Where Next for Archaeoastronomy? A Personal View from a Cultural Heritage Adviser

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My first detailed introduction to archaeoastronomy came in 2009 during the International Year of Astronomy, when I was English Heritage's Lead Adviser for the Stonehenge and Avebury World Heritage Site. Prof. Clive Ruggles, on behalf of the Royal Astronomical Society, approached English Heritage (who manage the Stonehenge monument) with a view to putting on a series of winter events there to help the public understand the monument in its skyline context (Royal Astronomical Society Astronomical Heritage Committee 2009). Although I knew him beforehand, his approach heightened my interest in the subject and this chain of events led to us working together, particularly on managing sites of archaeoastronomical interest (Chadburn 2010; Chadburn and Ruggles 2017). In 2015 I became the UK government's Focal Point for World Heritage and Astronomy (more information on the Focal Points can be found on UNESCO's webpage – UNESCO 2020). I cite my introduction to archaeoastronomy because it illustrates the rather random way in which archaeologists often come to the subject – indeed, many never even get an opportunity to explore it. Although I have a joint honours undergraduate degree in archaeology and anthropology, specialising in prehistoric archaeology, I was not taught anything in relation to archaeoastronomy and I now feel this is a major problem. Why?

The first issue is the resistance to the topic – still seen – from some archaeologists. I have been surprised and dismayed by the reaction of a few when I mention my new-found interest and research in this area (I should mention for balance that most archaeological colleagues have been interested and supportive). A perceived lack of credibility in relation to the discipline and the feeling it is perhaps “fringe” or “New Age” seem to be the main worries of those who dismiss it out of hand. This inadequate and incorrect understanding could surely be overcome in future by proper education, particularly if the subject were to form an essential module as part of an undergraduate course. This current resistance

or lack of engagement has been commented on by Emilia Pásztor, who reported on the conference of the European Association of Archaeologists in Bern in 2019:

The most important event was session 338, a roundtable that was intended to bring together archaeologists and archaeoastronomers for a discussion entitled “Archaeology and Cultural Astronomy: Bridging the Gap between Trench and Sky”. The presidents of the two societies, César González-García (SEAC) and Felipe Criado-Boado (EAA), were its main organisers. They considered the opportunity to celebrate the 27th annual meeting of SEAC together with the 25th annual meeting of the EAA as a key moment for engaging in a fruitful dialogue between the two disciplines, and to bridge the gap which still exists. [...] Unfortunately, the roundtable did not achieve its original purpose. About 20 participants took part, but these were mainly SEAC members, and therefore the questions and comments reflected only their views. The lack of engagement by archaeologists meant that the joint conference did not achieve its main goal of increasing the professional recognition of cultural astronomy among archaeologists. (Pásztor 2019, 213–214)

However, it is also worth noting the strong views of both presidents – with which I agree – who feel that there must be more collaboration going forward:

advances in Archaeology and Cultural Astronomy indicate that both communities must retain and build relationships. Indeed, such collaboration will help to create a deeper understanding of human prehistory and history. Our feeling is that we need each other.

Further,

a fluid exchange between specialists from both “groups” is key for the understanding of the place of the sky in past cultures, but, more importantly, it helps us to tell a fuller, interwoven holistic story of the experience and understanding of the World of peoples, past and present. (González-García and Criado-Boado 2019)

A second issue is a lack of understanding. Even if not hostile, there seems to be apathy about the subject and a feeling amongst some archaeologists in post today – no doubt untrained like me – that archaeoastronomy is “not for them” and does not matter much. I strongly disagree with such views and feel that a lack of trained archaeoastronomers, or archaeologists with an understanding of archaeoastronomy, is a significant problem not only for academics but also for those managing heritage sites. Unless cultural heritage managers, consultants and archaeologists have at least a basic understanding about the function of the monuments they manage and how they were used, then significant problems can arise.

This can be exemplified at Stonehenge, where the attributes of outstanding universal value of the Stonehenge World Heritage Site include its astronomical elements (Young *et al.* 2009; Simmonds and Thomas 2015). These attributes or features/elements “hold” the outstanding universal value of a World Heritage Site, and need to be actively managed to ensure they are there for present and future generations. At Stonehenge they are as follows:

- (1) Stonehenge itself as a globally famous and iconic monument;
- (2) the physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites;
- (3) the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape;
- (4) the design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy;
- (5) the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other;
- (6) the disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel; and
- (7) the influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

The management of and impact on all of the above attributes is important in relation any new development in and around the World Heritage Site. However, for the purposes of this article, it is worth examining past proposals by Highways England (the government body for roads) to improve the A303 trunk road which runs past the monument specifically in relation to Attribute 4. From January to March 2017, this body undertook a non-statutory consultation on proposals to improve the road within the World Heritage Site (Highways England 2017). These included a tunnel and a new road at either end of the tunnel. However, one of the proposed tunnel portals was situated on the line of the solstitial alignment through Stonehenge, and one of the road options running from that portal ran along the alignment up towards a proposed junction on the skyline, at the point where the setting midwinter sun would sink behind the horizon (Figures 1 and 2).

The road proposals therefore adversely impacted Attribute 4. There were over 9000 consultation responses, including from those with an understanding of archaeoastronomy. Highways England took on board many of these views and as a result, radically altered their road proposals:

The most significant change was a re-think on the route through the western half of the WHS and the location of the western tunnel portal, which are now much closer to the line of the existing A303. This avoids many important archaeological sites, including newly-discovered important archaeology just to the east of the A360. The modified alignment also avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice, perhaps the most important sightline in the entire WHS. (Highways England 2019)

It is therefore critical that those managing and advising on such sites should have a good understanding of archaeoastronomy in order to ensure their preservation going forwards, including in a development context.

So, given this clear need, where should archaeoastronomy be taught within an undergraduate degree? As we know, it is an area which crosses a variety of subjects –

FIGURE 1. Astronomical sight lines in Stonehenge World Heritage Site (shown in pink) and the surrounding area, showing their end points on horizons (digitised from an original by Amanda Chadburn and Clive Ruggles by Nick Hanks, English Heritage, February 2015). © Crown Copyright and database right 2015. All rights reserved. Ordnance Survey Licence number 100024900.

FIGURE 2. Alternative routes for the A303 road in relation to the Stonehenge World Heritage Site and Winterbourne Stoke village, set out in consultation documents (source: Highways England 2017).

for example maths, physics, astronomy, anthropology, archaeology – and people who specialise in it today are polymaths who have often come from a separate discipline. My own feeling is that there should be – as a minimum – a module on archaeoastronomy which should be an essential element for those doing an archaeology degree, particularly for those specialising in prehistoric archaeology or anthropology. There should also be more availability of MA or MSc courses (this would have helped me for example) and specialists who can teach the subject. Given that archaeology itself is often taught as both a BA and a BSc, the modules could sit within either a science or social sciences/humanities degree.

Going forwards, particularly in the current ever-changing world, will not be easy. But it is essential to do so, particularly because this is an area which the public value – archaeoastronomy is popular. For example, over half a million people have viewed the recently streamed 2020 summer solstice at Stonehenge (the monument was closed for the summer solstice because of Covid-19 concerns, and so the sunrise was filmed in an empty monument, and then live-streamed online). Also, beyond ensuring that the subject is taught as part of undergraduate archaeology courses and made available as a post-graduate degree, there also needs to be more cross-fertilisation and outreach generally, more winning of minds on both sides. We have seen the fruitful way in which

archaeologists and scientists are undertaking DNA and isotope analyses and, as a result, are rewriting prehistory. Perhaps a few new major research programmes with close collaboration between archaeoastronomers and archaeologists would pay dividends in a similar way? More joint publications? It is worth considering the recommendations of the International Expert Meeting on Astronomical Heritage and Sacred Places which took place in Gran Canaria, Spain in 2018. The Gran Canaria Recommendation reminds us that

the sky is the common heritage of all humanity, revered by peoples and communities throughout the ages, and has served – as it still does – as an endless source of inspiration

and that

the cosmos has captivated the imagination of all societies and cultures which may be reflected in their heritage including architecture, town planning, use of landscape, petroglyphs, mythologies, oral traditions, and other cultural expressions including sacred beliefs and practice. (International Experts 2018)

If we are to truly understand the distant past and former cultures, then collaboration is essential.

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