

TRANSITS OF VENUS AND MERCURY AS MUSES

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Abstract: Transits of Venus and Mercury have inspired artistic creation of all kinds. After having been the first to witness a Venusian transit, in 1639, Jeremiah Horrocks expressed his feelings in poetry. Production has subsequently widened to include songs, short stories, novels, novellas, sermons, theatre, film, engravings, paintings, photography, medals, sculpture, stained glass, cartoons, stamps, music, opera, flower arrangements, and food and drink. Transit creations are reviewed, with emphasis on the English- and French-speaking worlds. It is found that transits of Mercury inspire much less creation than those of Venus, despite being much more frequent, and arguably of no less astronomical significance. It is suggested that this is primarily due to the mythological associations of Venus with sex and love, which are more powerful and gripping than Mercury's mythological role as a messenger and protector of traders and thieves. The lesson for those presenting the night sky to the public is that sex sells.

Keywords: Transits, Mercury, Venus, artistic inspiration

1 INTRODUCTION

Transits of Venus across the face of the Sun are rare. Only seven have been seen by human eyes, in 1639, 1761, 1769, 1874, 1882, 2004 and 2012.¹ From the very first they have inspired artistic creation. This paper surveys some of this rich heritage, though the enumeration is certainly far from complete. Transits of Mercury are considerably more frequent. There have been 51 since Gassendi first saw one in 1631, though not all were observed. They too have inspired writers and artists, but to a far lesser extent than transits by the Cytherean planet. I will suggest that this is because the mythological associations of Venus remain more powerful and attractive than those of Mercury, and that this provides a lesson for those presenting the heritage of the night sky to the general public. In what follows, translations are mine, unless indicated otherwise. Works treating transits in astrological terms have been omitted.

2 TRANSITS OF VENUS PRIOR TO 2004

Venus, the goddess of love, beauty, sex, fertility, prosperity and military victory, was the Roman equivalent of the Greek goddess Aphrodite. Her birth was singular. In one version of the myth, the Titan Cronos used his jagged sickle to unman his father Uranus, the primal sky god. The severed organs fell into the sea where they produced the spume and engendered Aphrodite, who rose to the surface fully-adult on a scallop shell. The wind-god Zephyr blew her ashore first on the island of Cythera, and then to Cyprus, while sea nymphs adorned her with flowers and gold (Figure 1).

In 1639, Jeremiah Horrocks and William Crabtree were the first people to see a transit of Venus, from Much Hoole and Salford, respectively, in Lancashire. After Horrocks had calculated that the transit would in fact be seen best from North America, where no one could know to look for it, he broke into Latin verse to remon-

strate with the planet in female personification (Hevelius, 1662: 118):

Quid fugis ab formosa tuas? quid diva negatos
Europa vultus, visu dignissima condis?² ...

which Whatton (1859: 135) translates as:

Why beauteous Queen desert thy votaries
here?
Ah! Why from Europe hide that face divine,
Most meet to be admired? on distant climes
Why scatter riches? or such splendid sights
Why waste on those who cannot prize their
value?³

2.1 Poetry

Subsequent transits continued to provide poetic inspiration, both comic and serious. Consider Ann Williams, postmistress of Gravesend. She penned the following 'impromptu' in 1773, "... on reading that all the gentlemen were taken ill the day after viewing the transit of Venus." (Williams, 1773: 100). It seems likely she was reacting to news of Chappe d'Auteroche's fever-stricken observing expedition to Baja California in 1769:⁴

Presumptuous man, how could you think to
trace,
Or view unhurt bright Venus' lovely face?
Cupid for this has play'd you all a trick,
And for your bold presumption made you sick.

A similar warning was issued at a later transit (Daloz, 1883; my English translation):

In levelling thus at me your 'scope
You think you'll capture me;
But if imprudent near you come,
Right quick will stop your heart.

Earlier in the nineteenth century the French entomologist Hugues Fleury Donzel wrote a fable in which a man explains why he cannot take his dog for a walk (1849: 194; my English translation):

I have calculated the transit
Of Venus across the Sun:
I await it. Would it be wise

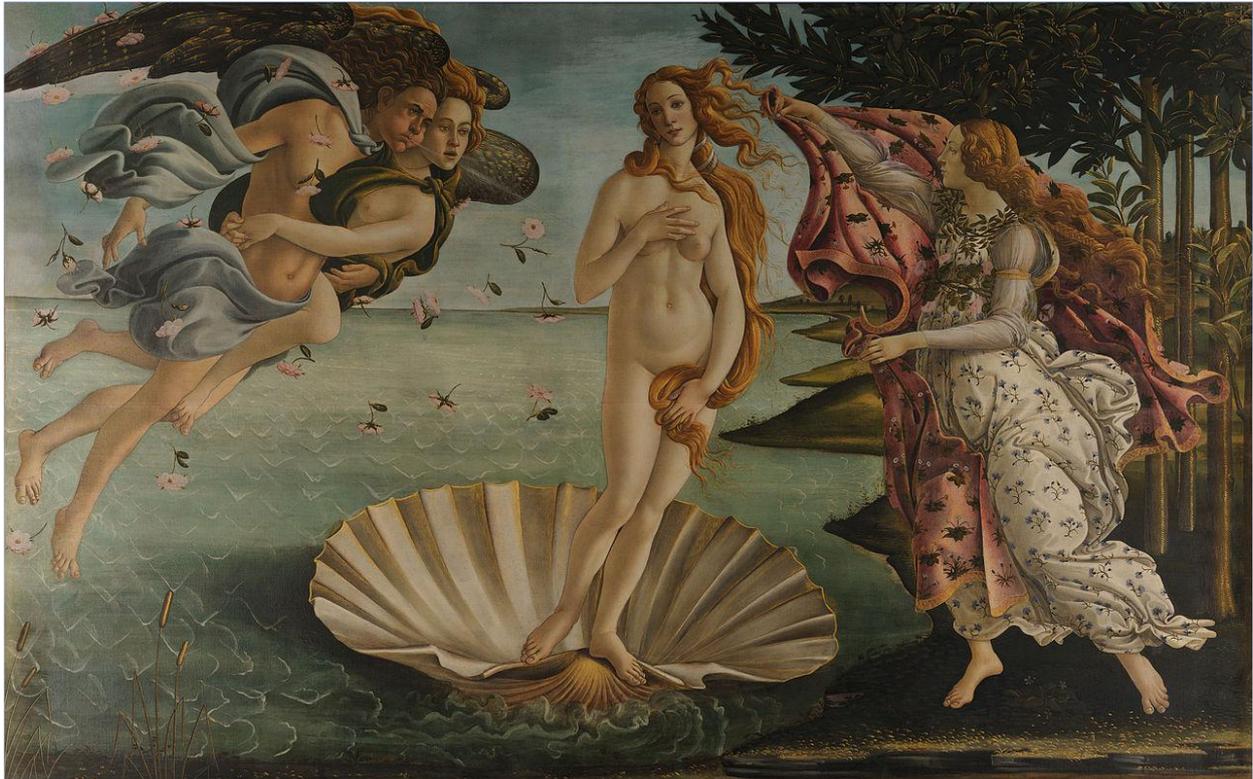


Figure 1: *La nascita di Venere* by Sandro Botticelli (1445–1510) (courtesy: Wikimedia Commons).

To give up the benefit
Of such a phenomenon?
Go without me ...

Punch, or the London Charivari, frequently engaged with topical scientific issues (Noakes, 2002). The 1874 transit was no exception (Figure 2),⁵ despite not being visible from Britain, though the following sample poem suggests that its author may not have appreciated that transits across the Sun are day-time phenomena (The astronomer at home, 1874):

I hold, whatever PROCTOR writes,
Or LOCKYER, or AIRY,
Out-door observing, these chill nights,
A snare for the unwary ...

Let who will, mid Kerguelen's snows,
Seek freezing-post and thawing-room,
My Venus one short transit knows—
From dining-room to drawing-room.⁶

The realities of observing were fully appreciated, however, in a later ditty (The Transit of Venus, 1874a):

Home troop the astronomers various,
And bring their celestial log,
Some rendered by sunshine hilarious,
Some dampened by inopportune fog.

More serious was the Dublin poet Thomas Caulfield Irwin (1874):

Mind reckons distance of the motion—Time:
Mind, with a world, measures the sun sublime.
Now o'er the ocean, winged with steam and sail,
Speed forth ye ships of science ...

The French writer Eugène Lambert produced a poem entitled *Le passage de Vénus* (1876: 125), which ends (my English translation):

Savants travel so very far, in such grand style,
To spy upon your track across the Sun.

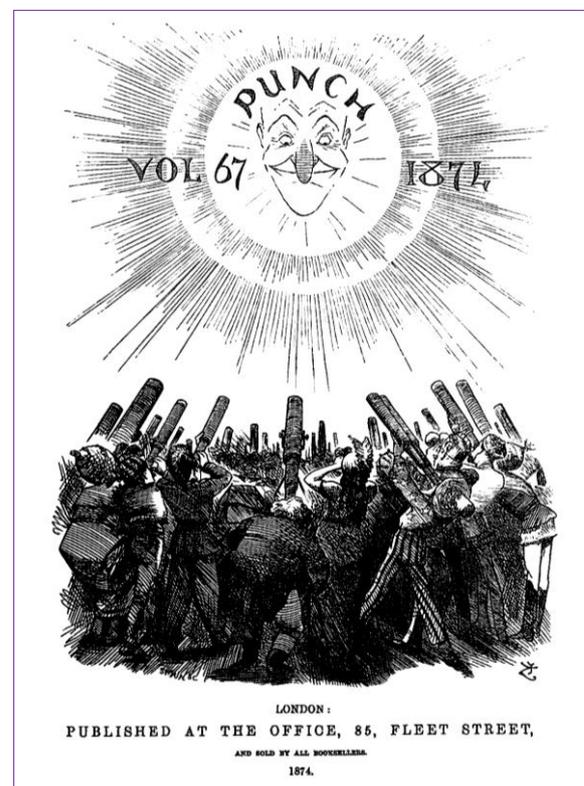


Figure 2: Guard page for the 1874 volume of the British satirical magazine *Punch*, reflecting frequent references to that year's transit in the magazine (courtesy: David Miller).

In the sky, a telescope tracks your course;
 But, Venus, if there, for these savants of a day,
 You are only a black spot on the Sun, a blemish,
 You will remain for us the star of love!

Hermann Krone, one of the photographers on the German expedition to New Zealand's subantarctic Auckland Islands in 1874, summarized the party's goal in more serious verse (Krone, ca.1901: 55; my English translation):

You peer out searching into space,
 You seek to measure how far removed
 Is your viewpoint here on Earth
 From the glare of the warming Sun.

The American jurist and poet, Oliver Wendell Holmes, invoked glaring too, in his *The Flaneur* (1883). Holmes had been waiting on Boston Common to pay a dime to look at the 1882 transit through a telescope:

I gain at last the envied place,
 And pay the white exiguous coin:
 The sun and I are face to face;
 He glares at me, I stare at him;
 And lo! my straining eye has found
 A little spot that, black and round,
 Lies near the crimsoned fire-orb's rim.

Cloudy skies in London for this mid-week transit provoked *Punch's* writers into the following rather garbled attempt at humour "By a disappointed Would-be Observer of the late Transit" (Cockney Conceit, 1882):

Vain the desire to "focus" thee, fair Venus
 (On this thy latest only living man's day),
 With this vile veil of London smoke between
 us.
 Alas! "Sic transit gloria mun—" no, Wednesday!

The weather does not seem to have been any better in France. Henri Bourette (1885: 190) versified on the coming-together of Apollo and Venus modestly shielded by a cloud. The 1882 transit also prompted what now seem like pompous and surprisingly humourless verses from the Berlin-based satirical magazine *Kladderadatsch* (Kladderadatsch, 1882).

Transits continued to inspire poets in the transitless twentieth century. It is perhaps unsurprising that the cigar-smoking Amy Lowell should have written a poem entitled *Venus Transiens* (1915), even if the poem's subject is Botticelli's painting (Figure 1) rather than a celestial transit, because Lowell was born in the transit year 1874 and was the youngest sister of Percival Lowell of canals-of-Mars fame. In 1920s Paris, the rich, American *bon vivant* Harry Crosby was fascinated by the Sun and its associations. He wrote the poems in his *Transit of Venus* (1928) soon after meeting and beginning an affair with Josephine Rotch, who would die with him the following year in what

may have been a suicide pact. In his diary, Crosby stated that he chose the book's title because he saw both Rotch and Venus as "... the Youngest Princess of the Sun." (Fama, 2012). Below, Crosby evokes their *First Meeting*:

When you are the flower
 I am the shadow cast by the flower
 When I am the fire
 You are the mirror reflecting the fire
 And when Venus has entered the disk of the Sun
 Then you are that Venus and I am the Sun.

The little-known Lee Eisenstark treats departure in his *Transit of Venus* (1972):

You closed the door without a sound
 You always did things gently ...

while discovery and exploration form the theme of a volume of poems by the Australian Alex Galloway (1993).

Another Australian poet, A.D. Hope, had earlier taken the British expedition to Tahiti in 1769 as the setting for his 200-line *Transit of Venus* poem published in 1985. In it Joseph Banks is (inaccurately) represented as uninterested in women. Spurned, the goddess of love sets a honey-trap:

The transit of my planet across the Sun
 Shall be the bait—an intellectual one—
 Watching its flight from limb to glowing limb,
 He shall not notice *me* observing *him*.

The "unclad beauty" of the Tahitian women will be "an unfailing snare":

Those naked bosoms and voluptuous flanks
 Will make short work, I swear, of Mr Banks.

Banks was friendly:

... but still maintained
 A well-bred abstinence, to say the least,
 Remained agreeable, but forebore the feast.

And:

As for the transit, he ignored it too ...⁷

2.2 Novels and Short Stories

Other transit-inspired literary forms include the novel and the novella. Among the former are *Der Durchgang der Venus* (1880) by Richard Forstner (who seems to have written little else); Thomas Hardy's *Two on a Tower* (1882) with astronomer Swithin St Cleve ("... the astronomical world is getting quite excited about the coming Transit of Venus. There is to be a regular expedition fitted out. How I should like to join it!"); and the extraordinary *Transit of Venus* novel-of-the-psyche by Australian author Shirley Hazzard (1980; "Tice said, 'The calculations were hopelessly out.' Siding with the girl. 'Calculations about Venus often are.'"). Hardy's and Hazzard's novels have been subjected to

scholarly analysis (e.g. DeWitt, 2007; Marroni, 2010 for the former; Brooks, 1998; McDougall, 1995; and especially Birkerts, 2009 for the latter). With the *Transit of Venus* title we also have the novel by the American bandmaster John Philip Sousa (1920) (“... the little black disc we call Venus ... behaved like a real lady”). We can imagine the content of *Élodie, ou le Passage de Vénus* (Durand, 1926) from its cover (Figure 3). The astrophysicist J.-P. Luminet’s *Le Rendez-vous de Vénus* (1999) pretends to be the memoirs of French astronomer J.J. Lalande. It recounts the tribulations of the French transit-observers Chappé d’Auteroche, whose fatal expedition to Baja California has already been mentioned, and Guillaume Le Gentil, whose sorry lot it was to fail to observe both eighteenth century transits. Le Gentil’s story is also told in Lorenz Schröter’s German-language *Venus-Passage* (2001).

There are numerous short stories, or collections thereof, entitled *Transit of Venus*, or the equivalent in other languages. In one from the 1880s, a young astronomer asks his father for 500 francs to defray expenses associated with observing Venus in transit—in reality, for entertaining a show-girl (Deslilas, 1882). In another, by the free-thinking, anti-clerical feminist Marie-Amélie Chartroule de Montifaud, a disappointed wife asks two priests to verify her unperforming husband’s manhood. This they attempt by having two young women pass in front of the naked man, though in fact the man is an imposter, hired by the handicapped husband, and the women are mechanical automats (de Montifaud, 1883). Prior to WWI there is a short story by the mid-western author Samuel Marshall Ilsley (1908) in which a strikingly handsome but cold-eyed young woman crosses paths with an equally-handsome, would-be poet. In the inter-War years the English-Canadian humorist Stephen Leacock (1926; see also Chopra, 1989) wrote a “... delicious story of the astronomy professor who captured a star of the very first magnitude ...”, while the English fantasy writer Michael Harrison (1936) published an ‘erotophobic’ demolition of the desert island as an Eden (Stableford, 1998: 17). Tom Hopkinson’s *The Transitory Venus* (1948: dust jacket) collects

... stories [that] are studies in the effects of ... those love affairs which, although they may only last a short time can, nevertheless, profoundly alter a whole life.

More recently the *Transit of Venus* title has been used by the American science-fiction writer Miriam Allen deFord for a short story (1962: 41; “Nobody really knows when the rite of the Buti-contest began. Some archaeologists place it as far back as the 20th century ...”) and by her countryman Mark Seymour (2007: 25): “He

watched her emerge out of the tepid surf, glistening hips swaying on either side of the vertical strip of her yellow tanga.” The same title has been used for a Pacific-Ocean travelogue “... simply because travelling through the islands ... had felt like crossing another planet.” (Evans, 1992; 2012) and for thoughts on the author’s Pitcairn-Island ancestors (Metcalf, 2004). The title *Venus in Transit* was adopted by the British author Audrey Laski for her first published novel (1964), and by Douglas Sellick for the writings of early Australian women travellers (2003).

Transits of Venus appear in creative writing in other ways. The great age of the Earth and the origin of species are amongst the issues parodied in Mark Twain’s *Some learned Fables*

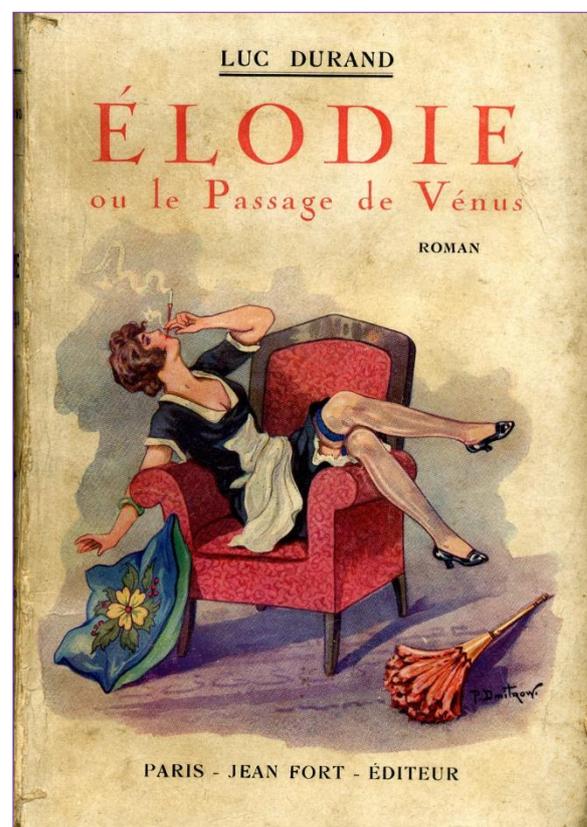


Figure 3: Cover of the novel *Élodie, ou le passage de Vénus* (author’s collection).

for *Good Old Boys and Girls*. Published soon after the 1874 transit, the short story explicitly mentions transits of Venus, and the 1874 expeditions are the clear inspiration behind passages such as (Twain, 1875: 126):

Once the creatures of the forest held a great convention and appointed a commission consisting of the most illustrious scientists among them to go forth ... It was the most imposing enterprise of the kind the nation had ever embarked in ... How the members were banqueted, and glorified, and talked about!

Over the years there have appeared many variations of J.D. Wyss’ moralistic *Der Schweizer-*

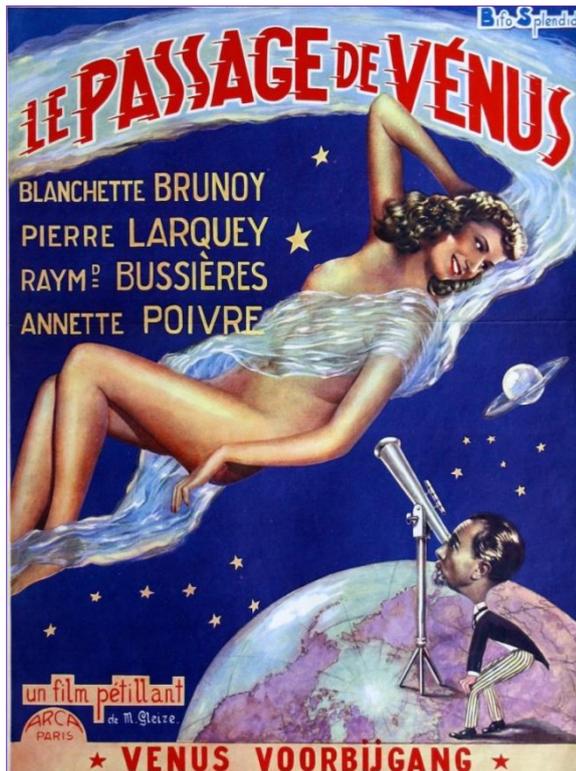


Figure 4: Poster for the 1951 film directed by Maurice Gleize (after: www.cinema-francais.fr).

ische *Robinson* (1812). At least one includes the transit of Venus (*The Swiss Family Robinson*, 1859: 380):



Le Roy au milieu d'une guerre dispendieuse daigna s'occuper de l'avancement des Sciences. L'Académie sous la figure d'Uranie lui rend compte du passage de Vénus sur le Soleil, et des autres observations morales et physiques faites à cette occasion.

Figure 5: The French Academy of Sciences personified as Urania reporting the results of Siberian transit observations from 1761. Engraved from a drawing by Jean-Baptiste Le Prince (courtesy: Google Books).

Astronomy made them such friends, that Mr. Horner petitioned me to allow him to take my son to Europe ... Many tears were shed at our parting ... but Mr. Horner made some observations about the transit of Venus, so interesting that Ernest could not resist.

In the utopian novel *A Voyage to Venus* by Australian author Dominic Healy (1943: 85) the "... memorable transit ..." of 2004 appears as the one during which Earthlings supposedly determine that Venus is "... inhabited by primitive forms of life".

2.3 Plays

Playwrights were busy too. Garnet Walch's one-act pantomime *Adamanta ... or ... the Transit of Venus* was performed in Melbourne over Christmas 1874, complete with astronomer Phokuss (Walch, 1874). A few months later *Le passage de Vénus* opened in Paris, scripted by the dramatists Henri Meilhac and Ludovic Halévy (1875), who at the same time were collaborating on the libretto for Bizet's *Carmen*.⁸ Their astronomer was more conventionally named. In 1921 the dramatist Miguel Zamacoïs produced a charming 'fantasia' in rhyming verse. Set in Ceylon in the minutes before the 1769 transit, Léonard, an astronomer from France, is surprised by the unexpected arrival of his erstwhile paramour. In search of consolation, she had been travelling east to marry a spice merchant, but her ship has been blown off course. The captain will sail with the next tide, so Léonard must choose at once between life with his earthly Venus or a few hours with the celestial one which will make his fame in Paris (Zamacoïs, 1921: 176; my English translation):

Between dream and desire, which to make my fate?

One is in a hurry, and the other will not wait!

Zamacoïs' play does not appear to have been performed publicly, which is a shame, because of all the transit literature I have read, it is my favourite. However it was broadcast on the radio a decade later.⁹ Also broadcast on the radio, much later, was a "... comédie-bouffe pour les ondes ..." by the multi-faceted French writer Armand Lanoux (1960).¹⁰

Harold Harwood's play *The Transit of Venus* is a critique of western civilisation, performed in London in 1927 (Harwood, 1927; Ambassadors Theatre, 1927a).¹¹ A play of the same name by Maureen Hunter was first performed in Winnipeg in 1992. It is another work centring on the unfortunate Le Gentil and gave rise to an opera with libretto by Hunter (2007) and music by Victor Davies. There is even a film (Figure 4) starring the wistful-looking Blanchette Brunoy, which derived from an earlier stage play by the author-actors Georges Berr and Louis Ver-

neuil.¹² After a night's drinking, of which he remembers little, the normally-austere astronomer Chantoiseau becomes convinced that he is the perpetrator of a theft and rape.

2.4 Religious Tracts

Transits have also inspired religious tracts. At first glance, the meaning of the anonymous and entertaining pamphlet *Some Reasons for Doubting the Alleged Transit of Venus* (1875: 10-24) is far from clear. The reasons are that transits are "... improbable ...", that "... Horrocks was a clergyman; and we know that clergymen, though eminently amiable and well-intentioned, are yet not, as a rule, a class upon whose accuracy and judgment we can very safely rely ..."; that concerning those sent to observe the 1874 transit, for Americans "... a very exact way of speaking is not among their pre-eminent virtues ...", for Germans "... their forte lies more in the region of speculative thought than in practical observation ...", for French "... who can expect from a people ardently courageous and impulsive, that calmness—that judicial impartiality—which is so essential for clear, dispassionate evidence ...", for Russians "... that the wilds of Siberia are far too remote and barbarous to admit of our even investigating [their] testimony ...", for English "... what can we expect but assent, when the storm of popular prejudice has set determinately in favour of the Transit?"; and concerning astronomers in general, "... they are the very worst witnesses which could be called ... for they are all of them committed to the Transit beforehand." The anonymous author continues by decrying the quality of the evidence. The times recorded at Calcutta differ from those at Kurachee, and no transit was observed by "... the multitudes who thronged the quays of Dublin, the streets of Glasgow, the avenues of Hyde Park." The author praises the toil of Spinoza, Tindal, Gibbon, Comte and Strauss and asks to what end they have toiled (*Some Reasons for Doubting the Alleged Transit of Venus*, 1875: 26):

[if] we ... are to be found yielding to the old impulse of superstition against which they raised their loudest protest, and accepting on mere testimony statements and narratives that will not stand even the mildest application of those laws and rules which they so rigorously applied and so nobly maintained?

The author's meaning is revealed by the comment in the catalogues of the British Library and National Library of Scotland that the pamphlet is "... a satire on religious scepticism." The opposite of what is said is meant throughout. It is in fact a tract in favour of revelation and the truth of scripture. No such complexity of interpretation is necessary for *A Sermon Suggested by the Transit of Venus* delivered in Philadel-

phia's First Baptist Church on the evening of the 1882 transit (Boardman, 1882). The immutable laws of nature, as indicated by the transit, are proof of God's equally immutable covenant with man.

2.5 Paintings and Art

In painting and art, productions have until this century mostly been commemorative. A first example comes from the Abbé Chappe d'Auteroche's enormous, folio-sized report of his voyage through Siberia in order to observe the 1761 transit (Chappe d'Auteroche, 1768). Vexed by the Abbé's poor opinion of Russia, Catherine the Great described this work as "... a bad book, superbly printed." (*Antidote*, 1770: 1), and the frontispiece is certainly magnificent (Figure 5; see also Levitt, 1998). The legend underneath praises Louis XV for having sent out scientific expeditions while spending heavily on fighting the Seven Years' War.¹³ The purpose of Chappe's expedition is indicated by the *putti* hovering near the Sun complete with telescope



Figure 6: Decoration on an 18th-century *Passemant*-school barometer celebrating the 1769 transit of Venus (courtesy and ©: The Metropolitan Museum of Art).

and dividers, while Urania, muse of astronomy, is reporting the results. Louis XV provides a link to an object celebrating the second eighteenth-century transit. It is a barometer from the *Passemant* School which belonged to Madame du Barry, the King's last *maîtresse-en-titre*. One of its decorative enamel panels shows a *putto* surveying the sky with a telescope; another shows him contemplating his observations with an open book marking the 1769 transit (Figure 6).

In 1859 a stained glass window was installed in Much Hoole Church celebrating Horrocks' observation nearby of the 1639 transit (Figure 7), as part of the then-Rector's 'Horrocks fever' (Myres, 1884). In the following decades paintings were produced by British artists Ford Madox Brown, Eyre Crowe and William Lavender of the moment of observation of the transit by Horrocks or his friend Crabtree. Of course nothing is known about the actual physical appearance of these two young men. Brown's painting is one of twelve made for Manchester Town Hall celebrating key events in the locality's



Figure 7: Window installed in St Michael's Church, Much Hoole in 1859 commemorating Horrocks' observation of the 1639 transit (courtesy: Wikimedia Commons/Chuck Bueter, CC BY-SA 3.0).

history (Figure 8). It is a fresco, painted using the Gambier Parry technique, and was completed in 1883. The 24-year old Crabtree is represented as a bony old man observing the transit with his family in the attic of his draper's shop.¹⁴ The winter transit date is indicated by a frosted window on the floor beneath. Knobel (1903) tells us that the depicted means of projecting the solar image was derived from perusal of a drawing¹⁵ in Scheiner's *Rosa Ursina* (1626-1630); a battered copy of this volume leans against a cupboard in the fresco.

Crowe's picture (Figure 9) was exhibited at the Royal Academy in 1891 and described by one critic as "... a somewhat grotesque tribute ..." (The Royal Academy, 1891). Sir Norman Lockyer assisted by providing a telescope and for the background Crowe is said to have visited the

room in Carr House at Much Hoole, where Horrocks may have observed (Summerwill, 2012). The equatorial 'helioscope' is copied from *Rosa Ursina*, but Southport (1903) has pointed out that the impoverished Horrocks was unlikely to have owned such an expensive mount for his Galilean telescope.

Lavender's picture (Figure 10) was painted with input from two Southport astronomers, G. Napier Clark and D.E. Benson (Southport, 1903), and indeed it seems probable that it was commissioned by Clark to coincide with the British Association's meeting in Southport (near Much Hoole) in 1903.¹⁶ Efforts were taken to have the painting conform as closely as possible to Horrocks' description of his procedure, such as a projection that fills the calibrated circumference of a circle drawn on a card (Clark, 1916). However, as with the two other paintings of the 1639 transit, Venus is mispositioned.¹⁷

The French celebrated the nineteenth century transits with a number of works. The painter and decorator François-Émile Ehrmann produced an allegorical canvas (Figure 11) showing a lightly-clad Venus passing in front of the giant face of Phoebus Apollo (the Sun). The work was exhibited at the 1875 *Salon* and was dismissed by one critic as too small and by another as quasi-farcical (de Montaignon, 1875: 512; Claretie, 1876: 363). One can imagine that similar remarks might have been made about another design, published after the 1882 transit by Paul Avril (1883), who later became notorious for his explicit erotic illustrations (Figure 12).¹⁸

At least two artists proposed designs for a medal to commemorate the 1874 expeditions: Eugène André Oudiné (exhibited at the *Salon* in 1876) and Alphée Dubois (shown at the *Salon*



Figure 8: Ford Madox Brown's fresco in Manchester Town Hall completed in 1883 picturing Crabtree watching the 1639 transit. The painting measures 3.20 x 1.45 m (courtesy: Manchester City Council).



Figure 9: *The Founder of English Astronomy*, Eyre Crowe's oil painting from 1891 of Horrocks observing the 1639 transit. The canvas measures 1.00 x 0.76 m (courtesy: National Museums Liverpool/BBC Your Paintings).

the following year) (Correspondance, 1875; Exposition Universelle Internationale, 1878: 92, 107-108). Dubois' design was adopted and he cut the die, which showed Venus and Apollo observed by Urania. The hellenist Émile Egger of the Académie des inscriptions et belles-lettres devised a Latin motto which translates as "By their meeting, the stars reveal the distance which separates them" (*Académie des Sciences*, 1877: 417-418). The medal was struck afresh after the 1882 expeditions (Figure 13). The 1879 *Prix de Sèvres* for ceramics had as its topic the transit of Venus. The prize was won by



Figure 10: Horrocks observing the 1639 transit, as imagined by William Richard Lavender in 1903. The oval measures 0.92 x 0.61 m (courtesy: Astley Hall Museum and Art Gallery/BBC Your Paintings).

Joseph Chéret with a 2-metre tall vase which was installed in the Bibliothèque Nationale (Manufacture de porcelaines de Sèvres, 1879; Lechevallier-Chevignard, 1908). After the 1882 transit, the Professor of Drawing at the École Polytechnique, Edmond-Louis Dupain, painted a huge circular allegory which since 1886 has decorated the Council Room in the west rotunda



Figure 11: Engraving of F.-É. Ehrmann's *Le passage de Vénus devant le Soleil* (Exposition du Havre, 1875) (author's collection).



Figure 12: *Le passage de Vénus sur le soleil* (Avril, 1883) (courtesy: gallica.bnf.fr).



Figure 13: Medal designed by Alphée Dubois and awarded to members of the French expeditions and others in 1874 and 1882 (author's collection).

of the Paris Observatory (Figure 14).¹⁹ Débarbat (2005) notes that besides showing Apollo in his chariot and an approaching, bare-breasted Venus being observed by Urania, the painting includes vignettes of Halley, Delisle and Le Verrier.²⁰

American painters appear to have found transits less inspiring. The only work I have discovered is by the British-born J.G. Brown who imagined street urchins watching the 1882 transit through smoked glass (Figure 15). Brown's painting was copied for the cover of *Har-*



Figure 14: E.-L. Dupain's allegory of the transit of Venus decorating the ceiling of the Paris Observatory Council Room. The canvas is some 4 m in diameter (author's photograph).

per's Weekly and later the *Illustration Européenne*.²¹ The original sold recently at Christie's New York for US\$122,500.

2.6 Songs and Musical Compositions

Many composers and musicians have taken transits of Venus as their theme, or at least title. Eighteenth-century transits inspired the actor G.A. Stevens' *Transit of Venus* song (1772: 150; also Rosenfeld, 2011b):

Astrologers lately a bustle have made,
How round the sun *Venus* cou'd dance it,
With *optic, catoptric, dioptric* parade,
To spy how genteel was her transit ...

Bedew'd by the salt-water spray as she rose,
To *Apollo* her Beautyship run,
Intending to dry her Olympical Cloaths,
So stood between us and the Sun.

Come ye lads and lasses with speed: The transit of Venus was another (lewd) song from the same place and period.²² The nineteenth century saw a *Transit Galop* (Case, 1881), a *Venus Polka Quadrille* (Heinemann, 1883), a *Venus Waltz* (Armstrong, 1884) and a *Transit of Venus March* by bandmaster Sousa (1883). In 1898 James T. Tanner scripted a two-act musical comedy with lyrics by Adrian Ross and music by Napoleon Lambelet (*The Era*, 1898). Reportedly, the close of the first act was "... highly ingenious ...", involving nine sets of lyrics for eight principals and a chorus of gendarmes (Short and Compton-Rickett, 1938: 136). In the 1960s New Zealand schools often rang with children singing *The Ballad of Captain Cook* by folk singer Willow Macky (1959) with its lines "But I must be off to the isles of the south / To observe the transit of Venus". The transit also features in the celebration of Cook's voyage *Love 200* by the Australian composer Peter Sculthorpe and rock band Tully in 1970 (e.g. Tully, 2010). In the 1990s *Transit of Venus* tracks featured in albums by British free-jazz saxophonist Evan Parker and Tuvan throat singer Sainkho Namtchylak (1996); by the American composer Stephen Scott (1996); and by the Brussels-based Dutch guitarist Paul Curtiz (1997). Cook's Nordic naturalist, Hermann Spöring, provided the central theme for a *Transit of Venus* 'radiophonic meditation' by the Finnish sound artist Simo Alitalo (1999).

2.7 Cartoons

Transits have furnished a rich lode mined by cartoonists. In 1793 Robert Sayer & Co. published an engraving of a transit maiden being examined through a quizzing glass by a man whose lascivious intent is made clear by the nearby statue of a satyr (Figure 16). Sixteen years later, the Duke of York's ex-mistress, Mrs Clarke, created scandal by selling access to her former lover to officers aspiring for promotion. A



Figure 15: John George Brown's *Transit of Venus* painted in 1883 (courtesy: Christie's New York).

cartoon showed the Sun of the Duke crossed by the Venus of Mrs Clarke (Figure 17). The same visual theme was repeated almost 70 years later with autocratic government eclipsed by the Third Republic (Figure 18; Gill, 1875). Another theme adopted by more than one cartoonist is that of a female being transported. Apollo may be present, shining brightly (Figure 19). Venus may be a substantial maiden on a litter, carried by policemen or Egyptian porters, depending on whether she is drunk or not (Figures 20 and 21). Or she may be a matron purportedly transported across London by spirit means, or a difficult-to-move statue (Figure 22).²³ The transport theme has also been used with no aim at irony in a sickly-sweet painting by the English genre painter Charles Garland (Figure 23). Observers on Earth may be seen as voyeurs (Venus: "How earth stares at me. It makes me feel quite beauti-



Figure 16: Satirical print from 1793 (courtesy: NASA).

2.8 Other Homages to Transits of Venus

Finally, it should be mentioned that in the 1870s there was a racehorse in New Zealand named *Venus Transit* that even won a race (e.g. Special Telegrams, 1877), while Cottam, et al. (2012) report a transit of Venus flower arrangement in 1882 at Delmonico's Restaurant in New York. In 1980 the British abstract sculptor Deborah Stern produced a transit-themed work in bronze. Commemorative stamps have been issued by many postal authorities, including those of Curaçao, China, the French Southern & Antarctic Territories, Mauritius, New Zealand, Norfolk Island, South Africa and Tuvalu (e.g. see Figure 25).

3 THE TWENTY-FIRST CENTURY TRANSITS OF VENUS

The two latest transits have seen an explosion of artistic production, or at the very least, its availability on the internet, and it is practical to mention only a small selection of the available material. Table 1 counts the items that I have discovered in a less-than-systematic search, so the numbers should only be considered illustrative. The marked rise in poetry and painting between 2004 and 2012 is due to the emergence between these dates of venues for their on-line display, such as wordpress.com and deviantart.com, whereas musical production has been less affected.

3.1 Poems

Poems in books or books of poems with a transit verse or title include Acharya (2010), Bennett (2010), Edgar (2006), Hahn (2010), Lavarreda (2012), Lomer (2007), McGuire (2013), Miller (2012), Potter (2005), Riach (2001) and Torwl (2012). From the plethora of poetry in blogs in 2012, here are three three-liners, all with rather similar themes:

Venus transit over Sun
that face pimple I wish
would move and go away too.
(Chunghoo, 2012)

transit of Venus
the mole
on her upper lip.²⁵
(Pierides, 2012)

On the powdered cheek of the Sun
Venus the coquette
Has placed her beauty spot.
(Catheau, 2012; my English translation)

3.2 Works of Art

Numerous paintings, photographs, digital art works and other pictures were prompted by the recent transits. Figure 26 shows a cartoon that illustrated a newspaper opinion piece by Pasachoff (2012). Figure 27 presents thumbnails of a selection of other striking images.

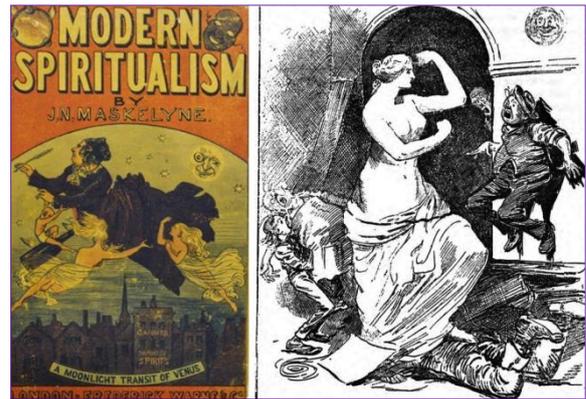


Figure 22: (Left) Spirits transport Mrs Samuel Guppy across London with the ink still wet in her pen (Maskelyne, 1876) (courtesy: liveauctioneers.com). (Right) The Venus de Milo, arms restored, gets the better of workmen attempting to move her (Furniss, 1887) (courtesy: Google Books).



Figure 23: C.T. Garland's *Transit of Venus* as reproduced in *The Graphic's Christmas Number* for 1884 (author's collection).



Figure 24: Parody of poor weather from *L'Éclipse*, a French comic newspaper (Hadol, 1874). The caption says "At the moment of the transit of Venus, astronomers see their telescopes changed into vine leaves" (courtesy: Universitätsbibliothek Heidelberg, CC BY-NC-SA 3.0).



Figure 25: Transit of Venus commemorative stamps issued by New Zealand in 1969, the French Southern & Antarctic Territories in 2001, Mauritius in 2009 and Portugal in 2012 (author’s collection).

Table 1: Artistic works entitled *Transit of Venus* (or similar) inspired by the two most recent transits. Appearance during 2000-2009 has been associated with the 2004 transit and during 2010-2013 with the 2012 transit.

Genre	2004	2012
Short stories	3	2
Books of poems	1	5
Individual poems	8	43
Paintings/prints etc.	3	76
Music albums/CDs	5	7
Musical pieces/tracks	15	12

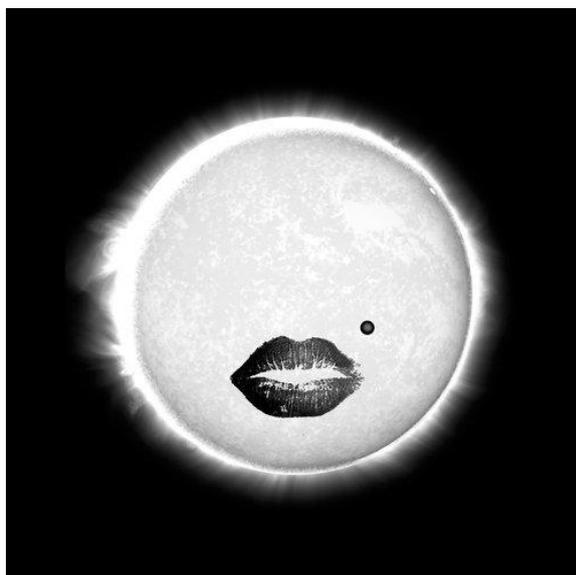


Figure 26: Cartoon from *The New York Times* by Valero Duval (courtesy: Jay Pasachoff collection).

3.3 Literary Works

Amongst stories, the Indian surgeon-writer, Kalpana Swaminathan, published *Venus Crossing: Twelve Stories of Transit* (2009), which won that year’s Vodafone Crossword Book Award. Tarrin Lupo and Ruby Hilliard (2012) have written a horror story about a Venus-obsessed sect:

She drifted in and out of consciousness as she alternated between watching Venus transit the face of the sun ... and the congregation indulging in gratuitous sex acts. She could make no sense of any of it.

There are *Transit* graphic novels too (Figure 28;²⁶ Maurer, 2009), and a Dr Who audio-book (Rayner, 2009).

3.4 Musical Compositions

Among the classical music spawned by the recent transits are pieces by Houston Dunleavy and Laura Goodin (2003, for sopranos, alto and piano); by John Wesley Barker (2004, for the flute, inspired by a drawing from Cook’s expedition of a Tahitian playing a flute); by Joby Talbot (2005); by Julia Usher (2009, for the clarinet and saxophone); by William Zeitler (2012, for the glass armonica, an instrument redefined and named by Benjamin Franklin in transit year 1761); and by Frédéric Bousquet (2009, for the Cristal Baschet, an armonica-like instrument). A computer-guided piece has been produced by the Australian composer and performer Lindsay Vickery

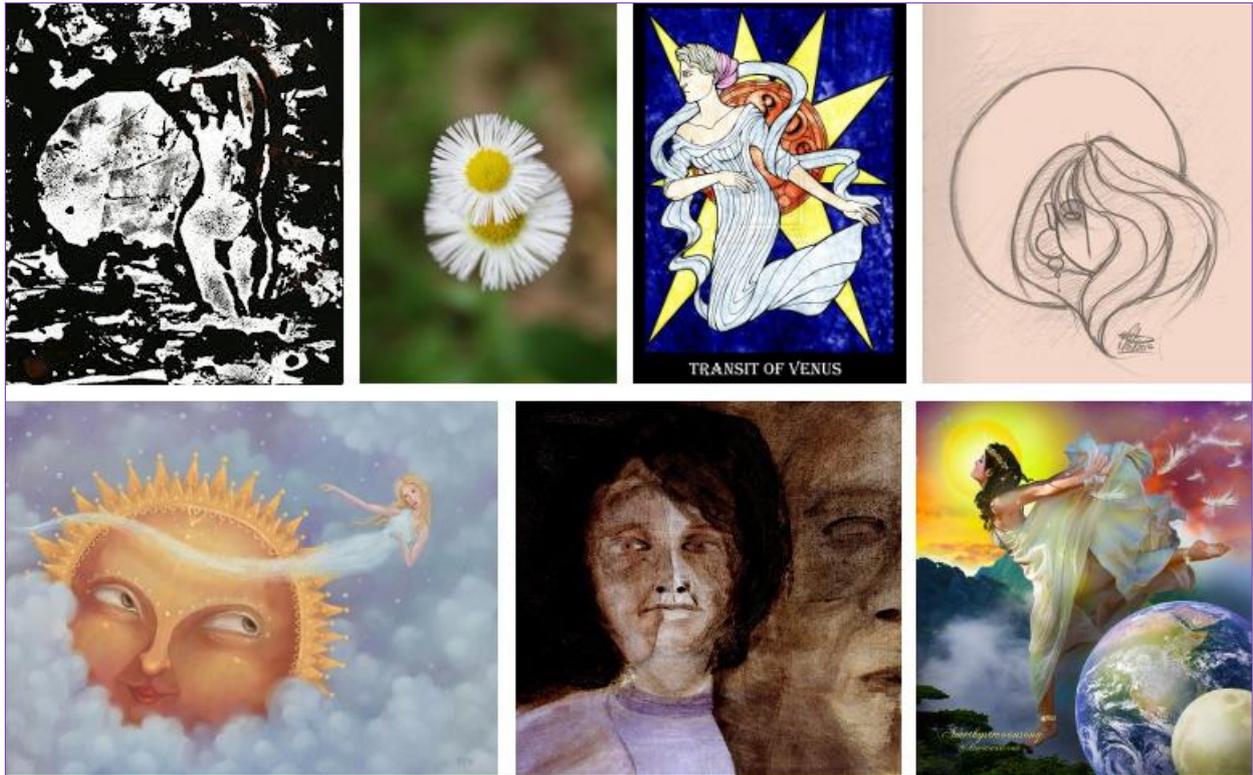


Figure 27: Thumbnails of some graphic art found on the internet and inspired by the 2012 transit. From upper left: by the Sydney printmaker Ann Condon (my favourite), by KBU77, by OjouLaFlorDeNieve, by Officer-Sarcasm, by persare, by scheinbar, and by amethystmstock.

(2009) in which the sounds of three independent instruments occasionally align. Fabio Keiner's *Venus Transit* (2012) provides another abstract soundscape. Amongst those who have produced albums more-or-less named *Transit of Venus* are the Austrian jazz composer Franz Koglmann (2001), Jill Connolly (2005, Massachusetts), the Cherry Blue-storms (2007, Los Angeles, their debut album), Jazz Sabbath (2008, California), Black Forest Fire (2012, Texas), John Paul Davis (2012, New York), Fair Moans (2012, Chicago), Hangedup & Tony Conrad (2012, Montreal), Magic Jackson (2012, Ohio) and Three Days Grace (2012, Toronto). There is a *Transit of Venus* girl band in Auckland (transitofvenusproject.com) and a *Transit of Venus* record label based in Philadelphia.

3.5 Cartoons

Figure 29 presents two transit cartoons from New Zealand (Nisbet, 2004; 2012). One from Britain in 2004 shows a couple in their back yard watching the transit. "The Transit of Venus, the European Elections," says the man, "don't say we never have any fun." (Matt, 2004). The economy was a recurrent theme in 2012. In one a Euro symbol transits a Sun labelled "Debt Crisis" (Matson, 2012). In another, Europe's economy crashes into the Sun (Englehart, 2012). In a third, astronomers observing the transit say "We'll likely not live to see the next one" as a large meteor labelled "Economy" hurtles towards

them (McKee, 2012). Also frequent was the theme of a Venus (de Milo, or Botticelli's) in a Ford Transit van or pickup, or in a metropolitan transit-system railway carriage.

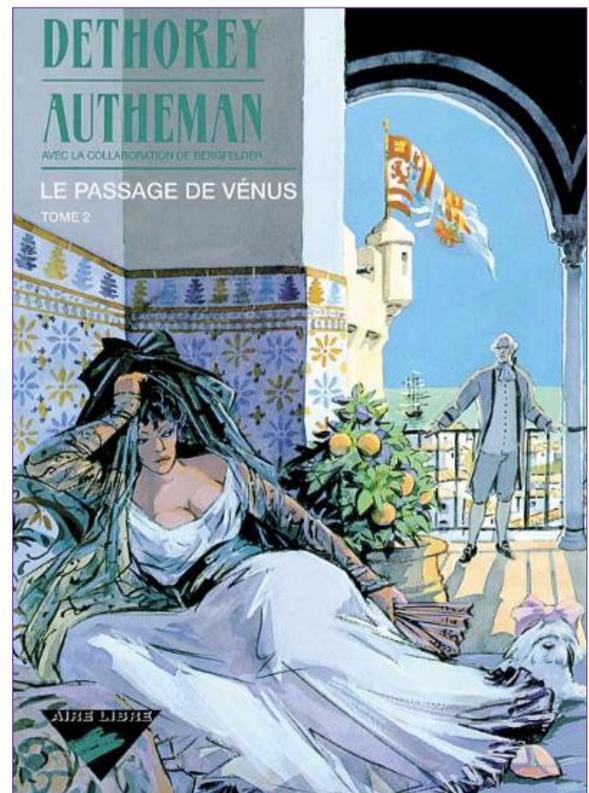


Figure 28: Cover of Volume 2 of *Le Passage de Vénus* (Dethorey, et al., 2000).



Figure 29: Twenty-first century transit cartoons from Christchurch. (Left) Comment on a missed penalty shot by footballer David Beckham in 2004. (Right) Comment on the snow that hid the 2012 transit (courtesy: Al Nisbet/The Press).



Figure 30: Google doodle that appeared on the search engine's front page for the 2004 transit (courtesy: google.com/doodles).



Figure 31: Garden designed by New Hall alumna Sue Goss for the 2007 Chelsea Flower Show (courtesy:www.behance.net, CC BY-NC-ND 3.0).

3.6 Novel Artistic Creations

Artistic creation went in novel directions in 2004 and 2012. Google honoured the 2004 transit with



Figure 32: Steampunk *Transit of Venus* sculpture by Tim Wetherell. Inside the portholes a piebald sphere carries the inscription *From where I stand the world looks black* on one side, and ... *the world looks white* on the other (courtesy: the artist).

a doodle (Figure 30). The same transit prompted a series of radio talks (Addis, et al., 2007) while three years later a transit of Venus garden was presented at the Chelsea Flower Show by New Hall College, Cambridge (Figure 31). In Tasmania's Campbell Town, where a US Naval Observatory expedition had observed the 1874 transit (Orchiston and Buchanan, 1993; 2004), a transit of Venus sundial was installed in Valentine's Park. Devised by Tony Sprent of the University of Tasmania, the sundial was made from old farm machinery, including the wheels from a timber jinker, a tractor seat and gears from a cultivator. Also in Australia, the physics-trained artist, Tim Wetherell, crafted a steampunk sculpture which is now part of the University of Western Sydney's art collection (Figure 32).

In 2012 the Gold Reef City Mint in Johannesburg struck celebratory silver and gold medallions showing a sable antelope charging across the Sun on the obverse. The reverse pictures Mary Cummings, one of three women who observed the 1882 ingress from the Huguenot Seminary in Wellington, near Cape Town (Kortts, 2006). Celebratory medals were also produced by the Shanghai Brilliance Billiton company, with a very pert-breasted Venus. Seamstresses produced transit of Venus quilts and hats (Figure 33) and an historian of astronomy took the transit as her wedding theme (Figure 34; Solomon, 2013). The Manchester Digital Laboratory ("community space for ... hackers, tinkerers, innovators and idle dreamers") re-enacted Madox Brown's Crabtree fresco (Figure 35, cf. Figure 8).

Nor were the arts of the table neglected. Transit foods from 2012 include a pizza with black olive slices delineating Venus' track, a black sesame dumpling in a strawberry ginger coulis, and cookies with a single chocolate chip.



Figure 33: Transit-inspired hat by Crafty Sod (courtesy: clickclicksnapsnap.wordpress.com).



Figure 34: Harvard's Wheatland Curator of the Collection of Historical Scientific Instruments, Dr Sara Schechner, weds Mr Kenneth Launie under a Transit of Venus chuppah (nuptial canopy). The inset shows Venus' track more clearly. Ken proposed during the 2012 transit, between first and second contact (courtesy: the bride and groom).

To wash down these delights, the Mishawaka Brewing Company in Indiana produced a *Transit of Venus Sunrise Ale*, while a *Venusian Ale* was brewed by The Livery in Benton Harbour, Michigan. Arkwright's Brewery in Preston, Lancashire, brewed transit ale and stout as part of the Preston Guild, a centuries-old celebration held every twenty years (Figure 36). California's Crew Wine Company bottled *Chasing Venus* wines made with sauvignon blanc and pinot gris grapes.

Exhibitions and exchanges took transits as their theme. An audio-visual installation was held in Hoole Parish Church under the guidance of Preston artist David Henckel and the aforementioned composer Julia Usher. Transit-themed exhibitions were held by the Northern Indiana Pastel Society in South Bend, and the Hornsby College Open Studio in Northern Sydney. A New Zealand-German 'Poetry Exchange' was organised by several organisations including the Goethe Institute and the New Zealand Ministry of Culture & Heritage. Three German and three New Zealand poets watched the 2012 transit from Tolaga Bay and then worked collaboratively, presenting their poems at the Frankfurt Book Fair four months later. Also in New Zealand, a transit time capsule was buried in the grounds of Tolaga Bay Area School, and the Royal Society's annual Manhire Prize for creative science writing took the transit of Venus as its theme. In *Fourteen*, Brian Langham, winner in the fiction category, sums up Le Gentil's tribu-



Figure 35: MadLab director David Mee plays Crabtree in this 2012 re-enactment of Ford Madox Brown's fresco (courtesy: MadLab/flickr.com, CC BY-SA 2.0).

lations (2012: 6):

... he's been away like over 11 years, He finds his wife shackled up with a new bloke ... his relatives have all ripped into and thieved off with

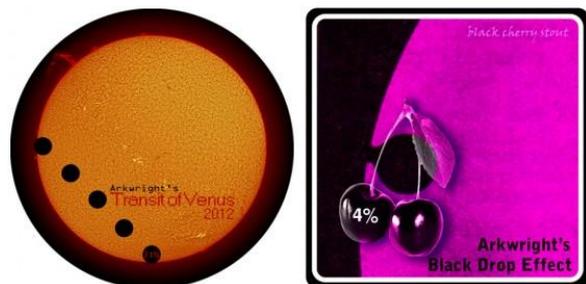


Figure 36: Beer labels from Arkwright's Brewery in Lancashire. (Left) *Transit of Venus* India pale ale. (Right) *Black Drop Effect* black cherry stout (courtesy: thetwhats.co.uk).



Figure 37: Mercury, god of commerce, holding his caduceus and wearing winged cap and sandals. From *The Apotheosis of Washington* fresco in the eye of the Capitol Rotunda, Washington, DC, painted by Constantino Brumidi in 1865. Mercury is handing a purse of gold to Robert Morris, financier of the War of Independence (courtesy: Architect of the Capitol).

his property. The poor prick just couldn't get a break.

The examples given in Sections 2 and 3 are but a sample of works prompted by transits of



Figure 38: Cartoon of *The Transit of Mercury on the 7th of May 1799* (courtesy: Lewis Walpole Library, Yale University).

Venus. Tobin (2013) illustrates some additional cases and there are unquestionably more to be found from deeper searching of the internet and elsewhere. Also, the choice of languages has been limited. De Freitas Mourão (2009) provides examples in Portuguese.

4 TRANSITS OF MERCURY

The Roman god Mercury (Hermes to the Greeks) was the child of Zeus and the nymph Maia. Besides being herald of the Gods to humans, Mercury was protector of shepherds, cowherds, thieves and orators, and patron of poetry, letters, weights and measures, inventions and commerce (Figure 37). Transits of Mercury are some eight times more frequent than those of Venus. Nor are they devoid of scientific interest. The first one observed, by Gassendi in 1631, showed an unexpectedly small value for Mercury's diameter, causing a rethink of planetary sizes (van Helden, 1976), while during the nineteenth century it was analysis of transits of Mercury between 1661 and 1848 that led Le Verrier to discover the anomalous advance of the planet's perihelion (Morando, 1995). More recently, satellite observations of the 1999 transit clarified the origin of the black-drop effect (Schneider, et al., 2004; Pasachoff, et al., 2005).

Transits of Mercury have prompted artistic production too, but the quantity is far less. The

following is an almost complete list of the examples I have found.

In his poem *De solis ac lunae defectibus* (“On the Sun, Moon and eclipses”), the Dubrovnic-born Jesuit, Ruđer Bošković, wrote of the “... son of Maia [and] ... charming Venus”, and noted that when at “...their orbital nodes, they should cover the Sun with a blackish veil ...” (Boscovich, 1760: 52).²⁷ Seventy years later, the French man of letters, Pierre Daru, referred to the first observed transit of Mercury in 1631 when he wrote “L’art mesura son orbe ...” (1830: 201):

Science measured its orb and Gassendi’s eye
Followed its daring dash across the Sun.

However both poems refer to many celestial phenomena. They are not works inspired solely by a Mercurian transit. One poem in which a transit of Mercury holds a principal place is that by Anna Barbauld recounting watching the 1786 transit in the company of the Anglophile and flirtatious Baron de Stonne (Aikin, 1825: 161; McCarthy and Kraft, 2002). The poem’s full title is *To the Baron de Stonne, Who had Wished at the Next Transit of Mercury to Find Himself Again between Mrs La Borde and Mrs B[arbauld]*:

In twice five winters more and one,
Hermes again will cross the Sun ...

But changed mortals hope in vain
Their lost position more to gain ...²⁸

Overcast weather during the 1868 transit prompted the aforementioned photographer, Hermann Krone (1874: 9; my English translation), to pen subtle verses that end:

When the sky brightens, I’ll already be gone –
You won’t catch me, not this time!

Perhaps it was the same transit, without clouds, which inspired Eta Mawr (1870: 149):

Speck on the Sun’s resplendent eye –
What eyes are lifted here.

In this century, the Romanian cosmopoet, Andrei Dorian Gheorge, incorporated the 2003 transit in his poem *Mother and 2003* (2003):

May 7th. The transit of Mercury across the
Sun
like a slow and dark meteor in the light.

The Transit of Mercury on the 7th of May 1799 is the legend on a cartoon by John Eckstein which appears to be mocking astronomers’ and the public’s interest in the transit, as indicated by the monkey looking through a bottle (Figure 38).²⁹ The owl is presumably the symbol of Athena, representing knowledge. One can imagine that observing the transit reflected in a bowl of punch was one way of reducing the Sun’s brightness. Perhaps the imbibing cleric is the Astronomer Royal, the Reverend Dr Nevil Maskelyne. Certainly, the arched eyebrows and

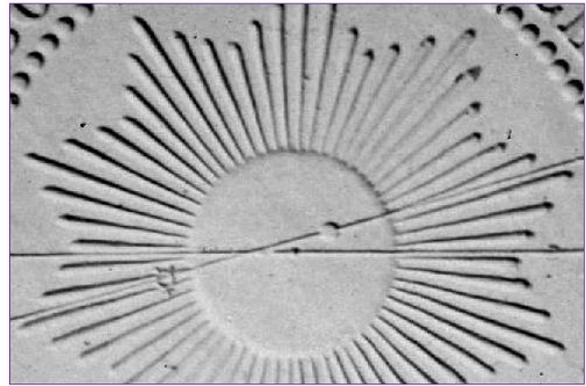


Figure 39: Detail from the seal of the Royal Philosophical Society of Glasgow approximating the track of Mercury across the Sun in 1802. The size of the planet is greatly exaggerated (courtesy: royalphil.org).

prominent dimpled chin concord.

The Royal Philosophical Society of Glasgow first met on the day of the next transit of Mercury, in 1802. The event is recorded in the Society’s seal (Figure 39). A century later the Italian futurist painter, Giacomo Balla, produced several drawings and oils inspired by the 1914 transit (Figure 40). The same theme has been broached more recently by the Georgia-based painter, Sid Smith (www.sidsmithart.com).

Figure 41 shows a *Punch* cartoon dating from 1938 (a transit of Mercury had occurred the previous year). It shows Sir John Reith (later Lord Reith) at the moment when he suddenly gave up being Director-General of the British Broadcasting Corporation to become Chairman of Imperial Airways. Mercury, as a messenger, obviously incarnates the BBC. As for “PPC”, which stands for “pour prendre congé”, it was evidently still usual to leave one’s card so inscribed when leaving town. The grandiose classical pose is characteristic of the cartoonist, Sir Bernard Partridge, who was 76 years old at the time.

A flurry of creation followed the transit on 8-9 November 2006, some of which is illustrated by the thumbnails in Figure 42. The 2006 transit was also the inspiration behind the name of the Tucson-based alternative rock band *Mercury Transit* (2011; Figure 43).

The choice of Mercury over Venus in Eileen O’Hely’s children’s book *Penny in Space* (2009: 170) lends verisimilitude to the narrative:



Figure 40: Thumbnails of four versions of *Mercurio transitanti davanti al sole* by Giacomo Balla (after: www.italianfuturism.org and, from left, Casa Balla, Philadelphia Museum of Art, MUMOK, Peggy Gugenheim Collection).



Figure 41: *Punch* Transit of Mercury cartoon commenting the departure of Sir John Reith, Director-General of the BBC, to become Chairman of Imperial Airways (Partridge, 1938) (courtesy: David Miller).

'... Can anybody guess which planet is transiting this afternoon?'
 'Venus,' said Colin.
 'I'm sorry, Colin. It's the other one,' said Ursula Major.

The Californian contemporary jazz musician, Bruce Anderson, produced a snappy *Transit of Mercury* track (ca. 2009). Wife-and-husband choreographer-and-writer Sally Bomer and Robert Lawson created the musical *The Transit of*

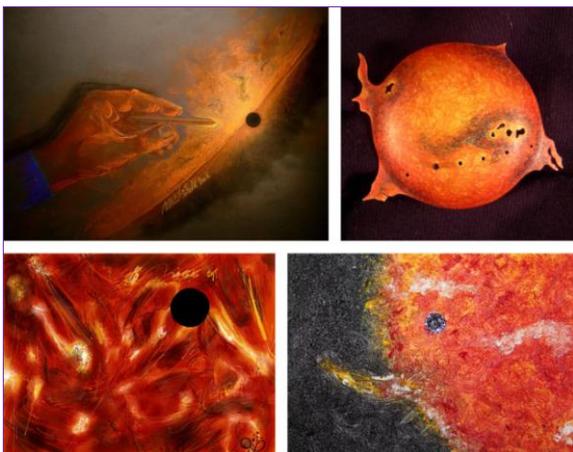


Figure 42: Thumbnails of internet art subsequent to the 2006 transit of Mercury. From top left: *Hand Drawn Transit* by Mark Seibold, chosen for NASA's Astronomy Picture of the Day on 17 November 2006; a brass pin-head decorated by Ontarian Jeff Polzin which won an art competition organised by the website spaceweather.com; a work on paper by Peter Lakenen inspired by a scene in the film *Sunshine* (released in 2007) in which the crew of the spaceship *Icarus* watch a transit of Mercury; an oil painting by DEC.

Mercury Across the Face of the Sun which centres on a man with a neurological condition (e.g. Diaz, 2010). And finally, the Californian gay poet, D.A. Powell, has penned a *Transit of Mercury* poem which makes reference to the difficulty of catching a transit – or a lover (2012: 89):

Run, brief page, lest I should catch you.

5 DISCUSSION

Some general remarks are in order before attempting to draw some conclusions from the plethora of creations detailed in the previous sections.

First, art inspired by astronomy is a subject of current interest, as indicated by the series of International Conferences on the Inspiration of Astronomical Phenomena, beginning with INSAP I in 1994 and now reaching INSAP VIII.

Second, we may be surprised by Horrocks' and Bošković's poems, but it should be noted that expressing scientific results in poetry was common at the time, and indeed into the eighteenth century (Horrocks, 2012).

Third, not all comments on transits of Venus were positive. In the period following the French defeat at Sedan we can read (Zède, 1872):

The French budget – what a Sisyphean rock!
 ... We ask every reasonable man, is it absolutely necessary that in the vexed position in which France finds itself, we should be spending 300,000 francs to observe the transit of *Venus across the Sun?*

or (Acarin, 1876: 47):

So let us subsidise the most important things
 ... three-fifths of our people do not know how to read and write ... they have certainly remained indifferent to the transit of Venus, to the expeditions aiming to discover the North Pole ...

Fourth, if works from Australia and New Zealand seem over-represented, this may in part be due to the author's Antipodean links. But it should be remembered that after observing the 1769 transit of Venus, Cook went on to survey the coasts of New Zealand and Australia. Transits of Venus are an important element in the history of the European occupation of both countries.

Fifth, the corpus does not contain much 'lab lit', that is, writings that "... contain scientists as central characters plying their trade ... [but] tend to focus on the intricacies of scientific work and scientists as people." (Rohn, 2010). Luminet's book, which is more biographical than a novel, comes closest; in other works the intricacies of scientific work are incidental, while those based on Cook's expedition concentrate more on exotic locations and people than science.

Sixth, many of the creations are similar. Le Gentil and Cook are themes that have inspired several artists, and Émilie du Châtelet springs to mind as another science-related personality who has inspired multiple works: garage rock by The Voltaires (2008), plays by Giron (2010) and Gundersen (2010), and an opera, *Émilie*, performed in Lyon and Amsterdam (Saariaho and Maalouf, 2010). The similarity of the three short poems quoted in Section 3 has already been noted, and they are similar to the graphic by Doval reproduced in Figure 26. The compositional similarity of the *art pompier* in Figures 11-14 is striking, and they in turn resemble Chappe d’Auteroche’s much earlier frontispiece (Figure 5). The reader will find other recurrent motifs, such as forests of telescopes (Figures 2, 12, 18, 38), or transits refusing to be seen. Some of these similarities are certainly independent inventions, but art, like science, often builds on what has gone before, and one can imagine that a cartoonist such as André Gill (Figure 18) had studied British satirical prints (Figure 17).

What is most striking, however, is the far greater number of works inspired by transits of Venus compared to those of Mercury. In addition, though there are many historical or commemorative works for transits of Venus (e.g. Figures 7-14, 25), there is none for Mercury, which is surprising since detection of the non-Newtonian advance of the latter’s perihelion is surely one of the major results of nineteenth century astronomy. I suggest two causes for these imbalances. The first is that the general public has, historically, been more aware of transit of Venus observations because of the accessibility and immediacy of the final goal (determining the distance to the Sun), the heroism and romance of expeditions sent to far-off lands, and their great expense. Though most Venusian creations cluster around transit dates, there are a non-negligible number produced at other times which, I suggest, reflects the lasting impact of Cytherean transits on popular awareness. In contrast, creations spurred by Mercurian transits cluster close to actual transit dates.

Examination of the heritage reported in Sections 2 and 3 reveals the second and I believe more important cause for the greater artistic interest in transits of Venus. There is a preponderance of imagery of Venus personified as a young, voluptuous woman who is perhaps amorous or the subject of desire. The goddess of love and beauty wins hands down compared to the deity of cowherds and SI units. Sex sells!

Presenters of the night sky should therefore sex up their narrative. If the mythology embodied in the constellations provides possibilities for northern observers, La Caille’s southern constellations of octants, clocks and air pumps have

little connection with sex (except perhaps for the especially imaginative). However, themes can be found in the lores of indigenous peoples. Let me cite some examples from Māori mythology (Orbell, 1995; Leather and Hall, 2004).

In the creation legend, father Ranginui lies in carnal embrace with mother Papatūānuku. Their love-making is interrupted by their son Tāne, who pushes them apart to create the sky and the Earth. This myth has a particular resonance, I feel, for all parents who have been interrupted on a Sunday morning by their offspring.

Pare-ārau is associated with the planet Jupiter. Because she wanders from star to star, she is perceived as promiscuous, though it is not explained why the (presumably male) stars who enjoy her generosity escape this epithet. Another wanderer is Te Rā, the Sun. In the tradi-



Figure 43: Album cover by the *Mercury Transit* rock band (2011).

tion of the Tūhoe tribe, Te Rā has two wives, Hine-raumati (the summer wife) and Hine-takurua (the winter one). In his course across the sky, Te Rā lingers at the declination of one, enjoying her company, before rushing to and then lingering at the declination of the other.

Let me end with the kumara, or sweet potato. In one legend, Rongo-māui climbed to the sky to steal the kumara from his brother Whānui (the star Vega), placing it in his penis for the journey back to earth. In due course Rongo-māui’s wife Pani-tinaku gave birth to her kumara children.

Narrators of the night sky should search out further saucy examples for their presentations!

6 NOTES

1. Purported observations of medieval transits are not convincing (Goldstein, 1969).

2. Horrocks died soon afterwards. His papers were published over twenty years later by the Polish astronomer Hevelius (1662) in an appendix. See Aughton (2004).
3. Roger Horrocks (2012: 117) notes that his namesake's original Latin lines are dactylic hexameters. Concerning Whatton's translation, he says "Although Whatton changes the Latin metre into iambic pentameters, and at times his translation is too free, he does convey the basic spirit of the original."
4. Rosenfeld (2011a) wonders whether the author, identified only as A. Williams on the title page of her book, might be Anna Williams, a member of lexicographer Samuel Johnson's household from 1748 to 1759 and then from 1765 until her death in 1783. She was not. A. Williams was Mrs Ann Williams, appointed postmistress of Gravesend in 1766 (British Postal Museum & Archive, POST 58). In the years following publication of her book, which was dedicated to the two Postmasters General of the time, she bred silkworms (Williams, 1784). Rosenfeld also questions whether Williams' poem refers to the Baja California expedition because the English-language account did not appear until 1778. The French original, however, appeared in 1772 (Chappe d'Auteroche, 1772) and was commented upon in Britain by (at least) *The Scots Magazine* in August 1773 where it is reported that "The sickness and mortality did not attack the astronomical party till two days after the transit." (M., 1773: 430). But news of Chappe's death reached London in late March 1770 and was widely reported (e.g. Yesterday arrived the Mails, 1770a; 1770b), so it seems probable that Mrs Williams could have learned of the expedition's sorry fate before publication of her poem in 1773.
5. Another grandiose engraving appears as a fold-out in *Punch's Almanac for 1875*. Hordes of astronomers observe a bare-breasted, Sun-occulting Venus followed by a retinue of women in the costumes of the various countries from which the transit was observed.
6. The American writer, Willa Cather, also made the transit of Venus into a night-time event in her short story *Two Friends* (Cather, 1932). In fact she was confused, and really was referring to the 1893 occultation of Venus. See letters dated 16, 21 and 23 August 1932 indexed at cather.unl.edu. Another garbled reference to a night-time "passage de Vénus" occurs in the Marquis de Sade's *Le Président Mystifié* (written 1787-88, but first published in 1926).
7. Banks' supposed continence in Hope's poem is contradicted by his affair with the Tahitian Teatea (Salmond, 2009: 155-156).
8. *Carmen* opened at the Opéra Comique on 3 March 1875 while *Le Passage de Vénus* opened two months later (3 May) at the Théâtre des Variétés (Meilhac and Halévy, 1875).
9. Zamacois' play was performed privately in May 1921 (*Dans le monde*, 1921) and on the radio ten years later (e.g. *Les principales émissions françaises*, 1931).
10. Lanoux's play was first broadcast on 9 October 1960.
11. Perhaps appropriately, the play was followed by one called *The Spot on the Sun* (Ambassadors Theatre, 1927b).
12. *Le Passage de Vénus*, a *Comédie-bouffe* in three acts, opened at the Théâtre Sarah-Bernhardt in Paris on 23 February 1928. The stated author is Georges Berr (Théâtre Sarah-Bernhardt, 1928); the Bibliothèque Nationale de France holds a programme and collection of press cuttings with the same attribution (call no. 8-RF-52082); and a review of the play lists him as the sole author (d'Ouvray, 1928). However, when the play was published after Berr's death, it was advertised as written by Louis Verneuil "in collaboration" with Berr (Verneuil, 1944: 153, 157).
13. It should be noted that Louis XV, especially when young, was fascinated by astronomy, and witnessed the transit of Mercury in 1753 as well as both eighteenth-century transits of Venus (e.g. Wolf, 1902: 132).
14. Hueffer (1896: 349, 361) states that the model for Crabtree was C.B. Cayley, translator of Homer and Dante, who, when the studies were done in 1881, was 58 years old. Madox Brown's grandson, Oliver Hueffer, was the model for a child. Mrs Crabtree is portrayed knitting, "... a lawful Sunday recreation in anti-Puritanical days".
15. Hughes (2005) claims that the "drawing" is that on page 150 of *Rosa Ursina*, but there are other engravings that Brown could have used as a guide, such as on the title page or on page 77.
16. The Lancashire Record Office holds a commentary on the painting by Napier Clark (PR3157/14/29), but I have not been able to examine this. Also possibly pertinent are letters from his daughter (PR3157/2/6) about the painting, which she gave to Astley Hall Museum and Art Gallery in 1962.
17. Van Roode (2012) notes that Horrocks used a Galilean telescope, which produces an upside-down but not left-right reversed image. Venus entered the Sun in the top left quadrant of the projected image, not the top right one as shown. The error originated with Hevelius (1662), who must have been confused, and when publishing Horrocks' account changed left, as stated by Horrocks, to right. Aspects of Brown's and Crowe's paintings

- have been discussed by Hughes (2005).
18. The design is signed “P. Avril”. This is Édouard-Henri Avril (1849–1928), who used the pseudonym Paul, which can lead to confusion with his brother, Paul-Victor Avril, who worked as an engraver. However, Beraldi (1885: 81) confirms that the pseudonymous Paul worked for *Le Monde Illustré*, where Figure 12 appeared, and notes his “... visible propensity to depict nudes.”
 19. In 1889 Dupain made a preparatory sketch for a painting for the east rotunda ceiling to commemorate Le Verrier’s discovery of the planet Neptune, but the project was not completed. See expositions.obspm.fr/leverrier/Le-Verrier/reperes/dupain.html.
 20. Unfortunately, Débarbat’s reproduction is mirror reversed. Dupain’s painting was exhibited at the *Salon* in 1886. One critic noted the skyline extending to the edge of the painting at the top, and interpreted this as a marine horizon. “Your sea, Monsieur Dupain, is going to gush down into the halls below,” he wrote. “Beware of the water! The deluge is imminent.” (Olmer, 1886: 54).
 21. Dated 28 April 1883 and 24 April 1887 respectively.
 22. A copy is held in the British Library; it was published anonymously, presumably in London, perhaps in 1774. The song equates a libidinous episode reported by Cook with the transit of Venus.
 23. A more finished (and armless) photogravure of the Furniss sketch is presented on old.transitofvenus.org/misc.htm. It comes from the revised edition of Furniss’ book (1888).
 24. I have been unable to track down the source of this cartoon.
 25. Presumably the author has feminized the Sun in order to strengthen the association of the mole with beauty.
 26. The storyline derives from Philibert Commerçon, the naturalist aboard Bougainville’s circumnavigation of the globe. However the transit of Venus connection is unhistorical because Bougainville returned to France three months before the 1769 transit. Rather it is Commerçon’s assistant and lover, Jeanne Baré, who transits across the oceans, disguised during the voyage as a man.
 27. I have translated Bošković’s words from the very free translation into French published by de Barruel (1779: 111).
 28. Barbauld’s astronomy is wrong. Subsequent transits of Mercury occurred in 1789 and 1799, but not 1797.
 29. There is some confusion over the identity of the artist. The British Museum website suggests he is probably the son of the sculptor and portrait painter Johannes Eckstein who died in Havana in 1817. An example of the

engraving was sold by Bloomsbury Auctions in 2006 on which the full title was clearly printed, whereas it appears only as a ghostly shadow in the copy conserved at the Lewis Walpole Library (cropped in Figure 38, see the high-resolution view available via the Library’s website). This suggests that the cartoon was sold again at the time of the 1802 transit, minus the 1799 date, which in turn supports the interpretation that it is the excitement surrounding the transit that is being mocked rather than some concurrent political event (cf. Figures 17, 18 and 41). From the catalogue entries, it appears that the 1799 date is not prominent on the examples of the engraving conserved at the British Museum, the Library of Congress and the New York Public Library.

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