

Editorial

Liz Henty and Fabio Silva with guest editors Bernadette Brady, Darrelyn Gunzburg and Frank Prendergast

In this issue of *JSA* we are delighted to introduce our guest editors, Bernadette Brady, Darrelyn Gunzburg and Frank Prendergast, who join us in editing a volume drawn from the proceedings of the 24th Conference of the European Society for Astronomy in Culture (SEAC). This five-day conference – held in Bath, UK between 12th and 16th September, 2016, and reviewed in *JSA* 3(1) by A. César González-García – featured 57 cultural astronomy presentations, covering research projects carried out globally. The delegates were invited to submit their papers for the conference proceedings and, given the number of noteworthy papers received, the above editorial team decided to publish two sets of proceedings, following a precedent established by the “Oxford” archaeoastronomy conference held in 1981. At that time, two volumes, dubbed “green” and “brown” from the colours of their covers, covered the then current developments in Old and New World archaeoastronomy respectively (Aveni 1982; Heggie 1982). The split was ostensibly geographic, but on reading the volumes it was clear that the “dichotomy” noted by Anthony Aveni (1989, 3) related to methodology as well. According to Aveni’s assessment (2008, 8) the Old World research centred around alignment hunting. This was largely based on the scientific methodology established by Alexander Thom (1967, 1971), which was at odds with the wider humanitarian approach of New World studies. By including ethnographic and historical data, the latter approach enabled broader anthropological questions to be addressed. In other words, the methodology of validation for Old World studies was based on statistical reasoning, whereas New World studies used cultural context.

The importance of theory and method cannot be overstated for any discipline. It becomes a defining and distinguishing criterion, even in the current multidisciplinary and collaborative era. While disciplines may borrow methodologies from other fields, their core theory remains distinctive. For example, archaeology has long been characterised by its essential methodology of excavation and the detailed recording of finds; this is a history that stretches back to William Camden’s (1551–1623) early excavation attempts, which were refined by William Stukeley (1687–1765) when he introduced the technique of cross-sectional excavation supplemented by profile drawings (Lynch and

Lynch 1968, 45; Schofield *et al.* 2011, 27). Similarly, Stukeley was also an early pioneer of archaeoastronomical methodology, and he detailed the methods by which he surveyed monuments using a magnetic compass to discover that most famous alignment of all, the midsummer solstice sunrise at Stonehenge (Stukeley 1740, 63). Over the centuries, archaeological and archaeoastronomical methodologies have been honed and refined but, to a certain extent, they always reflect the intellectual developments of their day. In archaeoastronomy, Sir Norman Lockyer's (1906) emphasis on astronomy mirrored the move towards a scientific approach in all disciplines which sought to distance themselves from antiquarian endeavours; Gerald Hawkins' (1965) computer-based research on Stonehenge and Thom's (1967, 1971) megalithic science publications responded to a desire to unlock the mysteries of prehistoric monuments, while Clive Ruggles (1999), Michael Hoskin (2001) and others stripped out the earlier interpretative vagaries to put archaeoastronomy on a more secure cultural, scientific and statistical footing. Now, cultural astronomy and skyscape archaeology, while retaining the surveying and statistical basis of archaeoastronomy, have added ethnography, phenomenology, textual analysis and a closer regard for the wider archaeological record. This arguably provides greater validity for our discipline than earlier methodological approaches. Such a multidisciplinary approach is consistent with current trends in archaeological research, which today encompass many fields such as forensic anthropology, archaeozoology and archaeobotany, to name but a few.

The importance of theory and method was recognised in the SEAC conference title, "The Marriage of Astronomy and Culture: Theory and Method in the Study of Cultural Astronomy", and is reflected in the subsequent proceedings. Those papers which dealt mainly with theory and method were selected for this conference proceedings issue of *JSA*, while more general papers and case studies are included in *Culture and Cosmos* 21(1–2), published in September 2017 (Henty *et al.* 2017). The seven papers included here demonstrate how this multivalent approach to theory and method is not only proving to be beneficial for the entire field of cultural astronomy, but also show, as pointed out by González-García in his review of the conference, "the gap between archaeoastronomy and the humanities is being bridged" (2017, 146).

In examining how archaeoastronomy can be useful for archaeology, **Frank Ventura** explores methodologies which can be utilised for a multi-stage investigation. In his paper "Beyond Orientations and Intentions Towards Motivation and Meaning: An Enduring Challenge and a Possible Response", he explains the method for measuring orientations and alignments before considering both the motivation for the construction of prehistoric monuments and the effect of the decision to align monuments on the culture concerned. Using the end of the Maltese temple period as a case study he shows how archaeoastronomical methodology can enhance the archaeological narrative. As technology seeps into academia, and more and more digital data is made available, virtual fieldwork is becoming a more robust, and important, part of the cultural astronomer's toolset.

Using the orientation of Roman cities in the Iberian Peninsula, **Andrea Rodríguez-Antón, A. César González-García and Juan Antonio Belmonte** compare the results

of live fieldwork with those of virtual fieldwork, using a range of openly available digital tools. This important preliminary methodological work provides a full understanding of the level of uncertainty inherent in these tools, as they are applied to studying the orientation of Roman cities in North Africa, where live fieldwork is not currently possible. This paper, entitled “Estimating the Reliability of Digital Data Acquisition in Cultural Astronomy: The Case of Roman North Africa”, will hopefully be the first of many similar studies that will help to increase the precision of digital tools and to quantify errors and uncertainties.

In a more technical paper, “Modelling Lunar Extremes”, **David Fisher and Lionel Sims** use computer and mathematical modelling to explore the phenomenology of the so-called lunar standstills. They make the case – not for the first time – that the theoretical extreme declinations of the moon over its 18.61-year cycle most often do not occur at the horizon (i.e. when the Moon is rising or setting) and therefore they cannot be considered as targets for structural alignments. Instead, using computer modelling, the authors show that the phenomenologically experienceable extreme declinations for the Moon actually vary from year to year. The obvious corollaries from this work – that high-precision alignments to the lunar extremes are impossible, that dating based on such alignments is not feasible and that the term “standstill” itself is erroneous – are important theoretical points for the discipline to consider in the future.

Rita Gautschy uses artefacts to explore the balance between two kinds of time in ancient Egypt in her paper “Astronomical Time versus Social Time: A Case Study from Ancient Egypt”. Her primary source is a sundial, c. 1200 BC from the period of the New Kingdom, recently unearthed in the Valley of the Kings, along with administrative texts found in the same area. These texts recorded the schedules and the number of candles issued for workers who constructed the tombs in the valley. By comparing the graduations on the sundial with these work records Gautschy reveals a unique opportunity to compare astronomical time with social time and the corresponding implications from the convergence or divergence of the two.

In “The Globe of the Salvator Mundi between Cosmography and Theology”, **Barbara Rappenglück** turns to images for insight into how new thinking in astronomy influenced the theology of salvation. She examines representations of the Salvator Mundi, in which Christ is depicted making a sign of blessing with his right hand and holding the globe of the world in his left hand, from the fifteenth to the start of the seventeenth century, and she shows how these images reflect emerging astronomical ideas and geographical discoveries over this time period. She thus provides a different approach to the links between astronomy and theology.

Much of humanity has a powerful desire to see the night sky, yet how this enhances wellbeing is a little-explored area of research. **Ada Blair** chose to focus on this subject in relation to the community living on the Dark Sky island of Sark, and using a qualitative method of enquiry she gathered data through eight semi-structured interviews, a focus group on Sark and her own reflexive journal for her paper “An Exploration of the Role that the Night Sky Plays in the Lives of the Dark Sky Island Community of Sark”. The high level of enjoyment and value placed on observing the night sky was expected, but there

were also unexpected responses: a universal fearlessness of the dark, and the sense of living at night within a unified field between sky and land with no visible horizon. Such responses have implications within the fields of ecopsychology, as well as for health and environmental psychology.

Finally, in “The World Tree: Categorisation and Reading of an Archaic Cosmographic Concept”, **Michael Rappenglück** focuses on the possible astronomical meaning(s) of the World or Cosmic Tree. Where encountered, it may symbolise the universe and its perceived elements (for example, cosmic axis, cardinal directions, skyscape and celestial bodies) in the form of its root, trunk, branches and leaves. The author also describes the human preference for sometimes choosing trees with contrasting botanical characteristics (evergreen or deciduous) to symbolise steadfastness or cyclical patterns observable in nature. In examining the cultural and astronomical aspects of the World Tree at a global level, the methodological and theoretical content and findings of this paper may prove relevant to scholars of cultural astronomy seeking to broaden the context of their own research.

As we wanted to bring the above papers into this one unique issue, we unfortunately have no room for our usual book reviews or book notices. However, we have included the conference notices to help you plan the year ahead and an important software notice from **Andrew Smith**, developer of the Horizon software program. Special thanks must go to our editorial assistant Caroline Ormrod, without whose help this complex issue would have been long delayed. It just remains for us to extend best wishes for the solstice season to all our readers and Facebook friends and we look forward to seeing you again in 2018.

References

- Aveni, A. F., ed., 1982. *Archaeoastronomy in the New World: American Primitive Astronomy*. Cambridge: Cambridge University Press.
- Aveni, A. F., ed., 1989. *World Archaeoastronomy: Selected papers from the 2nd Oxford International Conference on Archaeoastronomy, held at Merida, Yucatan, Mexico, 13-17 January, 1986*. Cambridge: Cambridge University Press.
- Aveni, A. F., ed., 2008. *Foundations of New World Cultural Astronomy*. Boulder: University Press of Colorado.
- González-García, A. C., 2017. “The Marriage of Astronomy and Culture: Theory and Method in the Study of Cultural Astronomy: Review of the 24th Conference of the European Society for Astronomy in Culture, Bath, UK, 12th–16th September, 2016”. *Journal of Skyscape Archaeology*, 3 (1): 142–146. <https://doi.org/10.1558/jsa.33313>
- Hawkins, G. S., in collaboration with J. B. White, 1965. *Stonehenge Decoded*. New York: Doubleday and Company.
- Heggie, D. C., ed., 1982. *Archaeoastronomy in the Old World*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511898310>
- Henty, L., B. Brady, D. Gunzburg, F. Prendergast and F. Silva, eds, 2017. *The Marriage of Astronomy and Culture: Theory and Method in the Study of Cultural Astronomy*. Special issue of *Culture and Cosmos* 21 (1–2).
- Hoskin, M. A., 2001. *Tombs, Temples and Their Orientations: A New Perspective on Mediterranean Prehistory*. Bognor Regis, UK: Ocarina Books.
- Lockyer, N., 1906. *Stonehenge and Other British Monuments Considered*. London: Macmillan.
- Lynch, B. D. and T. F. Lynch, 1968. “The Beginnings of a Scientific Approach to Prehistoric Archaeology in

- 17th and 18th Century Britain". *Southwestern Journal of Anthropology*, 24 (1): 33–65. <https://doi.org/10.1086/soutjanth.24.1.3629301>
- Ruggles, C., 1999. *Astronomy in Prehistoric Britain and Ireland*. New Haven, Connecticut: Yale University Press.
- Schofield, J., J. Carmen and P. Belford, 2011. *Archaeological Practice in Great Britain*. New York: Springer Science+Business Media. <https://doi.org/10.1007/978-0-387-09453-3>
- Stukeley, W., 1740. *Stonehenge, A Temple Restor'd to the British Druids*. London: W. Innys and R. Manby.
- Thom, A., 1967. *Megalithic Sites in Britain*. Oxford: Oxford University Press.
- Thom, A., 1971. *Megalithic Lunar Observatories*. Oxford: Oxford University Press.