

December 2017 lecture review by Richard Godley

Speaker: Jane Russell

Subject: "Neolithic Rock Art in Britain and Ireland...Sacred or Secular Works of Art or Merely Random Graffiti? "

Jane has an interest in neolithic rock art from an archaeological perspective. But apart from the archaeological and artistic relevance of the art, engraved into stones using primitive stone tools, there may be an astronomical significance to it as well.

There is certainly a wealth of evidence pointing to neolithic people having created stone circles and monuments in which the alignments of the stones imply an interest in tracking the seasons using objects in the sky, principally the Sun and the moon. The engravings may well be a form of communication, perhaps more for the benefit of later generations than for themselves, rather than purely being artistic. It is possible that only the local shamans were able to understand the symbols and they were not for general public attention.

There are over 7,000 examples of neolithic rock art in the British Isles and more are being found. The next highest number is in France. Major areas for rock art are southern Scotland, the north of England and west Wales, as well as the Republic of Ireland, Brittany and north-west Spain and central Europe.

Common shapes thought to be of astronomical significance are spirals, with large spirals believed to represent the summer sun and smaller ones representing the winter sun. Spirals thought to indicate the winter Sun go clockwise and run from the middle to the outside, while those for the summer Sun run counter-clockwise from the edge to the middle. The moon is also represented. The symbols are often seen as counting devices.

The time of year that seems to have most relevance is (appropriately for the month of this talk) the winter solstice, with the midwinter rising and setting Sun being used to cast shadows into tombs and tunnels and onto the carvings on other stones.

Castlerigg stone circle in Cumbria is built so that at the Autumn equinox the sun rises at the top of a nearby hill, and another set of stones is aligned for the midwinter sunrise. Jane showed us a map of the stones and their alignments.

Jane told us about a number of sites in the Republic of Ireland. Carrowmore in County Sligo has passage tombs and stones which line up for the Sun on October 31st and February 10th, two dates on which the Sun has the same declination. It was built around 4,000 BC. Another site in the centre of the country also has Sun symbols and there is a calendrial stone with the year apparently being divided into 8 or 16 segments.

The Newgrange site north of Dublin and dating from about 3,200 BC has a passage tomb and red stones carved with spirals and circles. The midwinter sunrise hits a light box and goes through a passageway. The midwinter sunset hits a different stone with a particlar carving that is deemed to be significant.

A researcher who studied the site, Martin Brennan, believes that the stone circle has been deliberately constructed to act as a calendar. The carvings of spirals are carefully spaced in such a way that shadows fall on them at sunrise and sunset on specific days, with the solstices being especially significant. Eight seems to be a significant number here.

There are 2 other sites nearby. About a mile away is Knowth Passage, which has a large number of decorated stones. Remains of bodies were found in the tomb but it is thought that the tomb was not built specifically for them, but used later as a burial site. Two passageways were found which are aligned closely, but not exactly, with the vernal and autumnal equinoxes. In fact they may be up to two weeks out of alignment, but this would be more accurate than many gnomons on sundials. The Sun and moon are depicted symbolically, with the moon's phases being shown. There are two lines or rows showing the moon [indicating knowledge that the moon can appear both well above and well below the ecliptic over its 18 year cycle - reviewer's note].

The third site in the complex is at Dowth, where the midwinter sunset is cast into one of the two passageways, reaching a trio of decorated stones on the day of the winter solstice. Between the three sites the sunrise and sunset at the winter solstice and those of the equinoxes are used to illuminate passageways.

Not far away is Fourknocks Passage Tomb which has stones and carvings believed to be set up in a W-shape, perhaps to represent the constellation Cassiopeia.

Similar sites are found on the other side of the Irish Sea on Anglesey with Bryn Celi Ddu having a standing stone with lines that are lit by the summer solstice Sun.

A site on the Orkney Islands at Brodgar is currently being excavated, but this also has stones apparently aligned to denote astronomical events. The stones feature cup and ring-shaped markings and other shapes that are also found elsewhere.

There are a number of sites in Northumberland and southern Scotland, with a sunburst symbol amongst the carvings on the stones. Lordenshaw Hill has a stone circle overlooking the North Sea. Kilmartin Valley in Argyll and Bute includes the Temple Wood standing stones and rocks marked with cup and ring symbols. These are also found nearby at Ormaig.

On the continent the Val Camonica National Park in Northern Italy contains a number of sites which have Sun and 'lion god' symbols which are similar to symbols in the British Isles.

It is a common theme. It may be that we are trying too hard to fit the neolithic art to our astronomical knowledge, but why wouldn't ancient peoples use their art to depict the sky and seasons as they saw them? The summer solstice, the equinoxes and, perhaps even more so, the winter solstice were important to them to help them mark the changing of the seasons and tell them when to plant crops.

It can be difficult to detect the point at which the Sun stops moving south and starts moving north again, so it may have been very useful to Neolithic people to mark this point by fixing a point on the ground that the Sun's light only reached on a pivotal day like that.

We had a short discussion after Jane's talk during which we noted that over a long period of time, due to precession, the Sun goes further south at the winter solstice than it does now and has also not dipped as far south as today. Over the precessional cycle of nearly 26,000 years the range is from about 21 to 24 degrees – today it is about 23.4 degrees. Precession can account for the slight imprecision in the alignments.

Our ancestors had little artificial light pollution to affect their view of the sky and also few distractions. I myself mark out the Sun's setting positions and southern limit, in part for astronomical purpose, the other part perhaps merely being curiosity. So why not our ancient ancestors, who had greater need to do so?

Jane's excellent and enjoyable talk had planted some fascinating ideas in our minds and we thanked her for this in the customary way.