STONEHENGE
EXPLORING THE GREATEST STONE AGE MYSTERY

by
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and the
STONEHENGE RIVERSIDE PROJECT
For millennia Stonehenge has stood alone on Salisbury Plain, a mysterious legacy of a vanished culture. Today it is flanked by two busy roads and its visitor centre attracts almost a million tourists a year from all around the world. Yet only fifty years ago it was still a quiet and empty place, reached by lonely roads and tracks over the high plain. A visiting Dutch archaeologist described it in 1957: ‘There was no fence nor were tickets sold at Stonehenge, and there were no other visitors, the car was just parked on the grass and you could just walk around the stones and touch them.’

The myth of Stonehenge in seclusion is a powerful one. Many have tried to understand Stonehenge on its own, without thinking greatly about its surroundings on the windswept plain, or the people of its wider world. Astronomers, mathematicians, engineers and all manner of scholars and enthusiasts have pored over plans and drawings of this great stone circle, extracting significance from myriad possible interpretations of its design. In the modern era, many of those interested in the monument have certainly hoped that some secret code to its meaning might somehow be broken – if only we knew how.

If we could travel back in time, some 4000 or 5000 years, we would find that Stonehenge was not an isolated marvel. It was one of many monuments in this part of Salisbury Plain. Some were built of timber, and lasted only a few centuries. At least one monument of stone standing on the bank of the nearby River Avon was dismantled by ancient people only a few centuries after it was put up. The banks and ditches of large earthwork enclosures lasted much longer, but millennia of
ploughing and erosion have reduced them to mere humps and bumps that are barely visible today. Stonehenge in its heyday was thus not alone, being part of a landscape teeming with construction and activity. For those studying Stonehenge, therefore, the stone circle is not in itself the puzzle but rather just one piece of a complex jigsaw.

For more than 300 years people have been trying to find that puzzle’s missing pieces. In 1666 John Aubrey, the king’s antiquary, discovered that there was an ‘avenue’ leading from Stonehenge towards the River Avon, which runs to its east. In the 1720s the antiquarian William Stukeley recorded many details about Stonehenge and its surrounding burial mounds or ‘barrows’. Eighty years later, local landowner Richard Colt Hoare, the excavator of many of these barrows, mapped a huge earthwork enclosure known as Durrington Walls that is situated some two miles northeast of Stonehenge. The pace of discovery quickened during the twentieth century, as the ‘footprints’ of long-vanished timber circles at Durrington Walls and the nearby site called Woodhenge were excavated by teams of expert archaeologists.

In archaeology context is everything. As a rule, an artefact or a monument studied in isolation is out of context and as such any interpretation of it will always be partial and flawed. If we can understand a monument in terms of what it related to, who made it, how they lived, and what else they did, we stand a better chance of understanding the thing-in-itself as the product of wider forces. But the process of piecing together the past can be compared with assembling a jigsaw puzzle only so far. We may be able to see what fits together but this will not necessarily reveal how it fits together. There must be a deductive insight – a flash of perception – that explains the hows and whys. This is where we need theories and hypotheses – the starting points of all scientific endeavour, whether we’re attempting to explain relativity or the causes of the Second World War.

Theories provide new ways of seeing, new understandings of the facts, and new lines of evidence to be sought out. Theories are not articles of faith or belief; they are there to be tested to breaking point. When we discover that an existing hypothesis doesn’t explain new findings, that hypothesis must be discarded or modified. Consequently the history of knowledge is strewn with the debris of rejected theories. In archaeology the most powerful theories are those that match and explain evidence
produced by new discoveries; if the new evidence doesn’t support the theory’s predictions then the theory is wrong.

This book is about the relationship of Stonehenge to its surrounding landscape and to the people who built it. We have tried throughout to explain why some theories about Stonehenge are better than others. Our knowledge has changed dramatically as a result of the Stonehenge Riverside Project, which started in 2003 and ran for seven years, to 2009, during which time forty-five archaeological excavations were opened throughout the Stonehenge World Heritage Site’s 26.6 square kilometres. During the first two years of the project, as its overall leader, I gathered a team of expert archaeologists to be co-directors – Colin Richards, Josh Pollard, Kate Welham, Julian Thomas and Chris Tilley. Together we then recruited teams of university students, local volunteers and professional archaeologists from across Britain and Europe on what became one of the world’s largest archaeological projects of its day.

Our investigations not only explored locations at and around Stonehenge itself but also focused on the nearby great henge enclosure of Durrington Walls. At the heart of our research was the possibility that Stonehenge and Durrington Walls were not separate monuments, as everyone had thought, but two halves of the same complex. In other words, to understand Stonehenge we had to understand its relationship to Durrington Walls.

Most people have never even heard of Durrington Walls. Named after the present village of Durrington, a stone’s throw to its northeast, this is a neglected but internationally important part of the Stonehenge World Heritage Site. A major road runs through the middle of this prehistoric circular earthwork or ‘henge’. Just beyond it to the north lies the Stonehenge Inn, where coachloads of Stonehenge visitors stop off for pub lunches, oblivious of the enclosure’s existence. And who can blame them? The earthworks of Durrington Walls are visible only to the trained eye. Next to it, on its south side, is the site of Woodhenge, the remains of a timber circle whose excavated postholes have been filled with concrete cylinders to mark the positions of the long-gone timber posts that once stood in them. Another two Stonehenge-sized timber circles – known as the Northern and Southern Circles – were discovered inside the circular earthworks of Durrington Walls in the 1960s, during
excavations when the main road was built, but these now lie buried and unmarked beneath the road embankment.

The size of Durrington Walls is impressive. Covering an area of 17 hectares, the earthen banks of this enormous enclosure once stood more than 3 metres (10 feet) high, with a ditch inside the bank some 5.5 metres (18 feet) deep. Today there is little more to see on the surface than a panel informing visitors that this was once the largest of Britain’s henges.

Henges were built only during the Neolithic*, Copper Age and Bronze Age (starting at around 3000 BC) and they are found only in Britain. The word ‘henge’ does not refer to a circular structure of stone or wood, as is commonly thought, but it is actually the name given to an earthen enclosure in which the ditch is situated on the inside of the bank – as if keeping something inside it rather than keeping people out. It just so happens that many of these inside-out enclosures have the remains of structures inside them. Paradoxically – and despite lending its name to this type of prehistoric monument – Stonehenge itself is not technically a henge: its own ditch lies outside its bank.

Before the enclosing ditch and bank were constructed at Durrington Walls, some 4500 years ago, this was also the largest settlement of its day in northern Europe. Our excavations have revealed that this was a landscape filled with small wattle-and-daub houses; it must have been alive with the sounds of thousands of people gathering from miles around to celebrate and worship at the two great timber circles. Archaeologists have often wondered whether lots of people lived at Stonehenge, because its stones obviously required a huge number of people to ‘dress’ them (to shape and smooth them), and to put them up. The builders must have lived somewhere, in large groups for a long period of time, and we know that prehistoric people usually left traces of their presence – things such as broken pots, flint tools, animal bones, burnt grain, houses and storage pits dug into the ground. Archaeologists, including myself, have looked for traces of a builders’ camp in the vicinity of Stonehenge but without success. Settlement remains are largely absent.

*‘Neolithic’ means New Stone Age; it follows the Old Stone Age (Palaeolithic) and the Middle Stone Age (Mesolithic). Neolithic peoples used stone tools, made pottery and kept domestic animals.
from Stonehenge and its immediate surroundings. So it seems that the
people who lived in the village which we discovered at Durrington Walls
built both Stonehenge and Durrington Walls. We now know from our
new findings at Durrington Walls that large gatherings of Neolithic
people could create huge quantities of waste, even during a period of
occupancy lasting less than a few decades. New studies of DNA and iso-
topes tell us something about who these Neolithic people were,
including where they came from, what they ate and how they lived.

Had the timber circles and houses of Durrington Walls been built of
stone, they might have survived for people to appreciate today. It would
also have been self-evident that Stonehenge was part of a larger complex
and should be understood in such terms. There are other reasons why
earlier archaeologists failed to understand the link between the two sites.
It was thought that Stonehenge and Durrington Walls were built at dif-
ferent times in prehistory and so could not have been in
contemporaneous use. The radiocarbon dates for Durrington Walls
appeared to be several centuries earlier than those for Stonehenge; as a
result, until as late as 2008 (when we reinterpreted the whole chronol-
ogy of Stonehenge and Durrington Walls), some archaeologists argued
that the stones of Stonehenge were put up much later than the
Durrington Walls timber circles. Perhaps, as my university teachers sug-
gested thirty years ago, Stonehenge was a stone copy of the timber
circles, created after they’d fallen into ruin? Until our recent findings
changed the story quite radically, the radiocarbon dates misled archae-
ologists into thinking that the timber circles of Durrington Walls and
Woodhenge would have been in ruins by the time the stones were
erected at Stonehenge.

Even so, there were always unappreciated clues that Stonehenge and
the Durrington Walls timber circles might be related. For centuries it has
been common knowledge that Stonehenge’s builders employed features
derived from carpentry. The lintels* are secured to the tops of the
uprights by tenons (carved knobs projecting from the top of the stone)

*The lintels are the horizontal stones that rest on top of the upright stones of the circle.
Most of them have fallen off over the millennia, but some are still in their original posi-
tion; others are now lying in the grass around the feet of the upright stones.
that fit into cup-shaped mortise holes on the undersides of the stone lintels. The ends of each lintel are slightly curved so that each nestles snugly against the next in a simple form of tongue-and-groove jointing. It’s unlikely that the stonemasons considered these to be practical requirements – the sheer weight of the sixteen-ton lintels made this mortise-and-tenon jointing unnecessary – so their inclusion must represent a stylistic nod towards timber architecture.

For me a flash of insight came from sharing ideas with a colleague from Madagascar. Many archaeologists had assumed that the choice of materials – stone for Stonehenge and wood for the Durrington Walls timber circles – was of no particular significance. My colleague Ramilisonina saw things differently. When he visited the monuments of Wessex* with me for the first time, he explained that in his country, before the arrival of the missionaries, stone had been reserved for the tombs of the ancestors while timber was used for the houses of the living. Might not this be the case here in Neolithic Britain? Could the choice of materials be as important as the architecture itself?

This was a radical idea. Some archaeologists thought it an exciting possibility but others greeted it with mild derision. It was a theory but we needed to find out some crucial information. If Stonehenge and Durrington Walls really were contemporary, and if there were burials at Stonehenge and none at Durrington Walls, and if there were some way of showing how Stonehenge and Durrington Walls were physically connected, then there was a case for arguing that timber and stone symbolized the living and the dead respectively. A new idea wasn’t enough: we needed more information.

This all seemed a lot to investigate. We knew there were cremation burials at Stonehenge, dug up in the 1920s but since reburied, but none had been dated so there was no certainty about how they fitted into the

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*The term Wessex has three major meanings. It is originally the name of the Kingdom of the West Saxons in southwest England, whose last king was Alfred the Great and last earl (until modern times) King Harold. The name was used by Thomas Hardy for a (very large) fictional county in his novels set in Dorset and the southwest; Hardy’s revival of the term is the source of most modern uses of the word (e.g. Wessex Water, the regional supplier). The name is used most frequently by archaeologists, as useful shorthand when referring to the southern English counties of Dorset, Wiltshire and parts of Somerset, Berkshire and Oxfordshire during the prehistoric period.
monument’s history. Before our project began, no evidence of any
dwellings had been found at Durrington Walls by previous archaeolo-
gists, so it would be up to us to find out whether it was a place of the
living or not. We suspected that the link between Stonehenge and
Durrington Walls was provided by the River Avon, which flows past
Durrington Walls and then meanders to the east of Stonehenge before
heading towards the English Channel. This river is linked to Stonehenge
by a long, linear pair of earthen banks called the Stonehenge Avenue.
But no one had ever found any evidence of an equivalent avenue link-
ing Durrington Walls to the river. We would have to do a lot of digging
to get new information and start to answer our new questions about the
two monuments.

The results of our geophysical surveys and excavations were beyond
our wildest expectations. The more we worked in the landscape in and
around Stonehenge and Durrington Walls, the more we learned about
how Stonehenge was part of a larger complex. We also came up with new
evidence casting light on some of the more perplexing questions about
Stonehenge. Ramilisonina’s insight about places of the living and places
of the dead was just the first step on what would turn out to be a long
journey of discovery, taking us far beyond the initial theory of stones
being associated with ancestors.

As for Stonehenge itself, we had to tackle some big questions about
the date of the monument and its sequence of construction. Although
Stonehenge’s big stones were put up around 2500 BC (4500 years ago),
arqueologists have known for a while that the circular ditch and bank
around Stonehenge were constructed about 500 years earlier, around
3000 BC. When we started work, nobody knew whether there had been
any circles of standing stones or timber posts at that early date. Another
really tricky problem centred on the stones themselves. Among the
smaller standing stones at Stonehenge today are numerous ‘bluestones’
of various types of rock that derive from the Preseli hills, about 180 miles
away in west Wales. What are these doing at Stonehenge, so very far from
home? When were they brought to Wiltshire and when were they first
erected?

Another question – one which we never expected to resolve – was why
Stonehenge is where it is. Salisbury Plain is covered with prehistoric
monuments but most of these lie close to the rivers and streams that provided water for prehistoric farmers and their animals. So why is Stonehenge located over a mile from water, near the top of a rather desolate ridge? What was so special about that particular spot that prehistoric people brought stones here from so far away? And why did they expend so much effort – literally millions of man-hours – in quarrying, shaping, pulling, dressing, erecting and lifting the huge stones to form a stone circle that imitated wood? Through a combination of carefully thought-through research hypotheses, tightly-drafted research designs, very hard work by all concerned (and a modicum of luck), we have discovered new sites and made new interpretations of existing information; this book presents the results so far of seven years’ work in the field and in the laboratory.
Looking to find out about Stonehenge and other ancient stone henge sites and stone circles within Britain? Or for practical information to make your visit easier? Find it here, at Stonehenge.co.uk. Welcome! Stonehenge is a prehistoric World Heritage Site eight miles (13 kilometers) north of Salisbury in Wiltshire, England. It is made of a henge, with standing stones in circles. There were three main building phases, each between about 3100 BC and 1950 BC. The first circle, ~3000 BC, was made of timber. The post holes for the timber have been found. Around 2600 BC, the builders gave up timber in favour of stone. Most of the construction took place between 2640 and 2480 BC. Scientists have discovered that Stonehenge is a prehistoric monument in Wiltshire, England, two miles (3 km) west of Amesbury. It consists of a ring of standing stones, with each standing stone around 13 feet (4.0 m) high, seven feet (2.1 m) wide and weighing around 25 tons. The stones are set within earthworks in the middle of the most dense complex of Neolithic and Bronze Age monuments in England, including several hundred burial mounds.