

The final part of the book is devoted to Kepler. Édouard Mehl discusses first (in French) a note by Kepler about 'the admirable proportion of the world,' kept at Darmstadt amongst various manuscript documents by Kepler and contemporaries. It shows that Kepler was obsessed throughout his life by his polyhedral model of the Solar System, and more generally by proportions: the ratio between the distance to the fixed stars and the distance of Saturn to the Sun equal to that between the latter distance to the diameter of the Sun, etc. Guy Claessens then recalls (in English) Kepler's Platonism in his *Harmonice Mundi* (the polyhedrals having their origin in Plato) and shows that he has been more influenced by Plato himself than by the neo-Platonism of Proclus. Natacha Fabri discusses (also in English) the theological and cosmological implications of the conjectures in the Epilogue of *Harmonice Mundi*. It becomes clear when reading all this that Kepler was still a man of the Middle Ages and Renaissance, and does not belong to the generation of the more 'modern' scientists such as Galileo and followers.

An essay by Pierre Jeandillou (in French) then comments on Hegel's 1801 thesis *Dissertatio philosophica de Orbis Planetarum*, in which he wanted to make intelligible the planetary system through a fundamental principle: to conceive the nature by reason. I must confess having difficulties in understanding Hegel's reasoning, in which he admired Kepler's approach while rejecting that of Newton: this is too far from the mind of today's scientists.

The last part of the book contains a long comment by Nicolas Roudet (in French) on two unpublished horoscopes of the French King Henri IV, dated 1591 and 1595. Their texts, respectively in German and in Latin, are unfortunately not translated into English (these translations should be made available through a link to the internet). The same can be said about the unpublished letters from and to Kepler presented by Friedrich Seck in the last chapter of the book. They are certainly of high interest, and the author not only presents the letters but gives short biographies of the correspondents. Unfortunately, my very limited knowledge of German and Latin does not allow me to comment about all this.

To conclude, I found what I could read of this book interesting, but it is going to be essentially used by specialists.

References

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***William Dawes: Scientist, Governor, Abolitionist: Caught Between Science and Religion*, by Richard de Grijs and Andrew Jacob. (Cham, Springer, 2023). Pp xi + 272. ISBN 978-3-031-38773-9 (hardback), 235 × 155 mm, US\$79.99.**

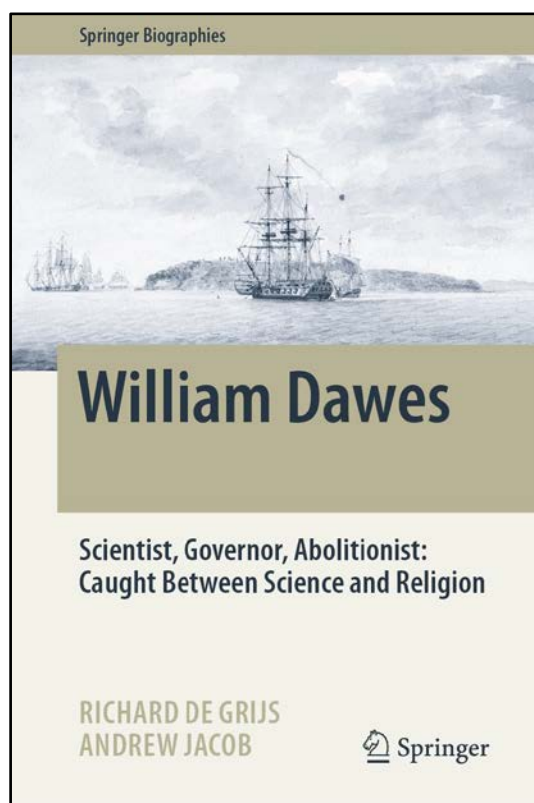
Early European visitors to Australia, including James Cook and the astronomer Charles Green in 1770 and Lapérouse's astronomer, Joseph Lepaute Dagelet, in 1788, made astronomical observations. However, William Dawes was the first European astronomer to set up a longer-term observatory in Australia. He came on the First Fleet as a Second Lieutenant of Marines with the task of setting up an observatory to search for a comet. That comet had been first suggested by Edmond Halley and, subsequently, by the Astronomer Royal, Nevil Maskelyne.

Dawes set up his observatory on the west side of Sydney Cove in the area that became known as Dawes Point (although recently its Aboriginal name of Tar-Ra has been revived). From this site he searched for the mooted comet, finding that it did not eventuate, and made other astronomical observations, as well as keeping meteorological records. He did much else besides. On the voyage of the fleet from England he helped to track the position of the ships, while in Sydney he was also given a number of non-astronomical tasks, such as engineering, exploring and surveying. On his own initiative, he made friends with the local First Nations people and compiled notes on their language. It is this last project that is Dawes' most lasting legacy.

As related in this new book on Dawes' life, he had a complex personality. He was a high-performing individual with compulsive

behaviour and an inability to negotiate the complex politics he faced in Sydney and, in later life, in Sierra Leone and in Antigua. In fact, the book's authors revisit the suggestion that he had Asperger's Syndrome.

The book has a thorough, well-referenced and footnoted description of Dawes' time in Sydney. The highlight of that section of the book is a detailed examination of early maps of the Colony, together with photographs and other evidence, to find a likely location for the site of Dawes' observatory. This is not known accurately, as during the building of the Sydney Harbour Bridge from 1923 to 1932, the whole area where the observatory could have been located was completely churned



up. Though there is little likelihood of finding its remnants, the newly suggested position on the eastern side of the present Harbour Bridge approaches seems highly plausible.

In Sydney, there was continual friction between Dawes and the Governor, Arthur Phillip. This culminated after Dawes reluctantly took part in a punitive expedition against Aboriginals and then told Phillip that he would refuse any orders to take part in similar expeditions in the future. Consequently, Dawes' New South Wales posting was not extended, as he would have wished, and he returned to England in December 1791 with his fellow Marines.

After a short stint back home in England, Dawes was recruited to help govern the Sierra Leone Company's settlement on the west coast of Africa. This venture, to establish a home for black slaves freed from Britain's North American colonies, was undertaken both for commercial and benevolent reasons. Less than a year after arrival Dawes became Governor and took on all the problems of the settlement. He became highly unpopular, especially with black settlers, who did not appreciate his priorities, such as building a fortress, instead of allocating farm land, as they had been promised by the Company. After becoming ill, Dawes returned to England, where he married. He returned twice more for short terms as Governor, but each time found the job as difficult as the first time.

In 1813, after a second marriage, he moved to join his new wife's family in Antigua, a British slave colony in the West Indies. Being deeply religious, he was asked by the Church Missionary Society in London to establish Sunday Schools for slaves. Initially, he did well, but the arrival of a new bishop in the colony made things difficult for him. The bishop objected to many of Dawes' practices, such as cooperating with the Methodists, having female teachers and teaching slave children to read and write. The bishop forced changes that led to the collapse of the Sunday School network and Dawes had to retire. He died in Antigua in 1836 at the age of 74.

The book gives a comprehensive and well documented view of the life of William Dawes. It is full of quotations from his private letters and those of others. A large selection of outstanding contemporary maps and images illustrates the book. My favourite chapters were those dealing with Dawes' activities in Sierra Leone and Antigua, possibly because I had no prior knowledge of that part of his life.

There are a number of reading aids in the book. Near the beginning of the book (page viii) there is a family tree for Dawes. There is a typo here as his first wife is indicated as having been born before 1744, making her over 50 years old at the birth of her first child. Instead, the website [FamilySearch \(2023\)](#) gives her birth as before 1774, which is much more plausible. After the References, there is a useful list of the large cast of people mentioned in the book (pages 261–265). Strangely, though this is headed "Glossary", an unusual use of the word. In fact, a real glossary

would have been helpful, as there are many navigational concepts mentioned, some without full explanation.

The last two chapters of the book, though relevant, are really appendices as they are outside the story of Dawes' life. The first of these relates to astronomical tent observatories. Here we find (page 242) a discussion of how a tent observatory was used on Matthew Flinders' 1801–1802 circumnavigation of Australia. With the help of a theodolite, a sextant and an Earnshaw astronomical regulator, Flinders and his brother determined longitudes from lunar distances. Since one of the authors is Curator of Astronomy at the Powerhouse Museum, I find it a little disappointing that there is no mention of the astronomical regulator being in the Museum's collection. Then there is a sentence stating, "... they then used their lunar distances to check the 'going rate' of their clocks ...". (page 242). This is incorrect, as only local time, which could be established by equal altitudes, was needed to find the rate of a clock. *Flinders (1814)* states this a number of times in his book about the voyage. For example, for Sunday 1 November 1801 he writes that

The rates of going with mean solar time of the four time keepers committed to my charge, were deduced by Mr. Crosley from three days observation of equal altitudes, with a sextant and quick-silver horizon, between the 21st and 27th of October. (page 40).

Notwithstanding the minor quibbles listed above, included mainly to show that the book has been carefully reviewed, this is an excellent book. It gives a full scholarly exposition of the life and achievements of William Dawes, who was a fascinating and important person in the history of Australian astronomy and Australian science. The book is highly recommended to readers of the *Journal of Astronomical History and Heritage*.

References

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***The Age of Epistemology: Aristotelian Logic in Early Modern Philosophy 1500–1700*, by Marco Sgarbi. (London, Bloomsbury, 2023). Pp. viii + 300. ISBN 978-1-3503-2654-5 (hardback), 160 × 240 mm, US\$108.**

This book on philosophy explores 'opaque conceptions' and 'undetermined zones' in the works of major figures such as Francis Bacon, Descartes, Galileo, Leibniz and Newton (page 3). It takes on this exploration with what many in the world of astronomy and philosophy will view with a mixture of disdain and horror. Thus,

The various positions for and against Aristotle generated answers, which are only misleadingly cast as a rejection of his philosophy, when in truth they are a new appropriation and transformation of the Aristotelian tradition. (page 4).

Sgarbi goes further in stating that it may well be the case that the books of Kepler, William Gilbert, Blaise Pascal and Robert Boyle need to be re-evaluated. Do these "... self-declarations of originality correspond to the truth, or rather constitute a case of collective blatant self-deception." (page 4).

Making this bold claim that some of the greatest thinkers of the past, who have been embraced as anti-Aristotelian were anything but that, is one of the world's leading philosophers.

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Sgarbi writes: "The perspective adopted in this research is unique in looking at ... the major figures of natural philosophy ... for their transformations of Aristotelian epistemology." (page 9). The key here is transformations, not dismissal.

Sgarbi begins Chapter 1 by explaining that those who adhered to the teachings of Aristotle "Felt the urgency to fix their epistemological problems, and they did so by reflecting on the logical theory of regresses." (page 13). It comprises two main stages, termed 'a posteriori' (from effects to cause) and 'a priori' (from cause to effects). The latter is also known as demonstration *propter quid*. But logicians in Padua around the year 1500 "... conceived an intermediary step and