

# “The Land, the Sea and the Sky”: The Prehistoric Society Conference, Society of Antiquaries, London (United Kingdom), 5th March, 2016

Pamela Armstrong

University of Wales Trinity Saint David  
yewcedditcoyster@btinternet.com

It is important not to be swayed by grand design: but what a delight it was to attend the Prehistoric Society’s Spring Conference located in the august confines of the Society of Antiquaries, London. There were a number of pleasing features about this conference, chiefly amongst which was the fact that it was the first time a mainstream archaeological conference has used the word “sky” in its title. How sweet it was that this radical shift should occur in the building which houses the society that has represented antiquaries and archaeologists since 1707. William Stukeley’s portrait, which graces the Society’s marble-pillared interior, bore witness. Julie Gardiner organised the conference and explained how the Council of the Prehistoric Society had been trying to find ways to “bridge the gap, or gaps, in terms of how the study of landscapes, seascapes and skyscapes can be combined”; which is how the day’s title, “The Land, the Sea and the Sky”, came about. Gardiner also reported that “the Council wanted to demonstrate that archaeologists can deal in all three elements and that we need to link them methodologically as well as conceptually, so that they’re not three different archaeologies, but it is all the same discipline.” “The trouble is”, she continued,

if you are a dirt archaeologist you dig holes in the ground. If you’re a maritime archaeologist you look under water and if you’re interested in archaeoastronomy you look at the sky. But in the end what you are looking at is past human behaviour and people in the past were involved in all three elements the same as we are.

Thus it was that the land, the sea and also the sky were given equal billing.

A variety of methodologies were discussed during the proceedings. Papers involving traditional fieldwork were given alongside those describing the latest aerial reconnaissance techniques, whilst others talked about new technologies currently being used to explore submerged landscapes. We heard about prehistoric snail shells indicating arboreal development on Holocene chalk downs and the ghostly presence of children in prehistory, captured in the fragile indentations left by their footprints tracking across ancient mudflats.

Starting with the theme of “land”, Mike Allen (Allen Environmental Archaeology) gave a paper entitled “From Microscope to Landscape: Questions of Scale – Interpreting Chalkland Landscape and Land-use Histories”. He acknowledged the generally held belief that Europe had been uniformly blanketed in woodland in early prehistory, but asked that we avoid thinking of these landscapes as simply “trees and stuff”. Focusing on the chalk downs of central southern England from the eighth to the sixth millennium BC, Allen argued that it is probable that woodland development in this region never exceeded 70% in the first place. Contrary to long-held assumptions, large tracts of land had not only been open, but remained open throughout the Mesolithic. Human exploitation during this period slowed soil development, with some areas of the chalklands never developing the thick, well-structured, brown forest earths found elsewhere. Ultimately, arboreal growth was slower and patchier than the standard model suggests.

Allen suggested that if there were major changes in vegetation and soil complexes, these had already occurred before and during the Neolithic, rather than in the Bronze Age as is often thought, and the area has remained relatively stable ever since. This, concluded Allen, has major implications for models of land use in the region, which he regards as one of our best-known prehistoric landscapes. In his view this stable topography, with its greater diversity, shaped development. It is precisely in permanently open landscapes that the first major concentrations of Neolithic monuments and activities are found, including Cranborne Chase, Stonehenge and the Avebury lowland.

Christopher Evans (Cambridge Archaeological Unit [CAU]), continued the initial theme with his paper, “Time in Land”. This explored the difference between digging through archives as opposed to digging through dirt. The CAU has been analysing data from Margaret and Tom Jones’ legendary 12-year excavation at Mucking in Essex, a high terrace site whose unique viewshed straight down the Thames Estuary explains its long-term sequence and high density of occupation, which ran from the Neolithic to the early Anglo-Saxon period. The site eventually covered 18 hectares and involved 5000 participants. It generated 360 handwritten notebooks detailing its estimated 44,000 features, more than 400 structures and 1,145 burials. Evans describes the archive as tomb-like, housed as it is in a British Museum outpost, “with endless, finds-packed shelves, stacks of files, notebooks, plans and hundreds of sand stained, X-ray-like images of inhumations.”

The challenges of this post-excavation analysis lay in the fact that the work began over a decade before single-context recording became standard. Evans described having more than a million grid-reference finds at his disposal, all requiring distributional plotting. Changing trends in archaeological reporting and data storage created further problems, as these were across non-compatible, ever-evolving technologies,

but Evans hoped the resulting two-volume report written by 50 specialist contributors pays respect to the Jones' for what he calls their "truly heroic" perseverance and dogged determination. Evans ended with a salutary note that it is unlikely there will ever be an excavation like this again.

The third paper, given by Dr Oscar Aldred (Historic Environment Scotland/Newcastle/Cambridge) and David Cowley (Historic Environment Scotland/Ghent), talked about aerial site-detection and their current surveys over the Falkirk region. "Prospecting History: Landscape-scale Airborne Remote Sensing in the Twenty-first Century" began by looking at traditional aerial reconnaissance, then moved on to discuss the new remote sensing and mapping techniques such as topographic-derived data-like point clouds from Airborne Laser Scanning, photogrammetry, and the identification of archaeological features using the non-visible wavelengths in multi-/hyper-spectral images. None of these latest techniques involve ground-based geophysical survey, and Aldred and Cowley argued that the next generation of aerial archaeology may well change the way sites are detected, mapped, classified and interpreted. Refinements in spectroscopy and the imagery that includes the full bandwidth of the electro-magnetic spectrum make it possible to identify reflective light in the band area of the non-visible wavelengths. This is where the "Red Edge" is found, a "location" on the wavelength at 700 nm: the point where there is a sharp increase in the reflective capacity in vegetation under stress can often be a sign of buried archaeology. Spectroscopic data can be stretched and smoothed into enhanced composite images which the authors described as "spectacular". They also talked about the new technique of 3D Topographic Surveys, which combine Lidar, Soft Bench Photogrammetry and Synthetic Aperture Radar (DAR). Lidar measures the time it takes for a pulse to travel from an airborne sensor to the ground and back. When this measurement is coupled with a ground-referencing system, a dense, geo-referenced point elevation, a 3D digital, topographical model emerges. The two authors concluded that these new techniques are a step-change in the identification of sites and could "revolutionise the way we 'look'". The oblique and vertical aerial photograph may be replaced by high-resolution topographic data and imagery which can be collected on a daily basis at an affordable price.

At this point the theme of the conference shifted to "the sea". Professor Martin Bell (Reading) talked about "Exploring Patterns of Movement in Intertidal Wetlands". There are 18 known intertidal sites around Britain, seven of which have been found in the last four years. This exponential increase has deepened the knowledge about hunter-gatherer mobility patterns, which are shown by footprints found in tide-line silts and peats. Wetland and dryland contexts differ because of the durability of wood and other organic materials when submerged in sediment. Another distinct feature intertidal sites offer is that they can show seasonality, because summer and winter waters differ in temperature, turbidity, viscosity and pollen levels, and so footprints become embedded in different contexts at different times. Bell believes many prehistoric communities visited estuaries in spring and autumn for the arrival of eels as well as periods of particular salmon abundance and bird migration. He suggested that footprints give insights into whole communities. For instance, 270 footprints at Goldcliff on the Severn Estuary, dating

to c. 5500-5200 cal BC, were assigned to 21 individuals, ranging from adults to young children. The very youngest children ranged from age three to six, but these dominated proportionally, accounting for 186 footprints in all. As Bell confirmed, children – who are so often absent in the material record – are clearly visible at these intertidal sites. When concluding, Bell called for greater skills to be developed in order that communal movement patterns, lost settlements and activity foci at these rare sites be better understood.

Professor Vincent Gaffney (Bradford / European Research Council) spoke about the only regions on earth not yet fully explored: those under the sea. His paper, “Doggerland Revisited and Re-explored”, considered the North Sea basin, once home to thousands before the inundation at the end of the last Ice Age. Gaffney described how innovative imaging systems used by the North Sea Palaeolandscapes Project have increased the sensitivity of the data which is emerging. Nearly 43,000 sq km of the submarine landscape has been mapped through a process of seismic reflection. A further grant awarded by the ERC has ensured that the project will continue to generate even more topographical images that reconstruct and simulate the palaeo-environments of the submerged landscape. The project will also be able to access ancient DNA extracted directly from sediment cores rather than fossils. Gaffney concluded that the data emerging from Lost Frontiers Project (2015–2020) will throw into question our predominant reliance on land-based sites, and he felt that it will also lead to a reassessment of how and when the Mesolithic/Neolithic transition occurred on the northwest plains of Europe.

Julie Gardiner’s paper, “Predictive Modelling of Seabed Prehistory in the Solent”, looked at the potential survivability of submerged former land surfaces. Her research was funded by the Aggregates Levy Fund, who wanted an assessment of the level of damage that may be caused by aggregate extraction at specific sites. One of these locations was the Solent. Gardiner was assessing which sediments might best preserve material and where those finds might be recovered. She looked at a series of periods across the Pleistocene, accessing multiple databases which covered seabed topography/bathymetry data, sediment type distribution, paleo valleys and geophysical surveys. This created a three-dimensional view of the seabed through time, and though her case studies are speculative she argued that the value of this analysis reminds us that what is now seabed has been land on numerous occasions in the past and inhabited by animals and plants and occasionally humans. More specifically, any knowledge garnered from these times helps us find out more about those periods when mainland Britain was connected to the continent.

Fraser Sturt (Southampton) and Duncan Garrow (Reading) gave a paper entitled “Islands in Prehistory”. The authors reported that their findings forced them to rethink not just what the archaeological record reflected, but also the way they thought about space and physical relationships. They developed a high-resolution sea-level model for the Channel Islands which displayed island and coastal formation from 9000–4000 BC. Once that was in place they synthesised anew all known evidence from c. 5000–4300 BC. Comparing the two led to their belief that the Channel Islands were already connected by a busy maritime Mesolithic traffic. Critically, Sturt and Garrow argued that the Channel Islands did not undergo the transition into the Neolithic all at the same time. Secondly,

they also claimed that the introduction of the Neolithic package did not depend on either seaborne incomers or proximity to the continent. They contrasted their island finds with contemporaneous French lithics from the nearby mainland, and this comparison clearly showed that it was both incoming migrants from France as well as the small indigenous island population who were involved in the transition. As a result, the Channel Islands witnessed a very different trajectory of change from that seen in Britain and Ireland c. 5000–3500 BC. This, they argued, has a great deal to tell us about the arrival of the Neolithic more widely.

Apart from the two speakers giving papers which related specifically to skylscapes (and who are mentioned next), Sturt and Garrow were the only authors to reference skyscape archaeology. They revealed that as their findings emerged they were forced to rethink their methodology. This evolved into a broad, all-inclusive approach allowing for the generation of new perspectives about the past, which they described as similar to skyscape methodologies. "If you want to get theoretical about it", Sturt concluded, "this is what Lefebvre would call 'thirthing as othering' – finding an alternative space for you to work and think from in order to better understand the totality which is so hard to grasp when you are in amongst it."

At this point the conference turned to the final theme of the day, the sky. The last two papers were given by skyscape archaeologists Dr Fabio Silva (University of Wales Trinity St David) and Emeritus Research Fellow Dr Frank Prendergast (Dublin Institute of Technology). Prendergast's paper, "Iron Age Cosmology in the Irish Landscape", looked at the role and meaning of the sky for the community who built the timber-post enclosure Lismullin 1 in County Meath, now considered one of the most significant Irish finds in recent times. Prendergast argued that the site, dated to c. 400 BC and dominating its elevated position, exhibits all of the characteristics of a temple. Using detailed illustrations he displayed the enclosure's three, well-defined concentric circles. These have diameters of 80 m, 78 m and 16 m respectively, all three created by closely spaced wooden posts. Given their narrow width these timber uprights were probably unroofed, leaving the enclosure open to the sky. Macrofossil plant remains were found at the base of the posts, indicating that flower-bearing branches were woven through them for decorative purposes. Prendergast described the complex as being simply yet elegantly constructed, and argued that it could have been built using a length of rope and a defined centre. As he pointed out, "the radii of the three circles, the width of the avenue, the length of the transverse pit and its distance from the perimeter of the inner enclosure are in almost exact proportion to each other." It is possible to achieve this feat by either successively halving the length of rope used to scale the radius of the inner enclosure, or by using multiples of five of the inner radius for the outer enclosure.

Prendergast highlighted the four-poster entrance, which breaches the two outer circles and opens onto a 4-m-wide processional avenue which partially traverses the site. The impressive feature of this avenue is that it is delimited by two perfectly parallel sides. However, processions into the central area would have been impeded by a strategically positioned transverse pit. This was found to contain the remains of charcoal and burnt offerings. Prendergast reported that geo-archaeological and osteological

analyses have confirmed the enclosure did not contain human burials or evidence of human habitation. This has led to a consensus among archaeologists involved that the site was “anonymously clean”. Given the way the three circles harmonised with their local landscape, Prendergast interpreted the enclosure’s function as providing “a reserved and controlled gathering space used for festive or ceremonial assembly”. His skyscape survey established the avenue’s declinations and these were tested for solar and lunar significance, but he believed that the alignment is in fact to the autumnal rising of the Pleiades star cluster.

It is rare to find traces of Iron Age societies in Ireland. These communities are often called the “invisible people”, but Prendergast’s assessment of Lismullin 1’s link to the sky offers particular insight into the culture who built it. As he concluded, “the site’s possible seasonal and cultural link to the sky complements the material record and has allowed archaeologists to consider the role and meaning of Lismullin 1 in a new way.”

The last speaker of the day, Fabio Silva, made his position on skyscape archaeology clear with his paper, titled “The Importance of Skyscapes in Prehistory”. He argued that there is much to gain if the disciplines of astronomy and archaeology work together, “in order to develop a fuller, more balanced understanding of megalithic architecture and the societies that built them.” When looking at the material record of Europe in particular, Silva referenced the thousands of monumental megaliths built during the Neolithic and Bronze Ages, some of which are oriented in such a way as to indicate a clear direction. He argued that if clusters of monuments are surveyed, it becomes possible to identify microregional patterns, as occurred with his research into 6000-year-old winter occupation sites and megalithic structures in central Portugal. Several necropoleis of passage graves exist in this region, with Silva suggesting that their likely celestial targets were Aldebaran and Alnath. During the local Middle Neolithic, both these stars would have heliacally risen in mid-to-late April / early May, so could have been used as calendars to mark the time for transhumant migration to higher pastures – something which is attested by the remaining material evidence. Silva had to construct a methodology which dealt with a particular design feature of the Mondego monuments. Because of the width of the window at the end of their long passage entrances, they opened onto an arc across the local horizon, rather than a single point. It was this broadening of the celestial target area which enabled Silva to identify a pattern common to all the dolmens in the locality; it was this collection of alignments between the dolmens and the Serra da Estrela mountain range which had eluded researchers prior to this study.

Silva argued that if archaeoastronomical fieldwork is integrated with the phenomenology of landscape in this way, previously unseen patterns can be identified which give skyscapes such as these a more unified voice in the practice of archaeology. Silva concluded by calling for a stronger integration between archaeoastronomic and archaeological research if we are to understand why prehistoric people decided to incorporate such alignments into their monuments and cosmologies.

To return to the organiser, Julie Gardiner, for the last word, she said the Prehistoric Society was delighted at the positive response to the conference, particularly given the decision to include skyscape archaeology. Their spring conferences began a decade ago

as a series of annual day schools designed to encourage wider archaeological perspectives. Over the years they have focused on major topics such as the Neolithic, the Bronze Age and the Iron Age as well as community and social development at both household and regional scales. But as mentioned, it was the Society's decision to examine landscape archaeology which generated this year's three themes. Gardiner acknowledged that since some people find the mechanics of skyscape archaeology challenging, the inclusion of papers on skyscapes carried risk. Of the three themes, the *idea* of skyscape is the most difficult to grasp", she admitted,

because people feel they need to know a lot about astronomy. But in fact they don't. The details are important, but *we* don't need to know how to do those calculations. You skyscape archaeologists can tell us about the details of the astronomy.

Gardiner felt the day's high attendance level was an indication of a new preparedness to engage with the ideas which inform skyscape archaeology. As she concluded:

The day was packed. It had a really good cross-section of professionals, amateurs and students. We need to remember, people in the past were fully aware of the sky, of its patterns and movements. We have to stop looking at our feet and to remember that everything in the world was important in the past, and that includes the sky.