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## WHERE AZIMUTH HAS A BEARING? RAPID AZIMUTH AND RELATIVE-POSITION SURVEYS IN ARCHAEOASTRONOMY

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In archaeoastronomy, for situations where the azimuths between objects and their relative positions are important but absolute positions can be approximate, only limited options exist for rapid, low-cost and personnel surveys to identify cases that merit in-depth treatment. This presentation describes the field trial of an exploratory survey method that meets the azimuth and relative position criteria. The data set produced is used to test for possible significance in the placing of standing stones at two ancient temples (maraes) in the Society Islands with respect to three hypotheses, namely: the stones line up with voyage destinations or commemorate significant voyages; stones form an analogue "star compass" of directions where significant navigational stars rise and set; and stones line up at a single "freeze-frame" epoch in the significant season of Matariki. The data set proved adequate for eliminating certain possibilities and narrowing the field quickly and inexpensively and is sufficiently rich to be mined in different ways in subsequent research. Only qualified conclusions are possible at this stage, principally because the study has not yet been well enough situated in a cultural context. However, for the Hauviri marae, sufficient encouragement was perhaps given of standing stones serving some astronomical function to warrant further work.

### Recent Publications

1. Strack M and Goodwin D P (2018) More than mere shadow: the colonial agenda of recent Treaty settlements. *Waikato Law journal*. (In press).

2. Goodwin D P (2018) An exploratory survey method for archaeoastronomy, an applied to standing stones at the Hauviri and Taputapuātea maraes, Ra'iātea. *Journal of Archaeological Science: Reports*. 18:109-120. ISSN 2352-409X.
3. Goodwin D (2017) Precession Issues in Polynesian Archaeoastronomy. *Journal of the Polynesian Society*. 126(3):337-352.
4. Goodwin D (2014) literary cartography and the collecting of place and experience, with specific reference to collecting Arthur Ransome. *Script & Print. Bulletin of the Bibliographical Society of Australia and New Zealand*. 38(3):177-190.

### Biography

David Goodwin pursued his PhD at Otago University, New Zealand comparing persisting land tenure custom between New Zealand Māori and the Shona and Ndebele tribes in Zimbabwe. He lectured at the University of Zimbabwe from 1986 and at the University of Otago since 2007. His research interests include socially-based land tenure in transition, archaeoastronomy, literary cartography and cadastre.

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