

The transits of Venus

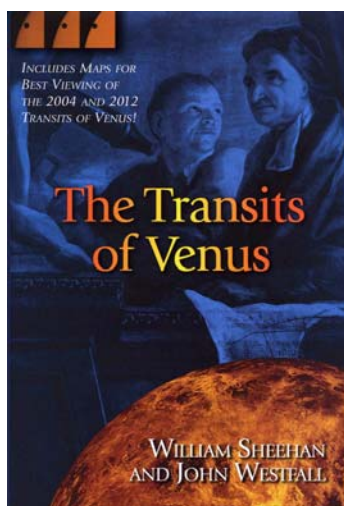
by William Sheehan & John Westfall

Prometheus Books, 2004. ISBN 1-59102-175-8. Pp 407, \$28.00 (hbk).

It might have been expected that the fascinatingly rare event of the first transit of Venus since 1882, which we were privileged to observe in June, would produce a number of books and articles. There have been several books by able authors including Maunder & Moore (*Transit; when planets cross the Sun*, Springer); Moar (*June 8, 2004; Venus in transit*, Princeton UP) and Sellers (*The transit of Venus; The quest to find the true distance of the Sun*, Maga Velda Press). All these are well worth having. When, however, two astronomical historians of the calibre of William Sheehan and John Westfall set about the transit of Venus ‘problem’ the result must be worthy of notice. The book gives a detailed coverage of the history and (particularly) the pre-history of transit observations, including the gradual realisation of ancient mankind that the known celestial bodies were not the perfect Aristotelian spheres they would have liked to believe them to be.

The book is written with a quirky humour and includes entertaining quotations which ‘leaven the dough’ of learning and make it easy to absorb. I particularly liked the way the authors’ detailed research has enabled them to relate the various expeditions’ activities to the characters involved in them; as well as the well known ones like Airy and Newcomb the less well known such as Father Perry SJ and Captain Tupman, Royal Marines. They have also tried hard to find portraits of many of these characters though one does feel in some cases that it might have been possible to find more original images rather than copying from published reproductions, and the printing process has left some of these less than striking. The book is notably even-handed and avoids the trap of giving too much weight to the efforts of one particular country.

I found the authors’ discussion of the dreaded ‘black drop’ effect and the digital reconstruction of the phenomenon incorporating various degrees of ‘fuzziness’ most



interesting, as is their description of the various methods of reduction which is as near to comprehensibility as any I have seen; but this is one of Sheehan’s great strengths. However I doubt if there will ever be universal agreement on the causes of the black drop effect which subverted the 18th century efforts. The authors make the very important point that neither the 18th nor the 19th century efforts were as futile as they have often been made out; if they did not give a definitive value for the solar parallax – that had to wait for Sir David Gill and co-operative observations of asteroids – they certainly narrowed the ‘error bar’ by a significant amount.

Although this and indeed the other books mentioned have given us excellent general coverage of the transit phenomenon there is surely more work worth doing which will keep the interest alive for our generation until the next transit. The lists of expeditions given by the authors are very useful but it is difficult to be comprehensive in these matters given the extremely fragmented nature of the Transit literature, and there may well be more expeditions, especially private ones (such as that of Sir Cuthbert Peek to Jimbour, Queensland, for the 1882 transit – see *Astronomy and Geophysics*, vol. 43 page 5.7, 2002) which have escaped the historians’ attention. Any of the expeditions from any of the countries involved are worthy of research and at least an article.

Not the least benefit of the 2004 transit is that it has rescued from obscurity some of the notable and interesting astronomical characters involved, well worthy of our remembrance, whose last published record was an obituary in *Monthly Notices* of the RAS a hundred years or so ago. There is a most regrettable tendency, from the point of view of wider scientific history, to look at the transit operations with the myopia of astronomical enthusiasm and to forget the many other interesting aspects of the expeditions, the vast amount of ‘other’ scientific work that was done ‘while they were going’, in subjects such as geophysics, meteorology, ethnography, botany and zoology – the list is lengthy. The 18th century voyages are part of the great epic of maritime exploration and the 19th century ones fall at a most interesting time of

transition in the world’s navies, from the all-sailing ones of Cook and Nelson via the composite steam and sail ships, which sustained the large expeditions of 1874 and 1882 for long periods many thousands of miles from home, towards the all-steam navies of the early 20th century. I would like to have seen more notice of these aspects, and the substantial and enthusiastic contributions of the service personnel involved, in the present book.

The book includes extensive footnotes, a detailed bibliography (16 pages!) of older and modern works relating to the transits, and a detailed index. In truth a book that no library or individual interested in the history of astronomy can afford to be without.

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