

# Discoveries provide evidence of a celestial procession at Stonehenge

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(PhysOrg.com) -- Archaeologists led by the University of Birmingham with the Ludwig Boltzmann Institute for Archaeological Prospection have discovered evidence of two huge pits positioned on celestial alignment at Stonehenge. Shedding new light on the significant association of the monument with the sun, these pits may have contained tall stones, wooden posts or even fires to mark its rising and setting and could have defined a processional route used by agriculturalists to celebrate the passage of the sun across the sky at the summer solstice.

Positioned within the Cursus pathway, the pits are on alignment towards midsummer sunrise and sunset when viewed from the Heel Stone, the enigmatic stone standing just outside the entrance to [Stonehenge](#). For the first time, this discovery may directly link the rituals and celestial phenomena at Stonehenge to activities within the Cursus.

The international [archaeological survey](#) team, led by the University of Birmingham's IBM Visual and Spatial Technology Centre (VISTA), with the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology in Vienna (LBI ArchPro) have also discovered a previously unknown gap in the middle of the northern side of the Cursus, which may have provided the main entrance and exit point for processions that took place within the pathway. Stretching from west to east, the Cursus is an immense linear enclosure, 100 metres wide and two and a half kilometres across, north of Stonehenge.

Professor Vince Gaffney, archaeologist and project leader from the IBM

Visual and Spatial Technology Centre at the University of Birmingham, explains:

“This is the first time we have seen anything quite like this at Stonehenge and it provides a more sophisticated insight into how rituals may have taken place within the Cursus and the wider landscape. These exciting finds indicate that even though Stonehenge was ultimately the most important monument in the landscape, it may at times not have been the only, or most important, ritual focus and the area of Stonehenge may have become significant as a sacred site at a much earlier date.

“Other activities were carried out at other ceremonial sites only a short distance away. The results from this new survey help us to appreciate just how complex these activities were and how intimate these societies were with the natural world. The perimeter of the Cursus may well have defined a route guiding ceremonial processions which took place on the longest day of the year.”

[Archaeologists](#) have understood for a long time that Stonehenge was designed to mark astronomical events, built by farming societies whose everyday concerns with growing crops linked their daily lives to the passage of the seasons and in particular the sun, on which their livelihoods depended. This new evidence raises exciting questions about how complex rituals within the Stonehenge landscape were conducted and how processions along or around the Cursus were organised at the time Stonehenge was in use.

Professor Gaffney adds:

“It now seems likely that other ceremonial monuments in the surrounding landscape were directly articulated with rituals at Stonehenge. It is possible that processions within the Cursus moved from the eastern pit at sunrise, continuing eastwards along the Cursus and,

following the path of the sun overhead, and perhaps back to the west, reaching the western pit at sunset to mark the longest day of the year. Observers of the ceremony would have been positioned at the Heel Stone, of which the two pits are aligned.”

Dr Henry Chapman, Senior Lecturer in Archaeology and Visualisation observes:

“If you measure the walking distance between the two pits, the procession would reach exactly half-way at midday, when the sun would be directly on top of Stonehenge. This is more than just a coincidence, indicating that the exact length of the Cursus and the positioning of the pits are of significance.”

Stonehenge, while certainly the most important monument in the later Neolithic and Bronze Age landscape, was surrounded by a dense concentration of other sacred sites, some of which were already ancient when Stonehenge itself was built. The team has also revealed a new horseshoe arrangement of large pits north-east of Stonehenge which may have also contained posts and, together with the henge-like monument discovered last year and a number of other small monuments, may have functioned as minor shrines, perhaps serving specific communities visiting the ceremonial centre.

Paul Garwood, Lecturer in Prehistory at the University of Birmingham, comments:

“Our knowledge of the ancient landscapes that once existed around Stonehenge is growing dramatically as we examine the new geophysical survey results. We can see in rich detail not only new monuments, but entire landscapes of past human activity, over thousands of years, preserved in sub-surface features such as pits and ditches. This project is establishing a completely new framework for studying the Stonehenge

landscape.”

These new discoveries have come to light as part of the Stonehenge Hidden Landscape Project, which began in summer 2010 as the world’s biggest-ever virtual excavation using the latest geophysical imaging techniques to reveal and visually recreate the extraordinary prehistoric landscape surrounding Stonehenge.

Provided by University of Birmingham

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