- it depends. If, as in this case, the path of totality is crossing an entire well-populated country, then it doesn't seem likely that any given city or area would see a large influx of eclipse tourists. On the other hand, if there is only one obvious location for observing the eclipse, then you could expect more of a tourism boom.

2. Would you stay as close to the centerline as possible or would you favor a fantastic, scenic place nearby even though you would miss, say, 15 seconds of the eclipse? Note: I intend to bring a handful of friends who are not scientifically interested in the eclipse.

Assuming the weather prospects are equal -- a big if -- I think you and your friends would prefer the more scenic locale. On the other hand, although they may not be scientifically interested in the eclipse, once they see it (weather permitting) they will certainly appreciate why you might elect to maximize totality. Since the weather prospects are reportedly questionable for this region, that might be another reason to choose the more scenic location.

3. Is it in general better to observe from the coast or from mountains looking down at the coast? Is the approaching moon shadow

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something not to miss? If so, is that best seen from the beach or from the mountains?

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I think most people would agree that the approaching lunar shadow is a sight to behold and that it would be best observed from a mountain looking down at the coast, assuming you were high enough and could see a sufficiently long distance down the coast. Evan Zucker San Diego, California

From: "Crocker, Tony (FSA)"

The approaching moonshadow is definitely best viewed from altitude. At flat level approaching over a lake in 1999 I would describe it as "a sunset in fast forward", with a discrete approaching shadow line not being visible due to its high speed. At the other extreme, eclipse chasers at 5,000 meters on a Bolivian Andean peak in 1994 reported a shadow line visible for 7 minutes before totality.

So I would ask Martin Larsen, what is the highest altitude on the Manavgat-Konya road from which the Mediterranean in the shadow's direction is visible, and how far off centerline is that point?

This is the type of view I am very interesting in seeing sometime (and plan to here in North America in 2017 and maybe 2024 also), but there is usually considerable risk of clouds on steep upslopes. Therefore the local microclimate should be carefully evaluated and mobility to a clearer alternative site should be available if short-term weather forecasts are unfavorable.

---Original Message--- From: KCStarguy@aol.com

Hi I am compiling the results of the survey and will send the results in 2-3 weeks so keep em coming. I realize that there have not been a a lot of cruises advertized yet but I am wondering who is waiting for this mode of transport. Dr.Eric Flescher

## Libya 2006

Date: Mon, 21 Jun 2004 From: "James Huddle" To: SOLARECLIPSES@AULA.COM

I have just returned to Cairo from Libya. More details when I return home, Inshallah. In answer to messages I've just read on the SEML:

I confirm that an Israeli visa disqualifies you for a Libyan visa. I believe that most countries will issue you a fresh passport if you tell them why, but have not confirmed this.

I also confirm Peter's report that the Libyan people are genuinely nice, honest and helpful. EVERY SINGLE PERSON I met while in that country treated me well, as if they liked me and wanted me to be their friend. They bent over backward to help me.

A trip to the central line in the desert is doable. I have been to two places, both on the CL in the desert, that would make good observing sites. It was not easy to get to either place, and there are, of course, no comforts, but the desert is a beautiful and fascinating place. 4WD vehicles are a must, as Peter has mentioned, not so much for traction as for the 4WD's heavy-duty suspension. His advice about having 2 or more vehicles, GPS, radios, etc is sound: The desert is harsh, and a vehicle breakdown would be a serious problem. However, cell phone signals are spotty at best. Jen, what phone did you use at Novo last November? I need one!

The locals who took my guide and me (there were six of us, total, in two 4WDs) into the desert say that March-April is very nice weather, the risk of sandstorms is minimal, and that any morning clouds will burn off by 10:00 local time.

You also need a guide who is both competent and experienced, for many reasons, two of which I will mention now, with more to come, Inshallah. ONE: If you don't know exactly where the camel track is, you may stray into a mine field left over from WWII, again as Peter has mentioned. I saw some of these mine fields, and, while smoking the "shisha," I listened to stories from people who have lost camels who strayed into mine fields. TWO: You need a guide who speaks Arabic in order to keep the shisha filled and to adjust the coals just right to avoid a harsh flavor.

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The food is better in Libya than in Egypt. I ate raw salad items, and still got over the traveller's diarrhea I contracted in Egypt. The Beck's non-alcohol beer tastes fine, but, of course, there is no buzz. My guide told me that it IS POSSIBLE to get authorization to bring small amounts alcohol into Libya for personal use. You can even get authorization to use the abandoned guard tower for eclipse observing, but on land that flat, and with the sun at 60-degrees-plus altitude, what is another 20 meters of elevation going to get you?

In closing, let me just say that EVERYONE I dealt with in Libya wants me to bring my friends to see the 2006 eclipse, including the Assistant Dean of the Science Faculty at U. Tobruk, the Tobruk regional police chief, the police chief in Al Burdi, my four new friends who took us into the desert in their 4WDs, and the archaeologists at the ruins I visited. Libya 2006: I'm there, and you should be, too! Jim Huddle

### 2006 eclipse poll

From: KCStarguy@aol.com Date: Sun, 20 Jun 2004 To: SOLARECLIPSES@AULA.COM

I am interested in taking a quick poll for the 2006 eclipse so far. send to me not listserve to Dr. Eric Flescher ( , kcstarguy@aol.com), Olathe, KS. USA I will post the results to the listserve in about 2 to 4 weeks

2006 informal survey

send to me not listserve to Dr. Eric Flescher ( ,kcstarguy@aol.com), Olathe, KS. USA

Name:

email:

Where do you intend to go in 2006

- (1) Libya
- (2) Cruiseship only
- (3) Cruiseship and land
- (4) Turkey
- (5) other \_\_\_\_\_

Comments: why are you going there?

- (6) Mostly the eclipse
- (7) Sightseeing
- (8) Both eclipse and sightseeing
- (9) other reason: \_\_\_\_\_

### What about Western Egypt in 2006

From: Jpdowning@aol.com Date: Fri, 18 Jun 2004 0To: SOLARECLIPSES@AULA.COM

Dear all, Has anyone investigated the chances of clouds and the travel logistics for the portion of the eclipse path that crosses extreme western Egypt between Libya and the coast? James Downing jpdowning@aol.com

From: "John Leppert"

James, See Jay Anderson's site... <http://home.cc.umanitoba.ca/~jander/>

### Libya Visit - Report

Date: Tue, 15 Jun 2004 From: "Peter Tiedt" To: "SEML

I visited Libya for three days at the end of May 2004. My visit was arranged by Wild Frontiers and the Libyan Tour Operator who will be handling the Libyan end of the Africlipse 2006 trip. The CEO of Wild Frontiers, John Addison accompanied me on the recce.

Without exception we found Libyans to be friendly people who welcome tourists to their country. The infrastructure works very

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well, but English is not very widely spoken, and an interpreter is almost always necessary. There is quite a strong police presence at border crossing points and documentation is thoroughly checked.

**T** The currency is the Libyan Dinar and the exchange rate is approximately 1.2 LD = US\$1.00. Prices of consumer items are on a par with (to slightly less than) most European cities. Don't bother looking for a Pizza Hut or McDonalds. Libyan food is very tasty, but you need to speak and read Arabic to be able to order food in a restaurant or take away place. Libyans drive on the RH side of the road, in common with most of Europe and the USA.

**S** As Libya is a staunchly Muslim country, liquor is not available. At all. Non-alcoholic versions of European beers are available in a few places.

**E** Visas are issued ONLY on invitation from a Libyan national and only to recognised tour groups. Before a visa can be issued, the front page of your passport MUST be translated into Arabic by a certified translator. The practise up to now has been for the tour operator to arrange both the letter of invitation, the translation of the passport front page and the visa itself.

**2** It is possible to arrange visits by small groups, but these MUST be in conjunction with a tour operator who will arrange the services of a guide and the letter of invitation etc.

**0** Tourists must at all times be accompanied by their tour guide.

**0** Good guides (meaning they know the country, speak reasonable English and have a comfortable and reliable 4wd vehicle) are hard to find and not cheap - in general all the good guys are already associated with tour operators. Remember - tourism is just getting really serious in Libya. The shortage of guides will be around for a while as there is no formal tourism training.

Road signs are in Arabic only, making finding your way around very difficult unless you know the language. This is also true for all other signage (airports, towns etc) - so you would be hard pressed to know the difference between a hotel and any other similar building. Thank goodness the well-known male and female symbols are used to indicate rest rooms.

The Libyan Sahara

The eclipse centreline through Libya traverses the most desolate and dry areas of the Sahara (except for the narrow coastal strip where clouds are very likely to be a problem).

Eclipse observation from the coastal areas will be the easiest, but the chances of cloud are also greatest along the coastal strip. 77% of Libya's infrastructure is along the coastal strip, and only 3% in the interior.

South of Tobruk, the eastern side of the southgoing road is known to have uncleared landmines from the Second World War so extreme caution should be exercised in this area.

To the south of Benghazi the centreline traverses the Great Sand Sea and extensive shifting dunes, both forbidding and barren and yet stunningly beautiful.

In the deep south, the eclipse enters Libya at the Chad / Niger border, just skirting the western edge of the hauntingly beautiful Tibesti mountains. This is a no-go zone due to military activity and extensive recent landmining of the disputed border. There are no roads in this area of Libya, except for the Chadian border crossing which is open to Libyan and Chadian nationals only.

Communication and travel across the desert is difficult and requires multiple vehicles (three minimum) in case of breakdown. Getting lost here or suffering a vehicle breakdown could easily turn into a life-threatening situation. In such a case, a good guide with GPS and satellite phone will be invaluable.

The Sahara in the Great Sand Sea south of Jalu Oasis is extremely flat and featureless. Although this will make for excellent observation of the eclipse, complete self-sufficiency in water, transport, food, shelter and fuel (vehicle / cooking / heating / lighting) will be required. Desert nights can get extremely cold, even in March.

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If you want a to experience the desert observation experience, there are a few groups going into this area and it will be far better to join one of these groups than risk it on your own. One group is known to be trucking in an all-wheel-drive 25 000 litre water tanker as well as a complete camp infrastructure. Look for people with on-the-ground Libyan experience as this is invaluable.

In summary, lone travellers or small groups will find it difficult to observe the eclipse in Libya, unless they can manage to meet all the requirements above. However, Libya offers the best observation locations and duration by far and should not be ignored. It will be infinitely better to be part of an organised group and not have to worry about all the snags above.

But for sure - the very best eclipse observation will be from a desert location. Peter Tiedt Please note: That our Email addresses have now changed to : @npc.co.za

From: "Brian Garrett"

Thank you for the detailed report, Peter. As we all know, Libya is fortunate enough to be at center stage for an annular eclipse and a total within a six-month time span, and so an insight into what the country is like is a valuable heads-up. As has been mentioned, U.S. citizens are currently prohibited from traveling to Libya, but I hope that exceptions will be made for eclipse-chasers in 2006. Science has trumped politics on a number of occasions in the past when an eclipse was visible in a geopolitical hot spot, and I fervently hope it will happen again. Brian

From: "Klipsi"

> As has been mentioned, U.S. citizens are currently prohibited from traveling to Libya,

well, as far as I know, this ban has been lifted last month, hasn't it ? Klipsi

From: Jgall3622@aol.com

Hello Everyone: At least according to the media, the U.S. travel ban was lifted on February 26th (a fitting date -- Eclipse Day for the 1998 eclipse in the Caribbean, which was my first -- so lifting the travel ban for 2006 on this day was a real treat.) Joe Galloway

From: "James Huddle"

The travel ban was indeed lifted. However, that does not mean that it is easy to go. You do need an invitation (which can be issued by your Libyan ground operator) and you need a visa. The most difficult thing for me has been the Arabic translation of your passport info. The translation must be certified, and it has to be pasted inside the back cover of your passport. So far, so easy. BUT the translation also must carry an official stamp from the Government that issued the passport. The US Govt has a strict policy that it will not stamp anything they don't put in your passport, and their policy against translating American passports is just as strict. The Libyan Govt's insistence that it must be so stamped is equally strict. I have heard rumors that this issue is to be resolved in about a month. However, yesterday I was told in the Libyan Embassy to wait "two minutes," and then I'd have my visa, and yet an hour and ten minutes later, I was told to come back "tomorrow morning, 10:00, yes!" So, that one-month figure may be off by a factor of as much as thirty-five.

Still hoping to spend some time in the Great Libyan Jamahiriya, Jim Huddle

From: "Peter Tiedt"

Jim et al

-----Original Message-----

From: James Huddle [mailto:huddle@usna.edu]

---snip---

for me has been the Arabic translation of your passport info. The translation must be certified, and it has to be pasted inside the

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back cover of your passport. So far, so easy. BUT the translation also must carry an official stamp from the Government that issued the passport.

---snip---

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My experience was that as long as the translator is approved by the Libyan Peoples Bureau, that is OK. My passport certainly does not have a stamp on the translation page from the SA authorities.

---snip---

in the Libyan Embassy to wait "two minutes," and then I'd have my visa, and yet an hour and ten minutes later, I was told to come back "tomorrow morning, 10:00, yes!" So, that one-month figure may be off by a factor of as much as thirty-five.

---snip---

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In SA, this was accomplished in 48 hours - could have been less if we were more efficient.

Please note: That our Email addresses have now changed to : @npc.co.za

From: "Jen Winter

Those of us having the pleasure of conducting business in the Muslim country of Egypt, we have come to terms with the fact that all transactions and decisions require the game where 3 men argue for 5 minutes in arabic! It seems to be as commonplace and natural as the barter process in selling. If you are agreeable to accept that this process is going to happen and there's nothing you can do to stop it... the job is much easier. If you are unable to tolerate it, you will be frustrated and miserable through your whole project.

Thus is the cultural flavor and taste of traveling the globe... some harrowing stories to share with your grandchildren about your adventures.

Otherwise, why not just send a probe? Clear Skies, jen

From: "Evan Zucker"

Great report, Peter! One thing you didn't mention about the visibility prospects in the desert is the possibility of dust in the air or even dust storms. I recall that was a real problem in the African desert on 30 June 1973. I also have had personal experience with enduring dust storms in the Sinai Peninsula and in northern Egypt. They are thoroughly incompatible with eclipse viewing or much of anything else other than trying to breathe.

Anybody planning to travel to Libya needs to find out if they would be allowed to enter the country if they have a visa or entrance/exit stamps from Israel. I know this has been a problem with other Arab countries, and it wouldn't surprise me at all if Libya had a ban on this. Evan Zucker San Diego, California

From: "Peter Tiedt"

Evan et al

Sandstorms

March April is NOT the season. Very unlikely at that time of the year. Low on the horizon is a bit of dust haze, but with a sun being at ~67 deg, this is not a problem.

Israeli Connections

Israeli Stamps in your passport are still a very big NO-NO. You will not be admitted, even if all your paperwork is correct, if you have an Israeli stamp or visa in your passport. If it is present at the time of application for the visa, the visa would be refused. If the Israeli stuff is put in after the Libyan visa is granted, you will be turned back at your Libyan port of entry.

*(Continued on page 90)*

(Continued from page 89)

From: turkey@qatar.net.qa

Usually sandstorms starts in that area after mid of April, but March is lovely time there. K.alsubai

### TSE 2006 URLs

Date: Thu, 10 Jun 2004 From: "Michael Gill" To: solareclipsewebpages@btopenworld.com

Hi Patrick, Here are a few URLs that a person planning an expedition for the 2006TSE might check out.

#### General Travel Advisories

<http://www.state.gov/>  
<http://www.fco.gov.uk>

#### 2006 TSE

##### African Destinations:

<http://www.africaguide.com/country.htm>

##### Turkey Online Travel Guides:

[http://www.lonelyplanet.com/destinations/middle\\_east/turkey/](http://www.lonelyplanet.com/destinations/middle_east/turkey/)  
[http://www.fodors.com/miniguides/mgresults.cfm?destination=turkey\\_coast@267](http://www.fodors.com/miniguides/mgresults.cfm?destination=turkey_coast@267) (Turkey's Mediterranean coast)  
<http://www.letsgoturkey.com/>  
<http://www.enjoyturkey.com/>

##### UK Govt. Turkey Travel Advisory:

<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket%2FXcelerate%2FShowPage&c=Page&cid=1007029390590&a=KCountryAdvice&aid=1013618386532>  
<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019745009611>

##### Bulletin Board

<http://www.travel-information.org/forums/postlist.php?Cat=&Board=Turkey-Turkish>

##### Eclipse in Turkey

<http://newton.physics.metu.edu.tr/~aat/TSE2006/TSE2006.html>

##### Libya

<http://www.lonelyplanet.com/destinations/africa/libya/>  
<http://www.africaguide.com/country/libya/>  
<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019149793547>

##### Egypt:

[http://www.fodors.com/miniguides/mgresults.cfm?destination=cairo@40&cur\\_section=fea&feature=30002](http://www.fodors.com/miniguides/mgresults.cfm?destination=cairo@40&cur_section=fea&feature=30002)  
<http://www.africaguide.com/country/egypt/>  
<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1018535850786>

##### Niger

<http://www.state.gov/p/af/ci/ng/>  
<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019744981886>  
<http://www.cia.gov/cia/publications/factbook/geos/ng.html>  
<http://www.niger1.com>  
<http://www.lonelyplanet.com/destinations/africa/niger/>

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## Nigeria

<http://www.state.gov/p/af/ci/ni/><http://www.cia.gov/cia/publications/factbook/geos/ni.html><http://www.fc.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019744984923><http://www.lonelyplanet.com/destinations/africa/nigeria/><http://www.africaguide.com/country/nigeria/><http://www.nigeriatourism.net>2  
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## Ghana

<http://www.cia.gov/cia/publications/factbook/geos/gh.html><http://www.state.gov/p/af/ci/gh/><http://www.fc.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019672601848><http://www.africaguide.com/country/ghana/>

## Togo

<http://www.state.gov/p/af/ci/to/><http://www.cia.gov/cia/publications/factbook/geos/to.html><http://www.fc.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1030618268787><http://www.africaguide.com/country/togo/>

## Benin

<http://www.state.gov/p/af/ci/bn/><http://www.cia.gov/cia/publications/factbook/geos/bn.html><http://www.fc.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019501123315><http://www.africaguide.com/country/benin/>

## Chad

<http://www.state.gov/p/af/ci/cd/><http://www.cia.gov/cia/publications/factbook/geos/cd.html><http://www.africaguide.com/country/chad/>

## Brazil

[http://www.lonelyplanet.com/destinations/south\\_america/brazil/](http://www.lonelyplanet.com/destinations/south_america/brazil/)<http://www.state.gov/p/wha/ci/c2843.htm><http://www.fc.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019744897089><http://www.frommers.com/destinations/brazil/>

Cheers, Michael



# Joanne & Patrick

*The sole Newsletter dedicated  
to Solar Eclipses*



THE SOLAR ECLIPSE NEWSLETTER IS A MONTHLY NEWSLETTER ABOUT SOLAR ECLIPSES EDITED BY JOANNE & PATRICK POITEVIN. FINANCIAL SUPPORT FROM THE RAINBOW SYMPHONY.



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## Eclipse of 1954

Date: Wed, 30 Jun 2004 From: "Jean Meeus" To: "Solar Eclipses"

2004 June 30: Today, exactly 50 years ago, there was the TSE of 1954 June 30. Its path crossed Scandinavia. I was there, as a young man of 25 years, with a Dutch expedition at Figeholm, a small village near Oskarshamn, Sweden. During totality the sky was completely overcast, and all we "saw" was the darkness. Jean Meeus

From: "Timo Karhula"

That was the last time Sweden experienced a total solar eclipse. There were some sites in southern Sweden where the totality could be seen, especially from the island of Gotland. There were also some pilots that followed the shadow from military planes and prolonged the eclipse. Most elder people here claim that they experienced the darkness and coldness during the eclipse even when they were a few hundreds of kilometers from the centerline! The next total solar eclipse in Sweden takes place on 16 October, 2126. Let's hope it will be better weather then! :- ) Timo Karhula

From: "John Leppert"

I recall it as a deep partial eclipse as seen in northern North Dakota while southern Minnesota was directly in the path. There are several very nice photographs of the sun low in the eastern sky in total eclipse not long after sunrise among the tall buildings in Minneapolis. I was 13 at the time, and it was my first eclipse in memory. It would be interesting to know if anyone in this forum saw it from the Twin Cities. John Leppert

From: "Bob Morris"

This eclipse spent a lot of time in Canada -- and received a lot of publicity! It was 83% in Toronto, where I lived, I can remember watching partial phases with smoked glass. I was too young and destitute (in allowance!) to contemplating chasing an eclipse! The next total in Canada, in 1963, I travelled to see -- in Quebec. 60 sec in a huge clearing in the sky. Bob Morris

From: "Thomas Goodey"

That was the famous Allais eclipse. I have sent a congratulation card to Maurice Allais. Tom