

“Astronomy in Past and Present Cultures”. The 23rd Conference of the European Society for Astronomy in Culture, Rome, Italy, 9th–13th November, 2015

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The 23rd annual conference of the European Society for Astronomy in Culture / Société Européenne pour l’Astronomie dans la Culture (SEAC), organised around the theme of “Astronomy in Past and Present Cultures”, took place in Rome at the University of Rome La Sapienza. More than 80 talks were given at the conference, covering a wide range of topics, cultures, time periods and geographical regions, complemented by some 40 poster presentations.

The European Society for Astronomy in Culture was founded in 1992 in Strasbourg, France, pioneered by the late Dr Carlos Jaschek. It had its inaugural meeting in Smolyan, Bulgaria, in the summer of 1993. Indeed, SEAC is the oldest professional association of academics currently working in the field of Cultural Astronomy. Given that it is an organisation that, historically, has fostered interdisciplinary approaches to the fields of Archaeoastronomy and Ethnoastronomy, its conferences have had a broad disciplinary reach. Although oriented to providing a forum for researchers working mainly in Europe, SEAC inspired the creation of the International Society for Archaeoastronomy and Astronomy in Culture (ISAAC) (<http://www2.archaeoastronomy.org/>), established in 1996 in the US. Subsequently, it played an active role in the creation of a sister organisation in Latin America, the Sociedad Interamericana de Astronomía en la Cultura (SIAC) (<http://eacultural.fcaglp.unlp.edu.ar/>), founded in 2003, which is now well established and flourishing.

Overview of the Oral Presentations

SEAC is at the forefront of efforts to promote research that moves the field beyond the narrow confines of alignment studies and the primarily western European focus which tended to characterise it two decades ago. The success of these efforts is reflected in the broad range of topics discussed at the conference and the wide geographical reach

of the fieldwork and archival research that is currently being carried out. For instance, the session dedicated to astronomy in the Ancient Near East included papers focused on monument orientation, astronomical diaries and astral symbolism in Mesopotamia, Persia, the Levant, Turkey and Egypt. This session highlighted fieldwork carried out in recent years in Jordan by Andrea Rodríguez Antón, Juan Antonio Belmonte and A. César Gonzalez-García, as well as work on the orientation and location of the main temples of Herakleopolis Magna in Egypt, a presentation by Juan Antonio Belmonte and M. Carmen Pérez Die and Lucía Díaz-Iglesias Llanos which exemplified how an archaeological site could be interpreted within the context of landscape archaeology and, in turn, how an archaeoastronomically informed approach can shed new light on the sites under study.

In addition, one of the sessions was dedicated to the examination of protohistoric sanctuaries and ritual buildings in the Iberian Peninsula, including the Iberian urban sanctuary of Puente Tablas (Jáen, Spain), and also a Magdalenian site, the cave of Praille Aitz, having possible lunar-solar properties. And while many of the talks centred on identifying and analysing the orientation of material artefacts and were based on fieldwork carried out at specific sites, there were also a number of talks that elaborated upon written texts, dealing with aspects of calendrics, time-keeping and social practice. For instance, the presentation by Shulamit Shinnar explored Rabbinic standards for regulating the accuracy of lunar observation in the calendar, as elucidated in the Mishnah, while the talk by Lorenzo Verderame focused on the role played by the Pleiades in ancient Mesopotamia, based on the appearance of these stars in cuneiform texts, and then addressed their relation to calendrical reckoning, along with their astronomical and astrological significance. Evidence for astronomy and astrology, as well as related social practices, omen texts and texts related to medical astrology – as documented in a set of scholarly cuneiform tablets excavated in a private residence in Uruk – was also brought into focus, in the presentation by John Steele. In addition, astral symbols on kudurrus and in other Babylonian texts received significant attention in a talk by Sara Pizzamenti.

Further work in the area of calendrics formed part of the session dedicated to Ursa Major, the Sky Bear, where a presentation by Darrelyn Gunzburg examined the role of this constellation in stellar time-telling in the Paduan Salone; specifically, the way that the four bears in the fresco were viewed in the medieval period, and how their positions represented seasonal markers and reflected the presence of these animals in the 'elite' visual language of this fourteenth-century artwork. Similarly, the role of the bear in the Finnish folk calendar, the Iron Age Bear Year and the layered nature of these calendric traditions were discussed in a presentation by Marianna Ridderstad. In another talk, by Roslyn M. Frank, the broader implications of Sky Bear research for cultural astronomy and the cognitive resilience of cosmological beliefs attached to bear ceremonialism in the Northern Hemisphere were highlighted. Also addressed in this session, in a talk by Elio Antonello, was how changes in the position and shape of Ursa Major, as demonstrated in computer simulations of the skycap during the Paleolithic, could have affected its utilisation as a daily time-keeper and seasonal marker.

As might be expected, given the venue of the conference itself, research on cultural astronomy in Ancient Italy and across the Roman Empire was well represented, with

more than 15 presentations addressing this topic. In addition, the geographical reach of the conference itself should be noted since it attracted researchers from as far away as Japan, Mexico and South Africa as well as from previously more underrepresented parts of Europe such as Armenia, Bulgaria, Macedonia and Lithuania. Moreover, the time-frames addressed by the various talks covered nearly every prehistorical and historical period, ranging from a computer simulated reconstruction of the sky during the Upper Paleolithic to a discussion of Newton's influence on the Enlightenment and politics and a talk tracing the eighteenth-century exchanges of astronomical information and artefacts that brought together Francesco Bianchini, an Italian astronomer in Rome, and members of the court of Lisbon. Cross-cultural exchanges and influences were treated in a talk by Bill M. Mak which had a strong ethnohistorical bent. It traced the process of transmission of Greco-Persian astral science from the Near East via the Silk Road and Central Asia to East Asia, and emphasised the central role of a family of Sino-Persian Christians in disseminating astronomical knowledge throughout China from the eighth century onward.

There were also a number of talks focused specifically on ethnographic data with astronomical implications, drawn from non-western locations and/or treated more globally, including discussions of the uses of obsidian mirrors in ancient cultures, and the images and functions of insects in archaic cosmologies. The indigenous sky folklore of the !Xam (or San) Bushmen of South Africa, as recorded in interviews with five indigenous storytellers, was examined by Jarita Holbrook, showing how the oral traditions and celestial lore of the !Xam descendants have been preserved. A talk by Rodwell Ndlovu, also based on data obtained in South Africa, concerned a set of surveys where, among other things, the respondents' attitudes towards astronomy and astrology were assessed. Talks concerning astronomy in extra-European cultures also addressed a number of other questions, such as: animism and reciprocity at skywatching places in the Andes – namely, how these two notions can condition the rethinking of horizon calendars and astronomical alignments; the presence of crossover phenomenon among the Incas at Collasuyu from the perspective of the phenomenology of landscape; and a new analysis of the lunar series at Dos Pilas and Naranjo, Guatemala.

To conclude this overview, I would like to highlight three facets of the conference, looking at them in more detail: (1) discussions that took place concerning the term "cultural astronomy"; (2) a session dedicated to the cultural astronomy of Christian Churches; and (3) a workshop conducted on configuring landscapes and orientations using Stellarium software.

Problems and Methods in Cultural Astronomy

The conference began with an introductory session dedicated to the problems and methods of cultural astronomy, a topic that was also taken up in the final roundtable discussion, dedicated to exploring the question "What is 'cultural astronomy' today?" Even though the terms "astronomy in culture" and "cultural astronomy" have been around since the 1990s (Iwaniszewski 1990, 1991, 1995; Ruggles and Saunders 1993), the purview, approaches and methodologies of cultural astronomy still have not been

entirely fleshed out, which is one of the reasons that these roundtable discussions continue to elicit heated debate and hence continue to be a regular feature of SEAC conferences.

Whereas in recent years the term “cultural astronomy” has started to gain more currency and a certain degree of cross-fertilisation across disciplines is now occurring – aided in no small part by publications such as the comprehensive *Handbook on Archaeoastronomy and Ethnoastronomy* (Ruggles 2015) as well as the *Journal of Skyscape Archaeology* – when SEAC was founded, the concept of “astronomy in culture” was still a relatively new one. Moreover, at that juncture, archaeoastronomy was still dominated by those working in the hard sciences and reflected the number-crunching and statistical analyses typically employed by researchers in these fields. Although that dominance has lessened over the years, cultural astronomy, constituted as a field of study with an interdisciplinary field focus and explicit methodology, is still very much a work in progress. In many instances, we are still attempting to explore methodologies and approaches that will allow us to identify and/or reconstruct the cultural contexts and social practices that in the past led to the utilisation of particular sky resources and their integration into built environments, whether material or cognitive in nature. In this respect, there remains the challenge of integrating the memory traces – material and immaterial – of past social practices into the overall cosmology of the collectives under study.

As noted, it was back in the 1990s when the notion of a culturally informed field of study called “cultural astronomy” was first discussed, with the hope was that it would help to redefine the scope of the field of archaeoastronomy, bringing about increased collaboration between those working the natural sciences and the humanities. However, even after several decades it is still an unfamiliar term, poorly understood by many, including those working in anthropology and archaeology (Salt 2015). Nonetheless, the annual SEAC conferences have been a venue in which lively discussions have taken place concerning terminology, methodology and theory. These in turn have contributed a broader understanding of the diversity of methods and practices that are being utilised today in areas of cultural astronomy and skyscape archaeology and by those interested in exploring questions relating to the cosmology of cultures of the past and present – such as the ways that various cultures have understood the inhabitation of both skyscape and landscape. In addition, the conferences have been a medium for scientific exchanges and collaborative efforts. In short, the SEAC conferences held each year in Europe have provided a robust forum for exploring these and other topics, as well as a means of disseminating the results of scholarship characterised by a wide spectrum of approaches and methodologies. Of particular note in this year’s session on problems and methods in cultural astronomy was the presentation by Vito Polcaro on “The Credibility of Archaeoastronomy”, and a talk on the phenomenology of shadows by Daniel Brown which began by allowing the audience to experience the shadows cast by and on a standing stone. Daniel then put forward a more general phenomenology of shadows that has implications for experiencing the landscape and skyscape at other sites and for exploring possible meanings embedded in the monuments as well as the possible astronomical narratives once attached to them.

Cultural Astronomy in Christian Churches

This year's conference, as usual, included a wide variety of topics in the presentations that made up the 13 sessions of the conference programme. While the differences in approach, types of evidence highlighted and methodology chosen by researchers were often striking, the session titled "Cultural Astronomy in Christian Churches" was one that brought together a large number of researchers whose work tends to be based on a common and well-established suite of tools for identifying and characterising patterns of orientation in these structures (Prendergast 2015). Indeed, the topic is one that has always garnered a great deal of interest at SEAC conferences since their very inception. Moreover, it is an area of investigation that, for a variety of reasons, has attracted the attention of scholars not only from Europe but also other parts of the world.

Presentations making up the session covered fieldwork carried out on churches from diverse geographic regions, although located primarily in Europe. While a number of the talks dealt with different aspects of the architecture of churches from a single geographical location – for instance, work on Welsh monastic skylscapes, and the orientation of solstitial churches in Wales – other presentations were focused on comparing the orientation of churches from different locations but during a similar time period – e.g. the Romanesque churches of Sardinia, Corsica and Tuscany. One presentation traced two cultural landscapes associated with the hagiography of Santa Marina in northwest Spain, showing that places marked by the legend of this saint reveal the imposition of Christian solar references on earlier Celtic traditions. Additional talks addressed issues related to the role of light and shadow in medieval buildings on the saint's day, the play of light and shadow in the Mausoleum of Teodoric (Ravenna, Italy) and the Cathedral of Saint James in Galicia, as well as the use of light beams in the colonial churches of New Spain and Peru.

Workshop on Producing and Configuring Stellarium Landscapes for Orientation Studies

In addition to the regular oral presentations and posters, this year's conference included a tutorial directed to those interested in producing and configuring Stellarium landscapes for orientation studies (see Brown 2015). The contents of the workshop are of special interest to the readers of *JSA* and, more generally, to anyone working in the area of landscape and skyscape archeology. It was conducted by Georg Zotti, a researcher at the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (LBI ArchPro) in Vienna who has worked extensively on visualisation tools and techniques (Zotti 2015). Attended by some 20 participants, the hands-on tutorial provided a unique opportunity to learn how to take panoramic photographs and create a geometrically correct landscape panorama from the Stellarium open-source desktop planetarium software, utilising free and open-source tools. Using the materials provided in the tutorial, participants will be able to use Stellarium to create research-grade calibrated landscapes which can be used for skyscape studies and demonstrations – keeping in mind, however, that the visualisation can only be as accurate as the initial landscape panorama.

A proceedings volume for this conference will be available as a special issue of the open access journal *Mediterranean Archaeology and Archaeometry* (MAA). More information on the conference is available at <http://www.brera.inaf.it/SEAC2015/>, where the full programme can be found. The 24th SEAC conference, sponsored by the Sophia Centre for the Study of Cosmology in Culture at the University of Wales Trinity Saint David, will be organised around the theme of “The Marriage of Astronomy and Culture: Theory and Method in the Study of Cultural Astronomy”, and will take place in Bath, UK, from 12th–16th September, 2017 (<http://www.seac2016.com/>).

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