

“Harmony and Symmetry”. European Society for Astronomy in Culture (SEAC) 26, Graz 27th August–1st September 2018

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A significant fraction of the world’s astronomers and cultural astronomers gathered in eastern Austria in late August 2018. While the International Astronomical Union (IAU) had their triennial General Assembly in Vienna, SEAC (Société Européenne pour l’Astronomie dans la Culture / European Society for Astronomy in Culture) had its Annual Meeting in Austria’s second largest city, Graz. Unfortunately, the conferences overlapped so that the SEAC meeting was during the IAU’s second week, at the same time as astronomy in history and culture was also being discussed inside the IAU. Due to this unfortunate timing, the intended hope of gaining new attendees at SEAC from the IAU membership was unfortunately for the most part unfulfilled. However, those who attended certainly had several interesting days of exchange, gaining new insights into the current state of the field of cultural astronomy.

It would not have reflected Austrian culture had the opening lacked musical accompaniment. The conference was fittingly held in the historic Palais Meerscheinschlössl, where the early eighteenth-century painted ceiling shows the “Victory of Christianity over the Pagan Deities” (Draxler and Lippitsch 2018), the latter falling out of the sky. Additionally, Graz is the town where a talented young mathematician and astronomer named Johannes Kepler (1571–1630) started his career and developed his *Mysterium Cosmographicum* before joining Tycho Brahe (1546–1601) in Prague; and some of his non-astronomical works, for example, on snowflakes, were the inspiration for an art exhibition at the Palais. Consequently, some of Kepler’s many interests were also the subject of presentations in the SEAC programme. During the week, our guided walking tour through Graz included the old town, with its fifteenth-century imperial buildings, and also a stop at the Kepler School, a secondary school also commemorating Johannes Kepler in a special exhibition, although Kepler had not taught there. On view, among other pieces, was a (modern) metal model of the five Platonic solids from the *Mysterium* that Kepler imagined had been put into and around each other to build up the Solar

System. The school is also Austria's only secondary school with an astronomical rooftop observatory.

One of the excursions took us to the seventeenth-century Eggenberg Castle in another part of Graz; this was a place richly furnished with embedded cosmic relations in the form of 24 state rooms connected by 52 doors and illuminated by 365 exterior windows. Its festival hall, the *Planetensaal* (Planet Hall), is copiously decorated with allegorical paintings of the seven planet deities and representations of the zodiacal figures. Many of the other rooms are also lavishly decorated and filled with representations of mythological figures.

The final excursion day started with a visit to the world's oldest still-functioning Cistercian monastery, Stift Rein, which holds astronomical treasures in its library such as a sumptuously-coloured anonymous manuscript copy of Peter Apian's *Astronomicum Caesareum*. Printed in 1540 and including dozens of volvelles, this work offers nothing less than a mechanised way to find planetary positions and was created just a few years before Copernicus moved the Earth out from the centre of the cosmos. Another showpiece is an early seventeenth-century calendar table with a richly decorated, etched circular stone plate that shows Julian and Gregorian ("Old Style" and "New Style" in those days) calendars. After visiting the notorious "Devil's Stone", we enjoyed a late lunch in a desecralised little church.

Additionally, on one evening, we were invited to the town hall by the mayor of Graz and, on another, by the state governor of Styria. Both occasions strengthened internal contacts, as well as contacts with local politicians who showed interest in our activities and their possible impact on education.

SEAC always brings together scholars and laypeople from a variety of disciplines whose interests involve the sky in various forms of symbolism or astronomy, which is probably our oldest science. Overall, the presentations at the conference touched on most periods and continents. European prehistory was highlighted, with new results on the Neolithic Circular Ditch Systems in Germany, an interesting riverside site in Serbia, standing stones in Switzerland and even solid evidence for, not only celestial symbolism, but also a devastating meteorite impact in early Iron Age southern Germany. The Greek region was covered by talks on Minoan Crete, the Tower of the Winds in Athens and traces of lunar rhythms in Homer's *Odyssey*.

The Near East was well-covered with an invited talk by the noted Assyriologist Hermann Hunger, and contributions by others on Mesopotamian astronomy. From the Far East, we had a talk about the beginnings of archaeoastronomical research in Japan and talks on astrology, orientation and calendars in ancient China.

Many of the presentations concerned the cultures of Meso- and South America, with, as always, ever-new aspects of the various calendars as well as details of architectural orientation. Also, recent results in Roman and Mediterranean archaeology and orientation patterns were presented, together with questions on the development of calendar structures.

Many calendar patterns involve the various cycles of the Moon and its combination with the solar year. At SEAC 25 in Santiago de Compostela in 2017, Bradley Schaefer had

delivered a rather provocative assessment of the relevance of lunar standstills, finally rejecting any cultural significance and claiming lack of solid evidence for observations of this phenomenon. This provocation did not go unanswered and arguments in favour of lunar standstill observation were brought forward, with several strong examples based on religious, symbolic and even written evidence.

Many archaeoastronomical results have to be corroborated with statistical evidence, and a new computing tool, *skyscapeR*, was presented by Fabio Silva (*skyscapeR* 2017). This tool should help in statistical data analysis for archaeoastronomy, and with the creation of standardised plots like azimuth graphs or orientation curvigrams. This free and open-source tool, developed by several members of our community, is based on the widespread R programming language, and will hopefully become a standard way of presenting results ready for publication. Also, a new robust statistical test by the same developers was presented. Of course, a tool needs training, so I hope some more presentations and maybe a little course on using this tool will follow so it can be used also in teaching by a few more of us.

Coming from a background of computer technology and historical astronomy, my own conviction is that modern methods, at least sometimes, require modern tools which need modern ways of presentation. In this respect, I am grateful to the organisers that the exhibition area did not only have the traditional coffee, cookies, arts exhibition and posters, but also a computer installation where attendees could try out my virtual reconstructions of historical astronomical observation instruments, although the breaks were not enough to answer all questions. Consequently, the over-extended discussions meant that a few of us had to skip a presentation or two. I would welcome more time for these informal discussions, where applicable, but schedules are always tight and I know it is not everyone's topic of interest. However, while we are speaking of computing, it must be noted that there is much interest in the trustworthiness, quality and limitations of the available software and data, whether *Stellarium*, *Google Earth*, *SRTM*-based digital elevation models or any other program. In particular, general-purpose astronomical and entry-level geo-software may not be properly equipped to handle research that involves in-depth or even moderate familiarity with terrestrial and astronomical coordinate systems, or with calendar systems such as Roman dating, among other things. Take care: the computer is a nice tool to spare you the burden of calculations, but the program is only (at most) as good as the model the developer has implemented and, hopefully, referenced in the manual. If you are in doubt, cross-check your results with another program.

SEAC's biennial Carlos Jaschek Award was granted to Stanislaw Iwaniszewski. As the Award Committee found (A. César González-García, pers. comm.),

Stan's contributions to cultural astronomy cover a wide range of issues, cultures and periods. Above all, his dedication to the methodological aspects of cultural astronomy must be highlighted. He has been a major proponent for the inclusion of anthropology and theoretical archaeology in archaeoastronomy and cultural astronomy and has combined intensive field work with detailed consideration of theory from cultural anthropology. He has been a pioneer in our field in encouraging us to consider those ontological issues that are becoming dominant themes in

archaeology, anthropology, and the humanities. As a very active member of several international scientific associations dedicated to cultural astronomy, he has made a special contribution to the international dissemination and establishment of this issue as a scientific discipline.

Congratulations!

“The Ontological Turn in Anthropology and Archaeology and Its Importance for Cultural Astronomy” was the title of this year’s roundtable. Many in the diverse audience seemed to find this topic crucially important, although I am somewhat comforted that I am not the only person who has had difficulties with it. Ontology and the ontological turn will likely be discussed in future conferences, leading to more enlightenment.

The AGM began by commemorating our late friend, Vito Francesco Polcaro, with a minute of silence. We will miss his fine contributions and friendly character!

Following this, after extended discussion, it was decided by vote that SEAC would accept the invitation expressed by the president of the European Association of Archaeologists (EAA), Felipe Criado-Boado, at SEAC 2017. The next SEAC conference will, therefore, be the first joint conference with the EAA, taking place in September 2019 in Bern, Switzerland. This conference will hopefully provide new opportunities to present the unquestionable role of astronomy in archaeology and culture to researchers who may so far have been sceptics. May this next opportunity again be fruitful!

References

- Draxler, S. and M. Lippitsch, 2018. *Harmony and Symmetry: Celestial Regularities Shaping Human Culture. Synopsis of Scientific Contributions. 26th Annual Meeting of the European Society for Astronomy in Culture.* Graz: GWK Graz
- skyscapeR v.0.2.2, 2017 [online]. Accessed January 2019, <https://cran.r-project.org/web/packages/skyscapeR/index.html>