

Archaeoastronomy: what is that?!

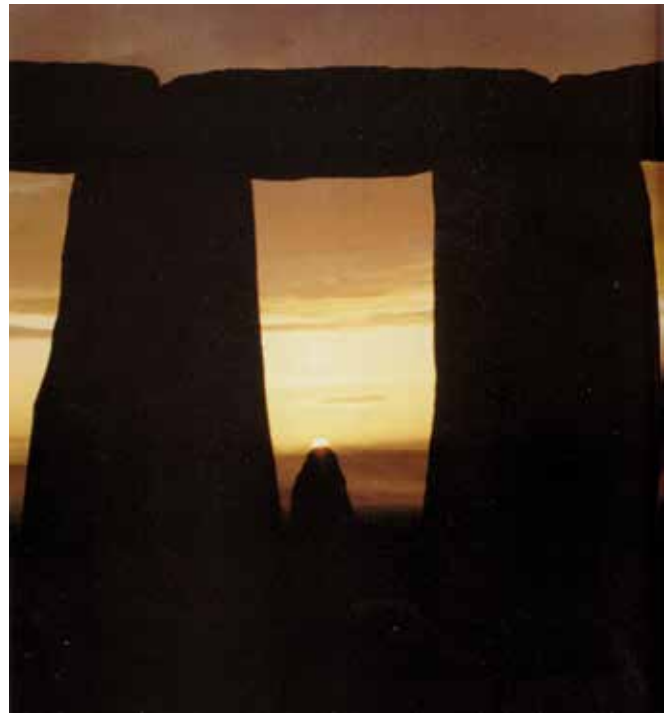
Tore Lomsdalen

AT THE ASTROLOGICAL Association of Great Britain's 45th annual conference September 2013, there is for the very first time a track called 'Archaeoastronomy'. For many people this word does not mean much, except that it may have something to do with archaeology and astronomy. As an invited speaker to this track, I have been challenged to give some information about what this academic discipline implies as seen from an astrologer's perspective. The word 'archaeoastronomy' may look difficult in itself; however, the general idea or concept behind it is fairly simple. It will easily fit into many astrologers' holistic views of our universe, namely: an awareness of heavenly events and their importance to human actions and behaviour on Earth.

Definitions

Archaeoastronomy has no single settled account, but just like astrology, fits into both a broader and a narrower definition. The Sophia Centre website states that archaeoastronomy "is the study of the incorporation of celestial orientation, alignments or symbolism in human monuments and architecture". Archaeoastronomy, however, is taught within the wider context of the MA study of Cultural Astronomy and Astrology at the Sophia Centre, University of Wales Trinity Saint David, which is currently the only place in the world where such a study can be followed. Its course director, Dr. Nick Champion, finds appropriate the broader definition of Prof. Clive Ruggles of the University of Leicester, one of Europe's leading capacities within the field: "Archaeoastronomy is the study of beliefs and practices relating to the sky in the past, especially in prehistory, and uses to which people's knowledge of the skies was put". Prof. Ruggles was the first ever scholar to become a professor in Archaeoastronomy and has contributed to bringing archaeoastronomy into a holistic dimension of sky, earth and humans.

Dr. Fabio Silva, an astrophysicist responsible for the archaeoastronomy module for the MA course, who is also a speaker on the archaeoastronomy track, suggests



Summer solstice sunrise over the heel stone at Stonehenge. Photo courtesy of Lionel Sims

that archaeoastronomy "is the study of how people have understood the phenomena in the sky, how they used phenomena in the sky, and what role the sky played in their cultures, through the study of their material remains". By this definition, Silva seems to contextualise it as a multi-disciplinary study of astronomy, archaeology and anthropology that habitually entails merging heaven, earth and humans.

I have personally heard Ruggles give a shorter version, defining archaeoastronomy as, "The study of human perceptions and actions relating to the sky". Champion defines astrology in his book *The Dawn of Astrology*, as "the study of the ways in which significance for life on earth is located in celestial objects and the resulting practices". This definition does not vary that much from the one by Ruggles; however, in context they do manifest two very different outlets. In its proceedings, astrology is a container of self and soul search, divination and prediction, whereas archaeoastronomy is subject to academic and scientific analysis. Nevertheless, both fields approach the realms of cosmology, phenomenology and ethnoastronomy.

Prehistory & cosmology

All the above-mentioned definitions are all arrived at through our modern mindset. Prof. Kim Malville of the University of Colorado, who changed his academic profession from astrophysics into archaeoastronomy partly based on his experiences of how urban societies in Latin America reacted emotionally to eclipses, emphasises that the challenge in archaeoastronomy is to understand the ancient sky-watchers and to be able to see heaven through their eyes. Cosmologies of today, Malville continues, are asking the same questions that people did thousands and thousands of years ago, wondering about the meaning of the glittering stars, movements of planets, stars and star groups appearing and disappearing, and the formation of constellations. Champion makes this very clear when suggesting, "The sky is an essential part of human existence. Landscapes do not exist without skylines. In traditional cosmologies, skylines

are landscapes”, and the birth of astronomy – and astrology – occurred when the human race first developed enough consciousness to search for a meaning in the sky. Again analogous to astrology, this is exactly what Dr. Bernadette Brady, another of my MA course tutors, does in her Astrology School, Astrologos. Brady’s intention is to prompt modern astrologers to use the visual sky in a way similar to that of the astrologer priest in Babylonia thousands of years ago.

There can be no doubt that the rising and setting of the sun was a considerable influence on and a fundamental feature of human existence. The same applies to the various phases of the moon, and these events reflected the tidal rise and fall for societies living in coastal regions. We can barely imagine the incredible impact an eclipse would have on early societies, when the sun disappears for a period of time in the day, or the full moon does the same during the night. No wonder that eclipses are associated with bad omens, fear, death and disaster. Even to our modern mind, a total eclipse is a dramatic observation, though we have long lost its mystical associations.

Neanderthal graves from about 30,000 years ago have been found in which bodies were buried in the cardinal east-west direction, with the head towards the west – a burial practice still commonly used today. The symbolic reasoning is that the dead person can observe the rising of the sun on the eastern horizon. Similarly, many churches have their entrance in the west and the altar in the east. Again a coherent symbolic signification: one enters in the west and walks towards the altar, the most holy area, in the east where the sun rises.

All over the world there are numerous indications of prehistoric peoples’ awareness of celestial events influencing behaviour on earth. I list just a few examples. There is the 20,000-year-old famous Venus of Laussel, holding in one hand an apparent crescent moon with thirteen notches and the other hand on her apparent pregnant belly, indicating fertility, gestation period, menstrual cycles and the thirteen lunations we have in a solar year. The famous cave painting in Lascaux of a bull, dated 15,000 BCE, with the suggested star group Pleiades above its shoulder, is an intriguing artefact when we know that this very star group is actually in the constellation of Taurus, the Bull. The so-called *Ishango* bone (20,000 BCE) from former Belgian Congo, with a series of notches, has been suggested by Alexander Marshack in his book *The Root of Civilisation* to be a lunar calendar device. There are several other examples of bones or depicted stones indicating a tally of a lunar calendar both with 28 or 29 notches or holes, representing respectively a sidereal and a synodic lunar month. Depicted spirals implying the regular movements of the sun and/or the cycle of life are found in many prehistoric societies.

Prehistory is understood as the time before the written language that was invented by the Sumerians in Mesopotamia around 3,500 BCE. The cuneiform script has been a valuable literate source for us to understand the origins of astrology. This does not mean that astrology did not exist earlier, which it probably did in one form or other, but as we have no written documentation or evidence of that, we cannot be sure.

In archaeoastronomy, when researching cases or problems in prehistory without any written documentation, the question of intentionality in human behaviour and action

is frequently asked. When investigating alignments of a given prehistoric monument with celestial bodies, we truly do not know whether the building or object was purposely oriented or aligned towards the sun, moon or star. It could all have been by pure chance! Consequently we have to search for evidence and repetitive indications both inside the monument and in its astronomical, archaeological, historical, ethnographical and anthropological surroundings.

Due to precession, the wobbling of the Earth, the skyscape 5,000 years ago did not look as it does today. Thanks to computerised sky maps, we can easily reconstruct the rising and setting of planets, stars and star groups as they were in prehistory. However, we can never reconstruct the total universe exactly as it once was with changing climatic and atmospheric weather conditions. Nevertheless, as my archaeoastronomy tutor at the MA course, Prof. Malville once said: “Archaeoastronomy is not about mathematics, but about observations”, which is definitely one way to try to see the sky through the eyes of the prehistoric human being.

The development of archaeoastronomy

As I have tried to outline in the previous section, archaeoastronomy as a concept or notion probably arose with human existence on Earth, and will possibly exist ever after. On the development of archaeoastronomy as a modern scientific discipline, it is difficult not to start with Stonehenge. The British architect to King James I, Inigo Jones, may be the first person known to conduct archaeoastronomical surveys when in the middle of the 17th century he made the first reasonable plan of Stonehenge and linked the hexagonal form of the sarsen circle to the trilithons. Due to its order and symmetry, Jones concluded wrongly that it was Roman. Nevertheless, he laid the first stepping stones towards a holistic view of Stonehenge.

The antiquarian William Stukeley (1687-1765) may have been the first person to notice Stonehenge’s orientation towards the midsummer solstice sunrise. Ever since, there has always been a fascination about Stonehenge’s astronomical possibilities. Stukeley, as John Avery, concluded that Stonehenge was a temple of the Druids. At the end of the 19th century the astronomer Norman Lockyer, who had carried out archaeoastronomical surveys in Greece, Egypt and Britain, unsuccessfully tried to date Stonehenge based on solstice orientation, and hypothesised that old megalithic monuments were ancient observatories. Lockyer attributed the monument to Celtic religious ceremonies.



However, the proposal that Stonehenge was not only a complex calendar but also a Neolithic celestial computer for predicting solar and lunar eclipses was not made until in 1965, when British-born US-based astronomer Gerald Hawkins published his book *Stonehenge Decoded*, shocking both astronomical and archaeological academics. To Hawkins' credit, it can be argued that the book is probably one of the most influential publications in shaping today's public perception of Stonehenge as a sacred site with celestial orientation. We must not forget that his book was launched during the time of the first man to fly in space, the preparations for the Apollo moon landing programme, the height of Flower Power, social and political revolutions, anti-Vietnam demonstrations, and the early origin of computers; a time suffused with inventive technologies (Uranus), a transformative world view (Pluto), and an expanding spiritual awareness (Neptune). No wonder this happened during a period in time when our generation planets Uranus and Pluto were conjunct in Virgo (social chaos, lack of order through destruction of established norms) and sextile to Neptune in Scorpio (regeneration, cyclic holistic searching for the meaning of life).

To give Hawkins the credit for Stonehenge's current more than one million visitors yearly is obviously stretching a little too far. However, on a more academic level, *Stonehenge Decoded* initiated an interest in the subject of archaeoastronomy and created a fundamental debate within the interdisciplinary areas of archaeology, history, anthropology and astronomy. Hawkins' investigations contributed further to a worldwide wave of research by laymen and enthusiasts, scientists and scholars, into prehistoric sites and their remains seen in relation to astronomical events in the sky. The Scottish engineer Alexander Thom (1894-1985) should also be mentioned as an early pioneer in archaeoastronomy. Thom surveyed hundreds of stone circles and megalithic sites in Britain and Brittany, mainly for solar, lunar alignments and geometrical uniformity. He suggested that the Neolithic and Bronze Age megaliths were all constructed using a common measure of a Megalith Yard (MY) which corresponds to 2.72 feet or 0.83 metres.

Their work raised another interesting issue, namely how primitive Stone Age human societies actually were. Were they, as commonly believed until then, composed of barbarians running around knocking each other on the head with stone axes, or were they humans with sophisticated and advanced mathematical, geometrical and astronomical knowledge? Prof. Torpiano points out regarding the megalithic prehistoric temples in Malta, which predate both Stonehenge and the Egyptian pyramids by about one millennium, that there is no doubt that the temple builders had a high level of architectural and contractual technical knowledge. Sir Colin Renfrew has alleged the Maltese temples to be the "oldest freestanding stone structures in the world". One of the temples, the Mnajdra, constructed more than 5,000 years ago, has been suggested to be the world's first calendar in stone, a device for establishing time and seasons throughout a solar year. My talk at the AA Conference this year will explain more in detail about this fantastic Neolithic temple.

Hawkins and Thom faced considerable opposition to their theories, and even today scholars seem to be highly divided about giving credibility to their pioneering works in archaeoastronomy. The most severe criticism of *Stonehenge*



Stonehenge by Jasper Francis Cropsey, 1876

Decoded came from a leading authority on Stonehenge, Professor Atkinson, who undertook excavation on the site in the 1950s, denouncing Hawkins' book as containing "tendentious, arrogant, bizarre interpretations and unconvincing results", and gave his evaluation paper in the journal *Antiquity* (1966) the sarcastic name of, "Moonshine on Stonehenge". The language used by Atkinson was harsh – if not personal – insinuating a cross-cultural and interdisciplinary divide between the newly established archaeoastronomy and mainstream archaeology, an attitude from which archaeoastronomy still suffers, especially among the more conservative scholars in both astronomy and archaeology.

Diploma astrologer and PhD archaeoastronomy student Liz Henty, MA, claims that "Archaeoastronomy has been sidelined in British mainstream university education whereas archaeology has a respected place in the academy". She suggests that the reasons are historical and ideological, as opposed to a failure of either discipline to make a valid interpretation of our megalithic monuments, and that each discipline suffers from the lack of skill-sets that the other employs. The divide renders both archaeoastronomical and archaeological explanations incomplete. However, she concludes that there have been some extremely useful collaborations over the years.

More recent evidence of this is that the archaeologist Mike Parker Pearson in his recent book on *Stonehenge* included research and comments by Ruggles on archaeoastronomy. Thanks to an initiative by Silva and Campion, the Sophia Centre organised a track on archaeoastronomy on the annual TAG (Theoretical Archaeology Group) conference at the University of Liverpool in December 2012. The interest from students, teachers and archaeologists was so overwhelming that the Sophia Centre has decided to do the same in 2013. Archaeoastronomy's acceptance and full integration into mainstream academia for the coming generations seems to be in good hands. That the AA annual astrology conference presents a track on archaeoastronomy is one way to bring astrology into an academic contextualisation that can only benefit astrology in the future. I myself gave a presentation of 'Archaeology, Astrology and Cosmology' at the UAC (United Astrology Conference) in New Orleans in 2012. Archaeoastronomy will also benefit by having potential astrology newcomers with a holistic world-view and a shared interest in cosmology. Astrology, on the other hand, will benefit too

from having a comparable entry into academia, a formula that will only help to increase the credibility of astrology among scholars and the public at large. For both disciplines, it is a win/win situation.

Astronomers are basically keeping their eyes to the universe and measuring it. Archaeologists are mainly holding their eyes in the ground while digging out old debris and artefacts to be analysed. Archaeoastronomers work with one eye on the sky and the other towards the earth, in order to find an integrated universal meaning. I believe that this is why archaeoastronomy appeals to people who see the entire universe as a unified social field, a theory that should easily fit into astrological thinking and practices.

Welcome to the Archaeoastronomy track at the AA conference!



The Archaeoastronomy track speakers - left to right, Nick Campion, Bernadette Brady, Fabio Silva, Frances Clynes, Tore Lomsdalen and Pamela Armstrong

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Archaeoastronomy

Pamela Armstrong

THIS YEAR'S ANNUAL conference has a dedicated archaeoastronomic track running through it. But – what is archaeoastronomy?

I showed a friend an article I had written about archaeoastronomy. It was short. I used the word quite a few times.

When she'd finished she turned to me and said, "So. This astro-archaeology that you do..."

And there in a nutshell is one of archaeoastronomy's central issues. It can take a while to get one's head around



Crippets Cotswold Severn Long Barrow

the moniker. My pal had got it, sort of. Her cobbled-together phrase "astro-archaeology" pretty much covered the bases.

Archeoastronomy is the study of how we, as humans, have incorporated celestial alignments or symbolism into the architecture of our built environments. These alignments are often towards celestial horizon events related to the passage of the sun, the moon, or the stars. If a building, or stone circle, or cairn, or dolmen, or henge, or earthen mound, or city, or pyramid, or temple, or standing stone is thought to be aligned to the movement of anything in the firmament, we would say it is archaeoastronomically aligned.