### **Transit of Venus**

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# Mysteries around Stonehenge

Stonehenge was produced by a culture that left no written records. Many aspects of Stonehenge remain subject to debate. This multiplicity of theories, some of them very colourful, are often called the

"mystery of Stonehenge".

There is little or no direct evidence for the construction techniques used by the Stonehenge builders. Over the years, various authors have suggested that supernatural or anachronistic methods were used, usually asserting that the stones were impossible to move otherwise. However, conventional techniques using Neolithic technology have been demonstrably effective at moving and placing stones of a similar size. Proposed functions for the site include usage as an astronomical observatory, or as a religious site.

More recently two major new theories have been proposed. One suggests that Stonehenge was a place of healing – the primeval equivalent of Lourdes. This would account for the high number of burials in the area and for the evidence of trauma deformity in some of the graves. However the theory concedes that the site was probably multifunctional and used for ancestor worship as well. A second theory suggests that Stonehenge was part of a ritual landscape, a domain of the dead. A journey along the Avon to reach Stonehenge was part of a ritual passage from life to death, to celebrate past ancestors and the recently deceased. Both explanations were mooted in the 12th century already.

Whatever religious, mystical or spiritual elements were central to Stonehenge, its design includes a celestial observatory, which might have allowed prediction of eclipse, solstice, equinox and other celestial events important to a contemporary religion.

## The Heel Stone

The Heel Stone lies just outside the main entrance. It is a rough stone, almost 5m above ground, leaning inwards towards the stone circle. When one stands within Stonehenge, facing north-east through the entrance towards the heel stone, one sees the sun rise above the stone at summer solstice.



The Heel Stone at Stonehenge

A folk tale, which cannot be dated earlier than the seventeenth century, explains the origin of the name:

The Devil bought the stones from a woman in Ireland, wrapped them up, and brought them Salisbury plain. One of the stones fell into the Avon, the rest were carried to the plain. The Devil then cried out, "No-

one will ever find out how these stones came here!" A friar replied, "That's what you think!" whereupon the Devil threw one of the stones at him and struck him on the heel. The stone stuck in the ground and is still there

A simpler explanation for the name might be that the stone heels, or leans.

## Transit of Venus

A transit of Venus across the Sun takes place when the planet Venus passes directly between the Sun and Earth, becoming visible against (and hence obscuring a small portion of) the solar disk. During a transit, Venus can be seen from Earth as a small black disk moving across the face of the Sun. The duration of such transits is usually measured in hours (the transit of 2004 lasted six hours). A transit is similar to a solar eclipse by the Moon. While the diameter of Venus is almost four times that of the Moon, Venus appears smaller, and travels more slowly across the face of the Sun, because it is much farther away from Earth.

Transits of Venus are among the rarest of pre-

dictable astronomical phenomena. They occur in a pattern that repeats every 243 years, with pairs of transits eight years apart separated by long gaps of 121.5 years and 105.5 years.

A transit of Venus took place on 8 June 2004 and the next will be on 6 June 2012. The previous pair of transits were in December 1874 and December 1882. After 2012, the next transits of Venus will be in December 2117 and December 2125. A transit of Venus can be safely observed by taking the same precautions used when observing the partial phases of a solar eclipse. Staring at the brilliant disk of the Sun with the unprotected eye can quickly cause serious and often permanent eye damage.