

What does it contribute to the dialogue? As with other proceedings, the collection is patchy. The volume is divided into three, containing separately the contributions of statisticians, astronomers and meteorologists. Some contributions make a laudable effort to review the subject area and to provide the guidance that a non-specialist would require. The reader will find almost everything here—detection of periodicities, stochastic models (linear and nonlinear), deterministic chaos, wavelets—but the presentation suffers from lack of consistency and systematic organisation, though the provision of an index does help substantially in the latter case. The limitations of space mean that these contributions are very general and often have to resort to simple lists of developments, but they are nonetheless valuable as a starting point for deeper mining of the literature. The citations reflect the date of the conference but some authors provide more recent references, generally to their own work.

Other contributions are reports of research findings which make few concessions and are therefore of little value to the general reader.

There are a fair number of typographical errors which one might have expected to have been eliminated in a book that has taken four years to produce.

The volume claims to be of interest to statisticians, astronomers, meteorologists and climatologists alike. This is true up to a point. It is a volume for browsing and would be useful to have on a library shelf. Each reader should find much stimulation from the section specific to their interests and, by judicious selection, from other sections. But it really highlights the inappropriateness of the collected paper format when addressing the problem of increasing mutual awareness across disciplines.

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Nautical Astronomy in New Zealand: The Voyages of James Cook

Wayne Orchiston

Carter Observatory, Wellington, 1998, 131 pp.,
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Reviewed by Mark Wardle

The first voyage of Captain James Cook to the South Pacific was largely motivated by the Royal Society of London's desire to send an expedition to Tahiti to observe the 1769 transit of Venus and determine the Astronomical Unit. Astronomical observations also allowed the calculation of latitude and longitude, fixing the positions of islands encountered along the

way. The successes of the first voyage led to two more, the third terminating with the death of Cook in Hawaii. Wayne Orchiston, Executive Director of the Carter Observatory in Wellington, has written this monograph to fill a gap in the accounts of the astronomical observations made from New Zealand during each of the three voyages.

A brief introduction outlining the motivation for the voyages is followed by chapters on the individuals responsible for the observations (including Cook himself on the first and third), and on the astronomical instruments. Of necessity, these prefatory chapters skim through and occasionally update subject material that has largely been covered by previous authors. It is an interesting read, and I found myself left with a desire to chase up some of the references in the bibliography. These prefatory chapters set the scene for the chapter on the New Zealand observations that forms the core of the book. The observations were made to determine precise geographic locations through measurements of latitude and longitude—Queen Charlotte Sound became one of the most accurately located places on the planet at the time. I would like to have seen some discussion of exactly how the instruments were used as my ignorance prevented me from fully appreciating the difficulty of the observations. On the odd occasion the text sags where the reader is subjected to, for example, a list giving the composition of the crew in percentage form. This material may need to be included for completeness in a book of this nature, but could have been presented differently.

The final chapter, entitled 'Cook Voyage Astronomy in Historical Perspective', briefly describes what little is known of Maori (pre-European) astronomy, and continues on to early (European) astronomy in New Zealand. These topics have their own intrinsic interest, but neither has links with the observations conducted during Cook's voyages. They do not at all provide any historical perspective on the voyages, and in this sense their inclusion in the book is somewhat forced. In the same vein the concluding chapter is a one-page summary of the history of astronomy in New Zealand. I was bemused by the statement that 'because about 20% of the entire human history of the nation is characterised by scientific astronomy, New Zealand is astronomically unique'.

This aside, the book achieves the aim of documenting the astronomical activities associated with the New Zealand legs of Cook's voyages, and even a casual reader will find it of interest.

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