

## Stonehenge: a view from medicine

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*J R Soc Med* 2003;96:94–98

Stonehenge, with its stone circles and awe-inspiring arches, the trilithons, has stood over Salisbury Plain, in the centre of southern England, for over 4000 years (Figure 1); it is said to be the largest and most complete megalithic monument in Europe, and is probably older than the Great Pyramid of Egypt<sup>1–3</sup>. For most of the past thousand years it has been a centre of mystery, and at least three kings and two notable physicians have taken serious interest in it and the lost people who built it. Here we offer a theory based on the resemblance of the henge to the human vulva, with the birth canal at its centre.

### THE HISTORY AND MYSTERY

In 1620, King James I (and VI of Scotland) visited the henge, and was so impressed that he instructed Inigo Jones the architect to investigate and map it. Jones's results were in keeping with his classic tastes; his plan changed the U-configuration of the inner trilithons into an elegant hexagon<sup>1</sup>. By 1663, Walter Charleton, Physician-in-Ordinary to both Charles I and Charles II, published his *Chorea Gigantum* (giant's dance) in which, after consultation with the Danish antiquarian Ole Worm, he claimed that the henge was a Royal Court built by ancient Danes—an opinion which has had few followers. In 1651, after the Battle of Worcester, the future Charles II took a day out from his flight from Cromwell to see the henge. In later and better days he instructed John Aubrey, a lawyer famous for his gossipy *Brief Lives*, to investigate the nearby stone circle at Avebury, which Aubrey had stumbled upon while fox-hunting. Aubrey naturally extended his work to Stonehenge, and in 1666 produced a sketchy plan of it—one with which he was thoroughly dissatisfied, but in which the trilithons were better placed in an open semicircle<sup>2</sup>. The depressions he found around the rim are still called Aubrey holes. Later another physician, William Stukeley, became interested in Aubrey's writings, and in 1721 began to take time from his busy practice to survey the henge. Stukeley was a rounded eighteenth century man, and when his publication came out in 1740 it was a curious mixture of observation, myth and legend. This time

the inner trilithons were more correct, laid out in something close to an elongated horseshoe. In the years that followed, the mystique of Stonehenge became a magnet for everyone from the rich and famous to the ordinary man. Some were serious archaeologists—people such as Gowland, Hawley, Atkinson, Piggot and Stone—but most just came to marvel (for excellent accounts, see Refs 1–4). Theories concerning its use and the people who built it abound, even the notion that it was a docking pad for space aliens<sup>5</sup>. One legend was that it was constructed by a race of giants, who used water dripping from such stones for medicinal purposes; ideas that the stones had medicinal powers persisted into at least the eighteenth century, and the chipping of stones contributed to destruction of the henge<sup>6</sup>. Other theories were remarkable for their keen observations<sup>1,6,7–10</sup>. Here we offer some suggestions that originate from the fact that the upright sarsens of the trilithons seem to be in pairs, with one of smoother finish than the other (Figure 2); this observation, originally made by Gwyn Maurice<sup>9</sup>, led to a wider analysis of the structure of the henge as seen through the eyes of medicine.

### OBSERVATIONS ON THE STONES

The magnificent innermost arches, the trilithons, dominate the henge. In many cases, their clefts are too narrow to suggest processional arches, nor is this suggested by their arrangement in the henge. They do demarcate the innermost sanctum, but they are not a continuous wall. To a biologist, the smooth and rougher stones arranged in pairs, united by their heavy lintels, suggest the male and female, father and mother joined together. They would make excellent symbols of the ancestors, but whether this is purely commemorative, a sign of continuity, or a question of veneration is impossible to say. Although no such interpretations of the trilithons have been made before, there are some precedents. A similar division of male and female has been suggested for the columnar or diamond-shaped stones at nearby Avebury, and for the tall or flatter bluestones at Stonehenge, particularly the pair which flank the entrance<sup>3,6</sup>. These ideas fit in well with suggestions that Stonehenge was meant to be a quiet place in which the spirits of the ancestors could dwell in peace, far from the temporary wooden enclosures of the living<sup>11</sup>. So far as the bluestones are concerned, we can, at some risk, extend these ideas.

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Figure 1 **Stonehenge: a general view** (Photo, EA Wakefield, reproduced with permission from 'Science and Stonehenge', *Proceedings of the British Academy*—see Ref 17)

The small bluestones lie before the trilithons, at their feet (see Figure 2); they are precious in some way, transported with unbelievable effort from distant Wales, and re-arranged, ultimately, to form the innermost circle of the



Figure 2 **A trilithon: inner faces of stones 57 (smooth) and 58 (rough), with two bluestones at their feet** (Photo, Richard Atkinson, reproduced with permission from 'Science and Stonehenge', *Proceedings of the British Academy*—see Ref 9)

henge<sup>6,12</sup>. What more precious than the children, born into a world recovering from the Ice Age, vital for the survival and defence of the people, and now symbolically protected near the centre of the henge<sup>2</sup>? However, there is no real evidence for this. Our suggestions depend only on the position of the stones and our interpretations of the trilithons behind. Nevertheless, these ideas lead us to think of the henge in a different light—that of family and birth. So is there any other evidence?

To the builders of the henge, the most critical events in life were birth and death. Of death, there is surprisingly little evidence in the henge: there are no tombs; Stonehenge was not in essence a burial site<sup>1</sup>. Of birth, we could expect little evidence. However, evidence may be there but so large as to be overlooked. For natural things, the people of the henge, probably in part pastoral<sup>6</sup>, may have been more realistic and less puritanical than later civilizations, and Figure 3 compares the layout of the henge with the anatomy of the human vulva. There is a distinct similarity. Normally, the anatomic structures would be more elliptical, or egg-shaped—forms found in many stone circles at other sites (e.g. Postbridge<sup>5</sup>); indeed, in Stonehenge, the layout of the inner trilithons is more elongated than a true circle, and as suggested by Alexander Thom, almost an ellipse<sup>2</sup>. However, towards birth the structures around the opening of the birth canal would become enlarged, and with the bearing down of the baby's head, more circular, like the outer ring of Stonehenge<sup>13</sup>. Although other

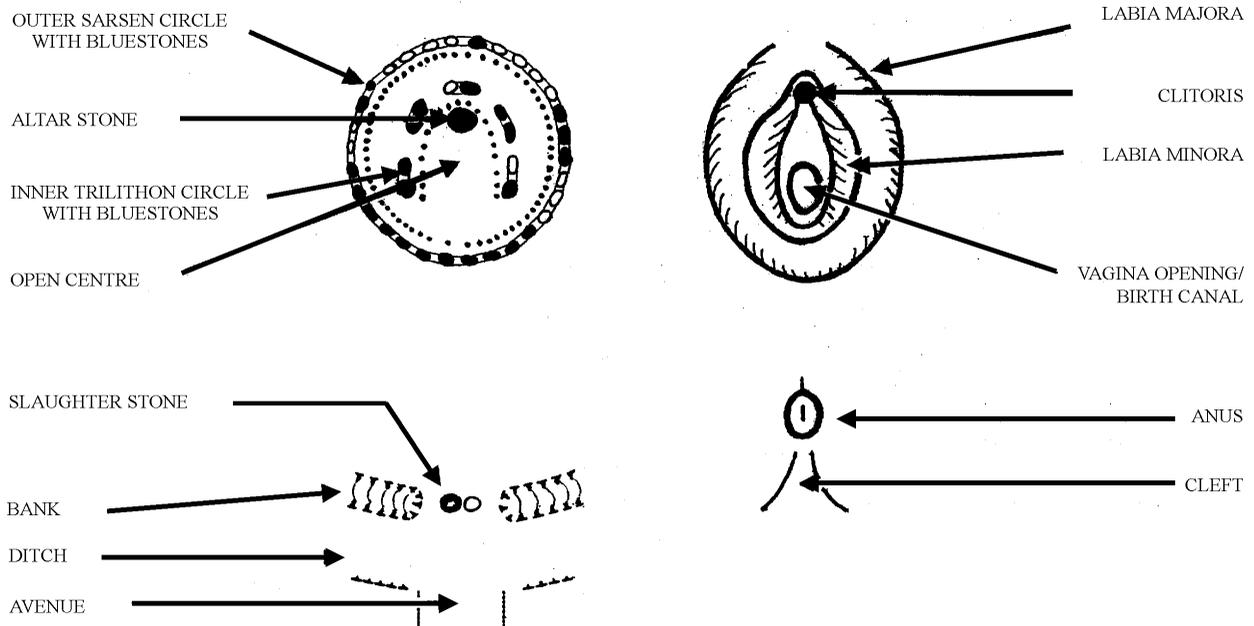


Figure 3 Comparison of the plan of Stonehenge (left) and the anatomy of the human vulva (right). Left, Stonehenge: large dark circles, standing stones; large open circles, fallen or missing stones; small circles, bluestones (adapted from Chippindale<sup>9</sup>). Right, human vulva: adapted from Snell, RS, *Clinical Anatomy for Medical Students*. 5th edn. Boston: Little, Brown, 1995

analogies are possible, the labia majora could be represented by the outer stone circle, and possibly the outer mound; the labia minora by the inner circle of trilithons; the clitoris by the altar stone (which probably stood vertical<sup>2,3</sup>), while the empty geometric centre of the henge would be the birth canal, perhaps outlined by the bluestones (Figure 3). The birth-canal analogy would account for the absence of any monolith at the geometric centre of the henge, despite the way in which one's attention is drawn there: the central area is empty because it represents the opening to the world, the birth canal. This notion is supported by the remarkable find at nearby Woodhenge: the body of a sacrificial child was discovered buried at the centre of the circles<sup>2</sup>. Clearly, we are approaching the concept of Earth Mother.

In ancient societies, ideas of a dominant creator, a Mother or Earth Goddess, were widespread<sup>14</sup>. Both the western neolithic cultures and the early Celts believed in some form of earth or mother goddess, and hundreds of neolithic figurines of this goddess have been found in Europe, although few of any male figure<sup>14</sup>. There is some evidence for her presence in Stonehenge, where a carving on stone 57 is thought to symbolize this deity<sup>1,3,4,6,14</sup>. In addition, concepts of Earth Mother (Nerthus, Terra Mater) were known to later Germanic peoples; and the Beaker culture, sometimes associated with the henge, were thought to have come to Britain, in part, from the Rhineland (although in recent years there has been some doubt

concerning the importance of such immigrations to the henge)<sup>2,6,15</sup>. If ideas of Earth Mother originated with or were shared by the people of the henge, Stonehenge could represent, symbolically, the opening by which Earth Mother gave birth to the plants and animals on which the ancient people so depended. The henge would honour her for giving them both life and livelihood. Spiral carvings at other sites, sometimes regarded as openings to the spirit world but possibly linked to fertility<sup>3</sup>, might equally well represent birth and Earth Mother. Atkinson has suggested that the early Aubrey holes and other pits were connections to the gods below<sup>6</sup>, but connections to Earth Mother would be just as reasonable. There have already been suggestions that the structure of megalithic mounds, with a deep passage leading to a central chamber, represents the nurturing womb<sup>2</sup>; and, although this does not seem likely in a place of death (unless rebirth is involved) it does not conflict with the thoughts of Mother Earth given here. Could the outer avenue of Stonehenge, completed in phase 3 after transport of the sarsens, and probably ceremonial<sup>15,17</sup>, represent the way by which new life entered?

There are objections to these ideas. For example, the henge was not built in its final form immediately; it was constructed in stages, passing from earth to wood to stone<sup>17</sup>. However, there is no difficulty here if the builders of the henge came closer to reality with time, or the concept of Earth Mother became more central to their beliefs: Darvill has already suggested that their beliefs changed over

the almost 1600 years of construction, as have ours over similar times<sup>2,10</sup>. Again, our analogies of structures may be too specific, and all the circles, past and present, may have served jointly to delineate the birth canal; clearly, Stonehenge was only a stylized version of the truth, although surprisingly close to it.

### RELATIONSHIPS TO OTHER THEORIES

We must now consider the many suggestions that Stonehenge was concerned with movements of the sun and moon, perhaps as a calendar, a predictor of eclipses, or a temple for veneration or worship of the heavenly bodies: it could be a sun or moon temple, or both<sup>1,2</sup>. Ideas that it was some form of temple have been an undercurrent to many people's thoughts, although rarely given clear expression<sup>1,2,6,10</sup>. Again, there is no conflict. It was the sun which gave the light and warmth by which Earth Mother brought forth the plants and animals of the world. The sun was Sun Father. The moon, by contrast, was cool, distant, and essentially seen at night, but still worthy of veneration as the place where the souls of the dead could sleep in peace<sup>15,16</sup>. It may be significant that the moon, with its monthly cycles, was often a symbol of the female.

If we accept the underlying feeling that Stonehenge was some sort of temple, or at least sacred in some way<sup>10</sup>, and combine this with the ideas of Earth Mother and Sun Father suggested by the stones, we can make sense of the many suggestions of ceremonials at the solstices. At the winter solstice, the sun seemed weakest and most distant from Earth Mother, perhaps threatening not to return; the people might have wished to encourage this return, so that the two could come together for the rebirth of the summer. The summer solstice might well be a time to thank the Sun, when he was in his greatest glory, and for the priests to claim credit for the successes of their earlier ceremonies. Even today, if one stands on the open plain close to Stonehenge, one is overwhelmed by sensations of the vastness of earth and sky—sensations somehow magnified by the towering sarsens, which seem to connect and bring the two together (see Figure 1). This may be why Stonehenge was built in so open and inhospitable a place: earth and sky were seen together on equal terms.

### FINAL CONSIDERATIONS

Archaeology and history must rest on evidence rather than speculation. We can offer no clear evidence, but our proposal has the merit of cohesion. It rests on four basic facts—the observed differences between the surfaces of pairs of stones; the resemblance between the pattern of the stones and structures which surround the opening of the birth canal; the concept of Earth Mother; and the widely claimed relationship between the stones and astronomical

events, which find unity in concepts of Earth Mother and Sun Father. Can our conclusions be tested? Unfortunately not. However, it might be predicted that excavation at the centre of the henge might reveal the body of a child, lying in the birth canal, as at nearby Woodhenge.

Do our suggestions explain anything new about Stonehenge? Possibly, yes. First, the unexpected empty space at the centre of the circles has an explanation; it is an opening, the birth canal. Secondly, the building of the henge in such an empty place becomes reasonable, if earth and sky must come together. Finally, and most important, there is the question of burials. Despite the general idea that Stonehenge was a ceremonial site, there remains one puzzling fact: evidence for ceremonial burials is surprisingly rare. In its earlier times, when the henge was earth or wood, not stone, it may have had a place in funeral rites; remains of fifty-two cremations have been found, mainly in the early Aubrey holes<sup>6,17</sup>. Perhaps placement in the Aubrey holes brought the dead closer to Earth Mother. Also, it may be significant that cremation was used almost invariably for women in these ancient cultures<sup>6</sup>. In contrast, finds of graves are rare, despite 1600 years of construction and 4000 years of history<sup>2,3,6</sup>. Only one, of unknown date, lies within the sarsen circles<sup>6</sup>. A second, probably Romano-British, would have been long after the builders of the henge were consigned to history<sup>6</sup>. A third, and most notable, from Beaker times, early in phase III when the stone henge rose, is the flexed skeleton of a young man who died violently, killed by arrows in his back; but even here the burial is in the outer ditch, and not within the sarsen circles<sup>2,17</sup>. During the zenith of the henge there is little sign of death; there are no tombs. So why so little sign of death? Because Stonehenge was a place of life and birth, not death, a place that looked towards the future.

*Acknowledgments* We are indebted to Roshni Nair for help in the preparation of this paper, and to the members of the Department of Obstetrics & Gynaecology for their assistance in many ways.

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