

Burials and builders of Stonehenge: social identities in Late Neolithic and Chalcolithic Britain

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Zusammenfassung

Über die Identität der Erbauer von Stonehenge wurde schon lange gerätselt. Vor fünfzig Jahren spekulierten Archäologen, mediterrane oder ägyptische Architekten hätten lokale Barbaren beim Bau angeleitet. Die Ergebnisse der aktuellen Untersuchungen deuten an, dass die Vorbilder der Architektur allesamt bei bereits bekannten britischen Traditionen im Monumentbau aus Wales und Wessex zu suchen sind.

Erste Ergebnisse osteologischer Untersuchungen demonstrieren, dass von den geschätzten 150 Menschen, die in Stonehenge bestattet sind, die 64 ausgegrabenen von einem ausgewählten Segment der Gesellschaft stammen. Neben zwei erwachsenen Frauen und zwei bis drei Kindern waren alle übrigen wohl adulte Männer.

Die wenigen Grabbeigaben, die in diesen Brandgräbern gefunden wurden, deuten auf Individuen von religiöser oder politischer Autorität. Sie wurden in Stonehenge während der Zeit 3000–2300 cal BC bestattet und könnten eine oder mehrere Herrscherdynastien repräsentieren.

Die erste Bauphase von Stonehenge (3000–2920 cal BC) fällt in eine Zeit steigender Uniformität der materiellen Kultur in Britannien, sowohl im Hinblick auf Keramikstile und Hengemonumente, als auch im Hinblick auf Hausformen. Seine Errichtung könnte geplant worden sein, um die verschiedenen Regionen Britanniens zu vereinen, insbesondere die von Sandsteinen geprägte Wessexregion und die von Dolerit (Bluestone) geprägten Regionen in Wales.

Die zweite Bauphase von Stonehenge (2620–2480 cal BC), als das Monument in etwa die heute sichtbare Form annahm, war mit einer großen Siedlung im nahegelegenen Durrington Walls assoziiert, die später zu einem Henge umgebaut und so monumentalisiert wurde. Die Inspiration für die Steinarchitektur in Stonehenge – die Zuformung der Steine, die Sturzsteine, das Element der Verzapfung – kann in der einheimischen Holzarchitektur Britanniens gesucht werden. Insbesondere die Form der Anlage kann von den timber circles in Wessex und anderswo in Britannien abgeleitet werden, während die hufeisenförmige Anordnung der Trilithen von den halbovalen hölzernen Wohnhäusern aus Wales, aber auch aus Durrington Walls und Stonehenge selbst abgeleitet werden kann. Insgesamt kann Stonehenge als eine monumentale steinerne Repräsentation von Baustilen gedeutet werden, die üblicherweise in Holz ausgeführt wurden.

Abstract

The identity of the people who built Stonehenge has long been a mystery. Fifty years ago, archaeologists speculated that it was built by Mediterranean or Egyptian architects directing local barbarians. The results of current research indicate that the influences behind its architecture can all be traced to pre-existing British traditions of monument building in Wales and Wessex.

Preliminary results of osteological research are demonstrating that, of the estimated 150 people buried at Stonehenge, the 64 that have been excavated were drawn from a restricted section of society. Whereas two of them were adult women and two or three were children, the remainder may have been adult males.

The few grave goods found with these cremation burials suggest that these may have been individuals with political and religious authority. They were buried at Stonehenge in the period 3000–2300 cal BC and may have formed one or more dynasties of rulers.

Stonehenge's first stage of construction (3000–2920 cal BC) was at a time of growing unity in material culture across Britain, in terms of ceramic style, henge monuments and house forms. Its construction may have been designed to unify different regions of Britain, specifically the sarsen stone region of Wessex with the bluestone region of Wales.

Stonehenge's second stage of construction (2620–2480 cal BC), when the monument largely took the form that it has today, was associated with a large village at nearby Durrington Walls which was later monumentalized as a henge. Inspiration for Stonehenge's stone architecture – shaped stones, lintels and mortice-and-tenon jointing – can be found in the indigenous timber architecture of Britain. Specifically, its form derives from the timber circles of Wessex and elsewhere in Britain, while the horseshoe arrangement of the trilithons derives from the D-shaped plans of timber public buildings excavated in Wales as well as at Durrington Walls and Stonehenge. In conclusion, Stonehenge can be understood as a monumental representation in stone of building styles normally built in timber – a meeting house for the ancestors.

The first structure at Stonehenge was built in the period 3000–2920 cal BC, about a thousand years after the adoption of agriculture in Britain. Studies of modern and ancient DNA have concluded that the population at that time in Britain and Europe as a whole was an amalgam of indigenous former hunter-gatherers and a smaller proportion of immigrant farmers (Haak et al. 2005; Oppenheimer 2006). Within that thousand years, the ceremonial and ritual practices of Britain's inhabitants deviated from those of the Continent, most visibly in the construction of monuments of types not known on the opposite side of the English Channel. In particular, these consisted of cursus monuments¹ in the period 3600–3200 cal BC (Barclay / Harding 1999; Thomas et al. 2009) and henges² from shortly before 3000 cal BC (Harding 2003).

From regionalism to island-wide identity

During the course of the Neolithic in Britain, it is possible to identify a series of trends in material culture and monumental forms that hint at increasing cultural homogeneity across the whole of Britain. By the beginning of the third millennium BC, regional styles of ceramics and tomb architecture were gone, replaced by wide-ranging monument types and ceramic styles.

Regional variations in ceramic styles of the Early and Middle Neolithic (4000–3000 cal BC) were replaced by increasingly island-wide forms of pottery: Impressed Ware (also known as Peterborough Ware, c. 3400–2500 cal BC; Gibson / Kinnes 1997) and latterly Grooved Ware (also known as Rinyo-Clacton Ware, c. 3000–2200 cal BC; Cleal / McSween 1999). Thought to originate in Scotland, most probably in the islands of Orkney, Grooved Ware is classically associated with the henges and timber monuments of Late Neolithic Britain. It is found from Cornwall to Kent and from East Anglia to eastern Ireland. Recent excavations at Durrington Walls (Parker Pearson 2007) have identified house plans that can be closely compared with the small, square houses of Grooved Ware settlements in Wales (Britnell 1982) and Orkney (Childe 1931).

Another wide-ranging cultural development around the beginning of Stonehenge was a change in funerary rites. Whereas burial of inhumations and disarticulated human bones were characteristic of the period before 3000 BC, the burial of cremated remains is one of the few mortuary practices recognizable within Britain after that date and before the start of Beaker burials around the 24th century cal BC. There are very few inhumations which have been dated to this period (3000–2400 BC). A handful of inhumations are known from sites such as Wimbourne Monkton near Avebury (Davis / Thurnham 1865), Kingsmead Quarry, Horton (Barclay et al. 2009), Flagstones, Dorchester (Healy 1997) and North End Pot, North Yorkshire (Stefany Leach pers. comm.). The latter – found at the bottom of a cave shaft – may be an accidental death rather than a deliberate 'burial'. Human remains also continued to be deposited in rivers during this period (Lamdin-Whymark 2008).

Cremation cemeteries, often set within circular ditched enclosures, are known throughout Britain from the end of the fourth millennium onwards. The multiple ring ditches at Dorchester-on-Thames contained around 170 cremation burials (Atkinson et al. 1951; Whittle et al. 1991). Over 60 were recovered from the upper layers of the large mound of Duggleby Howe, North Yorkshire, where they followed a sequence of inhumation burials within the mound's primary deposits dating from c. 3400 cal BC (Gibson / Bayliss 2009). Other cremation cemeteries are known at Llandegai Henge A (Lynch / Musson 2004),

- 1 A cursus is a linear, embanked and ditched enclosure which may be only 100 m or so wide and over 1 km long. These appear to be later than post-defined linear monuments which can also be described as cursuses.
- 2 A henge is an enclosure in which the bank is outside the ditch. Many are approximately circular or oval, and sizes vary.

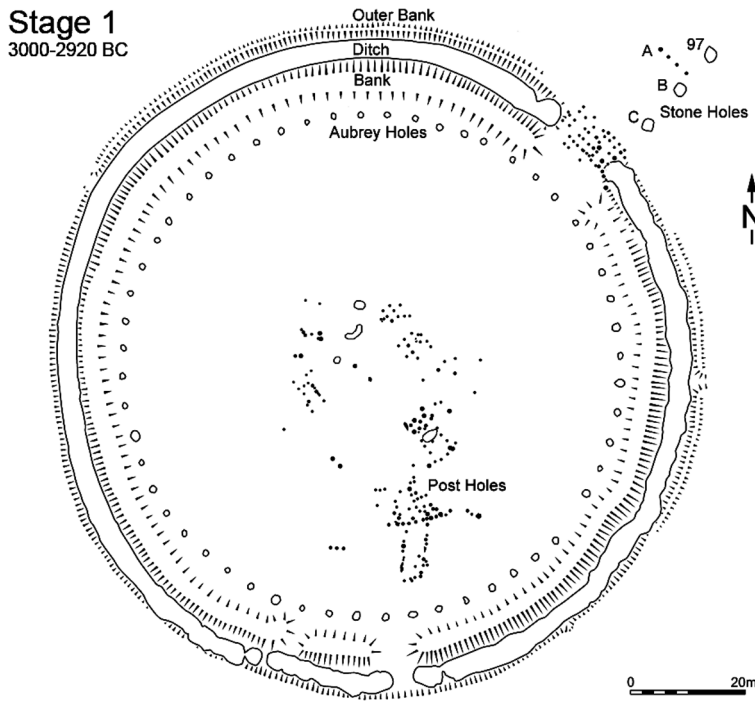


Fig. 1. Plan of Stonehenge during the first building phase.

Abb. 1. Plan von Stonehenge während der ersten Bauphase.

West Stow (West 1990), Cairnpapple (Piggott 1948), Imperial College Sports Ground near London (Barclay et al. 2009), Horton (ibid.) and Barford (Oswald 1969).

Stonehenge's first stage (3000–2920 cal BC)

Stonehenge itself was a large cremation cemetery (Parker Pearson et al. 2009). Some 64 cremation burials have been excavated there since 1920; most of these were reburied in 1935 but are currently being analysed at the University of Sheffield after being retrieved from Stonehenge in 2008. Only about half of the interior of the monument has been excavated, mainly in the first half of the 20th century, so it is likely that the total number of burials was over 120; given the possibilities that early excavators failed to look under the encircling bank or outside its ditch, and the fact that they certainly missed burials within its interior, the best estimate is of 150 individuals buried at Stonehenge. In addition, 42 fragments of unburnt disarticulated human bone from the early excavations also indicate that partial remains were also deposited here in the Neolithic (Parker Pearson et al. 2009).

Stonehenge's first phase has been closely dated (Allen/Bayliss 1995; Bayliss et al. 1997) and consists of a ditch and inner bank, as well as 56 pits (the Aubrey Holes) placed in a circular arrangement adjacent to the bank within the enclosed interior. Recent re-assessment of the monument's building sequence places within this first stage many timber postholes, in the northeast entrance through the bank and ditch, within the enclosure's centre and leading to the south entrance. There are likely sarsen stone settings outside the northeast entrance and within the centre. Sarsen stones are found locally, although the best deposits for megalith-building are located in the Avebury area, about 20 miles to the north.

The Aubrey Holes were thought to have been empty pits but re-excavation of Aubrey Hole 7 in 2008, together with re-assessment of the early excavators' records, indicate that they might well have once contained the smaller Stonehenge stones, known as blue-

stones (Parker Pearson et al. 2009). These megaliths are of a variety of lithologies – spotted dolerite, dolerite, rhyolite, volcanic ash, tuff and sandstone – which derive from Wales. All but one of the sandstone monoliths are reckoned to originate in the Preseli hills of west Wales. The large sandstone monolith, known as the Altar Stone, is also Welsh but of unknown provenance; it is not Milford Haven, as previously thought (Ixer/Turner 2006).

The mechanism by which these bluestones were brought to Stonehenge is disputed. Some writers consider that they were carried by the glaciers of previous Ice Ages as far as the western margins of Salisbury Plain (Williams-Thorpe et al. 2006; John 2008). Others support the notion that they were delivered by human agency. There is no firm evidence to prove either theory but, if we do assume that people were responsible, this represents the single, longest movement of megaliths in European prehistory – about 80 stones, 4–8 tons each, moved 180 miles across land and water. For distance involved, such a feat is without parallel in the prehistoric world³. We may assume that it required a degree of unity sufficient to bring together people across southern England and Wales.

The dead of Stonehenge (3000–2400 BC)

The developing pan-island identity represented in material form might well have contrasted with emerging differences in social status among Britain's inhabitants. A small number of inhumations from the second half of the fourth millennium BC were provided with elaborate mortuary constructions and / or quantities of grave goods. One of the primary burials beneath the huge mound of Duggleby Howe was accompanied by a human skull which may have been a trophy, whilst other burials under this mound were lavishly equipped with grave goods (Mortimer 1905; Gibson / Bayliss 2009). The single grave at Liff's Low (near Sheffield), dating to c. 3200 cal BC contained a set of grave goods – two flint axes, arrowheads and other worked flints, an antler macehead, boar's tusks, a pot and pieces of red ochre – suggestive of social distinction (Clarke et al. 1985, 250).

The emerging fashion of burying cremated ashes, by contrast, did not generally include the provision of grave goods. The cremation cemeteries contained few items in association with the burials. The most frequent of these were long pins – known as skewer pins – made of bone or antler. These may have been dress pins or even shroud pins; it is unlikely that they were pins to secure the bags of cremated ashes since these pins were often burnt on the pyre. We can safely assume that cremation burial within a monument or enclosure was not the majority rite at this time – even if most people were cremated, only a small minority of cremated remains appear to have been buried (and thereby rendered archaeologically visible).

The people buried at Stonehenge are only now beginning to yield evidence of their identities, from the preliminary results of Christie Cox Willis' analysis of the Aubrey Hole cremated bone. Of the three cremation burials previously analysed, one is that of a woman aged about 25 and the other two are unsexed adults (McKinley 1995). Remains of another, older woman were recovered in 2008 in a small burial pit adjacent to Aubrey Hole 7. She died in the period 3330–2910 cal BC (at 95.4% probability), some 500 years before the 25-year-old.

Analysis of the 60 cremation burials reburied in Aubrey Hole 7 is still in progress and is hampered by the fact that the archaeologists who buried the bones in 1935 tipped them into the pit in a jumbled heap. However, preliminary results from this mass of undifferentiated fragments suggest that the two women are not typical of Stone-

3 In size, the Stonehenge bluestone monoliths are dwarfed by others such as some of the megaliths of Brittany or Iberia, for example. Neolithic communities were undoubtedly capable of major acts of stone-moving; the Stonehenge event is simply the longest distance travelled.

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henge's deceased occupants. Where sex traits can be identified on the cremated bone fragments, these have all been male. In addition, the small number of sub-adult bones indicates that there are unlikely to have been more than two or three children among the dead. On current evidence, the majority of people buried at Stonehenge appear to have been adult men. A wide range of ages is represented, from young adult to old. Of course, these results are preliminary and more material remains to be analysed.

The cremation assemblage is also being investigated for evidence of health and trauma. Other than a single instance of a benign soft-tissue tumour associated with a tibia, the most common pathologies are low levels of osteoarthritis, especially in the lower spine. No examples of trauma or injury, comparable to the Amesbury Archer's infected tibia (Fitzpatrick 2002), have yet been identified. In all, this population appears to have been fairly healthy when alive.

Among the handful of skewer pins accompanying some of the Stonehenge burials, there are two grave goods of interest. One of these is a stone macehead, similar to a broken example from one of the circular cremation cemeteries at Dorchester-on-Thames (Atkinson et al. 1951). The other is a small ceramic object whose concave surface has been used for burning; this 'incense burner' is unique except for one other, found near the similar circular enclosure of Flagstones at Dorchester, Dorset (Cleal et al. 1995, 361).

Maceheads are well known in the British Neolithic and Early Bronze Age (Roe 1968). The vast majority are without any evident context but a few have been found in funerary deposits, such as Knowth passage grave (Fenwick 1995) and Bush Barrow (Needham et al. 2010). They may be considered emblems of authority, although their common disposal in contexts not associated with individual dead could indicate that they were generally emblems of institutional authority rather than personal status, not entirely different from the symbolism of the mace in the British parliament today.

The symbolism of the 'incense burner' is hard to gauge. Since such items are known only from Stonehenge and its slightly earlier, sister monument of Flagstones, a case can be made for considering these items to have been restricted to practices and people of high status. Perhaps they were part of the equipment of ritual specialists and persons of religious authority.

In summary, the cremation cemetery at Stonehenge was in use from its inception in 3000–2920 cal BC until 2470–2300 cal BC (Parker Pearson et al. 2009); further dating of individuals from Aubrey Hole 7 will refine this sequence. It is possible that the only inhumation from the third millennium BC buried within the monument – the arrow-wounded Stonehenge Archer (2400–2140 cal BC; Evans 1984) – may have been the last in a long line of interments. The predominance of adult males over women and children indicates that there was careful selection of those eligible for burial. Such a pattern might be produced by the funerary traditions of one or more patrilineal dynastic lineages.

Stonehenge's second stage (2620–2480 cal BC)

Around 500 years after Stage 1 of Stonehenge, the centre of the monument was extensively remodelled. A horseshoe setting of five sarsen trilithons was surrounded by a double arc or circle of bluestones (known as the Q and R Holes). These were surrounded by an outer circle of 30 lintelled sarsens (these had been thought to date to after the Q and R Holes, until Darvill and Wainwright's excavation at Stonehenge in 2008 produced contrary evidence; Darvill / Wain-

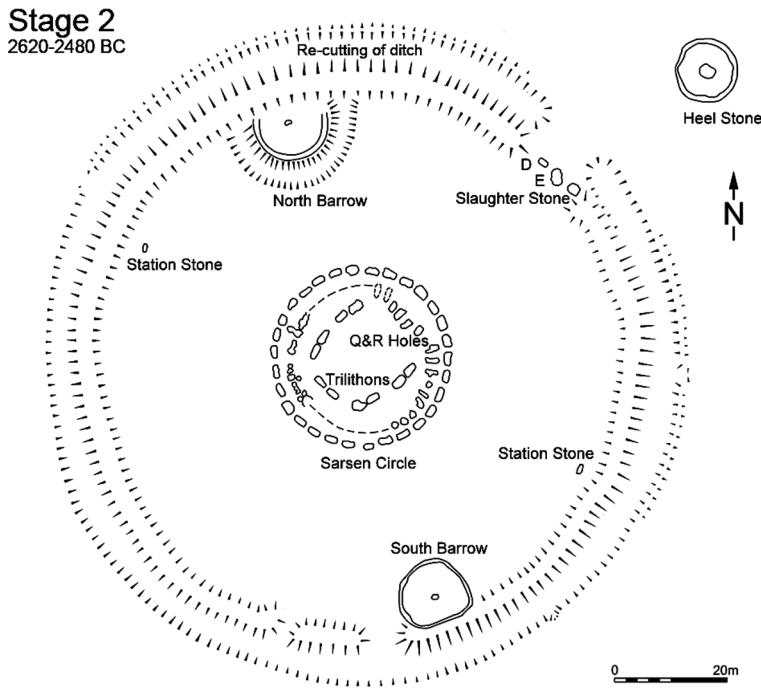


Fig. 2. Plan of Stonehenge during the second building phase.

Abb. 1. Plan von Stonehenge während der zweiten Bauphase.

wright 2009). It is likely that the four Station Stones were set up during this stage, since they are stratigraphically later than the Aubrey Holes.

Although there were another three stages of rebuilding after this, Stonehenge Stage 2 is essentially the form that it retains today. Its dressed stones and lintels are unique within British prehistory, and the large sizes of the sarsens – many of them around 20 tons or more – point to considerable effort in transporting them 18 miles or so from the Avebury area.

Identifying the builders of Stonehenge

Many people must have been involved in the construction of Stonehenge Stage 2 but there is little indication of any work camps within its immediate vicinity: extensive trenching evaluation along the nearby A303 (Leivers/Moore 2008) and excavations by the Stonehenge Riverside Project west and north of the monument revealed an absence of Neolithic activity in the surrounding area. Instead, the most likely location for the builders' settlement is 1.75 miles to the northeast beneath the 17ha henge of Durrington Walls. Here, excavations in 2004–2007 revealed the preserved floors of eight houses along with deep and extensive spreads of occupation debris protected beneath the henge bank. From reviewing the results of previous excavations at Durrington Walls (Farrer 1918; Stone et al. 1954; Wainwright/Longworth 1971), it is concluded that the entire circuit of the henge bank follows the edge of a very large settlement that might have contained as many as 1000 houses.

The radiocarbon dates for the Durrington Walls settlement, modelled by Peter Marshall, place its start at 2525–2470 cal BC and its end in 2480–2440 cal BC, consistent with the dates for the sarsen trilithons and circle at Stonehenge (Parker Pearson et al. 2007). Three large timber circles within the complex – the Southern Circle, the Northern Circle and Woodhenge – might have been built and used at this time. Although the remains of occupation are extremely dense, with extensive middens and yard areas covered in food remains, there are

indications that this relatively short-lived settlement was seasonally occupied by people whose subsistence base lay elsewhere.

The complete lack of neonates among the pig and cattle bones points to the settlement's role as a 'consumer site' rather than an all-year-round farming establishment. Although some carbonised cereal grains have been found in part of the settlement, there are no querns for grinding corn. The mortality profiles for the pigs indicate two hiatuses of seasonal gathering and feasting, one in summer and the other in winter, consistent with midwinter and midsummer solstitial alignments at Stonehenge and the timber circles.

If the settlement at Durrington Walls was the work camp for building Stonehenge, its population – albeit temporary – must have gathered from some distance around. Unfortunately, there are no inhumation burials from this period at Durrington Walls or elsewhere that could provide evidence for the builders' identities. For the Beaker period immediately afterwards (c. 2400–1700 cal BC), the recently completed Beaker People Project has recovered the 'life histories' of 360 people across Britain, documenting their patterns of migration, movement, diet and health (Parker Pearson 2006). Given the absence of human bones and teeth for the Late Neolithic period, we have turned to the animals feasted on at Durrington Walls in the hope that their life histories may provide proxy evidence for the geographical ranges travelled by the people building Stonehenge.

Initial results of strontium isotope analysis of tooth enamel in cattle consumed at Durrington Walls indicate long-distance movement from as far away as southwest England or Wales (Viner et al. 2010). The isotopic signatures of 12 cattle selected for a pilot study demonstrate that most were raised on geologies different from the chalklands of Wessex, with just two local to the chalk, two travelling from western Britain and the remainder from at least 20 miles from Stonehenge. They also appear to derive from many different herds, and were driven to Durrington Walls only in the months before they were eaten rather than being traded in the years before.

Further isotopic analysis is taking place as part of the Feeding Stonehenge Project, so these results are only provisional. Nonetheless, they point to a substantial catchment for Stonehenge's builders, many of whom appear to have travelled from different parts of southern Britain to take part in building and celebrating.

After Stonehenge: new identities

Around 2400 cal BC the earliest Bell Beaker burials point to a new political and social order, involving close connections with the Continent and the decline in large-scale public works. Silbury Hill at Avebury (Leary/Field 2010), and the Stonehenge Avenue were two of the last great monuments to be built. Like the Bell Beaker-using communities of mainland Europe, those in Britain avoided monument-building until around 2200 cal BC when the earliest of the round barrows required labour commitments from lineage-sized groups rather than corvée-style mass labour.

Conclusion

Stonehenge's heyday appears to have been a time of pan-island identity in many aspects of material life and culture, from just before 3000 cal BC to the arrival of Bell Beakers. Perhaps Britain emerged as a political and social construct for the first time, with cultural practices that were shared from southern England to the islands of Scotland

and from East Anglia to west Wales. This new social formation would have made the building of Stonehenge possible, providing the long-distance linkages required. At the same time, the building of Stonehenge helped reflexively to bolster that pan-island identity by bringing people together in constructing a monument that celebrated unity and unification.

Analysis of modern DNA has presented the possibility of two main population influxes into Britain during the Neolithic, one to the west from Iberia and the other to the east from Scandinavia and Germany (Oppenheimer 2006, 185–94). This is suggested to have formed an ethnic boundary between east and west along a line from Scotland to southern England. In such circumstances, the merging of megaliths from two separate sources within Stonehenge – the bluestones from Wales and the sarsens from Wessex – would have symbolized the unification of two peoples by reference to the stones of their respective ancestral homelands.

The act of building Stonehenge also had political implications in terms of leadership and hierarchy. Organizing the huge quantity of labour and resources provided ample opportunity for social differentiation between leaders and followers. In such circumstances, the possibilities for elites' consolidation of power were increased, allowing dynasties of patrilineal leaders to establish their authority within the social and supernatural order, until the arrival of new ideological, social and economic lifestyles from mainland Europe around 2400 cal BC.

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