

The Early Neolithic Tor Enclosures of Southwest Britain

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Abstract

Along with causewayed enclosures, the tor enclosures of Cornwall and Devon represent the earliest enclosure of large open spaces in Britain and are the earliest form of surviving non-funerary monument. Their importance is at least as great as that of causewayed enclosures, and it might be argued that their proposed associations with settlement, farming, industry, trade and warfare indicate that they could reveal more about the Early Neolithic than many causewayed enclosure sites. Yet, despite being recognised as Neolithic in date as early as the 1920s, they have been subject to a disproportionately small amount of work. Indeed, the southwest, Cornwall especially, is almost treated like another country by many of those studying the Early Neolithic of southern Britain. When mentioned, this region is more likely to be included in studies of Ireland and the Irish Sea zone than studies concerning England.

Perhaps this is due, in part, to interpretations of Carn Brea and Helman Tor as defended settlements of people who relied upon agriculture for the bulk of their subsistence, conducted economic trade with other areas, and formed a quasi-political unity through warfare. This interpretation does not sit well with post-processual suggestions of a mobile, wild resource based early Neolithic, with the emphasis on cultural change, in neighbouring Wessex chalkland areas.

The aim of this thesis is to re-examine the evidence from the southwest and to interpret it with reference to and in contrast with the potentially radically different interpretations of the Early Neolithic in nearby Wessex. By understanding the southwestern landscapes before the tors were enclosed, placing the tor enclosures in their cultural landscape contexts, using ethnographic analogy and re-examining the existing archaeological record, it is possible to achieve a better understanding of tor enclosures and to demonstrate their importance for understanding other elements of the Early Neolithic in Britain.

Front page images: Notter Tor as seen from Stowe's Pond. The walls of Whittor. The walls of Stowe's Pound upper enclosure.

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Chapter 1: Introduction: The Early Neolithic of the southwest – an overview of historical and current understandings

“...unfortunately, and perhaps significantly, <Thomas> does not venture to draw the evidence from Carn Brea into his frame.” (Mercer 1997, 56).

Thomas’s interpretations have greatly influenced archaeological thought concerning the Early Neolithic of southern England during the previous two decades (e.g. Thomas 1991; 1993; 1996b; 1999; 2003; 2007). Until the 1980s the Early Neolithic was considered to consist of settled farmers living in longhouses or villages and taking part in the new industries of pottery and axe making. In his landmark works *Rethinking the Neolithic*, ‘Discourse, Totalisation and the Neolithic’ and *Understanding the Neolithic* Thomas outlined a wholly different way of life for this period, suggesting that economic change was slow and that mobile hunting and gathering continued as predominant life-ways well into the Neolithic. For Thomas the Early Neolithic was remarkable for the cultural changes that occurred as people adopted new ideologies and new relationships with the landscape and ancestors. Yet, as Mercer points out, Thomas conveniently omits to provide an explanation for the tor enclosures of the southwest. In this region, Mercer (2006) argues there is good evidence for settlement, farming, rapid economic change, organised warfare and the emergence of “quasi-political unity” (*ibid*, 74). If Mercer is correct then lack of consideration of the tor enclosures, in much of the study of Early Neolithic southern England during the previous 20 years, would seem a serious oversight. This thesis seeks to reassess the tor enclosure evidence and to consider if Thomas’s Neolithic needs to be re-thought again?

On the high moorland of the southwest stand the tor enclosures: monuments with orthostatic walls linking natural rock outcrops and enclosing the hilltops of prominent tors. If “enigmatic” is an apt word for Oswald *et al.* (2001, 1) to describe causewayed enclosures, then it must be doubly so for the tor enclosures. They stand amid some of the richest and best preserved Neolithic landscapes in the country, they have walls that stood to four metres in height, and they are among the earliest surviving built structures in the southwest, yet few who visit them today even realise that they are manmade or of such great age. Despite their potential importance only three have been excavated to modern standards, and these excavations have raised as many questions as they have answered. The best known tor enclosure, Carn Brea, is notable for evidence of timber buildings, large amounts of

domestic refuse, cultivated areas, defensive structures, axe making, and assemblages representing over 500 pottery vessels and over 800 flint arrowheads (Mercer 1981). By themselves any of these factors would make an Early Neolithic site stand out within the archaeological record, combined they suggest that the tor enclosures were very special places and are long overdue for re-assessment.



Fig 1.1: Whittor tor enclosure - the tumbled wall can be seen running from the prominent natural outcrop across the centre of the picture.

1.1 Previous work on the Neolithic of the southwest

Cornish monuments inspired the work of a number of antiquarians. Carn Brea, the best known tor enclosure, was first identified as an ancient site by Borlase in 1754. The earliest survey to modern standards was carried out by Wilkinson in 1860 (Mercer 1981, 11), and the prominent antiquary Thurston Peter excavated and collected artefacts there in the 1890s (Mercer 1986, 36).

The first major archaeological synthesis to focus on Cornwall's prehistory was H. O'Neill Hencken's (1932) *The Archaeology of Cornwall and Scilly*. Hencken was urged to write an account of Cornish archaeology by O.S.G. Crawford who had convalesced near St. Austell after suffering injuries during the Great War (Ashbee 1976, 5). In Ashbee's view, this work brought Cornish archaeology out of a

“backward and sorry state” (*ibid.*), and gave new impetus to the notion of regional archaeology. As was typical of the time, Hencken’s (1932) chapters on the Neolithic were a typological assessment of lithic material, including the Thurston assemblage from Carn Brea, to identify the cultures responsible for the area’s monuments and material culture. He assumed that the Penwith chambered tombs (dolmens), found mostly on the Penwith peninsula, represented megalithic burial chambers once covered by earthen mounds, and were similar in function to other megalithic chambered tombs in southern England and the Cotswold-Severn region. Hencken also classified Carn Brea as a Neolithic settlement and suggested that the hut circles of Bodmin Moor might fall into this category too. Without the benefit of modern dating methods, Hencken was not able to further subdivide the Neolithic, and so the numerous stone circles of Cornwall were ascribed a contemporary date.

The culture that Hencken identified did not closely match that of the then accepted initial Neolithic pioneers for the greater part of southern England. Rather, it represented a secondary diffusion from the southwest, originating in Portugal and Brittany and passing through Cornwall as it moved up the Irish Sea (Hencken 1932, 7). Thus the idea of Cornwall as a regionally unique Neolithic culture in southern England was created. This Culture-History view of Cornwall remained dominant until at least the 1960s, and even after the advent of the New Archaeology it still influenced work relatively recently. It was further strengthened by Liddell’s (1930; 1931; 1932; 1935) excavations at Hembury and identification of the similarities between the Hembury and Carn Brea ceramic assemblages, and by Daniel’s (1950) definition of a Cornish megalithic tomb typology. Piggott, thus, described a “South-western sub-culture” in his influential work *The Neolithic Cultures of the British Isles* (1954).

It was in 1962, with the birth of the journal *Cornish Archaeology*, that the next landmark review of the Cornish Neolithic was published, and with it the beginning of a greater interest in the region’s Neolithic past. Radford’s (1962) paper “The Neolithic in the southwest of England” again followed the Culture-History approach in that it attempted to identify the diffusion of a technical revolution via the movement of specific cultures. However, he benefited from a newly generated set of radiocarbon dates, and thus was able to recognise the length of the Neolithic. By comparison with the Hembury-culture pottery found at the lower levels of the Windmill Hill excavations, Radford was able to better date the movement of this culture in the southwest, but the lack of identified causewayed enclosures west of Dartmoor caused him to question how far this culture penetrated, and to suggest that a primary Neolithic saw Mesolithic hunter-gatherers living side-by-side with Neolithic farmers in this area. Despite the lack of radiocarbon date calibration, a much-improved relative chronology was possible.

In a reply to Radford, Megaw (1963) questioned the idea of a primary Neolithic and, instead, viewed the movement of material culture as being evidence for trade rather than a sign of population

migration, thereby applying the New Archaeology's functionalist/economic understanding of the past to Cornwall's prehistory. Megaw posited a system of trade whereby western farmers and tomb builders acted as "middle men" in the distribution and control of the stone axe head supply. Thus, Carn Brea was no longer interpreted as a farming settlement but an axe finishing and distribution centre, placed strategically on a west-east ridge-way route across Cornwall. The flint axes found at Carn Brea were seen as reciprocal trade items from the east.

In 1970 Ashbee, still somewhat influenced by the Culture-History approach, attempted to promote Cornwall from an outlying subculture of the British Neolithic to a possible place of origin. He suggested that, if radiocarbon dates were available for Carn Brea or Gwithian, they might show that these settlements belonged to Britain's first farmers. Thus farming, like gabbroic pottery and greenstone axe heads, might have radiated out from Cornwall. Furthermore, he claimed that the Penwith chambered tombs were a subgroup of the portal dolmens found on both sides of the Irish Sea, possibly representing the initial change from wooden to megalithic funerary architecture in England. Although these claims may have been a little extravagant, they did demonstrate that Cornwall had as rich a prehistory as Wessex, and continued to fuel interest in the Early Neolithic of the southwest.

A steady stream of Neolithic site reports and articles continued to appear in *Cornish Archaeology* until its 25th birthday in 1986, when Mercer (1986) produced a paper entitled "The Neolithic in Cornwall". It sought to pull together all previous work into a single overview. By this point Mercer, with his work at Carn Brea (1981), had become one of the leading figures associated with Cornish Neolithic research. Mercer's initial theoretical standpoint was much like that of Megaw (1963), continuing a functionalist approach that was influenced, in part, by Culture-History. His interpretation centred on an economic exchange system, with the development of farming leading to the creation of important central places, such as Carn Brea and Helman Tor, which controlled the flow of material culture in and out of the southwest. These exchange networks were identified from the areas that artefacts of Cornish origin had reached, and from the probable sources of alien material found within the southwest. Early Neolithic monuments, such as funerary sites, continued to be assigned to formal typologies and used to track the movement of cultures. Mercer also pointed out that there was a relationship between several dolmens and tor enclosures.

By the time that the Helman Tor excavation was published, Mercer had started to countenance aspects of post-processual interpretation (1997). Although continuing with his overall view of a system of trade networks, he (*ibid.*, 56) also suggested that the selection of tors for "central place" settlements may have partly stemmed from the social meanings and myths that had collected around these natural places of elevated and exposed rock outcrops, possibly inspired by Tilley's work (1995). Tilley examined the landscape of Bodmin Moor, probably the best preserved prehistoric upland cultural

landscape in southern Britain (*ibid.*, 6), to rethink the nature of the Early Neolithic in Cornwall. Rather than viewing it as an economic or subsistence revolution, as had been accepted before (e.g. Radford 1962; Mercer 1986), he suggested that the appearance of monuments marked an ideological change. This argument was partly based upon the tendency of Early Neolithic flint scatters to be found in the same locations as Mesolithic ones (Tilley 1995, 12), which signified that movement around and use of the landscape changed little at this time. He saw the prominent tors as having deep mythological meaning to the peoples of the later Mesolithic and the early Neolithic, influencing social movement and relationships within the landscape. He suggested that some tombs were built at a respectful distance from the more prominent tors and aligned upon them, thus providing a permanently visible spatial reference for local rites concerning the past and the ancestors. For him the tor enclosures represented communal “ritual” centres. Both monument types were used to appropriate power from natural features that had long had meaning, although Tilley did not make clear exactly how this occurred.

Cole and Jones (2002-3) followed Tilley’s (1995) lead with their work on the Neolithic pit groups near the prominent Roche Rock tor. A growing number of similar pit sites are now being found across Cornwall and Devon with assemblages not dissimilar to those from the rest of southern England. In the case of Roche Rock, Cole and Jones argue that Early Neolithic people marked repeated visits to significant places in the natural landscape that had deep meaning to them, thus supporting Tilley’s model of a mobile Early Neolithic. They also re-examined the nature of Cornish dolmens. Following Richards’s (2004) interpretation of the Carreg Samason dolmen in south-west Wales, they suggested that Cornish dolmens may not have been tombs at all. Rather than having been covered by earthen mounds, the evidence might really represent the remains of low mounds used to raise the capstones; the capstones themselves appear much too large to merely be chamber roofs, and few of these sites have any evidence for burials. Instead Cole and Jones speculated that these Cornish dolmens may have been monumental representations of granite tors, thus explaining the size of the capstone. Cole and Jones (2002-3) also questioned Mercer’s (1986) view, that some tor enclosures represent permanent settlements inhabited by farmers and traders or specialist axe finishers, as there is little evidence for food growing or preparation, and because the structures identified in the tor enclosures appear too flimsy for extended use. They, like Tilley (1995) writing on the Bodmin examples, interpreted the enclosures as centres of temporary occupation during special events, used on a seasonal or occasional basis. It was at these gatherings that the transference of artefacts, such as axes and gabbroic pottery, occurred.

The subject of the Cornish dolmens was recently revisited by Kytmanow (2008) in her study of portal dolmens around the Irish Sea. She veered away from the post-processual approach, and especially the phenomenological interpretations of dolmens by such writers as Tilley (1995) and

Cummings (2004), instead favouring a more empirical standpoint. She suggested that they might be placed at locations beneficial for settled farming, so returning to Mercer's view of the southwestern Neolithic, yet she offered little evidence for the use of agriculture in Cornwall. What she did achieve was to obtain radiocarbon dates for two of the Penwith portal dolmens that placed them firmly in the Early Neolithic.

This brief overview of the history of Cornish Early Neolithic studies suggests two contradictory narratives, one representing the southwest as a place of settled farming communities who had trade networks with Wessex and beyond, the other describing an Early Neolithic in which people continued to move around the landscape, relying on hunting and gathering for the bulk of their needs, and experiencing the landscape mainly in social terms rather than economic.

1.2 Monuments, sites and artefacts

Southwestern dolmens tend to consist of a very large granite capstone that is held aloft by several lesser, but still sizeable upright stones, arranged to form a chamber (Fig 1.2). There is sometimes evidence of further activity on the ground around the structure in the form of earth and granite rubble, which can be read either as the remains of a mound that once covered the monument (Mercer 1986, 54), the remains of a platform around the bottom of the monument (Richards 2004), or as the remains of the ramp used to move the capstone into place (*ibid.*). Some are portal dolmens, having a fancy facade laid out in a 'H' shaped plan, and are similar to those from southern Ireland (Mercer 1986, 54). Others, known as 'quoits', have no portal. Confusingly, some portal dolmens have the word "Quoit" in their names, for instance Zennor Quoit. The quoits tend to be in more exposed positions. The majority of the dolmens are found slightly inland along the northwest coast of the Penwith peninsular. A number are also situated across the centre of Cornwall and one near Dartmoor. In this area of lower distribution it is noteworthy that several tor enclosures have dolmens nearby. In all there are about 15 known examples of this type of monument, however, the damage to some is such that it is difficult to judge whether they really were portal dolmens, quoits, or chambered long barrows. Indeed, if the tombs really were covered by earthen mounds then it is likely that there are still fully concealed examples awaiting discovery. Artefacts from these tombs are rare, possibly due to the acidic natural of the southwestern soil (soil) and possibly due to scarcity of deposits in the first place. What finds that have been made tend to be Bronze Age, but the tombs are dated as Early Neolithic by association with similar examples from elsewhere (Mercer 1986, 54), and by Kytmanow's (2008, 105-6) recent radiocarbon dates of 3633-3373 cal BC (UB-6754) and 3342-3024 cal BC (UB-6753) for cremated bone recovered from the Sperris Quoit and Zennor Quoit portal dolmens respectively.



Fig 1.2: Trethevy Quoit, a portal dolmen near Stowe's Pound.

Long or oval barrows are less numerous than the dolmens. There are fewer than ten known examples (Mercer 1986, 57) of which some have been reinterpreted as dolmens (Kytmanow 2008, 10). These structures are also susceptible to damage, both from soil erosion and subsequent redevelopment, and are sometimes difficult to distinguish from later, damaged round barrows. Mercer (1986, 57) viewed them as Early Neolithic by comparison to the earthen long barrows of Wessex. Again, acidic soil conditions mean that organic artefacts are rare, although little modern excavation has yet occurred at these sites. Several are located on the Penwith peninsula and other known examples are near or on Bodmin Moor.

The most westerly proven causewayed enclosures are Hembury (Liddell 1929-32) and Raddon (Gent & Quinnell, 1999) in Devon, although there are several suspected or probable sites further west, such as Bury Down (Lanreath) (Ray 2001) and High Peak (Pollard 1967). Apart from the proven Neolithic tor enclosures of Carn Brea and Helman Tor, and the suspected 12 or so further examples (Oswald *et al.* 2001, 86), there are other enclosure sites, such as Barcelona Hill (Ray 2001, 58) and Bow (Griffith 2001, 71), located in southeast Cornwall which do not seem to conform to the characteristics expected of a tor enclosure or a causewayed enclosure. These appear to be earthen enclosures with few interruptions to their ditches.

As outlined above, the number of known Neolithic pit groups containing cultural material is low but growing. They are not always as visible as in other parts of the country as the acidic nature of the soil destroys organic content, and until relatively recently this form of Neolithic structure went largely unrecognised in the region. However, it appears that those that have been found have similar characteristics to those in other parts of southern England (Cole & Jones 2002-3).

Neolithic artefact assemblages from the southwestern granite areas tend to consist predominantly of lithics and ceramics due to the preservation problems already mentioned. At Carn Brea an amount of charcoal was found, but much of this was reduced to “sludgy smears” (Mercer 1981, 16). Also found at Carn Brea were a few nebulous bone fragments, stratigraphic layers described as organic in origin, and, from flotation, some pieces of burnt material that might have been cereal (*ibid.*). At Roche Rock several charred hazelnut shells survived (Cole & Jones 2002-3, 131).

Flint assemblages often contain material from two general sources: beech pebble flint that is fairly widespread on the southwestern shores, and nodule flint imported from the east. The nodule flint produced larger cores but the pebble flint still allowed decent tools to be fashioned. Assemblages seem to have the general characteristics of those found on the chalklands (Mercer 1981, 142). A small amount of chert has also been found at Cornish sites, the closest sources appear to be Portland and Broome (Mercer 1981, 109; 1997, 39). Megaw suggests that the imported flint may have been trade reciprocation for out-going greenstone axes and gabbroic pottery (1963, 7).

Cornwall is rich in greenstone sources. Examples of Group I, Ia, IV, VI, VII, XII, XVI and XVII greenstone axe heads have all been found in the county as well as many ungrouped examples. Axes from Cornish sources have been found in Wessex, East Anglia and possibly Yorkshire (Mercer 1981, 48). It appears that the leading quarries in the Early Neolithic were producing Group I (Mounts Bay, Penzance), IV (Balstone Down), XVI (Cambourne area) and XVII (Terras Mill, St. Austell or Kenidjack Castle, St. Erth) axe heads (*ibid.*, 153).

Distinct Southwestern Style ceramics first appear in Cornwall during the 38th century BC (Cole & Jones 119). Cornish Southwestern Style pots were often made from the gabbroic clays from near St Keverne on the Lizard Peninsular (Quinnell 1987, 7), and vessel forms were remarkably uniform, being simple open, and often carinated, round based bowls, sometimes with distinctive lugs or trumpet lugs (Gibson & Woods 1990, 60; Gibson 2002, 72). They were thin walled and often appear burnished (Peacock 1969, 46).

The origin of the gabbroic clay used in much of the Southwestern Style pottery from Cornwall has been questioned due to the wide distribution of pots made from this fabric. Smith found little sign of

pot making during a field walking project on the Lizard Peninsular (Quinnell 1987, 10), though he examined only a small percentage of the areas of gabbroic clay outcrops, and it is debatable whether Neolithic pot manufacture would have left a detectable trace in the archaeological record (*ibid.*). Thus, as there is no better candidate in the southwest it seems that the Lizard is the source for the Southwestern Style gabbroic clays. “Inferior” copies of the Southwestern Style, made of local clays, have been found at Windmill Hill (Gibson & Woods 1990, 179).

The majority of Early Neolithic pottery uses locally available clays (Peacock 1969, 145) and many sites have a mixture of styles suggesting that for much of Britain pottery was not a regional identifier (Thomas 1999, 101). Thus, gabbroic Southwestern Style seems to represent an atypical development for this period. It was originally identified at the Hembury site in Devon (Liddell 1930; 1931; 1932; 1935) and has been found as far east as Windmill Hill in Wiltshire, 270km from the Lizard. As might be expected, there is a gradual drop off in the percentage of gabbroic clay in assemblages the further one moves east: Carn Brea is within 32km of the Lizard and produced 100% gabbroic pottery. Sites such as Hembury, 150km from the Lizard, and High Peak, 145km, have below 25% gabbroic clay, and those on the extremes of the distribution such as Maiden Castle, 200km, and Robin Hood’s Ball, 260km, have less than 10% (Peacock 1969, 148).

The uniformity of form amongst the gabbroic assemblages suggests that the finished pots, rather than the unworked clay, were distributed (Gibson 2002, 49). This uniformity, allied with the quality of the pots, has led several writers to suggest that it was created by specialist, although not necessarily full-time, potters (Quinnell 1987, 9). Hamilton’s (2002, 47) scale of ceramic manufacturing industries would place it in the “Workshop Industry” category based upon the quality, uniformity and distribution of vessels, whereas the majority of Neolithic ceramic production falls within the “Household Production” category. Yet, one must remember that the modern understanding of “quality” may not correspond to the Neolithic view; a number of gabbroic vessels classed as lower quality were found at Carn Brea (Mercer 1981) which must have been carried there using the same effort that transporting the better quality items required.

Gabbroic clay is extremely good at withstanding the rigors of bonfire firing, and thus would have been ideal for the Early Neolithic potters (Quinnell 1987, 11). This may explain some of its popularity reasonably close to the Lizard Peninsular, but one might also expect the amount of breakages in transit to eventually outweigh this advantage once a certain distance from the point of origin was reached, especially as many of these distant sites had local clays available. Pollard (2002, 25) points out that the value of pottery can go on beyond the pot to the extent that sherds can be curated long after the pot itself is broken, yet, based upon the completeness and lack of wear on many vessels found at sites distant to the origin, one must assume that whole pots were being transported

rather than just sherds. Thus, it might be suggested that the reason for such widespread distribution was either based upon some cultural advantage in possessing this clearly identifiable form of pottery, or that the pots were secondary in importance to what they contained (Hill 2002, 77).

1.3 The importance of tor enclosures

A central issue at the heart of British Early Neolithic studies for the past 20 years has been how to interpret the advent of the Neolithic: did it involve rapid and wide-scale economic change, perhaps initiated by large numbers of incoming continental farmers, or was change predominantly cultural, and the result largely of the movement of ideas rather than people?

Until the 1980s it was assumed that the British Neolithic was the result of incoming farmers who followed a sedentary lifestyle, much like that of the continental Linearbandkeramik (LBK) culture. This life-way was thought to have moved across Europe in “waves of advancement” (Ammerman and Cavalli-Sforza 1973) until reaching the British Isles where the colonists replaced the indigenous hunter-gatherer communities. It was marked in the archaeological record by several phenomena. The elm decline, a sudden loss of an estimated 47 to 80 million trees (Scaife 1988, 22), was assumed to represent the clearance of the forest by farmers. Large amounts of charred cereal were found at Lismore Fields (Garton 1987, 251) and Balbride (Fairweather & Ralston 1993, 316), cereal imprints in ceramics were identified at Windmill Hill (Helbaek 1952, 194), and cereals have been recognised in pollen diagrams (Richmond 1999, 32). Domesticated animal remains found at early enclosures and tombs led to the suggestion that Early Neolithic society was based upon dairy farming (Richmond 1999, 34). Pollen diagrams back this theory up to an extent; pollen from plants that make for good grazing seemed to increase slightly at this time (Innes & Simmons 1988, 25). It has also been assumed that agriculture is required to support the effort needed to construct monuments (Megaw & Simpson 1979, 79), and Renfrew (1973) identified early long barrows as territory markers that tied farmers to the land through ancestral links. Thus, Megaw and Simpson (1979) suggested that cultivation in the Early Neolithic made the population become sedentary, and therefore permanent settlements appeared.

During the 1980s post-processualists, such as Kinnes (1988), questioned the *a priori* assumptions used to interpret this data. Prominent among this group Thomas (1991; 1993; 1996b; 1999) suggested that British Neolithic change was cultural rather than economic in nature, and that it resulted from the movement of ideas rather than peoples. He stated that the European LBK expansion stopped short of the Atlantic fringe a millennium before Neolithic traits appeared in Britain (1993; 1996b). After this

standstill in the fifth millennium BC, the later fourth millennium BC experienced a sudden expansion of a new regional Neolithics which were hybrids of hunter-gatherer and LBK life-ways.

The reproduction of the LBK-like practices of sedentism and agriculture in Britain were thus called into question (e.g. Thomas 1991a; 1996b; 1999; 2008; Richmond 1999), and Thomas (1999) posited a new British Neolithic that saw rapid adoption of a new ideology concerned with relationships with the dead and the importance of displays of identity and status. Thomas accepted that agriculture was present from very early, but that it was predominantly pastoral and that domesticated foodstuffs were more often used as displays of identity and status than as staples: a mobile hunting and gathering life style, inherited from the later Mesolithic, continued.

However, Thomas's interpretations continue to be challenged by those favouring a rapid uptake of subsistence agriculture. Thomas (2007) now agrees with Cooney (2000) that the situation in Ireland was very different as a domesticated Neolithic is better represented there by a significantly larger number of timber buildings and field systems.

In England further research regarding the duration of the Mesolithic-Neolithic transition has been used to argue both for and against Thomas's position. In reassessing the dates for the Lambourn long barrow Schulting's (2000) argued that monument building, ceramic use and agriculture had all been taken up in the early fourth millennium BC, suggesting a very short Mesolithic-Neolithic transition. A short transition would suggest the lack of a "learning" and acculturation period (Sheridan 2007, 466). Rowley-Conwy (2004) states that if there had been a rapid ideological but slow subsistence transition, its antecedents would have been visible in later Mesolithic material culture (but see Warren 2007). However, Whittle (2007) and Bayliss *et al.* (2008), by applying Bayesian dating techniques to a number of sites in southern Britain, have suggested that there was a distinct gap of perhaps several generations between the first indicators of the Neolithic in England (pottery, domesticates and lithic styles) and the advent of the first long barrows, followed by a further gap before the appearance of the first causewayed enclosures. This, at the very least, suggests that the English Neolithic was not the result of a mass influx of colonists, bringing with them a complete 'Neolithic package' which would seem *contra* to Sheridan's (2007, 466) belief in a virtually contemporaneous appearance of Neolithic traits throughout the British Isles. Sheridan (*ibid.*) proposes a model that saw colonists, with sedentary and agricultural life-ways, quickly populating the British Isles based upon the speed of transition, the consistency across the country in procurement and manufacturing techniques and the lack of evidence for contact between Neolithic and Mesolithic groups. Thomas (2007, 426), however, uses this latter point to argue against Sheridan: where farmers encroached into hunter-gatherer areas on the continent there are often detectable signs of both groups living together for some time, but this is not the case in England. If Sheridan's (2007, 442) small groups of incoming colonists did replace

the indigenous population then Thomas finds it difficult to believe that it could happen so quickly. Sheridan (2007, 468) has also so far failed to identify a definite point of continental origin where material culture is identical to that of any specific British location, Thomas (2007, 426) explains this as the British indigenous population selecting and rejecting Neolithic traits from many continental locations.

Regarding the continued reliance on wild resources, the higher ratio of wild to domesticated resources found on the few known domestic sites has been questioned due to differing accumulation processes (Jones 2000, 82; Rowley-Conwy 2004, 89; Schulting 2008, 94), and *contra* Thomas's (1999) arguments, Schulting (2008, 95) states that domesticates, cattle especially, dominate the faunal assemblages of these non-monumental sites as well as monumental sites, thus supporting the role of domesticates for both special occasions and staples. Stable isotope analysis of human bone might argue that the Early Neolithic saw massive dietary changes (but see Milner *et al.*, 2004 for caveats). The terminal Mesolithic was characterised by shellfish middens in coastal areas, yet in Early Neolithic interments an almost total absence of marine resources in the diet strengthened the case for an early switch to agriculture as a staple (Richards and Hedges 1999; Schulting 2008, 95). The absence of field systems is not necessarily a problem as early farming technologies may not have left traces, small plot cultivation would not require ploughs, and plots might have been bounded by hedges (Gibson 2003, 139; Jones 2000, 83). However, Rowley-Conway (2004, 92) suggests that ard marks, resulting from agriculture, have been identified below the South Street long barrow.

Thomas (2003, 70) explains the change from marine diets as a change in the spiritual role that water played in the Neolithic, and as the use of terrestrial foods as a statement of identity. He also questions the dates of the samples used for stable isotope analysis, which were several hundred years after the beginnings of the Neolithic, and the basis of comparison: Mesolithic coastal communities against inland Neolithic tombs and enclosures (Thomas 2008, 73). Furthermore, he argues that dental analysis shows the continued wide use of wild resources during the Neolithic (Thomas 2004, 105; 2008, 74). However, Thomas's position seems to have changed a little, he now (2007, 434) accepts that some people were probably sedentary, in order to tend crops, and that societies saw a change from hunting-gathering-fishing to herding and gathering.

Thus two different interpretations of the Early Neolithic are presented. One represents both a rapid economic and social change with settlement and early adoption of farming for staple diets. The other represents principally a cultural change where mobility was still predominant, sustenance still dependent for a large part on wild resources as well as herding, and the roles of portable material culture and monuments were as much concerned with identity and status as with function. The evidence for the latter approach has, for the most part, been the result of work on the chalk lands of

southern England such as Wessex. The southwest, the land of the tor enclosures, is a close neighbour of Wessex with much evidence for the movement of both material culture and social ideas between the two. Sheridan (2004) suggests that the Early Neolithic of the Irish Sea facing regions was the result of migrations of people already following sedentary and agricultural Neolithic life-ways, and if Mercer's (1981; 1997) interpretations of the tor enclosures as permanent, utilitarian, defended, settlements that relied on farming and acted as economic and manufacturing bases is accepted, then a wholly different view of the Early Neolithic in this part of southern England is produced. If Mercer is correct then many elements of this interpretation (for instance: subsistence basis, mobility models, economic trade and warfare) could easily influence interpretations of the causewayed enclosures that sit on the edge of Wessex: Hambledon Hill, Crickley Hill, Hembury and Maiden Castle, and of aspects of the Wessex Neolithic itself. Furthermore, possible similarities between tor enclosures in the southwest and those in other parts of the country, as well as western France, may shed light on how the Neolithic arrived in the British Isles.

More recently some authors have questioned the validity of a simple economic versus cultural debate for the Mesolithic-Neolithic transition. To understand the process of transition one must first identify the forms of the 'before' and the 'after'. Warren (2007) suggests that current understandings of the later Mesolithic are not sufficient to allow a detailed comparison with the earliest Neolithic. For instance, once accepted residential and logistical end to end mobility models (e.g. Young 2000) have been questioned by Spikins (2000) in much the same way that Kinnes (1988) questioned *a priori* views on the Neolithic. Bradley (2000) has suggested Mesolithic natural places may have been perceived in a similar way to monuments during the Neolithic, whereas Warren (2007) believes that although they had meaning it is dangerous to force Neolithic understandings onto Mesolithic landscape features.

Differentiations between hunter-gather and hunter-gather-cultivator ideology have also been questioned. It has been thought that hunter-gathers view the world as something to participate in, where nature has a parental relationship with people and sharing is predominant; hunter-gather-cultivators, on the other hand, view the world as something to control, where nature has an ancestral relationship with people, and ownership and reciprocity are predominant (Bird-David 1990; Ingold 2000, 43-44; Bradley 2004, 113). This dichotomy may be too simplistic (Pollard 2004, 60; Davies 2009b, 75). Rather than dividing the world into wild/natural or domestic, people may have treated each phenomena of daily life depending upon its own unique properties and upon the context in which it was met.

Tor enclosures stand apart from many other monument types in that, although the walls were constructed, the large rock outcrops which they link and circle were natural phenomena. These

natural features of the landscape may have had meaning in the later Mesolithic and the earliest Neolithic before enclosure took place. If this is so, the tor enclosures demonstrate a link between the worlds of the hunter-gatherer and the hunter-gather-cultivator. In studying changing attitudes to the tors it might be possible to determine the extent to which this dichotomy was real. Of course, this is not to say that other monument types did not have natural antecedents, but with tor enclosures the natural tors continued to be a principle part of the site.

1.4 Research aims

Given the potential impact of tor enclosures upon British Early Neolithic studies, the principle aims of this study are fourfold:

- An understanding of the tor enclosures will be sought. Did they really represent Mercer's (1986; 1997; 2003) central places: defended and permanently settled power bases for traders, manufacturers and farmers, who took their goods eastwards into Wessex in exchange for flint and other items that are no longer visible in the archaeological record? Or were they more akin to Thomas's Wessex enclosures: liminal meeting places for social negotiation and reaffirmation of relationships?
- A number of writers have treated tor enclosures as rock-built causewayed enclosures (e.g. Cleal 2004; Oswald *et al.* 2001, 85-90). Is this a fair assessment or do tor enclosures have meanings that differ to those of causewayed enclosures? If so, what were those meanings?
- There are rock-built enclosures in other areas of Britain and in France that bear certain similarities to the southwestern tor enclosures. Are these similarities just coincidence or can they shed light upon long distance relationships during the Early Neolithic?
- Can the tor enclosures add to the understandings of the differing explanations of the Early Neolithic in central southern England? If they were defended, settled, farming villages then what implications does this have for Wessex? If they were not, can they still add to the current interpretations of Wessex in other ways?

Chapter 2: The tor enclosure sites: descriptions, comparisons and dates

This chapter's intention is to give an overview of the tor enclosure sites, to describe and compare their locations, construction and the material culture retrieved from them, to review the dating evidence associated with them, and to suggest why particular tors were selected for enclosure. The suspected tor enclosures in Cornwall and Devon are detailed individually in Appendix A.



Fig 2.1: The suspected tor enclosures of the southwest.

2.1 Forms and constructional elements

2.1.1 The tors

The enclosed tors can be roughly divided into three groups: linear, sub-circular and scarp edge (Table 2.1). Linear tors have several rock outcrops standing along the top of a hill ridge with drops to both sides. For example, at Helman Tor (Fig 2.2) outcrops occupy an area of around 200m along and 60m across the north-south ridge. There are more outcrops along the ridge and further down the sides (e.g. Fig 2.2 – outcrop 3), though these are at a lower elevation and give the impression of being disconnected from the tor summit. Linear tor outcrops tend to be spaced along the centre of the ridge itself or just to the sides of the ridge line, thus they act both as bounding features for the hill top (e.g. Fig 2.2 – outcrop 1), and as separating features (e.g. Fig 2.2 – outcrop 2) slicing the ridge into a

number of sections. Between the outcrops flatter areas are often found where little or no bare earth-fast rock is visible apart from clitter (eg. Fig 2.2 – area 4).

Roughtor is linear but larger in area than Helman Tor, with wider spaces between the outcrops. The main outcrop of Roughtor might also fit into the sub-circular tor type. This category consists of a sub-circular hilltop with outcrops spread across it, sometimes forming a natural enclosure. There tend to be reasonable drops to all sides, such as at Trencrom.

Scarp edge tors have the major outcrop on the edge of a steep drop, but have a much shallower drop on the highland-side edge, such as Tregarrick (Fig 2.6). The outcrops tend to be smaller than those at linear or sub-circular tors. There may also be lesser outcrops further from the scarp edge, scattered around a fairly level area. If it were not for the walls these lesser outcrops would not give the impression of enclosure.

Linear	Sub-circular	Scarp edge
Carn Galver	Stowe's Pound	Tregarrick
Carn Brea	Hound Tor	Dewerstone
Helman Tor	Notter	Berry Down?
Roughtor	Whittor	
De Lank?	St. Stephen's Beacon?	

Table 2.1: Tor shape types.

The outcrops can be divided roughly into those of a *blocky* nature (e.g. Fig 2.3) and those that are more rounded (e.g. Fig 2.4). The blocky outcrops often have fissures within them. The more rounded rocks tend to be smaller, less often earth fast and in some cases are logan stones (large rocks that can be rocked by pushing them). Some rocks also contain solution basins (Fig 2.5), bowl-shaped recesses in their tops where weathering has worn the rock away. These sometimes contain crystals. Solution basins may eventually wear completely through the rock, or the water may form a channel in the side of the rock.

These categories are not meant to provide a distinct typology of tor layouts as there is much overlap between the different types: the upper outcrop at Roughtor could be viewed as a sub-circular arrangement if divorced from the rest of the hill. Stowe's Pound might also be said to be linear as although each section of the hill, upper and lower, is rounded, the hill as a whole is linear (Fig 2.7).

The damage at Berry Down, De Lank and St. Stephen's Beacon make it difficult to firmly assign them to a group. The outcrop at Berry Down appears to be a scarp edge type, St. Stephen's Beacon is on a round-topped hill suggesting that it might have been a sub-circular site, and the De Lank enclosure is linear but it may have been a scarp-edge location before quarrying.

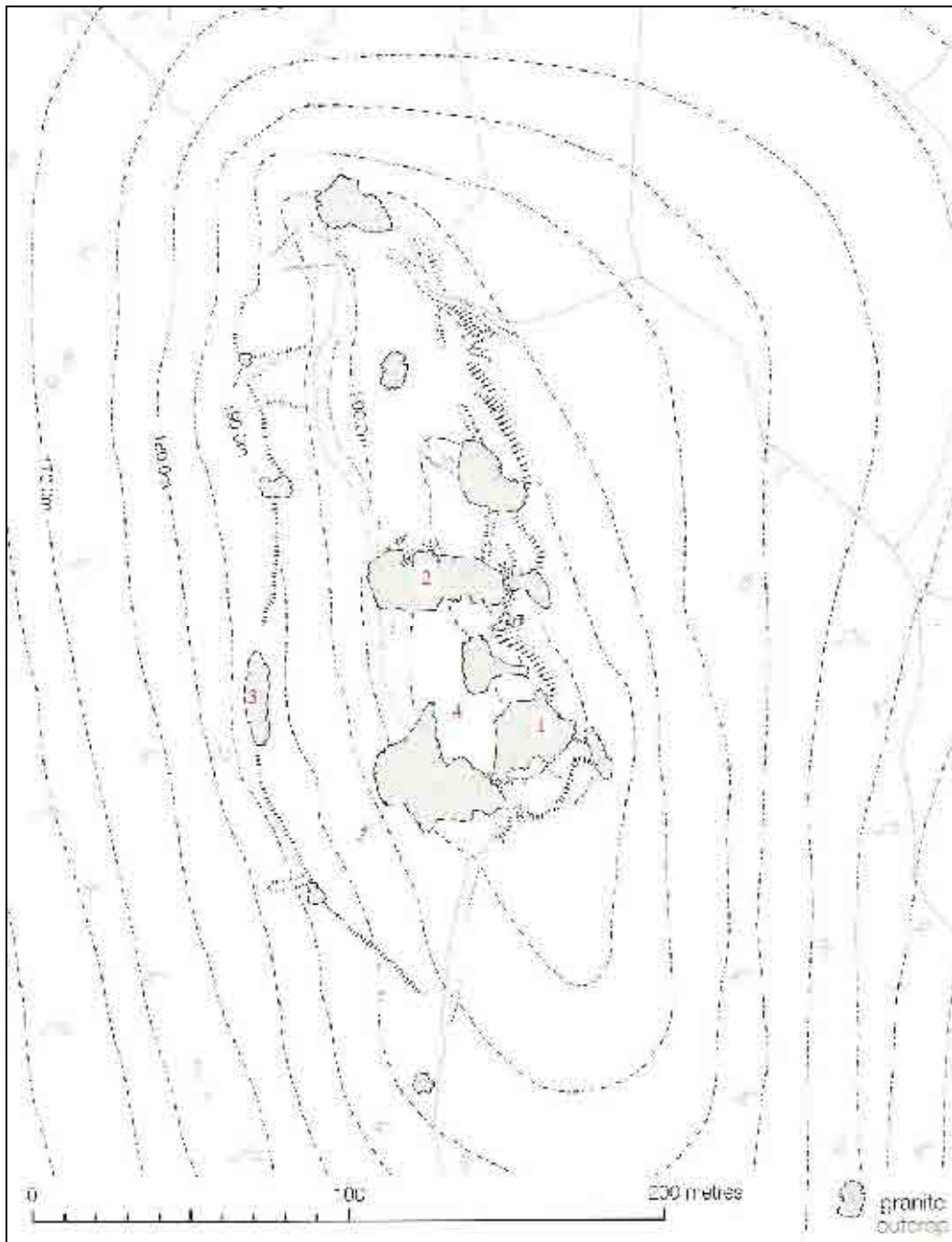


Fig 2.2: The layout of rock outcrops along the ridge at Helman Tor (adapted from Oswald et al. 2001, Figure 5.7).



Fig 2.3: Block shaped rocks at Helman Tor.



Fig 2.4: Rounded rocks at Stowe's Pound.



Fig 2.5: A solution basin at Helman Tor.



Fig 2.6: Tregarrick Tor.

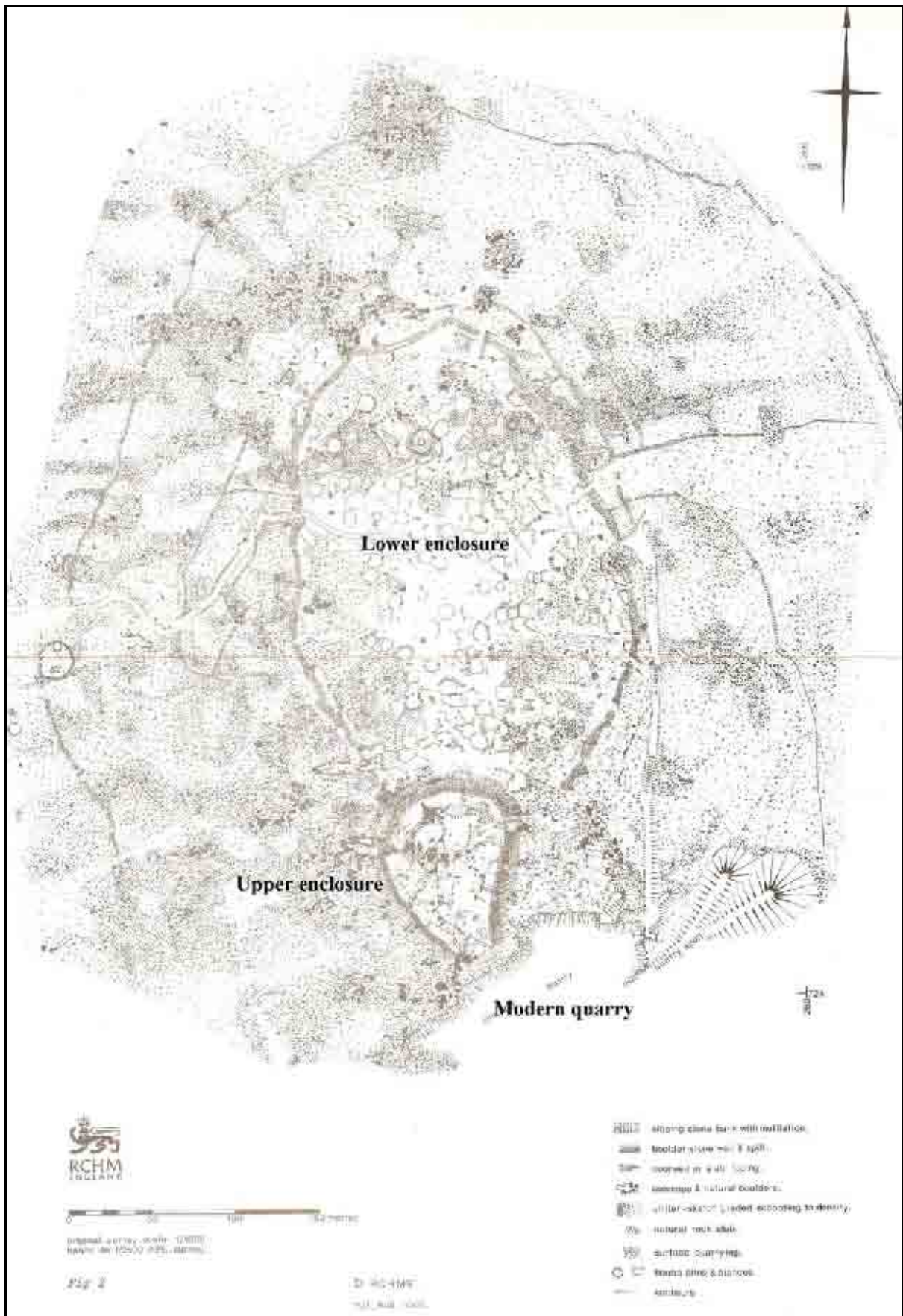


Fig 2.7: Stowe's Pound plan (adapted from Fletcher 1989, Fig 2).



Fig 2.8: Hound Tor viewed from the north.



Fig 2.9: Whittor.

Tor	Ridge alignment	Lowland direction (clockwise)
Carn Glaver	SW-NE	SW, W, NW
Carn Brea	SW-NE	NW
Helman Tor	N-S	W, N
Roughtor	SW-NE	W, NW
De Lank	NNW-SSE	W
Stowe's Pound	N-S	S, W

Table 2.2: Alignments of linear tors.

Of the linear tors and tors on linear hilltops, the alignments of the ridges are not uniformly tied to any compass point (Table 2.2). One might make a tentative suggestion that the long axis of some point off the highland, however this seems to be a consequence of the general topography rather than any desire to select specific tors with this quality. It might also be said that scarp-edge tors focus in an off highland direction by dint of the main outcrops being on crests of highland-edge scarp slopes.

Where the tors could be described as pointing in a specific direction the outcrop that directs views is often platform-like. At Carn Galver, Carn Brea and Helman Tor an outcrop at one end rises up from the ridge, has a relatively flat top and has a very sharp slope below it. At Dewerstone the much damaged main outcrop is also flat topped with a sharp drop below, and the main outcrop at Tregarrick again has a sharp drop below although the top is not as flat as the others listed.

2.1.2 Enclosure plans

The area of each enclosure is influenced to some extent by the area and layout of the tors themselves. Some of the tor enclosures have single walls such as Tregarrick, whereas others have multiple walls such as Carn Brea. Where multiple enclosures occur it can be in the form of widely spaced concentric walls, such as Helman Tor (Fig 2.2), closely spaced concentric walls such as Whittor, extended annexe walls such as Stowe's Pound (Fig 2.7) or complex arrangements of interconnecting walls such as Carn Brea (Fig 2.10).

Although the areas enclosed vary widely, the areas of the inner or main enclosure at several sites are similar, ranging between 0.75ha and 1.0ha (Table 2.3). The single enclosures at Trencrom and Tregarrick both contain an area of around 1.0ha. Roughtor may have had an enclosure now covered by the tor cairn in its upper area, if this was the case it encloses an area of under 1.0ha, however much of this was rock outcrop. It is difficult to judge the areas of Notter, De Lank and St. Stephen's Beacon due to damage to the sites. Compared to the Cornish inner enclosures the Dartmoor sites do appear larger.

Tor enclosure	Areas (cumulative areas in hectares)		
Carn Galver	0.8ha		
Trencrom	1.0ha		
Carn Brea	0.8ha, east summit	4.4ha, within W2n & W2s	12.4.0ha total + 3.2ha W6 and W7 to SE
St. Stephen's Beacon	?		
Helman Tor	0.9ha, inner W wall to E wall	1.8ha, outer W wall	+ ? ha possible outer E wall now gone
Burry Down	<2.0ha?		
Tregarrick	1.0ha		
Stowe's Pound	0.75ha upper enclosure	6.0ha lower enclosure	
Notter	< 1.0ha ?	1.0ha ?	
De Lank	0.95ha		
Roughtor	< 1.0ha 'upper' outcrop	7.5ha lower enclosure	
Whittor	2.0ha		
Dewerstone	3.0ha		
Hound Tor	1.5ha		

Table 2.3: Approximate enclosure areas where enough wall survives to estimate. Note that usable and actual areas differ due to the rock outcrops within the enclosures.

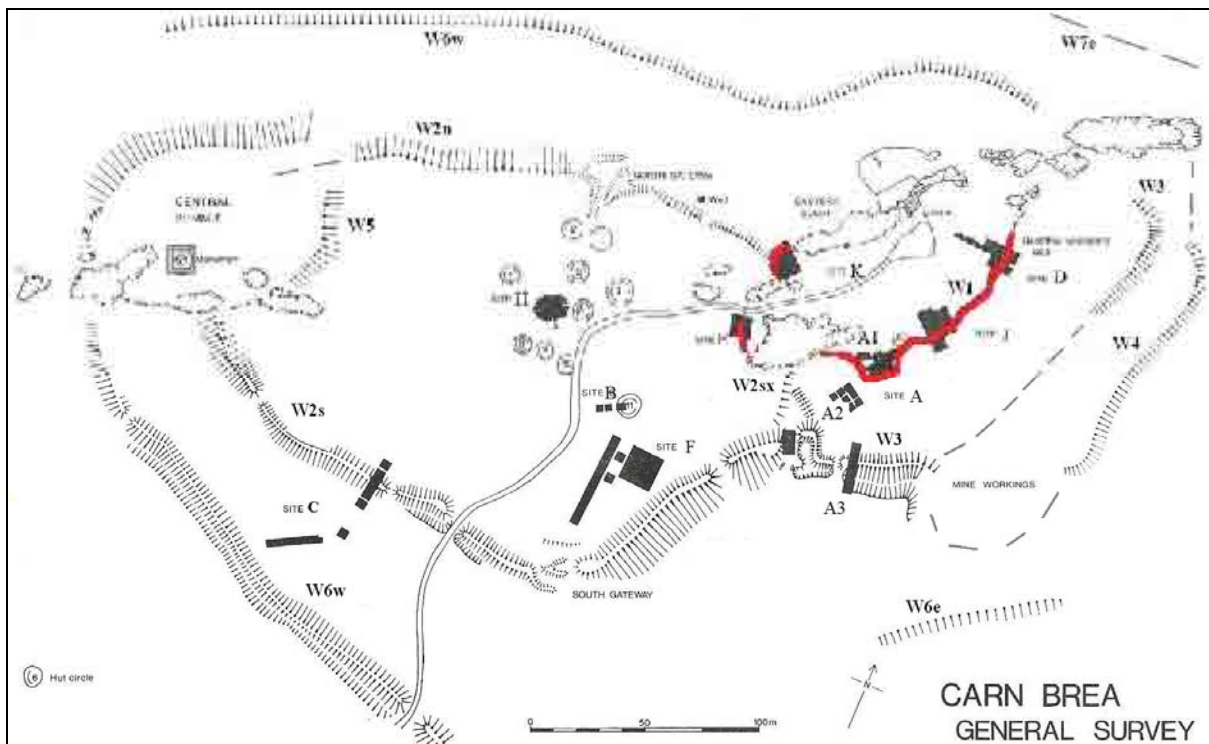


Fig 2.10: Carn Brea plan. Mercer's "Neolithic Wall" (W1) in red (adapted from Mercer 1981, Fig. 2).

When the sizes of the outer enclosures are compared, the differences start to become greater (Table 2.3). Even those with multiple wall lines span a large range of areas from 2.2ha (Whittor) up to over 15.0ha (Carn Brea).

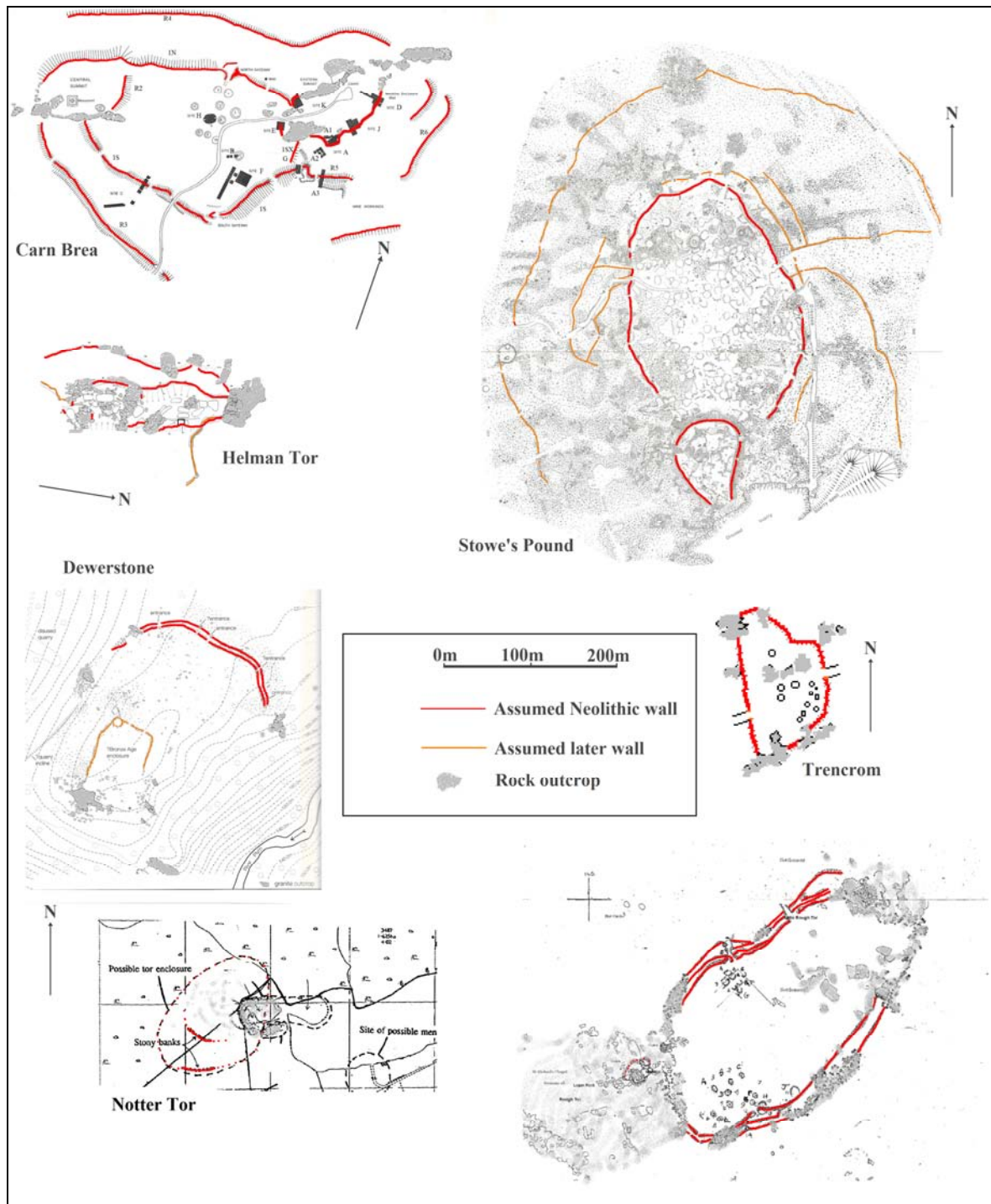


Fig 2.11: Comparison of tor enclosure plans (adapted from: Mercer 1986, Fig. 2; Fletcher 1989, Fig. 2; Mercer 1997, Fig. 2; Oswald *et al.* 2001 Fig. 5.10; Kickback Archaeology; Cornwall SMR; RCHME 1985).

In most cases, where the wall line and tors are identifiable, the walls tend to run between and link outcrops, for instance at the Stowe's Pound upper enclosure the wall links all the major outcrops that delimit the hilltop (Fig 2.7). The lower wall runs out from the upper wall, around either side of the lower part of the hilltop and links outcrops at the north end. Tregarrick differs: the wall starts and finishes at the major outcrop and takes in some lesser outcrops next to it, but for much of its line there

are no major outcrops, thus it encloses an area of land rather than linking outcrops. The same is true for the outer walls at Carn Brea: the summit walls link major outcrops, and in some places these outcrops act as barriers, substituting for walls; yet the outer walls contain few outcrops.

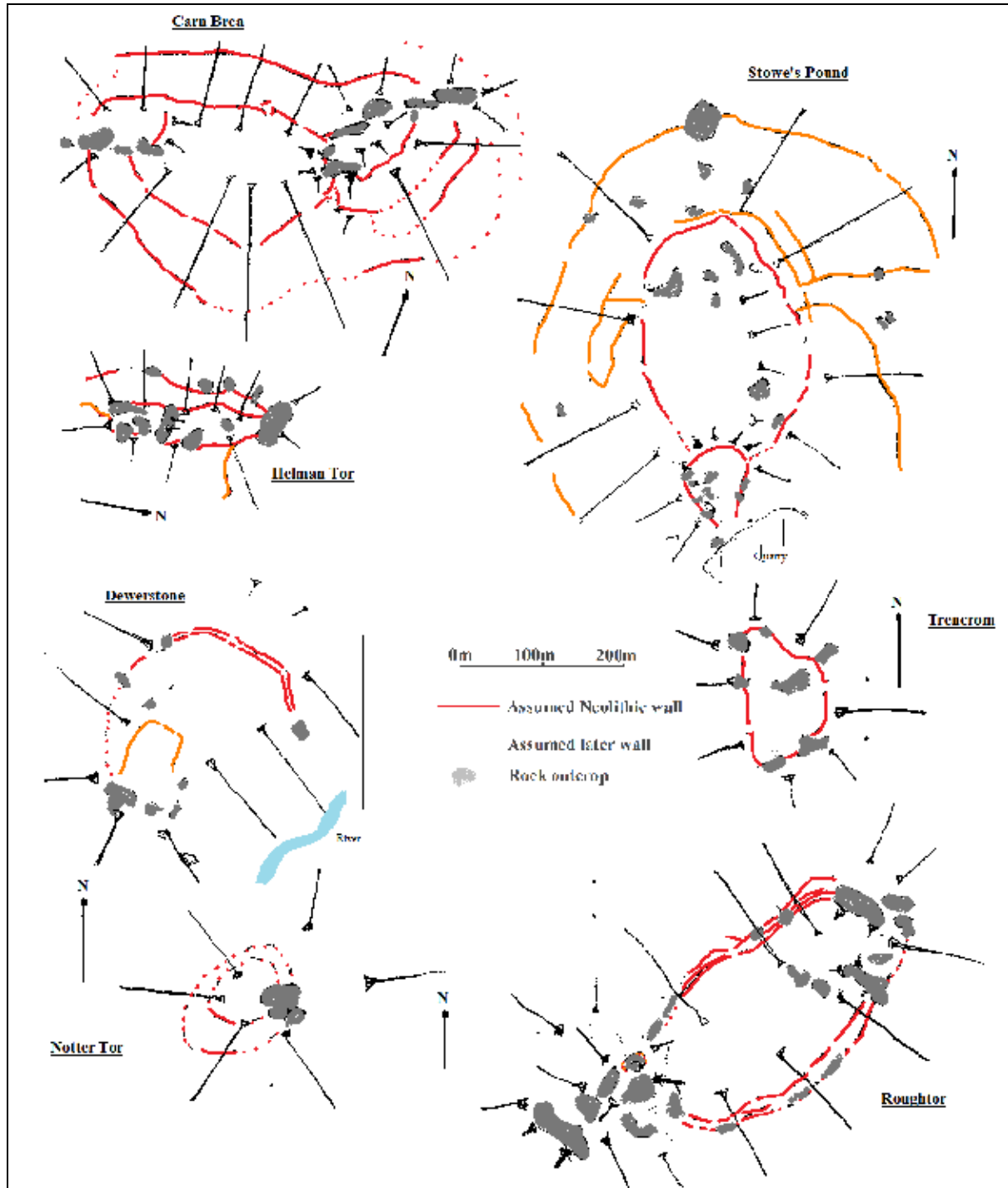


Fig 2.12: Topography of tor enclosures (adapted from: Mercer 1986, Fig. 2; Fletcher 1989, Fig. 2; Mercer 1997, Fig. 2; Oswald *et al.* 2001 Fig. 5.10; Kickback Archaeology; Cornwall SMR; RCHME 1985).

The wall lines on round-topped tors (e.g. Stowe's Pound upper enclosure) follow a line around the hilltop, roughly marking the flatter summit area. Those at scarp-edge sites run out from the rock outcrop and swing inwards across the flatter area, linking up minor outcrops at a few points. At the linear tors the wall lines do not always follow the edge of the summit: at Carn Brea, for example, wall W1 dips down from the top of the hill to incorporate a lower, flat area around Site A1 (Fig 2.10). The most direct route between the outcrops above Site A1 would have been directly along the top of the slope. At Helman Tor the inner walls on both sides are slightly below the top of the slope for considerable parts of their courses, although they do tend to follow the upper edge of the area where the slope starts to steepen.

2.1.3 Wall construction

The typical tor enclosure wall is constructed of front and rear facings of megalithic orthostats, with a boulder rubble and soil core (Figs 2.13 - 2.15). This technique can be identified at a number of sites: Carn Brea, Helman Tor, Trencrom, Carn Galver, Tregarrick, Roughtor, Stowe's Pound, De Lank and Dewerstone, although wall height varies between them. At Carn Brea the walls stood up to two metres tall. At Tregarrick, they were substantially shorter. No wall tops survive to show if they were heightened with palisades or hedges. Wall widths are commonly up to two metres at the bases. The Site A wall at Carn Brea may have been weather proofed by forcing earth and small stones into any exterior crevices (Mercer 1981, 21). This wall also has evidence for an external ditch at Sites J and D, although it was not obvious at Site A. The ditch was dug into the earth only, the bedrock was not cut into, although it was cleaned, thus producing natural causeways where the bedrock undulated (Mercer 1981, 48). Excavations at Helman Tor did not extend beyond the wall and thus do not confirm the existence of an outer ditch, though there is a slight counter bank beyond the wall near Mercer's excavated area.

The Stowe's Pound upper wall has sections of orthostatic facing similar to Carn Brea's wall W1. Over time the wall has spread outwards (Fig 2.16) and the boulder spread may conceal the original orthostats. Alternatively, a simple boulder dump technique may have been used in some sections. The outside face of the wall is still up to four metres tall in places. The lower wall is similar to the Carn Brea wall W1 (Fig 2.13). Like the Stowe's Pound upper wall, the Whittor walls contain some orthostats but the wall may be more of a boulder dump in places. The Stowe's Pound upper wall also has several areas of rough coursing. This may be post-Neolithic repair work, but rough coursing was also uncovered at the bottom of the Helman Tor east wall during excavation. Coursing can also be

found in the west wall at Helman Tor but this appears to be a later construction built upon the line and bank of the Neolithic wall.

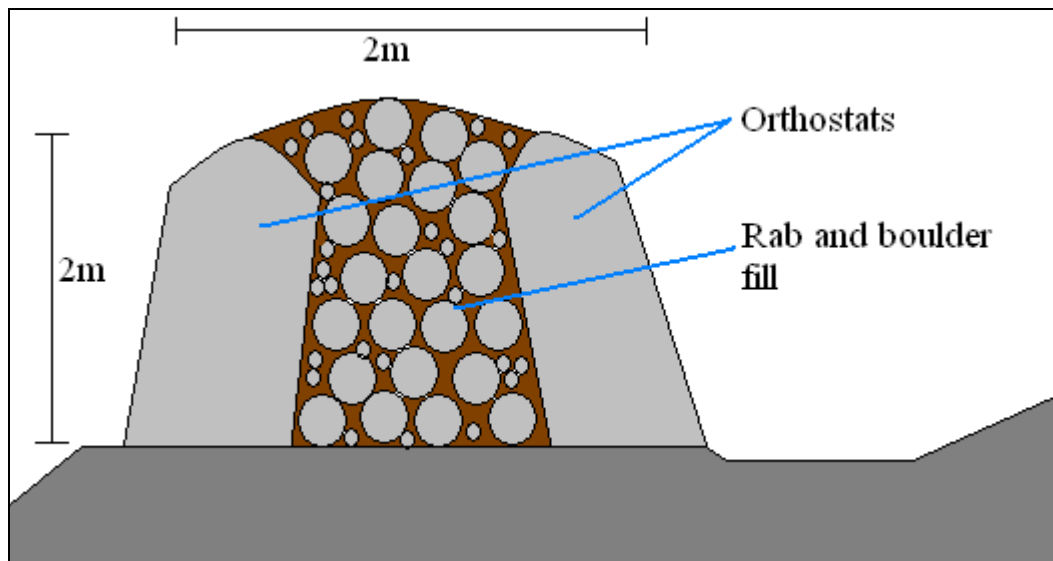


Fig 2.13: Typical tor enclosure wall construction based upon Carn Brea wall W1.



Fig 2.14: Detail of wall construction from Trencrom.

Fig 2.15: Detail of wall construction from Trencrom.

The walls at certain enclosures (e.g. Hound Tor) have declined to such states that it would require excavation to be sure of the construction method, although there are a number of large orthostat-like rocks that appear to have fallen out of the wall.

St. Stephen's Beacon is surrounded by an earthwork rather than a wall. The surviving rampart at Berry Down, also an earthwork, has been identified as a later prehistoric round due to its earthen construction and its immense height. However, where it has degraded, orthostat-like stones can be seen within it, thus there is a possibility that it may have had a Neolithic antecedent.

Carn Brea's outer walls are of varying construction techniques. W2 and the northern part of W3 are similar to W1 (2.12). Two short sections of W2s have outer ditches, one where the modern road crosses it and the other where it connects to W3. W5, around the inside of the central summit, is not as tall as W1 and has no obvious facing slabs. The W3 wall differs most (Mercer 1981, 93), being around two metres tall but up to six metres wide. The rear face is made up of orthostats but the front face only has periodic occurrences of orthostats with coursed stonework between them. There also seems to be a centre line of orthostats that is linked to the outer faces by further orthostats forming bays.



Fig 2.16: Wall spread at Stowe's Pound.

2.1.4 Entrances

Mercer (1981, 56) identified two entrances to the eastern summit enclosure at Carn Brea. At Site K a gap in the rock outcrops was paved and lined with orthostats to produce a three metre long and one

metre wide entrance passage that restricted access. Mercer sees this as a defensive “wicket” gate, although there was no sign of post holes within the gateway. Mercer (1981, 59) suggests that the main gate through wall W1 was situated immediately to the north of Site E: the same gap between the outcrops used by the modern road. This site was largely destroyed by modern blasting so Mercer did not excavate it. The abutting Site E was composed of large orthostats, possibly the walls of a main entrance. The Site K entrance is on the other side of the outcrop that marks the north edge of this main entrance. The orthostatic lining of the Site K passageway shows that it was more than just a temporary entrance, but an amount of midden material deposited within it indicates that it went out of use while the enclosure was still occupied.

The W2s wall at Carn Brea appears to have up to seven breaks in it, of which one was excavated at Site C (Mercer 1981, 90). Like the Site K passageway, the Site C entrance was long and narrow, approximately nine metres by 1.5m, and lined with orthostats but not paved; areas of bare bedrock made up part of the floor. The wall on the western side of this gateway overlaps that on the eastern side possibly indicating that the entrance was part of the original wall. Mercer (1981, 90) believes that adding gateways to such a stout extant wall would have been extremely difficult.

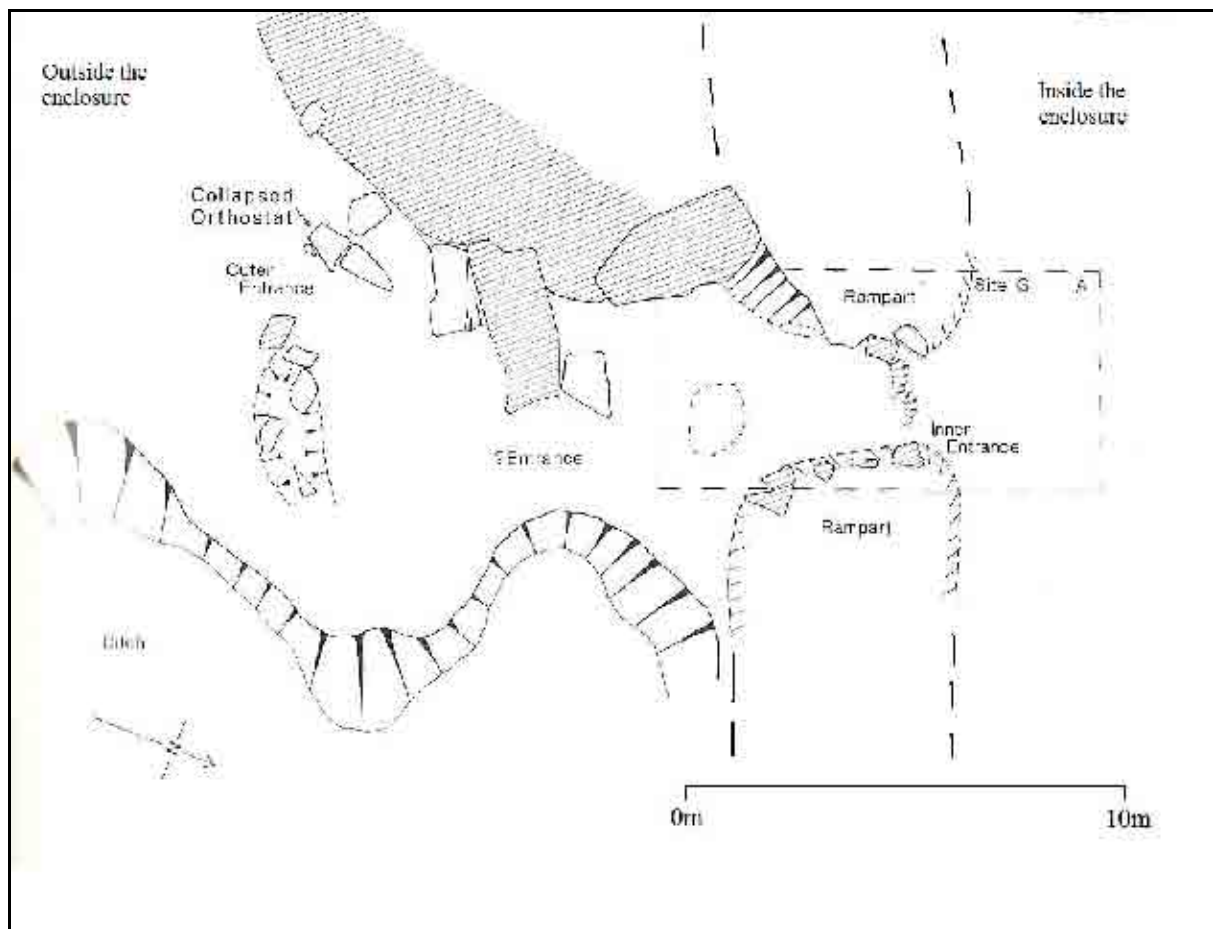


Fig 2.17: Site G gateway, Carn Brea (adapted from Mercer 1981, Fig. 45).

The entrance in W2s at Site G is perhaps the most impressive of the gateways, at around 15m long (Fig 2.17). The southern end is bounded by a 2.5m tall outcrop to the west and a similarly tall orthostat to the east. Past the orthostat, and linked to it via a bank, is the ditch for wall W3 with the western end of W3 standing beyond. The west side of the outer entrance was marked by another 2.5m tall orthostat linked to the outcrop via another bank. The gap between the orthostats would have been around 1.5m. The area in the central part of the passageway is flanked by the outcrop to the west and the ditch to the east with a reduced width of around two metres at the centre. The final tightening within the passage is marked by the third gateway which stands between the enclosure walls. The sides of this section of the passage are lined with orthostats and the ground climbs steeply through the gate. Beyond this final gateway the W2s wall becomes W2sx and runs to the large outcrop to the north, possibly suggesting that this entrance was originally only meant to allow access to the area below W1 (Mercer 1981, 95). The large northern gateway in W2n at Carn Brea has an elaborate design, is two metres wide and is associated with the hut circles, suggesting that it was post-Neolithic.

No entrances were excavated at Helman Tor and the construction of later walls makes it difficult to identify gaps in the original walls. The most obvious area for an entrance is at the southern end where the modern track runs up to the tor (Fig 2.2). Here two possible wall lines enclose an area around ten metres out from the outcrops. Between them is a gap that is aligned on the space between the outcrops. A scatter of smaller rocks that does not resemble natural clitter might have been part of an entrance structure. Two similar scatters of rock within the enclosure might represent internal gateways, or may just be the remains of ramps intended to help with the negotiation of rock outcrops. One such scatter is found on the trig point outcrop approach that could easily have been either a barrier or an aid to passage. There is a confusion of earthworks immediately north of Mercer's excavation in wall 1E (Mercer 1997). Here the modern wall cuts across the Neolithic one with further small banks above it. This area offers the gentlest slope up to the enclosure so might also represent an entranceway, but this cannot be proven without further excavation.

At a few of the unexcavated tor enclosures it is possible to make suggestions for entrance locations. Trencrom appears to have two opposed entrances that are both much wider than the assumed Neolithic ones at Carn Brea; they appear more Iron Age in character (Oswald *et al.* 2001, 159). A entrance survives at De Lank amid the quarrying damage (Herring 1991, 166). It is similar to those of Sites C, G and K at Carn Brea, being narrow and up to three metres long and having sides lined with large stones. There is a further, possibly mutilated, entrance to the north.

The upper enclosure at Stowe's Pound has two possible entrances, one to the southeast and one to the northeast, now blocked. The entrances appear simple although erosion and modern quarrying make it difficult to understand their original construction. If there was access between the upper and lower

enclosures it is now masked by the wall tumble. The lower enclosure has two main entrances, to the west and east, and up to twelve lesser ones (Fig 2.7). Due to later prehistoric and modern interference it is not possible to judge whether they are original. The two main entrances do, however, have the appearance of wider late prehistoric gateways rather than the narrow Carn Brea type.

The wall at Dewerstone has up to five possible entrances spaced relatively evenly along it which Oswald *et al.* (2001, 159) compare to the layout of a causewayed enclosure (Fig 2.18). As with other sites, the damage to the wall and entrances make it difficult to ascertain whether they were all original or, indeed, real. These entrances, like those at Carn Brea, are narrow.

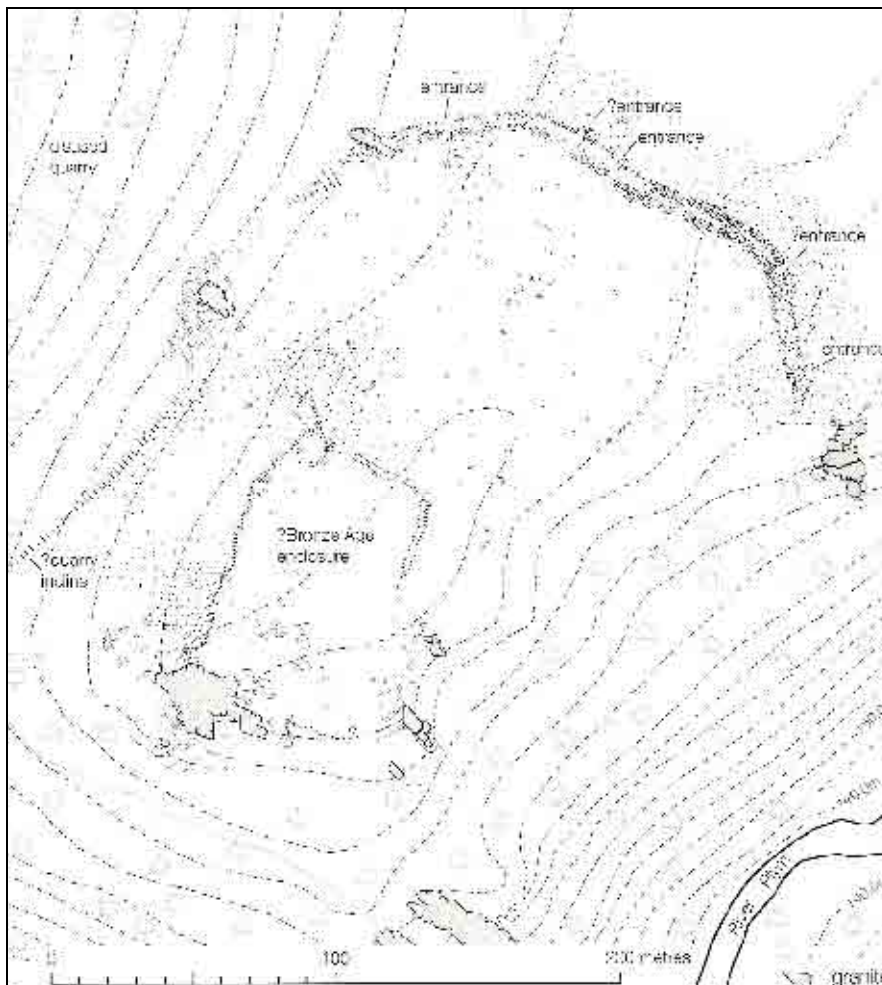


Fig 2.18: Dewerstone plan (adapted from Oswald *et al.* 2001, Figure 5.10).

Where entrances do survive there seems no consistency of direction in which they point, often being at positions where the slope below them is gentler. At multiple enclosure sites the inner enclosures appear to have, at the most, two entrances. These entrances are narrow and long, sometimes with a curve to their course. Outer enclosures, and the larger single wall sites, might have a greater number

of entrances but it is difficult to prove beyond doubt that these were Neolithic or part of the original wall construction.

2.1.5 Terraces and buildings

A number of the tor enclosure sites contain relatively flat areas that are free of clutter and sometimes have rock piled along one or more of their edges, or abut an enclosure wall. Mercer (1981, 17) suggests that there are eleven surviving terraces at Carn Brea, varying in size but averaging around twelve by five metres (Fig 2.19).

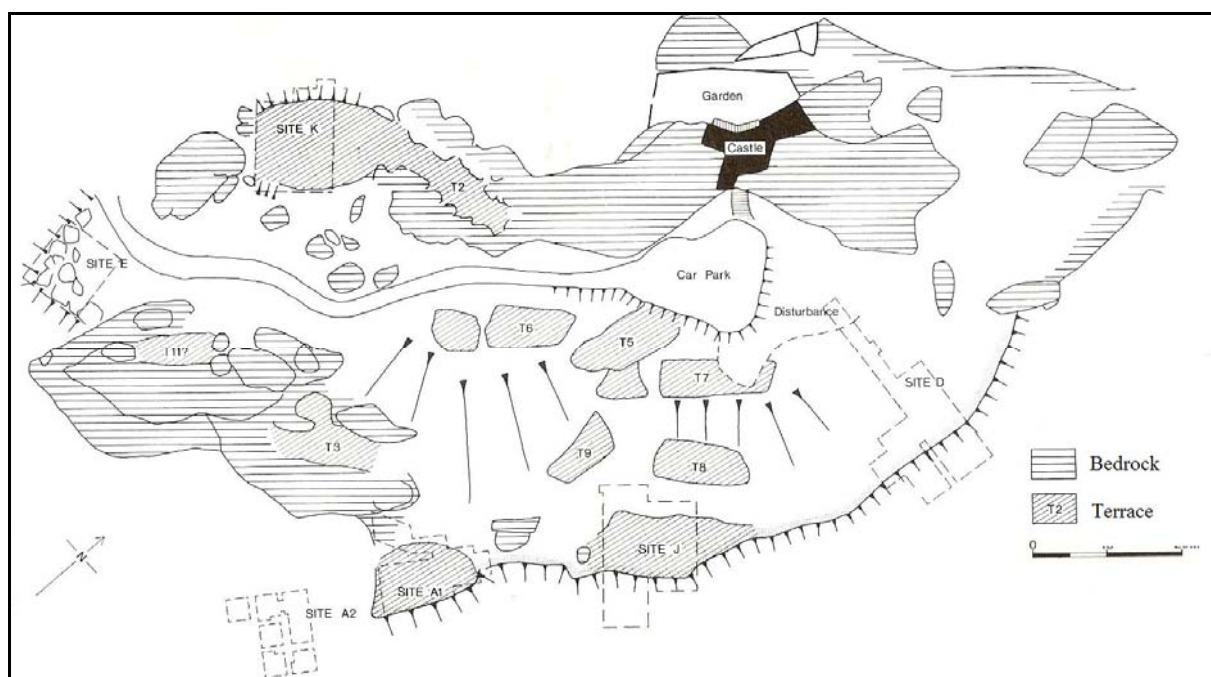


Fig 2.19: Terraces within W1 at Carn Brea (adapted from Mercer 1981, Fig. 3).

Three of these, Sites A1, J and K, contained a number of post and stake holes, but only at Site A1 was an identifiable pattern. Here the plan for a probable three by nine metre timber framed building, which used wall W1 as its eastern wall, can be seen (Fig 2.20). The structure's other wall lines are marked by a plethora of post holes suggesting either repair or complete rebuilding. Compared to the plans of many Early Neolithic timber buildings (Darvill 1996) this spread of holes seems quite unordered with no real candidates for the substantial wall-line uprights often found in buildings of this length. The southern wall end is overlain by a later section of stone wall perpendicular to W1. Around this wall is another spread of post and stake holes, two of which are good candidates for corner posts. It is difficult to identify a centre line of posts for supporting the ridge pole often found at Early Neolithic timber buildings (Davies 2009b, 58). Mercer (1981, 23) suggests that it was a lead-

to, but a thatched roof sloping down from the wall W1 would have been at ground level at its other side if its pitch were sufficient for proper water runoff. The entrance would probably have been in the slight hollow that runs through the western wall, as this area is almost devoid of posts. The hollow itself suggests that this is the most used part of the building. On the south edge of this hollow is a feature that Mercer (1981, 23) interprets as a hearth.

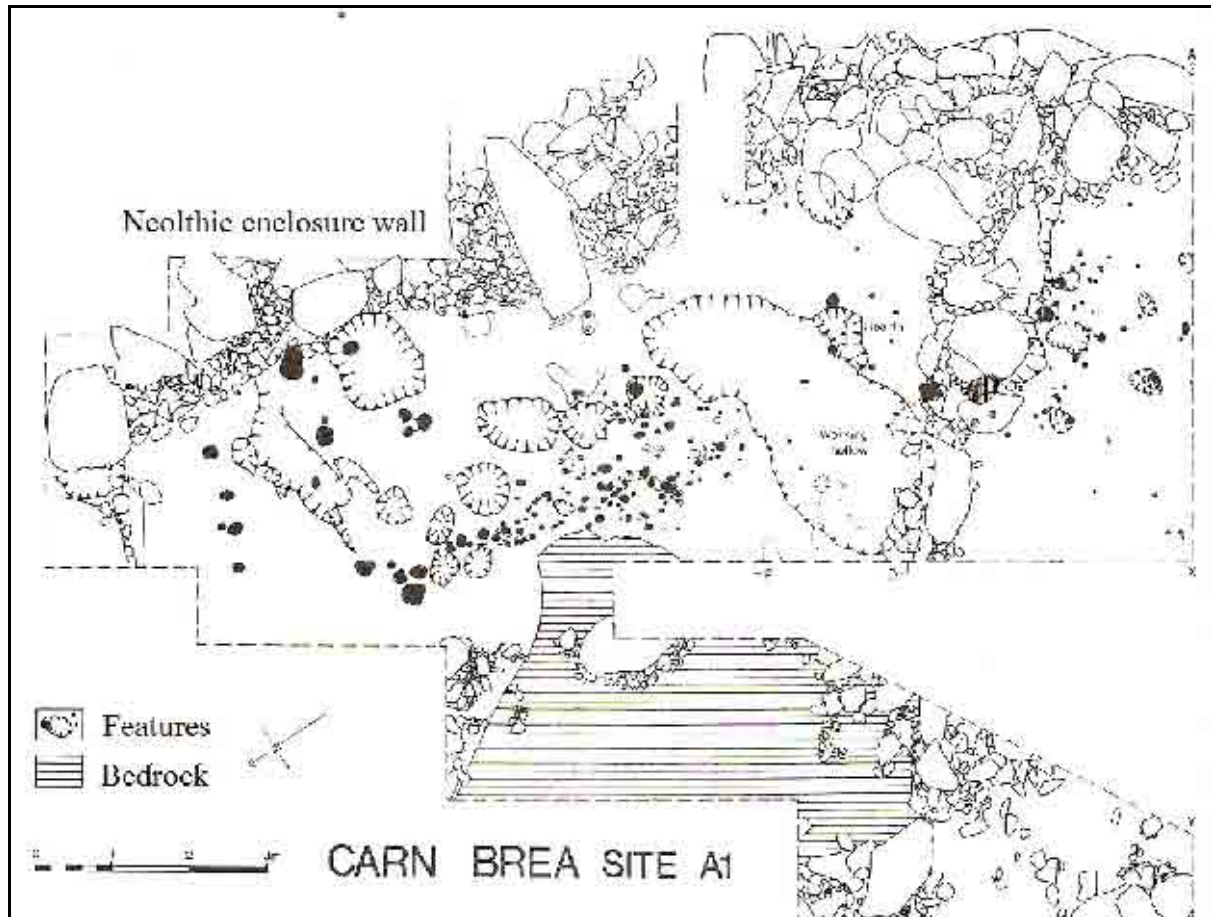


Fig 2.20: Site A1 at Carn Brea, post and stake holes of timber building (adapted from Mercer 1981, Fig. 4).

The stake and post holes at the other excavated terraces do not appear to form any recognisable building-like pattern. They may, instead, be the remains of temporary shelters such as benders, or might represent working structures such as tanning frames, storage posts or cooking frames. Beyond the eastern summit enclosure, on the saddle of the hill, are a number of hut circles with stone wall bases. These have been identified as the product of post-Neolithic occupation (Mercer 1981, 86).

Helman Tor contains 19 clutter free and moderately level terraces of which one was excavated (Fig 2.21). It contained a scatter of post and stake holes, hollows and a hearth. Three or four possible alignments of postholes run across the area but are far from convincing as building walls (Fig 7.2). If there was a building on this area then it was subject to much repair, and the floor would appear to

have been on two levels with the area immediately behind the enclosure wall being lower than that further out with the hearth in it.

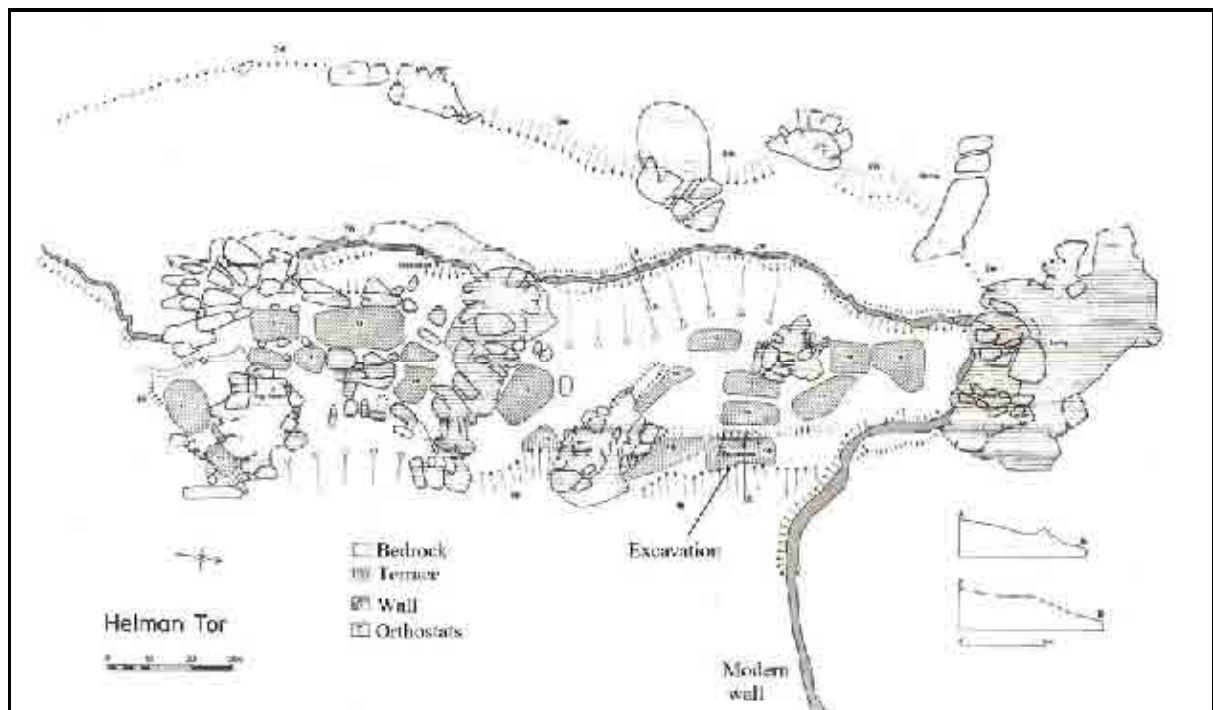


Fig 2.21: Helman Tor terraces (Mercer 1997, Fig. 2).

Several other tor enclosures contain flat, clutter-free areas. At Carn Galver they appear similar to those at Carn Brea and Helman Tor (Mercer 1997, 58). At Roughtor there are two concentrations of oval platforms along the saddle of the hill (Tilley 1995, 95) as well as two hut circles (Silvester 1978, 188). Stowe's Pound has around 110 cleared circles in the lower enclosure, but unlike Carn Brea there are no wall bases within them, thus they may have been quite early, completely wooden built structures (Fletcher 1989, 76). There are also 19 terraces, resembling those at Carn Brea. Trecrom contains hut circles that have stone walling similar to those at Carn Brea, but no identified terraces. Whittor contains hut circles with low walling as well as cleared areas. Dewerstone has a hut circle connected to the inner wall that is thought to be post-Neolithic (Oswald *et al.* 2001, 88).

Several of the enclosures also contain round barrows. Roughtor has a tor cairn around the main outcrop and Whittor has three: two perimeter outcrops and a central one. Stowe's Pound has a number of cairns and earth mounds within the lower enclosure. Several tor enclosures, such as Helman Tor, also contain prop-stones. These are large boulders that have been manipulated to point in a certain direction and often propped in place with lesser rocks.

2.1.6 Development

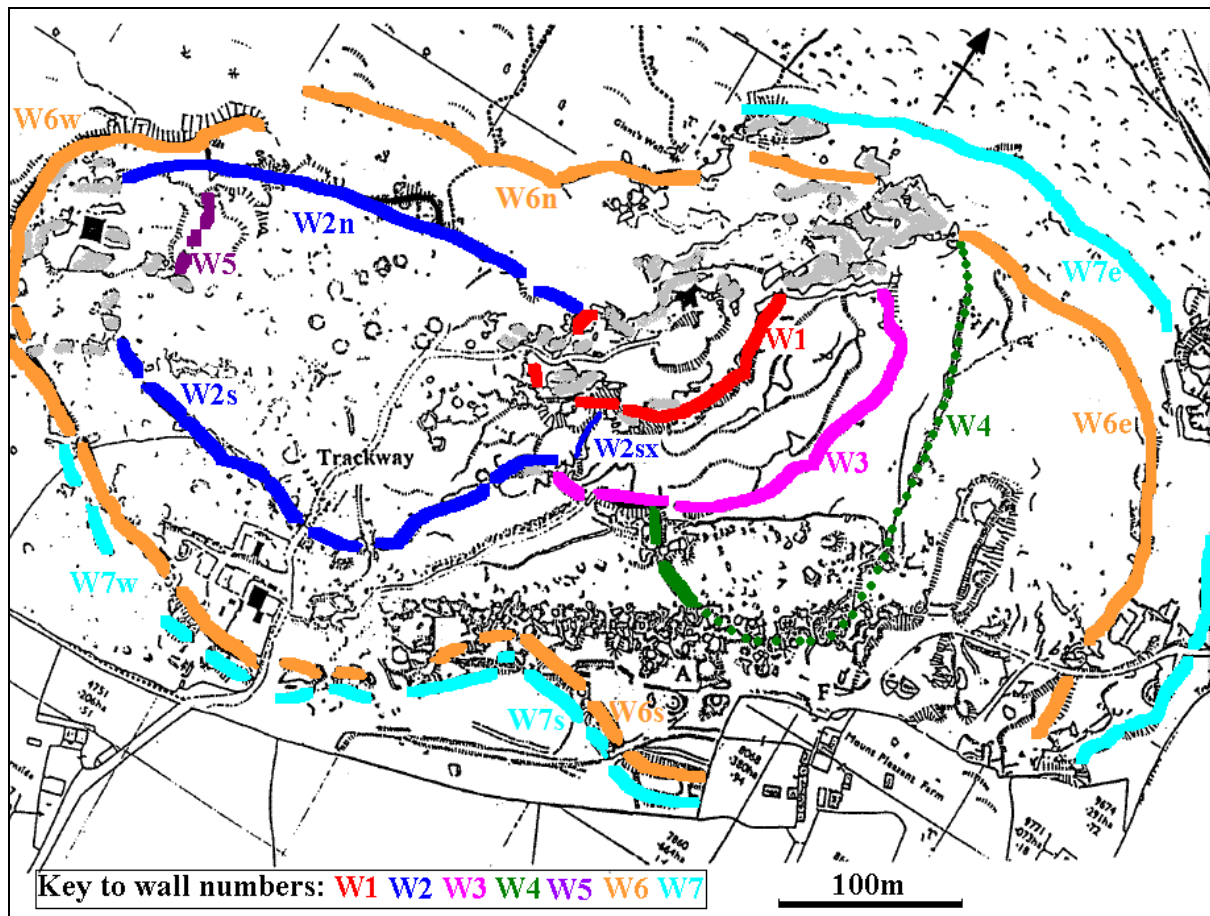


Fig: 2.22: Carn Brea - suggested construction sequence (adapted from Jones 1991, Fig. 22). See Table 2.4 for cross reference of wall numbers to Mercer's system.

Wall number	Mercer 1981, fig.2.
W1	Eastern Summit Wall / Neolithic Wall
W2n	1n
W2s	1s
W2sx	1sx
W3	R5
W4	R6
W5	R2
W6w	R3
W6n	R4
W6e	-
W6s	-
W7w	-
W7e	-
W7s	-

Table 2.4: Carn Brea - wall labelling cross reference to Mercer's system.

Carn Brea is undoubtedly the most complex tor enclosure, consisting of both concentric and annex walls. Hogg (1975, 161) suggested four stages of construction (Table 2.5). Mercer (1981, 9) doubts

this sequence; the amount of material culture and number of post and stake holes located within wall W1, compared to that just outside it and on the saddle of the hill, would suggest that this was the area of most concentrated activity. Mercer favours an inside to out sequence, but his plan misses some walls recorded by Sharpe (in Jones 1991, Fig. 22), thus Shape's plan is used here and the walls have been renumbered to suit (Fig 2.22 and Table 2.4).

Phase	Walls
1	Central summit: W ends of W2n and W5
2	Saddle: W2n and W2s
3	Eastern Summit: W1
4	Outworks: W6 and W7

Table 2.5: Carn Brea - Hogg's (1975, 161) construction sequence.

A tentative phasing structure is shown in Table 2.6. W1 is favoured as Phase 1 due to the intense activity within and the elevation of its western end. W2n and W2s come next: as shown in Fig 2.23 they appear to run directly into the central summit and terminate past its other walls. If they were later than the other walls, it is likely that they would terminate at them. If control of movement was an important aim then W2s may have been built before W2n as, being on the gentler slope, this has more impact on movement. W2sx is included here as it links W2s with W1 but it maybe that W2s carried on as W3; the former option produces a plan similar to Stowe's Pound. W5 is a tentative Phase 2a as it appears to postdate W2n and W2s but in reality it may have been built in any of the later phases.

Phase	Walls
1	Eastern summit: W1
2	Saddle: W2n and W2s, W2sx?
2a?	Central summit: W5
3	East of eastern summit: W3
4	East of eastern summit: W4
5	Outworks: W6
6	Outworks: W7

Table 2.6: Carn Brea - alternative construction sequence.

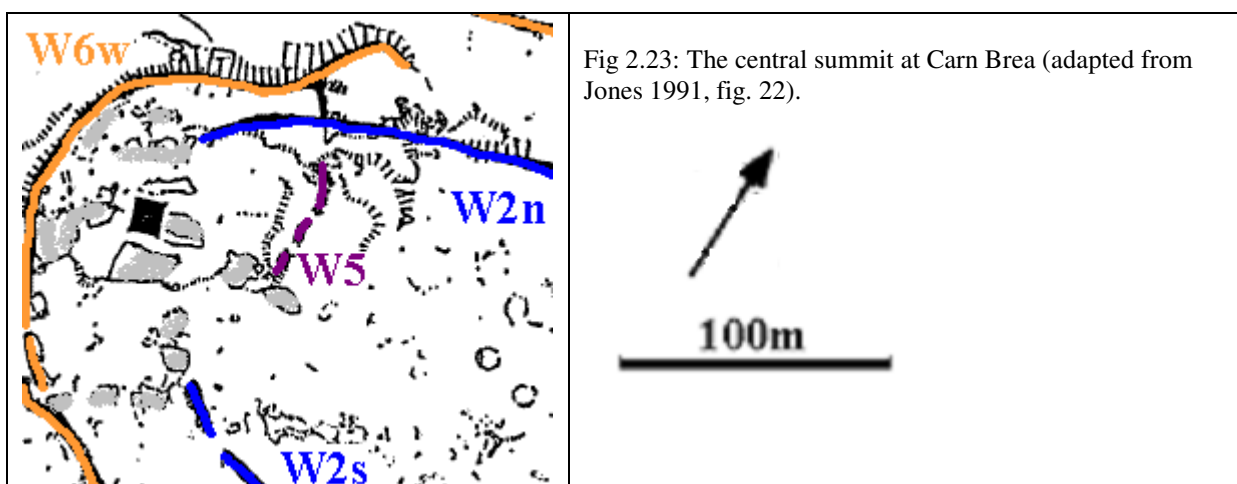


Fig 2.23: The central summit at Carn Brea (adapted from Jones 1991, fig. 22).

The way that W4 diverges away perpendicularly from W3 suggests that W4 is the later of the two. The alignment of W6 would suggest that it is all part of the same wall, although given its size it may have taken more than one season of construction to complete. The dogleg in the southern section might suggest that the southwestern part of W6 ran into W4 in the disturbed area, but the sudden change in direction is more likely due to the contours of the hill. That W6 bulges outwards to the south of W4, to remain parallel, further suggests that it is later than W4. The true form of the northwestern section of W6 is still questionable as it does not appear to link up near the central summit. W7 is placed last in the sequence, being the furthest out. Its southern part may have been part of the same phase as W6 as it is close and follows a parallel course. However, to build two such gigantic walls in a single phase would have been an ambitious undertaking.

This sequence does, to an extent, assume that there is a progression over time, starting at the centre of the site and moving out. Such assumptions have been questioned in the case of concentric causewayed enclosures (Oswald *et al.* 2001, 75; Whittle *et al.* 2008, 67), but for the tor enclosures this assumption seems safer. A major concern in placing the walls was to link natural rock outcrops, and at Carn Brea, Helman Tor and Stowe's Pound the shorter, inner and/or upper enclosure linked more outcrops than the outer walls did. The further out the wall, the fewer outcrops were incorporated. Thus, it may be that the outer walls that do not link outcrops were a later development at Carn Brea.

Wall	Man hours	Example of actual time based on group size of around 300 people working 10 hour days
W1	31,000	30 days
W2n & W2s	101,000	100 days possibly over two years
W6	200,000+	Several years of seasonal work

Table 2.7: Carn Brea - estimated wall construction times based upon Mercer (1981, 66; 100).

The inner walls at Carn Brea would have required less effort to build than the outer as they were both shorter and smaller (Table 2.7). Completion within a single year might be a possibility for walls W2n and W2s, but the support personnel needed for such an undertaking would have had to increase dramatically once stored and locally available provisions and resources were exhausted. Thus, one is left with the conclusion that wall W1, being the least ambitious and linking the greatest number of rock outcrops, was built first. The outer walls were built last and either there was a dramatic increase in the labour available or they were built in sections, or quite possibly both. The sectional construction argument might explain why there were a number of entrances through W6w and W2s. If each section was synonymous with a particular period of work, on beginning the next section a discrete gap might have been left between it and the last, which then became a gateway. Alternatively the gateways might merely have been placed at recognised pathways across the site.

Roughtor, Whittor and Dewerstone have closely spaced concentric wall lines. This design would often seem to have no practical advantage as the space between the walls was sometimes minimal, being less than one metre in some cases. Even at Whittor where the outer wall does diverge from the inner to the east, the rest of the outer wall follows the inner closely, so building the eastern section as an annexe, connected to the inner like Stowe's Pound, would have taken less effort for an equal space gain. The Dewerstone walls are so close that they may actually represent two faces of a single wall but there is little evidence for fill between them. The proximity of some of these wall lines might indicate replacement of a tumbled wall by a new wall. However, it would have been easier to build on top of the existing wall line, thereby utilising the sections still standing and reducing effort. Indeed, one might have expected the older wall to have been robbed to provide orthostats for the new wall, but given the amount of each wall that survives this does not seem to be the case. Thus, one must conclude that either all the wall lines stood at the same time and the occurrence of closely-spaced multiple lines was not for practical reasons, or that old, damaged wall lines were respected and left untouched when new walls were built, much as circuits of some causewayed enclosures were avoided by new cuts, for instance Crickley Hill Phase 1d (Dixon 1988, 75-8). The former theory is supported by the Roughtor evidence where different wall lines are linked by cross walls in some places, indicating that both walls must have been extant at the same time even if they were not built as one action.

Moving megalithic orthostats around the hill would have been difficult and moving them across an already extant wall with narrow entrances would have been more so. Thus, it is probable that if a new wall was built inside an existing one, the rock for its construction would have come from inside the enclosure. Similarly, building beyond an existing wall would have required the raw material to be sourced from outside the enclosure. As it would have been easier to drag orthostats downhill the easiest way to build the Roughtor walls would have been to construct the outside lines first. Indeed, if there was an increase in activity in the enclosed area, it may have led to large boulders and clutter being moved outwards to make the cleared areas. An amount of debris would have accumulated inside the first wall and its similarity to that wall might have led it to being built into a formal wall, as happened at Dakota Indian dance areas where the cleaning of the centre led to an encircling bank which was later regarded as an integral part of the site (Spector 1993, 118-121). Conversely, building new walls within the outer ones would have eaten away at the space available inside, should the enclosure have seen intense activity. At the inner enclosure at Whittor it would have been easier to build the inner wall first: the area within was smaller than that at Roughtor, thus providing a smaller area from which to acquire building materials. The other alternative that must be considered is that all of the wall lines were built as part of the same phase of activity. Referring to Mercer's calculations for Carn Brea (above), it is unlikely that complete circuits at Roughtor were built as a single event, although this might have been possible at Whittor or Dewerstone. If the walls were built in sections

then there is no reason why each section should not consist of more than one line. At all three sites the wall lines are of a similar design and building in this way would have made moving the raw materials around the area easier. But this suggestion does infer that the overall layout of each site was planned from the start.

The other two sites with multiple walls, and where the bulk of the wall lines can still be discerned, are Helman Tor and Stowe's Pound. Stowe's Pound is similar to Carn Brea with the upper, smaller enclosure wall linking more outcrops, and the longer lower enclosure wall running out from it. It differs from Carn Brea in that the upper wall is much more substantial than the lower. The outer walls at Stowe's Pound, well down the slope from the lower enclosure, are generally regarded as much later due to their design and the area enclosed (Fletcher 1989, 75).

On the west side of Helman Tor one would assume that the upper wall (1W and 2W), which links more outcrops and defines the hilltop, is earlier than the outer (3W, 4W, 5W and 6W). On the eastern side there is only one surviving Neolithic wall (1E and 2E) although Mercer (1997, 11) postulates the possibility of a lower one to mirror the lower wall of the western side. Helman Tor also contains a cross wall and a line of large boulders that appear to have been placed by human action (Tony Blackman pers. comm.) to separate the ridge into further subdivisions. Both are undated, although a prop-stone in the latter might indicate a prehistoric date (*ibid.*).

2.2 Locations in the physical and cultural landscape

All but one of the suspected tor enclosures are situated on areas of granite highland. The exception is Whittor, which is on the interface between the granite and an area of dolerite. Although the actual elevation range is quite wide, even for those near each other, the majority are situated at an elevation that is superior to the average for the surrounding 100 square kilometre area due to their highland-edge locations (Table 2.8). De Lank is much nearer the average but is substantially above the mode for the area. Views from all enclosures have wide vistas in the lowland direction but are variable in the highland direction.

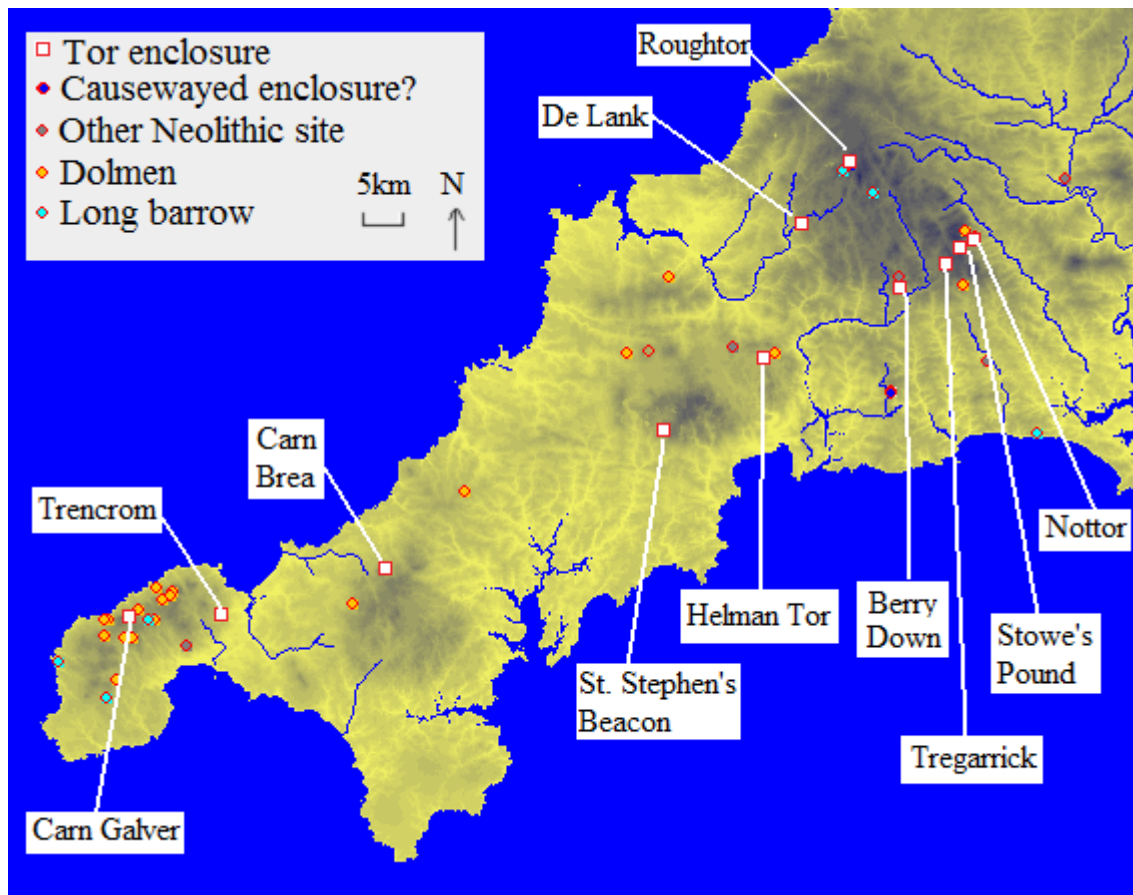


Fig 2.24: Early Neolithic sites in Cornwall.

Tor Enclosure	Elevation (m OD)	Ave / mode for study area (m OD)
Carn Galver	250	120 / 100-120
Trencrom	150	90 / 60-80
Carn Brea	210	110 / 80-100
St. Stephen's Beacon	210	110 / 80-100
Helman Tor	200	120 / 120-140
Berry Down	280	180 / 120-160
Tregarrick	320	180 / 240-280
Stowe's Pound	380	180 / 120-160
Nottor	280	180 / 120-160
De Lank	180	170 / 100-140
Roughtor	400	220 / 240-280
Whittor	470	320 / 160-200
Dewerstone	220	180 / 80-100
Hound Tor	390	250 / 260-300

Table 2.8: Elevations in the 10²km study area (mode figures are based upon 20m or 40m bands).

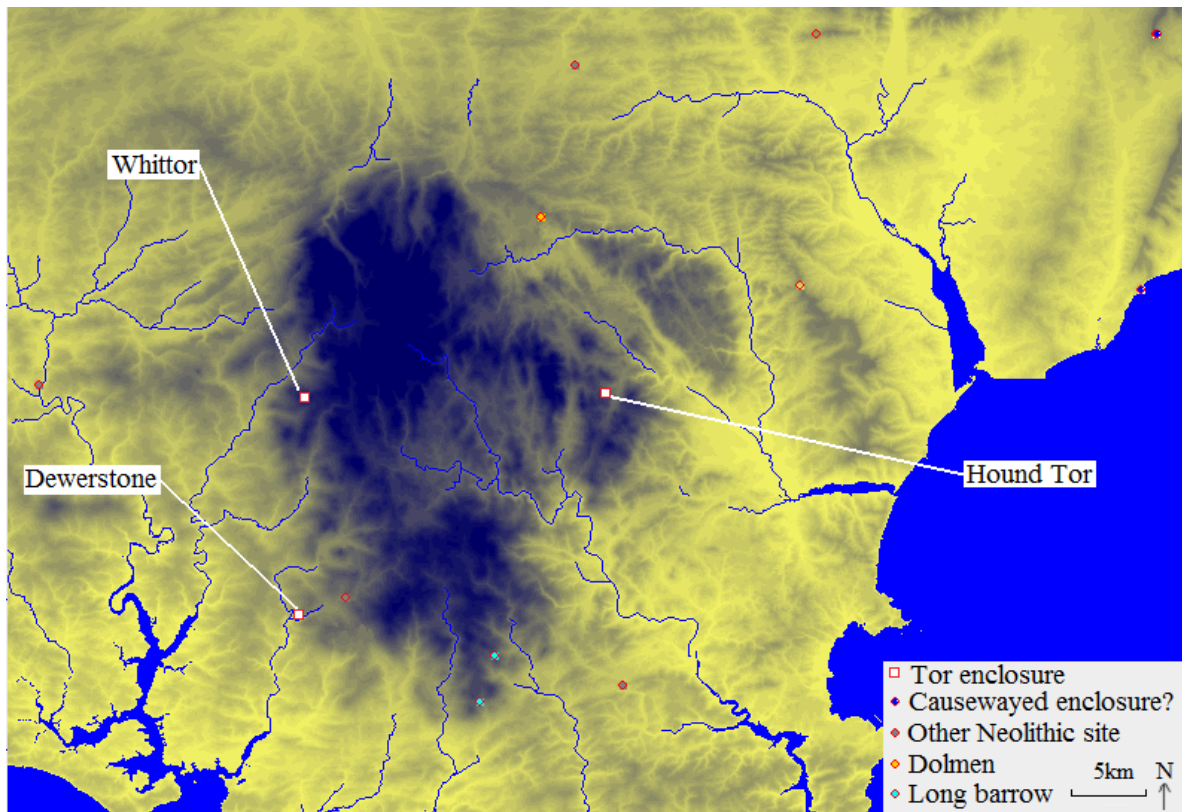


Fig 2.25: Early Neolithic sites around Dartmoor.

None of the tor enclosures are far from the sea (Table 2.9), although only five have reasonably expansive views of the sea. The closest is Carn Galver, within 2km of the coast, but is separated from it by cliffs. Trencrom is remarkable for being one of the few places in the country where the Bristol Channel/Irish Sea and the English Channel can both be seen. No tor enclosure is more than 1km from a watercourse, however this is also generally true for the surrounding areas (Table 2.10). De Lank and Dewerstone have rivers flowing around their hill's bases.

Tor Enclosure	Distance to sea (km)	Good view of sea?
Carn Galver	2	Y
Trencrom	3	Y
Carn Brea	6	Y
St. Stephen's Beacon	8	Y
Helman Tor	9	N
Berry Down	17	N
Tregarrick	17	N
Stowe's Pound	18	N
Notter	20	N
De Lank	10	N
Roughtor	11	N
Whittor	26	N
Dewerstone	12	Y
Hound Tor	21	N

Table 2.9: Distance and views of sea.

Tor enclosure	Distance (km) to nearest watercourse	Average distance (km) to nearest watercourse for study area
Carn Galver	1.0	0.7
Trencrom	0.5	0.8
Carn Brea	0.6	0.6
St. Stephen's Beacon	0.5	0.7
Helman Tor	1.0	0.9
Berry Down	0.7	0.7
Tregarrick	0.8	0.7
Stowe's Pound	0.8	0.7
Notter	0.8	0.7
De Lank	0.7	0.2
Roughtor	0.8	0.7
Whittor	0.6	0.6
Dewerstone	0.1	0.9
Hound Tor	1.0	0.6

Table 2.10: Distance to nearest watercourse in the 10²km study areas.

The southeast edge of Bodmin Moor has the only close grouping of tor enclosures, the others tend to stand in relative isolation (Table 2.11). Several of the enclosures appear to have relationships with potential Neolithic tombs (Table 2.12). The number of dolmens in West Penwith makes it possible that this is coincidental for Carn Galver, but the paucity and position of tombs in the rest of Cornwall, most located within 5km of an enclosure, suggests that there was an intentional relationship. It may also be that the immense changes due to the china clay industry around the St. Austell moorlands have removed further tombs. There are no proven tombs near the Dartmoor tor enclosures, although place name evidence suggests the possibility that this was not always so (Baring-Gould 1900, 56).

Tor enclosure	Nearest other tor enclosure	Distance to nearest other tor enclosure (km)
Carn Galver	Trencrom	9
Trencrom	Carn Galver	9
Carn Brea	Trencrom	17
St. Stephen's Beacon	Helman Tor	13
Helman Tor	St. Stephen's Beacon	13
Berry Down	Tregarrick	5
Tregarrick	Stowe's Pound	2
Stowe's Pound	Notter	2
Notter	Stowe's Pound	2
De Lank	Roughtor	7
Roughtor	De Lank	7
Whittor	Dewerstone	15
Dewerstone	Whittor	15
Hound Tor	Whittor	20

Table 2.11: Distance to nearest tor enclosure.

Tor enclosure	Nearest tomb	Tomb type	Distance (km)
Carn Galver	Bosporthennis	dolmen	1
Trencrom	Zennor Quoit	dolmen	5
Carn Brea	Carwynnen	dolmen	3
St. Stephen's Beacon	Quoit	dolmen	8
Helman Tor	Lanivet	dolmen	1
Berry Down	Trethevy	dolmen	6
Tregarrick	Trethevy	dolmen	3
Stowe's Pound	Bearah Common	dolmen/long cairn	2
Notter	Bearah Common	dolmen/long cairn	1
De Lank	Louden	long cairn	6
	Swallow Water Common	long cairn ?	5
Roughtor	Louden	long cairn	1
Whittor	Buttern Hill	long cairn ?	15
Dewerstone	Corringdon Ball	long cairn	13
Hound Tor	Spinster's Rock	dolmen/long cairn	13

Table 2.12: Nearest tomb.

Several, although not all, tor enclosures are near sources of greenstone potentially used for axe heads (Table 2.13). As yet, none of these possible quarries have been definitely proven. The tor enclosure sites have an average of 4.7 distinct underlying geologies within 5km (Table 2.14). This appears greater than a sample of random points taken across the southwest, but not significantly different to the figures for other suggested Neolithic sites in the region (Table 2.15).

Tor Enclosure	Possible greenstone source	Distance (km)
Carn Galver	Gurnard's Head - Grp. I	3
	Zennor Head - Grp. I	4
Trencrom	Gurnard's Head - Grp. I	8
	Zennor Head - Grp. I	7
	St. Erth - Grp. XVII	4
	St. Ives - Grps. II, IIa, V & XIX	4
	Mount's Bay - Grp. I	6
	Cambourne - Grp. XVI	8
Carn Brea	Cambourne - Grp. XVI	3
St. Stephen's Beacon	St. Austell - Grp. XVII	7
Helman Tor	St. Austell - Grp. XVII	11
Berry Down	Balstone Down - Grp. IV	15
Tregarrick	Balstone Down - Grp. IV	11
Stowe's Pound	Balstone Down - Grp. IV	10
Notter	Balstone Down - Grp. IV	10
De Lank	W of Devil's Jump - Grp. ?	5
Roughtor	W of Devil's Jump - Grp. ?	7
Whittor	Balstone Down - Grp. IV	21
Dewerstone	Tamar Estuary - Grp. ?	16
Hound Tor	-	-

Table 2.13: Relationships with nearest possible greenstone source(s) and the axe head groups that they may be associated with.

	Carn Galver	Carn Brea	De Lank	Dewerstone	Helman Tor	Hound Tor	Berry Down
Granite	0 (1.6)	0 (0.3)	0 (<.1)	0 (0.5)	0 (0.5)	0 (1.5)	0 (0.2)
Greenstone (Dolerite)	2.0	3.9	1.0	5.2*	11.0/2.4*	2.6*	5.2
Mid Devonian	2.0		<0.1		5.0		0.2
Mylar Slate	1.8	0.3					
St. Erth Formation							
Unnamed Igneous - Feltsite		1.1		2.6			0.3
Meadfoot Formation					0.5		
Dartmouth Group					5.1		
Upper Devonian				0.5		4.5	
Lower Carboniferous + Chert						2.3	3.7
Carboniferous Limestone							
Devonian Lava + Tuf				5.9			
Crackington Formation						1.5	
Bovey Formation						4.6	
Total within 5km	4	4	3	3	3	6	5
	Notter Tor	Roughtor	Stowe's Pound	Tregarrick	Trencrom	Whittor	
Granite	0 (.2)	0 (1.8)	0 (0.8)	0 (1.9)	0 (.3)	1.1	
Greenstone (Dolerite)	2.6*	5.0	3.5*	2.9*	3.0	0 (<.1) *	
Mid Devonian		3.5		3.8			
Mylar Slate					0.3		
St. Erth Formation					1.5		
Unnamed Igneous - Feltsite	0.7		0.25	1.9	2.2		
Meadfoot Formation							
Dartmouth Group							
Upper Devonian	0.83	1.8	0.8	2.0		4.3	
Lower Carboniferous + Chert	0.2		0.9	2.0		0 (<.1)	
Carboniferous Limestone	2.9		4.8			3.4	
Devonian Lava + Tuf							
Crackington Formation						3.5	
Bovey Formation							
Total within 5km	6	4	6	6	5	6	

Table 2.14: Distance (km) to each type of geology from each tor enclosure. *Dolerite not identified as a possible greenstone axe source. Figures in brackets indicate how far into that particular geology the site is.

Within (km)	Tor enclosures	Possible causewayed enclosures	Other potential Neolithic enclosures and occupation sites	Random points	Random hills
1	2.15	3.0	2.6	1.3	1.5
2	3.0	3.4	3.2	1.9	1.8
3	3.69	4.0	3.6	2.4	2.1
4	4.2	4.2	4.5	3.1	2.7
5	4.69	4.8	4.7	3.4	3.2
6	4.92	5.2	5.4	3.8	3.8

Table 2.15: Average number of hard geologies proximate to tor enclosures, causewayed enclosures, other enclosures and sites, random points and random hills in southwest.

2.3 Material culture

2.3.1 Pottery

Mercer's (1981) excavations at Carn Brea produced large amounts of Early Neolithic pottery, representing at least 550 vessels (Smith 1981a, 161). The vast majority of these belong to the Hembury Ware / Southwestern Style of pottery, and can be described as deep bag-like or shallower open bowls, many with lugs (some quite fancy such as tubular or trumpet designs), with plain or carinated rims and virtually no decoration on the pot sides (Smith 1981a, 176). The gabbroic clay used was from the Lizard Peninsular, around 27km away, despite the availability of local clays (Peacock 1969, 148). The pottery was divided into three groups based upon the quality of the fabric, inclusions and smoothness of surface: 44% of the total assemblage was found to be fine ware, 39% medium, 14% course and the remaining 2% unidentified (Smith 1981a, 163). A number of the vessels had a black coating. On some, especially the coarse ware sherds, the coating appears to have rubbed off in places. It was not clear whether this coating was applied intentionally or was a by-product of the manufacturing technique, although on a few vessels the patterning might imply that it was deliberate (Smith 1981a, 172). Sites A1, D and K appear to have the largest concentrations of ceramic material, but only a small amount were from secure contexts (Mercer 1981, 71). Nonetheless, the differences in vessel numbers and vessel types across the site might indicate that some areas saw greater attention than others or that different areas were subject to different activities (Table 2.16).

This style of pottery, made from gabbroic clay, has been found throughout the southwest, including the major sites of Helman Tor, High Peak, Hembury, Hambledon Hill, Haldon and Hazard Hill, as well as at many smaller sites (Peacock 1969, 148; Smith 1981a, 176), and occurs as far east as Windmill Hill and Robin Hood's Ball in Wiltshire, and Maiden Castle in Dorset (Peacock 1969, 148; Gibson & Woods 1990, 179). On non-enclosed sites in Wessex the pottery is much less likely to be of gabbroic clays and thus these imported vessels may not represent a trade resource or movement through trade networks, but may have had a place in specific ceremonial activities (Thomas 1999, 102).

Type	A1	A2	D	E	J	K	Ave
Cups	0.3	0.03	0.03	0.03	0.02	0.03	0.07
Carinated Bowls	0.55	0.06	0.53	0.03	0.03	0.34	0.26
Lugged bowls	0.28	0.04	0.09	0.03	0.03	0.03	0.08
Totals	1.13	0.13	0.65	0.09	0.08	0.40	

Table 2.16: Ceramics - vessels per 1m² excavated from secure contexts in eastern summit enclosure, Carn Brea (Smith 1981a).

At Helman Tor the ceramic assemblage represented a minimum of 90 vessels (Smith 1997, 29) (Table 2.17), from four different fabrics (Smith 1997, 31). The forms of the vessels found tend to correspond to those from Carn Brea and the Southwestern Style: smaller cup-like pots, larger open pots with plain or carinated rims and, on a number of vessels, lugs, including trumpet lugs (Smith 1997, 32). A small number of the gabbroic and the Red Moor vessels had decoration incised onto them, and the black coating is found on vessels from all four groups (Smith 1997, 33).

The huts at Whittor were examined in 1899-1900 by Baring-Gould and were found to contain a small number of ceramic sherds which were only dated as “Prehistoric” and “Medieval” (Baring-Gould 1900, 97; Devon SMR). Associated with them, in one hut, was found a small amount of slag (*ibid.*). An unnamed source suggests that a post-Neolithic Tevisker Ware urn may have been recovered from one of the cairns at Stowe’s Pound (Fletcher 1989, 75).

Fabric	Number	Percentage	Comments
Gabbroic	23	24	Cups, carinated and non-carinated bowls, lugged bowls dishes. The Lizard is around 65km from Helman Tor
Local – Red Moor	64	65	Cups, carinated and non-carinated bowls, heavy containers.
Local – to east of tor	7	7	Inclusions of angular white quartile – rough surfaces. Non-carinated bowls, heavy containers.
Local	4	4	High quality, mostly carinated bowls.

Table 2.17: Ceramics from Helman Tor (Smith 1997, 29-31).

2.3.2 Lithic artefacts: axe heads

Probable source / type	Carn Brea	Helman Tor	Trencrom
Grp. I (Mount’s Bay)	(2) & 2	(1)	
Grp II (St.Ives)			(1)
Grp. IV (Balstone Down)	2		
Grp. V (source unknown)			(1)
Grp. XVI (Camborne)	(7 – 10) & 4 – 8		
Grp. XVII (St. Austell or St. Erth)	(1) & 1	(1) & 1-2	
Unidentified	(1) & 14		
Minimum number	38	3	2
Maximum number	45	4	2
Tuff	1		
Sandstone	1		
Flint axe heads	6+	2+	

Table 2.18: Stone and flint axe heads from Carn Brea, Helman Tor and Trencrom (Smith 1981b, 154-5; Saville 1981, 138-9; Mercer 1997, 57; Saville 1997, 48; Roe 1997, 53). Numbers in brackets denote surface finds.

Stone axe heads have been found at Carn Brea, Helman Tor and Trencrom from surface finds and the two excavated sites also produced axe heads or fragments from Neolithic contexts (Table 2.18). No other tor enclosure has produced an axe head from the immediate area.

A small number of the Carn Brea collection might be unfinished roughouts although it is equally likely that their apparent unfinished state is due to weathering (Smith 1981b, 154). Sites A1, A2, A3, D, E, J and K all produced at least one fragment of a greenstone axe head, with sites A1 and D having the most, potentially mirroring the pottery distribution to some extent (Table 2.16) and occurring on the sites with the most post or stake holes.

2.3.3 Lithic artefacts: flint

Worked flint was found at Helman Tor and all sites at Carn Brea, with the main concentrations in areas A1, D and K, as with the ceramics, but little was from secure contexts (Saville 1981, 102; 1997, 39). The tool types within the assemblages are similar to those found at causewayed enclosure sites in Wessex, typical of the Early Neolithic. The tools appear to be smaller than those found on the chalk, which Saville (1981, 144) suggests is due to a tradition of knapping small tools from beach pebbles. What is remarkable about the Carn Brea excavation assemblage are the 751 leaf-shaped arrow heads which far exceeds any other tool type. These were found across the eastern summit but were especially common at sites A1, D, E, J and K (Saville 1981, 102). Their occurrence at A1, D and K follows the general trend found with the lithic and ceramic assemblages, but their occurrence at site E, lower in both lithic and ceramic material, has been interpreted as demonstrating the possibility that the eastern summit enclosure's entrance was the subject of attack (Saville 1981, 145). Twenty leaf-shaped arrow heads were found at Helman Tor, making this the second most represented tool type, with edge trimmed flakes the most common (Saville 1997, 39). The percentage of arrow heads in the total assemblage is less than at Carn Brea, but it must be remembered that the Helman Tor assemblage is from a single area. When compared to site D at Carn Brea, for instance, the arrow head percentage is not markedly dissimilar, and the number of leaf-shaped arrowheads as a percentage of the total assemblage is still significantly higher than most Neolithic enclosure sites elsewhere (Saville 1997, 50). At both sites there were low numbers of scrapers and an absence of serrated edge flakes which seems contrary to the general trends of southern English Neolithic assemblages (Saville 1997, 52).

An amount of non-Neolithic flint was found at Carn Brea including nine microliths, probably Mesolithic, and a couple of barbed and tanged arrowheads, probably Bronze Age (Saville 1981, 111). Around two thirds of the identifiable flint cores at Carn Brea and three-quarters at Helman Tor were from chalkland nodules, the remainder were from beach pebbles or unidentifiable (Saville 1981, 107;

1997, 40). The enclosures' locations would suggest that beach pebbles were the more accessible source. The nearest non-beach source is Beer in Devon, 145km from Carn Brea. There are also small chert assemblages at both enclosures, at least some of which were knapped on site, possibly from Portland or Broome (Saville 1981, 109; 1997, 40).

A number of flint artefacts were found at Whittor within the hut circles, but these have now been lost (Silvester 1979, 188). Baring-Gould's (1900, 99) description suggests that knapping took place on site but gives little detail of the tool types beyond pointing out that no arrowheads were found. At St. Stephen's Beacon a small scatter of flints was found including an end scraper similar to those found at Carn Brea (Herring & Smith 1991, 18).

2.3.4 Other Lithic artefacts

Portable axe polishers (two of quartz and one of Grp. XVI stone) were found during the Carn Brea excavations, as were two saddle querns and three grain rubbers (Smith 1981b, 154). The greenstone polisher, possibly a reused axe head, was found buried in the socket hole of an orthostat in wall W3 (Smith 1981b, 155). Most of the others were found on site D with one saddle quern, the Grp. XVI polisher and one grain rubber on site B (Smith 1981b, 157).

Two axe rubbers (one of greenstone and one of sandstone) were found at Helman Tor, the greenstone possibly being a reused axe head (Roe 1997, 53). No querns or grain rubbers were discovered from the limited excavation area.

2.4 Dating

2.4.1 Radiocarbon dates and material culture evidence

Although the new technique of Bayesian analysis has been applied to a few sites in the southwest, suggesting the first appearance of Neolithic material was between 3900 and 3690 cal BC (95% probability) or 3870 and 3730 cal BC (68% probability) (Bayliss *et al.* 2008, 35), it has yet to be applied to the radiocarbon dates associated with the tor enclosures.

Suggested dates are given for elements of Carn Brea in Table 2.19. It should be noted that these are from "block charcoal" and so may be from already old wood. There are no radiocarbon dates for walls other than W1 at Carn Brea, thus any other suggested dates must be based upon material culture associated with them and their construction techniques (Fig 2.26). Undisturbed Neolithic deposits

behind W2s at Site C are suggestive only, as it is possible (but not probable) that the wall might have been built without disturbing them. Mercer made no excavations of walls W6, W4 or W7 and so no judgement based upon material culture can be made.

Wall: Site	Date	Comments
W1:D	3900-3650 cal BC (BM-825: 3049 +/- 64 bc)	Block charcoal, post hole, Layer 4, Site D. Wall bounds the layer so must have been standing by this date (Mercer 1981, 63)
W1:E	3600-3350 cal BC (BM-824: 2747 +/- 64 bc)	Block charcoal, Layer 4, Site E. Sealed by fallen stones from the wall (Mercer 1981, 63).
Site A2	3530-3310 cal BC (BM-823 2640 +/- 90 bc)	Charcoal in scoop beyond W1 - no direct relationship with the wall (Mercer 1981, 63).
W1	Early Neolithic	Range of Early Neolithic material from sealed contexts against wall on all excavated sites.
W2s: C	Early Neolithic	Undisturbed scatter of flints behind wall - would have been disturbed if wall built after deposition (Mercer 1981, 99).
W2s: G	Early Neolithic	Unabraded sherds of Neolithic pottery in socket of one of gateway orthostats (Mercer 1981, 100).
W3-W2s: A3	Early Neolithic	Unabraded Early Neolithic pottery and greenstone fragments in the primary silting of the ditch (Mercer 1981, 99).
W3: A3	Early Neolithic	Unabraded greenstone implements in an orthostat socket and Neolithic deposits behind wall undisturbed (Mercer 1981, 94).
W3:A3	Pre-Iron Age	Iron Age pottery found only in the final fills of the ditch (Mercer 1981, 94).
W2s W3	Early Neolithic	Walls contained no Neolithic material - given the amount of material scattered across the site, a post-Neolithic construction date for the walls would have been expected to cause some to be incorporated into the wall.
W2n	Early Neolithic	Structural similarities with walls W1 and W2s suggest built in same period.
W3	Early Neolithic	Structural similarities with walls W1 and W2s suggest built in same period. However, these are some differences.

Table 2.19: Dates from Carn Brea. Radiocarbon dates were calibrated using the MASCA curve to two standard deviations.

The radiocarbon dates for Helman Tor are shown in Table 2.20, and, unlike those from samples at Carn Brea, are from “small wood”. The disparity between HAR-8820 and HAR-8821 might suggest that either the site was in use over a long period or that at least one of the dates is questionable. If the latter, then the other radiocarbon dates for the site must also be treated with caution. Likewise, one would expect the feature (HAR-8822 & HAR-8823) that cut Layer 6 (HAR-8819) to be later not earlier. Mercer (1997, 22) suggests that it is HAR-8819 that is at fault as it was bulk sampled from the top of the layer and was not from a discrete and closed feature as with the other two. Thus HAR-8822 and HAR-8823 give an *ante quem* date for Layer 6 and the wall. The pottery finds support these Early Neolithic radiocarbon dates with unabraded sherds coming from Layer 6 in quantity and also from Layers 8 and 9, the earliest layers, including a whole carinated bowl of the Southwestern Style smashed *in situ*.

No radiocarbon dates have yet come from other tor enclosure sites. Pottery and lithics were retrieved from the huts at Whittor but have subsequently been lost. Baring-Gould's (1900, 97; Devon SMR) description of the flints is not diagnostic and the pottery is described only as "hand-made cooking vessel type".

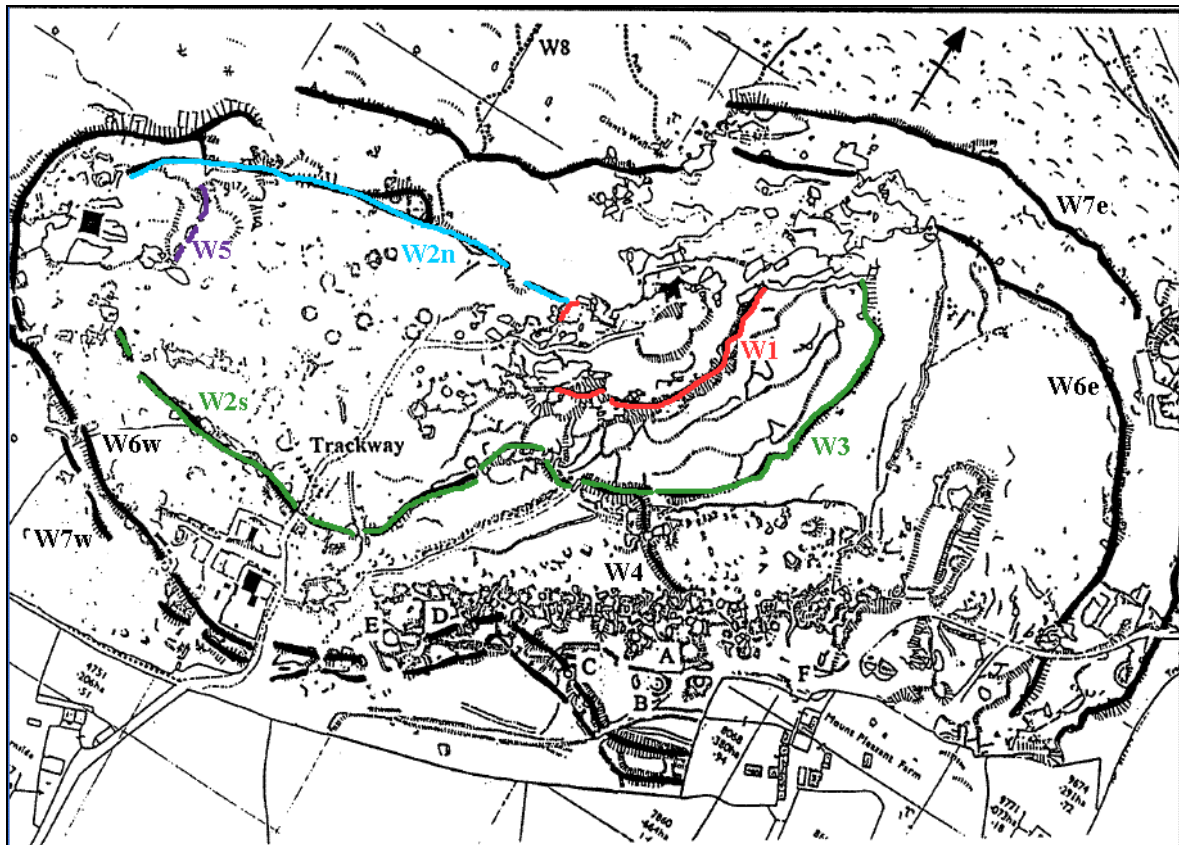


Fig 2.26: Dating Carn Brea. Red- dated by radiocarbon dating. Green- dated by material culture and structure. Blue- dated by structure and inference from W2s. Purple- dated by structure. Black - undated. (adapted from Jones 1991, fig. 22).

Location	Date	Comments
Layer 4	3970-3370 cal BC (HAR-8818: 4880 +/- 120 bp)	Post hole.
Layer 4	3345-3040 cal BC (HAR-8820: 4490 +/- 70 bp)	Hearth.
Layer 4	2920-2700 cal BC (HAR-8821: 4240 +/- 70 bp)	Hearth.
Layer 6 (?)	3350-3100 cal BC (HAR-8819: 4530 +/- 60 bp)	Top of layer abutting wall. Mercer (1997, 22) questions reliability.
Post layer 6	3650-3380 cal BC (HAR-8822: 4790 +/- 70 bp)	Hearth that cuts layer 6.
Post layer 6	3640-3380 cal BC (HAR-8823: 4570 +/- 70 bp)	Hearth that cuts layer 6.

Table 2.20: Dates from Helman Tor (Mercer 1997, 21).

2.4.2 Dating based on comparisons between tor enclosures

Comparison of the enclosures' structures shows an amount of uniformity that might suggest they are roughly contemporary. As Section 2.1.2 showed, the Cornish enclosures at single wall sites and the inner enclosures on multiple wall sites tend to enclosure around 1ha. Walls faced with orthostats and filled with rubble are found at Carn Brea, Helman Tor, Trencrom, Carn Galver, Tregarrick, Roughtor, Stowe's Pound, De Lank and Dewerstone (Section 2.1.3). The remains of the Hound's Tor walls might suggest orthostatic construction, however without excavation it is difficult to be sure. Parts of the Whittor walls appear to consist of a rubble dump, not unlike parts of Stowe's Pound. St. Stephen's Beacon clearly has a different constructional design. Berry Down has orthostats within the later earthen bank. Few of the sites have entrances that can be proven to be original. The surviving De Lank entrance is very similar Sites C and K at Carn Brea. The multiple narrow entrances at Dewerstone also hint towards the Early Neolithic. Several enclosures contain clutter free terraces as found at Carn Brea and Helman Tor, but without fully understanding the nature of these it is difficult to use them as a dating marker. The hut circles at Whittor, Trencrom, Stowe's Pound, Roughtor and Dewerstone may be later additions as at Carn Brea.

It would seem probable that those with structural similarities (above), and similar landscape locations (Sections 2.2 & 2.5), were of a similar date to the proven Early Neolithic sites of Carn Brea and Helman Tor. As yet no tor enclosure has been proven to be post-early Neolithic, although the lack of excavation at most has to be taken into account.

2.4.3 Comparison with later prehistoric enclosures

A further method of identifying which period tor enclosures originated from is to compare and contrast with the locations and structures of the later prehistoric enclosures in the southwest.

Elevation

Tables 2.21 and 2.22 show that the majority of tor enclosures are situated at a greater elevation than all of the later prehistoric enclosures local to them, be they hillforts or the southwestern small enclosed settlements known as rounds and pounds. The exceptions are De Lank and Trencrom. Trencrom is on the highest tor in an area of relatively low land compared to that of the other tor enclosures, thus it would not have been possible to build a tor enclosure at a greater elevation in that area. De Lank could have been built on a higher tor in the local vicinity, but this would have moved it away from the river (see Section 2.5.3 below).

Location	Elevation
Carn Brea	215m
Prospidnick hillfort	160m
Local rounds av.	160m
Local area av.	125m
Helman Tor	195m
Local hillforts	120m & 140m
Local area av.	115m
St. Stephen's Beacon	210m
Local later prehistoric enclosures av.	170m (max 195m)
Local area av.	150m
Roughtor	375m
De Lank	175m
Stowe's Pound	370m
Notter Tor	270m
Tregarrick	290m
Berry Down	280m
Rounds on edges of Bodmin Moor av.	175m
Berry Castle hillfort (on granite)	250m
Hillforts beyond the granite av.	170m (max 215m)
Bodmin Moor av.	220m
Trencrom	160m
Local rounds av.	130m
Castle An Dinas hillfort	220m
Local area av.	85m
Carn Galver	220m
Local hillforts	100m & 210m
Local rounds av.	170m
Local area av.	150m

Table 2.21: Elevation comparison between tor enclosures and other prehistoric enclosures in Cornwall. Local areas are based upon a 10km² study area around the site, apart from Bodmin Moor which is taken as a whole. It should be noted that some tor enclosures, such as Berry Down, St. Neots, might also be counted as "hillforts" due to later prehistoric construction there.

Rounds and pounds are most likely to be found on hill slopes and thus are rarely on the area's highpoints even if they are above the wider area's average elevation due to being on the granite. Around Bodmin Moor and on Dartmoor the hillforts tend to be placed on high points within their immediate areas but are rarely on the granite, so are generally well below the elevation of the tor enclosures.

Location	Elevation
Whittor	460m
Local rounds/pounds av.	225m (max. 300m)
Local area av.	350m
Hound Tor	390m
Local hillforts av.	250m (max. 330m)
Local area av.	250m
Dewerstone	225m
Local hillforts av.	125m
Local area av.	175m

Table 2.22: Elevation comparison between tor enclosures and other prehistoric enclosures in Devon. Local areas are based upon a 10km² study area around the site, apart from Bodmin Moor which is taken as a whole. It should be noted that some tor enclosures, such as Dewerstone, might also be counted as "hillforts" due to later prehistoric construction there.

Location and Geology

Apart from on the Penwith peninsula, where the builders had little choice but to build on granite geology, and apart from the re-use of several tor enclosures, the locations of only two enclosures of post-Neolithic origin resemble those of the tor enclosures: Berry Castle and St. Dennis. The rest are either situated on hill-slopes, such as the rounds and pounds, or at much lower elevations, often well off the granite. Given the great number of later prehistoric enclosures in the southwest, that only two of them are built in sites similar in geology and elevation to those selected for tor enclosures, Trencrom notwithstanding, it would seem that tor enclosures are a different category of site.

Proximity to watercourses

Here the term “watercourse” is taken to refer to rivers and moderate or larger streams. Lesser watercourses are discounted as more likely to be modern, “tinner’s” streams for example, or to have shifted course due to peat formation. Table 2.23 compares the tor enclosures and post-Neolithic enclosures in and around Bodmin Moor with regard to proximity to a water course. Apart from De Lank, even taking into account the fact that the tor enclosures are on the highlands and the majority of hillforts are not, there seems to be a distinct difference with regard to proximity to watercourses for the tor enclosures and at least one group of hillforts. That the average for unenclosed tors around Stowe’s Pound is much nearer the 400m hillfort grouping demonstrates that it was possible for tors closer to water to be selected if that were a criteria.

Bodmin Moor area enclosures	Distance to watercourse
Area Average	690m
Stowe’s Pound, Tregarrick and Notter Tor	800m (av)
Unenclosed tors near Stowe’s Pound	540m (av)
Rough Tor	700m
De Lank	< 100m
Other hillforts on and around Bodmin Moor	400m & 1km + (avs)

Table 2.23: Proximity to watercourses on and around Bodmin Moor. Note: the distribution of post-Neolithic hillforts tends to cluster into two distinct groups.

On and around Dartmoor, it can also be suggested that access to watercourses was more important for the hillforts than for Whittor and Hound Tor tor enclosures, however Dewerstone is extremely close to a river confluence even if access to the water is restricted by the steepness of the slopes. Around Carn Brea, Trencrom and Carn Galver there are not enough hillforts or tors to recognise any demonstrable trends. Near Helman Tor the range of proximities to watercourses shown by hillforts suggests that, although nearer than most hillforts, the tor enclosure could be said to fit their pattern.

Overall, where enough test data is available, it would appear that simply being near a major or medium river or stream is a criteria for many hillforts and most rounds and pounds, but does not seem to be so for the majority of tor enclosures (however, see Sections 2.5 & 4 for further analysis).

Structural Comparisons - Earlier and Middle Bronze Age enclosures

Although Bronze Age enclosures do exist on the granite highlands of Dartmoor, their character is quite unlike that of the tor enclosures. The pounds were positioned in locations that were neither defensive nor highly prominent within the landscape, but were built on hill slopes best suited for the protection of and caring for livestock. Unlike the tor enclosures the pounds often tied into the reaves that divided up the landscape, further supporting their settlement and farming bias. Grimspound, for instance, used granite blocks as coursed facing on the main wall, probably only had one original entrance, had a small stream passing through the wall, and had much open space within it suitable for keeping livestock.

On the highlands of Cornwall there are five to eight larger Bronze Age enclosures. As on Dartmoor their characteristics are quite different to those of the tor enclosures, again being biased towards livestock and transhumance. The two tor enclosures, Stowe's Pound and Roughtor, that potentially have Bronze Age hut circles within them stand out as being quite different in both location and plan to the large Bronze Age enclosures. They are not subdivided into smaller internal enclosures and are found on hilltops rather than hill slopes near water supplies, although Stowe's Pound does have a number of outworks reminiscent of Bronze Age settlements.

Structural comparisons - Later Bronze Age and Iron Age enclosures

Type	Description
Concentric	Multiple concentric ramparts.
Dependant	Central enclosure offset within an outer. Ramparts are close together on one side but widely spaced on the other, forming a 'barbican' at the gateway.
Annexed	One or more enclosures built off one face of the main enclosure forming a 'barbican'.
Cross bank	Only on promontory or spur positions. Single or multiple rampart inner enclosure, with one or more ramparts cutting off the promontory

Table 2.24: Fox's (1961) multivallate hillfort categories.

Table 2.24 describes Fox's (1961) typology for southwestern multivallate hillfort layouts. Few tor enclosures fit any of these patterns. Whittor might be said to match the dependant class, but lacks a

large gateway. Stowe's Pound is the nearest to this pattern, however the 'barbican' is much larger in area than the main enclosure unlike the hillfort class where the inner enclosure is the larger. Tregarrick and Dewerstone certainly use ramparts to cut off a promontory similar to the cross bank class, but they both lack the inner enclosure that is found at the hillforts, although Dewerstone does have the small 'Bronze Age wall' within it.

Type	Description
Group 1	Stone revetment ramparts filled with rubble dump. Often have a higher, stronger inner rampart than found at other types. Sometimes a stepped internal wall face. Often have a substantial, in-turned gateway.
Group 2	Single stone wall sometimes with an outer earthen bank.
Group 3	Multiple concentric large stone faced walls up to 3m tall. Wide berms between walls and outer ditches Often have a substantial, in-turned gateway.

Table 2.25: Aylwin Cotton's (1961) structural categories for stone built hillforts on the southwestern granite highlands.

Aylwin Cotton (1961) categorised southwestern hillforts with stone ramparts into three types based on wall structure (Table 2.25). Group 1 seems quite different to any tor enclosure. Aylwin Cotton included Trencrom in the second group, but it is the only one that includes rock outcrops in its walls and he commented upon the remarkable size of the orthostatic facing compared to the others in this class. Aylwin Cotton suggested that Whittor and Dewerstone fall into the third class. However, at Dewerstone and Whittor, the walls are so close as to exclude the possibility of a ditch and berms between them, are relatively small in comparison, and there is no sign of a substantial gateway. One must wonder if Aylwin Cotton assigned them to this group only because they were an even worse fit to the other groups.

The Iron Age rounds in Cornwall often occur in the lowlands or on hill slopes. Tregear Rounds has two main, circular enclosure banks with associated ditches and single entrances facing downhill towards a stream. In the opposite direction it is overlooked by higher ground. There are traces of occupation between the enclosures but not in the centre, suggesting, along with the easier access to water and non-hill top location, that the enclosure was oriented toward the care of livestock (Thomas 1976, 66). Just as with the Bronze Age pounds, the rounds' structures, locations and purposes set them apart from the tor enclosures.

Size comparisons between the hillforts and the tor enclosures are difficult to make as both range in extent dramatically. On Dartmoor hillforts range from around 0.5ha up to 7.5ha, thus embracing all three tor enclosures. In Cornwall the hillforts range from 1.2ha to 7ha, placing Carn Brea well above the top end of the range, whereas Helman Tor is near the lower end. The Bodmin Moor rounds

enclose an area of 0.2ha to 0.8ha, putting the smallest tor enclosures at the top end. On the Penwith peninsular Tren crom, at 1ha is slightly larger than the two nearby stone walled hillforts (0.7ha and 0.5ha).

2.5 Spatial patterns and choice of tor

Apart from making comparisons with later prehistoric enclosures in an attempt to identify the tor enclosures as a separate group, this chapter has largely been descriptive in nature. The next three sections will analyse the criteria that might have led to specific tors being chosen for enclosure.

2.5.1 Views from the tors

As high points within the landscape, the tors have excellent views in at least one direction, if not more. Thus, it could easily be argued that these views played an important role in people's appreciation of the tors and what they meant, and might have been one of the properties that led them to be enclosed. Yet this would be an overly simplistic interpretation as there are many hills near to the tors that reach similar elevations and have equally good views. Indeed, the hills that are slightly off the granite can sometimes have better all round views than some tors; views into the moorland at Notter Tor or Dewerstone, for instance, are hampered by other tors and the rise in the topography.

Furthermore, any claim made for prehistoric views based upon their modern counterparts is problematic due to changes in vegetation cover. The Early Neolithic landscape of the southwest was likely to have been widely forested with the high tors being among the few places free of tree cover. For instance, in the northern part of Bodmin Moor it is probable that the only sizeable open areas were the tops of tors such as Roughtor and Brown Willy (Chapman & Gearey 2000, 317). A forest of 20m to 30m tall trees would have severely restricted views even from large clearings within that forest.

These 'problems' can be used to demonstrate a difference between the highland edge tors and the nearby hills. First, the rocky nature of the tors would have meant that they were much less likely to be subject to tree cover than the nearby hills, and that if they did have tree cover then it would have been less dense and easier to clear. The rock would have made it difficult for large trees to have formed robust root systems.

Second, hills tend to have rounded tops and the slope profile near the summit is relatively gentle. Tors, in contrast, due to their rocky nature, have much sharper slope profiles: the ground falls away

much more steeply. Therefore, the tree line can be much closer to the summit of a tor than a hill without blocking views. Further from the summit the tors and the hills can exhibit similar profiles, yet it is the area immediately around the summit that is crucial to expansive views (e.g. Figs 2.27 & 2.28).

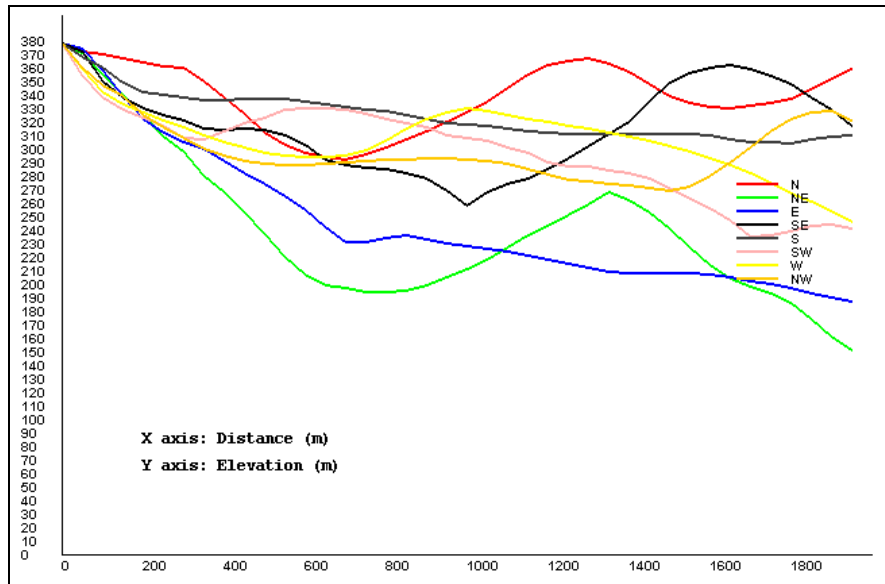


Fig 2.27: Stowe's Pound slope profiles. Within the first 200m (where the tree line would block views) the slopes, even when the modern quarry is ignored, are much steeper than at nearby Caradon Hill (Fig 2.28), and the ground drops away much closer to the summit. The red (north) profile represents the drop into the lower enclosure.

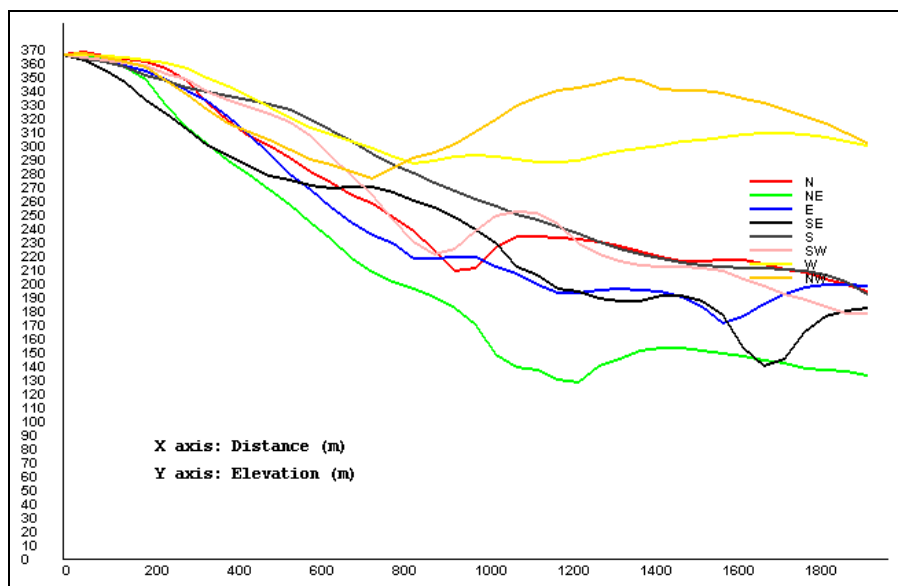


Fig 2.28: Slope profiles for Caradon Hill. Within the first 200m (where the tree line would block views) the slopes are gentler than at Stowe's Pound (Fig 2.27).

These factors combine to allow much better views from tors than from round-topped hills. Figures 2.29-2.31 show schematic 3D landscape models of several tors and the nearby hills for comparison. In the models the tree cover has been cleared to a point just beyond the enclosure walls on the tors, and a similar or larger area has been cleared on the nearby hills. Figures 2.32 and 2.33 show a plan view of the effect of reforesting the landscape around Carn Brea. Although there is still a reasonably

long view (3km +) from the nearby hill, the near views (0-3km), those where detail in the landscape can be best picked out, are much better from the tor.

A comparison between tor enclosure views and those from potentially contemporary funerary monuments (long barrows, portal dolmens and quoits) and other potential Neolithic occupation sites (based on the modern landscape, so biased against the tors) demonstrates that the tor enclosures have much superior views (Figs 2.34 & 2.35). If vegetation cover were re-introduced around these funerary monuments then the views out would be even further curtailed.

These comparisons with other monument types and surrounding hills, and the reintroduction of vegetation cover to the models, demonstrates clearly that tors tended to have superior views across the landscape compared to any other places in the southwest during the Early Neolithic.

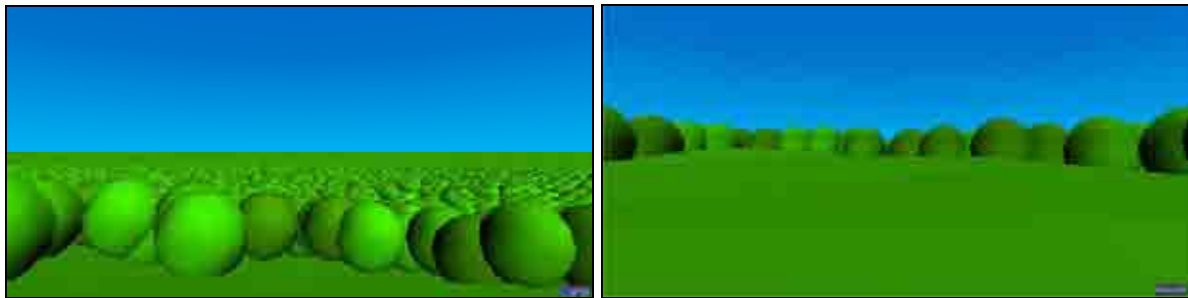


Fig 2.29: VR view from Helman Tor (left), and from the nearby 200m OD hill (right). Note that at the tor the tree line is just as close, if not closer, but the viewer can see above it.

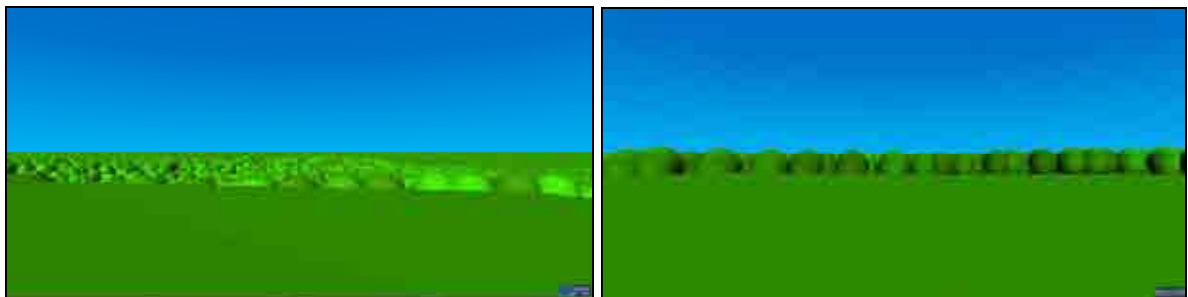


Fig 2.30: VR view from Stowe's Pound (left), and from the nearby Caradon hill (right). Note that at the tor the tree line is just as close, if not closer, but the viewer can see above it.

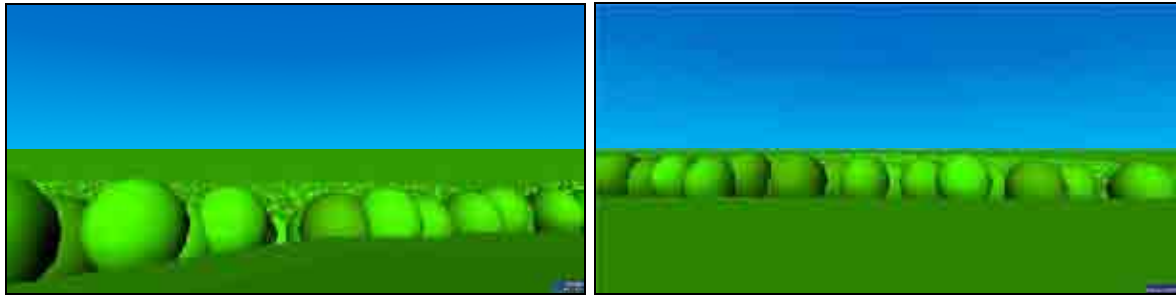


Fig 2.31: VR view from Carn Brea (left), and from hill 1km to SE (right). Note that at the top the tree line is just as close, if not closer, but the viewer can see above it. In this case one can just see over the tree line on the hill, but the view is somewhat limited as shown in the GIS viewshed (below). The tree line in the Carn Brea model is just below the W1 and W2 walls.

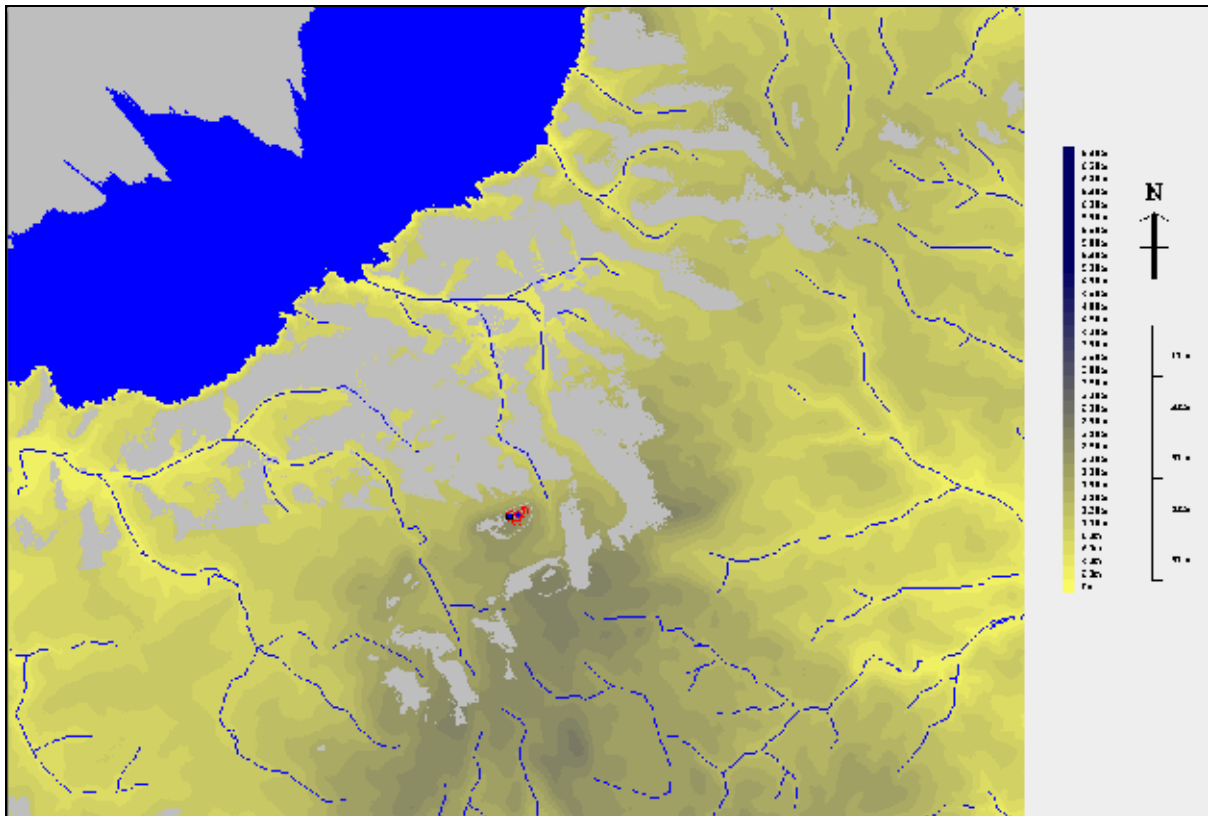


Fig 2.32: Viewshed from Carn Brea. The grey areas are the visible areas.

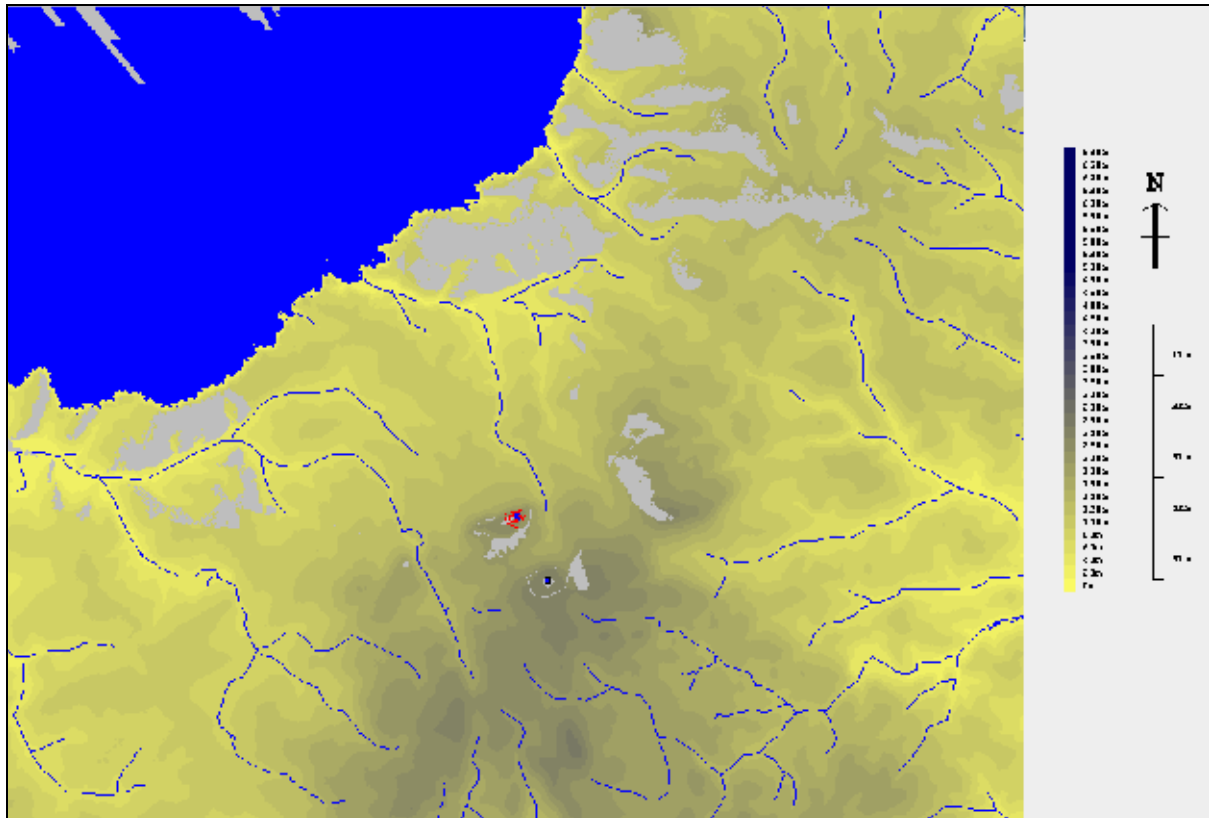


Fig 2.33: Viewshed from the hill 1km to SE of Carn Brea. In this case one can just see over the tree line on the hill, but, as shown, the view is somewhat limited compared to Fig 2.32. The grey areas are the visible areas.

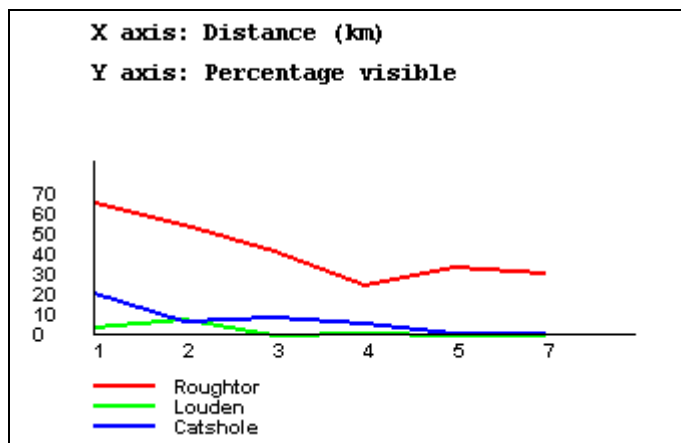


Fig 2.34: Comparison on percentage of surrounding land visible from Rough Tor and from nearby potentially Early Neolithic tombs. Note that tree cover is removed for this test - this biases it against the tor enclosures.

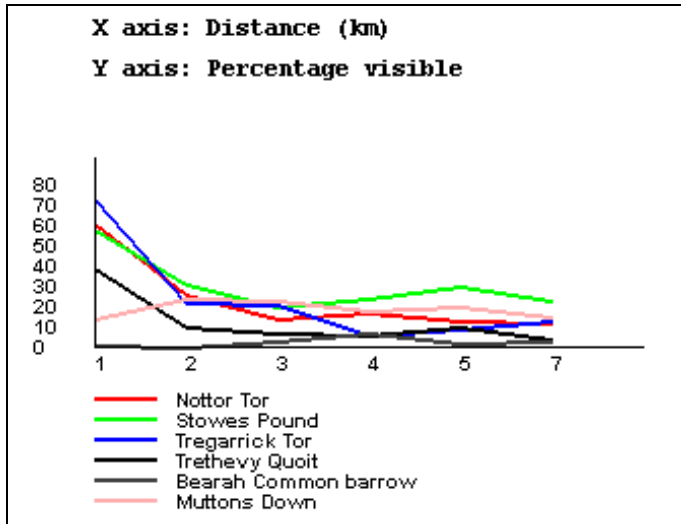


Fig 2.35: Comparison on percentage of surrounding land visible from south Bodmin Moor tor enclosures and from other nearby potential Early Neolithic monuments and sites. Note that tree cover is removed for this test - this biases it against the tor enclosures.

2.5.2 Highland edge locations

In the two areas (Bodmin Moor and Dartmoor) that have sufficient unenclosed tors to allow worthwhile comparison (Fig 2.36), the distance to the edge of the high moorland was recorded for all major tors in the area and for the tor enclosures. An arbitrary boundary, based upon elevation, was created around the highland area and the distance between each tor and the nearest point on that boundary was measured. It is difficult to define exactly where the highland stops and the lowland begins, but by using the same arbitrary guide figure (approx. 150m for Bodmin Moor and 200m for Dartmoor) to create an ‘edge’ boundary around the moorland, the comparison for all tors was uniform. Straight line measurements were used due to the difficulty in proving preferred Neolithic localised paths.

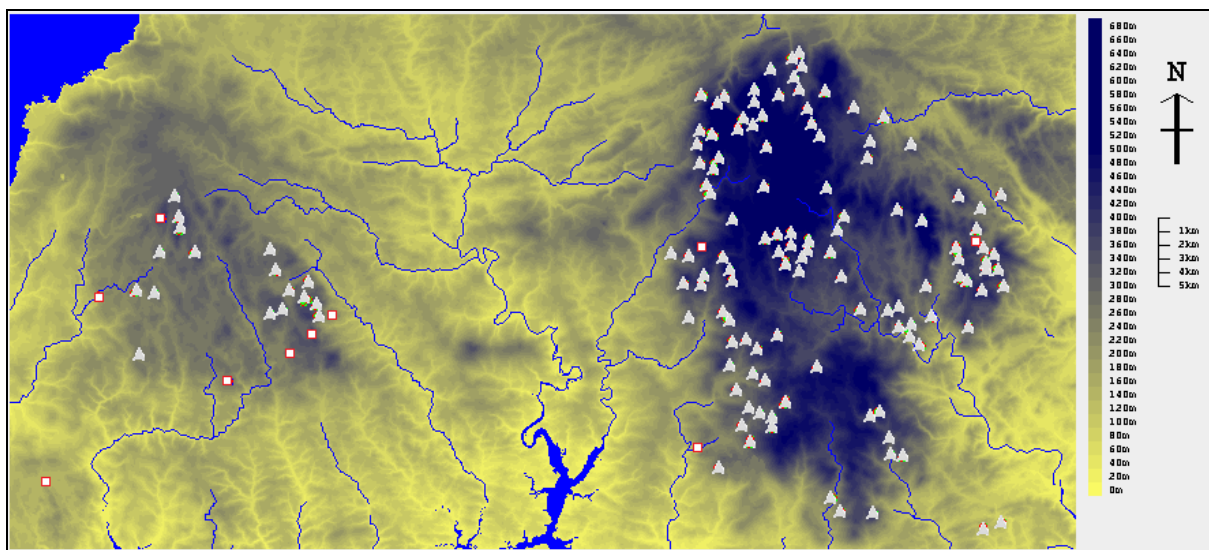


Fig 2.36: The tors of Bodmin Moor and Dartmoor - unenclosed tors are shown as grey triangles, tor enclosures in white with red outlines.

Table 2.26 demonstrates that in both cases the tor enclosures tend to be much nearer to the edges of the highland than the average for all major tors in each highland area. The two tor enclosures on the Penwith Peninsula are also on the very edge of the higher land. Carn Brea, on the Carnmenellis granite massif is on the very edge of the higher ground but is the only major tor in the area, thus there was little option for building a tor enclosure further into the highland area. Helman Tor and St Stephen's Beacon are also near the edges of the St. Austell highlands, but changes to the landscape due to quarrying and mineral extraction have made it difficult to compare their positions to other tors in the area, many of which no longer exist.

Tors	Distance to edge of highlands (m)
Berry Down	600
De Lank	200
Notter	450
Roughtor	950
Stowe's Pound	750
Tregarrick	1500
Ave for Bodmin Moor tor enclosures	750
Ave for all major tors on Bodmin Moor	2000
Dewerstone	200
Hound Tor	2000
Whittor	1150
Ave for Dartmoor tor enclosures	1100
Ave for all major tors on Dartmoor	3100

Table 2.26: Distances between tors and the edges of the highland areas of Bodmin Moor and Dartmoor.

2.5.3 Highland watercourses

Bodmin Moor was used to compare the locations of enclosed and unenclosed tors with regard to watercourses; it is the best area for such a comparison as it has a high number of tors and is the upland area with the highest number of tor enclosures.

In the southern part of Bodmin Moor the tors tend to be closer to water than the average for the area, but above the mean (Fig 2.37). Stowe's Pound is close to the area's mean and average, and to the average for the tors, and so does not stand out. However, Tregarrick is well below the average and the mean, whereas Berry Downs and Notter Tor are above both. Thus, in general, it would seem that there is no overriding desire to enclose tors that were especially near to watercourses.

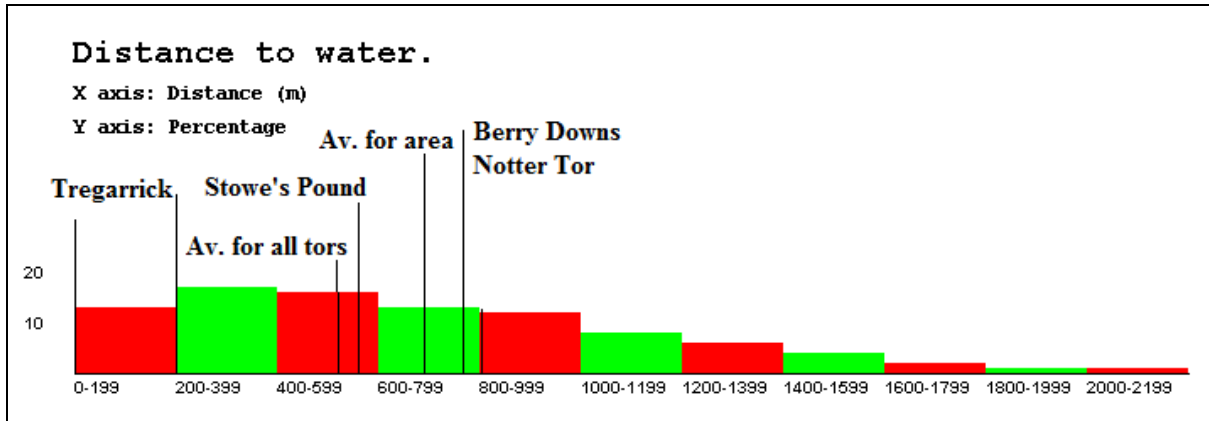


Fig 2.37: Distances to nearest river or stream for the southern Bodmin Moor area, coloured bars show percentage of ground in area that falls within each band of proximity.

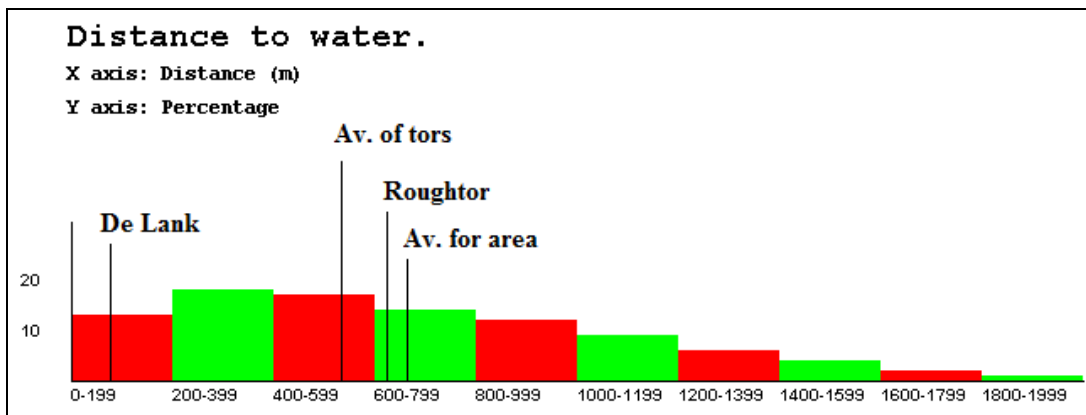


Fig 2.38: Distances to nearest river or stream for the northern Bodmin Moor area, coloured bars show percentage of ground in area that falls within each band of proximity.

In the northern part of Bodmin Moor, again, the tors tend to be closer to water than the average for the area, but above the mean (Fig 2.38). Roughtor stands between the average for the area and the average for the tors, but De Lank is well below both. Thus, it might be concluded that Roughtor was not selected with proximity to water in mind but that De Lank might have been.

If the discussion from Section 2.5.2 is added to the model then the enclosed tors begin to stand out from the others. Table 2.27 shows the distance from each tor enclosure, and from the other tors, to the nearest point on the edge of the highland (based on the arbitrary perimeter used in Section 2.5.2) where it is crossed by a non-minor watercourse. As can be seen, the tor enclosures tend to be closer to these points than the other major tors.

If the major rivers, and the streams that feed them, are then considered, the positions of the tors chosen for enclosure become even more significant. Figure 2.39 highlights the courses of the major rivers around the northern part of Bodmin Moor. When moving along the River Camel one must branch off onto one of its tributaries to enter the high moorland. When coming up the Camel from the south the tributary with the nearest tor is the De Lank River, and the tor is the site of the De Lank tor

enclosure. If the Camel's tributaries upstream of the De Lank confluence are used to access the moor, the first tor encountered is the enclosed Roughtor.

Tors	Distance to watercourse on edge of highlands (m)
Berry Downs	750
Notter	750
Stowe's Pound	1100
Tregarrick	1400
Ave for S. Bodmin Moor tor enclosures	1000
Ave for all major tors in S. Bodmin Moor	2125
De Lank	<50m
Roughtor	4650
Ave for N. Bodmin Moor tor enclosures	2350
Ave for all major tors in N. Bodmin Moor	6300

Table 2.27: Distances between tors and the edges of the highland areas of Bodmin Moor where the nearest watercourse that flows past them crosses the highland edge based upon using the 150m contour as an arbitrary boundary.

Figure 2.40 shows a similar situation for the south of Bodmin Moor. If following the River Fowey upstream then the first major Bodmin Moor tors that are encountered are the sites of the Berry Down and Tregarrick tor enclosures, on small tributaries. If following the River Seaton upstream, via the main stream that feeds it, the confluence being marked by Trethevy Quoit, the first tor encountered is the Stowe's Pound tor enclosure. Finally, when following the River Lynher upstream the first two tors that are passed are the Notter Tor and Stowe's Pound tor enclosures, and small tributaries can be followed to approach them.

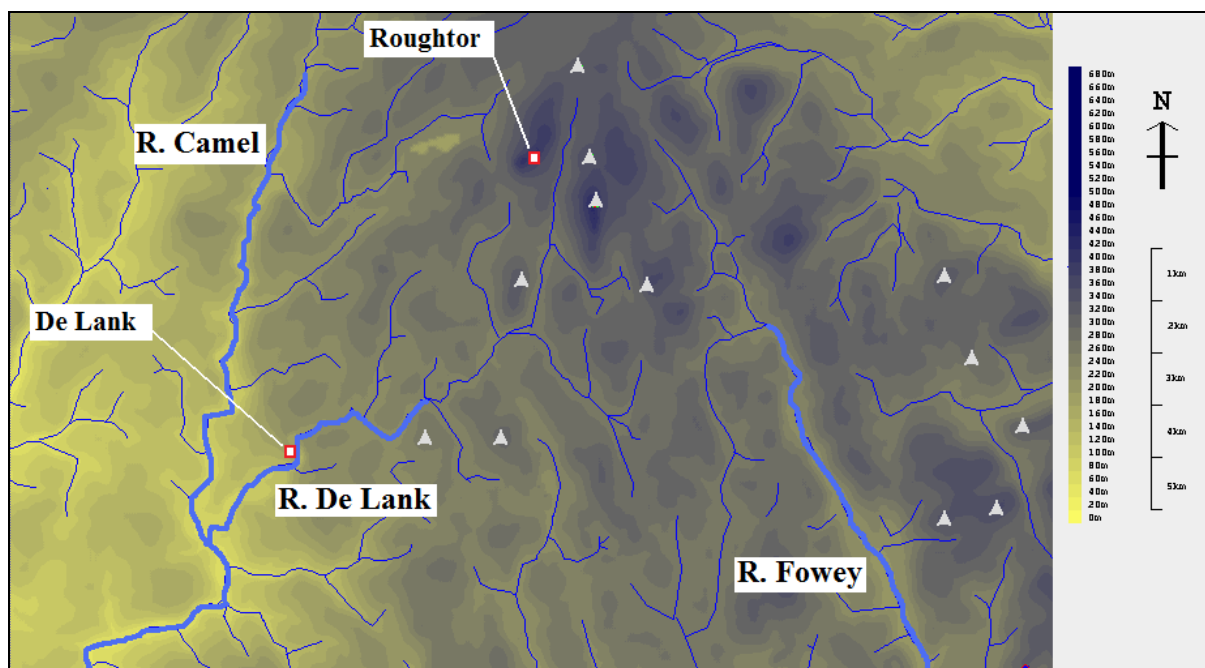


Fig 2.39: The major rivers (Camel, De Lank, and Fowey) in the vicinity of the northern part of Bodmin Moor are highlighted. Tors shown as grey triangles. Tor enclosures shown in white with red outlines.

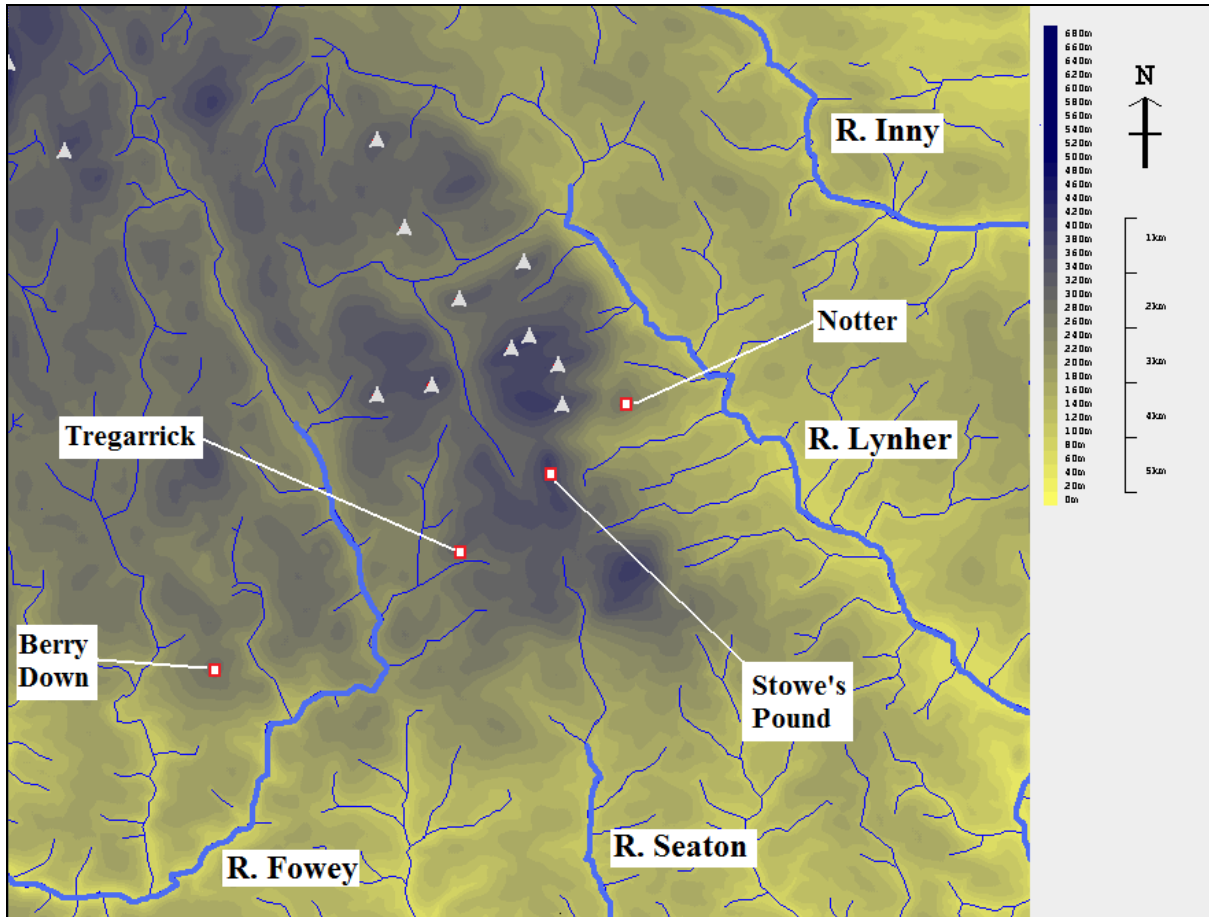


Fig 2.40: The major rivers (Seaton, Inny, Lynher and Fowey) in the vicinity of the southern part of Bodmin Moor are highlighted. Tors shown as grey triangles. Tor enclosures shown in white with red outlines.

2.6 Conclusion

The tor enclosures listed in Appendix A have sufficient similarities to each other, and differences to post-Neolithic enclosures, to suggest that the majority can be tentatively accepted as a related group of the same period. Evidence from Carn Brea and Helman Tor suggests that all of these enclosures belong to the Early Neolithic. There is variation between all sites, especially in size and elevation, yet this variation is little different to that seen at causewayed enclosures within any particular region. This variation may be due to regional identity or to differing uses of the sites, but in either case it does not preclude any site from being Early Neolithic. Certain sites are perhaps less convincing than others: St. Stephen's Beacon due to its earthen banks and lack of tor, Berry Down because of the later earthen bank, Notter Tor as the damage makes it difficult to assess whether it was actually an enclosure, and Hound Tor because of its eastern position and damage to the walls. However, as the evidence currently stands, it is felt reasonable to consider them with the others until they can be shown not to be Neolithic.

However, Brentor, west of Mary Tavy, is sufficiently different to the other tor enclosures to safely rule it out as a Neolithic tor enclosure. It is well off the highland granite, the enclosing walls are of an earthen construction with a possible stone outer facing, and they do not link rock outcrops, but rather run around the bottom of the hill.

The comparisons and contrasts made in this chapter allow a list of features relevant to all tor enclosures and relevant to some tor enclosures to be defined (Table 2.28). These criteria will be referred to in the following chapters to determine why specific tors were selected and what they meant to the people of the Early Neolithic.

The factors common to all tor enclosures (in no particular order):
<ul style="list-style-type: none"> • Has a significant tor. • Is on the edge of the highlands. • Is the nearest tor to where a river or larger stream that feeds a river crosses the highland edge boundary (if there is such a watercourse in the area) • Excellent views in at least one direction.
The factors common to some tor enclosures (in no particular order):
<ul style="list-style-type: none"> • Being the most striking tor in the area. • Being the highest location in the area. • Proximity to any watercourse. • Proximity to or views of the sea. • Proximity to a greenstone source. • Proximity to a tomb (dolmen or long barrow).

Table 2.28: Criteria concerning enclosure site selection.

Chapter 3: The significance of the tors before enclosure

To understand why the tors were enclosed one must first consider the significance, if any, of the tors before enclosure: did these places also have meaning to the people of the latest Mesolithic and earliest Neolithic? Mercer (1981; 1997) largely ignored this line of enquiry, instead privileging the built form of the enclosure over any meanings previously associated with the natural tor. Yet, the meaning of a material object is not based upon whether it is natural or manmade, but on how people regard it, their personal and social histories, and the context within which the artefact, or place, is engaged with. Thus, Pollard (2004), in favouring a dwelling-oriented approach, points out that a false dichotomy is sometimes employed to differentiate between the natural (wild) and the manmade (domestic); the natural and cultural landscapes are both intertwined with social being (Tilley 2004, 24). Bradley (2000) presents a number of case studies where natural features within the landscape are treated as significant places, both by societies who also constructed monuments and those that did not. In the southwest, Bradley (1998a) suggests that tors were seen as ancient buildings, constructed by ancestor/creators, that inspired the building of the Early Neolithic dolmens. However, it is dangerous to view significant natural places and built monuments as interchangeable (Warren 2007). Although both might have had meaning it does not follow that their meanings were the same, or that they were related to in similar ways, so it would be wrong to dismiss the tors as natural monuments without understating what gave them significance and how they allowed people to get on in the world. To understand these pre-enclosure meanings, and thus the antecedents of enclosure, the next three chapters will consider tors as significant natural places. In this chapter evidence for activity at the tors prior to enclosure will be examined, Chapter 4 will place the tors into a landscape of mobility, and Chapter 5 will outline how the tors were 'lived through' and used to recreate society.

Pursuing an investigation of the importance of unenclosed and pre-enclosure tors is problematic. The evidence for the later Mesolithic and Early Neolithic of the southwest is thin at best. It tends to be concentrated at the locations of early monuments or places that have been subject to modern development or arable farming. Unenclosed tors tend to fit neither of these categories, a few have tor cairns built on them, but only a small number of these have been excavated, and only one unenclosed tor has seen modern development and associated pre-construction archaeological investigation (Cole & Jones 2002-3). Of the enclosed tors, only three have been subject to archaeological investigation to modern standards. And of those, Helman Tor and Carn Galver were the subject of limited investigatory projects. Nonetheless, data is becoming available for the period immediately prior to enclosure, and can be considered against general models for this time.

3.1 Mesolithic and earliest Neolithic traditions: use before enclosure?

Sheridan (2004, 9) sees no evidence for a continuation of Mesolithic life-ways in the Neolithic of the Irish Sea areas, including Cornwall, instead she suggests that the Neolithic represented successive movements of people with new ways of engaging with the world. If this were the case, it would imply that the tors only became significant places in the Early Neolithic, and that the enclosure of the tors made them important. Furthermore, if they had been significant before the Neolithic colonists arrived, that significance would have had little bearing upon the motives behind enclosure. However, in the southwest context it is possible to question Sheridan's argument. Many southwestern Mesolithic occupation sites also boast Early Neolithic material (Mercer 1986, 40; Pettit 1974, 16). A good example is Paldowrain, St Keverne (Smith & Harris 1982, 26), where the cliff top site contained Mesolithic (*ibid.*) and some of the earliest Neolithic material known in Cornwall (Bayliss et al. 2008, 35). There is also evidence that the long range exchange networks of the Early Neolithic had antecedents in the later Mesolithic, albeit on a smaller scale (Berridge & Roberts 1986, 15; Mercer 1986, 44). Mercer (2003, 58) states that Jacobi's distribution model for types of Mesolithic tool roughly follows that of different styles of Neolithic pottery. This suggests that the earliest Neolithic people were continuing to use and move around the landscape in similar way to those of the later Mesolithic. Thus, the way in which people related to the landscape on a social and spiritual level might also have shared commonalities between these two periods. If the tors were important in the Early Neolithic then that importance might have been a continuation of Mesolithic traditions.

This is an argument followed by Whittle in his work on the Neolithic dolmens of south Wales (2003, 152). He suggests that they referenced nearby hills and the Mesolithic creation myths associated with them (*ibid.*, 153). Whittle (*ibid.*), in contrast to Sheridan (2004, 9), argues that the Neolithic population largely originated from the indigenous Mesolithic population. There are no direct continental parallels for these dolmens (Darvill 2004, 63), so they would seem to be an indigenous development. As the Early Neolithic of Cornwall was similar to that of nearby south Wales (both had dolmens, portal dolmens and, possibly, tor enclosures), Whittle's theory ought to be equally applicable to southwestern England. Thus, if dolmens were influenced by later Mesolithic attitudes to nature, then the same could be true of tor enclosures.

3.1.1 The later Mesolithic and Early Neolithic environment

Before considering latest Mesolithic and Early Neolithic people's relationships with the tors prior to enclosure, a brief overview of the environment will be given to allow the forthcoming discussions to be put into context. Unfortunately, preservation issues associated with the acid soils and peats have meant that the latest Mesolithic and Early Neolithic of the southwest has been subject to little environmental analysis, especially off the high moorland.

During this period, Caseldine (1980) suggests that heather moor and grassland covered the upland areas of Bodmin Moor, with oak woodland on sheltered hillsides and scrub, oak and hazel on exposed hillsides. The valleys would have been subject to raised bog and alder carr (*ibid.*), although Walker and Austin (1985) have suggested that there may have been an increase in grassland around Redhill Marsh (now covered by Colliford Reservoir). However, the Bodmin Moor evidence has been reconsidered since Caseldine's original work (Burton & Charman 1995), and based upon pollen samples around Roughtor, Chapman and Gearey (2000, 317) disagree about the extent to which the high moorland was open at this time. They believe that the higher parts of Bodmin Moor were subject to tree cover, with hazel and oak the dominant species. The tor summits would probably have been open or sometimes covered in lighter hazel-oak scrub on their lee-ward sides. The damp areas and valley bottoms on Bodmin Moor may have been more open, with grass and sedge mire, until around 4500 cal BC when alder became established. The only significant open areas would have been the more exposed tor summits and around Dozmary pool (*ibid.*).

Bodmin Moor saw localised areas clearance in the later Mesolithic, possibly as a result of human interference to attract prey animals (Gearey et al. 2000, 502). The first unequivocal evidence for human impact on Bodmin Moor's environment is the appearance of ribwort Plantain, an indicator of the maintenance of open areas, dated to 3660-3330 cal BC at Roughtor (*ibid.*). The appearance of Devil's Bit suggests that growth was being suppressed by grazing rather than cultivation.

On Dartmoor, Caseldine and Hatton (1994) reflect Chapman and Gearey's (2000) interpretation of Bodmin Moor, rather than Caseldine's (1980) previous view. They argue that it would have been covered in dense woodland of oak with hazel and alder, although the higher, exposed summits would have been ringed in scrubland (Caseldine & Hatton 1994, 39). Charcoal and pollen deposits from Black Ridge Brook, at 447m OD, suggest that some small clearance activity may have occurred at this time, which Caseldine and Hatton (*ibid.*, 40) interpret as the burning of the woodland edges to attract game. The Blacklane samples show a similar picture of a concentration of human interference at small open summits (*ibid.*). This interpretation agrees with Bell's (2007, 323) recent analysis of the

upland areas around the Severn estuary in the later Mesolithic: woodland cover dotted with open areas, possibly created by human interference.

Lowland Cornwall has yielded much less environmental investigation compared to Bodmin Moor, but at Crift Down (140m OD), to the south of Helman Tor, dense alder, hazel and birch woodland was dominant, with alder carr in the wetter areas, however it is difficult to tie the dates of the environmental evidence to that of the archaeology (Burton & Charman 1995). It is entirely possible that lowlands also had open areas, perhaps of human origin, or areas of scrubland, but no evidence has yet been presented for this.

3.1.2 The latest Mesolithic

Jacobi (1979) presents a model for Mesolithic mobility, in the southwest, based upon winter-summer, lowland-highland movement that suggests that late autumn saw movement to the coastal regions to exploit shellfish and sea birds, followed by sea fish and seals in later winter. At this time people would also have hunted ungulates in the surrounding lowland forest. After the salmon runs of spring, people moved inland and onto the highlands in summer to exploit the deer population that gathered where the lesser tree cover provided better grazing. It may even be that some upland clearance was man-made in order to attract prey animals (Caseldine & Hatton 1994, 40; Mellors 1976). Jacobi (1979, 85) makes a tentative suggestion that the summer inland bases were situated on land up to 200m OD around the highlands with procurement camps further into the highlands. Herring and Lewis (1985) would appear to support this part of the model. Bell (2007, 327-334) has generated a hypothetical model for the areas around Goldcliff on the Severn Estuary (Fig 3.1) that, in part, supports Jacobi. He does not suggest that it was necessary for the whole community to move between coast and highland, rather that small groups could break off to travel up river to reach the highlands, or to other areas during the year. The tors would have fitted into these models as places cleared of tree cover, through natural processes or human interference (Section 3.1.1), that were attractive to large ungulates and provided prey for hunters. They might also have been the sites of procurement camps from which hunters could view the surrounding areas (Tilley 1996b, 165).

Recently several writers have cast doubt on the evidence for Mesolithic mobility models that follow strict yearly rounds. Spikins (2000) criticises them for a reliance on rules that have little basis in the evidence, claiming that much of the coast-upland model's framework stems from Clark's (1954) original work on Star Carr. The interpretation of Star Carr has since been reworked several times (e.g. Legge and Rowley-Conwy 1988), but the mobility model that it inspired has continued to be accepted with little question, and was based on potentially flawed ethnographic studies that were done over too

short a time or that targeted only at groups that fitted the preconceived picture (Spikins 2000). Spikins (2000, 109-111) instead suggests that it was just as likely that movement did not follow the same pattern year in, year out, but rather, based on ethnographical studies, people may have simply moved to where resources were abundant at any given time and that the size of any particular transitory camp's population would have been fluid depending upon the specific social and economic circumstances at the time. In this model the tors would have fulfilled the same roles as for Bell's and Jacobi's models (above), but returns to any specific tor may not have been as regular.

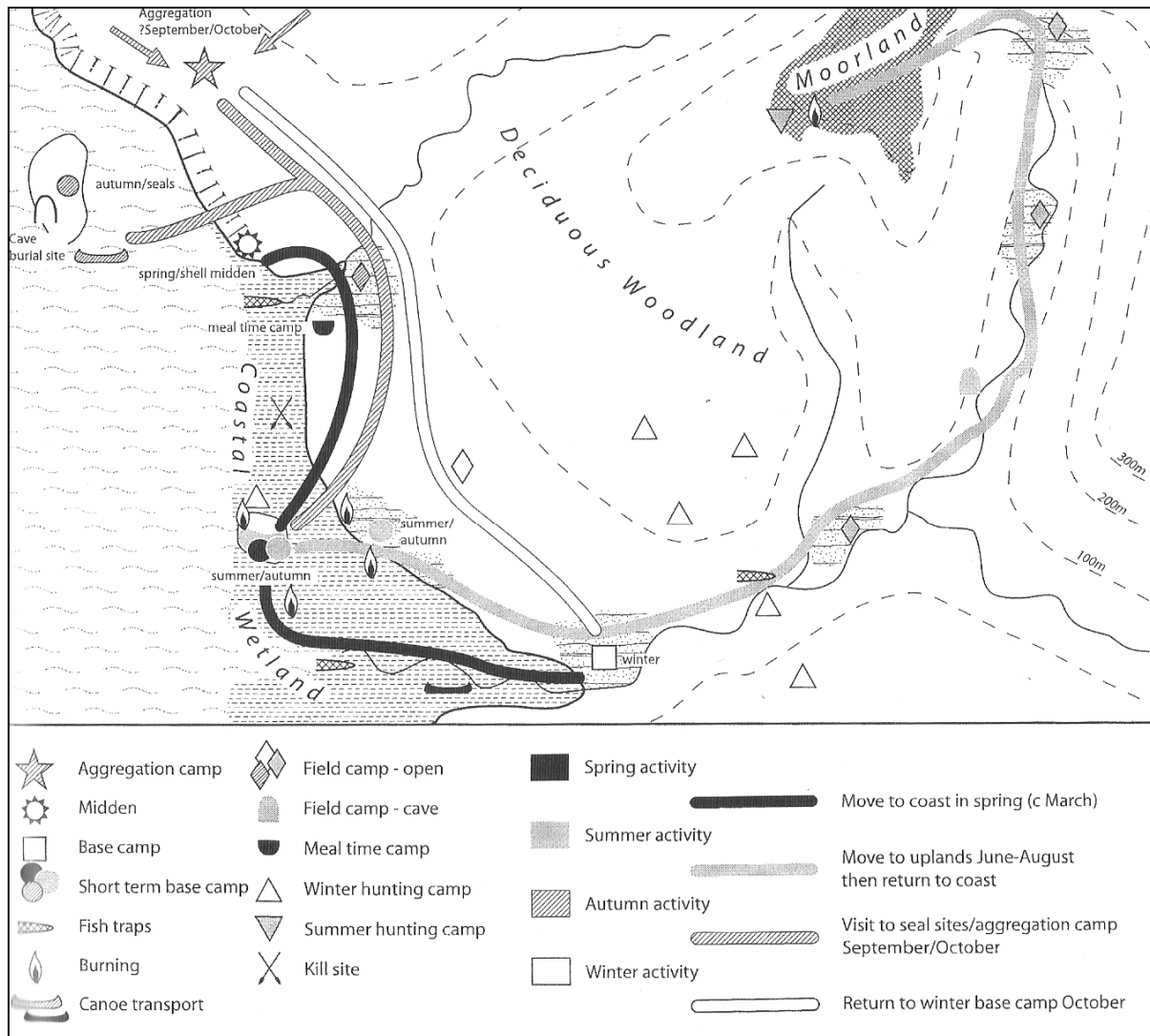


Fig 3.1: Hypothetical seasonal mobility model for later Mesolithic around the Severn Estuary (adapted from Bell 2007, Figure 21.2).

Although Spikins's (2000, 109-111) criticisms were mainly targeted at the end-to-end model applied to the North Yorks Moors (e.g. Young 2000), Bell (2007, 332) points out that areas such the Goldcliff study area are more likely to have been the subject of such a model due to their proximate and dramatic topographical differences. These differences were also to be found in the southwest of England around the tors. Spikins's (2000, 109-111) criticism is also problematic as it assumes that

movement would have been resource driven, instead people might have moved between both sub-groups and places for social reasons, with groups often splitting and reforming, as was the case for many North American Indian groups. For instance, as a group the Dakota followed a broad yearly round between both resource procurement areas, and places of formal social aggregation, but individuals were often moving between camps, larger groups and known places to pay social visits, to trade, to hunt and to visit significant places with spiritual or mythological meaning (Spector 1993, 61-77). Such movements add a further possible reason for visits to the tors - that they might have been spiritual or special places that were visited for motives other than resource procurement. There is no reason why such activities should not have occurred in Bell's broad hypothetical model.

For the tors to be considered for inclusion in any of these models of landscape use during the later Mesolithic, evidence of visits to them must be identified. Unfortunately, such evidence is scarce. This may be because the tors were rarely visited, or because so few tors have been excavated to modern standards. The tors are even less likely to be disturbed than much of the surrounding moorland as quarrying at these very special places is now discouraged, while building, farming and forestry exercises are seldom allowed or practical near tors. Stray finds at tors are fairly rare as they are often subject to soil creep that can move material downhill over time (Mercer 1981, 19). Thus, the evidence might be there but is, as yet, undiscovered.

On Bodmin Moor the largest collections of Mesolithic lithic artefacts have been obtained from around Dozmary Pool (Jacobi 1979, 74), the only natural large body of water on the moor, and a small number of other Mesolithic stray finds have been obtained from the highest areas (*ibid.*). Thus, Mesolithic people were at least present upon some part of the granite, even if their visits might have been minimal and short lived. Again, this raises the question of whether the reality of the situation is reflected, or is it just a by-product of the lack of systematic investigation. As the vast majority of highland areas in the southwest have not been ploughed in modern times, blanket peat and bog covers any potential evidence of Mesolithic activity. On Butters Downs, a round-topped hill near Roughtor, the area was systematically field walked after the ground was broken up by forestry operations (Herring & Lewis 1985). Within a 10ha area, 36 concentrations of flint were found with a further 34 isolated finds. Of the 36, 16 contained Mesolithic artefacts, and it is possible that the majority of the remainder were Mesolithic too (*ibid.*). Based upon the premise that the Butters Downs area had no evidence for being especially attractive to Mesolithic people compared to the rest of Bodmin Moor, Herring and Lewis extrapolated that the whole 20,000ha moor has up to 140,000 such scatters. They point out that Mesolithic material was also found at the majority of Bodmin Moor's Bronze Age cairns that have been excavated to modern standards; a pattern that is also true of the excavated barrows on the St. Austell highland (*ibid.*). Herring and Lewis present a convincing case that the whole of Bodmin Moor was well-used in the Mesolithic period, however, as they point out, one must

consider the time span of the Mesolithic. Although Bodmin Moor seems to have had potentially widespread use in the Mesolithic it may be that each individual area was only visited every 50 to 100 years. One must also guard against seeing a continuity of practise at the Bronze Age barrow sites: these appear to have Mesolithic finds associated with them because of the frequency of the occurrence of Mesolithic flint rather than any attempt to build the barrows on a site with known significance reaching back to the Mesolithic. At other sites where modern disturbance has occurred, such as the new reservoirs of Crowely, Siblyack and Colliford, or the road that follows the River Fowey across the moor, numerous Mesolithic finds have been made. In the latter case one must ask: is it that this river was an important routeway for Mesolithic people, or are Mesolithic finds more likely to be found there due to the disturbance caused by river and road and the greater number of people travelling that route now?

Tilley (1996b, 165) claims that Mesolithic stray finds from around the tors, springs and marshland mark out paths of movement across the highlands between places of significance, and that the tors would have allowed people to spot prey and orientate themselves within the world. Although this suggestion seems eminently reasonable, and fits the mobility models described, Tilley supplies little evidence to back his claim. The environmental evidence (above) does seem to imply expansion of the open areas around the tors, and suggests that this might have been the result of later Mesolithic burning of the forest edge below the tors to improve hunting potential (Caseldine & Hatton 1994, 40). But Mesolithic material culture recovery from the tors and the areas immediately around them is rare and subject to the problems that affect the rest of the moorland. Mercer's excavations at Carn Brea did produce a small number of microliths and microburins which Saville (1981, 110) identified as later Mesolithic. But the amount of Mesolithic flint found could conceivably be the result of a single visit, and does not conclusively prove that the tor was an important place in the later Mesolithic.

At Helman Tor, all of the lithic material was identified as Neolithic (Saville 1997, 39), but as Saville points out, the full assemblage was small and from a restricted area (*ibid.*, 49). Given that Mercer specifically targeted an area of Helman Tor most likely to have seen intensive Neolithic activity, and that the excavations were of extremely limited extent compared to the Carn Brea excavations, it is not surprising that no Mesolithic material came to light. Mesolithic material in the excavated area may well have been cleared out by the intensity of Neolithic activity. At other tors the lack of investigation makes it impossible to say whether or not Mesolithic material is present.

3.1.3 The earliest Neolithic

Whether the importance of the tors was based upon traditions of the later Mesolithic can be demonstrated or not, it appears that at least some tors were visited in the Early Neolithic even where enclosures were not built. At many locations across southern England Early Neolithic pits have been found containing what appear to be intentionally structured depositions (Thomas 1999, 62-88). Previously such pit groups have not been commonly reported in the southwest, but recently their numbers have started to grow (Jones & Taylor 2000-1, 161). One such site was found at Roche Rock, an isolated tor near Roche, to the northern edge of the St. Austell granite upland. Here Cole and Jones (2002-3) excavated a number of Early Neolithic pits that contained hazelnut shells, a saddle quern, ceramics, various unworked lithics and deliberately broken tools. The site produced radiocarbon dates indicating the 38th century BC, suggesting that it may have been slightly earlier than the Carn Brea and Helman Tor enclosures. Some of the Roche Rock pits also produced later radiocarbon dates and different ceramic styles, demonstrating that the pits were not the product of a single visit, but a number of short occupations, that included similar depositional activities, over a long period. Pollard (2001) suggests that the Early Neolithic practise of deposition often represented a formulised action upon the abandonment of an occupation site, an action that marked the site as important and gave it meaning in a landscape of fluid movement.

It is very difficult to determine the length of time that Carn Brea and Helman Tor were visited, in the Neolithic, before the first enclosures were built there. At Carn Brea's site A1 there is evidence for pre-rampart occupation sealed under the wall (Mercer 1981, 21), and at site A2 there are pits, not dissimilar to those that Cole and Jones (2002-3) excavated at Roche Rock, beyond the wall (Mercer 1981, 35). Neolithic presence at other tors is demonstrated by the sizable collection of Neolithic lithic material that was found around Clicker Tor, Menheniot, to the south of Bodmin Moor (Walford 1998-9, 130). There is no surviving evidence for an enclosure at Clicker Tor, thus it would seem that the natural tor itself was what attracted people rather than any man-made construction, although the area has been heavily quarried. Across the Bristol Chanel at Clegyr Boia in south Wales there is even more evidence for the pre-enclosure importance of a tor site. Here the enclosure ramparts clearly run over the remains of an earlier building (Vyner 2001, 87). Vymer suggests that the presence of buildings denote a pre-enclosure open hilltop settlement, but one should be careful when assuming that Early Neolithic buildings denote permanent or economic settlement (Davies 2009a).

3.2 Conclusion

From the lithic scatter evidence it appears that Bodmin Moor was widely visited in the Mesolithic, but, apart from at Carn Brea, Mesolithic presence at the tors cannot be proven, and even at Carn Brea the evidence is not enough to demonstrate that the tor was more than just another place where people made camp for a night. The environmental evidence suggests clearance and burning in the higher areas around the tors, although this is not proven to be a result of human actions during the Mesolithic. That people were moving up onto the highlands shows that they must have moved past the tors and in doing so it is probable that they would have looked on these most striking features as being somewhat different to the surrounding landscape in which they spent much of their lives. But this does not demonstrate that they imbued them with special significance beyond that of being an interesting pile of rocks. All that can be said currently is that the tors do not contradict current Mesolithic mobility models.

Despite the limited nature of the evidence, it is clear that some tors were visited during the Early Neolithic before they were enclosed and that other tors, that never became enclosed, also received attention. In the case of the former, it might be argued that such visits took place immediately before, and therefore were part of, the process of enclosure, although this does not seem to tally with the evidence of the unenclosed Roche Rock and Clicker Tor, or the pre-enclosure building at Clegyr Boia. Indeed, many early monument sites in other parts of southern England demonstrate the importance of the site long before the construction of a monument (Pollard 2004, 64). At Crickley Hill, for instance, pre-enclosure occupation was represented by pits, post holes and stake holes containing material culture (Dixon 1988, 78). This is also true of a number of earlier long barrows, including Hazelton North, South Street (Darvill 2004, 94-5) and Gwernvale (Britnell & Savory 1984). It would thus appear that some tors were visited in the earliest Neolithic for what might have been a considerable period before enclosure, and that others continued to receive attention despite not being enclosed.

Does this evidence for prior visits to both enclosed and unenclosed tor sites mean that they were significant to the people of the Early Neolithic, and to those people who began enclosing the tors? The large time span over which Roche Rock was returned to, the fact that the deposits appear to have been made in a deliberate way that respected previous visits, and the amount of material found at Clicker Tor, suggest that something about these sites gave people a reason to return to them and mark those visits. The same could be said for Clegyr Boia: the construction of such a rare set of structures indicates that it was in some way a special place. Furthermore, these sites would not have been the most readily accessible places, requiring some effort to reach; they must have possessed some quality that made this effort worth expending. Thus, a case can be made for the significance or importance of

these particular sites to the people of this period. The long period between the initial and final visits to Roche Rock appears to span the probable date for the beginning of enclosure construction at Carn Brea, therefore it was entirely possible that previous meanings were still remembered when the tors were first enclosed. Unfortunately, Roche Rock is the only site from which evidence of such quality has been obtained, but the fact that megalithic ramparts were constructed to link tor outcrops at other sites does suggest that they had significance before the erection of the walls. As Barrett (2000, 66) points out, the people of each new age use the debris of the past to reconstruct their world. Furthermore, the contemporary causewayed and other enclosures of the southwest demonstrate that the people were perfectly capable of building enclosures away from the tors, thus again, one must suggest that the tors were already significant.

The next two chapters are devoted to understanding why the tors might have had significance while they were still natural places, and what that significance might have been.

Chapter 4: Landscape and movement

4.1 Tors in the landscape

Even if these tors did not have longstanding significance before enclosure, they must have possessed some quality that prompted enclosure. Identifying the pre-enclosure properties shared by the enclosed tors should help to make clear the reasons for enclosure, and more importantly, the meanings that the tors had. Based upon their locations in relation to the highland edges (Section 2.5.2) and watercourses (Section 2.5.3), this chapter looks at the tors as part of a wider, moved through landscape, and attempts to place the tors into a lifestyle of hunting and gathering, transhumance, trade and the social round. Chapter 5 concentrates upon the tors themselves in an attempt to understand what ‘being there’ might have entailed and meant.

4.2 Localised movement: routeways onto and off highland areas

This section examines localised mobility by breaking the study area down into three regions: the St. Austell highlands and Bodmin Moor, Dartmoor and western Cornwall. The St. Austell highlands and Bodmin Moor region is considered first as this area has the highest number of tor enclosures and a number of larger watercourses. Despite having fewer tor enclosures, the relationships between enclosures and watercourses on Dartmoor are similar to those around Bodmin Moor. Once a pattern has been identified in these two regions, the western part of Cornwall will be discussed. Here, due to the lack of major watercourses, the pattern is harder to identify.

Key to maps in this section:

1x2m	□ Tor enclosure
2x2m	◆ Causewayed Enclosure
3x2m	◆ Other potential Neolithic enclosure or occupation site
4x2m	◆ Dolmen
5x2m	◆ Long barrow
	▲ Unenclosed tor
	◆ Greenstone Rock Source

4.2.1 The River Fowey

Figure 4.1 demonstrates how the River Fowey can be used to navigate from its south coast estuary to both the eastern edge of the St. Austell highlands and to Bodmin Moor, and to several potential Neolithic sites, including Helman Tor, Lanivet Quoit, Berry Down and Tregarrick. The route to

Helman Tor follows the river north to a point of approximate equal latitude to the tor, where a tributary can be followed in a westerly direction. This stream heads almost directly for Lanivet Quoit and then passes a few hundred metres to the south of it, continuing to its source near the base of Helman Tor.

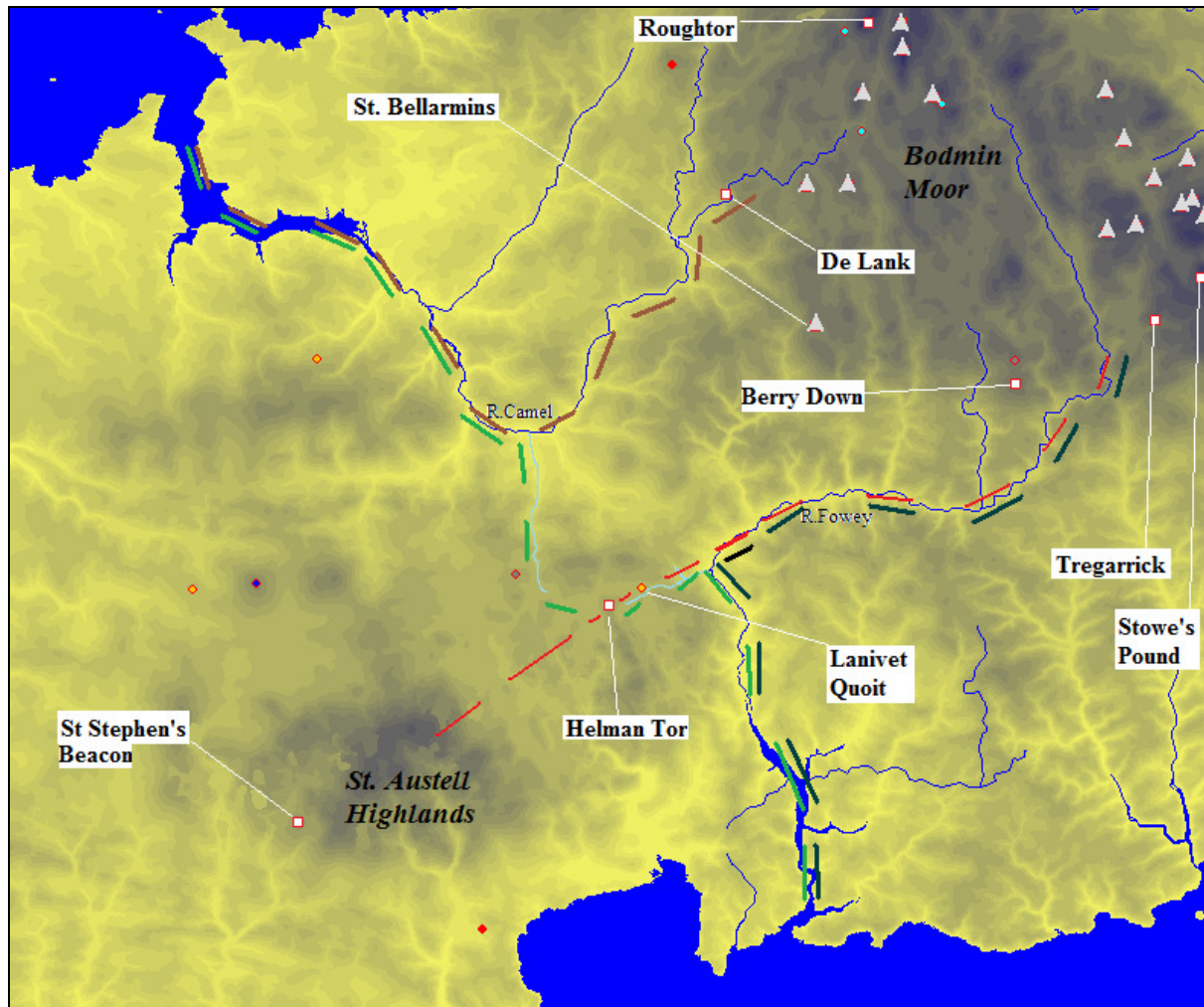


Diagram 4.1: The R.Camel and R.Fowey routes discussed in text. **Red**- St. Austell highlands to south of Bodmin Moor, **black**- south coast to south of Bodmin Moor, **green**- south coast to north coast, **brown**- north coast to west of Bodmin Moor. Streams mentioned in the text are shown in light blue.

The River Fowey also offers access to Bodmin Moor from the coast near its estuary (Fig 4.1: black route), and from the St. Austell highlands (Fig 4.1: red route). Whether coming from the coast or from the highlands one would pass by Helman Tor, which stands to the northeast of the St. Austell highlands, and is on a direct line from the centre of this upland area to the bend in the River Fowey where it turns towards Bodmin Moor (Fig 4.1). Although the nearest part of Bodmin Moor to the St. Austell highlands is its southwest point, the River Fowey passes to the south of this and crosses the into the highlands between Berry Down tor and Tregarrick tor, both of which are tor enclosures. It is notable in this context that St. Bellarmins Tor is a highland edge tor, and is the nearest major Bodmin

Moor tor to the St. Austell highlands, but it does not have a major watercourse flowing past it, and is not enclosed. That two possibly Neolithic tor enclosures stand on either side of the major river that links Bodmin Moor with Helman Tor suggests that the river was an important Neolithic routeway.

4.2.2 The Rivers Seaton and Lynher

There are two other major rivers further to the east that link the southern part of Bodmin Moor with the south coast (Fig 4.2). The River Seaton can be followed northwards from the coast for around 12km, at which point it becomes a large stream, and its tributaries split either side of Trethevy Quoit, the eastern one continuing north to within 1km of Stowe's Pound tor enclosure (Fig 4.2: green route). The first sizeable tor site that one passes is Clicker Tor, located halfway between the coast and Bodmin Moor. Considerable amounts of Neolithic and Bronze Age material culture have been found here although the outcrop itself has been removed by quarrying in recent times, so it is not possible to tell if any form of enclosure once stood (Walford 1998-9, 2000-1). The existence and location of this site lends further support to the suggestion that rivers were important routeways linking the coastal lowland to the highlands. Thus, just as Helman Tor could be reached from the south coast via a river and then a smaller stream, running past a dolmen, so could Stowe's Pound. Following this route, Stowe's Pound is the first of the Bodmin Moor tors encountered, just as Helman Tor is the first of the St. Austell highlands tors encountered when following the River Fowey, and Tregarrick and Berry Down tors the first of the Bodmin Moor tors encountered further upstream.

By following the River Lynher northwards from the south coast, the first of the Bodmin Moor tors to be passed is Notter Tor, again a suggested tor enclosure (Fig 4.2: brown route). The River Lynher also offers a good routeway for linking the south-eastern Bodmin Moor tor enclosures to the potential greenstone source at Balstone Down around 10km downstream, and a further source near the Lynher's estuary (Section 4.5).

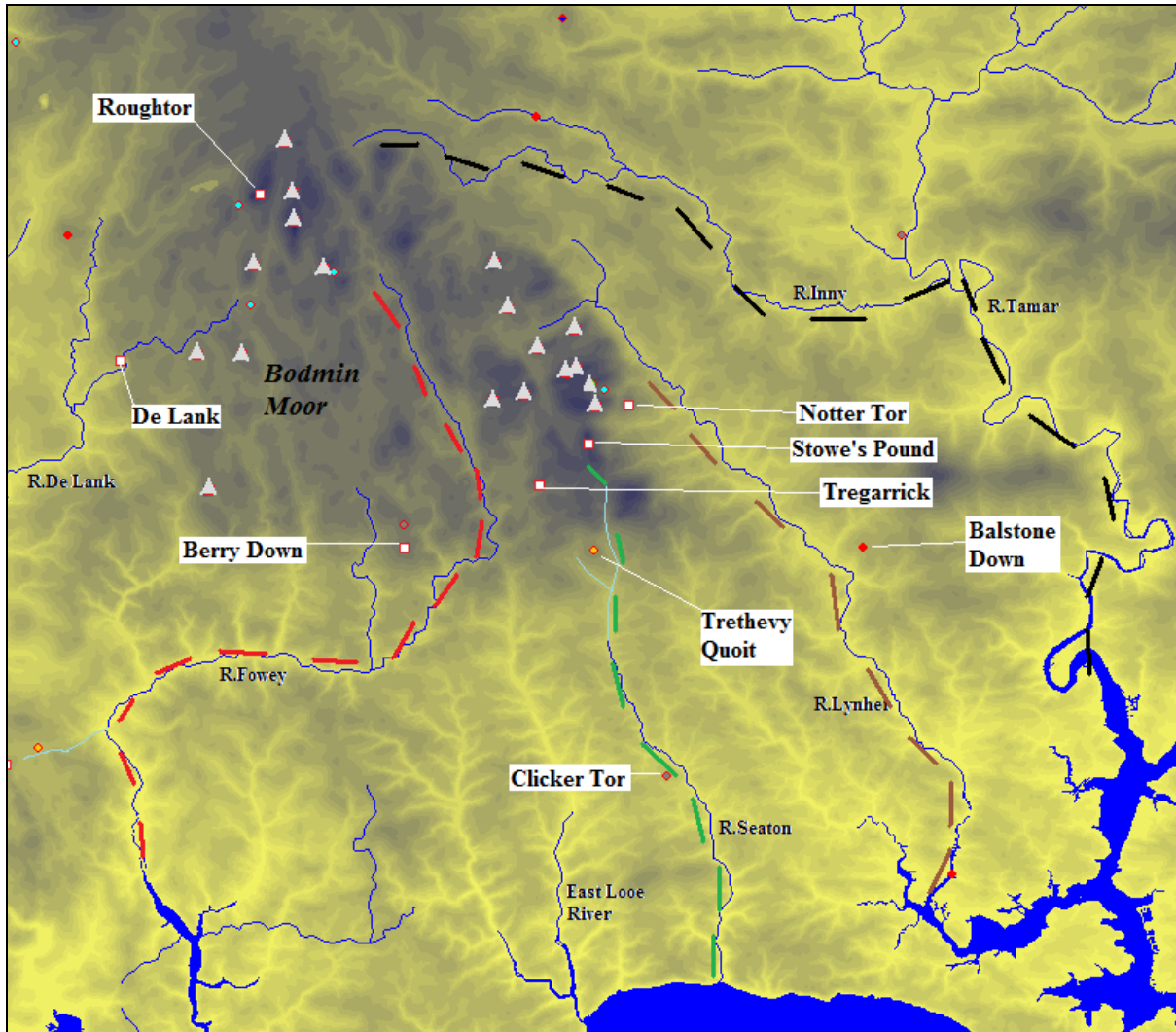


Fig 4.2: The major rivers around the southern part of Bodmin Moor. Routes discussed in the text, **red**- south coast to south of Bodmin Moor via R. Fowey, **green**- south coast to south of Bodmin Moor via R. Seaton, **brown**- south coast to southeast of Bodmin Moor via R. Lynher, **black**- south coast to north of Bodmin Moor via R. Tamar, R. Inny and Penpont Water. The streams mentioned in the text are shown in light blue.

4.2.3 The Rivers Camel and De Lank

As with the southern part of Bodmin Moor, there is a tor enclosure built upon the first tor that is passed when following the main rivers from the north coast to the highlands (Fig 4.3). In this case it is the route up the River Camel, and then upstream along its tributary the De Lank River. The De Lank River runs within metres of the De Lank tor enclosure. Again, the tor enclosure appears to mark the entry, or exit, point to the highland when rivers are followed to move across the landscape (Fig 4.3: green route). If the River Camel is followed upstream, beyond the point where the River De Lank joins it, one can gain access to the highlands by following another of its major tributaries (Fig 4.3: brown route). The first major tor that this tributary flows past is Roughtor, yet again an enclosed tor. The rivers also offer a routeway to a greenstone rock deposit, near Devil's Jump, from the two nearby tor enclosures.

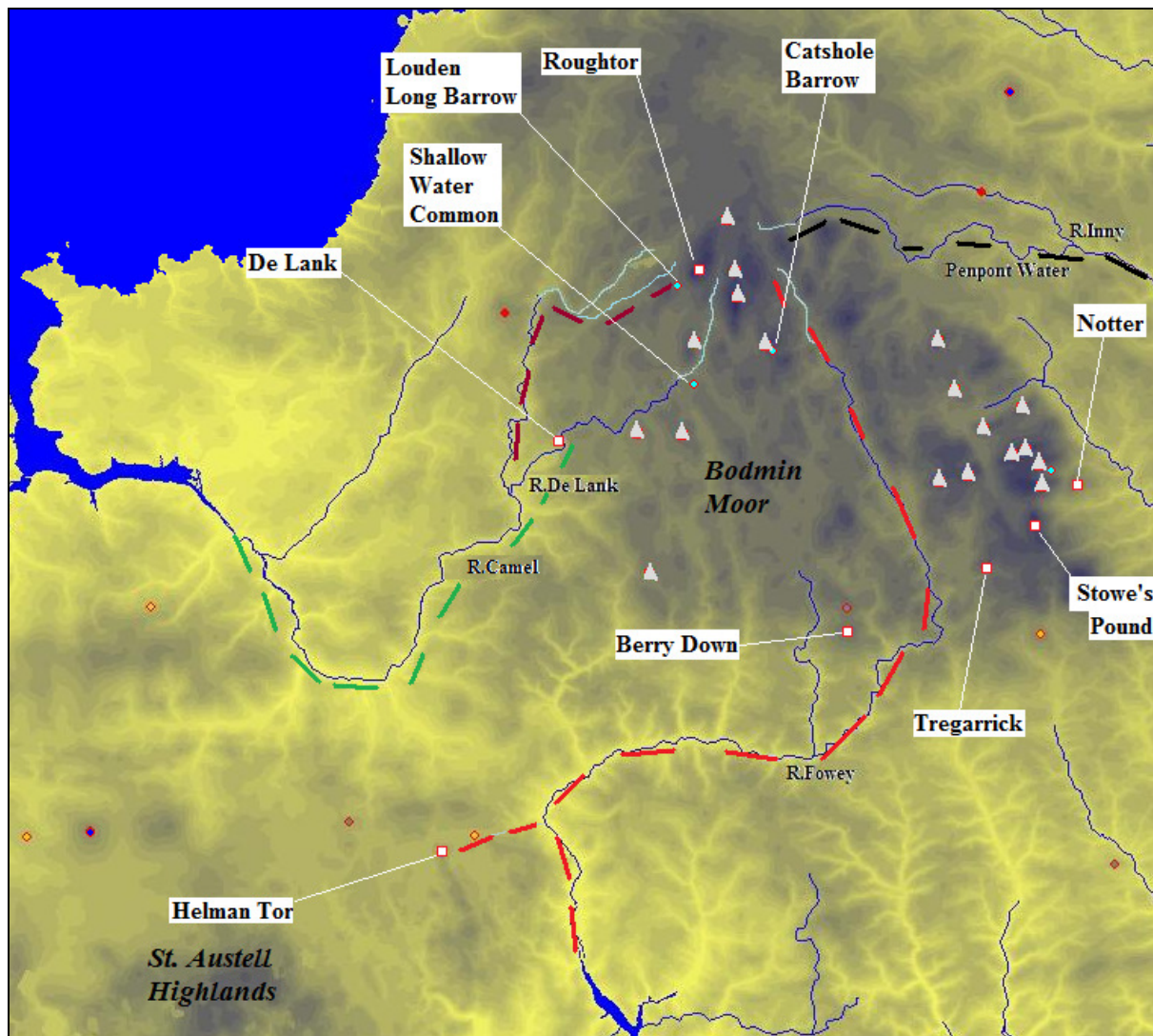


Fig 4.3: The major rivers around the northern part of Bodmin Moor. Routes discussed in the text, red- south coast to St. Austell highlands and south of Bodmin Moor via R. Fowey, black- south coast to north of Bodmin Moor via R. Tamar, R. Inny and Penpont Water (see Diagram 2a for route to coast), green- north coast to west of Bodmin Moor via R. Camel and R. De Lank, brown- north coast to northwest of Bodmin Moor via R. Camel, R. De Lank and small stream. The streams mentioned in the text are shown in light blue.

As has been remarked upon above, when following either the River Fowey or the River Seaton from the coast to the highlands one passes dolmens, Lanivet and Trethevy respectively, before encountering the highlands and a tor enclosure. From the north coast, when following the River Camel from its estuary, up to Bodmin Moor, one also passes moderately close to the Pawton dolmen before reaching the highlands. Unlike the southern examples, Pawton is sited closer to the coast than the highlands, and is around 3km along a stream that joins the River Camel near the estuary. On Bodmin Moor itself the De Lank River, as it approaches Roughtor, passes the possible long barrow at Shallow Water Common. Furthermore, when approaching Roughtor from the tributary that runs into the River Camel (Fig 4.3: brown route), one must also pass the Louden long barrow. Thus, these two barrows would seem to be placed on the approach to a tor enclosure much like the Trethevy dolmen when

approaching Tregarrick, Stowe's Pound and Notter tor enclosures, and the Lanivet dolmen when approaching Helman Tor. One also passes the long bank barrow below Roughtor when approaching from these streams. Finally, if the River Fowey is followed to its source in this area, one passes the Catshole long barrow.

4.2.4 The Rivers Plym, Meavy and Tavey

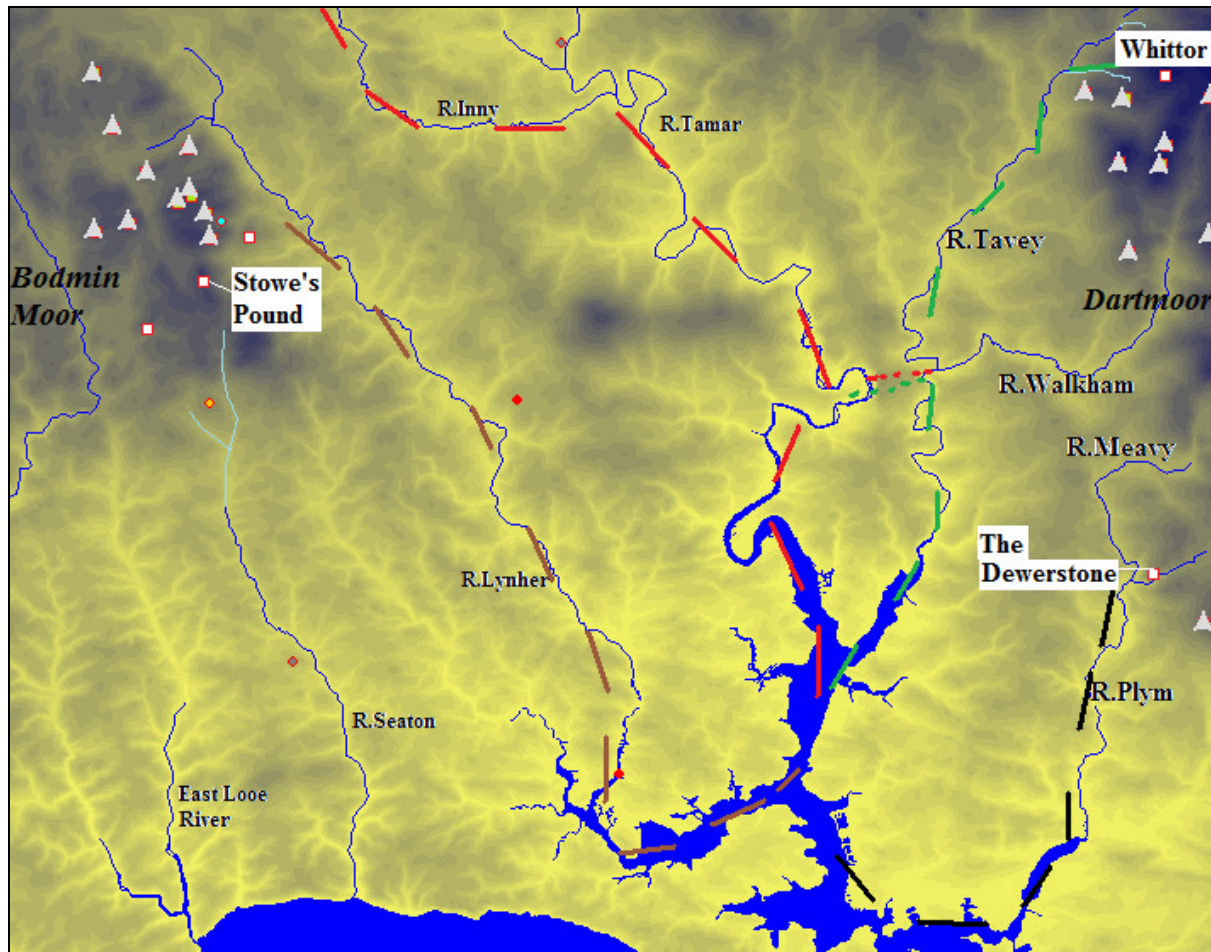


Fig 4.4: The major rivers to the west of Dartmoor. Routes discussed in the text, **red**- route from north or Bodmin Moor via Penpont Water, the R. Inny and the R. Tamar to the Tamar estuary, **brown**- route from south of Bodmin Moor via the R. Lynher to the Tamar estuary, **green**- route from west of Dartmoor via the R. Tavey to the Tamar estuary, **black**- route from southwest of Dartmoor via the R. Plym to the Tamar estuary. The streams mentioned in the text are shown in light blue.

The situation described above for Bodmin Moor is replicated for the Dewerstone tor enclosure on Dartmoor (Fig 4.4). Here the River Plym, one of the larger rivers in the area, can be followed from the south coast to Dartmoor, and the first tor that it passes is Dewerstone. On following the River Tavey from its estuary up to the highlands, the third tor encountered after branching off along a small stream is the enclosed site of Whittor (the Smeardon Down and Boulters tors are passed first) (Fig 4.4: green route). Initially this might suggest that Whittor does not fit the pattern described above, but

the Smeardon Down and Boulters tors are both lower and less substantial than Whittor, which sits upon the summit above them. Indeed, Whittor has much better lowland views and a greater drop below it on the lowland side than either of the other tors and can, thus, be called the first *major* tor on this approach to the highlands. There is no known Neolithic evidence from the tors around the River Walkham, but as they seem to fit the pattern outlined, investigation might be worthwhile should Vixen Tor ever be opened to the public again.

4.2.5 The Rivers Bovey and Dart

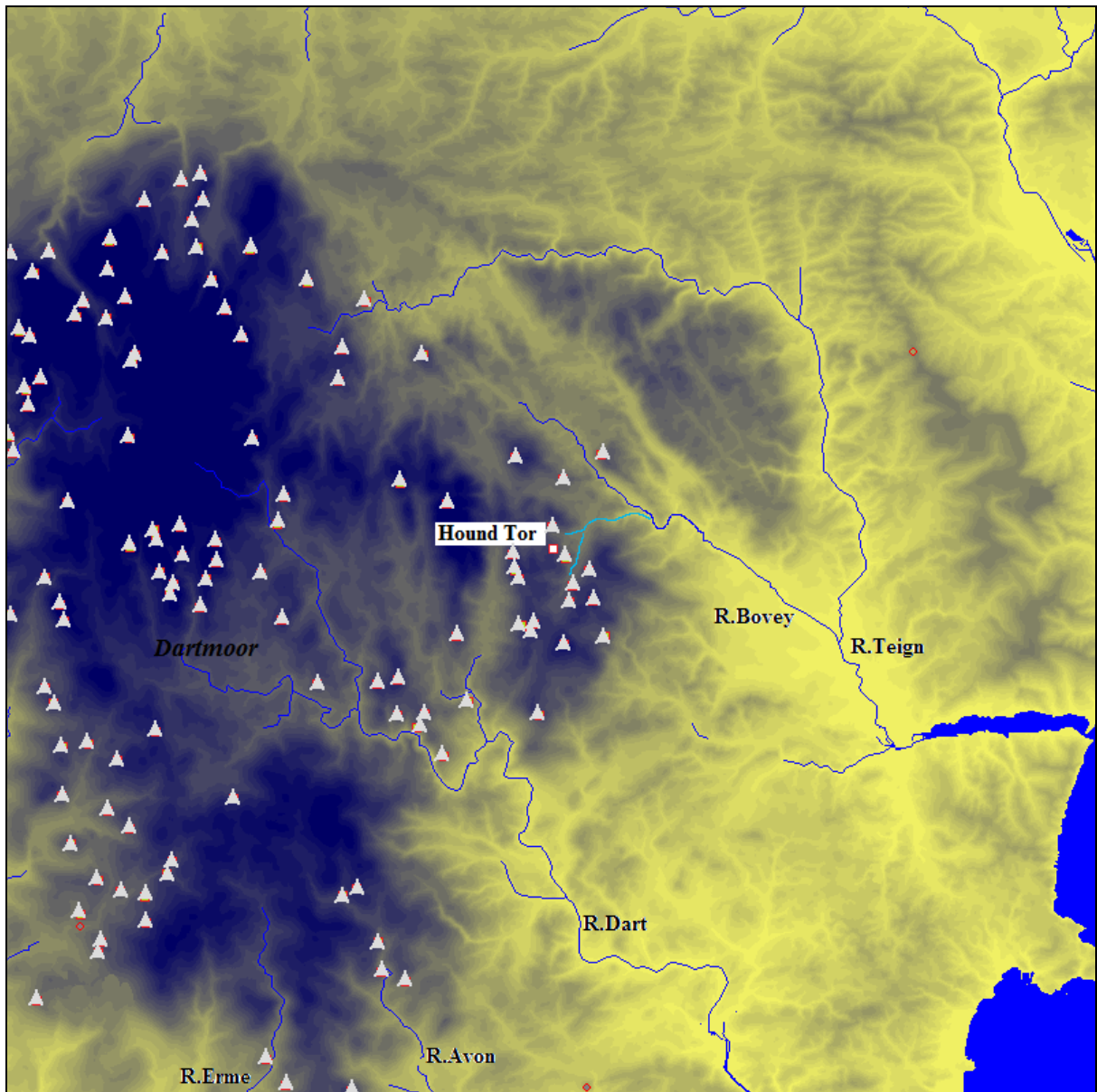


Fig 4.5: The major rivers to the east of Dartmoor. The streams mentioned in the text are shown in light blue.

Further east, the enclosed Hound Tor can be reached by following the River Teign to the River Bovey and then Becka Brook stream (Fig 4.5). However, this route also passes several other tors: Little

Hound Tor, Greater Rocks, Holwell Tor and Smallcombe Rocks. These four tors are all fractionally closer to the edge of the highlands but are also a little less substantial than Hound Tor. Hayne Down might equally have been a candidate for enclosure as the outcrops are substantial, if slightly less so than Hound Tor, and the elevation and views are greater.

Alternatively, on continuing upstream along the River Bovey, rather than following Becka Brook towards Hound Tor, two further tors are encountered that might claim to be the first ones reached when approaching Dartmoor from the south coast. Hunter's Tor is substantial and close to the river, but this site (which also has a later hillfort upon it) is on the highland-facing side of a hill and thus stands apart from the other tor enclosure sites. Manaton Rocks tor, which is located across the River Bovey from Hunter's Tor, does have lowland views and is quite substantial, but is around 80m lower than Hound Tor.

Hound Tor, then, when compared to many of the other tor enclosures, is not located in a position that makes it as clear-cut a candidate for being the first tor encountered when approaching Dartmoor from the southeast by following a major watercourse. If one takes into account the relative size of outcrops, elevation and views from the tors, the case for Hound Tor fitting the pattern becomes a little more convincing but still not overwhelmingly so.

If Dartmoor were used and viewed in the same way as Bodmin Moor, one might expect to find enclosures on the first major tors encountered when following its other major rivers upstream. Yet on the southern perimeter of Dartmoor, between the River Bovey and the River Tavey, the highland boundary is crossed by a number of major rivers that flow past tors with no known evidence for enclosure. Most notable amongst these is the River Dart as it flows from the centre of Dartmoor. Moving upstream from the coast the first major tors that one encounters are Mel Tor and Bel Tor which both have large outcrops, reasonable lowland views and are at elevations of 300m and 350m OD respectively. Several reasons present themselves as to why there is an apparent lack of tor enclosures in this part of Dartmoor. It may be that one or more enclosures remain undiscovered because of a lack of fieldwork, or it may be that the enclosures at Dewerstone and Hound Tor were sufficient to fulfil the roles that tor enclosures played in this area. The concentration on building tor enclosures, and dolmens, seems to be centred in Cornwall rather than Devon, where causewayed enclosures are more numerous. Thus the lack of a tor enclosure on the River Dart may just be due to differences in cultural expression between this area and that to the southwest. The influence of tor enclosures might only have spread to the west of Dartmoor, meaning that Hound Tor is not a Neolithic enclosure or is an untypical outlier.

4.2.6 The rivers of the Penwith Peninsular and Carnmenellis

There are no major rivers around the Carnmenellis highlands where Carn Brea is situated, the largest river being the Red River (Fig 4.6). Following this watercourse from the north coast near Gwithian one is taken past the group XVI greenstone source at Camborne, and up to the Carnmenellis granite massif to within 1.5km of Carn Brea. The Red River is clearly not on the same scale as some of the rivers around Bodmin Moor, but the fact that it links the Carn Brea tor enclosure, an important greenstone source and the north coast near Gwithian, a Neolithic occupation site (Thomas 1958; Nowakowski *et al.* 2007), suggests that this smaller river acted as a routeway in the Early Neolithic in a way similar to those further to the east. It is difficult to ascertain whether the pattern of enclosing the first major tor encountered when moving upstream into the highlands is repeated here because Carn Brea is the only major tor in these highlands. Furthermore, there is no evidence for a dolmen or barrow downstream of Carn Brea, as there is for some Bodmin Moor tor enclosures.

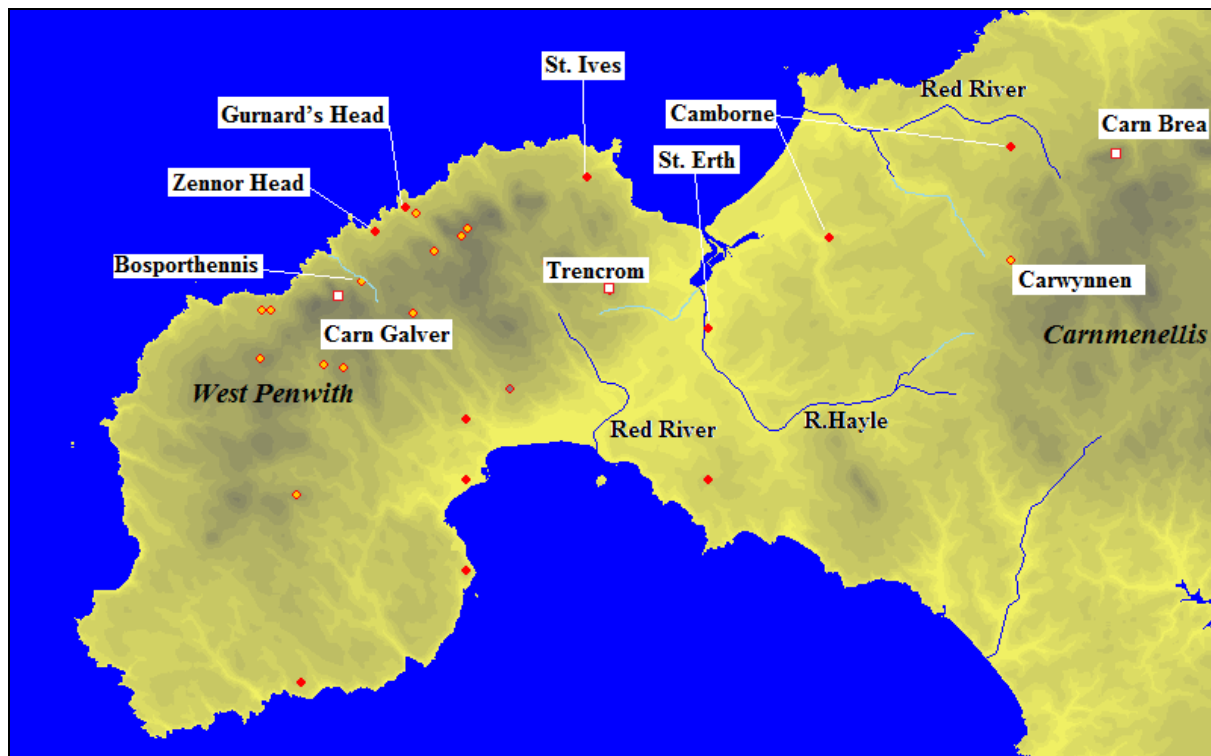


Fig 4.6: The main watercourses of the west of Cornwall

Tren crom and Carn Galver have no major rivers near them; indeed, there are no large watercourses in the Penwith area. Carn Galver can be reached from the sea by following a watercourse upstream to a dolmen, Bosphorthennis, which stands just beyond the northern slope of the tor. In this case the watercourse is a small stream and following it to Carn Galver would give little navigational aid. It should be noted, however, that the Bosphorthennis dolmen is almost directly between Carn Galver and the greenstone sources of Zennor Head and Gurnard's Head, and may have been placed at a point

where the stream was forded. A small stream also runs from the River Hayle estuary and around the southern side of Trencrom hill, although there is no surviving dolmen on this watercourse.

4.3 Regional movement

As has been discussed above (and Section 2.5.3), tor enclosures often tend to be positioned on watercourses that might offer routeways up to and off the highlands, or from coastal areas to the highlands. For some of these routeways a case can be made for wider movement across the landscape, between areas of highland or from coast to coast.

4.3.1 The Rivers Fowey and Camel – south to north coast

The use of the River Fowey as a route between Helman Tor and the southern side of Bodmin Moor has already been described (Section 4.2.1), but it might also have acted as part of a major routeway between the south and north coasts. The Fowey can be followed from the south coast to Helman Tor as outlined in Section 4.2.1, and from there a stream flows north to join the River Camel which continues to the north coast (Fig 4.1: green route). Helman Tor, located on the watershed, could be said to stand at the gateway between the north and south of this part of Cornwall. For the most part, this route follows the two largest rivers in the area and it crosses from south to north at one of the narrowest points if the long Camel and Fowey estuaries are counted as coast. It also passes the Neolithic site at Castilly (Thomas 1964). It seems likely that much of this route may have been navigable with small craft.

The River Fowey can also be used to cross from the south to the north edge of Bodmin Moor (the modern road follows much of this route, Fig 4.3: upper part of red route). The head of the Fowey is not far from the source of the De Lank River, and from Roughtor which is on the highest part of Bodmin Moor at a point where the surrounding watercourses flow to both north and south coasts, just as at Helman Tor: the De Lank River and River Camel flow to the north coast, and the River Fowey and River Tamar, linked via Penpont Water and the River Inny, flow to the south coast.

4.3.2 The River Tamar - between the highlands and eastwards

Major rivers also linked Bodmin Moor and Dartmoor (Fig 4.4), and the St. Austell highlands (Fig 4.3). The area between Bodmin Moor and Dartmoor, although not as high as the areas that border it, is still hilly with many enclosed valleys and minor watercourses. If covered in areas of dense forest,

with patches of alder carr in the lower, damper parts (Chapman & Gearey 2000, 317; Section 3.1.1), it would have been extremely difficult to navigate via direct cross-country routes. Following the larger rivers might have been a better option both in terms of ease of navigation, and movement if small craft were used. The obvious route from the Stowe's Pound, Notter Tor and Tregarrick area of Bodmin Moor, to the west edge of Dartmoor would be to follow the River Lynher downstream to its estuary (Fig 4.4: brown route), cross the sheltered estuary waters, and then follow either the River Tavey upstream to Whittor and the west of Dartmoor (Fig 4.4: green route), or the River Plym to Dewerstone and the southwest of Dartmoor (Fig 4.4: black route). One could also follow the River Seaton downstream to the sea and then the coast eastwards to the Tamar/Tavey/Plym estuary. From the north of Bodmin Moor one could use Penpont Water to access the River Inny and then the River Tamar (Fig 4.4: red route), which can then be followed downstream to the estuary to reach the River Plym, or a short land crossing could be made just before the estuary to access the River Tavey.

After reaching the Tamar/Tavey/Plym estuary from Bodmin Moor the coast could also be followed eastwards to reach a number of other Neolithic sites. The River Bovey would give access to Hound Tor from the coast, although if coming from west Dartmoor it is debatable as to whether this long coastal detour would give much advantage over crossing the centre of the highlands. This coastal route also allows access to the Early Neolithic occupation sites at Hazard Hill (Houlder 1963) via the River Dart, Haldon (Willock 1936, 1937) via the Rivers Teign or Exe, the causewayed enclosure at Raddon (Gent & Quinnell 1999) via the River Exe, the Neolithic enclosure at High Peak (Pollard 1967, 41) on the coast, and the causewayed enclosure at Hembury (Liddell 1929-32a; 1929-32b; 1929-32c; 1933-36) via the Rivers Otter or Culm.

To the east of Dartmoor the pattern might be repeated once again. The River Otter enters the sea just a few kilometres along the coast from the High Peak Neolithic enclosure site. If the River Otter is followed upstream its tributaries pass to either side of the Hembury causewayed enclosure. Indeed, just as tor enclosures marked the points where routeways, which took in major rivers for some part of their courses, passed from the coastal low ground to the highlands in Cornwall, so Hembury marks the point where the route from the coast and High Peak, and up the River Otter, passes into the Blackdown Hills.

4.3.3 West and central Cornwall

Like Helman Tor and Roughtor, one might suggest that Trencrom is located on a route between the north and south coasts: a stream can be followed from Trencrom to the River Hayle estuary on the north coast, and, just over a kilometre to the southwest of Trencrom, the Red River can be followed

downstream to the south coast (Fig. 4.6). However, this route is not direct and is slightly hillier than following the more direct route that the modern railway takes.

One might also suggest that the pattern of using watercourses to access uplands from the coastal areas is also repeated at Castle An Dinas, St. Columb Major. This potential causewayed enclosure (Cornwall SMR) sits atop a small hill just beyond the northern limit of the St. Austell highlands. The River Menathyt can be followed from the north coast at Trenance to within 3km of Castle An Dinas and the confluence of two streams. One stream flows around to the south-west of Castle An Dinas, and passes Quoit dolmen before reaching the enclosure, much as other dolmens are passed before reaching the tor enclosures in the highlands. Furthermore, Castle An Dinas is in a location where the streams less than 2km to the south flow to the south coast. This replicates the situation at some of the tor enclosures.

As discussed above, it is more difficult to identify similar routeways in the west of Cornwall due to the lack of major rivers. However, if tor enclosures elsewhere were on major routeways as evidenced by their relationships with watercourses, it could be inferred that the western most tor enclosures were also on major routeways, but that they are not routeways that follow rivers. For instance, the coastal position of Carn Galver might suggest that it was on a sea-going routeway around Land's End and into the Irish Sea. Journeys north, either into the Irish Sea or the Severn Estuary to access the Cotswolds and the Midlands, would also have passed close to Trencrom and Carn Brea, neither of which is far from the coast. The theme of sea travel will be returned to in Chapter 8.

4.4 Comparisons with other parts of country and the ethnographic record

Site location, in the Neolithic, with respect to an area's larger watercourses is a phenomenon that is becoming more apparent elsewhere in the country. Oswald *et al.*'s (2001, 91) river valley floor group of causewayed enclosures are sited on slight rises in the valley floor, often at the edge of the river's flood plain, although it is questionable whether Early Neolithic rivers would have flooded to the extent that they do now (*ibid.*, 93). Many of these enclosures lie within 200m of the modern watercourse, and some major rivers such as the Thames, Welland and Nene have concentrations of causewayed enclosures along them. Where causewayed enclosures are found near smaller streams, they tend to be within 5km of where those streams join a larger river. This is not dissimilar to tor enclosures such as Stowe's Pound and Notter Tor that are found near to a stream that feeds a larger river a few kilometres away. Oswald *et al.*'s (2001, 97) second causewayed enclosure grouping, the river valley side category, also tended to be positioned overlooking larger watercourses, such as

Burham which overlooks the River Medway. Added together the river valley floor and river valley side categories account for two thirds of all known and probable causewayed enclosures.

The present author's work on the Early Neolithic longhouses of Britain has also demonstrated a relationship between the positions of some of these enigmatic structures and major watercourses (Davies 2009a; 2009b). Six case study areas, representing some of the most convincing examples of Early Neolithic longhouses, were examined: the two Llandegai houses near Bala in North Wales, the Whitehorse Stone and Pilgrim's way sites in Kent, Yarnton in Oxfordshire, the longhouses at Lismore Fields in the Peak District, Balbridie and Warren Field in the Grampian region of Scotland, and Claish in Stirling, Scotland. The majority of these sites all stood near to their area's major river: Balbridie and Warren Field were built either side of the River Dee, Claish next to the River Teith, the Lismore Fields houses near the River Wye, Yarnton near to the River Thames and White Horse Stone and Pilgrim's Way near to the River Medway. In most of these cases the longhouse was oriented to be parallel to the river or river valley even when the ground required terracing to allow this. The Llandegai longhouses were not near a major watercourse, unless one counts the Menai Straits which they overlook, but were between two streams, one of which marked a major routeway up into the mountains of Snowdonia (Jane Kenney pers. comm.). Furthermore, like many of the tor enclosures the longhouses were situated on an interface between low and high ground. Unlike the tor enclosures, however, which are situated on the highland side of this interface, the longhouses tend to be found in the last low area before elevation increases. The rivers that they stood near marked obvious routeways up into the high ground just as the watercourses that run past a number of the tor enclosures formed access ways between the lowlands and highlands of the southwest.

In some areas long barrows also appear to concentrate along rivers. Field (2006, 99-123) gives several examples, including the River Avon in Wiltshire, the River Kennet near Avebury, and the Rivers Stour, Ouse and Nene in the English Midlands. Field suggests that these barrows might have been territorial markers. However, Field's interpretation is based upon an assumption that all were used contemporaneously. Recent work by Whittle *et al.* (2007) suggests that this may not have been the case, but that the barrows saw short periods of primary activity, and that not all in any particular area would have been in use concurrently. This interpretation does not then require permanent settlement to explain the building of barrows along rivers in the Early Neolithic, thus leaving open the possibility that the barrows served as markers along important routeways.

In Cornwall, Kytmanow (2008, 123) argues that portal dolmens are all found close to streams; thus further showing the importance of watercourses to the people of the Neolithic. She claims that this positioning was due to the requirements of agriculture, but offers little evidence to support this. Tilley

(1994, 105), on the other hand, suggests that the portal dolmens of Wales might mark important routeways.

Noble (2007) has identified three important trans-peninsular routeways in Scotland where monumental complexes were located on watercourses that allowed movement between coastal areas without the need for difficult sea voyages. The complexes often consist of monument types that are more reminiscent of distant areas than local monumental repertoires. Noble (2007, 71) suggests that the complexes were not central places of power, but were located in marginal places that allowed easy access from a number of different regions and communities, developing as a result of an intensification of communication between different groups. The Upper Clyde Valley complex, for instance, was sited near the sources of three major rivers, the Clyde, Nith and Tweed, on a route that linked both coasts of the Borders area with the inner Western Isles. A similar situation is found at the Thornborough henges which were located on a principle routeway that runs westward across the Pennines (Harding 2000, 42-3). In southern England, Sherratt (1996a; 1996b) claims that Wessex saw a massive concentration of monument building because the three Rivers Avon allowed easy access between the south coast, and the Irish Sea, Wales and the English Midlands without the need to travel on the rough seas around Land's End.

The ethnographic record contains much evidence of mobile groups using watercourses for movement. For instance, the 13th century Thule caribou hunters of Greenland could have survived all year at the coast but instead chose to venture inland, following the major rivers and passes, so that they could meet people from other groups (Odgaard 2007). Assembly camps were placed along their routeways, where aggregations could take place. They also built monuments in homage to the spirits along these routeways (*ibid.*, 29). The Kets of western Siberia used rivers for movement in a similar way (Zvelebil 2003). Their major movements, known as Great Journeys, followed large rivers between the lowland winter areas and the highland summer areas. At the interfaces between the coastal, lowland and highland areas they often built shrines to mark these positions as important transitional places. This is an obvious parallel to the building of enclosures at the first major tor encountered when following a watercourse upstream to the highland in southwestern England. It is notable that the Ket belief system involved a three layered universe: the sky, the earth and the underworld, all linked by a cosmic river just as the varying parts of the landscape, highlands (sky), lowlands (earth) and sea (underworld), are linked by rivers. The apparent importance of rivers in the Neolithic southwest of England, demonstrated by the monuments found along several, may allow for a roughly similar belief system, and suggests that these routeways were implicitly linked with how people 'got on' in the world. As Kador (2007, 42) points out, movement involves muscular, aural, olfactory, and visual immersion in a constantly changing world. It is the act of moving or travelling that causes this

world-change and so travel means much more than simply leaving A and arriving at B, rather it is tied up with identity and understanding of the world (Cummings 2007, 55).

These ethnographic examples seem to present close parallels with the evidence from Cornwall and western Devon. Rivers such as the Fowey and the Camel offer access between a number of different areas: from coasts to highlands, between different areas of highland and from south to north. Some would have allowed people to move between the English Channel and the Irish Sea or River Severn without having to sail against the wind around Land's End, and others allowed people to access the interior of the southwest. If the routeways grew in importance due to the increase in inter-group communication (see Section 6.3), then the special places that marked thresholds along their courses would also have increased in importance.

4.5 Geology and greenstone sources

Mercer (2001, 47) has suggested that the desire to be close to as wide a range of differing geologies was a factor when choosing tors for enclosure. The existence of a local greenstone source may have been especially important. Cornish greenstone axe heads have been found across southern England, and in areas as distant as East Anglia, Yorkshire and Ireland (Bradley & Edmonds 1993, 49; Mercer 1981, 48; Sheridan 2004, 15). Given the apparent importance of these stone axes in the Early Neolithic (Mercer 1986, 42-48) it is worth considering the locations of the possible greenstone quarries in relation to the tor enclosures and to movement, for instance Andy M. Jones (pers. comm.) considers that the enclosure of Carn Galver was influenced by the proximity of the supposed quarries at Gurnard's Head and Zennor Head.

4.5.1 Relationships to differing geologies and greenstone sources

It may be that tor enclosures do have a relatively wide range of local geology types, but this might also be a side-effect of the desire for a highland-edge location. It would seem that the topographical, pedological, geomorphological and vegetational characteristics of the different geological zones were more important than the hard geology itself. Furthermore, when the average proximity to the number of areas of different geology is compared to other Early Neolithic site types, it appears that tor enclosures did not have a significantly wider range of geologies nearby (Table 2.15). The southwestern causewayed enclosures have, on average, a greater number of different local geologies than the tor enclosures, although analysis of a random sample of locations and a random sample of hilltops across the southwest suggests that all Early Neolithic monument types were located in areas with an above average number of different local geologies.

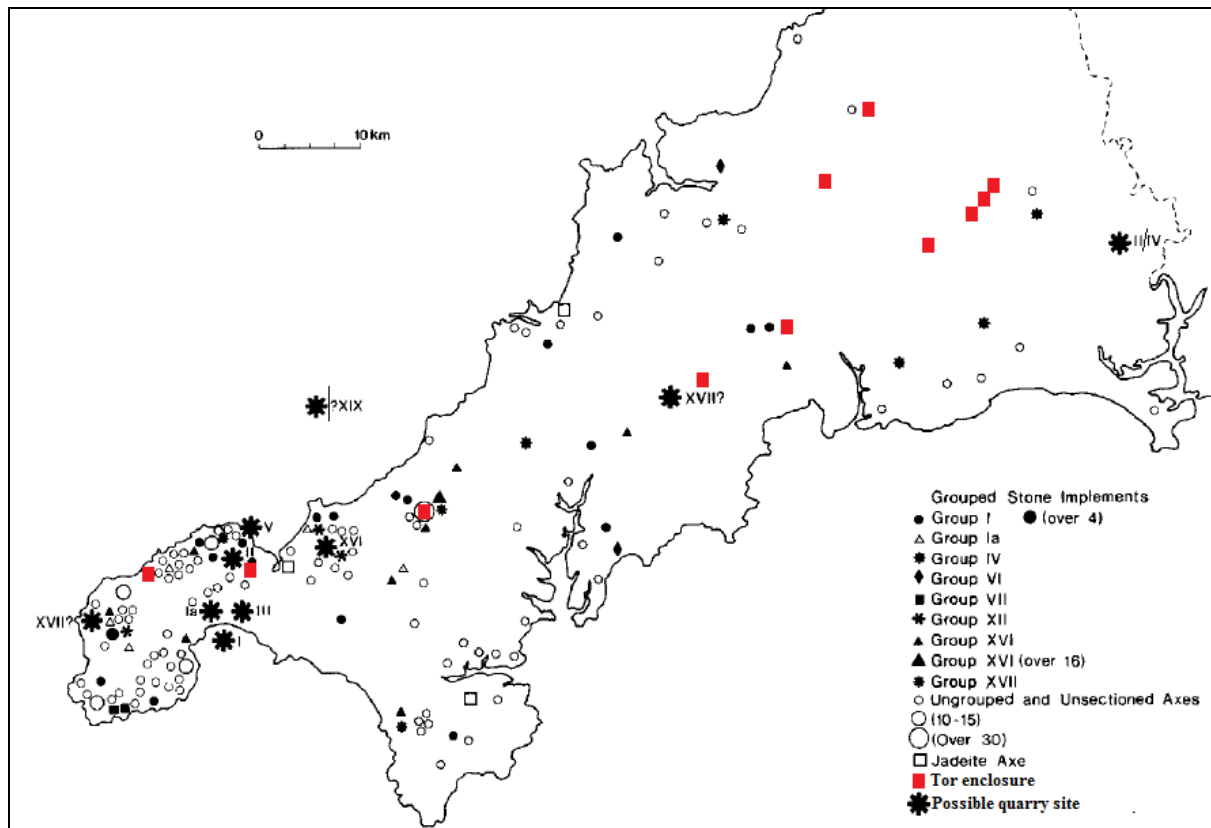


Fig 4.7: Cornish axe finds and possible quarry sites in relation to tor enclosures (adapted from Mercer 1985, Fig 2).

All of the Cornish tor enclosures except Roughtor and De Lank have a greater proximity to the nearest suggested greenstone axe source site, identified in Mercer (1986), Bradley & Edmonds (1993) and Edmonds (1995), than the average for all of Cornwall (Table 2.15; Fig 4.7); which might infer that proximity to such sources was an influencing factor when tor enclosures sites were chosen, as Mercer (1981, 189) suggests. This could be an oversimplification. The dolerite rock group, of which greenstone is a member, tends to be found near the edges of the granite massifs in Cornwall (Stanier 1990, 26-27); thus it is not surprising that locations on the edge of the high granite happen to be closer to greenstone deposits than the average for the whole of the county.

However, certain of the tor enclosures do appear particularly close to possible greenstone quarry sites. Carn Galver is only 2.5km from Gurnard's Head and 4km from Zennor Head, yet the tor above Zennor is much closer to both. If the principle reason for enclosure site selection was to be near to a greenstone site, the Zennor tor would have been a better option (although, it should be noted that there is a very tentative suggestion that this tor might have been enclosed too: Kytmanow pers. com.). Trencrom is the nearest major tor to the St. Erth greenstone source, but Rosewall Hill tor is nearer to the St. Ives source. Carn Brea, being the only major tor on the Carnmenellis massif is, by default, the nearest tor to the Camborne greenstone deposits.

On Bodmin Moor Stowe's Pound, Notter Tor and Tregarrick are all on the edge nearest to the Balstone Down greenstone source, but are still 10km away. Roughtor and De Lank are not near a recognised greenstone axe source, though there are two greenstone deposits nearby which are not associated with any axe type. As the number of axes not ascribed to one of the principle quarry sites is large (Mercer 1986, 45), it is feasible that some may have come from these sources.

4.5.2 Movement and greenstone sources

Given the discussion regarding the use of rivers as routeways it is interesting to note that several greenstone sources could be connected to the tor enclosures via the use of watercourses. Camborne is near the Red River, downstream of Carn Brea, and Balstone is just off the River Lynher, downstream of Notter Tor and Stowe's Pound. Two further deposits, not currently associated with any axe type, are also connected to tor enclosures in this way: one is near the River Camel where the stream from Roughtor enters it, and the other is near the estuary of the River Lynher. For the other tor enclosure sites connections of this kind are not so apparent. The greenstone source near St. Austell is not directly linked with St. Stephen's Beacon or Helman Tor by a river. To reach the two greenstone quarries near Carn Galver one might follow the stream from Bosporthenis, and then travel along the coast. Whittor is on an outcrop of dolerite, but none of the Dartmoor tor enclosures are near recognised potential greenstone axe quarries.

Thus, not all tor enclosures were deliberately sited near to greenstone sources, although some seem to be on possible communication routes that take in greenstone sources. It might be that these routeways ran directly between the tor enclosures and the greenstone sources, thus perhaps fitting Mercer's (1981, 189) suggestion that tor enclosures acted as axe finishing factories on trade routes, even though it is more likely that both were on wider routes of movement. A comparison might be drawn with Price's (2007) interpretation of Graig Lwyd in north Wales. Price suggests that the monuments and finds that occurred around that area were not a result of the position of the Graig Lwyd axe quarry, but that the popularity of the quarry sites, and the axe heads that came from them, were a result of the importance of the journeys made on the routeway that passed by.

In Cornwall it may not have been that the positioning of some tor enclosures close to greenstone sources was to enable the acquisition of axe heads, but that the journey took precedence and the axes were acquired to mark that journey. Thus the evidence for finishing axes at Carn Brea does not necessarily demonstrate that it was a factory or distribution centre, but that the transformations of the axe heads, extraction, finishing and exchange, were being used to bring distant places together and to represent the journeys made. This would also explain why tor enclosures such as Carn Galver were

near greenstone sources, but not on the nearest tor to them; if the journey and the tor enclosure took priority over the axe then it would have been a question of retrieving the rough-out from the nearest source rather than enclosing the nearest tor to the source. This is not to say that the axe sources were only chosen because they were near tor enclosures, but rather, as will be seen in Chapter 5, that the increased emphasis on the possession and distribution of a pre-existing type of material culture (axe heads) may have been a result of their associations with routeways and monuments.

It should be remembered, though, that the tors that were to be enclosed probably did not all gain importance at the same time. The above interpretation might explain why certain greenstone deposits became important because of the nearby routeways or the tors on those routes. However, once this association became common, it could have become reflexive, and certain tors were then chosen because they were near potential axe quarries. Mercer's (1981, 154; 189) conclusions may have become true to an extent.

4.6 Conclusion

This chapter has demonstrated that those tors deemed appropriate for enclosure were predominantly to be found on obvious routeways up to the high granite. These routeways were defined by rivers, or the main streams that fed them, and sometimes marked by tombs. Furthermore, these tors were the first major tors to be encountered when following the watercourse upstream to the highlands, and thus might be said to mark the boundary between the worlds of the lowlands and highlands, or the visible edge of the high granite. The desire to mark important routeways with monuments is encountered both in other parts of Neolithic Britain and in the ethnographic record, further supporting these conclusions.

Once it is demonstrated that such watercourses might have acted as important routeways, the locations of those tors that were deemed appropriate for enclosure become even more significant. Not only did they lie on access routes to the highlands, they were also to be found in locations pivotal to a larger network of communication routes, stretching across the whole region. For instance, Helman Tor is positioned on the obvious route between the St. Austell highlands and Bodmin Moor, and, due to its watershed position, on another route between the north and south coasts. Roughtor also stands on the watershed between the coasts, and links the north coast to the southern part of Bodmin Moor. The southern Bodmin Moor tor enclosures and the western Dartmoor enclosures are positioned such that they are the points of departure and arrival when using the river network and Tamar estuary to move between these two upland areas.

Mercer (1981, 189) has argued that proximity to greenstone sources was central to the selection of certain tors for enclosure as they acted as axe production sites and central places on the west-east trade routes. Some tor enclosures are, indeed, found near greenstone sources, but it might be that this was a result of the greenstone sources being exploited because they were near important routes, rather than the routes and enclosures being created to reach the greenstone.

The deliberate selection of significant positions, within a wider network of movement, for enclosures and for building barrows and dolmens, would suggest that these routeways were already well established before construction began. Such patterns of movement might well have had Mesolithic antecedents as the action of following rivers from lowland coastal areas up into the highlands, would appear to mirror Bell's model for the Severn Estuary (Section 3.1.2). Thus, it appears that movement was integral to 'getting-on' in the Early Neolithic world of the southwest, but why would the tor locations be deemed significant before they were enclosed? This issue will be addressed in the following chapter.

Chapter 5: Pre-enclosure meanings

It has been suggested above that the tors might have been significant before enclosure, and it is clearly important to understand why this was so as it underpins any understanding of the origins of the tor enclosures and why the tors developed in the ways they did. Chapter 4 demonstrated that tors that were to be enclosed were situated on major routeways. Yet, these routeways were long and took in many locations, so why would these particular tors have stood out? This chapter examines the significance of the tors as special places in terms of their relationships with the surrounding landscape, the past and how people related to their worlds.

5.1 The highland edge threshold: height, views and interface

Locations on the very edges of upland areas appear to have been deliberately chosen for enclosure (Section 2.5.2). These locations brought with them particular qualities that were not found elsewhere in the landscape. To understand these qualities one must first consider the nature of the landscape around the tors.

There is little evidence to suggest that the initial centuries of the Neolithic saw change to the way that people used and moved around the landscape, or change to the landscape itself. Jacobi's (1979) and Bell's (2007) models for hunter-gatherer landscape use in the southwest may only be generalisations but serve well as a point of departure that could be equally applicable to the later Mesolithic and earliest Neolithic. Although there is debatable evidence, in the form of the Roche Rock saddle quern for instance (Cole & Jones 2002-3, 112), that domesticates may have been used in Cornwall from early in the 4th millennium BC, the evidence for a dependence upon domesticates and a settled lifestyle is less compelling in the southwest than it is for other parts of southern England (*cf.* Kinnes 1988; Richmond 1999; Thomas 1991a; 1996b; 1999; 2003). Indeed, given the meagre assemblages from many of the earliest Neolithic sites, and lack of evidence for either field systems or longhouses from Dartmoor westwards, apart from the questionable Carn Brea evidence (see Chapter 7 for discussion), it would seem that people were still extremely mobile in the first few centuries of the fourth millennium BC.

The environmental evidence (Section 3.1.1) suggests that there were few open places in the highlands apart from the tor summits. In the lowland environmental evidence is scarce, but what there is suggests woodlands and alder carr. As yet there is no evidence for open grass or scrubland areas in

the lowlands, but if they did exist they would have been of a different nature to the open tors with their far reaching panoramic views.

5.1.1 Inversion of the world

It is highly probable that the people of this period, when away from the coast, would have spent much of their time living in dense woodland. Climbing up to the tors on the edge of the highlands would have represented a notable contrast to life in the forests below. One might even suggest that it represented an inversion of their world. In the forest, views would have been limited and closed, and even if lowland open areas existed, the views would have been relatively short. There would have been a canopy of tree cover overhead, thick with foliage and often blocking light in the summer, thinner but still very noticeable in the winter. Being at the tors would have represented a remarkable opposition, as the tree canopy would have been viewed from above. Even the nature of the rocks would have differed: in the lowlands rocks would have been smaller and at ground level, below one's feet, while at the tors the rock outcrops are massive and tower above the viewer's head, exuding a powerful presence. Any feelings related to the woodland's closeness would have been replaced by long views that often encompassed many kilometres in several directions. The whole world may have been perceived to have been turned on its head at the tors, as though the fabric of the world had been broken through and was now viewed from the other side. This is reminiscent of the late Neolithic / Early Bronze Age site known as "Seahenge" at Holme-next-the-Sea in Norfolk, where the upturned tree trunk and root bowl is interpreted as a deliberate inversion to link the world of the air (the living world) with that of the ground (the world of the dead) (Pryor 2001, 275-7). It is argued that this was a similar symbolic statement to the upturned quern stones found buried in the ditches of the Etton causewayed enclosure, a monument of the Early Neolithic (*ibid*, 134); again people were evidently seeing and attempting to engage with a different world, a world that was represented by an inversion of the normal one. This is perhaps also paralleled by the Scandinavian Saami belief that there is an underworld which is a reflection of the living world. In it people walk upside down with their feet touching the underside of the surface of the earth (Bradley 2000, 12).

It is notable that many of the tors that were later enclosed have significant fissures and cracks within the rock outcrops. Tilley and Bennett, (2001, 344) suggest that these were seen as ways that the creator ancestors entered and left the world, thus further supporting the idea that the tors represented liminal areas that offered access to other worlds. This is paralleled by the Vantu of the South Pacific who view rocks as markers for people's arrival in the landscape, and as a concrete form of the ancestors; they see little difference between natural rocks and rocks erected by man (Roe & Taki 1999, 413). Whittle's (2004, 82) suggestion that dolmens might have represented hills or tors has

already been mentioned. Many dolmens appear to have a pit below them that Whittle (*ibid*, 82) associates with a fascination of going below, or into the earth. Again, this represents pushing through the fabric of one world and into another, an inversion, at a monument type that is not only of the Early Neolithic, but is also often found within a few kilometres of the tors.

5.1.2 Views and clarity

In the Early Neolithic it seems likely that the only places from which good views over the landscape were possible were the higher open tor summits. Those on the edge of the highlands overlooked the lowlands and so would have tended to have better views than those further into the highlands. Close to some tor enclosures, also situated on or near the highland edge, are hills that lack rock outcrops but are taller than the enclosed tors. Today these hills give better views than are available from the tor enclosures. However, when the landscape is re-forested this is no longer the case (Section 2.5.1). Those hills that do not have tors at the top are round-topped, and as such a substantial area would have needed to be cleared to allow views out. The tops of the tors are steeper, and their rocky nature meant that there was less tree cover there anyway. Thus seeing out from them, above the tree canopy, would have been much easier. This suggests that the views possible from the highland edge tors were one of the important factors that made them stand out and attracted people to them.

There would, of course, have been good views from the coastal cliff tops where frequent occupation is attested by lithic evidence from this time (Jacobi 1979, 74). However, these views were out to sea, or in some cases along the coastline, rather than back inland. In this direction it is probable that the forest would have dominated. The tors, on the other hand, offered views out over the forest, over the landscapes where people would have spent much of their lives, and in several cases all the way to the sea. Indeed, it seems that the tors that were regarded with enough significance that they were later enclosed were often those that afforded the best views over the lowland.

A ready parallel to this can be drawn from the ethnographic record of Madagascar. The Zafimaniry make their settlements on hilltops amid dense forest. The concept of clarity of vision is important to them, and they regard both expansive views and the places from which these views can be gained as very special (Bloch 1995). Bloch gives several examples of this: for instance, on returning to their village they would emerge from the forest and often stop at a clearing that gave a good view of the village. Here they would sit for an hour or more, sing songs and sometimes even cry. This informal ceremony would take place even when they had been away from home for months and were eager to return to their families. Clarity of view is so important to the Zafimaniry that they use the terminology of viewing as metaphor in everyday situations. For instance, to show understanding they

will say “That is clear.” or “I see.”, and to express good health they will say that blood “is clear”. It is easy to compare the Zafimaniry example with the earlier Neolithic in terms of time spent in heavy forest, and a possible appreciation of locations where expansive views were obtainable.

5.1.3 Tangible history and ‘God-Trick’

Bloch (1995, 65) also describes being taken by a group of Zafimaniry to the top of a hill with open views, where they not only stopped to take in the view and enthuse about the clarity, but also took pride in the fact that they could list the names of all the places visible. This is an interesting occurrence amongst non-mapmaking forest or woodland dwellers in that it shows an unexpected approach to understanding the world around them. Ethnographical parallels suggest that in pre-literate, or at least pre-mapmaking, societies people would have understood their surroundings by moving through them; the relationships between places in the landscapes would have been understood in terms of nodes on linear pathways rather than as points that might all be considered at once as they are on a map (Stead 1995, 313; Lock 2000). Yet for the Zafimaniry, and for people viewing the landscape from the tors, there was an ability to view many places at once and to see how they were spatially related together. This ability to look down onto the landscape is known, among GIS users, as “God-Trick” as it represents a sky-bound god’s omniscient knowledge of the landscape rather than that of a person situated within the landscape; landscapes are normally dwelt in, not looked down upon (Ingold 2000, 191). Thus, any location from which such a view was encountered might be considered by those doing the viewing to be a very special place indeed, a place where to a certain extent they too can look down onto the world as the spirits do. It is little wonder that the Zafimaniry view the highest mountain-tops as the abodes of ancient ancestor kings (Bloch 1995, 70). This ability to see as the spirits see would have further enhanced the importance of the tors, especially the highland-edge tors that offered the best views out across the lowland, and would have suggested to the people that these were significant places associated with a supernatural relationship with the world.

A further aspect of how the people of the later Mesolithic and earlier Neolithic might have understood the relationships of places within their landscapes is demonstrated by the Dream Time myths of the northern Australian aborigines, for whom each part of the landscape belongs to an ancestor and is a trace of the ancestor’s actions that links past to present (Morphy 1995, 186). The ancestors were thought to have travelled, hunted, fought, conducted ceremonies and finally became part of the landscape as they stopped moving and transformed into natural features such as rocks or rivers (Ingold 2000, 52). As the landscape is constituted of such meaningful places based upon where the figures of the Dream Time set down, distance and location take priority over time when aborigines talk about the past, both in terms of the mythical deep past and their personal histories; people do not

speaking about when they undertook a certain activity at a certain time, but that they partook in it at a certain place. Their history is not a list of dates but a catalogue of places at which they acted (Morphy 1995, 187). Therefore the life of a person can be summed up by the tracks that they have laid down on the ground and the places that they have been to (Ingold 2000, 53).

If this method of relating to time via space was also prevalent in the Early Neolithic, then the ability to view the landscape from an elevated tor might have been related metaphorically to the ability to view time and the past. In the forest clearing, tales of places visited would have described those places in an abstract form, they could not be engaged with immediately via sight. But from the tors, places of the past and of the ancestors could be pointed out, and the myths that joined them recounted to show how the ancestors moved between them and the deeds that they performed at each. The tors, then, would have made the perfect places for gatherings where ceremonies and retellings of the mythical past were held, as the tors were surrounded by the landscape-bound representations of the past itself. As Tilley (1996b, 162) puts it, learning the landscape socialises one, shows one one's place and lets one act; it relates one's social self to the past. The tors could have been used to orientate people both in the landscape and in the pastscape, and show them how to act or *get on* in the world.

5.1.4 Thresholds and different worlds

As discussed above, the enclosed tors were generally situated on the boundaries between highland and lowland (Figs 2.24 & 2.25 and Section 2.5.2). The upland-lowland threshold is not the only one, however, that they could be said to be situated upon. If Jacobi's (1979) or Bell's (2007) broad outlines for seasonal movement patterns, or at least seasonal procurement patterns, are accepted, the tors might also have marked a boundary between different seasons and different food types, including the change between summer and winter, between good weather and bad, and between long days and short. Allied to this would be the change in food sources between coastal-based ones such as sea birds, fish, shellfish and seals, and highland-based ones such as the red deer and wild cattle that would have exploited a more open environment (Smith 1992, 66). The lowland-upland boundary marked by the tors would have incorporated differences in height, in visibility (above) and vegetation. The differences in tree density, with more open areas and light scrub on the highlands (Chapman & Gearey 2000), might have led to differences in the amount of shelter offered from the weather, and to the way that sound would have carried. The vegetation itself would have offered alternative resources for food and materials.

This catalogue of possible contrasts between the highland and lowland (high-low, vision-obstruction, summer-winter, light-dark, warmth-cold, openness-closedness, seafood-large mammals, shelter-windswept, muffledness-clarity) suggests that the edges of the highlands, the places where these tors were situated, could have been experienced as a threshold between not just different areas but between different ways of getting on in the world (*cf.* Thomas 1996c). Not only would one's surroundings vary depending upon whether one was in the lowland forest or highlands, but the way that one needed to act and engage with the world would also change. The day-to-day tasks of collecting food, of moving around and of creating or maintaining shelter could have differed greatly between these areas, and thus, would have impacted upon the social aspects at being at these places.

An appreciation of the upland-lowland divide might be seen in Penwith where Peters (1990, 41) suggests that menhirs were placed along contours, showing that higher land might have been regarded as differing to lower. Although they were probably later Neolithic or earlier Bronze Age, they do demonstrate that there was a recognition of the different qualities of the upland and lowland significant enough to warrant marking in this way. The highland-edge tors would have made the ideal place to appreciate these differences between upland and lowland as they were sited on the boundaries between these zones. Some indication of the cultural meanings of boundaries between different altitudes or types of landscapes can be seen in the ethnographic record. The Kets of western Siberia divide their world up into a three layered cosmology (Zvelebil 2003). They associate the sea with the underworld, the lowlands with the lived in world and the highlands with the sky or spirit world. Boundaries between these different realms were often marked with shrines and the transitions between them entailed the acting out of specific ceremonies. The Finnish Saami have a similar cosmology, and place great importance on natural places that they believe allow communication between these worlds (Bradley, 2000, 11). For the Zafimaniry the high places are associated with ancestor kings and the lower places of the dense forest are associated with danger and death (Bloch 1995). Indeed, there are many instances of religions that associate elevation with spirits or gods; mountains are often sacred and the down below often associated with darkness and death (Tilley 2004, 6).

These associations would certainly tie in well with the oppositions outlined for the tors. The uplands were near to the sky, possibly nearer to the spirits, and more likely to represent a time of light, warmth and summer, when life was abundant and large game plentiful. The lowlands contained dense forest, a place of less light, which were occupied in the winter when food was less widely available and times might have been harder. Transition between these two worlds could have, as the ethnographic data suggests, been a time of great importance to the people of southwestern England. Not only would they have been moving between different ecological zones and areas where the acts of engagement with the world were different, but they could also have been moving between worlds of different

spiritual meaning. Crossing this threshold could have entailed specific behaviours and ceremonies. These, in turn, would have most likely been conducted at special places, places that were not only made special by the rites enacted there, but also because of the highly prominent locations in the landscape and pastscape.

Many hunter-gatherer peoples believe that prey animals have a master spirit that represents all such animals of that species, and that the hunter must ask permission of the master spirit before making use of the prey animal (Ingold 1986, 229). Perhaps the highland-edge tors represented the spirit of the highlands, and the people were required to ask permission of the tor-spirit before hunting on or using the highlands? As Ingold (1986, 224) states, many hunter-gatherer peoples do not believe that they own the land, but rather that they have custodianship of it, thus they must ask the spirits for guidance on using it.

The highland edge tors would certainly have made ideal places for aggregations of dispersed groups. Traditionally it has been assumed that Mesolithic or Early Neolithic aggregation took place at the winter coastal camps, but ethnographic studies of North American hunter-gatherers contradict this view and suggest that they could have taken place during the late summer when resources were most abundant, allowing a relatively large group of people to survive in a single area (Spikins 2000, 110). This would fit with the theory that aggregation may have taken place at or near a tor when the people were using the highlands during the seasons of better weather. The Early Neolithic would have had low population densities spread over large areas (Smith 1992, 20), so when people came together they would favour a meeting place that had both special significance and was easy to find. The tors, being so prominent in the landscape, and potentially on major routeways (Chapter 4), were certainly that. The rock outcrops could also have given some shelter for those attending. Such aggregations would have allowed people to come together to find marital partners from other groups, to exchange information and news, to renew oaths and to give or exchange material culture as trade, loyalty gift exchange or displays of status. These exchanges might have been tied into celebrations concerned with the changing of the seasons, the movements of the people, the success of hunts and rites of passage. Aggregation at the end of one season and start of another is well supported in the ethnographical record, for instance the Saami of Finland would gather at the end of November for a great Autumn festival associated with the slaughter of reindeer (Bradley, 2000 10).

However, such a coming together would also have been a time of social danger, and effort would have been required to renegotiate relationships and allow disparate sub groups, that might rarely have seen each other during the rest of the year, to re-merge and live together for a period of time. Discussion of loyalty and oaths could have easily led to tension if it was thought that past oaths had been broken. The giving of marital partners may have entailed vigorous negotiation of dowries. Attempts to gain

status by giving gifts may have led to unease in those who thought their status was being eroded. Rites of passage may have involved competition or violence. Even the act of feasting was endowed with the danger of one group feeling insulted if the food that it provided was not properly appreciated. Holding such perilous meetings at a tor might be seen as an attempt to control and contain these dangers. The tor represented a liminal place, separated from both the lowland forest and much of the highlands by its altitude and scarceness of vegetation. It was a space away from the world where special events could take place safely protected by sacred forces.

As discussed above, the tors may not have been situated in such a position only to give good views over the landscape, but also to give views over the pastscape of the people. If mythology and history was embedded in the land and the relationships between each feature in the landscape, then those histories could be seen laid out before the observer on the tor. As it is a people's history that tells them how to act, socialises them and shows them their place in the world (Tilley 1996b, 162), it could be suggested that the views from the tor, and the associated orated histories that might have accompanied viewing, informed behaviour and guided the actions of the people gathered there. They would have had to conduct themselves in ways that their mythologies and ceremonies deemed correct, the way that they and their ancestors had done at previous aggregations at that place; the truth of their myths was laid out in the landscape for them to see.

5.1.5 Spirits in the rock

It is equally possible that the rock outcrops were themselves believed to be endowed with spirits or were the ancestors turned to stone. If gatherings took place around rocks that were metaphorically viewed as spiritual embodiments, conduct may have been even more closely circumscribed. The idea of Aborigine Dream Time ancestor-creators settling down and becoming features in the natural landscape may be apt when considering the tors. The tors, being such striking and prominently positioned features, would seem prime candidates for spiritual associations.

The Aborigines of Western Arnhem Land believe that when the Rainbow Serpent swallowed other ancestors and vomited them out, their bones became rock outcrops (Tacon 1991, 195). The mythical events of Melanesian societies were often articulated through the places in the landscape with which they were associated, and rocks were assumed to contain spirits (Kahn 1990). Each of the important Melanesian rocks was thought to have a life history and a personality based upon the spirit within, the spirits representing past heroes that had turned to rock (*ibid.*). The Melanesians, thus, prove the truth of their ancestor myths by describing the places where they occurred, and demonstrating that the physical presence of features in the landscape validates their words. The Pintupi Aborigines of

Australia even take identity from the spirits in the rocks; as they move to new areas they take on the traditions of the ancestor-creators thought to inhabit those areas, thus identity is associated with place rather than group (Ingold 2000, 53). The Witsuwit'en and Gitksan of the Western Cordillera believe that power is derived from named places and the ancestral associations with them (Daly 1999, 74). Taking an example from northern Europe, each family of the Scandinavian Saami had their own sacred hill, associated with ancestors, upon which the siejddes (rock formations) were the most sacred of places (Bradley 2000, 6). Each of the siejddes was associated with a different spirit or god, and sacrificial deposits, including natural items, were made at them (*ibid.*). The evidence at the Roche Rock tor suggests something similar may have been happening in Neolithic Cornwall (Cole & Jones 2002-3, 121). Indeed, just as with many Neolithic structured deposits, the Saami deposits contained a number of exotic items among the locally produced ones (Bradley 2000, 9).

A number of ethnographic studies suggest that hills and mountains were often associated with creation myths (Whittle 2003, 120). Both the northern European Saami and the Classical Greeks may have used their sacred hilltop places to re-enact rituals that reflected their stories of creation (Bradley 2000, 28). The Siberian Kets' layers of cosmology were linked by a sacred tree, the "turu", joining earth and sky (Zvelbil 2003, 67). Whittle (2003, 153; 2004, 86) sees the Early Neolithic dolmens' capstones as representations of creation events: a rock breaking out of the ground and reaching for the sky, similar to the Kets' turu. They symbolised how the earth and sky were once joined (Whittle 2003, 120). If this is true of dolmens then it must be even more applicable to tors, which have larger rocks, are in places of greater elevation and were much older than the dolmens. In the case of Carn Galver, the tor could even be said to rise straight out of the sea and into the heavens (Tilley & Bennett 2001, 338).

The spiritual importance of trees has recently come to the fore in British hunter-gatherer archaeology, and they are recognised as more than just a resource. Based upon ethnographic evidence it has been suggested that humans could have felt a kinship with trees (Evans *et al.* 1999, 251). Both trees and humans grow and the form of a tree can be seen as similar to the human body with trunk as torso and branches as limbs. Indeed, the way that trees stand upright also mimics how humans get on in the world (Moore, 2003, 141). If this is so, it seems reasonable to assume that people could regard the rock outcrops of some tors in a similar way: anthropomorphic or inhabited by spirits. Just like trees, the rock outcrops stand upright and have a large dominating form compared to the human body. At the tors many of the outcrops emerge from the ground in a very organic way, similar to trees, giving the impression that they are alive and growing up out of the earth. At Roche Rock there is even a formation that resembles a human head (Cole & Jones 2002-3, 137). The 'spirit' recognised within trees is sometimes thought to have ancestral connotations because the life span of a tree lasts several human life spans (Evans *et al.* 1999, 251). The tors, from this perspective, must have been seen to

have had an even greater depth of time, perhaps going back to the creators, given that they out-last even the greatest trees of the forest. This notion of equating greater age with the hardening of materials has a parallel within the later British Neolithic. Parker Pearson and Ramilisonina (1998) suggest that just such an association was being acted out at the great processional routes at Avebury and Stonehenge. At both of these, processions started at timber monuments, which are interpreted as symbolic of the land of the living and the present, and led to monuments built of megalithic stones, which are interpreted as representative of the lands of the ancestors and deep time.

Any meeting or ceremony that took place at a tor might, therefore, have been viewed as both being enacted under the gaze of and in the presence of the ancestor-creator-spirits that inhabited the rocks. That ancestor spirits were 'overseeing' the meeting meant that it was expected to follow the rules that had been laid down by the ancestors: everyone must act correctly, as people had done in previous successful meetings, and the potential for conflict was reduced. The ancestor metaphor, as part of the ceremony, would have brought the past into the present. Just as with being able to look out from the tor to see history presented in the landscape, having the ancestor present in the form of the outcrop would have removed the separation between past and present, and allowed people to engage with their histories. In this way, the past could be recreated in the present and the socialisation of people could safely continue in traditional ways, but at the same time the past could be manipulated and amended to take account of changes in the present. A past that is flexible and can be directly engaged with is less likely to be broken by changes in society, and in turn break that society by removing its foundations.

5.2 Being there

When discussing material culture Gosden (2001, 147) suggests that objects can demonstrate what sensory responses were important to the people that created and used them. Thus, if tors are considered as having had importance to people before enclosure, it ought to be possible to comment upon the sensory properties of tors that people perceived or experienced through their bodily senses.

The impact of open and elevated places on people emerging from forest would have been striking in a number of ways, as discussed earlier in this chapter. At many tors unrestricted views would have opened up in several directions: out across the highlands, down onto the lowland forest and up to the sky. This sense of clarity, as for the Zafimaniry (Bloch 1995), might have led to tors being regarded as places at which to think and to contemplate the wider world. The colour palette of the late hunter-gatherer landscapes might have been restricted, especially when in the forest (Cummins 2000, 92). The great rock outcrops of the tors would have offered an alternative to the shaded forest interiors; the

slab-like expanses of granite would have glistened in the sun, moss may have formed intricate patterning on some, and the plants that grew around the tors in unshaded areas would have contrasted, both in colour and form, to those in the forest. The rock outcrops would also have towered over the viewer, suggestive of much potential energy and power. It is difficult to say what these differences in visual form encountered at the tors would have meant to people. As a place of lightness and openness they could have offered a relief from shaded forest. They might have offered parallels to the coastal, cliff top occupation sites: both are rocky areas with views often predominantly in one direction, a sea of blue and grey in one case and a 'sea' of green in the other. They might have been places where the intensity and variety of colours were richer. Alternatively, the difference between the tor experience and the rest of the world might have marked the tor out as a place in which to be wary and guarded, a place where differences represented danger. Whichever of these applied, and there is no reason why they all should not have contributed based upon the context of the visit, there is little doubt that the tor would have been visually experienced as a special place. Indeed, there are even cases in the ethnographic records of views where particular aesthetics stimulated experiences of out of body 'flying' among shamans (Bradley 2000, 32).

Like vision, sound would have been experienced differently at the tors. Away from the muffledness of the forest, on a calm day sounds could have been clearer. This effect would have been even more enhanced by the reflective qualities of the granite slabs. Indeed, there may have been specific spots at each tor where engagement with the surrounding soundscape was enhanced by the positions of the rock outcrops. This would have the result of not only heightening an individual's senses, but also of adding extra depth to any ceremonies or orations that were being conducted. At more exposed locations on the tors, many sounds may have been covered by the noise of the wind. Again, in the forest the wind would have been much less noticeable, but on the high exposed tors, even in summer, it is often strong.

With the wind can also come noticeable temperature changes in very localised areas depending upon whether the individual was in a sheltered or exposed position. The openness of the area around the tor would have let more sunlight fall upon the people there, bringing extra warmth to them. The rocks themselves would also have absorbed this warmth and acted as good places to repose. But in the highlands the weather changes quickly, and a warm and calm place might suddenly have become much less hospitable. This would have been a contrast to the forest where temperature, wind and dampness were all moderated to some extent by the trees and the tree canopy. Perhaps these sudden changes were read as another factor that made the tors a special place away from the world. For instance, the Q'eqchi of Guatemala believe that atmospheric changes represent the hill spirits talking to each other (Gonzalo 1999, 261).

A focus on water might have played a prominent role in the experience of several tors. Carn Galver is within a kilometre of the coast and offers a good view of the sea far below. Several of the other tors also have views of the sea (Table 2.9). The view from Tren crom is especially notable as the sea to both the north and south of the Penwith peninsula can be seen: this is one of the few places in Britain where the sun both rises and sets in the sea. At both Carn Galver and Dewerstone a large, platform-like outcrop of rock has the sea as a background. The layout of these sites gives the impression that both have a focus on the sea. Carn Galver is linear in plan and appears to point from the centre of the highlands to the sea, with the large rock outcrop at the northwestern end of the hill standing like a dais, the ground below falling dramatically down to the shore (Fig 5.1). The Dewerstone has a sub-rectangular plan with the rock outcrop marking the southern corner. The rock outcrop, when viewed from the centre of the enclosure, has a view of the sea behind it. In the opposite direction, looking back into the enclosure the highland beyond is prominent in the view. Again, as at Carn Galver, one gets the impression that as one approaches the rock outcrop one is approaching a platform or dais that focuses on the view of the sea. Thus, at both of these locations one finds that the highlands, behind the enclosure, are linked to the sea via what one might describe as a directed view focussed by a prominent rock outcrop.

This linking of the sea and the sky, the low and the high, is not dissimilar to the cosmology of the Kets or the Saami which links sea, earth and sky (above), and aspects of which may be traced back to the Mesolithic of their regions, and which focussed upon special places within the landscape (Bradley 2000, 11; 62). This is not to say that the people of the Early Neolithic southwest had exactly the same beliefs of the Kets and Saami, but it does demonstrate that mobile peoples, who still rely on hunting and gathering to some extent, have often seen their spiritual world reflected in their landscapes, and thus it would seem fair to suggest that these views of the sea had meaning for those at the tors in the Early Neolithic. Bradley (2000, 101) even goes on to suggest that natural places were still important for the people of early states such as the peak sanctuaries used by the Cretans. Here, although the rock outcrops were sometimes encircled by walls, much as at the tors, Bradley claims that it is the outcrop and not the wall that was of importance.

At Dewerstone the confluence of the rivers below has an interesting effect. Within the enclosure one can barely hear the rivers as they tumble over the rocks far below, but on reaching the scarp edges, or the remains of the rock outcrop, the roar of the rivers suddenly becomes very loud and noticeable, thus a different experience is afforded depending upon where one stands at the site. If it was not for damage caused by the quarry a similar effect might have occurred at De Lank.



Fig 5.1: Northwestern 'platform' at Carn Galver.

Natural phenomena known as solution basins are found upon some of the flatter rocks at several tors (Fig 2.5). These bowl-shaped depressions have been worn into the rock over a very long period, are often full of rainwater and on occasion crystals form in them. In a few cases they have completely worn through the rock or have worn runoff channels down the side. The outcrops of Carn Brea, Helmen Tor and Stowe's Pound have some of the highest concentrations of solution basins in Cornwall. It is also often the case that Bronze Age cairns were built near tors with solution basins (Tilley & Bennett 2001, 356-7), a practice paralleled in northern France where the menhirs of Haut Leon tended to group around outcrops with solution basins (Tilley 2004, 57). Perhaps rites and ceremonies might have included water that apparently came out of solid rock. A person, standing upon the rock, could put down their hands and scoop up water. To those around the rock, who could not see the top, it would appear that the water was being drawn out of the rock itself. The crystals within some solution basins might also have made the water seem special: structured deposits from this period often contain exotic pebbles that appear to have no function other than their aesthetic value. Some of the lithic finds at Roche Rock are an example of this (Cole & Jones 2002-3, 111). Where the water ran through holes and fissures it might have suggested that it possessed special powers as it was able to pass through rock. The Western Arnhem Land Aborigines believe that rock is male and water female, and that places where the two meet are places of great power (Tacon 1991,

205), and it might have been symbolically important in the later Mesolithic of neighbouring south Wales (Cummings 2000, 91).

The anthropomorphic associations that might have been instilled on the rock outcrops have already been discussed in this chapter, but bodily metaphors might have been played out upon the tors in other ways. Human movement and orientation can have significant metaphorical meaning, such as up equating to good, and down to bad (Tilley 2004, 5). This could have certainly applied to the tors where one would have to climb *up* to the tors themselves, and on reaching them the rock outcrops would thrust *up* out of the ground. The trek up to most tors involves a hard climb up a steep slope, so finally reaching the tor would have left the climber with feelings of tiredness and of achievement based upon the effort required to reach the summit. Thus, the tors must surely have been places worth going to, and in turn must have had their importance increased due to the effort expended to reach them. *Upright* is how people stand and interact with the world (Tilley 2004, 6), thus it might be said that the rocks were also upright and getting on in the world. Neustupny (2006, 4) suggests that people of the Early Neolithic lived in a very two-dimensional world where movement across the plain of the land surface was considered normal but vertical movement considered. Although much of the southwest could hardly be described as flat, the tors represent the extreme in vertical movement. Being able to climb a rock outcrop, and be above those that accompanied one, could have instilled status on that person or reflected the status already associated with them.

Compared to the transient softness of organic matter, the solidity and strength of rock could have suggested great depth of time (Parker Pearson & Ramilisonina 1998). The way that it did not change over the years may have made it a metaphor for truth and history. That tools were also made from rock might have been significant. Tools are doing objects: they enable humans to accomplish tasks. Tors then may have metaphorically been viewed as doing places, places where tasks, manufactured items and social actions were endowed with a greater power. Axe rough-outs found at Carn Brea led Mercer to interpret the tor as an axe finishing site (1981, 192). He assumes that this is an economic process, allied to the trade networks that he thinks stretched out from Cornwall (see Chapter 7). An alternative explanation for carrying these heavy rough-outs up from the quarries is mirrored in the so-called “axe factories” of Great Langdale in Cumbria. Here, axes were quarried at an extremely inaccessible site when raw materials could have been gathered at much more convenient places (Edmonds 1995, 59). Thus, it seems that the site where axes were quarried or finished had an important role in the creation of the axe (Bradley 2000, 87). As Edmonds (1995, 56) argues, axes may have been as symbolic as they were functional, representing the person who possessed them, bonds between groups, or family history. Creating or finishing the axe at a special place thus gave that axe an importance associated with that place, especially when it was of a similar material to the prominent features found there. The axe could have become a metaphor for the tor and carried its

powers and meanings to other places, and the tor could have become a metaphor for the axe: it was a transformative social tool. Once the axe-tor association was made it might have easily expanded to include other types of tool or object.

The tors might also have reflected differences within society. The ethnographic record demonstrates that certain places are often associated with specific sub-groups within a society: for instance, the Saami only allow certain genders to access some sacred sites; in other groups access might be based on age (Bradley 2000, 55). The way that the rocks burst up out of the ground could have been read as a male symbol while the fissures between rocks could have been interpreted as female, just as the major hills of the Q'eqchi in Guatemala are assumed to be male and the valleys female (Gonzalo 1999, 261), or as many native American peoples consider rock to be male and earth to be female (Tacon 1991, 204). Different rocks or areas upon a tor might then have been associated with different genders. The size of individual rocks may have been associated with the status of particular individuals or kin groups, with only the more important people being entitled to stand on a particular rock or outcrop. The deep age of the rocks might have meant that only people of a certain number of years would be permitted amongst them, younger people being barred from the tors until their coming of age. Indeed, coming of age ceremonies may have taken place at the tors themselves. Alternatively, spiritual connotations associated with the tors may have meant that only specific members of the group could access certain tors or rocks, or that others could only gain entry when guided by one of these people.

Even before the tors were enclosed the positions of the rock outcrops would have restricted how people could have moved around on them. Certain features can be picked out at a number of tors which might give some insight into how people negotiated the rocks. A number of the tors, both those with a linear and circular footprint, have what might be seen as natural platforms that are located at the point that offers some of the best views. At Dewerstone the major outcrop of rock is right at the top of the steepest slope, and the view cannot be fully appreciated until the outcrop is reached. Compared to the size of the area within this enclosure, the rock outcrops cover a relatively small space, thus any large group standing on the highland side of the rocks would not all be able to move onto the rocks at once. This might suggest that either the place on the outcrop was reserved for specific people, or that people would have had to take it in turn to approach the view, thus forming a procession. Like Dewerstone, Tregarrick also has a sub-circular footprint, and again the bulk of the rock outcrop is at the top of the steep slope, the side with the best lowland views. At Carn Galver the footprint of the tor is linear, and at the both ends there are substantial rock outcrops that look very much like platforms. Again the flatter part of the tor, in the centre between the major outcrops, is much larger than the platforms.

As well as offering good views to those that mount them, these platforms can also raise one above the rest of the tor. At both Tregarrick and Dewerstone the rock platforms are the highest part of the tor. The major outcrop at Tregarrick could be described as having two levels, the lower area is flatter and wider, and the higher is rougher and smaller. It is not difficult to imagine this used as a dais with three levels of height or importance, each smaller or more exclusive than the previous, lower one. Although the northwestern platform at Carn Galver is not the highest part of the tor it is still higher than much of the central area and the difference between this flatter space and the platform is abrupt and notable (Fig 5.1). At Carn Brea the area around the central ('monument') summit might be regarded as a similar platform. It is the highest part of the tor, rising above the flatter centre section, and it hides the views to the southeast until the viewer is actually upon it. Stowe's Pound might be regarded as having a platform but on a much larger scale. The area now surrounded by the upper enclosure rises up above the larger flatter area to the highland side that is now within the lower enclosure. Within the upper enclosure itself some of the higher 'cheese-wring' outcrops appear to be on smaller platforms and the central outcrop also rises above the area. At the linear Roughtor the outcrops at either end also rise up from the main body of the hilltop.

5.2.1 Helman tor experienced as a linear monument before enclosure

Linear movement guided by monumental architecture is a characteristic feature of the British Early Neolithic. The most striking forms of structured linearity are found in the Early Neolithic cursuses, but it is also found in many other monument types. For instance, at chambered tombs, such as the West Kennet long barrow, there was an obvious progression from the area in front of the original facade, through the facade, into the passage way with chambers either side, and finally into the end chamber. At wooden mortuary structures, such as the pre-barrow structure at Fussell's Lodge, there is a progression from the facade, through the covered area and finally to the enclosure area. Even at causewayed enclosures, once thought to have many entrances, evidence from those where the bank or postholes can be detected suggests that there were main entrances through the circuits with prescribed linear routes of entry, for instance at Orsett and Etton (Russell 2002, 80). Even the Early Neolithic timber longhouses such as Claish or Llandegai 2 suggest structured linearity (Davies 2007).

Helman Tor has several major rock outcrops that limit progress, to varying extents, along the ridge of the hill (Fig 5.2). If the tor was man-made it might be described as a linear processional structure with a number of thresholds or boundaries that must be crossed before one can reach the far end. The often assumed distinction between natural and cultural has been discussed and discredited at some length by Bradley (2000), so there is no reason why Helman Tor should not be understood in the same way that a man-made linear monument might. In this particular case it is not beyond the realms of

plausibility that the people of the earlier Neolithic might have thought of the natural tor as a construction created long ago by their ancestors or by the creators of the world. Indeed, some of the rock outcrops of the tor have a visual similarity to Early Neolithic dolmens, and the addition of the walling to the tor and clearance of the ‘terraces’ demonstrate that the tor was viewed as a cultural place, a place where there might have been little difference between the work of nature, of the ancestors and of the people of the time.

There are two approaches that are easier than others: from the south, via the modern car park, and from the northeast. There is a modern footpath running up the western side, but it is a significantly stiffer climb than from the south or northeast approaches. From other directions the climb is very steep and often hindered by boulders and sheer rock faces. It is worthy of note that the approach from the northeast is from the direction that Lesquite Quoit dolmen is situated, only 2km away, as well as a standing stone within 50m of the tor. It is also from this direction that one would approach the St. Austell highlands from the River Fowey, Bodmin Moor and the tor enclosures and barrows on its southern side (Chapter 4). It is not clear whether there is an original break in the Neolithic wall here as the modern wall runs along the top of it to the northern outcrop, and there is much disturbance around it. Certainly the site could have been entered here before the Neolithic wall was built.

On crossing the Neolithic wall line to the north of Mercer’s excavated area (Mercer 1997, 8) one is faced with a large flat area with the northern rock outcrop to the right, a lesser outcrop ahead and the main bulk of the tor to one’s left (Fig 5.2). This lesser outcrop might be viewed as a key threshold, demarking the beginning of the journey along the tor’s ridge. Looking south one can see the modern trig point on the highest part of the tor, but not the rock on which it stands. This is masked by the large intermediate outcrop (Fig 5.3). Even when one mounts the large northern outcrop next to this point, one can only see the trig point and not the outcrop below it (Fig 5.4). Thus, anyone standing on the highest part of the tor could be seen from this point, but the rock that they stood upon could not, possibly giving the impression that they were floating in the air, spirit-like, looking down on the viewer. This position also gives excellent views of the St. Austell highlands (Fig 5.5) and of Bodmin Moor (Fig 5.6) in the other direction; the position links these two striking uplands together and reflects the way that Helman Tor is also situated between them.

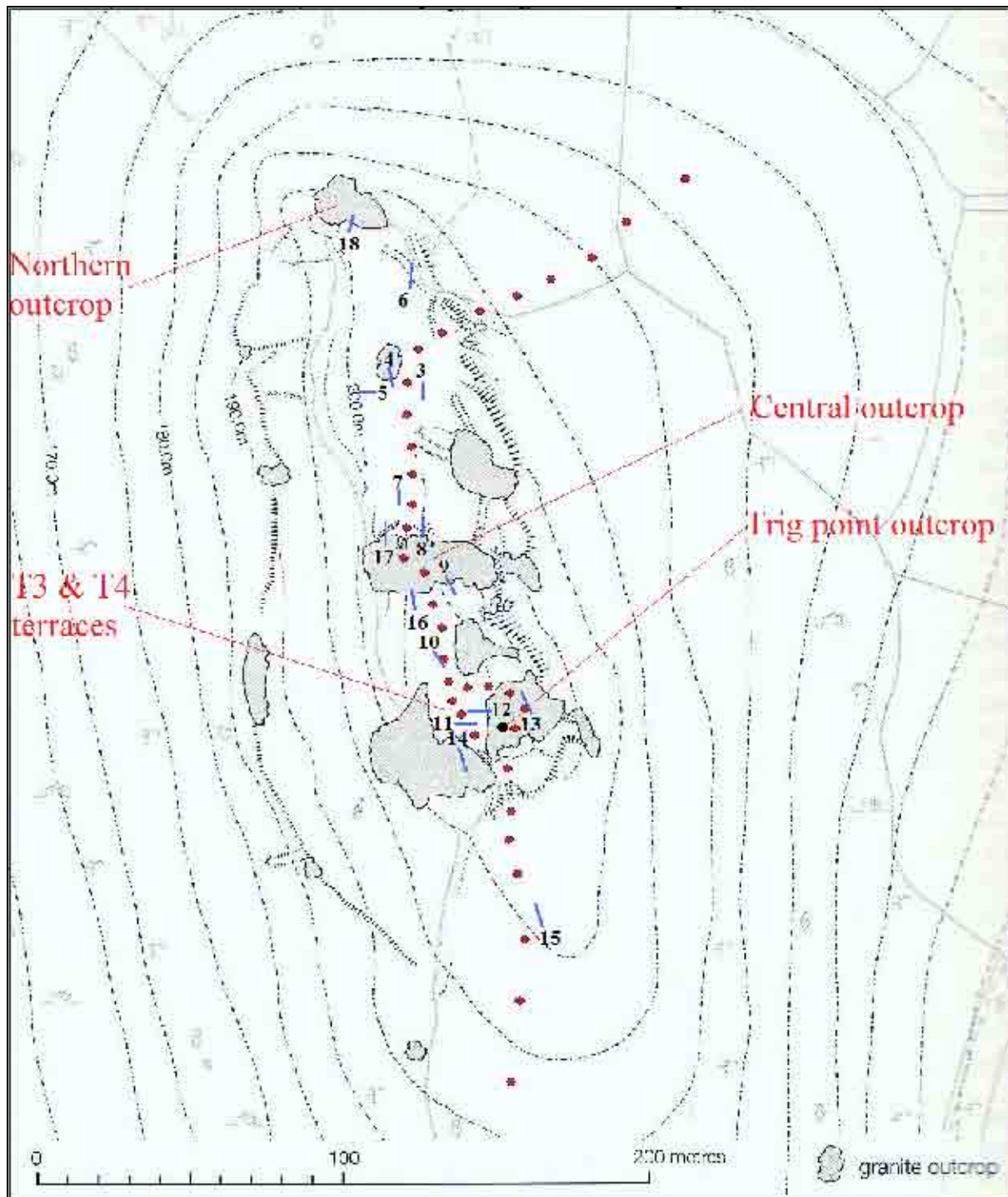


Fig 5.2: Helman Tor: the red dots represent the journey across Helman Tor, from NE to S, as described in the text. The numbers refer to the photographs below: 5.x where 'x' is the number in the diagram. The blue line associated with each number shows the direction that the camera was facing. (Adapted from Oswald *et al.* 2001, Figure 5.7).

As one moves further south along the tor the central outcrop continues to rise up above one, blocking progress to the southern half of the tor, but the trig point, and thus anybody standing upon the southern outcrop, remains in view until one is quite close to the central outcrop (Fig 5.7). On reaching the central outcrop one must put a little effort into clambering up the rock to gain the top of it. This

outcrop acts as a barrier or threshold between the northern and southern halves of the tor, the northern half being at least two metres lower and having no views into the southern half aside from the trig point, whereas from the top of the central outcrop one can look down into the southern half from a commanding position (Fig 5.8). Some of the larger rocks around the central outcrop appear to have been moved at some point, possibly to embellish this natural barrier.

Once upon the central outcrop the southern, higher, trig point outcrop can finally be seen in full (Fig 5.9). The nearby rocks guide one up to the highest part of the tor (Fig 5.10), although a little more scrambling is required to gain the summit; in doing so one must also cross a scatter of smaller rocks which could represent tumble from a wall or marker defining the boundary of this final climb. Alternatively one may turn to the right before reaching the higher outcrop, and reach the open flat area of Mercer's T3 and T4 terraces (Mercer 1997, Fig 2; Fig 5.2) to the west of the modern trig point. This area can hold a number of people, and from here the summit outcrop rears up above like a massive stage (Fig 5.11). Anyone standing on the smaller area of the summit, next to the trig point, looks down onto this area and those within it from a commanding position (Fig 5.12).

The trig point outcrop also gives a good view of anyone coming along the route described (above) from the northeast of the tor. It would allow those in a position of authority, in terms of elevation at least, to study and monitor the progress of those approaching as the various thresholds of the tor were crossed (Fig 5.13). To the south of the trig point outcrop and Mercer's T3 and T4 terraces, the ground falls away again and the outcrops come close together to form a natural passageway down and off the tor's summit. There is some evidence for the embellishment of this feature with a man-made gateway (Mercer 1997, 9), although, like the rock spreads of the central and southern outcrops, there is no dating evidence available. From this passageway one gets a good view of the ridge that extends southwards to the highland above Lanlivery, and to the southeast, of the St. Austell highlands (Fig 5.14). Leaving the tor by this route, or final threshold, allows one to then continue along the ridge and move westward to the upper highlands.



Fig 5.3: Helman Tor - view along tor from north end. (Top of trig point can be seen in the centre of the horizon).



Fig 5.4: Helman Tor - view of trig point beyond central outcrop from northern end.



Fig 5.5: Helman Tor - St. Austell highlands to west.



Fig 5.6: Helman Tor - view of southern part of Bodmin Moor.



Fig 5.7: Helman Tor - view of trig point beyond central outcrop from north end.



Fig 5.8: Helman Tor - view of north end from central outcrop.



Fig 5.9: Helman Tor - view of trig point from central outcrop.



Fig 5.10: Helman Tor - southern (trig point) outcrop from north.



Fig 5.11: Helman Tor - southern (trig point) outcrop from T3 and T4 terraces.



Fig 5.12: Helman Tor - view from trig point of flat area (T3 and T4 terraces) to west.



Fig 5.13: Helman Tor - view north along tor from southern (trig point) outcrop.



Fig 5.14: Helman Tor - view south from flat area below southern (trig point) outcrop.

The journey described, above, along Helman Tor demonstrates how some tors or tor enclosures might be viewed as semi-natural linear monuments. The shape of the tor's hill top directs one in a particular direction, in this case along the ridge, and the rock outcrops form barriers or thresholds between different parts of the tor, each with a different relationship to the others and to the people within them. The addition of the Neolithic walls and internal features would have further added to this control of movement between the outcrops and across the hill top. This journey across Helman Tor could be read in several ways, perhaps as a ceremonial re-enactment of movements between the lowlands and the granite massifs. The initial climb up the side of the tor represented the initial climb up onto the highlands. The crossing of the rock outcrops within the tor would represent moving past the tors on the edges of the highlands, and approaching the highest area, around the modern trig point, would represent arriving properly upon the highland, or possibly at a significant tor or place. The flatter area around the trig point outcrop would have allowed people to gather while certain members of the group stood on the outcrop above them and conducted the climax of the ceremony, perhaps seeking the blessing of the spirits, before allowing the people to leave via the southern passage and continue their journey up onto the St. Austell highlands, or to the north coast. The occupation evidence found by Mercer (1997) suggests that these ceremonies might have been conducted over several days.

As mentioned, there are two obvious access points to Helman Tor: one to the northeast, as used in the above example, and one to the south. There is no reason why this southern entry point might not also have been the starting point for a ceremonial journey across the tor in a northerly direction. On approaching from the south one is faced with the outcrop that the modern trig point stands on, and the outcrop to its west, rising up above one like a facade (Fig 5.15). Indeed, if the tumble spread at this point does represent an entranceway (Mercer 1997, 9) then the scene would have been all the more dramatic. As people approached from the south they could have been watched by anyone standing on the trig point outcrop as they toiled up the slope and to the entranceway. They would have gone up through the entrance, under the eyes of those on the trig point outcrop and onto the flat open area of Mercer's T3 and T4 terraces (Mercer 1997, 8). As already described, this is an ideal place for an audience to gather and attend to those on the trig point outcrop (Fig 5.11).

Continuing along the tour the view of the central outcrop, from this point, gives the impression that the central outcrop is the edge of the tor and that there is a long drop below it (Fig 5.16). Only when one is upon the central outcrop does one see the lower, northern half of the tor (Fig 5.17). Here one sees the end of the tor pointing to the north and the view of the Bodmin area, and the western edge of Bodmin Moor framed by the intervening hills. At the end of the tor, currently obscured by bracken, is the northern outcrop which rises about two metres up from the flat area in front of it, to stand like a platform projecting out over the sharp drop beyond.

Climbing down off the central outcrop to the flatter, northern half of the tor one is placed in a liminal space: one cannot see the land to one's rear as it is obscured by the central outcrop (Fig 5.7), and one cannot see the land ahead as it is obscured by the northern outcrop (Fig 5.18). There are views only to the sides, west and east, but the steep slopes suggest that one cannot move in those directions. Finally one must clamber up onto the northern outcrop to regain the best view north to Bodmin Moor, Lesquite Quoit dolmen and the route to the River Fowey. From here one might leave the tor to the northeast on the gentlest descent from its top, in the direction of Lesquite Quoit dolmen, the standing stone and the tor enclosures and other monuments of Bodmin Moor.

Again, this sequence of movement could be described as a ceremonialised re-enactment of the journey to or from the highlands, or indeed, with the lower, liminal section at the north end of the tor, a re-enactment of the journey between the St. Austell highlands and Bodmin Moor, as Helman Tor sits between both and has striking views of both in opposing directions.



Fig 5.15: Helman Tor - view of southern outcrops from south.



Fig 5.16: Helman Tor - view of central outcrop from south.



Fig 5.17: Helman Tor - view north from central outcrop.



Fig 5.18: Helman Tor - the northern outcrop.

The addition of the enclosure walls might have had a dramatic effect on the movements along Helman Tor described here. At the northeast end of the tor there is no obvious sign of an entrance, although the area is now covered by the modern wall, and there are a number of undated and poorly understood earthworks. The rest of the journey described, however, does not appear to be hindered by the walls, indeed, the placement of the walls appear to emphasise a route along the ridge of the summit. The walls then, might have been intended to represent a ‘solidification’ or formalisation rather than a radical change in the way that the tor was negotiated. This theme will be considered further in the next chapter.

5.2.2 The other tor enclosures

The northern outcrop and the trig point outcrop of Helman Tor are similar to the natural platform outcrops at Dewerstone and Carn Galver; they are at the end of the hill, have a dramatic drop below them and striking views beyond. A comparable progression to those described above may also be seen at Carn Brea. Starting from west of the central outcrop (Fig 2.10), one must first climb up the central outcrop before one can see the rest of the tor’s top clearly. From there one moves down onto the flatter area where the later hut circles are located. This is another liminal space where the

monument outcrop blocks views to the rear, and the outcrop next to Mercer's (1981, Fig 2) Site E blocks the views forward. This outcrop forms a barrier to the eastern end of the tor and was embellished with a built entranceway (Mercer 1981, 59), enhancing its significance as a threshold. From the top of this outcrop the area below, to the side of the castle and beyond the car park, stretches out in front of the viewer, and there is a further outcrop at its end point, similar to the northern section of Helman Tor. When interpreted as a linear route with two sets of boundaries across it and a final flat section with a platform at the end, Carn Brea and Helman Tor have much in common.

One could also negotiate both Stowe's Pound and Roughtor with a similar linear movement of crossing boundaries. At Roughtor the obvious route would be to start by climbing up to Showery Tor, cross the first flat section, over Little Roughtor (the central summit), cross the second flat section, and then climb up the steep approach to the main summit of Roughtor (Fig 5.19). Although the first part of the route offers fewer obstacles than at Carn Brea or Helman Tor, the final ascent is quite challenging and requires a little scrambling. Once the top of Roughtor is reached, the views all around are stunning. The view to the southwest (towards the De Lank and Camel rivers - see Chapter 4), which was hidden for much of the journey across the tor, is especially impressive.

The nearby bank-cairn (Wessex Archaeology 2007) reflects this route along Roughtor in two ways. As one walks along the bank-cairn, towards the tors, one initially walks towards Showery Tor. Part way along the bank-cairn changes direction and points towards Little Roughtor, and finally, near its end, it changes direction again and points at Roughtor. Thus it could be said to refer to and describe a journey along the top of the ridge as outlined above. Furthermore, the main outcrops themselves are not in a straight line, but dog-leg to the right part of the way along, just as the bank-cairn does. The bank-cairn probably dates to the Late Neolithic or Bronze Age (Wessex Archaeology 2007, 17), and so might be said to refer back to old understandings of the tors.

The situation at Stowe's Pound is simpler: here one would just cross the area now occupied by the lower enclosure and climb up the section now bounded by the upper enclosure wall to reach the area of the upper enclosure and the best views. At Carn Galver this linear progression across the tor can also be followed with one starting from the inland facing end to eventually gain the best view out to sea, or *vice-versa*.

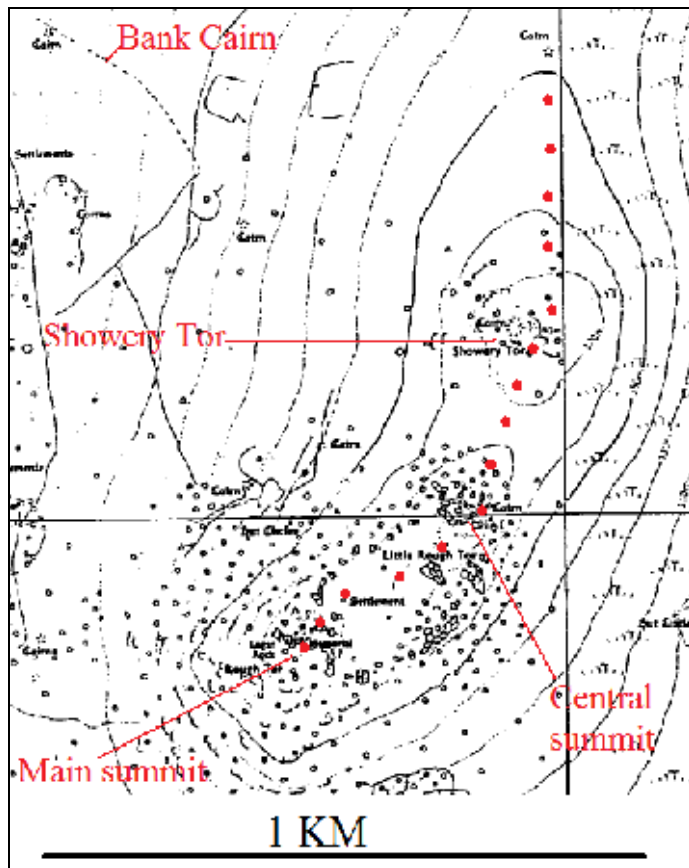


Fig 5.19: Roughtor - dotted line shows path discussed (adapted from Preston-Jones 1994, Fig. 12).

These natural divisions within the tors might not be built lines of demarcation as found within the banks and ditches of the contemporary causewayed enclosures, but as Chapman *et al.* (2006, 21) suggest, it is crossing the line that is important, not whether it is manmade or natural. Unlike many causewayed enclosure sites, there were already natural ‘lines’ to be found at the tors. The crossing of such lines represents both spatial and temporal separation, there is a ‘before’ and an ‘after’, and a physical effort is required to negotiate the boundary (*ibid.*). In crossing the line the individual has transformed in some way (Bourdieu 1991, 117), and so the tors might be understood as places of controlled transformation; controlled by both the physical nature of the rocks there, and by the cultural nature of the meaning endowed upon those rocks through references to a timeless place that linked the past to the present, and the associations with ancestral and creator spirits (discussed above).

As has been stated, the journey across the top of the tor might be a metaphor for a number of events, such as the journey from the coast to the highlands; the journey would have been re-enacted with the crossing of the outcrops representing the climb up to the highlands, and the final views representing the clarity of vision that was achieved when reaching this elevated position. In this way, the traditions of seasonal or social movements could have been enforced by the playing out of these ceremonies in special places, and in the presence of the spirits, thus leading to the legitimisation and strengthening of age-old customs. Alternatively, these journeys along the tors might have represented rites of

passage within an individual's life. The crossing of the line might have marked important changes: from child to adult, from single to married, from adult to elder, or from life to death. At each change the person was required to toil to breach a boundary, and was presented with a kind of enlightenment on the other side represented by the unfolding of a new view. The journeys may even have represented a type of group bonding where different sub-groups would be re-incorporated by taking a shared symbolically-arduous voyage, crossing various barriers together, before finally reaching a common goal at the end. Indeed, it is likely that the journey across the tor would have represented many different meanings.

Returning to the theme of the circularity of some tors, even before the building of walls some of the tors might have acted as natural enclosures. Hound Tor, for instance, is roughly sub-circular and when in the centre one is surrounded by massive rock outcrops. Many of the gaps between these outcrops give the impression of being entrances and are not dissimilar to the way that the causeways were distributed around causewayed enclosures. The upper enclosure area at Stowe's Pound was marked out by a number of Cheese-Wring type rock formations long before the enclosure wall was constructed to link them together. The same can be said for Trencrom where an elevated area of land has large outcrops both within it and around its circumference. The main tor at Roughtor is also elevated and surrounded by rock. So, even before human enclosure, one could argue that some tors represented natural enclosures, having an inside and an outside, or rather a line of transformation between 'before' and 'after', and 'here' and 'there'. Just as was discussed with the linear barriers, crossing this line would require both time and effort, and having crossed it the individual might have found them self transformed and in a place separated from the world and normal time, possibly a place of the spirits or of heightened social meaning. Even at those tors that were not so markedly surrounded by rock outcrops, a form of enclosure may have been enacted by the tree line around them. If the tree line was close to the outer rocks of the tor, and stopped abruptly, then it too could have represented a rough, informal barrier delimiting an inside and outside. Evans (1988, 93) suggests that a similar distinction might have existed between the cleared interior of a temporary Neolithic occupation site, and the surrounding forest. In this case however, the dichotomy would be between the forest and the home of the spirits rather than the home of the people.

5.3 Conclusion

The question of why specific tors were chosen for enclosure would seem to be entwined with the question of what made them special before enclosure. The Neolithic saw a long tradition of building on the remains of the past, both physical and ideological. The overriding factors that made these tors stand out from the rest were their locations on probable routeways, both local and long distance

(Chapter 4), their highland-edge positions, and their contrasts with the rest of the landscape. The highland-edge location places them at the threshold between many different types of world, their significance as a mnemonic for transformation and getting on in the world is obvious. Their contrasts (clarity, clearance and the primacy of rock) with the rest of the largely forested or wooded landscape distinguished them as special places, possibly with connections to creation, the past and the ancestors. Their position on routeways gave them associations with movement where movement was the natural form of being in the world, and made them obvious places for meetings and gatherings between disparate groups spread thinly around the landscape.

Thus, even without the act of enclosure these places could have been recognised as special; indeed, tors that were not enclosed, such as Roche Rock (Cole & Jones 2002-3) and, probably, Clicker Tor (Walford 1998-9, 130), do have evidence for Early Neolithic activity. However, at some point in the Early Neolithic something changed that led the people of the southwest to monumentalise a number of tors with massive rock walls, and to indulge in activities that left large amounts of material culture at several. In the next chapter the nature of this change and why it led to enclosure will be examined.

Chapter 6: Acts of enclosure

Chapters 3 to 5 discussed how and why some tors might have been important before the enclosure walls were built. Enclosure of the tors appears to have happened, according to Mercer's (1981, 63; 1997, 22) dating of Carn Brea and Helman Tor, a little after, the introduction of a number of phenomena that define the Early Neolithic in southern England: new types of material culture, displays of conspicuous consumption, the creation of monuments, an emphasis on relations with the dead, the appearance of domesticates and new relationships with the landscape (Thomas 1999). This might suggest that some or all had a bearing upon why the tors were enclosed. Chapters 6 and 7 will examine these Neolithic traits, consider how and why they might have been connected with the specific act of enclosing tors, and question whether enclosure represented a continuation or a break with past life-ways. This chapter focuses on the ideological and cultural aspects of enclosure, and Chapter 7 examines the economic and functional aspects.

6.1 Enclosure and the landscape

As the tors were natural places, any significance that might have been associated with them was associated very much with the landscape and the history that it represented (Chapter 5), making them consistent with Gosden and Lock's (1998, 4) first interpretation of landscape use: places with known histories that would have seen repeated return and had prescribed actions played out at them. Enclosing the tors may have transformed them into Gosden and Lock's (*ibid.*) second form of landscape use: ancient features given new meaning by a contemporary setting. In this instance, the contemporary setting was the building of enclosure walls (monumentalisation), part of the new Early Neolithic repertoire of expression. Thus, Tilley (1996b, 167) views the enclosure of the tors very much as reflection of a change in people's ideological relationship with the landscape. Whittle (2004, 89) takes a differing view, that these new monuments of the Early Neolithic were intended to preserve the past through monumentalising previous relationships with the landscape.

6.1.1 A new relationship with nature?

According to Tilley (1995, 17) the act of enclosure, of bounding the tors, allowed people to draw out power from them. The changes to the landscape, as represented by the enclosure of the tors and building of tombs, might be seen as an attempt to dictate a specific understanding of the past (Tilley 1996b, 167). Those that controlled this understanding, and the building of and access to the monuments, thus controlled their present. In making the tors a bounded and controlled area the past was reconstituted. The places that signified the past, and the way that society should act, changed to

symbolise control and differentiation. Chapter 5 showed that the natural rock outcrops of a tor also created boundaries and differentiations, and, indeed, access to the tors might have been socially controlled before the building of the walls. Yet the monumental effort that enclosure required must represent, at the very least, an intensification and emphasis on bounding and differentiation of access to knowledge and thus power, if not a revolution in how such things were viewed.

If Tilley's (1996b, 167) suggested ideological change in relationships with landscape did occur, it might be a result of the introduction of domesticates, changed concepts of ownership and new relationships with the ancestors (Bradley 2004, 113). Whether used as staples or as exotic foodstuffs for special occasions, domesticates would have changed the way in which people moved around and related to the landscape, with, for instance, a new and ongoing investment in places where crops were grown. In the ethnographic record, even when cultivation is added to a hunter-gatherer lifestyle rather than replacing it, there is often seen a change in the relationship with nature and the landscape. Pure hunter-gatherers tend to see the forest around them as a parent, it gives unconditionally (Ingold 2000, 43-44). Sharing is predominant as it reduces the opportunity for waste and improves social cohesion (Ingold 2000, 47), thus personal ownership often has a lesser prominence. People are associated with objects but do not have exclusive rights over them. Instead the object, when passed between people, retains an association with the giver, creating a bond between giver and receiver (Bird-David 1990, 193). One is required to hand over any object when asked without the expectation of reciprocation (*ibid.*).

Hunter-gatherer-cultivators view the land on an ancestral rather than parental basis (Bird-David 1990, 191), and have a reciprocal relationship with it (Ingold 2000, 43-44). The acts of giving and receiving are seen as invocations of the past, and as influencing the future (Bird-David 1990, 191). Either reciprocation is expected in the future, or the gift is reciprocation for an act from the past, just as the domesticated herds were a gift from the ancestors, and reciprocation in the form of specific ritual or behaviour was expected in return.

Were such changes in attitudes to ownership reflected in the changes at the tors? The tors could have been viewed as special places, and as objects given to the living by the ancestors, just as the cultivated plots and herds of domesticates were. If the act of giving had changed such that it required reciprocation then people's relationship with, and actions at, the tors would also have changed. The act of enclosing a tor could be seen as an act of ownership and of veneration or reciprocation. Hunter-gatherer groups often believe that they have custodianship of the land on behalf of the world, rather than ownership of it (Ingold 1986, 229). If the hunter-gatherer-cultivators had a new understanding of ownership (*cf.* Bradley 2004), it may be that the enclosure of the tors represented a declaration of

ownership of the tor, the land and the spirits on behalf of their group and their descendents. What better way of declaring ownership of a place than enclosing it in imposing walls?

Relationships to the tors in the Early Bronze Age, where there was much more evidence of agriculture, support this explanation for enclosure. In the Early Bronze Age tor cairns start to appear, indicating an even greater need to control the tors (Tilley & Bennett 2001, 360). The tor cairns completely blocked off access to the natural rock, and their forms had greater similarities to cairns and round barrows than the tor enclosures did to dolmens, an indication that the differences between ancestor-creators and the more recent dead may have been diminishing.

Tilley (1995, 17) suggests that the dolmens and long barrows of Bodmin Moor were built with respect to and focused on prominent tors as an attempt to formalise, freeze in time and make more overt this new relationship with the landscape. Tilley (1995, 13) claims that of the three recognised long cairns on Bodmin Moor, Louden, Catshole and Bearah Common, two are focused on prominent tors with their higher end pointing at the tor. There are problems with this interpretation. Kytmanow (2008, CD:catalogue.pdf) interprets Bearah Common as a portal dolmen, not a long cairn, with the facade pointing east, thus not aligned on Bearah Tor above it. Louden does not point at either the Logan Rock on Louden hill or at Roughtor, and Catshole is not directly aligned on nearby outcrops either. Of the questionable Bodmin Moor barrows that Tilley does not mention, Shallow Water Common long cairn does not point at an outcrop and Kilmar long cairn is parallel to rather than aligned on the tor, with its wide end pointing to the lowlands. Beacon long cairn, however, does point roughly at Leskernick Hill and Beacon Hill, and the bank-cairn below Roughtor has sections that point at Showery Tor and the outcrops of Roughtor.

Despite the problems with Tilley's interpretation it is still clear that many dolmens and long cairns in Cornwall had a relationship with tors, often enclosed tors. It may not necessarily be that the monument focussed a view on the tor, as Tilley infers, but that it referred to movement to the tor. As described in Chapter 4, many of these tombs can be reached from the tor enclosure by moving in a downhill direction, often following a river, or a stream that will shortly feed into a larger watercourse. Conversely, the tor enclosure can be reached from the lowlands by following the watercourse upstream and passing the tomb. It is difficult, of course, to determine in which direction the movement referred to by this relationship took place: to or off the highlands. Yet, if certain tors were important places before enclosure, then it could be assumed that the movement is to the tor, which was obviously there long before the tomb was built. By monumentalising this routeway the people were referring back to previous journeys to the highlands and to the spiritual places of the high tors. Monumentalisation would have brought the mythical ancestral journeys into the present and legitimised the action of the living. It would also have formalised these journeys: it made physical

specific route ways, used by the ancestors, to gain access to the highlands. People moving to the highlands, thus, had to behave in a specific, controlled way. These routeways would often have guided people toward the enclosed tors where they would have experienced further emphasis on how the landscape, both physically and spiritually, was controlled. As the formalised routeways drew their authority from the ancestral past, it is little surprise that barrows and dolmens, monuments of the dead, were used to mark them.

The barrows and dolmens of southeast Bodmin Moor often have their facades or wider ends pointing in a lowland or downstream direction. This further suggests that they were positioned to accommodate those climbing up onto the highlands, presenting the facade as people approached so that ceremonies could have been enacted in front of the tomb with the highlands acting as a dominant back drop. This orientation would also have meant that the ancestors within some tombs were positioned such that they were always looking out towards the lowlands beyond. Therefore, even when not in the highlands and at the high spiritual places, the people would always have known that the ancestors were looking down upon them and observing their actions and expecting correct behaviour.

6.1.2 The preservation of the past?

Section 6.1.1 suggested that the enclosure of prominent tors and the construction of funerary monuments demonstrated a strategy of using the past, or at least an interpretation of the past, to legitimise changes in the way that people related to the landscape in the Early Neolithic. Bradley (1998a) and Whittle (2004, 89) put forward an alternative view, one where the new forms of construction were not intended to reflect or enable change, but to resist it.

Whittle (2004, 89) suggests that the southwest contained a population that, for the most part, continued a relationship with the landscape that was inherited from the area's final Mesolithic occupants, to whom tors and natural rock outcrops were very much seen as important spiritual places. In this context, the spread of Neolithic lifeways from the east represented a threat to this way of life, marked by domestication, new forms of material culture and, perhaps most importantly, monuments that did not reference the natural landscape in traditional ways. To Whittle the long barrows that were spreading across Wessex were a break with the past. He saw the dolmens of the southwest, on the other hand, as an attempt to preserve the past as they referenced tors and what tors stood for. The dolmens were constructed from the same material as the tors, they looked like tors with large capstones being supported by uprights, and between the uprights were crevices like the fissures found at the tors, Trethevy Quoit even had a solution basin, another feature that was common at the enclosed

tors. The dolmens were also positioned with respect to the tors (Section 6.1.1). Whittle suggests that the people were recreating tors in order to recreate and preserve what the tors stood for and to resist the changes arriving from the east.

Bradley (1998a, 20) disagrees with Tilley's claim that dolmens were constructed as an attempt to domesticate landscape and thus exert social control. Instead, he suggests that there was little differentiation between the natural and the cultural (Bradley 2000), and that tors were seen as ancient buildings (Bradley 1998a, 10). Walls were built around them, and dolmens near to them, to emphasise links with the past. By building at historically meaningful places, and building in a way that resembled the tors, people were carrying on the work of their ancestors and carrying forward ancestral understandings of the landscape rather than trying to change the world.

This approach is somewhat problematic. Whittle's (2004, 89) idea of a threat from the east is hard to substantiate if that threat is viewed in terms of monumentation and domestication. A number of monuments, both barrows and enclosures, from Wessex and beyond seem to refer to places of ancestral importance. For instance, the long barrow at South Street near Avebury was built in a location that had seen much use in the past, as had the nearby Windmill Hill enclosure (Pollard & Reynolds 2002, 41). Southwestern dolmens have much in common, structurally, with those of other Irish Sea-facing areas, suggesting ongoing communications with Ireland. The evidence for early adoption of the more economic aspects of the Neolithic is much stronger in Ireland than in Wessex, thus one might expect the southwest of England to embrace these changes before Wessex. That dolmens are found in parts of the British Isles where there are no natural rock outcrops suggests that they need not refer to tors. There is also possible evidence for cultivation (Mercer 1981, 80) and an intensification of the use of Neolithic material culture at some tor enclosures, suggesting that it was at the tor enclosures rather than other parts of the southwest that new Neolithic ways were most energetically accepted. However, both of these phenomena may have occurred once the original meaning of the enclosure had changed.

The suggestion that people made changes to the landscape in order to preserve their pre-existing relationships with that landscape might seem a little contradictory. But as Bradley (2002, 85) states, monuments have often been used in an attempt to carry understanding forward to the future, the more durable the monument the better that those understandings will be preserved. Furthermore, monuments never preserve an exact view of the past, and even during building it is rare that there is consensus over the meaning of the construction (*ibid.*, 85, 110). It could, in fact, have been that some within the Early Neolithic societies of the southwest were building dolmens and enclosing the tors as an attempt to preserve past life-ways in the face of the changes of the Neolithic, whilst others were using the new monuments as media for expressing new forms of control over the landscape and social

relations. Indeed, even if a whole community believed that it was creating monuments to maintain an ancestral way of life, the act of building these monuments would have been reflexive and would have changed the way that the people saw their world. The very thing that was meant to safeguard them from change may have been the thing that changed them the most.

6.2 New relationships with death and the ancestors

The Early Neolithic saw an increase in the building of monuments that related to death and burial. In the southwest a number of dolmens were built that have been interpreted as tombs (Kytmanow 2008). The contents of two of these, Sperris Quoit and Zennor Quoit, have produced radiocarbon dates of 3633-3373 cal BC (UB-6754) and 3342-3024 cal BC (UB-6753) (Kytmanow 2008, 105-6) suggesting that they were contemporary with the tor enclosures, although the dates do not give the necessary precision to show which came first. Some tor enclosures had relationships with nearby dolmens: the tor enclosures are often found a few kilometres upstream of the dolmens when nearby watercourses are followed, and on the highland-edge above them (Section 4.3).

Based upon ethnographic comparison and landscape analysis, it has been suggested that tors, in their unenclosed form, may have had strong associations with the ancestors and the past (Section 5.1). If this were the case, the apparent increased emphasis on the dead and on monumentalising burial and interment, in the Early Neolithic, might have made the tor sites even more relevant. Some causewayed enclosures, such as Hambledon Hill, on the borders of the southwest, might have had a funerary function with platforms having been erected so that bodies could have been laid out for defleshing before interment of the bones in nearby barrows (Mercer 1980, 63, but see below). The tor sites would seem ideal for this function with the large rock outcrops offering many flat surfaces to lay bodies upon, and the crevices between the rocks would seem ideal for placing bones in. One might even speculate that the propped-stones at some enclosures may have been propped up to create special places for bodies to lie. Evans (1988, 89) has identified commonalities between long barrows and causewayed enclosures where the quarry ditches of barrows resemble the segmented ditches of the enclosures. Likewise, Bradley (1998a, 18) suggests that dolmens were built to resemble tors. If this were the case then perhaps their associations with death were inherited from tors or *vice-versa*. It is also possible that there was a connection between the dead and rivers in the Neolithic (Thomas 2003; Cummings & Whittle 2004, 82), and it is notable that a number of tor enclosures have watercourses nearby that then run past dolmens or barrows. In the ethnographic record there are numerous accounts of water being viewed as a liminal substance that links the worlds of living and spirits or dead (Bradley 2000, 26; Zvelebil 2003). The tor enclosures themselves are in liminal places of transition on the edges of the highlands (Section 5.1).

The dead were, of course, disposed of in the later Mesolithic, but in the Early Neolithic, as demonstrated by the appearance of barrows, the dead, or at least a representative proportion of them, were disposed of in dramatically different ways. The structure of the barrow separated the remains of the dead from the world beyond. The walls of the tor enclosures might be seen as having a similar role, separating the area of the dead from the world of the living beyond. But separation can be chronological as well as spatial (Chapman *et al.* 2006, 21), thus the interior of the tor enclosure might have become not only the place of the dead but the time of the dead.

If the tors were associated with the ancestral dead and creator spirits prior to enclosure (Chapter 5), by monumentalising the tors as places of the recent dead those myths of deep time would have been brought into the present either in an attempt to hold on to past life-ways in the changing times of the Early Neolithic, or to rewrite those histories in an attempt to control and legitimise new understandings of the world. Like causewayed enclosures (Edmonds 1999, 116), the tor enclosures would have allowed the ceremonies of death, which happens all year round, to be acted out within the normal routines of movement; the decaying bodies of the dead might even have been kept at the tor enclosures until the correct time came to move them to tombs. Most importantly, death brought changes in obligations, and funerary rites enacted at enclosures would have allowed the safe renegotiation of these obligations (Edmonds 1999, 121).

Yet, there are problems with the association of tor enclosures with the dead. The most obvious is the lack of evidence for interment. Unlike causewayed enclosures such as Hambledon Hill, with its rich assemblages of human bones, virtually no bone was found at Carn Brea. Whether this is because bodies were never laid out at the tor enclosures or because the acid rab of the site dissolved any bone long ago is impossible to say. The comparison with Hambledon Hill as a place for excarnation is also problematic as Mercer's (1980, 63) original interpretation has been questioned (e.g. Mercer 2009; Mercer & Healy 2010; Oswald *et al.* 2001, 126). There were certainly bones deposited in the ditches at Hambledon Hill, but these could have arrived already defleshed rather than have been exposed on site. Nonetheless, bones were found at such places as Hambledon Hill and Windmill Hill, demonstrating that these places did have some link with the dead.

There are also problems in inferring a funerary role for the tor enclosures via their associations with dolmens. Several writers (e.g. Kytmanow 2008) have taken an *a priori* view that dolmens, and portal dolmens especially, were built as tombs. Yet many of these structures show no signs of ever containing burials (Richards 2004, 74), and due to their open nature it is possible that some of those that have provided human remains had them added sometime after their initial construction. Richards (2004, 72) wonders whether the main role of these monuments was the creation of a communal act

and the social integration that went with it, rather than the function that the finished monument would fulfil (see Section 6.5).

Nonetheless, if a funerary role can be inferred onto dolmens by comparison with tombs elsewhere, one might argue that a similar role can be equally justified for tor enclosures based upon evidence from other enclosures.

6.3 Ceremonies of aggregation: negotiation of status and identity

In other parts of England the closest parallels for the tor enclosures are causewayed enclosures. Both represented spaces enclosed by barriers that separated them from the landscape beyond. Numerous writers suggest that causewayed enclosures were places for periodic aggregations, concerned with the negotiation of identity, status and social relationships. Although there is much locational and structural difference between, and within, the two monument categories, it is a good point of departure for assessing the possibility that tor enclosures saw similar activities. Aggregation at the pre-enclose tors was discussed in Section 5.1, this section considers the Early Neolithic changes that may have led to the enclosure of these places of aggregation, and what impact enclosure had on these activities.

These aggregations might have seen a number of activities acted out, for instance: funerary rites (above), celebrations of harvest and hunt, negotiation of marriage arrangements, coming of age rites, the making of agreements and loyalty oaths, and spiritual activities. In short, an array of contexts for the negotiation of social relationships, identity and status may have been enacted at tor enclosures. That many were near tombs and at transitional places in the landscape on probable major routeways (Chapter 4), suggests that tor enclosures were central places in people's lives in a social or spiritual sense. All of these activities might have been conducted at the tors before enclosure, so why did people feel it necessary to enclose the tors at all? There may be two explanations that are by no means mutually exclusive. The first suggests that the types of activity at these aggregations might have changed, or the use of tors may have been new. The introduction of new activities and loss of old ones might have required a change to the place at which they were enacted. The second explanation suggests that the activities may have remained constant but the way that they were expressed could have changed; that is to say, people still made marital arrangements, played out coming of age ceremonies, and so on, but the way in which they were conducted changed due to newly available repertoires of expression. If the former was the case, and landscape use and economy had changed dramatically, it could have drastically affected the use of the tors (see Chapter 7). If, on the other hand, people were still living a mobile lifestyle and depending upon wild resources for the

mainstay of their diets, it is doubtful that the range of activities played out at times of social aggregation would have changed significantly. Instead, the new forms of food, portable material culture and architecture may have had a major impact upon how these activities of social negotiation were carried out. So-called *exotic* items, such as new foodstuffs and material culture, would have acted as important tools or metaphors within these negotiations. The following section examines how Early Neolithic uses of these items might have changed society.

6.3.1 Material culture and new media of expression

One of the notable differences between the later Mesolithic and Early Neolithic is the increase in production and consumption of material culture. This is especially evident at the excavated tor enclosures of Carn Brea and Helman Tor which produced two of the largest assemblages of Early Neolithic stone tools and pottery in the southwest. Mercer's excavations at Carn Brea found enough pottery sherds to represent at least 550 vessels (Smith 1981a, 161), as well as 3,611 flint implements (Mercer 2006, 74). Mercer (1981, 192) suggests that this large assemblage is a signifier of settlement, industry and trade, yet other writers (e.g. Bradley & Edmonds 1993; Tilley 1996a, 101; Thomas 1999, 99-102) have suggested that the increases in certain types of material culture at this time were a result of a desire to demonstrate identity and status, and to forge new kinds of social relationships.

The production and movement of what might be termed exotic items certainly occurred in the later Mesolithic. Chert from the southwest has been found in other parts of southern Britain where superior local flint was available (Care 1982, 282), suggesting that the reason for carrying chert to these areas was not a practical one. The continuity in artefact movement (Care 1982, 279) suggests that Early Neolithic increases in production and consumption of material culture do not signify a change from the later Mesolithic circulation of artefacts in social negotiation, but an intensification of it.

New forms of material culture do not necessarily mean new ideologies, but can be fitted into existing life-ways to express current understandings of the world in different ways. When new forms of material culture are adopted it is not always primarily in their most obvious functional context; this was the case with Canadian Indian use of European ceramics (Marshall & Maas 1997). The Mowachaht, for example, initially adopted European serving dishes, not for everyday use, but for use in their Potlatch ceremonies: aggregations where gift-giving inferred status on the giver and marked the status of receiver. Gifts were traditionally foodstuffs, but later included serving dishes, valued because they were easily displayed after the event, unlike perishables. The Bella-Bella people collected tea cups, often having hundreds in their houses, also for use in Potlatch ceremonies (*ibid.*, 280). Dishes and teacups were not used between ceremonies, but kept for recirculation, becoming a

mnemonic of social relations. Canadian Eskimos also adopted exotic European foodstuffs for use at important meetings (*ibid.*, 286). Tea-drinking, and the cups associated with it, was not initially an everyday affair, but reserved for special meetings because encounters with Europeans involved tea-drinking. Arriving at a meeting with one's own ceramic tea cup was seen as a symbol of status amongst the Eskimos, thus tea cups were moved over great distances as people journeyed to far-off meetings. Indeed, tea cups were often placed upon graves, such was their importance.

The North American Indian evidence thus suggests an alternative explanation for the large amounts of material culture found at Carn Brea and Helman Tor that need not represent Mercer's (1981, 58) practicalities of everyday life in a settled farming community. Thomas (1991; 1999; 2008) believes that the introduction of domesticated foodstuffs to Britain was done on a cultural rather than economic basis, heavily used in ceremonies and displays rather than (solely) as a staple part of the diet. Marshall and Maas's (1997) account of the Canadian Indians supports this theory: in Canada tea, a new exotic foodstuff just as cereals or beef might have been in the Neolithic, was adopted for its ceremonial use, a use that was emphasised by the ritual involved in making and serving it. The new ceramic containers, especially those made of gabbroic clays, could also have been associated with the new foodstuffs of the Early Neolithic, just as the European serving dishes were associated with the food gifts at the Indian Potlatches, and rapidly rose to importance as a social signifier. At any major ceremony or aggregation there would have been amounts of pottery present from early in the Neolithic: the radiocarbon dates from Roche Rock certainly suggest that gabbroic pottery was being produced by the 38th century BC, while the abraded nature of this pottery when compared to the local pottery suggests that it was being curated for long periods, further testifying to its importance (Cole & Jones 2002-3, 119). At Carn Brea there is no evidence for on-site potting so the gabbroic pottery was also brought to that site (Mercer 1981, 76).

If the highland-edge tors were already places where important gatherings took place (Chapter 5) then it is little surprise that a great deal of pottery is found at them. As Tilley (1996a, 101) points out, in many small-scale societies formal gift exchange can only happen at specific places. The highland-edge tors, with their possible ancestral associations and marginal locations, would have been a prime candidate for such places, just as in other parts of the country causewayed enclosures are found in liminal locations. The deposition of ceramics at the tors may have been part of a ceremony of social negotiation, as deposition is a social act that is played out in front of an audience (Pollard 2001, 317), thus just as the exotic foodstuffs were consumed, so too were exotic material items by breaking and depositing them at sacred sites.

At Carn Brea, only one deposit containing a complete vessel was found, at Site E (Fig 2.10), the rest of the pottery being fragmentary (Smith 1981, 161), in contrast with assemblages at many

causewayed enclosures where a greater number of near complete pots are found. This does not mean that it was not the result of intentional deposition. Much of the pottery is found in a dark organic layer that Mercer (1981, 23) describes as midden material. At Site A1, layers of midden material butt up against the wall and constitute the floor surface of the building(s). At Site K, the disused entrance passage is lined with midden material (Mercer 1981, 56). Mercer (2001, 44) suggests that this material was deposited as a by-product of domestic processes. This could be true, but the material might also have been deposited for other reasons. At Site A1, much of the deposit might have accrued from drift down the slope from the centre of the enclosure, thus explaining the abraded nature of the sherds. How it was deposited in the unexcavated centre of the enclosure is difficult to determine: it may have been refuse from domestic process, or it might have been either refuse or deliberate deposition from ceremonial feasting events.

At Site K, it appears that there was no drift from higher in the enclosure (Mercer 1981, 52), and the midden material here was, as Mercer says, deliberately deposited in the disused entrance passage. The impression that Mercer gives is that this was a simple act of getting rid of rubbish, yet midden material, and the artefacts therein, is often seen as representative of the process that created it (Pollard 2001, 323; 2002, 22). If this material was created as part of a feasting event then it would remain a signifier of the relationships, agreements and importance of that event. Deliberate deposition would have underlined and legitimised that event as it was deposited at a place that was important to the ancestors (Section 5.1.5). The past was read from the landscape (Section 5.1.3), so the signifier of the meeting was added to the landscape and to the people's history. In this way, the outcomes of meetings, such as loyalty oaths or marriage arrangements, gained legitimisation from the location, and the location gained importance from the agreements made there, inheriting the signifying qualities of the deposited material culture. Depositing midden material in the entrance way of Site K is similar to the way material culture was deposited in the ditch terminals at the entrances of causewayed enclosures (Evans 1988, 89; Edmonds 1993, 112). If the structure at Site A1 was indeed a dwelling, then building and rebuilding it upon the midden material of those who used the area before allowed the past to be brought into the present and legitimised the action being carried out. If the midden material signified the understandings based on the past, then the present was built literally on those foundations. At Helman Tor the Neolithic contexts contain much unabraded Early Neolithic material which Mercer views as midden material (Mercer 1997, 16), but as with Carn Brea this could also be viewed as deliberate deposition of culturally important artefacts especially as it contains a complete pot smashed *in situ*.

Comparison with deposits at causewayed enclosures can be continued by considering the ditch outside the wall at Carn Brea's Site J (Fig 2.10). Initially the bottom of the ditch was kept clean, later it was filled with "midden material" containing unabraded sherds of pottery (Mercer 1981, 49). Mercer

explains this as domestic debris thrown over the wall, but the cleaning of the ditch and deposition of midden material including pottery, ceramics and bone fragments is reminiscent of structured deposits at causewayed enclosures where similar items were deposited and ditches sometimes cleaned out before new deposits were made (Smith 1965, 96-8; Oswald *et al.* 2001, 36; 123). At Site A3 unabraded sherds and greenstone flakes were found on the base of the ditch below wall W4, and a Group I axe head in the socket hole of one of the wall's orthostats (Mercer 1981, 93), again suggesting the possibility of deliberate deposition. There were also a number of pits beyond the W1 wall containing burnt material (Mercer 1981, 37) which were not unlike the Roche Rock pits (Cole & Jones 2002-3) and other pits associated with temporary occupation sites across southern England. Cole and Jones (2003-3) interpreted the Roche Rock pits as formal commemorations of meetings, much as has been described for the Carn Brea deposits above: the pits beyond wall W1 might indicate that meetings and commemorative deposition were taking place at Carn Brea before the walls were built. Indeed, at Sites A1, K and J there was also tentative evidence for pre-wall occupation (Mercer 1981, 21, 49, 57). This might suggest that Carn Brea followed a similar pattern to causewayed enclosures, like Windmill Hill, where deposits of cultural material were placed in pits before the ditch segments were dug (Bradley 2000, 105).

It is little wonder that pottery should have quickly become important in the Early Neolithic. It was a new medium of cultural expression, and had close associations with the new exotic domesticated foodstuffs. Lithics on the other hand, were an existing medium which may have already been used to express identity or status (Care 1982, 282; Tilley 1996a, 110). The suitability of axe heads for such displays of status and identity can be explained in several ways. The practical uses of axes included tree-felling for forest clearance, and as weapons; thus owning an axe gave one power over nature and over other people. Based on their practical affinities axes became symbols of social identity (Edmonds 1993, 120). But the significance of axe heads clearly went beyond their practical associations. As axes were displayed, and exchanged between different individuals, Edmonds (1999, 124) suggests that they would have gained a biography of past owners, places and events, and identities concerning important people, distant lands and heroic deeds. This biography would have contained memories of obligations, agreements and debts, making the axe a mnemonic for those social relationships. Axe heads might even have represented the bodies of dead owners when deposited at causewayed enclosures (Edmonds 1993, 122). This might be similar to how the Vanto of the South Pacific name and associate stones with lineage groups (Roe & Taki 1999, 412). It is notable that axe fragments from southwest Wales and Cumbria were found at Carn Brea (Mercer 1981, 153), and the greenstone axes of Cornwall would have appeared as equally exotic in other parts of the British Isles. These associations would link faraway places and their stories (Cooney 1999, 50).

There is plenty of evidence of flint knapping taking place within causewayed enclosures, but not immediately outside them (Care 1982, 277; Edmonds 1993, 115; 126). At Langdale Pike, axes were quarried from high liminal places at the top of steep slopes despite the availability of more accessible sources (Bradley 2000, 87). That the nodules and blanks were brought to or quarried at these special places might infer that the act of creation at special places imparted special power upon the objects (Edmonds 1993, 121). This could also have been the case for the tor enclosures. As shown in Chapters 4 and 5, a number were positioned near potential greenstone sources and at liminal, highland-edge locations. The evidence from Carn Brea shows that roughouts and axe rubbers were present, thus axe finishing took place there (Mercer 1986, 47). For the Aborigines of Arnhem Land, Australia, stone tools created at special places were felt to embody the spirit of the ancestors associated with those places. The act of creating a tool there was to replicate the acts of the ancestors in creating the world; it gave the tool power and created links between past and present (Tacon 1991, 191-8). At some Early Neolithic monuments there is evidence for flint knapping that produced no tool: seemingly, it was the act of knapping that was important and what it meant in association with the location (Edmonds 1999, 117).

Not only would axes have gained power and meaning from the importance of the tor enclosure (Edmonds 1993, 124), but being made of rock they could also have acted as a mnemonic for the tor and what it represented. The rock of the tor penetrates and bursts through the surface of the landscape just as an axe could penetrate the trees of the landscape. Axes and tors could have elevated the importance of each other over time. If meetings at enclosures were initially episodic then the artefacts that represented the results of these meetings would gain a higher importance as they persisted over time (Edmonds 1999, 128).

Yet, if the Carn Brea tor was already used for gatherings and feasting before the construction of the walls, why did the users of the site feel it necessary to enclose it? An increase in the amount of exotic items available for these ceremonies might have been one of the triggers. There is much more material culture buried within the enclosure of the Eastern Summit than without (Mercer 2003, 59), possibly suggesting that after this wall was built there was an increase in the amount of pottery and lithic material at the site, although part of this might be explained by the downhill drift toward the wall. Unfortunately, none of the terraces in the centre of the site were excavated.

The effect of the increase in material culture during the Mesolithic-Neolithic transition might be illustrated by using the example of the New England American Indians and their early contacts with Europeans around 1600 AD. Before contact with Europeans, the Indians used wampumpeag, ornate jewellery made from sea shells, to demonstrate status within their communities (Cronon 1983, 95-97). The wampumpeag was produced some distance away, was only available in small amounts, and was

mainly owned in small quantities by the group leaders. Others dared not acquire much wampumpeag unless they intended a challenge for power. Its exchange took place at important ceremonial gatherings where it was given as tribute to other powerful people, to rectify crimes, to gain loyalties and to seal agreements. Thus one might draw a parallel with the late Mesolithic movement of certain lithic artefacts and beads into and out of southwest England (Tilley 1996a, 110). Like the wampumpeag, it was the social rather than practical aspects of lithic material and other perishable but exotic items that caused its movement over great distances.

The arrival of Europeans in New England introduced metal drills allowing wampumpeag to be made in far greater quantities, and this they used to trade with the Indians. Increased influx of wampumpeag led to group leaders needing more and more to retain status and power, so the increase in production led to an even greater increase in demand for wampumpeag at important meetings. At the same time, the Indians also started to adopt European goods to show status as these were seen as more exotic than wampumpeag. The previous order in society quickly changed, and the shows of status at aggregations became more important and more unstable. It is not difficult to relate this to the Early Neolithic of southwest England. The latest Mesolithic probably saw status and identity displays using a limited number of exotic lithics and other items (see comments on the use of chert and beads above). In the earlier Neolithic new types of lithics were used, microliths were replaced by larger flint tools, and axe heads became more important (paralleling the increase in wampumpeag). At the same time pottery and domesticated foodstuffs become available. An intensification of existing trade and gift networks occurred (Tilley 1996a, 110). This increase in both the number of artefacts and artefact types that could be used in social negotiation led to changes in society as more people could possess exotic items. The aggregations that they were displayed and exchanged or gifted at became increasingly more important and more socially dangerous, and the places at which these meetings were held became monumentalised (Edmonds 1993, 125). The following section will examine how the building of walls related to the increasingly socially dangerous ceremonies of aggregation created by increased access to exotic material culture.

6.4 The act of building

In his work on the Carreg Samson dolmen Richards (2004) considers whether the process of construction was more important than the finished monument. By coming together to build the dolmen, a group would have forged new social relationships through the activity of communal labour, at a time when the dangers inherent in negotiating social relations were growing. Specific people would have taken on specific tasks, the group may have been divided up between those that planned, organised, created tools, prepared food, acquired raw materials and gave spiritual guidance, not to

mention the various tasks of the actual building. Each of these tasks conferred some new aspect of identity upon the person doing it. Participating in the act of building was to participate in a “discourse of social negotiation” (Richards 2004, 72); people would have constructed themselves through their labour. Just as people benefited from working together in a hunt when the calorific return was less than was put in (Smith 1992, 19), so they would also benefit from working together in construction. The act of building reinforced hierarchical differentiation within the group, but would also have reinforced group identity, an identity that the monument might come to act as a metaphor for, and continue to reinforce in the future (Richards 2004, 73). Construction, from this perspective, was not a means to an end structure, but rather the finished monument’s function was the evocation of memories of construction.

This could equally be true of tor enclosures. Just as the construction of long barrows might have reflected the efforts of an extended family group and the construction of a causewayed enclosure represented the work of a number of such groups cooperating (Darvill & Thomas 2001, 15), so might the construction of a dolmen have represented the smaller group, and the construction of the tor enclosure a number of subgroups working together. The act of building a tor enclosure could have paralleled the mythical work of the ancestor-creators when they created the tors (Section 5.1.5). If these outcrops were thought of as the ancestors turned to stone then by linking them together the people were replicating the social impact of their labour, that of linking a number of groups together through the act of construction. The walls could have become signifiers for both the unified labour that built them, and in linking the ancestor/outcrops together they could have acted as metaphors for social links within society. The similarity in form between the tor outcrops and the dolmens (Bradley 1998a, 18) may have led to the outcrops acting as metaphors for the tombs and the walls that linked them would then have signified links between different communities to remind people of a common ancestry.

The enclosures may also have acted as signifiers of obligation: from those associated with the area in which the tor stood, to those who were called upon to help build the enclosure (Richards 2004, 74). Those from outside the area could, thus, have claimed a right to be at a place that they had helped build, and the enclosure might have been viewed as a neutral meeting place within an alien territory.

The evidence for digging, filling and re-cutting of causewayed enclosure ditches has also been explained as the act of people toiling together, replicating acts of the ancestors, to further social relations over a long period, with new work being undertaken on each visit to reaffirm social bonds (Edmonds 1993, 109). This theory is harder to apply to tor enclosures as their walls were more substantial and permanent than causewayed enclosure ditches and banks. Although there is some evidence for cleaning of the bottom of the ditch at Carn Brea’s Site J (Mercer 1981, 49), a number of

the walls show no evidence of having ditches. If the tor enclosures were visited periodically then the act of maintaining the walls at each visit may have represented acts of group integration where people worked together with a common purpose, thereby strengthening social links as they strengthened the walls, before undertaking ceremonies of aggregation that had potential for conflict. Due to the poor state of wall preservation it is difficult to tell to what extent the original structures required maintenance in the years after initial construction. At Stowe's Pound there is certainly evidence for repair in the upper wall where coursed stone work was added to the orthostatic and boulder built original, yet it is impossible to assign a Neolithic date to this without excavation.

The creation of additional walls at some tor enclosures might have also fulfilled the role of reinforcing relationships within and between groups, rather than just representing an expansion of an occupation site. The different construction techniques used for Carn Brea's walls suggest that they were not all built at the same time. Indeed, such an undertaking seems unlikely given the amount of labour required. At Roughtor the wall lines are so close to each other in places, that it appears that there is little practical reason for having multiple walls. This is also true of parts of the double wall at Whittor. The addition of more walls at Carn Brea may have represented an increase in population but, as Mercer (2003, 59) says, there is a massive difference in the amount of material culture found within the W1 wall compared with the area within walls W2s and W2n (Fig 6.4). Indeed, there is no clear evidence that the Carn Brea W1 wall, or Stowe's Pound upper wall, were the result of single constructional operations, and it may be that rather than creating an enclosed space in a single visit people were building segments of the wall on different visits to link up different outcrops. The outer walls at Carn Brea do not link outcrops as the inner ones do, but this may just reflect a change in the reason for building.

If the common toil of rework was an important part of each visit, it might have taken the format of rebuilding or rearranging features within the enclosure. At most of the tor enclosures there is no evidence for Neolithic rock-built buildings within the walls, but there is some evidence for timber built structures. Most of the excavated sites within the W1 wall at Carn Brea had an array of post or stake holes in them, and Site A1 (Fig 2.10) has evidence for a building that was either rebuilt or repaired over time (Mercer 1981, 23). At other tor enclosures, such as Stowe's Pound and Roughtor, there are areas clear of clutter that may have been the bases of timber buildings. Reconstruction of these buildings, perhaps on a seasonal basis, might not have represented a communal project if each building was the concern of a single family group, but it may have represented the recreation of a physical representation, possibly idealised, of the social relationships within the group as a whole. Ingold (1995, 68) suggests that when nomadic groups settle into places of permanent occupation the relationships are made permanent by the creation of architecture.

In mobile societies people often move campsites not to make use of new resources, but to rearrange the layout of the campsite, to move away from certain individuals and closer to others, thus the move represents a social rather than resource-based action (Ingold 1986, 177). At the tor enclosures the rock outcrops, walls, cleared areas, and wooden buildings would have controlled where people could have positioned themselves and who they would have been near. This shaping of the group might have reflected previous aggregations at the enclosure and acted as a way of allowing control over the group by reference to the past. Just as the layout of the drainage ditches of Papua New Guinea represented a social map of society (Ballard 1994), the layouts of the tor enclosures could have represented an idealised map of their builders' societies. Alternatively, if each space within the enclosure was not associated with a particular sub-group, there may have been competition to acquire the most desired areas on each gathering at the enclosure, thus leading to the possibility of conflict, but allowing a reshaping of society.

Whether or not the act of building an enclosure was intended to reflect the social world, its alteration of the physical world would have changed that social world, perhaps in ways not foreseen. The act of building would have changed the past and become a part of ancestral myth, thus influencing the present. The participation within the act of building would have forged new links within society.

6.5 Enclosure as structure

Acts of enclosure may have been processes to be involved in with no 'final' article ever produced (Evans 1988, 88). Yet structures, even if they were often subject to alteration, were produced, and these structures would have been experienced between acts of building and rebuilding. These constructions would have reflected and informed the worlds of their builders, thus the forms of these structures must be considered.

6.5.1 Monuments as metaphor

The use of megaliths in the construction of monuments was a new departure in the southwest of Britain. Even if the tors were thought of as ancestral 'buildings' (Bradley 1998a, 18), the idea and act of replicating those structures artificially was wholly new. The first dolmens would have had a revolutionary impact upon those that experienced them, yet these monuments were relatively compact and often in locations of lesser prominence than the tors (Kytmanow 2008, 189). The tor enclosures would have been breathtaking in comparison. The combination of the effort involved in building them, their dominating locations and altitudes, and the associations with the tors, potentially places of the mythical past (Section 5.1), must surely reflect an intent to make an important statement.

Constructions of such importance would have conferred great status upon those that built or controlled them, and become part of their identity. Just as people created the tor enclosures, so the tor enclosures recreated the people.

It is unfortunate, but understandable, that Mercer's excavations concentrated on the walls rather than exploring the outcrops, as this might have clarified whether offerings had been made 'to' the outcrops like those made by the Sammi. Even so, the evidence from Roche Rock (Cole & Jones, 2002-3) would seem to suggest that commemorative offerings were made at some tors. If the outcrops were important in this way, they may have acted as an abstract map of society, representing the family lines within the clans. The permanence and age of the outcrops may have legitimised the group's structure. The outcrops could also have represented prominent places in the landscape, or even other tors, much as Richards views the stones of the Ring of Brodgar in Orkney as representative of the surrounding hills (1996, 206). Just as these places may have been mnemonics for events and actions (Section 5.1), the outcrops could have been seen to represent the people, their landscape and their history, all three being interchangeable to an extent. The walls could have acted as a blueprint for a cohesive society: a wall only works as a wall if each element (orthostat) is playing its correct part.



Fig 6.1: Carn Brea - orthostats that resemble greenstone axe heads (Mercer 1981, Plate XXIV).

The shape of the orthostats themselves may have had relevance to the builders, being not dissimilar to that of greenstone axe heads (Fig. 6.1). Axes have often been used to represent notions of social identity such as status, relationships or gender (Chapman 1988, 120-1), and it may have been the same for the orthostats. Associations between orthostats and axe heads might also have referred to the role of axes in clearing the forest (Tilley 1996a, 113). The orthostats of the walls encircled clear areas and penetrated the ground, much as the natural rock outcrops did. This penetration may have been a further statement about control over nature. Axes in the ethnographic record often reference maleness in terms of hardness, penetration and power (Tacon 1991, 204). Water also has symbolic meaning (Cummings & Whittle 2004, 82); tors with solution basins were popular choices for enclosure and the

enclosed tors were often linked with other areas, tombs and the sea by rivers (Section 4.4). Tacon (1991, 204) suggests that if rock was often a male substance, then water was a female substance as it had life giving properties, although Cummings and Whittle (2004, 82) stress its relationships with death and burials. However they are interpreted, the materials present at tors would certainly mark them out as special places: rock, a treeless area, the surrounding forest, water, openness to the air and elements, and orthostats shaped like axe heads. Tors can be seen as metaphor for all of the elements of the world, both social and physical, brought together in microcosm.

The walls being sub-circular may have reflected the *shape* of life. If a seasonal or social round was followed, the walls would have reflected this beginning-less and endless path, especially if the orthostats were abstracted representations of people or places. Yet, such cycles of movement may have been used for centuries before the walls were built, so perhaps the walls reflected a change to the pattern caused by the heightened emphasis on aggregations where negotiations of social status and relationships were played out (Section 6.3), or by a new understanding of time based on the use of domesticates (Darvill & Thomas 2001, 244). If tors were associated with aggregation, then the rock outcrops within the walls may have been mnemonics for aggregations: not telling people when events took place but reinforcing the repetition of those events.

The status that came from the monumental enclosures would have marked the importance of events enacted there, underlining agreements and oaths. If visits to the enclosures were episodic for some, the permanence and importance of the monuments could have been used to reinforce the authority of the agreements (Edmonds 1999, 128). The effect would have been reflexive, with each important agreement further legitimising and increasing the status of the associated tor enclosure. Tor enclosures would have become correct and proper places to negotiate agreements and understandings of the world. The enclosures' prominent positions would have meant that those moving around the landscape would often have been reminded of those agreements and understandings.

6.5.2 Bounding and containment

In its simplest form the act of enclosure creates an inside and an outside. Although the people of the Early Neolithic would have already understood this concept (for instance, they might have differentiated space as inside and outside of a shelter or camp), the creation of enclosure walls produced a new way of experiencing inside and outside. A camp or occupation site may have had a communal interior, yet the boundaries between inside and outside were not formally demarcated. Even the natural tors may have been thought of as having an inside (Section 5.1), but, these areas were not structurally enforced: there was no formal physical line immediately surrounding the tor to

cross. By building enclosure walls, spaces capable of communal occupation were clearly defined, and a specific act of transition was required to enter or leave. The wall showed one where one stood, either within or without, and reduced the liminal area between.

As the increased circulation of exotic goods and the social ramifications that ownership produced became harder to control (Sections 5.1.5 & 6.3.1), the places of special importance required for the playing out of ceremonies of gift and exchange became more important (Edmonds 1993, 124). In bounding these places of aggregation, the walls would have bounded and reinforced the types of behaviour expected there. Furthermore, by enclosing the arena of negotiation, the walls may also have acted to contain conflict. Their clear demarcation of inside and outside may have helped people to leave bad feeling behind them as they left, and therefore continue to exist in harmony in the world outside. Just as they were transformed by crossing the line when entering the enclosure, so they could be transformed again when leaving it.

The bounded area of the tor enclosures would have contrasted to the surrounding forested landscape. The argument that the cleared areas of causewayed enclosures may have reflected the circularity and openness of the transient camp (Evans 1988, 93), could be applicable to the tor enclosures. Their locations, the rock outcrops and the activities that were enacted there making them a kind of super-camp: all of the elements found at a day-to-day occupation site were present but amplified. It is not difficult to see how the bounding of space by the walls could have been influenced by an increasing emphasis on shows of ownership. If the tor represented a cosmological reflection of the world then enclosing it would have emphasised a feeling of ownership of the land. That the walls were tall and seemingly impenetrable gave the impression, if not the practicalities, of defence (see Section 7.3).

6.5.3 Transformation

For Bourdieu (1991, 117) it is the crossing of a boundary and the transformations entailed that are important, not the ritual associated with the crossing; the ritual is only enacted to emphasise the transformation. Thus the walls are not just lines of separation, they also represented a process of incorporation. In entering the enclosure one joins the group inside and ceases to be an outsider. The differences between separate external groups may be reduced as people are united by the common act of being together in a defined area. The boundary itself does not need to be a wall: the movement from the surrounding landscape to the area of the natural, unenclosed tor might also have represented the crossing of a line (Section 5.1.4). However, in building the wall an emphasis was placed on the importance of the boundary and the transformation that it represented. The transformation became a much more formal and controlled process. Routes of entry to the tors were limited to the gateways,

thus further controlling how people moved around their world. These increases in control and formality may have replicated similar changes that were occurring during aggregations within the enclosure (above).

Identity would have been changed through rites of passage such as marriage ceremonies, coming of age rites or funerary practises. In the ethnographic record each of these is of a transformative nature, often incorporating separation, liminality and reincorporation (Edmonds 1999, 118). The three phases of these transformations often require thresholds to be marked (*ibid.*). The tor enclosure walls might have acted as thresholds of transformation, enclosing the dangerous liminal areas where the transformation took place. Although these processes might have taken place at the tors before enclosure (Section 5.1.4), the construction of the walls to emphasise the transformations suggests that certain kinds of identity were becoming more important in the earlier Neolithic.

6.5.4 Exclusion

As well as creating a feeling of commonality by bringing people together into a single group at a place of great importance, enclosure walls also had the ability to exclude (Bradley 1998a, 18). Differentiation in views at enclosures can emphasise the separation between inside and out (Chapman *et al.* 2006, 21). Thus, the size of the walls and elaboration of the entrances at Carn Brea and De Lank might suggest that they were designed to stop those immediately outside from seeing what was happening within, and thus exclude them from group activity. There is evidence from Carn Brea that some activity happened beyond wall W1 (Mercer 1981, 35) (Fig 6.4). Although the lack of precise relationships between this activity and the wall is problematic, if the occupation activity was contemporary with the walls then it might suggest that certain people were forced to remain beyond the wall. Again, whether this constituted total exclusion or a stage in the ritual of progression to the centre is debatable.

The recent dead were placed in tombs near some of the tors, so the walls may have been thought to exclude their spirits from the tors. If tors were places for negotiation of identity (Section 6.3), then the recent dead, who were still identifiable, may have been thought to interfere with the actions played out at the tors. Thus, the dead were placed in tombs beyond the tors, and symbolically prevented from accessing the tors by the enclosure walls until their spirits and bodies were separated; that is, until they had joined the anonymous ancestors at which point their spirits could leave the tombs and cross the walls. Therefore, the dead follow the tripartite transformation of separation (dying), liminality (decomposing in tombs) and reincorporation (joining the spirits) (Edmonds 1999, 118). Of course,

the dead's relationships to tor enclosures remain mostly speculative due to the lack of survival of bone.

The changes in strategies of exclusion may also highlight how social control at the tors changed over time. Before enclosure there was no physical bar on access to the tors, although there may have been social taboos. The construction of the walls limited access to the upper areas around the tors. It is probably safe to assume that at multiple-circuit enclosures the walls were not built as a single action due to the sheer scale of work involved. So, as further walls were added, beyond the initial enclosure, further lines of exclusion may have come into operation. This does, of course, assume that the upper walls, enclosing smaller areas, were built first (Section 2.1.6). As at concentric causewayed enclosures (Edmonds 1993, 127), the addition of extra circuits of enclosure may have indicated additional differentiations of hierarchy within society. Such differentiations could easily be seen as the result of the intensifications of negotiation of status and identity at the tor enclosures (Section 6.3). By the Bronze Age the way that exclusion was implemented had changed again, tor cairns were built around some outcrops, such as at Stowe's Pound and Whittor, which prevented access to the natural rock. Tilley and Bennett (2001, 354) view this as a process of appropriation of power. At the start of the Neolithic the tors were too powerful to build on and all had equal access. During the earlier Neolithic some upper outcrops were enclosed to show that certain people had power over others. Later, outer or annex enclosures were built to demonstrate finer differentiations within society. In the Late Neolithic the mass ceremonies may have been moved away from the tors, to the stone circles that were located with the tors as backdrops (Tilley 1996b, 169). Finally, some outcrops were completely sealed off by the construction of cairns on them.

6.5.5 Structural development

Without further excavation and dating evidence, defining the sequences of wall construction at tor enclosures is difficult. Understanding the motives behind the desire to build multiple wall circuits is even more so. Over two-thirds of causewayed enclosures had multiple circuits of banks and ditches (Oswald *et al.* 2001, 67), for which a number of explanations have been offered, including the display of hierarchy, the subdivision of the site into different activity zones, increases in the number of people at the sites, the continual need to reinforce social relations through labour, and changes in use of the site. Using site layouts to identify a single explanation for all causewayed enclosures is difficult due to the diversity in design (Oswald *et al.* 2001, 109), even among those close to each other. Tor enclosures also show a wide variety of layout and depth of complexity. It is easy to read the layout of tor enclosures such as Carn Brea or Stowe's Pound as representing hierarchy, just as the addition of outer circuits has been suggested for causewayed enclosures (e.g. Edmonds 1999, 113). Each has

smaller, higher enclosure(s) with a larger annexe enclosure attached. The inner enclosures suggest an element of exclusivity and superiority: fewer people could have fitted inside and they looked down on the outer enclosures. A similar statement could be made about the main tor at Roughtor and the trig point outcrop at Helman Tor (Section 5.2.1). If it is accepted that the outer or lower enclosures were later additions to the *superior* enclosures (Section 2.1.6) then, as Edmonds (1993, 127) suggests for causewayed enclosures, the desire to demonstrate hierarchy was not necessarily an original intention of building the first wall circuits, rather it may have resulted from later changes within society. This explanation would fit well with the discussion in Section 6.3, the increase in both the size and intensity of aggregations where status and social relationships were negotiated, would have led to a change from ceremonies of a more egalitarian nature to ones where certain individuals or subgroups maintained a degree of formal power or status.

Different areas within tor enclosures might also reflect different activities carried out within them. This seems the case at several causewayed enclosures, for instance at Abingdon and Windmill Hill where the deposited material culture suggests that each circuit saw different activity (Evans 1988, 90; Pollard 2001, 321), and at Etton where there was a clear division between the activities that took place on either side of the enclosure (Pollard 2001, 319). At Carn Brea (Fig 6.4) more material culture was found within wall W1 than in other areas (Mercer 2003, 59). On the saddle of the hilltop, Mercer (1981, 101) found evidence that he interpreted as a cultivated area with small clearance cairns. Unfortunately, there is no clear relationship between this evidence and wall W2s, making it difficult to determine if the use of the area and building of W2s were contemporary. If they were contemporary it is easy to see the eastern summit as an occupation area, and the space within W2s as an agricultural area protected by an outer wall. W2n runs fairly directly between the central and eastern summits, whereas W2s dips significantly down the hill, appearing to bulge outwards to enclose an area of activity such as a cultivated space. The consideration of Helman Tor in Section 5.2 has already suggested that there may have been areas of differing meaning across the hilltop. The addition of the outer western wall further differentiated space: the upper area was relatively flat with a number of terraces, and the area between the western walls sloped steeply suggesting that different activities were possible in each.

Stowe's Pound also appears to have had differing activities between the upper and lower enclosures. The lower enclosure has many terraces and hut circles suggesting occupation, although much of this may have been in later prehistory. The concentration of hut circles in the upper enclosure is much less dense. The outlying walls at Stowe's Pound also suggest animal pens or cultivation, but again these are generally judged to be Bronze Age or later. At the other tor enclosures it is difficult to see any clear evidence for different areas of activity.

It might be that the outer walls of the multi-walled tor enclosures were built to react to a growth, over time, in numbers of people either visiting or occupying the site. The outer walls at Carn Brea would certainly allow this on the south of the site, although Mercer's excavations suggested that activity beyond wall W1 was much less than within, and if the area within walls W2s and W2n were given over to cultivation then it may have been difficult to use the area for occupation. Mercer's (1981, 91) single trench in the area between W2s and W6w (Fig 2.10, Site C) showed no evidence for Neolithic activity. If the expansion of the site did represent an expansion in population, perhaps the outer walls are better viewed as an area for accommodating herds or for light cultivation rather than for human occupation. The area to the north, between W2n and W6, is not ideal for occupation due to the steep slope. The multiple walls at Roughtor and Whittor are also difficult to justify in terms of creating extra space as their lines were so close together. The only tor enclosure that could really be seen as expanding to allow more occupation area is Stowe's Pound where the lower enclosure is much bigger and contains a large number of undated building bases.

Expansion, just as with causewayed enclosures (Evans 1988, 91), may even reflect length of use rather than group size. Just as the builders of the first walls might have thought of themselves as recreating the work of the ancestors (Section 6.4), so the later building of additional walls would have been an act of replicating the work of the enclosure's first builders. This explanation would seem to fit well at Roughtor, Whittor and Dewerstone due to the close proximity of walls.

6.6 Being there: how the walls change the experience of the tors

Despite the size of some of the tor enclosure walls it is often difficult to see them when any distance from many tors. In the past they would have been taller, but there would also have been more tree cover beyond them, further blocking views towards them. Many are difficult to see from distance because they are not positioned on the horizon to stand out against the sky. At Helman Tor, the inner walls are not on the point where the slope starts, but a little below it (Figs 6.2 & 7.4). Rather than being at the pinnacle of the hill, and thus the focus of attention, they form a band below the natural outcrops, creating a border that helps to focus attention on these outcrops. Even at Stowe's Pound upper enclosure, where the wall does run along the horizon when viewed at a distance, the natural outcrops still rise up from it and claim focus because the walls offer a uniformity of height and structure which contrasts against the natural outcrops, drawing one's eye to the sudden changes in form at these outcrops.

As one moves up the slopes to a position below the walls, they 'rise' up towards the horizon and the sky is more likely to be their backdrop. This emphasises the size of the walls, they loom over one

it goes. The orthostats that act as jambs and line parts of the passageway are tall and close together, having the potential to loom above and compress entrance space. They have similarities to the vertical fissures in the natural outcrops that might have been understood as gateways to the underworld or spirit world within the rocks, or to the gaps between the uprights of dolmens (Section 5.1.5), thereby possibly inferring that by moving through the passageway one was entering another world. The constricting and bending passageway also rises as one approaches the inner end. Not only does it dominate, it also disorientates to some extent, thus emphasising any importance attributed to it and to the act of entering.

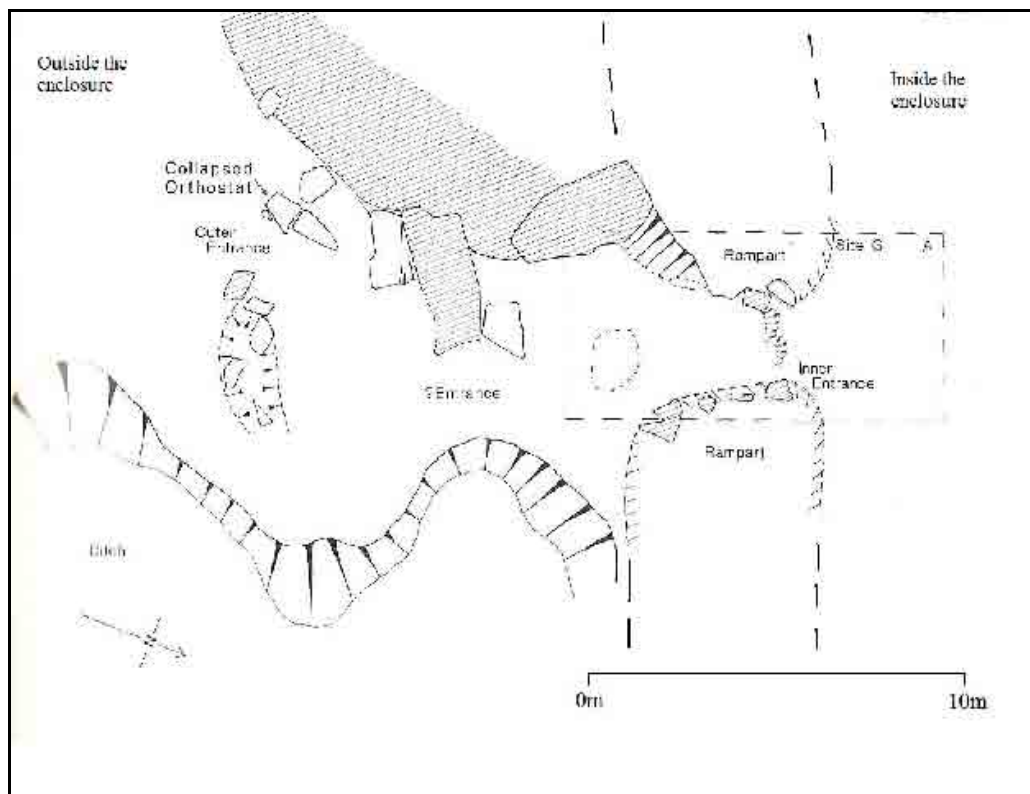


Fig 6.3: Site G gateway, Carn Brea (adapted from Mercer 1981, Fig. 45).

As well as the obvious similarities that the entranceway had to dolmens and outcrops, it might be seen as a metaphor for the journey from the lowland to the highlands, as described for Helman Tor (Section 5.2.1). The winding nature of the passage might mimic the rivers and tracks that were followed when approaching the tor enclosures (Section 4.2), and the rise in the passageway mirrors the climb up onto the highlands. On one side, could be seen the drop into the ditch, and to the other a natural outcrop and the wall blocking progress, emphasising the difference between low and high. Thus, the passageway may have acted as a metaphor for the transition between lowland and highland, forest and tor, winter and summer, wild and controlled, and as an entry to the place of the creator spirits (Section 5.1). Whether these symbolic references were intended or, indeed, recognised in the

Neolithic, is impossible to say, yet the entranceway was certainly monumental, and very much underlined the transformation of moving from without to within (Sections 6.5.2 & 6.5.3).

Within the Helman Tor enclosure movement across it, as described in Section 5.2.1, is not changed by the main walls. If anything, they reinforce movement along the top of the ridge as they run on either side of this course, preventing deviation off the ridge. The walls are largely placed just below the top of the break in the slope so they do not loom over people walking along the top of the hill, but rather those within look down onto and over the walls. The apparently man-made stone piles that are found at the southern entrance way, at the base of the trig point outcrop and on the outcrop that causes a barrier across the middle of the tor (Section 5.2.1), may represent either a formalisation of the pre-existing barriers or ramps to aid movement across them. The former is, perhaps, most likely as there are several boulders on the central outcrop that appear to have been manoeuvred (Tony Blackman pers. comm.) to emphasise this obstacle, and there is a cross wall just below it, but neither have firm dating evidence. A further wall line at the southern entrance may have monumentalised the entranceway, like Carn Brea's Site G, as it appears to turn in and extend the natural outcrops to produce a long, winding and climbing entrance. Unfortunately, this section of wall has not been soundly dated. The area at the northeastern end, where it was suggested people entered (Section 5.2.1), is heavily disturbed by later building so no Neolithic entranceway can be identified, although the surviving earthworks seem to suggest more complexity than a single line of wall.

Similarly, when moving between the central and eastern summits at Carn Brea, the W2n and W2s walls (Fig 6.4) do not impinge on movement along the summit ridge, but roughly parallel it. Again, one can see the walls, but one looks down onto and over them. The walls prevent movement off the saddle. However, when moving around the enclosure the multiple nested wall lines do suggest a hierarchy of access. For instance, to reach the interior of the eastern summit one must first pass through W7 and W6, then W2s, possibly through the Site G gateway, and then through the Site E gateway, climbing and changing direction all the time. When one reaches the inside end of the Site G gateway, one is then immediately faced with several more barriers: W2sx, the natural outcrop at the south end of the eastern summit and wall W1. Each one represented a point of transition from outside to inside. Perhaps certain people were only allowed to move so far into the enclosure at certain occasions, or different actions were required at each level before further progress could be made. These formalised levels of penetration may be similar to those that were defined by the natural outcrops at Helman Tor (Section 5.2.1), with each area having a specific meaning to do with its uses.

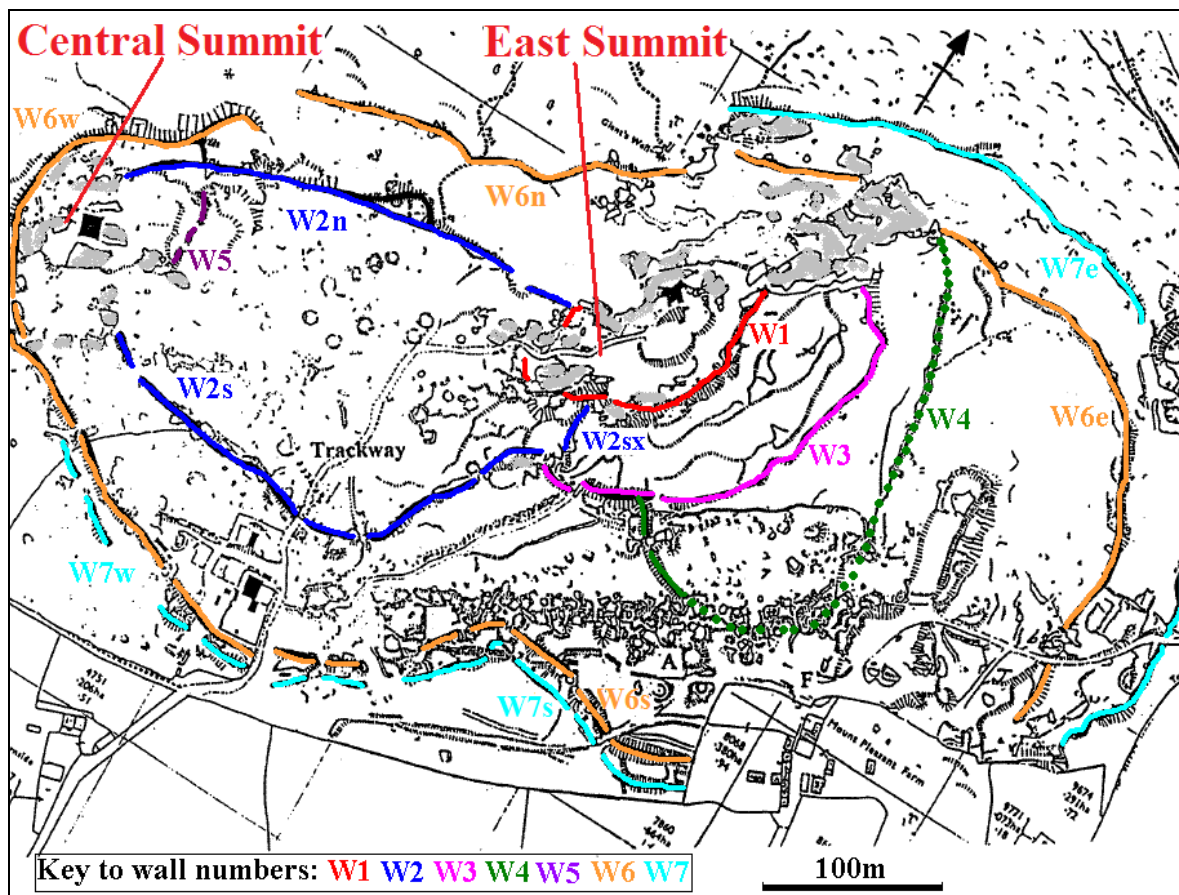


Fig 6.4: Carn Brea wall numbers used in text (adapted from Jones 1991, fig. 22).

At the highland-facing sides of Dewerstone and Tregarrick, the edge of the tor's summit is not well-defined by the break in the slope. In these cases, the walls acted to formally define what was inside the enclosure and what was outside (Section 6.5.2), where before the distinction would have been somewhat arbitrary. The walls also unify a number of separated natural outcrops to create a single monument (Section 6.5.1) and defined space within for a formal playing out of action (Section 6.3).

The building of most of the walls did not block the views out from the summit of the tor. The surrounding landscape could still be seen and so could any meanings and myths embedded within it (Sections 5.1.2 & 5.1.3). The walls did not block an appreciation of these views but, rather, they would have inferred a defined and controlled separation from them as the viewer could no longer walk directly out into the landscape. The walls themselves, though, were not in a position of primacy, and the continued existence of sightlines to significant places in the surrounding landscape suggests that it was the viewing of this pastscape that was the significant feature, not the actual walls themselves. Rather, the walls were operating as a tool or mnemonic for the power associated with the tors and the past. Thus, it might be said that the impression that they were meant to infer was not so much that people were controlling the past itself, but that some people were controlling others' access to the power of the past. Because the walls hid the view of the slopes directly beyond them they may

have given the impression that the summit of the tor was floating above the landscape with no physical link to it, thus further emphasising the impression that the tor was a different world (Section 5.1.4).

6.7 Conclusion

This chapter has presented a number of explanations for the enclosure of tors in the Early Neolithic, together with a further examination of how the meanings of enclosures were understood and possibly changed over time. The underlying theme apparent in this section is that in building the walls the people did not intent to create a brand-new monument in a location that had no significance beforehand. Rather, it would seem that the construction of the walls was meant to emphasise and expand the pre-existing meanings associated with the tors, through a new Neolithic medium: although walls were added, it was the natural rock outcrops that retained focus. However, the walls also allowed the changed Neolithic understandings of social negotiation, time, ownership, and relationships with the landscape to be incorporated into a place that already had significant meaning. Thus, people could follow the fluid transformation of ‘becoming’ Neolithic without completely rejecting their past life-ways.

What the walls actually changed was access to these past meanings: they suggest that although the associations with ancestral power, relationships with the landscape and reflections of mobility remained, they could only be enacted or related to in more formal and controlled ‘Neolithic’ ways, just as it seems that ceremonies for the negotiation of social relationships were becoming more tightly controlled. In doing so they increased the significance of the tors and the actions played out there.

The interpretations discussed have revolved around the cultural meanings that the tors might have had in the Early Neolithic. Yet the enclosures may also have had functional roles, and these will be examined in the next chapter. It should be noted that although the cultural and functional explanations for enclosure are examined in two separate chapters, they are not necessarily mutually exclusive; as Pollard (2004) points out such a strict dichotomy is an over simplification.

Chapter 7: Enclosure, settlement and economy

Mercer's interpretation of Carn Brea and Helman Tor suggests that they were defended agricultural and manufacturing centres that acted as political power bases and controlled long distance economic trade networks (1981; 1997; 2006). If Mercer is correct then the southwest was subject to a radically different Early Neolithic to Wessex, its near neighbour. In contrast to Mercer's views on the southwest, Thomas (1991; 1999) has interpreted the Early Neolithic societies of southern England, Wessex especially, as mobile and dependent for the bulk of their sustenance on wild resources. Thomas does recognise the use of domesticates and structures such as enclosures and longhouses, but claims that they were used for the playing out of social negotiation and ceremony, rather than as economic resources or dwellings. Thomas's views have heavily influenced recent study of the Early Neolithic of southern England, yet as Mercer (1997, 56) claims "unfortunately, and perhaps significantly, <Thomas> does not venture to draw the evidence from Carn Brea into his frame". This chapter will reconsider Mercer's interpretation of the evidence.

7.1 Agriculture and settlement

The debate concerning the extent to which domesticates were used as staples, and the extent to which people adopted sedentary lifestyles in the Early Neolithic has been on-going for some time, (e.g. Richmond 1999; Rowley-Conwy 2004), not least because the sparse evidence can be interpreted in many ways. In the southwest the debate is even more problematic due to the acidic nature of the rab soils, on the higher ground especially, which has lead to very limited survival of organic evidence.

The little Early Neolithic environmental evidence available for the southwest is very much centred on the high moorland. There is some evidence for the maintenance of clearances in the Roughtor area (Gearey *et al.*, 2000, 502) from around the middle of the fourth millennium BC, although these seem light and sporadic. It is more likely that these clearances were pastoral rather than for cultivation as there is evidence for Devil's Bit, a plant that is often found where dominant species are suppressed by grazing, and there was no evidence for cereal pollen (*ibid.*). Whether these clearances were to feed herds of domesticates, or were a continuance of the possible later Mesolithic practise of clearing forest to lure prey animals is difficult to say. Although dating is less precise, at Helman Tor there is similar environmental evidence for clearances with further evidence for herbs that suggest grazing rather than cultivation, and again, little evidence of cereal pollen (Burton & Charman 1995, 77). If the clearances were initially to lure prey animals into open areas, the importance of these places may have continued as domesticated animals were acquired, the locations habitually being seen as normal or correct places for animals to be. The tors were probably naturally treeless (Section 2.2), so

expanding the natural and historical clearances would have been easier than creating new ones. If the spiritual nature of the tors made them good places to hold feasts following hunts (Section 5.1.5), then perhaps they were also seen as good places to hold feasts after the slaughter of domesticated beasts. Unfortunately, no identifiable Early Neolithic domesticated animal bone has survived at the tors (though survival of human and wild animal bone from this period is also very rare across the whole of the southwest).

Few places in the southwest have produced any direct evidence for cereal cultivation. One pot fragment from Haldon had a cereal grain impression (Willock 1933-36, 255), and a small amount of burnt cereal was retrieved from a single context at Hembury (Todd 1987, 70). Where environmental sampling has been implemented, for instance at Carn Brea (Legge 1981, 187), Helman Tor (Tipping 1997, 54), Roche Rock (Cole & Jones, 2002-3, 135) and Poldowrian (Smith & Harris 1982, 26), no cereal remains were proven, although some were suspected at Carn Brea. This is largely attributed to the acidic soils, although Whittle (1983, 113) has criticised Mercer's environmental sampling approach at Carn Brea. A number of sites have yielded querns and rubbers, including Roche Rock (Cole & Jones, 2002-3, 121), Hazard Hill (Houlder 1963, 27), Hembury, where a flint sickle was also found (Liddell 1929-32, 152), and Carn Brea (Mercer 1981). Although these might be seen as evidence for cultivation they could also have been used to reap and process wild resources. Crab apple seeds and hazelnut shells have been discovered at Hazard Hill (Houlder 1963, 27), Hembury (Liddell 1929-32, 109), Poldowrian (Smith & Harris 1982, 52), and Roche Rock where Cole and Jones (2002-3, 121) suggest that querns might have been used for processing nuts rather than cereals. Griffith (2001, 73) had suggested that there might be small cultivation plots at Raddon, but this is based upon remote sensing and no excavation has yet confirmed the role or date of these features.

Traditionally, it has been assumed that when people turned to agriculture they also adopted a settled lifestyle (e.g. Megaw & Simpson 1979, 79). There is little evidence for a change to sedentary lifestyles in the southwest apart from that proposed for the tor enclosures. There is a small number of sites, such as Hazard Hill or Raddon, that boast assemblages of ceramics and lithics and a number of pits, fire holes and stake holes, but no permanent buildings have been firmly identified at either, despite Houlder's (1963) suggestions. The evidence from these sites is very similar to that from many sites in Wessex where a mobile Early Neolithic is more readily accepted. There is also a growing number of smaller pit sites with evidence for structured deposition, such as Roche Rock, Gwithian, Tremough, Portscatho, Church Close and Trevelgue Head, which Cole and Jones have interpreted as temporary occupation or aggregation sites signifying a mobile lifestyle (2002-3, 139).

To the east of Dartmoor two enclosure sites, Haldon and Hembury, have been claimed to contain domestic buildings (Darvill 1996, 102). The Haldon example is perhaps more convincing as the

Hembury building seems to be part of the palisade and gateway arrangement, inferring a non-domestic function. Thomas (1996a) casts doubt upon the domestic explanation of all Early Neolithic longhouses in England.

Despite there being little evidence for settled agricultural communities from Dartmoor westwards, apart from at the tor enclosures, one cannot rule out the use of domesticates. Their use is apparent in the surrounding areas of Ireland, south Wales and the Wessex borderland, and there is evidence for the movement of other items and ideas (such as ceramics, new lithic styles and the building of monuments) between these places and the southwest.

7.1.1 Agriculture and tor enclosures

Perhaps the best evidence for the use of floral domesticates comes from Carn Brea, in the form of a number of querns and rubbers, as well as Mercer's (1981, 77) so-called "cultivated area" within wall W2s, examined at Sites B, F and H (Fig 2.10). Here the clutter had been collected into small clearance cairns, and the old land surface was of a gritty nature that Mercer associated with horizons that had been dug and left open to weathering (1981, 79). The artefacts from the "cultivation" layer on these sites suggest an Early Neolithic date as no artefacts from other periods were found in this layer despite the Iron Age round houses built above it (*ibid.*). Perhaps one of the most telling features of this area is a used saddle quern that was placed in one of the stone clearance piles (*ibid.*). Evidence from other sites in the southwest has shown that deliberate deposition had meaning (Cole & Jones 2002-3, 139), thus the deposition of a quern may have been a deliberate act related to its association with cereal. An offering of a quern to the spirits might, for instance, have been appropriate as an offering for a good harvest. If this were the case then it supports, but does not prove, the argument that cereals were grown in this area of the Carn Brea.

Indeed, it might have been considered that tors were good places to grow domesticates. There was less tree cover and vegetation to remove, and the clearing of the clutter would have resulted in clearance cairns that may have been thought to resemble the tors' rock outcrops: both were piles of rocks with treeless ground around them. Clearing the area for cultivation could, perhaps, have been an act of emulating the ancestors who piled up the tor rocks when they created the world, with obvious implications of rebirth and fertility. It should also be noted that this part of the Carn Brea site is on a gentle slope and is south facing - ideal for cultivation.

If this area was cultivated in the Early Neolithic then it has implications for the interpretation of walls W2n and W2s (Fig 2.10). Mercer's (1981, 87) initial assertion was that they were defensive, but

defending the area against human attack would seem questionable (see Section 7.3). Mercer (1981, 22) is doubtful that they were to keep wild animals out due to their large size, yet modern deer fences stand to a similar height and the Carn Brea walls are not unlike those of medieval deer parks (e.g. Sandles 2007). Given the scarcity of fields of crops, and the forest or woodland cover over much of the landscape, such areas of cultivation, with their abundance of nutritional crops, would have been extremely attractive to wild animals. The number of gateways through W2s does not present the same problem that it does for a defensive explanation as they could have been filled with unmanned hurdles.

As well as this practical function, the act of cultivation within could also have endowed the surrounding walls with social meaning. If the walls helped to separate the tors from the rest of the world and underline their importance (Section 6.5.4), and cereals were seen as an exotic foodstuff, used to underline the status of those who could offer it, then cultivated areas might also have been regarded as separate from the everyday world. Any associations between tors and ancestral tradition and links to the spiritual world might also have been reflected in the maintenance of the plots and the growing of cereal. Thus the cultivation of cereal and the walls would enhance each other's symbolic importance.

In other parts of the country it seems that the early use of domesticates concentrated on livestock, especially cattle and sheep, although much of the evidence comes from 'special places' and so may be biased (Thomas 1999, 26). The Bronze Age rounds and pounds of the higher southwestern highlands are generally regarded as transhumance settlements to which sheep were moved in the summer months for grazing (Bender *et al.* 2008, 81). Just as the walls of Carn Brea would have kept wild animals out, they could also have fenced in domesticated animals, as did the walls of the Bronze Age pounds (*ibid.*; Patterson & Fletcher 1996, 28). If animals were kept within walls W2n and W2s (Fig 2.10) then there is clearly a conflict with the suggested use of this area for cultivation. But animals did not have to be housed there throughout the summer, rather it is more likely that they would have been moved around the surrounding area, from one grazing area to another, until it was time for breeding and the pre-winter thinning of the herds. There is evidence for such actions from several causewayed enclosures such as Hambledon Hill and Etton (Oswald *et al.* 2001, 131). Crops could only have been grown within the "cultivation" area until the autumn harvests. Afterwards it would have been possible to bring the animals to the enclosure for the late autumn cull. The area where the crops had been grown would have been ideal to keep livestock as it offered the remnants of the cereal crop for fodder, and in turn the animals would have left manure to help with the next season's cultivation. Alternatively, Mercer (1981, 101) has questioned whether the role of this area changed over time, built initially only to contain animals, and then given over to arable use. The converse

could be equally true, as the soil degraded on the original cultivated plots the area might have been given over to the keeping of animals.

Mercer (1981, 101) questions whether the long narrow gateways at Carn Brea would have been suitable for the movement of animals in and out. Although cattle would have fitted through, gateways such as those at Site G (Fig 2.17) would have restricted their passage to single file and made quick stock movements difficult. Yet, Pryor's (2006) work on the Bronze Age field systems of East Anglia shows that such restrictions were of value when attempting to split specific animals out from the herd for breeding or slaughter. This possibility would give a practical function to the outer walls at Carn Brea: that they were used to retain the herd as it was driven through and split up at the gates in the W2n – W2s (Fig 2.10) circuit. It may even explain why there were so many gateways in wall W2s, once the herd had been split each sub-group could have been taken back out through a separate gate to prevent reintegration. However, this would require fencing within the enclosure for which there is no evidence. The practicality of keeping animals at tor enclosures might be questioned due to the stony nature of the ground. This could have explained the small clearance cairns that Mercer found, and it seems that animals were successfully kept at clutter-strewn Bronze Age sites such as Leskernick (Bender *et al.* 2008).

As well as keeping the animals in, the walls would have acted as a deterrent to anyone attempting to make off with part of the herd (see Section 7.3). As suggested for cereal crops, the walls could have had similar cultural meanings in relation to livestock. Like cultivated plots and seed, the herds would have been passed down from the ancestors and the foodstuffs from them may have been judged exotic and used on special occasions. But one must underline the fact that despite certain aspects of Carn Brea being well suited to the housing of cattle, there is still little evidence that cattle were ever there.

At other sites like Stowe's Pound one could make similar arguments concerning the layout of the tor enclosure, with a smaller, higher human area and a lower, larger crop or animal area. Indeed, it seems that Stowe's Pound was dramatically expanded to create a number of additional, separated animal pounds after the Early Neolithic, and there is certainly evidence for the keeping of animals there in the medieval period (Fletcher 1989, 76). The radial walls and possible drove way (*ibid.*, 75) are consistent with the suggestion that animal herds were separated out. De Lank has at least one long narrow gateway similar to those at Carn Brea (Herring 1992, 116) which might also suggest that the enclosure saw the separation out of herds. At other sites, such as Helman Tor, Tregarrick and Trencrom, there are no surviving outer walls that could have enclosed an area large enough to grow crops or keep large herds. That does not mean that cultivation plots did not exist beyond the walls, or that the main enclosure itself could not have been used for the breeding or slaughter of animals. Mercer (1997, 57) doubted that the tor enclosures at higher elevations saw the same agricultural

functions as the lower ones, the weather being more extreme on Stowe's Pound, Roughtor and Whittor. Yet, as the Bronze Age and medieval evidence shows, animals were kept at Stowe's Pound; and in the village of Minnions, just 1km from Stowe's Pound and at an elevation almost level with the base of the tor, allotments were successfully maintained in the nineteenth century, demonstrating that it was possible to grow domesticates on the slopes of Stowe's Pound, if not in the enclosures. Likewise, Bronze Age settlements are found on the slopes of Roughtor demonstrating that transhumant pastoralists were able to live there on a seasonal basis, if not longer (Herring and Rose 2001, 22).

7.1.2 Settlement and tor enclosures

Mercer (1981) interpreted Carn Brea as a settlement of up to 200 people living in at least ten permanent timber houses. The convincing outline of stake and post holes from the Site A1 terrace (Fig 7.1) led Mercer to suggest that many of the other level, clutter-free terraces on the eastern summit also contained houses. Sites J and K produced a Neolithic occupation layer and numerous stake and post holes but no discernible patterns that could be interpreted as substantial houses. It is more likely that the stake holes at Sites J and K represent a number of very temporary lean-tos that were placed to take advantage of the enclosure wall, and it is far from certain that the unexcavated terraces in the centre of the enclosure were occupied by buildings, permanent or otherwise. Even the recognised building at Site A1 is small compared to the few other known Early Neolithic buildings, being less than three metres wide and six long. It is questionable that it could have housed a family of around ten people, the number required to make up Mercer's population of 150-200 for the enclosure as a whole. Grogan's calculations (1996, 57) for Irish Neolithic longhouses suggest that each occupant would need around four square metres, in which case the Carn Brea Site A building would have accommodated only four people. Extrapolating this figure to the unexcavated terraces gives a population of around 30 people. Even if the unexcavated inner terraces did have buildings upon them, there is no evidence that they all stood at the same time. The large amount of material culture found at Carn Brea certainly demonstrates that there was much human activity, but as yet there is little evidence to support the view that the site was a permanent village for a large number of people.

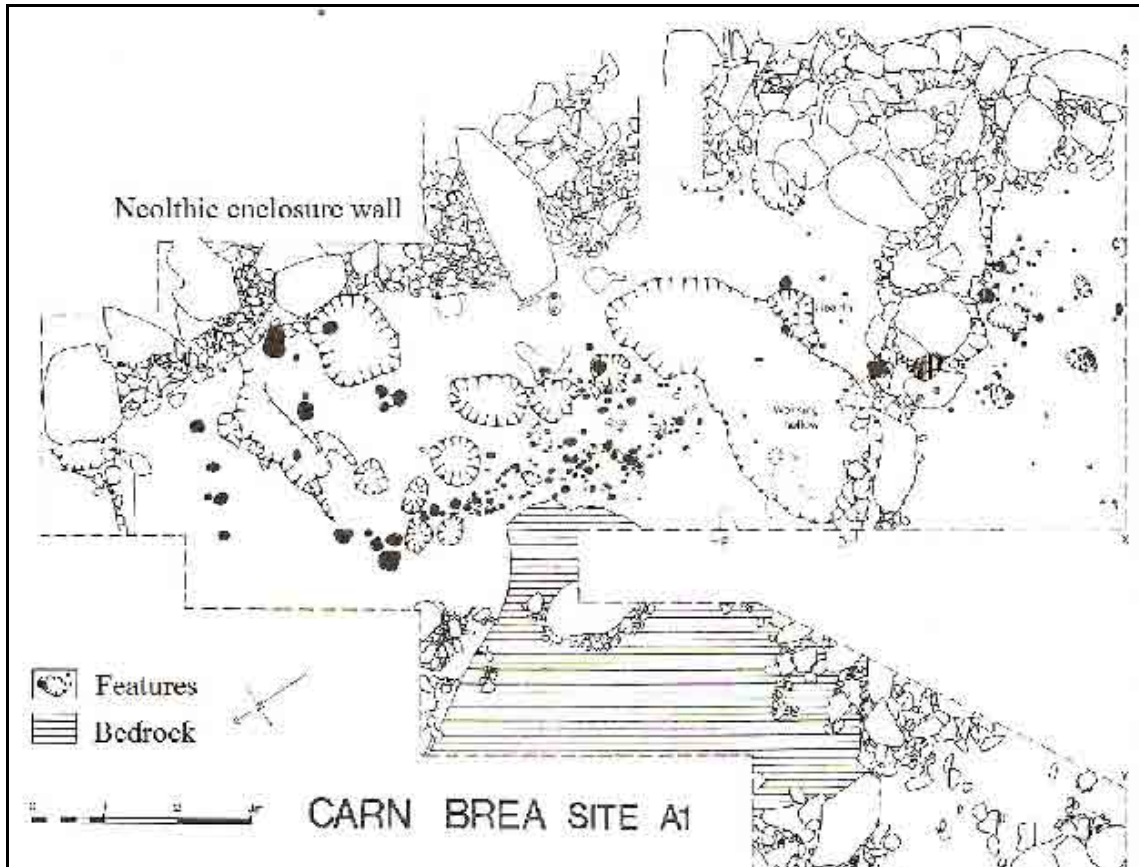


Fig 7.1: Site A1, Carn Brea (adapted from Mercer 1981, Fig. 4).

Terraces similar to those found at Carn Brea have been identified at Helman Tor (Mercer 1997, 12), Roughtor (Silvester 1979, 188) and Stowe's Pound (Fletcher 1989, 32). At Helman Tor, the excavation of a terrace abutting the wall produced a number of post and stake holes but no discernible pattern that might be recognised as a house, although there are obvious moderately linear features (Fig 7.2). It appears equally likely that these areas were cleared of clutter to allow for the construction of temporary shelters, as for permanent houses. The use of insubstantial shelters suggests temporary or seasonal use of the enclosures rather than permanent occupation, and would fit well with the aggregation site models (Section 6.3). Also identified at Stowe's Pound were a number of cleared circles with no stone wall footings, which might represent the former locations of wooden round houses (Fletcher 1989, 76). Fletcher considers that the use of wood might mark them as being Neolithic in date, built while the tree line was still near the top of the tor and supplies of wood were within easy reach. Despite the dating issues, these might offer a better claim to being permanent houses than the clutter-free terraces; yet they still do not demonstrate permanent settlement. There are many stone-based later prehistoric hut circles at the tor enclosure sites, and at the highland rounds and pounds, which are generally accepted as seasonal occupation sites used by transhumant pastoralists during the summer (Bender *et al.* 2008, 81).

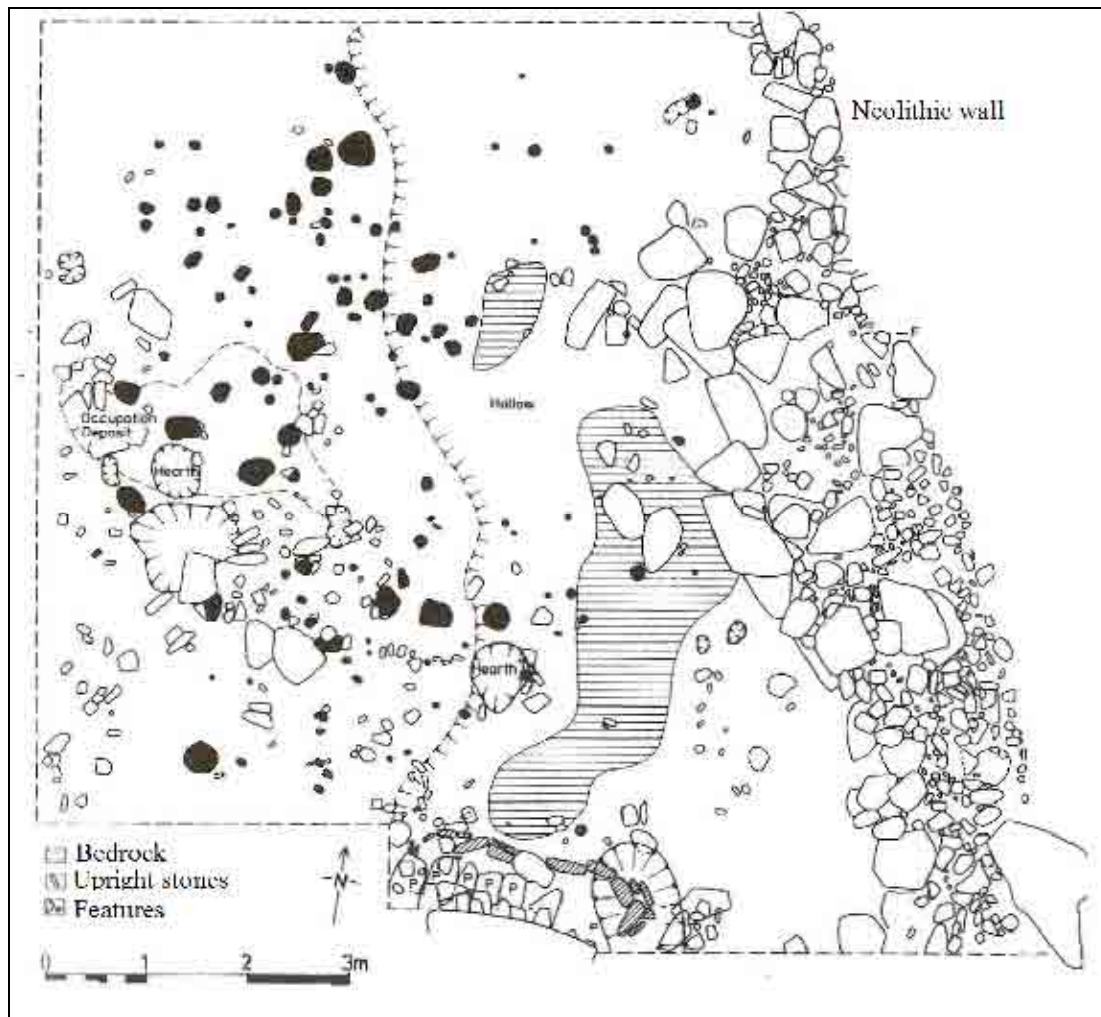


Fig 7.2: Stake and post hole features at Helman Tor (adapted from Mercer 1997, Fig.4).

If the terraces at the tor enclosures were shown to have contained permanent buildings it still does not prove permanent occupation. The debate as to the role of longhouses in the Early Neolithic continues with some writers such as Rowley-Conwy (2004) arguing the case for permanently occupied farm houses, while others including Thomas (e.g. 1996a) have suggested alternative functions such as storage and distribution centres, spirit houses, locations for the curation of cultural artefacts, and other cultural rather than subsistence roles. The Hembury longhouse (Darvill 1996, 102) appears to be part of the palisade enclosure structure rather than a free-standing occupation structure. Those at Haldon (*ibid.*) appear more convincing as houses, yet these might equally have been ceremonial meeting places (*cf.* Cross 2003). Even if the proposed houses at the tor enclosures were shown to be the shelters of farmers it still does not necessarily demonstrate permanent occupation: North American Dakota Indians, for example, built substantial permanent timber structures as summer planting houses, yet in the winter they camped nearby in temporary shelters, and between the planting season and winter they moved extensively around the landscape (Spector 1993, 71).

7.1.3 Farming within a mobile society

Mercer's "cultivated area" at Carn Brea covers around 3.5ha, although it has not yet been demonstrated that the whole area was covered by the eroded old land surface and clearance cairns. Computer simulations of continental Neolithic farming suggests that half a hectare of grain could supply 50 to 75 percent of an individual's yearly calorific needs (Bogucki 1988, 82). Thus, the "cultivated area" at Carn Brea could have fed only seven people for a year if used for a similar percentage of their diets. It may be that a greater area was cultivated, but Mercer did not find similar evidence beyond wall W2s. For Mercer's proposed large group settlement at Carn Brea, cereal grown between W2s and W2n could have provided only around five to ten percent of their needs, suggesting that it was not their main staple.

Areas immediately beyond the enclosure walls might have been cultivated, but wherever cultivation took place there would have been problems with soil degradation (Barker 1985, 52). There is little evidence for Early Neolithic use of legumes, which return nitrogen to the soil (Thomas 1999, 24). A long fallow system would have allowed the soil to recover but suggests that the population was mobile, moving away while the fields recovered. Manure might also have been used, yet for larger areas of cultivation keeping the herds in one place would have quickly exhausted the grazing. Thus, it would appear more likely that if cultivation took place, it was on a relatively small scale that allowed some plots to be rested or refreshed while others were worked, and that it did not fulfil much of the yearly nutritional requirement. Such a model might fit well with cultivation being mostly confined to Mercer's "cultivated area", and also corresponds to the cereal evidence from other sites of the early Neolithic, such as Lismore Fields (Garton 1987, 251) and Balbridie (Fairweather & Ralston 1993, 316), where even the largest cereal assemblages would have only played a small part in the yearly diet of any extended group. It should, however, be noted that only cereal that was burned was preserved, and it may be that originally much larger amounts of cereal were held at these places.

If cereal were cultivated, this evidence points to it being used initially to supply only a small amount of the group's nutritional needs, and perhaps being treated as an exotic foodstuff for special occasions such as feasting at the aggregations of mobile groups (Section 6.3). Some of the group would have had to spend time at the tor enclosure to tend the crops, but the rest were free to disperse into the wider landscape to hunt, gather and move herds between grazing areas. This is a pattern that was familiar to a number of North American Indian peoples whose summer lodges were mainly used by women, children and the old who tended the crops, while the men moved out to short-lived hunting camps (Cronon 1983, 42; Spectre 1993, 67). With this model Carn Brea, did not have had to house a large number of people for the whole year: Site A1 type lean-to buildings, for example, would have been ideal for the small group that tended the crops through the growing season. It might only be after

the harvest that the wider group aggregated at the tor enclosure for a relatively short period that did not require permanent houses. Late autumn, after the harvest, would also mark the time to reduce usage of the high areas before the bad weather set in.

The lack of bone survival at Carn Brea makes it difficult to judge if livestock was taken to the site, but enclosure sites in other parts of the country have strong evidence for the consumption of livestock, especially cattle (Edmonds 1999, 117). Thomas (2008, 67) argues that cattle were popular in the Early Neolithic because they allowed people to continue mobile lifestyles. Although a particular beast might have been used to give milk or blood as part of a staple diet, its slaughter may have produced too much meat for a single family group, thus Thomas (2008, 71) suggests that the slaughter of animals was reserved for times of aggregation where the meat could be shared with others. This ties in well with a seasonal use of tor enclosures. Bringing the herds together in autumn allows for the exchange of breeding stock and the slaughter of excess animals to permit the remainder to overwinter more successfully (Schulting 2008, 97). This concentration of animals would also have created a supply of manure to refresh the cultivated plots. Allowing it to rot down over winter is preferable to planting straight into fresh manure.

Such use of livestock need not have been purely for subsistence purposes. The animals could also have acted as an aid to social negotiation as the number and quality of animals owned could have boosted the status of some, as would making gifts of animals. The exchange of animals could have cemented allegiances and brought groups together. Just as axes may have had biographies (Edmonds 1999, 124) so might herds or individual animals, the biography or pedigree of each beast being used to judge its value as much as its physical characteristics. If aggregation was the only time when beasts were commonly slaughtered, their meat could have been viewed as exotic (Section 6.3), creating a reflexive relationship with aggregation ceremonies.

7.2 Trade and industry

Cornish gabbroic pottery has been found at Windmill Hill, 270km from the clay's source on the Lizard Head (Peacock 1969, 148), and Cornish greenstone axes have been found as far away as Yorkshire (Bradley & Edmonds 1993, 49) and Ireland (Sheridan 2004, 15). These wide distributions led Mercer to suggest an economic model, with the tor enclosures, Carn Brea especially, acting as manufacturing and distribution sites on intensive trade routes that reached into Wessex and beyond (Mercer 1981, 193; 1999, 153). Based upon the estimated 38 to 45 axes from Carn Brea (Smith 1981b, 154), Mercer (2001, 44) has suggested that one of the roles of the tor enclosures was as specialist axe finishing sites, perhaps mirroring the specialist manufacture of gabbroic pottery at the

Lizard Head (Quinnell, 1987, 7). Because the typology of gabbroic ceramics, which are found across the southwest and into Wessex, was uniform, and there is little evidence of inclusions from other areas, they appear to have been made by a single group of people (Peacock 1969, 146; Gibson & Woods 1990, 179). Gibson (2002, 49) even wonders if this uniformity points to potting as an industrial process. Peacock (1969, 147) also states that the distribution of Group XVI and XVII axes matches that of gabbroic pottery. In return for the greenstone axes and gabbroic pottery Mercer (1986, 50) suggests that nodular flint was sent back to the southwest, as well as other items that have not survived in the archaeological record such as pelts, salt and domesticated animals.

According to Mercer these exchanges between the southwest and Wessex would have taken place along a defined trade route that probably roughly followed the course of the modern A30, one of the least hilly routes across the peninsula, and would have linked together a number of tor enclosures that acted as “power bases” along it (1986, 53; 2001, 47). In the Later Neolithic the same route was marked by henges (Mercer 1986, 74). Although this is an old routeway, *contra* Mercer’s interpretation, it is doubtful that it would have acted as a major economic highway in the densely forested landscape of the Early Neolithic. Without identifiable natural landmarks, such as rivers, to follow, navigation would have been difficult. Although there was undoubtedly a network of pathways within the forest, it is difficult to envisage a major west-east trail that was so distinguished from the maze of animal paths and local hunting tracks that it could be followed over 200km by people probably only familiar with small parts of it. It is much more likely that inland movement used natural features, such as river valleys (Chapter 4) to aid navigation over distances.

Furthermore, if heavy axe heads and fragile pottery were being transported in bulk over such distances, the use of boats and the sea would have made much more sense. Mercer’s suggestion that the tor enclosures marked this direct overland route is also problematic. Although it is easy to argue that Carn Galver, Trencrom, Carn Brea and Helman Tor were on such an alignment, once Bodmin Moor is reached the model is less convincing. The locations of the enclosures here makes much more sense when interpreted as marking movements onto and off the high ground rather than a pathway from east to west (Chapter 4 & Section 5.1). Enclosures were sited on the northwest and south edges of Bodmin Moor so Mercer’s routeway would not have been able to take in both groups. On moving into Devon the route to Wessex would have run around the north of Dartmoor thus completely missing the tor enclosures there. The high numbers of Cornish axes found in the Thames Valley might also suggest that they were transported there directly, probably by sea (Bradley & Edmonds 1993, 45).

Mercer’s (2001, 44) view that Carn Brea represented an industrial axe finishing site inhabited by specialist axe makers must be also questioned. The limited radiocarbon dates for Carn Brea suggest

that it was used for around 300 years (Mercer 1981, 63), so the 40 or so axes, one axe polisher and three possible roughouts represented (Smith 1981, 154), do not prove a sustained industry. As pointed out in Section 6.3.1, axes were often worked at liminal or special locations where the natural power of the place might have been imparted into the axe, for instance the remote and precipitous quarrying sites at Langdale Pike (Bradley 2000, 87). Thus Carn Brea might have been regarded as good place to work stone not because of its economic position, but because it was a special liminal place resonant with ancestral power associated with stone. Or it may just be that while temporarily occupying the site people had broken or unfinished axe heads to work on.

The notion of Neolithic “axe factories” in other parts of the country, such as Langdale Pike, has been largely discarded, and the movement of axe heads tends to be interpreted as the gifting and exchange of status objects rather than the economic trade of tools (Bradley & Edmonds 1993, 51). The further east that Group I axe heads are found the shorter they tend to be (Hodder & Lowe 1982, 231). This suggests either that a considerable time passed between quarrying and final deposition, during which they saw considerable use, and/or that they were more easily replaced and less likely to be repaired nearer to source (*ibid.*). If the former is true then it adds to the argument against direct transportation eastwards as part of an economic trading system. Axe heads are often found in numbers at the chalkland causewayed enclosures, but not in the surrounding landscape (Bradley & Edmonds 1993, 51). Again this argues against Mercer’s economic trade network as these enclosures were not used as distribution centres.

As one moves east, Gabbroic pottery has a much steadier fall-off rate than Cornish axe heads. If Cornish vessels were being bulk-shipped direct to the east then one might expect high numbers at and around the so-called distribution centres but this is not so. Although it is present at distant sites such as Windmill Hill and Robin Hood’s Ball, it only makes up a small percentage of their overall assemblages (Table 7.1).

Site	Distance from Lizard Head	% of gabbroic pottery
Carn Brea	24km	100%
Helman Tor	64km	24%
Hazard Hill	104km	30%
Hembury	153km	10%
Robin Hood’s Ball	257km	1.3%
Windmill Hill	273km	0.2%

Table 7.1: Percentages of gabbroic clays in pottery assemblages (Peacock 1969, 148; Smith 1991, 34).

Gabbroic vessels are found at many places where local clays were also available and made equally good pots, for instance at Helman Tor. This suggests that either it was not the pot that was important but what was inside it, or that the gabbroic pottery was valued for a non-practical reason (Section

6.3.1). Smith (1981, 161) estimates that the pottery assemblage collected from excavated parts of Carn Brea represented around 550 vessels. If Mercer's (1981, 63) occupation period of around 300 years is accepted then it suggests that less than three vessels were broken and discarded a year in the excavated areas. This does not seem a high enough total to represent the output of an industrial process even if one takes into account the fact that many pots would have been totally destroyed. However, it is a figure that would seem to fit with an interpretation of short seasonal visits for events involving feasting (Section 6.3.1).

7.3 Conflict and power

Mercer (1981; 1997, 55) argues that some tor enclosures such as Carn Brea and Helman Tor were built as defended settlements and political centres, based on their apparent defensive nature, the amount of burning and number of arrowheads found at Carn Brea, together with comparison to other sites such as Crickley Hill.

Yet several walls were not placed in the ideal positions for defence. For instance, the section of Carn Brea wall W1 that takes in Site A1 (Fig 2.10) runs downhill to enclose that area rather than following the top of the slope directly between the natural outcrops (Fig 7.3). Thus, the wall line loses its dominance over the area beyond it. Furthermore, given the width of the building at Site A1, to provide headroom the roof would have had to rise to an apex well above the assumed two metre height of the wall, making it an easy target for anyone beyond the wall (Fig 7.4). It may be that the wall's path was pre-determined because it had to take in Site A1 for some reason (thus further supporting the contention that the site was in use before the walls were built: Section 2.2), but the A1 building uses the wall as part of its structure so must postdate the wall. At Helman Tor the walls run slightly below the top of the break in the slope. This affords less protection to those within. Placing the walls two metres further up the slope would have gained an extra metre or more in height without requiring any extra effort to build (Fig 7.5).

At Tregarrick, the highland-side wall does not have any significant loss of elevation beyond it, and at Dewerstone the ground rises up from the wall making it less than ideal as a defensive structure. The Roughtor walls are in a more defensive position as there is a less dramatic break of slope, yet in some places each wall line is so close to another that it is hard to conceive how it would have functioned as a fortification. If the outer wall were being defended then those defending may have been trapped by the inner wall line. Explaining each wall line as a replacement is problematic (Section 6.5.5).

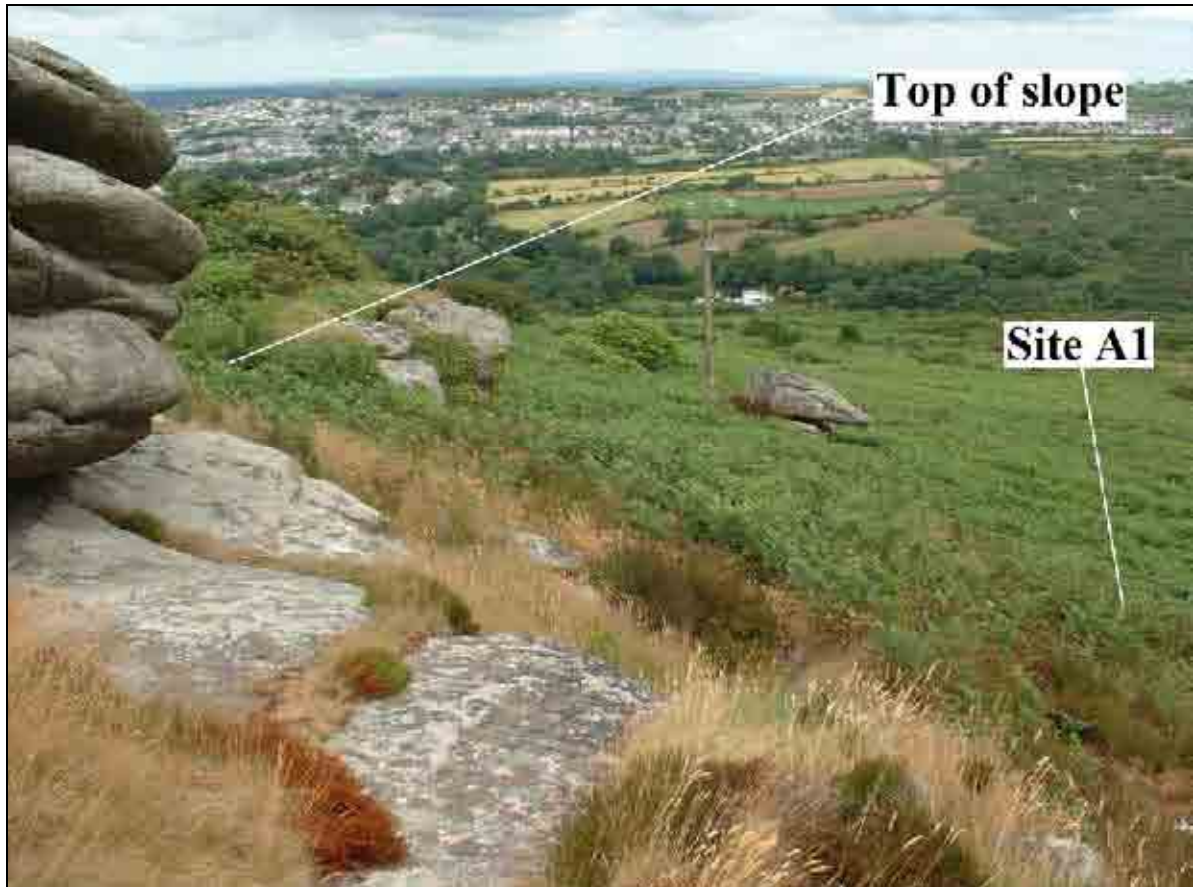


Fig 7.3: Site A1, Carn Brea - well below optimum defensive position.

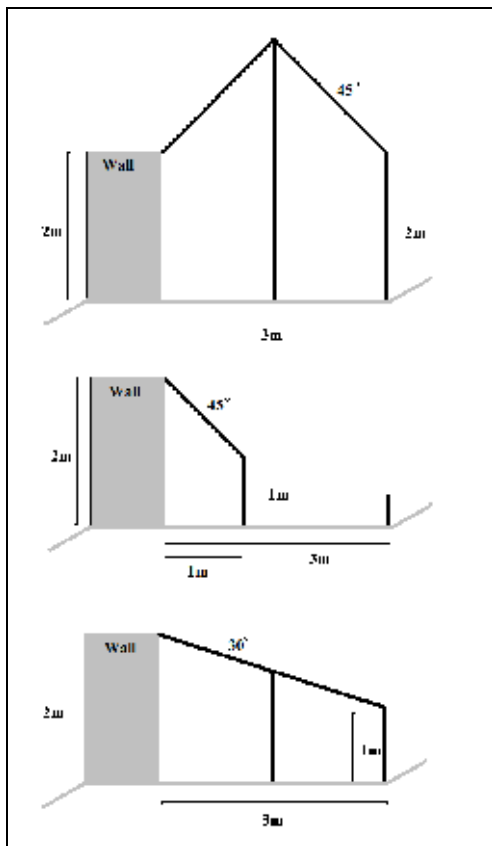


Fig 7.4: Carn Brea, Site A1 building's roof arrangements.

Top - allows for a 45 degree pitch and head room within but can be seen from outside wall.

Middle - allows for a 45 degree pitch and cannot be seen from beyond the wall, but roof would meet the ground before reaching the inside post line.

Bottom - cannot be seen from beyond the wall and reaches the inside post line, but pitch is less than ideal.

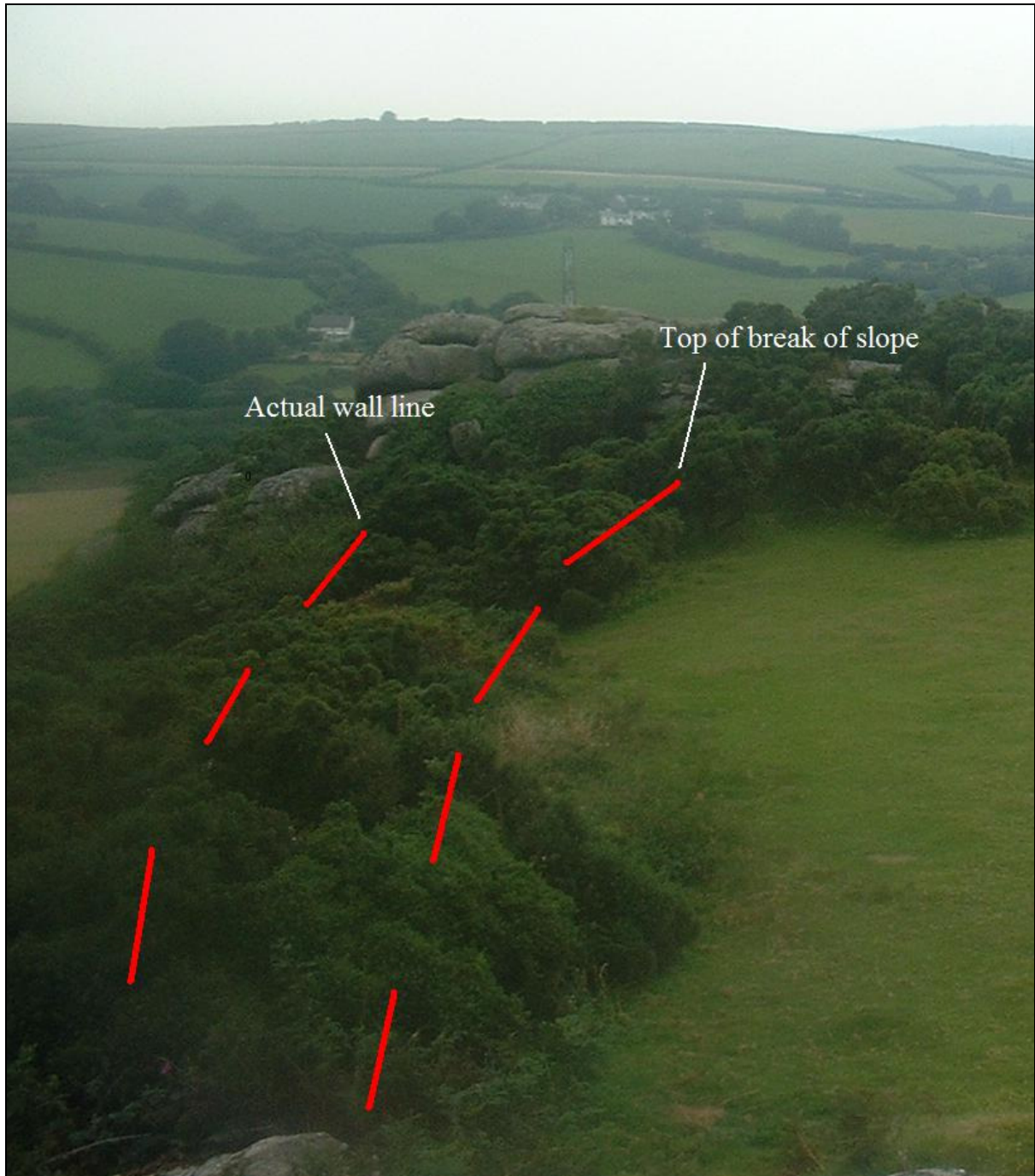


Fig 7.5: Actual and ideal defensive wall lines on Helman Tor.

Tor enclosure walls appear less convincing as defensive structures compared to those of Hambledon Hill and Crickley Hill. At these two causewayed enclosures certain phases of construction appear to be functionally well suited to defence, built to create killing zones between ditch and palisade (Fig 7.6). The palisades were probably less than two metres tall, allowing defenders to shoot directly at their targets from cover (Mercer 1999, 153). At Carn Brea the ditch beyond wall W1 appears intermittent, and the height of the wall would often have prevented those within having a direct sightline to those without (it is possible that a wooden shooting platform was constructed within but there is no surviving evidence), thus the defensive nature of the Crickley Hill's Phase 1 (Dixon 1988,

75-8) and Hambledon Hill's Phase 2 outer defences (Mercer 1988, 101) was not replicated at Carn Brea.

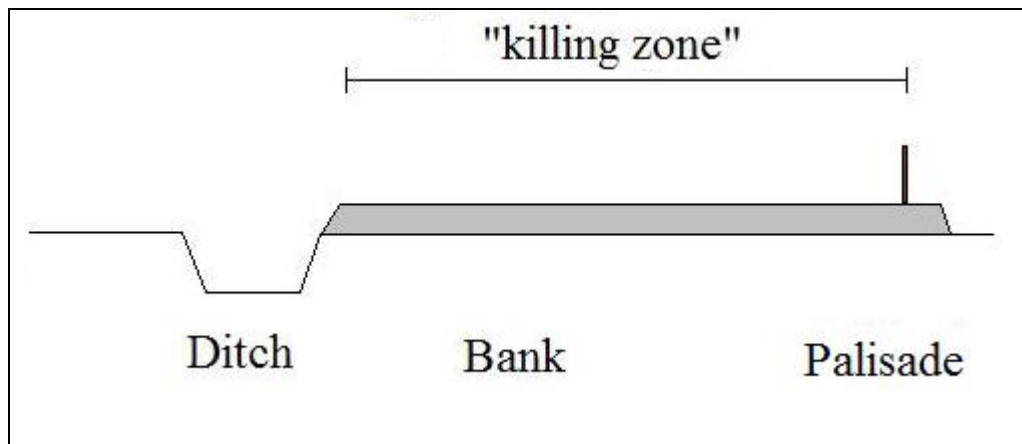


Fig 7.6: Schematic profile of suggested defences at Crickley Hill and Hambledon Hill (based upon Dixon 1988, 75-8).

The use of the tor enclosures to withstand sustained attack is also problematic. At Carn Brea and Helman Tor the water sources (natural springs) are outside the upper enclosures, thus fetching water would have been perilous. At Roughtor, Stowe's Pound and Whittor the larger water sources appear to be some way down the hills, in the positions that the besiegers would have occupied. There are springs within the enclosures, caused by water run-off from the rock outcrops, but it is questionable whether these could have provided enough water for many people during summer, the time when the enclosures were most likely occupied. As Andersen (1997, 303) points out for many supposed European defended enclosures, the numbers needed to man the walls may also be problematic. The Carn Brea W1, W2n and W2s walls (Fig 2.10) are around 1km long. To fully defend this area several hundred people would have been needed. If the old, young and infirm are added to this number then the enclosure might have housed over 500 people during defensive actions. If one adds to this the group of attackers, possibly in the hundreds, plus their dependants, then the total population and degree of social organisation would seem to be extremely large.

Some entrances, such as at De Lank and Site G at Carn Brea, do appear as though they could have functioned defensively. The entrances were long and narrow, preventing more than a few people entering at once (Fig 2.17). One side of Carn Brea's Site G is initially flanked by a ditch and the other by a natural outcrop and the wall, which would have provided no cover for attackers and allowed defenders to throw rocks or shoot missiles down onto them. The ditch would have prevented close support of those attempting to gain entry. However, there are alternative explanations for the structure of these entrance ways (Sections 6.6 & 7.1.2). Where entrances can be identified, some tor enclosure walls have several: wall W2s at Carn Brea has seven, the lower enclosure at Stowe's Pound has five or more, and the wall at Dewerstone has five. They do not appear to be built with defence in

mind in contrast with Crickley Hill, where entrance numbers appear to have decreased over time, possibly as the site became more defensive (Dixon 1988, 78).

The outermost walls at Carn Brea appear more substantial than the inner ones, being up to six metres thick and some having ditches associated with them. These walls appear the most defensive, but have the least dating evidence. It may be that they were part of later prehistoric reuse of the site, possibly contemporary with the building of the hillforts, although Late Bronze Age and Iron Age enclosure rampart construction seems quite different to these tor enclosure walls (Section 2.4.3.5).

Mercer suggests that burning at Carn Brea reflects a catastrophic event that saw the last major Neolithic use of the enclosure (1981, 20; 2006, 72). Yet, when the evidence is examined in detail the extent of the burning can be questioned. The poor nature of preservation on the site causes problems in assessing the amount of burning that took place, and even charred remains, which often survive well in acidic contexts, were commonly eroded to powder at Carn Brea. Many greasy compacted “organic” layers such as L4 at Site A1 (Mercer 1981, 20) might have contained much charcoal, but it is impossible to be sure. At several of the excavated terraces there are signs that posts and stakes burnt *in situ*, including several at Site A1 (*ibid.*, 26). The stake and post holes at each location, however, probably represent a series of structures rebuilt a number of times (*ibid.*, 41), thus it is difficult to see their burning as the result of a single “catastrophic” conflagration. Burnt material from scoops and pits (*ibid.*, 24, 35) suggests hearths and cooking fires rather than destruction. The charcoal lenses and flecks from the Site J ditch are also on a much smaller scale than the burning evidence from the Hambledon Hill (Mercer 1988, 104), Hembury (Liddell 1933-6, 138) or Crickley Hill (Dixon 1988, 81) ditches. Indeed, Mercer (1981, 49) sees at least part of it as domestic refuse thrown over the wall. At Site K, where there is a substantial layer containing pulverised charcoal and burnt flint and pottery, Mercer interprets this as midden (*ibid.*, 58). The pink areas suggestive of burning in the occupation layer (L4) at Site A1 occurred throughout the layer and so may be from cooking or working fires, or from clearance fires.

Perhaps the best evidence for an enclosure-wide violent episode of burning at Carn Brea comes from the arrow heads. Numerous leaf-shaped arrowheads were found at each excavated area within wall W1 and many of these were burnt. Thus if they arrived on the site as the result of an attack (few are in secure contexts) then they suggest that this attack also involved the firing of structures within the enclosure (see below for a discussion of the arrowhead evidence).

Even if intense Early Neolithic burning were proven at Carn Brea, it does not necessarily follow that it was the result of attack. Burning has also taken place at a number of other Early Neolithic sites where there has been no suggestion of conflict. Several timber longhouses such as Claish Farm

(Barclay *et al.* 2002, 75), Balbridie (Ralston 1982, 240) and Gwenvale (Britnell & Savoy 1984, 52) appear to have burnt down, as do several mortuary structures such as Fussell's Lodge (Ashbee 1966) before they were covered by barrows. In these cases, if deliberate, the burning might have been an act of purification or transformation (Parker Pearson & Richards 1994, 25) rather than violence. It has been suggested that the tors might have been thresholds of transformation (Sections 5.1.4, 5.2, 6.5.2 & 6.5.3), and had relationships with the dead and ancestors (Sections 5.1.3, 5.1.5 & 6.2), thus burning the structures at Carn Brea might have reflected parts of public ceremony and processes of transformation long associated with the tors. Such acts might have marked the seasonal departure from the tor and the *death* of the aggregation, the sealing of agreements, deaths of people associated with particular shelters, or even a practical purification to cleanse the occupation area of vermin and parasites.

As mentioned above, perhaps the best evidence for conflict and wide-scale burning at Carn Brea are the 800+ leaf-shaped arrowheads. These came from all of the excavated areas within the eastern summit enclosure but few from secure contexts. Around 40% of these show signs of burning and 96% were broken (Mercer 1981, 68). The burning might be taken to show that they were shot into burning structures, but the assemblage of scrapers shows a similar pattern, refuting this suggestion (Mercer 1981, 68). At Crickley Hill the distribution of arrowheads appears to focus upon the entrance ways (Dixon 1988, 83), but this does not seem the case at Carn Brea with the highest concentration at Site D at the opposite end of the hilltop to the suggested main entrance at Site E. However, Site K (Fig 2.10), the blocked entrance, has the second highest concentration (Mercer 1988, 70). Unfortunately, the lack of excavation on any of the inner terraces and the amount of soil creep down the slopes makes it impossible to judge whether the arrowheads were concentrated around the walls. Indeed, as few arrowheads were found in secure contexts, it is not possible to show if the majority arrived on the site as part of a single violent event. Hembury also has a moderate sized assemblage of arrowheads which came from numerous different contexts such as pits containing structured deposits (Oswald *et al.* 2001, 128), so do not appear to be part of a single or violent event. A very small number, however, were found within Carn Brea's wall W1 (Saville 1981, 146), possibly shot into it, or incorporated as part of the building or repair process along with other caulking material. The large number of breakages might indicate that they were damaged as a result of being shot into an area with much rock. Alternatively it might suggest that some were discarded due to damage and others were brought to the site embedded in prey animals. The number of arrowheads beyond the eastern summit enclosure (W1) is substantially less than the number from within, and none were found in the excavations of wall W2s (Saville 1986, 102) which appears more defensive than wall W1.

If violence did occur at Carn Brea, it does not necessarily follow that it is the result of formal warfare between two or more separate political entities. The ethnographic record contains numerous examples

of fighting for other reasons including the gaining of status (in the eyes of either other groups or one's own group), appropriation of exotic or valuable items (raiding), appropriation of marital partners (either as pre-arranged/ceremonial kidnap, or as forced abduction), or even as the part of social negotiation (Schulting & Wysocki 2005, 130). These types of conflict do not reflect disparate groups in a state of prolonged war, but rather that violence itself was just part of the on-going web of social negotiation played out within and between different groups. For instance, the Eskimo groups around Kotzebue Sound in Alaska came together in summer aggregations that involved gift giving, trading, feasting, dancing and ceremonies, yet in the late autumn the same groups often fought each other (Keeley 1996, 122). The aim of the fighting was not to destroy the other group or remove it from a particular area, but was a means of maintaining or transforming relationships just as the aggregations were (Schulting & Wysocki 2005, 131).

If the tor enclosures were places of social negotiation through aggregation, loyalty gift exchange and feasting (Sections 5.1, 6.3 & 7.1.4), the social conflicts within these delicate negotiations may have escalated into physical violence despite the safeguards that were in place (Sections 5.1.5 & 6.5). This escalation might have been a rare and unwanted part of events, or violence might have been an integral part of the actions being played out. The aggregations would have offered an audience for those fighting, allowing them to gain status through the display of heroic action. This demonstration need not only be to one's own group, it might also demonstrate suitability to take marital partners to the potential partner's family group. Violence may have also acted to unite groups, forging them in a common purpose and underlining loyalties, just as the raising of the walls might have done (Section 6.4).

If fighting took place between those within and those without, rather than between different factions attending an aggregation, it might have been the result of raiding, a common form of violence in pre-state societies (Keeley 1996, 65). During events of competitive consumption, exotic items, such as greenstone axes, might have been brought to the tor enclosures (Section 6.3.1). Gaining such items through heroic endeavour could have heightened status within a group. Domesticates may have been either grown at or brought to Carn Brea (Section 7.1), and raiding to obtain such animals or foodstuffs is common in the ethnographic record, for both the subsistence and social value that they represent. An increasing fear of such raids might explain why each circuit of walls at Carn Brea was more substantial than the previous, assuming the innermost were earliest. Rather than being functionally designed for defence they may have been built as a deterrent and as a status symbol. It is only the sheer number of arrowheads that might argue against this explanation, but, as discussed above, even they do not support Mercer's formal warfare interpretation as strongly as originally thought. The outer walls do appear more functionally defensive, and might suggest an escalation of raiding into

warfare, but until they are properly dated it is not possible to assign this change conclusively to the Early Neolithic.

Mercer (1981; 1997) has suggested that Carn Brea and Helman Tor became manufacturing sites that acted as focal points on long range trade networks and so became political “power bases”. Thus conflict would have been economic and political in nature: an attempt to acquire resources and control territories. Yet there is little supporting evidence for these formalised economic networks (Section 7.2), making it difficult to envisage rival chiefdoms in a military struggle for control of the enclosures, or that the enclosures were power-bases. If the social use of exotic material culture and of domesticates increased during the Early Neolithic, it might explain why several of the enclosures in the southwest appear to have started as ceremonial centres and progressed to become more defensive in nature: an escalation in violence may have gone hand in hand with an escalation in the demonstration of status and identity. Indeed, just as it was suggested (Section 6.2) that tor enclosures were good places to aggregate in order to conduct ceremonies that were concerned with the dead, to fashion axe heads and to demonstrate status, so it may be argued that they were also good places to fight (as a kind of social performance); their connections with the landscape, deep time and the ancestor spirits underlining the importance of any action performed there.

7.4 Conclusion

On the whole it would seem that the economic and industrial explanations for tor enclosures are not as strong as Mercer believes (1981; 1997; 2003). It is certainly possible that activities such as agriculture and axe-finishing took place at tor enclosures, yet there is little evidence to support any theory that saw these activities as the primary reasons for building the enclosures. Indeed, the supporting evidence for agricultural activity is tenuous at best, and axe-finishing at Carn Brea, based on interpretations from other parts of Britain, would seem more likely to have been done for social rather than industrial reasons.

The evidence for full-time occupation is also tenuous. Of the five areas excavated within the eastern enclosure at Carn Brea only one convincing building outline was produced, and that was relatively small. There may have been buildings on the cleared terraces in the centre of the enclosure, but as no excavation has taken place this is only supposition. The lack of evidence for large scale or intensive farming further weakens any argument for permanent occupation.

Similarly, Mercer’s evidence for conflict at tor enclosures that acted as political centres also seems less convincing. There is certainly a possibility that violence took place at tor enclosures, but its

character is far from certain. It would seem more likely that it was a form of social negotiation or raiding, rather than formal warfare. Thus, if warfare was not occurring, and the tor enclosures were not permanently occupied, and were not industrial or trading centres, then the claim that they were political power-bases would also seem questionable.

If agriculture was practised at the tor enclosures, or domesticates were taken there, it would appear most likely that this was part of a seasonal or social round, enacted by a still largely mobile people. The use of domesticates would seem to fit the evidence as an aspect of social interaction and display, rather than merely a staple. Similarly, if the tor enclosures were occupied for any length of time, then this, too, would seem to suggest a smaller group tending plots while other parts of the community continued to move around, hunting, gathering, and perhaps herding. In short, this re-evaluation of the political and economic aspects of tor enclosures does little to refute Thomas's (1999) interpretation of nearby Early Neolithic Wessex.

Chapter 8: Synthesis

In the previous chapters various aspects of the tor enclosures' locations, structures, uses, meanings and interpretations have been considered. In this chapter the original questions outlined in Chapter 1 will be addressed. The first intention is to suggest, based upon a synthesis of the proceeding sections, a *best-fit* narrative for tor enclosures that will lead to a better understanding of life in the Early Neolithic. This will form the basis for addressing the second question, were tor enclosures were merely rock-built causewayed enclosures. Third, similar rock-built or defended enclosures elsewhere in Britain and the near continent will be considered. Finally, the impact of these interpretations on the study of the Early Neolithic in the rest of southern England will be assessed.

8.1 Tor enclosures: synergies and narratives

From the discussions in the previous chapters it is possible to suggest a narrative for the creation and development of tor enclosures in southwestern England in the Early Neolithic. Certain parts of the narrative are better supported than others. Unfortunately, this problem will remain until a wider campaign of excavation is conducted. Other parts of the narrative might suggest a number of differing answers. This is not seen as problematic because these sites had the potential to be many things to many people, thus no single overriding truth should be expected. The narrative below does not claim to be a proven account of the period; indeed, it might well be accused of containing supposition if not the occasional leap of faith. What it does aim for is the creation of a new framework into which the evidence that is currently available can be fitted, and thus allows debate concerning tor enclosures to go forward.

Whether enclosed or not, it would seem that the tors had long been significant places within the landscape. People had always moved around the landscape, taking advantage of the changes in vegetation and forest cover on the higher ground, especially during the seasons of better weather (Section 3.1.2). It is entirely possible that they further cleared the lighter woodland around some tors to encourage certain plants to grow and attract prey animals (Caseldine & Hatton 1994, 40; Mellars 1976). The exact patterns of their movements are far from clear, but the most convincing model is one of the frequent dispersal and re-integration of groups as part of a seasonal and social round based on known places (Whittle 1997; Pollard 1999), with individuals often breaking away from their recognised groups to visit others (*cf.* Spector 1993, 61-77). Landscape was not a neutral backdrop to life, it would have been impossible for these people to live within it without creating myths and histories associated with the places that they inhabited (Tilley 2007, 331). These relationships with the landscape, along with other elements of their life-ways, were drawn upon to create people's

identities and orientate them within their worlds. The constant change in the texture of the landscape, as they moved through it, would have had meaning and would have been indelibly linked with socially correct ways to get on in the world. As such, the journeys up to the higher ground would have been notable undertakings, and movement between the worlds of the lowland and highland would have represented some of the most extreme changes in the way that people experienced the world, and therefore acted (Sections 5.1.1 & 5.1.4). As they underwent these transformations they must have noticed the highland-edge tors *bursting* out of the ground and towering above the forest around them.

Carn Brea was certainly visited during the Mesolithic, but the nature of these events, whether an engagement with the rock on a spiritual level or just overnight hunting camps at convenient locations, is unknown (Section 3.1.2). By the thirty-eighth century BC, however, people were making repeated visits to some unenclosed tors, and playing out ceremonies that included acts of structured deposition (Cole & Jones 2002-3; Section 3.1.3). Thus, it seems that at least some tors had become significant places in people's understandings of their worlds; understandings based upon a world that was moved through, and a landscape of meaningful past events (Section 5.1.3). It is not difficult to see why the tors might have become very special places within these movements. They were located at points where the texture of the landscape changed significantly (Section 5.1.1). They had panoramic views that allowed people to take in vistas of historically significant places and the relationships between them, which were otherwise rare in a largely forested landscape (Sections 5.1.2 & 5.1.3), and they stood on thresholds between worlds: low-high, closed-open, organic-rock, winter-summer, *etc.* (Section 5.1.4). Ethnographic evidence (Section 5.1.5), suggests that rock outcrops are often viewed as spiritual in nature, perhaps because of the way that the rock seems to break out of the ground, possibly referring to legends of the creation of the earth, or the rock was seen anthropomorphically as ancestors turned to stone.

Is this an informed, if speculative, interpretation or a "just so" story? As Bradley (2000) has stated, archaeological interpretations of wholly natural places can be substantially more difficult than those of man-made subjects. Archaeology is by definition the study of how people have changed the world around them, but if no actual physical alteration has been made then how can one hope to understand how people regarded their natural surroundings? In this case, reliance is placed on ethnographic comparison to provide possible answers. This is not ideal as it can create only models for consideration rather than a proven case. Nonetheless, it does allow for the limited array of archaeological evidence discussed (above and Section 3.1), and more importantly it is supported by the evidence of enclosure that came when specific tors were transformed from natural places to monumental ones.

The post-enclosure interpretations (Sections 6.1 & 6.4) suggest enclosure was an enhancement or modification to places that already had meaning, and the material culture evidence (Section 6.5) coupled with the mobility evidence (Chapter 4) supports the proposition that these specific tors were places for meetings and aggregations before enclosure, just as they were after. That these tors overlooked obvious routeways up to the high ground and across the landscape, routeways often defined by watercourses and their valleys and sometimes underlined by the addition of funerary monuments, does imply that their post-enclosure roles were grounded on pre-enclosure understandings. The alternative is to argue for a case that sees specific tors suddenly, and only, becoming important when first enclosed. The view that they were occupied due to a sudden need for defensive settlements or economic trading centres has been shown to be less convincing, as has the suggestion that they began as farming villages (Chapter 7). The emergence of greenstone axe heads as important tools of social intercourse at this time might also reflect a sudden change that inspired a new interest in nearby tors. Yet not all tor enclosures are near greenstone sources, and where they are, for instance Carn Galver's proximity to the Zennor Head and Gurnard's Head greenstone deposits, the enclosed tor is not necessarily the nearest tor to the greenstone source. That is not to say that the proximity of greenstone sources was not important, but that it would seem more likely that the tors that were chosen for enclosure were selected due to a combination of their pre-existing meanings and proximity to greenstone sources.

Therefore, given the failings of the 'sudden settlement' theory, it seems better to visualise a world in which people who moved widely around their landscapes, between a number of meaningful places, for a combination of social, seasonal and logistical reasons. This model would suggest that as they ventured up onto the high ground they would have stopped at the tors, as evidenced at the unenclosed Roche Rock tor (Cole & Jones 2002-3), perhaps to pay homage to the spirits, conduct ceremonies of transformation that allowed safe passage between the different worlds of their landscape, or meet with other members of the dispersed group and people of other groups. All of these would have been done at a place where such actions could be socially controlled and made safer by reference to the past and the ceremonies that were required in such sacred places. These meetings would have seen the playing out of negotiation concerning relationships and identity to enable individuals to integrate into the greater group, and these actions reinforced the importance of the tors just as the tors underlined the importance of the meetings.

When new media and processes of social expression began to be taken up in the Early Neolithic they were not necessarily replacements for previous life-ways (Warren 2007, 323); rather they could have allowed many traditional ways to be enacted and expanded via new materials (Section 6.3.1). Thus, if the tors were places of historical aggregation, it would have been natural for them not only to have continued to be perceived as special places, but to have been an obvious host to action revolving

around these new media. As items such as greenstone axe heads, ceramics and exotic foodstuffs became more widely available they allowed an intensification of the performance of social negotiation associated with identity and status, with perhaps more people achieving the prerequisites necessary to partake (as happened in the case of the New England Indians and their wampumpeag: Section 6.3; Cronon 1983, 95-97). Ceremonies of aggregation at tors could have become more complex and more socially dangerous. Most likely influenced by the use of enclosures for such events elsewhere (Oswald *et al.* 2001, 123-4; Thomas 2007, 433), walls were erected to emphasise the power of the tors and the behaviour expected there (Section 6.5), and to bring the group together via communal action, thus removing some interpersonal barriers (Section 6.4) as well as reinforcing the group's identity in relation to others.

It is likely that this strategy could only have worked in part. Monumentalising the tors by altering them in such a radical way, even if it was an attempt to preserve past ways, would have, nonetheless, caused a change to the way the tors were perceived and related to (Section 6.1; Tilley 2007, 344). Building the walls around the tors would have created an even greater emphasis on the meanings previously associated with them, monumentalising not just the place but the past actions acted out there. Thus, the idea that these specific tors were places to aggregate would have been strengthened and the aggregations themselves may have become larger (Sections 6.3 & 7.2), more formalised and more complex, perhaps with people journeying from further away and bringing with them more exotic materials. Such a model is similar to recent reinterpretations of nearby Hambledon Hill (Healy 2004; Mercer 2009). The existence of tombs near to some of the enclosed tors may even suggest that the tors also saw formal processions and funerary rites (Section 6.2). It could be argued that the very action that was supposed to honour past ways, the monumentalisation of the tors (Whittle 2004), actually served to change the world. Thus the debate between Tilley (1996b) and Whittle (2004) (Sections 6.1.1 & 6.1.2) would appear to be a non-argument in terms of the results of these changes, if not the intentions.

As the importance or intensity of the practices associated with aggregation increased, so the social danger and threat of conflict might have escalated, as happened with the New England Indians when the supply of wampumpeag increased (Sections 6.3, 6.5 & 7.3). Whenever there were challenges to identity and status there would have been the potential for those who lost out to feel aggrieved; or when attempts to gain status met an impasse, some may have resorted to aggression and violence, either symbolic or physical. Any spiritual connections to deep time at the tors (Section 4.4), together with the bounding and symbolic properties of the enclosures (Sections 6.5.1 & 6.5.2), may have acted to control these tensions. But such control mechanisms could easily have proved a double edged sword. The meanings associated with monuments might have regulated potentially dangerous action, but the construction of monuments and enforcement of formal ceremony would have further

emphasised the importance of the results of social negotiations. As the significance of these activities rose, so might the potential for conflict have increased. This, in turn, could have created a desire for more monument construction and formal ceremony to control the threat of conflict. Over time some enclosures were expanded and extra circuits of walls were built. Each act of building would have served to unite the group in common labour (Section 6.4), and to further underline the importance of the site, yet at the same time each new wall would have added to the power of the place and added to the delicate balance of social tensions.

In the Early Neolithic people were beginning to use foodstuffs derived from domesticated animals and plants species. The Bronze Age practice of transhumance (Bender *et al.* 2008, 81), moving herds between lowland and highland, is likely to have had its antecedents with the arrival of the first livestock in the Early Neolithic, especially if people were already accustomed to venturing up to the high ground in the better weather to hunt in the more open areas. There is little actual evidence for agriculture at the tor enclosures, although whether this is because of poor preservation in the acid rain or because there really was no agriculture at the sites is difficult to say. However, it is certainly worth considering a hypothetical model of how agriculture might have been employed at the tor enclosure sites.

The best-fit hypothetical model for agriculture at these sites suggests that domesticates were used alongside wild resources rather than replacing them (e.g. Thomas 2007). In the proposed model, people would have arrived at the enclosure in the spring for socially important aggregations, and to prepare and plant small cereal plots, such as those that Mercer suggests were enclosed by the W2 walls at Carn Brea (Section 7.1.2). Some members of the group would then have moved on to take the herds to new grazing in the high ground, while others would have moved back and forth across the landscape to hunt and gather wild resources which might have been periodically returned to the enclosure to supply those tending the crops during the growing season. This would certainly explain the Carn Brea Site A1 building, as the occupation of a location for several months could warrant the construction of small, moderately substantial timber shelters.

People would have returned to the enclosure for the autumn cereal harvest. Celebrations and ceremonies of aggregation could have taken place, with domesticated foodstuffs used, along with ceramics and other new material culture, in displays of competitive consumption and gift exchange. When the crop had been harvested the enclosures could have been used to sort the herds, some animals would have been mated, some exchanged and others slaughtered. Such aggregations would have been one of the few times in the year when there were enough people together to consume a large amount of meat, and a thinning of the herd would have helped it to stay healthy over winter when grazing was scarce. Temporarily housing the beasts in the enclosure could also have produced

manure to refresh the soil in the plots for the next year's crop. After these aggregations, people would have dispersed to overwinter largely in more sheltered lower areas where a more reliable supply of resources, such as marine foods, was available. This model appears to agree with Thomas's (2007, 431-434) interpretations of Early Neolithic mobility, which he suggests was based upon the late Mesolithic dispersals across the landscape with occasional aggregations at places of transformation, but also included a degree of settlement by part of the community to allow the tending of cereal crops, and thus followed a model of tethered mobility (cf. Whittle 1997; Pollard 1999).

Again, it must be stated that although this model fits the evidence available, it is certainly not proven by it, and is only posited to demonstrate how domestication could best fit into the life-ways of the southwest at this time and to create a basis for further debate. Yet, if an agricultural system such as this existed, then it, like the intensification of ceremonies that revolved around new forms of material culture, would have led to new tensions in society. Although assuming a binary opposition between the wild and the domesticated would be an oversimplification (Pollard 2004), the introduction of domesticates would have changed how people moved around the landscape, and therefore their relationships with it and the past (Section 6.1; Bradley 2004). Such changes, along with the use of new forms of material culture in displays of social negotiation, may have brought about power shifts within communities, with some claiming ownership of the herds and cereal plots (Barnard 2007, 9-12). Similarly, there might have been a more varied distribution of roles within society, with some people tasked with traditional duties of hunting and gathering, while others were to tend animals or crops. The latter might even have been seen to have special, potentially mystical, knowledge (Thomas 2007, 430). Again, these differentiations could easily have led to redefinitions of status and identity (*ibid.*). Such new roles may have also led to some individuals being away from the main group for longer, while others were together more often, thus allowing new loyalties and differences to develop.

Tor enclosures, then, could also have had a social role concerned with domestication. Just as with the potential conflicts caused by new forms of material culture they would have acted to contain and discourage disharmony within the larger group through their spiritual and symbolic properties (Sections 5.1, 6.5.1 & 6.5.2). The use of domesticates, livestock especially, may have expanded the danger of inter-group aggression. The new importance of demonstrating status combined with the portable, desirable, high-status possessions such as cattle would have produced the potential for inter-group raiding and thus, the development of feuds and more organised conflict. This might explain why the outer walls at Carn Brea appear more defensive in nature, assuming that they are Neolithic. Associations with agriculture might also suggest that over time the lower tor enclosures, such as Carn Brea, took on different meanings to the higher ones, such as Roughtor, where it was less likely crops were grown.

It is possible that an alternative system was followed, where all domesticated food sources, should they have been used to any extent at all, were grown and harvested elsewhere and then brought to the tor enclosures for special occasions. This has close parallels with gabbroic pottery and lithic tools. The clay for gabbroic pottery was 'harvested' from the Lizard Peninsular where it seems most likely the pots were produced. The pots were then taken to the tor enclosures for special occasions and 'consumed' there. Similarly, greenstone axe roughouts were quarried elsewhere and sometimes brought to the tor enclosures, potentially for finishing and consumption; the act of consumption being their use in ceremonies of status display. If domesticated foodstuffs were part of the new media of social expression rather than staples, then it is not difficult to imagine that they were used in a similar way to other new Neolithic materials.

It probable that violent acts did take place at Carn Brea, be it due to conflicts born of aggressive social practises, as an active and common tool of social negotiation, shifts of power and ideology within society, or the advent of inter-group raiding. Mercer (1981, 20; 2006 72) suggests that a catastrophic event saw the end of Carn Brea as a settlement in the second half of the fourth millennium BC, yet a re-examination of the data (Section 7.3) casts doubt on the arrowhead assemblage being the result of a single attack, and the evidence of burning being the result of violent destruction of the settlement. It may be that abandonment was a much longer process and was more to do with changes in ideology and landscape use than with conflict. It is certainly clear that the tors were still seen as special places in the later Neolithic when stone circles, such as the Hurler's, were often built with tor enclosures as prominent backdrops. In the Late Neolithic and Bronze Age some of the enclosed outcrops became the location of tor cairns, including Whittor and Roughtor; processional ways refer to other tors such as the bank-cairn at Roughtor, and some may well have been expanded at this time with extra circuits of walling added, such as Stowe's Pound. Many of the tor enclosures also exhibit hut circles within them that might date to the Bronze Age. The enigmatic prop-stones were probably erected during this period, to point to and reference distant places, such as the one at Helman Tor that points towards Roughtor (Tony Blackman Pers. Comm.).

The later Neolithic and Bronze Age saw a greater reliance on agriculture and larger areas of forest clearance, as demonstrated by the number of rounds and pounds built on the highlands. If crops were grown at tor enclosures, the soil would have eventually become exhausted even by light cultivation, and so cultivation would have been focussed elsewhere. The Bronze Age rounds and pounds indicate that transhumance became more of a point-to-point affair, rather than the more dispersed model described above for the earlier Neolithic, with people moving from lowland winter homes to upland summer settlements, thus areas with more shelter and better access to water supplies would have been preferred. With a stronger sense of ownership and control of the land people may have been further

removed from the most sacred places (Tilley & Bennett 2001, 360); and with the opening up of the previously heavily forested landscape, one of the striking features of the tors, that of long views, would have become less unique. Thus, although the way that people related to tor enclosures changed dramatically over time, it seems clear that their relevance did endure beyond the Early Neolithic.

Mercer (1981, 20; 2006 72) assumes that there were divisions between the uses tor enclosures, those of a lesser elevation being suited to defended settlement and agriculture, while those higher up were 'ritual' sites. Just as with causewayed enclosures it may be true that there was a diversity of use within the tor enclosure group, each being viewed as having unique properties. However, the narratives presented here, allow all of the southwestern tor enclosures, at least initially, to be included within a defined group where broadly similar activities were played out. It is not so much the elevation or size that divides them as Mercer (*ibid.*) states, but rather their highland edge locations, their views, their associations with routeways and their transitional natures that unites and defines them.

8.2 Tor enclosures: more than just a sub-group of causewayed enclosures?

Several authors have treated tor enclosures as a sub-group of causewayed enclosures (e.g. Oswald *et al.* 2001, 85-90; Cleal 2004). Indeed, the methods used to interpret tor enclosures in this thesis have often been based upon those frequently applied to causewayed enclosures. But, is it acceptable to discount tor enclosures merely as another mutation of the causewayed enclosure?

There are several apparent similarities between these two enclosure types, including size, location, layout and artefact assemblages. However, the low number of proven tor enclosures makes it difficult to draw firm conclusions regarding comparisons of size between the two enclosure types. Tor enclosures range in area from below one to over 15 hectares (Section 2.1.2), and causewayed enclosures range from under half a hectare (e.g. Windmill Hill inner enclosure) to around 10 (e.g. Haddenham), or up to 27 if Crofton is included (Oswald *et al.* 2001, 73). The plans of tor enclosures tend to be guided by the shape of the hill top and positions of natural rock outcrops whereas many causewayed enclosures tend to be draped off-centre over a rounded hilltop (although some, such as the later phases at Hambledon Hill, also follow or cut off part of the hill top). The nested layouts of some causewayed enclosures (e.g. Hambledon Hill) are also reflected at several tor enclosures, whilst both causewayed enclosures and tor enclosures often have obvious relationships with watercourses (Oswald *et al.* 2001, 91-102).

Some causewayed enclosures have incomplete circuits that cut off promontories, using steep scarp slopes to demarcate the rest of the enclosed area (e.g. Knap Hill, Wiltshire). There are similarities here with Tregarrick and Dewerstone, though at the tor enclosures a scarp topped by a tor was specifically chosen, with the enclosure walls built with reference to the natural outcrops. The circuits of the promontory causewayed enclosures appear to have been placed with less regard to the natural features; that is, they enclose an area rather than link specific points.

Structurally, part of an interrupted ditch was found beyond wall W1 at Carn Brea, but rather than an attempt to produce causeways, this may have been the result of the difficulty of cutting into the granite bedrock to continue the ditch. The walls at some southwestern causewayed enclosures (e.g. Hembury and Crickley Hill) are faced with revetments and topped with palisades, making them a little more like the tor enclosure walls in that they appear intended to physically block movement, yet most tor enclosure walls were not built with the same defensive capabilities (Section 7.3).

The material culture recovered from two excavated tor enclosures (Section 2.3) is certainly in keeping with that found at many causewayed enclosures. Large numbers of lithics, including stone axe heads, and ceramics are common to both types of enclosure. It is unfortunate that preservation issues in the southwest mean that evidence for the consumption of domesticates or deposition of human bones cannot be compared.

Overall, therefore it would seem that tor enclosures were similar to, and could be counted as part of, the group of monuments known as causewayed enclosures, but for the presence of the tors. This, though, is too simplistic a statement. Any such comparison tends to treat causewayed enclosures as a unified group when, in reality, the only real connection between many was the use of banks and segmented ditches to demarcate a specific area. Whereas, some causewayed enclosures that have some features similar to those of tor enclosures can be pointed out, it is much more difficult to single out instances of causewayed enclosures that match all of the tor enclosure characteristics. So, rather than viewing tor enclosures as causewayed enclosures that just happened to be built of rock, it might be better to view the act of enclosure as a common Early Neolithic medium of expression that was used throughout southern Britain for a variety of different purposes. The banks and ditches were implemented to mark an area intended for the playing out of action. The action did not have to be the same at each enclosure or at each event. The enclosure architecture merely demonstrated that this was a correct space to perform significant public events. In this way, the mound and ditches of a long barrow can be seen to have exhibited the use of the same media for yet another purpose.

It is apparent that Early Neolithic people in Cornwall and Devon had knowledge of causewayed enclosures as there are proven examples at High Peak (Pollard 1967), Raddon Hill (Griffith 2001, 68)

and Hembury (Liddell 1929-32), and possible examples within the area occupied by the tor enclosures, for instance Castle An Dinas (Cornwall SMR: 21602), Regeare Down Beacon (Cornwall SMR: 2417) and Bury Downs (Ray 1994). There is considerable evidence for communication with Wessex and beyond in the form of the chalkland nodule flint derived artefacts found at the tor enclosures and gabbroic pottery found at causewayed enclosures in Wessex (Sections 2.3 & 7.2). The occurrence of long barrows on Bodmin Moor also suggests that some forms of architecture were inspired by those to the east. People of this area clearly had the knowledge and ability needed to build a *typical* causewayed enclosure rather than a tor enclosure had they so wished (assuming the construction of both is fairly contemporary, which seems probable). It would, therefore, seem that tor enclosures were seen, to their builders, as being different to causewayed enclosures.

Two elements that the tor enclosures seem to possess, that sites such as Raddon Hill, Hembury, Regeare Down Beacon and Castle An Dinas did not, are the existence of a major tor and a position on the edge of a major area of high ground with a sharp downward slope to one side. Tor enclosures might, thus, have referenced the landscape, and the past, in a way that most causewayed enclosures could not. It has been suggested that outcrops of the tors had meaning as natural, or “super-natural” (Tilley & Bennett 2001), places before they were built upon (Sections 4.5, 5.1.2, 5.1.3 & 5.1.5). The highland edge locations emphasised changes in the texture of the landscape (Sections 5.1.1 & 5.1.4) that many (but not all - see below) causewayed enclosure sites could not. Views that allowed a special appreciation of the landscape and pastscape (Section 5.1.3) were possible from tor enclosures, unlike most causewayed enclosures, due to differences in topography and in vegetation. The presence of the outcrops may have presented the people with natural monuments (Section 5.2) of a type not found at causewayed enclosure sites.

This is not to say that causewayed enclosure sites did not have meaning before the act of enclosure. Indeed, the relationships that some have with watercourses seem similar to those of tor enclosures (Section 4.5). At tor enclosures, however, any such meaning could have been embodied and permanently referred to by the existence of the tor, which would have remained the most noticeable element of the site even after enclosure (Section 6.6). At most causewayed enclosures the act of enclosure would have drastically altered the site and taken focus away from whatever was there before, be that an important clearing, the remains of man-made pits, a significant tree, or some other natural phenomenon that attention was previously focussed on (Tilley 2007, 338). The physical properties of the tor enclosures, in short, may have been seen to refer to, and bring into the present, understandings of the past in ways that the causewayed enclosures could not. Those understandings may have been constantly manipulated and reinterpreted, yet they were permanently embodied by the tors. If the tor had no importance then why go to the effort of enclosing it when there were often higher, outcrop-free hills nearby?

8.3 Tor enclosures and defended settlements beyond the southwest

8.3.1 Defended enclosures and frontier politics in Early Neolithic England

Around the western border of Wessex, and centring on the region where the granite of the southwest gives way to chalk, are a number of causewayed enclosures that stand apart from the others due to their associations with conflict. The prominent members of this group are Hambledon Hill, Hembury, Maiden Castle and Crickley Hill. The location of the Crickley Hill enclosure might at first seem difficult to include in this group of defensive enclosures, being well to the north of the others, but when its position with regard to the Severn and access from the Irish Sea is taken into account (see Section 8.3.2 below) it's inclusion seems reasonable. Based upon excavations at Hambledon Hill and comparison with other enclosures, Mercer (2006; 2009) has postulated a model of political change that took place in the southwest in the Early Neolithic. The material culture found at the site suggests that people journeyed there from the southwest, from the north around the Mendips and Severn, and from the Wessex chalklands to the east and northeast (Healy 2004, 30; Mercer 2009, 43). The hill seems to have been in a wooded area during the Early Neolithic, yet just a short way to the east there were localised clearances in the early part of the fourth millennium BC, and by the time that the Dorset Cursus was built (3260-3030 BC) there was a mosaic of scrub and lightly grazed grass land; a similar picture is evident at Maiden Castle (Healy 2004, 22).

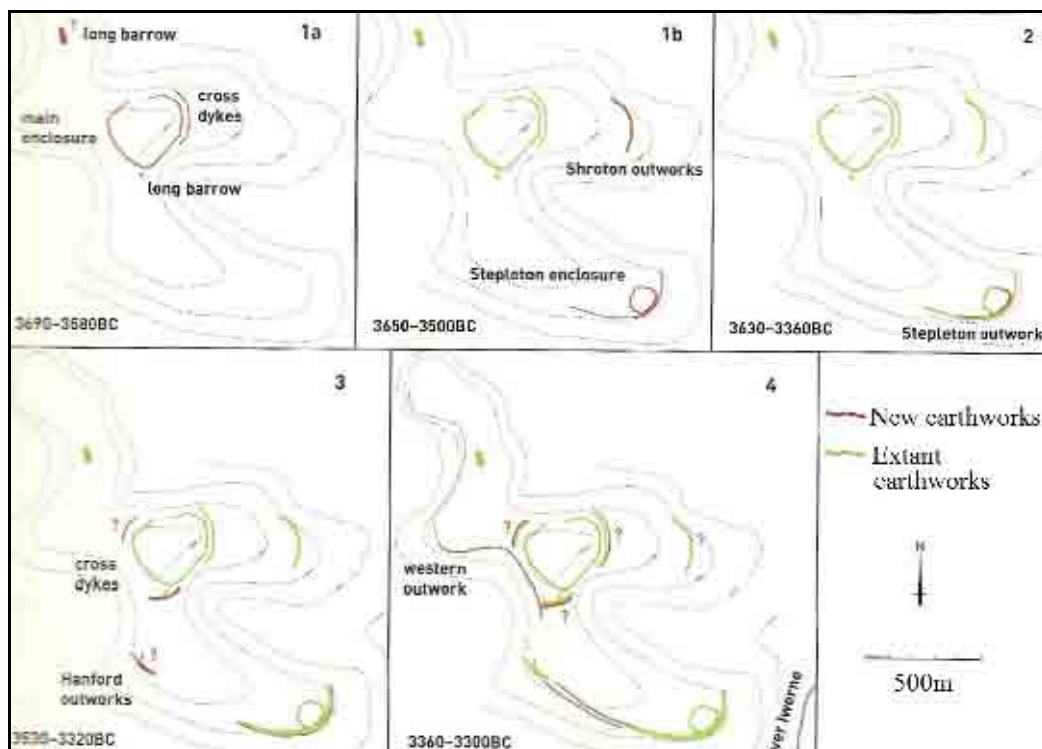


Fig 8.1: Hambledon Hill phases (adapted from Mercer 2009).

Thus, Hambledon Hill has been interpreted as a meeting place, situated in a marginal position away from the main areas of Early Neolithic activity, and visited infrequently by people from both the southwest and Wessex. Mercer (2006; 2009) suggests that the different phases of enclosure wall building (Fig 8.1) demonstrate regional changes in political activity: initially the monument was created as an inclusive structure with a focus to the east, from which direction it could be seen into (Fig 8.1: Phases 1a and 1b), but over time the focus of the site changed to the west with the building of the western outwork (Fig 8.1: Phases 3 and 4). This later wall was more defensive and blocked views into the interior.

Mercer's model suggests that in the earliest Neolithic, in both the southwest and Wessex, enclosures were seen as marginal places where dispersed groups of people came together periodically for meetings. He argues that over time this life-way continued largely unchanged in Wessex, but in the southwest the tor enclosure meeting places developed into central places, that elites emerged in these strongholds, and that conflict ensued with the formation of a "quasi-political unity" (2006, 74). Thus the character of Hambledon Hill, positioned as it was on the border between west and east, changed from an inclusive and accessible place focused on the nearby activity on Cranborne Chase to the east, to a defensive site, focused on the 'aggressive' west (*ibid.*).

This explanation for the advent of seemingly defensive causewayed enclosures on the western edge of Wessex would seem to fit well with the evidence from Carn Brea, which suggests that initially it was built as a meeting place in a marginal area, and that defences in the form of the large outworks were added later (Section 7.3). Yet, there are problems with Mercer's interpretation of this 'violent buffer zone'. As outlined in Section 7.2, the evidence for organised conflict in the southwest is weak. Certainly there is evidence for violence at Carn Brea, but this does not necessarily equate to warfare, territorial dispute or quasi-political unity. Even at the defended causewayed enclosures, the evidence for conflict often indicates very infrequent, small-scale bouts of violence rather than organised warfare. Indeed, whether violence took place at all is sometimes questionable; for instance, there were episodes of burning at many other types of Early Neolithic site that had no connection to warfare (Section 7.2). The arrowhead evidence from Crickley Hill probably represents an attack on the gateways, but could also represent some other event such as a ritual killing of the site. Although the arrowheads concentrate on the gateways and palisade as one would expect in an attack, there seems to be little sign of defenders returning fire into the so-called 'killing zone' (Fig 7.6). However, if the evidence is interpreted as a 'ritual killing' by bow-shot, then it is unique in this period. At other enclosures that are supposed to have seen conflict, such as Hambledon Hill and Hembury, the numbers of arrowheads found are low and come from many different contexts. This is not to say that

conflict did not take place or that these sites were not built to express a sense of defensive power, but that interpretations concerning organised inter-group warfare are far from proven.

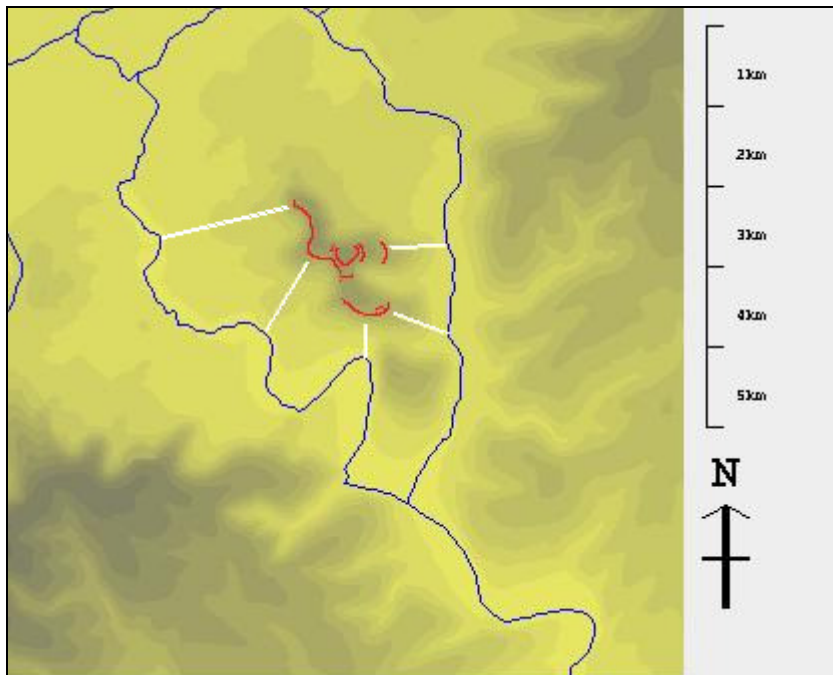


Fig 8.2: Hambledon Hill. Pale lines demonstrate how post phase 1a enclosure walls might be positioned in relation to nearest points on the Rivers Stour and Iwerne, rather than as a defence against attack from the west.

Application of the mobility model, generated by consideration of the tor enclosures (Chapter 4), to Hambledon Hill might be used to call into question Mercer's claim that Hambledon Hill displays signs of a 'refocusing' based upon the positions of the enclosure walls, and to provide an explanation for the choice of particular parts of the hill for the locations of the outworks. This mobility model suggests that people would have used obvious routeways, such as river valleys, to travel long distances rather than taking direct paths through the dense forest. Therefore, the obvious approach to Hambledon Hill would be along the Rivers Stour and Iwerne. Viewed like this, the main causewayed enclosure outwork, the Stepleton enclosure and the Stepleton outworks did not face east and west respectively, rather they were built on the nearest point on the hilltop to the rivers, and to the people approaching from the rivers (Fig 8.2). The "Relict Neolithic Outwork" (Healy 2004, Fig 1) on the west side of the hill would have faced those that approached along the River Stour in a downstream direction. Thus, the addition of the Stepleton outworks might not suggest a change in focus, but an addition of new outworks in an area of approach or access to the hill that had not been built upon before. Their structural nature might, indeed, have reflected defensive building, as seen at later phases of Crickley Hill and Carn Brea, but do not necessarily demonstrate Mercer's (2006) threat from the west. This could equally well have been a new style of construction influenced by infrequent acts of violence rather than a reaction to the advent of organised warfare or aggressive

polities. Much the same was the case in later Roman Britain when massive defensive town walls were built as a display of status rather than as a reaction to any real threat (Millet 1990, 139).

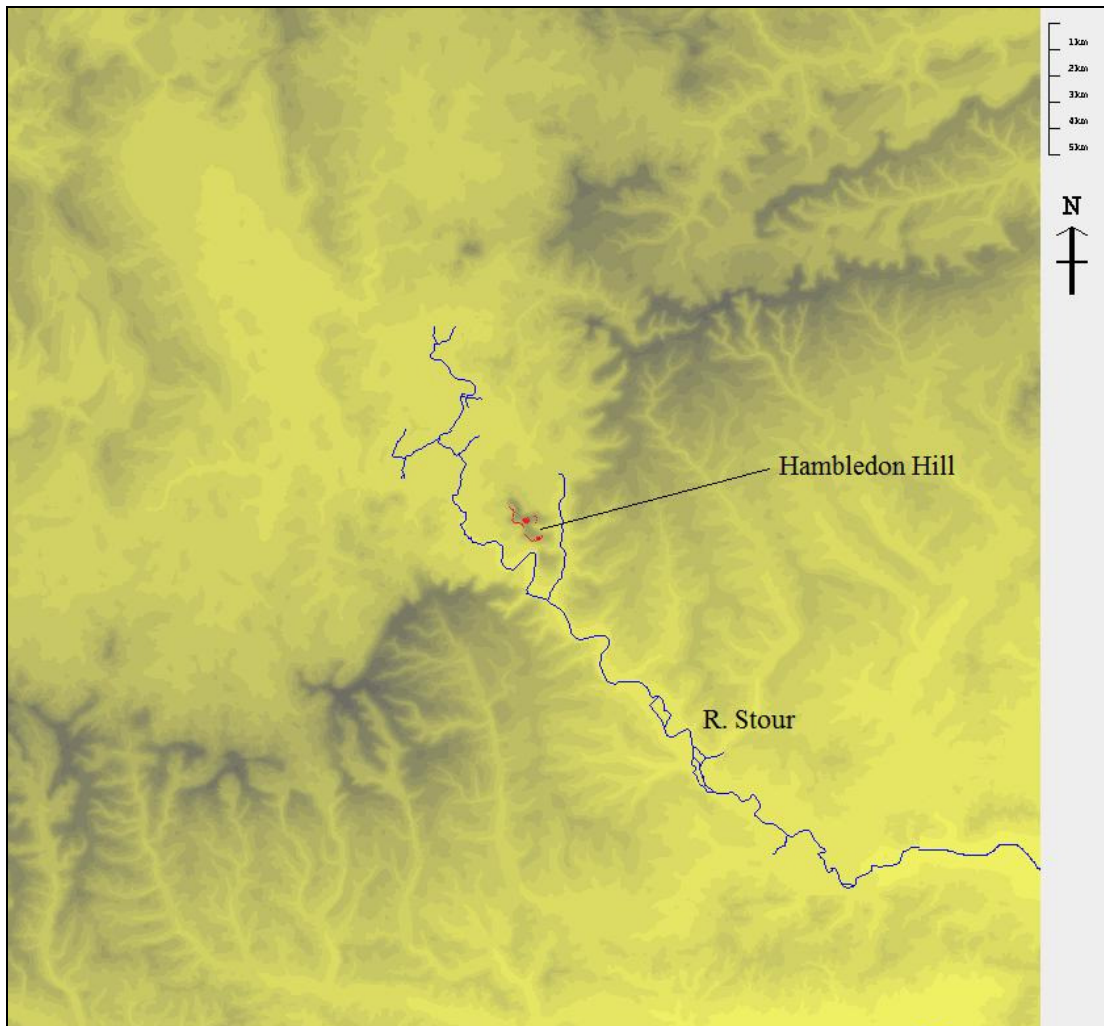


Fig 8.3: Hambleton Hill - situated at a pass through hills on SE-NW routeway.

That Hambleton Hill sits in a natural pass through the high hills of the southwestern end of the Cranborne Chase ridge, certainly supports the supposition that it was on a major routeway marked by the River Stour (Fig 8.3). The location links the coastal areas to the southeast and the flatter inland areas of the Vale of Blackmoor to the northwest. The positioning of monuments in such locations will be returned to in Section 8.4.

8.3.2 'Tor enclosures' beyond the southwest

In other parts of the country, a number of enclosures associated with tors or rock outcrops have been identified (Oswald *et al.* 2001, 158-9). Of these, two have been excavated: Gardom's Edge in the Peak district and Clegyr Boia in South Wales.

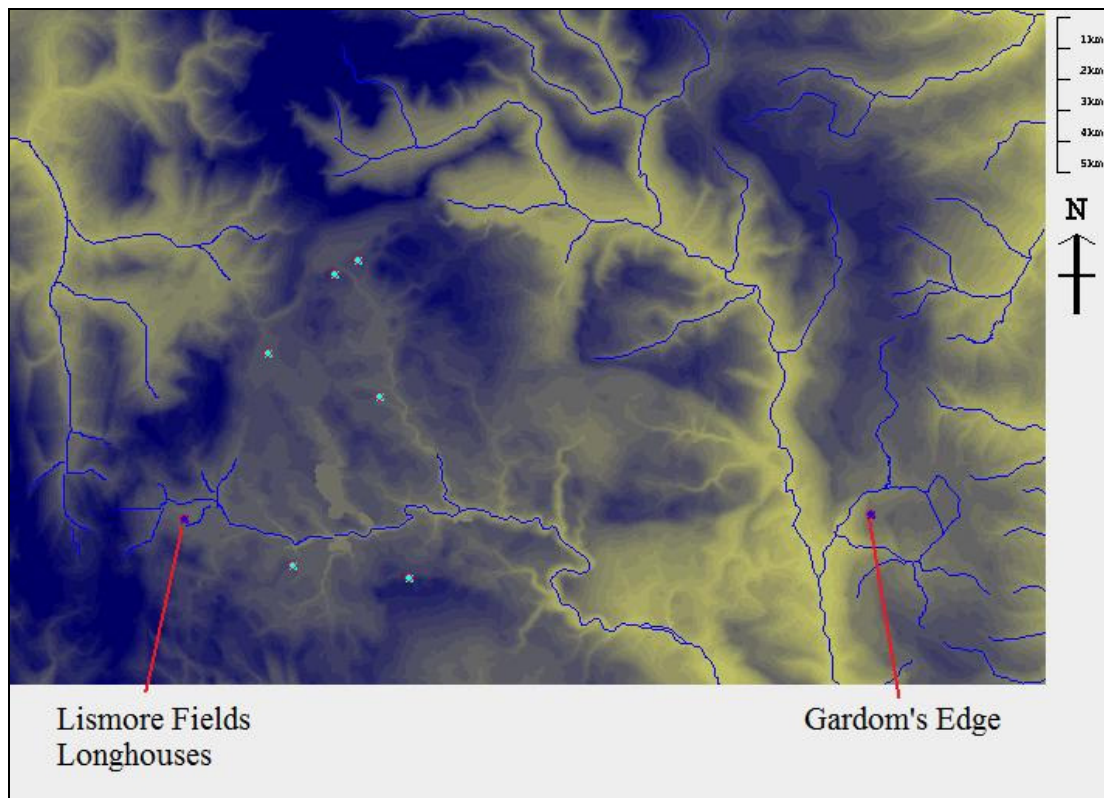


Fig 8.4: Gardom's Edge enclosure. Suggested barrow sites shown in blue.

Gardom's Edge (Fig 8.4) has a single wall, around 600m long, that encloses an area of six hectares (Barnatt *et al.* 2001, 112). The wall has at least five entrances and appears to have originally been at least 1.5m tall. Like Dewerstone and Tregarrick, the wall cuts off the top of a scarp slope, includes a number of large earth-fast boulders, and is not on the highest local point but is on the point that could have provided the best views over a forested landscape. Like the southwestern tor enclosures there are relationships with local watercourses. It overlooks the River Derwent around 8km upstream of its confluence with the River Wye. The Rivers Derwent and Wye appear to represent an ideal routeway, through the gritstone hills, up onto a limestone plateau that was a focus of activity in the Early Neolithic (Davies 2009a). Further upstream, along the River Wye, the western edge of the plateau is marked by the Early Neolithic timber longhouses at Lismore Fields, just as Gardom's Edge marks the eastern edge, although the longhouses were built on lower ground next to where the river flows out of the highest ground (*ibid*). The plateau between the two sites has a group of Neolithic long barrows, many of which are near smaller watercourses coming down from the surrounding gritstone hills.

Like the longhouses and the southwestern tor enclosures, the Gardom's Edge enclosure could be said to be placed on an interface between different topographic zones, and next to a probable major routeway. Also like the southwestern tor enclosures, it also has good views which would not have been blocked by tree cover thanks to the steep scarp slope, although it should be noted that the views are inwards towards the plateau rather than outwards to the surrounding lower ground. In comparison, the Lismore Fields longhouses have poor views of the surrounding landscape, that possibly reflect differences in use. The longhouses may have been occupied for longer periods during the year and have been, to some extent, associated with agriculture (Davies 2009a; 2009b); whereas the enclosure seems to mark a point of transition that focussed on relationships with the landscape, but was not ideal for prolonged occupation. Late Mesolithic artefacts were found within the enclosure (Barnatt *et al.* 2001, 121), possibly indicating that the site was important long before construction of the wall. Indeed, there is similar evidence at the nearby Green Low tomb (Barnatt *et al.* 2001, 124). Again, this ties in with the interpretation of the southwestern tor enclosures: monumentalisation of sites took place at locations that probably had deep historical and cultural meaning. However, it should be noted that the existence of Mesolithic artefacts on these sites does not necessarily prove that they were known special places when the monuments were built.

There are a number of other broadly similar, undated enclosures in the Peak District such as Cratcliff Rocks, 11km to the southwest of Gardom's Edge (Barnatt *et al.* 2001, 125). Makepeace (1999, 17) notes that some of these have orthostatic walls similar to Carn Brea, and that the Peak District, despite plenty of evidence for Early Neolithic use, is notable for its lack of causewayed enclosures. Thus, it might be that here, as within the southwest, rock-walled hilltop enclosures were a preferred medium of expression during the Early Neolithic.

In southwest Wales the site of Clegyr Boia stands on an isolated hill tor, just over a kilometre from the coast. It comprised a number of huts which gave good evidence for an Early Neolithic date, and a wall, with less sound dating evidence, enclosing just under one hectare and overlying one of the huts (Vyner 2001). The wall has a soil and rubble core with a facing of blocks. The entrance to the southwest is long and moderately narrow with two pinch points (Williams 1953, 33), making it not dissimilar to the gateway at Site G, Carn Brea. Radiocarbon samples from the gateway produced both Neolithic and Iron Age dates, but Vyner (2001, 83) questions the soundness of the sampling process. Some of the ceramic assemblage from within the enclosure, under the wall and from the huts is of the Southwestern Style, similar in form to that from Carn Brea (Lynch 1976, 65; Williams 1953, 35). If the wall is Neolithic, and it is certainly out of character with later enclosures in the area (Vyner 2001, 88), then Clegyr Boia would seem to support the view that such tor enclosure sites were the subject of considerable attention before the walls were built.

Clegyr Boia's relationship with the coast (Fig 8.5) is not unlike that of Carn Galver, though it does not stand on the edge of an area of high ground. Nonetheless, thanks to the steep sides and rock outcrops it would have offered good views in a forested landscape. It also overlooks the River Alun, just above the point that it enters the sea. This river might have offered access to inland areas for those travelling by sea around the St David's peninsula.

There are two other notable sites in this area. Clawdd y Milwyr is a promontory fort just to the north of Clegyr Boia. Some of the multi-phase walling and a gateway appear to resemble that of the southwestern tor enclosures, although no demonstrable Neolithic dating evidence has been found (Vyner 2001, 85) and the location does not resemble those of the tor enclosures. Castell Coch is 15km to the northeast of St David's Head and 1km from the Carreg Samson dolmen. One of its walls is structurally similar to those of the tor enclosures, but like Clawdd y Milwyr its coastal position is quite different.

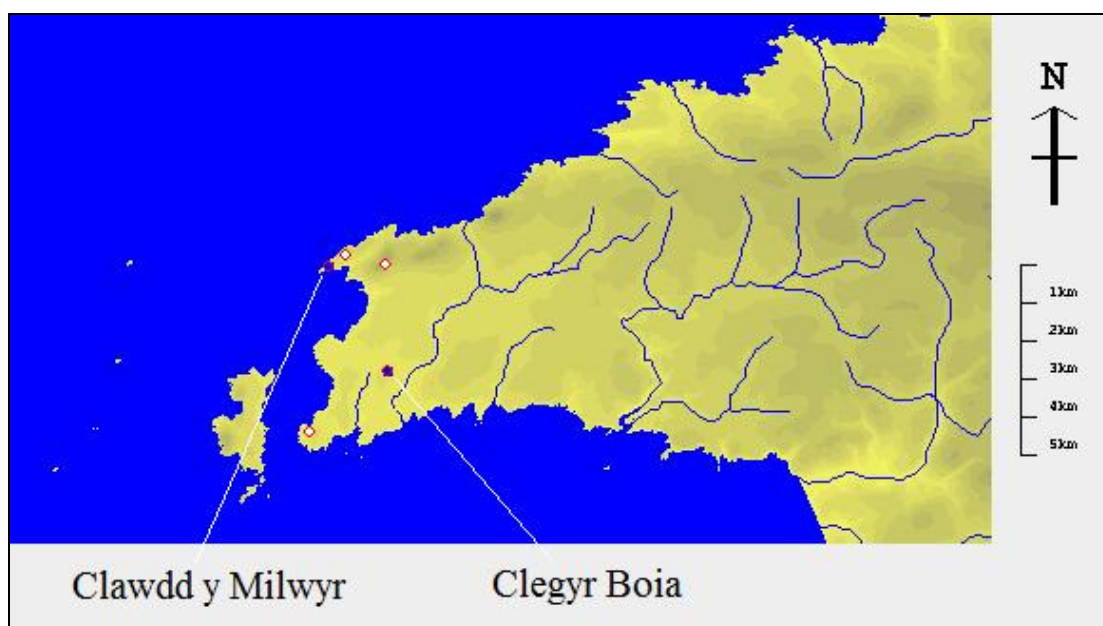


Fig 8.5: Clegyr-Boia and surrounding tombs (shown in white).

A further group of potential Neolithic tor enclosures exist in Cumbria (Oswald *et al.* 2001, 159) although none of these have been subject to excavation. Perhaps the most convincing from a landscape perspective is Carrack Fell (Fig 8.6) which sits at 650m OD, above the River Caldew (Pearson & Topping 2002, 121). The land drops dramatically to the east (Fig 8.7), down to an elevation of only 300m within 1km. Thus, the River Caldwell offers a good routeway into the high ground, and Carrack Fell offers impressive views over the lower ground to the east. On the flank of the hill is a source of XXXIV stone axes (Pearson & Topping 2002, 121). It is very reminiscent of the

southwestern tor enclosure landscape but on a much larger scale. The wall is discontinuous (Oswald *et al.* 2001, 159) and seems to encircle the hill top rather than specifically join the earth fast boulders found there. It is in a poor state, being no more than 1.6m tall (Pearson & Topping 2002, 121), and has spread in a similar way to the upper enclosure wall at Stowe's Pound.

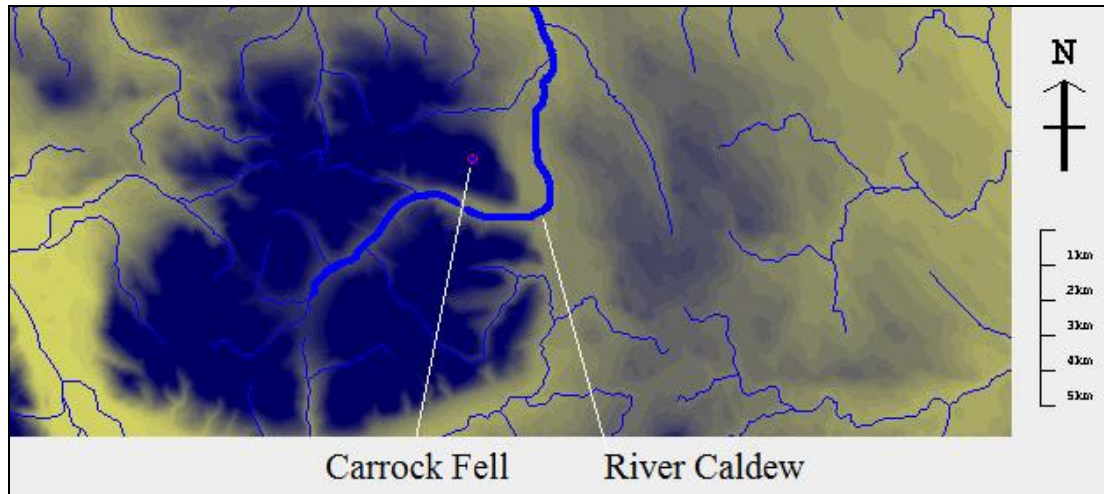


Fig 8.6: Carrack Fell.

Also in Cumbria, Skelmore Heads, near to the coast and occupying a low hill, is located in a way more akin to Clegyr Boia than to the southwestern tor enclosures, while its position on the peninsular to the north of Morecambe Bay would have been a good point of departure for sea voyages to other Irish Sea-facing areas such as north Wales, southwest Scotland, the Isle of Mann and Ireland. However, it would not have had the same potential for expansive views in a forested landscape and it is lacking in natural outcrops. The third Cumbrian site, Howe Robin, also differs to the southwestern tor enclosures in terms of landscape position. It sits on a round-topped hill that would probably not have provided good views in a forested landscape without extensive clearance. It is also lacking in rock outcrops compared to the area a few kilometres to the southeast. Although it is on an interface between low and high ground, the area to the south is substantially higher, thus it is not at the top of the interface. This is not to say that these two enclosures were not Neolithic in origin, just that they do not reflect people using and marking the landscape in quite the same way as seems to have happened in the southwest.



Fig 8.7: Carrack Fell from the east.

From this brief review of suspected Early Neolithic ‘tor enclosures’ beyond the southwest it is possible to suggest that at least two, Gardom’s Edge and Carrock Fell, do share features in common with the southwestern enclosures. These similarities may point to a landscape that was moved around and related to in similar ways, rather than any direct links between the peoples of these areas. However, they certainly indicate a desire to mark important places along obvious routeways, creating or enhancing places that offered views of, and therefore an appreciation of relationships with, the surrounding landscape.

Clegyr Boia and Skelmore Heads, might also be said to relate to movement, but in this case it is mobility linked with the sea. They reproduced the medium of expression (stone walled enclosures) that was used to monumentalise places on routeways in other areas (even though a different type of routeway was referred to). Based upon the locations of the enclosures mentioned, Fig 8.8 shows a possible model for sea travel around the Irish Sea and beyond in the Early Neolithic. There is much evidence of communication around these Irish Sea-facing areas (Bradley 2003, 219). For instance, portal dolmens are found in Ireland, Wales and southwest England (Kytmanow 2008), and there are similarities in ceramic designs such as the assemblage from Cregyr Boia (Lynch 1976, 65), and several northeastern Irish assemblages (Sheridan 2004, 14), which resemble the English Southwestern Style. Indeed, several suspected gabbroic pots have been found in Ireland (Sheridan 2004, 15). Axe heads from Cornwall, north Wales, Cumbria and Ireland have been moved by sea to a number of other Irish Sea facing locations, with several Cornish axes found in Ireland (Ray 2004, 166; Sheridan 2004, 14). The locations of the major axe quarry sites around the Irish Sea, suggests a close correlation with the enclosure sites discussed (Fig 8.8). Although, such schemes of movement around the Irish Sea are not a new suggestion (e.g. Fox 1943, Map A), the suggested correlation between enclosures and stone axe quarry locations would seem to add further support to it.

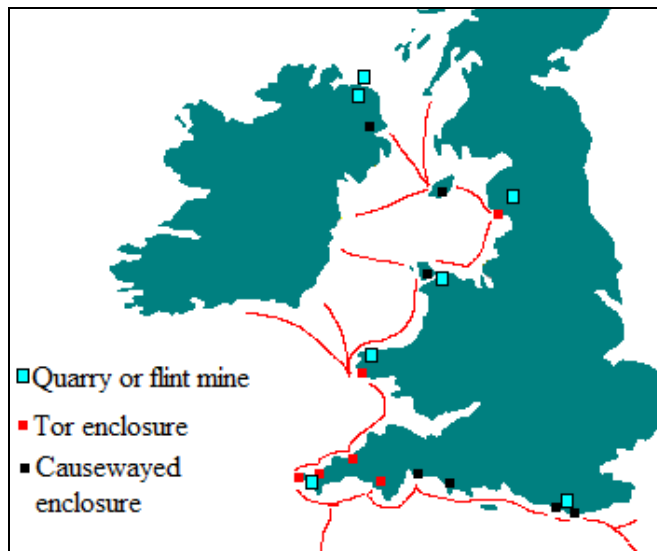


Fig 8.8: Enclosures and axe quarry / flint mine sites on possible Neolithic maritime communication routes (adapted from Ray 2004, Fig 17.5)

Winslade (2000-1) has demonstrated that the crossing from Brittany to Cornwall would not have been overly difficult, it might even have been easier than crossing the English Channel at its narrower point due to the gentler currents (Mercer 2003, 69). Yet rounding the Land's End peninsular to enter the Irish Sea would have been dangerous because of the often treacherous currents, bad weather and rockiness of the coast line. Thus Carn Galver, especially given its association with greenstone sources, may have marked an important stopping-off point on this perilous journey. Alternatively, some communication might have attempted to bypass it by taking inland routes (Chapter 4) marked by the Helman Tor, Roughtor and De Lank tor enclosures. Noble (2007) has discussed such trans-peninsular routeways, marked by monuments, in Neolithic Scotland and beyond. Once into the Irish Sea the route north is defined by a number of enclosures in prominent positions: Trencrom and Carn Brea on the north Cornish coast, Clegyr Boia on the St David's peninsular of south Wales, the Bryn Celli Wen causewayed enclosure on Anglesey (opposite the Llandegai longhouse site), the Skelmore Heads stone walled enclosure on a headland of the Cumbrian coast opposite the Isle of Man, the possible causewayed enclosure at Billdown on the Isle of Man, and the Lyle's Hill and Donegore causewayed enclosures in north Ireland. Given the rarity of Early Neolithic enclosures in Wales and northern England, such a model of communication would explain their presence in north Ireland, the Isle of Man and parts of Cumbria. It is also notable that there are a number of enclosures within a few kilometres of the south coast of England (High Peak, Maiden Castle, The Trundle, Whitehawk Camp and Combe Hill) which may indicate similar coast-hugging journeys.

Recent works on the Irish Sea Neolithic have tended to mirror the Wessex-based debates concerning the degree to which the Early Neolithic was a rapid economic transition. Writers such as Sheridan (2003; 2004; 2007), supported by Schulting's (2004) work on stable isotope analysis of human bone, have suggested that the Irish Sea area saw waves of incoming continental farmers who introduced

settled farming subsistence once they had occupied new territories, and maintained communications with other such communities around the Irish Sea. This is a model that is very much supported by Mercer's economic and political interpretations of the southwest. Yet those interpretations have been questioned (Chapter 7) and the tor enclosures appear to fit better the model, put forward by Cummings (2004) and Watson (2004), that views elevated places in social terms as references or links to faraway lands, and thus, as with the tor enclosures (Section 5.1.3), to past events.

Ray (2004) interprets the interactions between the Irish Sea communities as part of a social round which included gift exchange with axe heads being prominent among the exchanged items, hence explaining the correlation between quarry sites and enclosures (Fig 8.8). Van der Noort (2006) follows a similar line when considering the Bronze Age use of the sea; such travel was underpinned by a need for exotic goods, and the points of departure on such journeys were often marked and linked to ideological understandings of travel. Thus, applying Van der Noort (2006) to the Early Neolithic, again supports the links between tor enclosures and routeways or travel. This is not to say that all Irish Sea-facing communities underwent an identical Early Neolithic, rather that there were similarities at the places of departure and arrival, and in the ceremonies and acts conducted at these places. Even if the communities of the Irish Sea underwent local Neolithics that saw different degrees of settlement and use of domesticates, it would be probable that the interface points between them would have had common characteristics in order to allow for easier communication between disparate groups.

Returning to the southwest and the implications that such a model of Irish Sea-based communication has: if Carn Galver, Clegyr Boia and Skelmore Heads did reflect relations with distant lands via the sea, then Sharpe's (1992) speculations regarding the original dates of some Cornish 'cliff castles', coupled with the possibility of similar structures in southwestern Wales, such as Clawdd y Milwyr and Castell Coch (Vyner 2001), might prove an interesting line of enquiry. Taking Treryn Dinas as an example, Sharpe suggests that structurally some walls had more in common with tor enclosures than the Iron Age defensive sites that Cornish cliff castles are generally interpreted as. There are certainly tor-cairns at some suggesting pre-Iron Age use, and the 'cliff castle' at Penhale Point contained both Mesolithic and Late Neolithic artefacts demonstrating a long interest in the site (Smith 1988). These might represent a class of Neolithic enclosure in the southwest and southwest Wales that has, as yet, barely been commented upon.

The Clegyr Boia huts also have implications for some southwestern tor enclosures. The huts are fairly well-dated to the Early Neolithic (Williams 1953, 43), thus they lend support to the theory that some of the hut circles found at Stowe's Pound and Roughtor, especially those that hint at nearby tree lines, could also be Early Neolithic (see Fletcher 1989, 76).

Of course, it must be remembered that the majority of these enclosures have not yet been firmly dated and even those where excavation has taken place, Gardom's Edge and Clegyr Boia, still have many outstanding questions associated with them.

8.3.3 Defended enclosures in France

In the light of this discussion of sea travel and the spread of ideas around the English Channel and Irish Sea via the southwest, it is worth examining similar enclosures in France. Sheridan's (2004, 9) "Atlantic" sea route suggests that people were travelling from southern Brittany, around Land's End and into the Irish Sea, although Mercer (2003, 57) questions the practicality of the return journey. There are enclosures with stone-built walls and suggested defensive capabilities in western France, such as Le Lizo in Brittany, and Les Matignons, Champ Durand, La Coterelle and Chez-Reine south of the Loire. If people from this area were sailing north along the coast it may have been easier to continue north to southwest England than east along the English Channel coast of France due to the strong currents and difficult coastal terrain outlined by Winslade (2000-1), thus a link between these areas and the tor enclosures is possible.

There are few well-investigated enclosure sites in Brittany. Sandun was originally enclosed between 3950 and 3350 BC (Scarre 2001, 27) and so may well have been contemporary with the tor enclosures, although it lacked stone walls. Le Lizo was built on a low granite promontory above the River Crac'h and did have stone built walls that still stand up to three metres tall in places (Scarre 2001, 27; Sherratt 1998, 129). It dates from 3500 to 2900 BC and so could also have been contemporary with the tor enclosures. The finds assemblage from the site was broadly similar to that of Carn Brea in content, including ceramics, flint tools, axes, querns and rubbers (Sherratt 1998, 129), but different in style and ratio. Downstream is the unexcavated Mane Roullarde enclosure, which not only has a similar relationship to the river, but also stands above a possible major overland routeway (Sherratt 1998, 130). There are also undated promontory forts on the islands and coast of this area, such as Kervihan which has an orthostatic wall and has yielded Neolithic pottery and flints (Sherratt 1998, 129). Several of the enclosures have megalithic tombs within them (*ibid*, 130), suggesting parallels with sites in southwestern England such as Hambledon Hill and Crickley Hill, which contained long barrows, or the tor enclosures where the tors might have been viewed as natural monuments (Sections 5.1.5 & 8.3.1). If the tombs predate the walls then the enclosures might be located, at least in part, as an act of remembrance of the past, just as is postulated for some of the English examples (Sections 5.1.5, 6.1, 8.3.1 & 8.4).

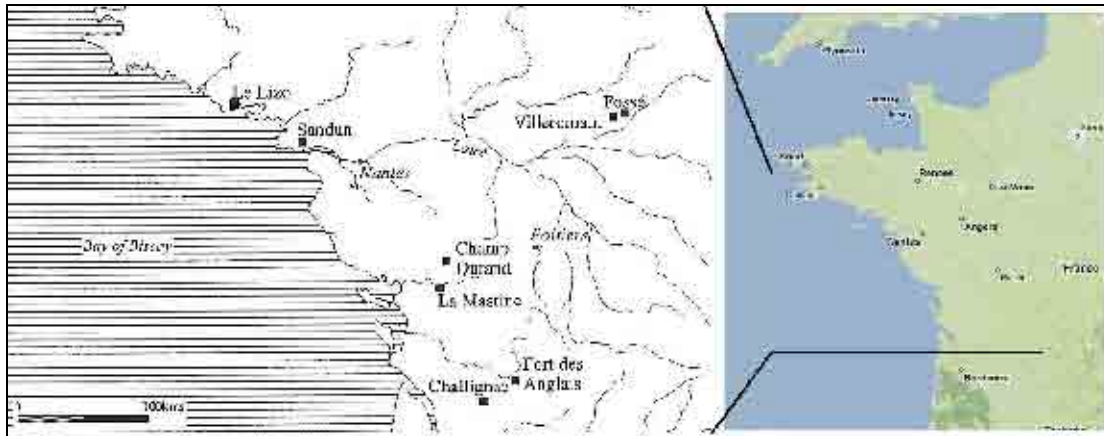


Fig 8.9: The fortified enclosures of western France (adapted from Scarre 2001, Fig. 2.1 and Google Maps).

A larger group of stone walled enclosures are found in western France (Fig 8.9), south of the Loire, ranging in size from one to nine hectares (Scarre 1984, 19). Many had continuous dry-stone walls set on the inner edges of segmented enclosure ditches, although these enclosures tended to be more complex than the tor enclosures, having up to six rows of parallel walling (Andersen 1997, 234; Oswald *et al.* 2001, 83; but see Burnez & Louboutin 2002, 15). Many also had overlapping “crab-pincer” entranceways, although in some cases these may have been later additions (Scarre 1998; 2001, 30). Thus, in form they appear very different to the tor enclosures. The local “Peu-Richardien” decorated pottery style, found only at these enclosures and a few local open sites, also differs from the English Southwestern Style. Like the Brittany enclosures, these tend to be on slightly elevated hills or slopes above marshland in generally low areas (Scarre 1984, 23; Andersen 1997, 234). For instance, Champ Durand was built on a rise above the wetland, at 35m OD. Again, this obviously differs from the tor enclosures, yet the French enclosures do tend to be on a major interface, in this case between the dry land and the marsh or wetlands below. Also, like a number of the tor enclosures and the Breton examples, the western French enclosures have a major watercourse nearby.

Scarre (1984; 2001, 31) dates the western sites to 3500-2900 BC although Andersen (1997, 240) suggests an early fourth millennium BC date consistent with a time when water levels in the marshland were still high. In either case there is potential overlap with the dates of the tor enclosures. Scarre (1984, 22) suggests that the views out across the lower land were a deciding factor in situating these enclosures, just as has been suggested that the tors enclosures in Section 5.1.3. But in the case of the French enclosures, Scarre (1984, 19-22; 2001, 38) suggests an economic interpretation, that the enclosures were central places from which people could oversee the grazing herds on the recently drained marsh areas, as well as places for displays of identity and funerary rites.

Sherratt (1998, 137) interprets the fortified enclosures of Brittany as an interface zone between the more populated inland areas of Carnac, connected by the river network, and a coastal communication

network that linked this area with the fortified enclosures to the south of the Loire. He suggests that this period saw the production of new types of material culture which led to an intensified trade or communication network. For instance, stone axe heads from this area have been found as far away as southern England and the Rhone valley.

Expanding this suggestion and bringing in the Irish Sea discussion (above), it could well be that the people from this area travelled to southern England and beyond, or that people from England travelled to France. Indeed, Sheridan (2003) suggests that the similar passage tombs of northwest France, Ireland and the British Atlantic coast demonstrate contacts well into the Irish Sea; yet there are many differences in enclosure structure and location, and in material culture between these places, and Sheridan (2007, 468) has failed to identify a definite point of continental origin where material culture is identical to that of any specific British location. Thus, it may be that the people of Western France also wanted to mark interfaces between different ecological zones, and just as the enclosure sites in the Irish Sea-facing areas seem to reflect associations with travel, so do those of the French Atlantic coast. Sheridan (2003, 14) speculates that changes in funerary practices in Brittany around 4000 BC indicate transformations in social dynamics which could have triggered increased travel or migration to distant areas.

So, again, it might be that communities with disparate ways of life used similar media to mark points of departure and arrival in order to better facilitate social interaction with outsiders. These enclosures, like those in southwestern England, would seem to suggest a time when social interaction with other groups was increasing due to new forms of material culture and new ideas about identity, a time that saw the marking of important marginal meeting places where negotiation of identity and social relations could be acted out, but where the structures of meeting places were influenced by local trends based upon far reaching broad understandings of ways of living within the landscape. Indeed, the tombs at the Brittany enclosures might hint towards the use of these new media to reconstitute places of historical importance.

8.4 Conclusion: implications for an understanding of the Early Neolithic in southern England

When Thomas (1991, 181) outlined a mobile Early Neolithic that relied on wild resources for staples (herewith referred to as the “Wessex-model”), Mercer (1997, 56) suggested that Thomas “unfortunately, and perhaps significantly,...does not venture to draw the evidence from Carn Brea into his frame.”. The inference being that the evidence from the southwest does not sit well with certain current interpretations of its close neighbour Wessex. If the people of Cornwall and Devon were

really adopting a sedentary farming lifestyle, and even waging war on each other over artefacts, resources or territory, then can Thomas's Wessex-model really be relied on? Along with the increasing number of timber longhouses (Darvill 1996; Rowley-Conwy 2004, 93), the tor enclosure evidence seemed to be an unwelcome thorn in the side of the Wessex-model (Mercer 1991, 56). The re-evaluation of the origins of the tor enclosures in this thesis would seem to remove this thorn to an extent. As discussed, the tor enclosure evidence fits well into the lives of a society that continued a fairly mobile existence; indeed, the enclosure of specific tors at certain places in the landscape would seem to argue more strongly for a reference to mobility than the evidence within them does for settlement, and an agriculturally based life style is even less well supported in Cornwall than Wessex.

Chapter 4 demonstrates that it is more likely that people were moving around the landscape, as part of a continuing life-way, than moving between the supposed trade and distribution centres of Wessex and the southwest on formal economic trading missions. That is not to say that people did not move great distances between regions, but rather that their motives did not have to be economic. Again, the Wessex-model seems unchallenged by this re-examination of the southwestern evidence. Similarly, given the number of greenstone axe heads found and the period over which they were produced, the southwestern axe factories seem less like 'factories' and more like special places where axe heads were acquired in low numbers, much as the Langdale 'axe factories' have been reinterpreted (Bradley & Edmonds 1993, 51).

Perhaps one part of Mercer's interpretation of tor enclosures that might change views of Wessex is that which concerns conflict. *Contra* to Mercer's views, the tor enclosures were not built as defended, settled, strongholds, as the vast majority of tor enclosure walls and designs just do not seem suited to defence (Section 7.3). However, just as at Crickley Hill (Dixon 1988) and Hambledon Hill (Healy 2004; Mercer 1988; 2009) it appears that Carn Brea, where defence was at best a secondary purpose of the original walls, was subject to violent attack sometime later in its life, and it may even be that the larger, outer walls were built for defence or to give the appearance of defence. The evidence for conflict at these places would seem to tie in well with the growing evidence from Early Neolithic funerary contexts, across southern England, where skeletal remains with damage resulting from violence are increasingly being identified (Schulting & Wysocki 2005). Of course, this is only evidence for violent action, not for formal inter-polity warfare, nonetheless it shows that social tensions existed in the Early Neolithic, and could escalate into violence. It is interesting, though, that although defended, even Mercer (2009, 38) admits that Hambledon Hill was not a permanent settlement. Given that the reappraisal of the southwestern evidence also suggests that Carn Brea and other tor enclosures saw only limited occupation, it would imply that conflict was not an exercise entered into to defend or obtain settlements or territories, but that it too, at least initially, was part of

the social negotiation that was enacted at formal aggregation events; an act that occurred at special, perhaps liminal, places possibly well away from the areas that most people spent most of their time.

As to the southwest's contribution to the debate on the extent to which domesticates made up the staple diet, the poor preservation of organic matter at the enclosure sites severely limits what can be determined. Carn Brea may have had a cultivated area between walls W2n and W2s, and the walls and gateways may have been advantageous in controlling livestock (Section 7.1.2), but it is difficult to make firm comment either way. What can be said is that any argument stating that domesticates were relied on as staples, as they had to support a settled farming community, no longer stands up because the evidence for interpreting Carn Brea as a village is less than convincing. The tor enclosures, then, do not require a reassessment of Thomas's (1999) Wessex-model where people relied on wild resources for a large part of their daily diet.

The southwestern evidence can, however, be used to shed further light on the Early Neolithic in Wessex in two related areas: mobility patterns and choice of site to build monuments. The fairly strong uniformity of tor enclosure locations, on the edge of the high ground near to a potential routeway, coupled with the placement of tombs in relation to them, suggests that selection of site was heavily influenced by the way that people moved in the landscape. In Wessex, and beyond, there are similar examples of site selection among Oswald *et al.*'s (2001, 99) upland causewayed enclosure group, such as Knap Hill (Fig 8.10), Hambledon Hill (Section 8.3.1) or Maiden Castle. Knap Hill, for instance, sits right on the edge of a dramatic scarp slope that rises above the Vale of Pewsey, next to an obvious pass through the scarp (that the modern road follows).

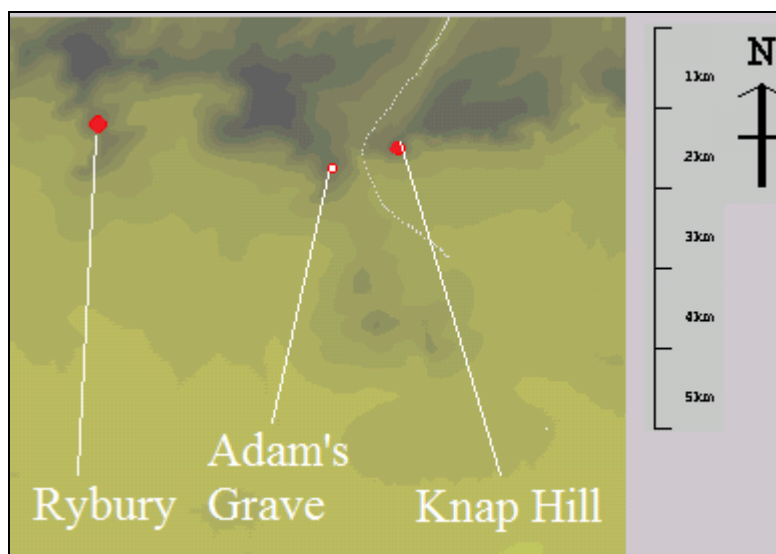


Fig 8.10: Knap Hill and Rybury causewayed enclosures, Wiltshire. Dotted grey line shows obvious route up the scarp and to the higher ground.

It appears that later Mesolithic presence in the moderately arid higher area to the north of Knap Hill was sparse, suggesting a tradition of occasional hunting forays rather than permanent occupation (Pollard & Reynolds 2002, 23). The pass next to Knap Hill would have made an ideal routeway to gain easy entry to this area from the lower Vale of Pewsey to the south. The positions of the two causewayed enclosure sites have been interpreted as marginal to the main Early Neolithic focus of activity in the area, perhaps acting as neutral meeting places (Thomas 1999, 43), and comparison with the tor enclosure model does nothing to counter this view. However, the area has plenty of other land also marginal to the focal areas of Early Neolithic activity, so why select these particular sites? Reference to the tor enclosure model suggests that the location was very much influenced by the views offered and the associated routeway. The existence of good views from Knap Hill has been noted by Pollard & Reynolds (2002, 48), and the southwestern evidence goes on to offer an explanation for the importance of these views: that they provided a location that took in both landscape and pastscape, with a panorama of historically prominent places visible around the viewer (Section 5.1.3). Reference to the tor enclosure model would further prompt consideration that the transition between low and high ground was important and worth marking (Section 5.1.4). It suggests that the pass through the scarp was already long-used before the causewayed enclosures were built, and had spiritual and social importance tied up in how people experienced the world around them, and that places of the past, such as the Mesolithic occupation site very near the Knap Hill enclosure, might even have been remembered.

Like Knap Hill, Hambledon Hill was also positioned on a possible major routeway (Section 8.3.2), and may have been constructed with reference to the past. Just as the natural tors at the tor enclosures might have been viewed as ancestral monuments (Section 5.1), causewayed enclosures such as Hambledon Hill or Crickley Hill might have been inspired by already extant funerary monuments at their sites. The importance of respecting the past is demonstrated at both of these causewayed enclosures by the way some that later ditches respect earlier ones (Dixon 1988, 81). It could be that many causewayed enclosures and other monument forms were positioned due to the past meanings of their chosen sites. The difference between these and the tor enclosures is that the massive granite tors were permanent edifices, whereas monuments such as tombs could be remodelled or removed, as happened to the suspected barrow and pre-enclosure huts at Crickley Hill (Dixon 1988, 78), thus allowing greater remodelling of relationships with the past. Even when additional walls were built at some tor enclosures, the tor retained visual precedence. At Hambledon Hill and Crickley Hill, in contrast, the later enclosure barriers may well have wrestled focus away from the pre-existing meanings attached to the area of enclosure.

Thus, application of the tor enclosure model to Knap Hill, Hambledon Hill and similar sites would seem to suggest that they represent not so much a sudden change in how people saw their worlds, but

rather a new way of expressing a world-view that was firmly rooted in the past. Without such striking natural features as the rock outcrops of the tor enclosures it is often difficult to see how monument position might have been based upon longstanding relationships with the natural landscape, or if such a relationship is suggested it can be even harder to interpret what meaning that relationship had. By juxtaposing the tor enclosure model onto similar monuments, that had less striking natural features, new avenues of interpretation might be offered.

It is not just the causewayed enclosures of Wessex that might be better understood from application of the southwestern model. Although in a number of locations, such as the Rivers Kennet and Avon in Wiltshire, and Stour, Ouse and Nene in the Midlands, Early Neolithic monuments have been interpreted as marking the centres of 'family' territories (Field 2006, 99-123), Noble (2007) has suggested that in other cases monuments were used to reference important routeways, often based on rivers. Indeed, this would seem the case for Early Neolithic timber halls right across the country, such as Claish Farm, Balbridie, Warren Field, Lismore Fields, White House Stone and Pilgrim's Way. These were often located near to their area's major watercourse, and on low ground very near to an area of high ground, through which the watercourse described an obvious routeway (Davies 2009a, 2009b). Although the relative elevation of the site differs to the tor enclosures, the reference to routeways through, or into, high ground from low is quite clearly shared between these two monument forms. It seems then, that two monument types that have previously been used in the argument for a settled agricultural Early Neolithic might actually provide strong evidence for the continuing importance of mobility during this time.

Far from countering Thomas's (1999) Early Neolithic of cultural rather than economic change, as suggested by some (e.g. Mercer 1991, 56), the tor enclosure evidence actually supports Thomas more than it argues against him. If anything, it might be suggested that the people of the tor enclosures had even stronger links with the past than those of Wessex; in Wessex the meaning of the areas that enclosures were built on was, perhaps, marked only by the enclosure, and enclosures were prone to destruction and change with infilling and re-cutting of ditches and burning of structures. In the southwest the tors (the mnemonics associated with their original meanings) were largely unaffected by the addition of new walls, and the walls themselves withstood the test of time better than earthen banks and ditches of causewayed enclosures.

Chapter 9: Conclusions

Tor enclosures, as both a monument type and as individual sites, are far from easy to interpret. In comparison with other more 'popular' monument types of the period, mainstream Early Neolithic archaeology in Britain has largely ignored them, and there is still much work that could be done given opportunity and resources. Andy M. Jones's recent excavation at Carn Galver exemplifies many of the difficulties, political and physical, associated with investigating tor enclosures. Even when tor enclosures have been successfully excavated, the underlying theoretical framework used to inform interpretation can produce radically different narratives, as comparison between this thesis and Mercer's work (1981; 1997) demonstrates. In this concluding chapter these issues will be considered before suggesting potential avenues for progressing both research and awareness of tor enclosures.

9.1 Investigating tor enclosures: excavation and analysis

Before 2009 only two southwestern tor enclosures had been excavated to modern standards: Carn Brea (Mercer 1981) and Helman Tor (Mercer 1997). In September 2009 the first season of excavation at Carn Galver tor enclosure and Bosporthenis chambered tomb took place, directed by Andy M. Jones of the Cornwall Archaeological Unit (part of Cornwall County Council), and predominantly staffed by volunteers from the Cornish Archaeological Society. This five-year project aims to date and classify both monuments, and to assess possible links between them and the nearby potential Group I greenstone sources at Zennor Head and Gurnard's Head. Given the previous low levels of excavation at tor enclosures, excavation at Carn Galver has the potential to add much to the study of the Early Neolithic of the southwest.

The initial season highlighted well why field work at these sites is so problematic. Tor enclosures, being situated on high moorland, are often in Sites of Special Scientific Interest, adjacent to World Heritage Sites or within National Parks, and are subject to all the conservation issues relating to such locations. The Carn Galver project director was supported by Tony Blackman, a well known and well respected figure in the sphere of Cornish heritage and chair of the Cornish Archaeological Society; it required an amount of negotiation with various concerned parties before permissions could be granted. Commercial development of the tors is strictly controlled. Even if this were not the case it is extremely unlikely that such remote and rocky locations would be built upon, thus there is little prospect of tor enclosures being investigated through commercial, pre-development, archaeology projects. Any future excavations, then, will not benefit from commercial funding.



Fig 9.1: The enclosure wall excavation at Carn Galva. (Jones 2009)

The remoteness and inaccessibility of most tor enclosures amplify the problems of excavation. At Carn Galver a long walk over rough terrain was required to reach the excavation site. This resulted in one broken leg and the use of an air-sea rescue helicopter to extract the injured party. Difficult terrain prevents the use of heavy machinery at most tor enclosures, requiring many large boulders to be moved by hand (Fig 9.1), increasing the possibility of injury, and impacting upon excavation schedules. The exposed nature of these elevated sites also makes progress vulnerable to sudden and severe changes in weather conditions.

The conservation controls placed upon the tors have limited the sizes of trenches that could be excavated at Helman Tor and Carn Galver. Clitter free 'terraces' were targeted as the most likely to produce diagnostic cultural material. At Helman Tor the excavation did uncover a rich assemblage of Early Neolithic material, but as it was from a single, small area of the enclosure, it was not possible to judge whether it was typical of the whole. At Carn Galver neither the trench in the centre of the enclosure, nor the one through the wall produced any diagnostic material, although a few flints were found in an unsecure context nearby. Again, it is difficult to judge whether these limited trenches are representative of the whole site. Even at Carn Brea, where a much larger campaign of excavation was conducted, only a fraction of the site was investigated, and none of the 'terraces' in the centre of the enclosure were excavated, only those abutting the walls.

The tors are becoming increasingly overrun by vegetation. As grazing is no longer practised at several of these sites, furze (the Cornish term for bracken and gorse) is growing unchecked, making inspection and movement at the tors extremely difficult. For instance, Mercer's (1981, Fig 2) sites A1, A2, J and D at Carn Brea are now all covered in dense, prickly, head-high furze and most of the walls are completely hidden from view despite their heights. At Carn Galver, the National Trust, the landowners, had to clear the furze before excavation could begin. Because of the furze, even non-intrusive surveying is now extremely difficult at a number of tor enclosures.

Issues with organic remains have been referred to throughout this thesis. The acidity of the high granite moorland soil means that preservation of organic residue is improbable, thus a major diagnostic resource has been removed from the interpretation process at Carn Brea and Helman Tor. However, it should be noted that organic remains were recovered from Roche Rock (Cole & Jones 2002-3, 131), and that Mercer's sampling techniques were criticised at Carn Brea (Whittle 1983, 113). As no prehistoric cultural contexts have yet been discovered at Carn Galver it remains to be seen if this site will yield meaningful organic material.

The classification, and therefore date, of several funerary monuments in the southwest has been called into question. For instance, Andy M. Jones's excavation of Bosporthenis (Fig 9.2), below Carn Galver, suggests that there may have been an entrance to the north, the side facing the sea. Should this stone structure represent the front of an entrance grave, rather than a dolmen as previously assumed, then it would mark the tomb as later or post-Neolithic. On Dartmoor a stone row has recently been dated to the Early Neolithic, prompting questions regarding the dates of similar rows on Bodmin Moor, previously assumed to be Bronze Age (Pitts 2010, 10). If further existing assumptions concerning dates of other southwestern monuments are also brought into question, the cultural landscape that the tor enclosures have been thought to occupy would be very different. Dating of soil samples from Bosporthenis is awaited.

The problems highlighted by the Carn Galver and other tor excavations, and the general lack of pre-construction investigation at the tors, demonstrate why tor enclosures are a difficult subject to approach. This thesis has been forced to rely, for a large part, upon a landscape archaeology approach, supported by comparative analysis of the archaeological record from other parts of Early Neolithic Britain and ethnographic analogy.



Fig 9.2: Excavation at Bosporthennis with Carn Galver running along the horizon.

The landscape approach used here has been reasonably successful in that it has produced an outline explanation for the geographical and locational positions of the tor enclosures. This spatial pattern is sufficiently different to those found for Bronze Age and Iron Age enclosures to suggest that the tor enclosures are unrelated to these, even if some of the tor enclosures may have been reused in these periods. Of course, the drawback of such an approach is that while it can suggest that each tor enclosure fits a general model, it cannot prove that each was, in fact, Early Neolithic in origin, or that the more ruinous sites such as Notter Tor or Hound Tor were actually fully enclosed. It is only by excavation that such questions can be fully settled.

The landscape analysis approach used changed slightly during the project. Initially, it was intended to use digital modelling techniques biased towards statistical analysis to produce the data upon which interpretation could be based. To an extent this empirical methodology has been followed (Section 2.5), however, it became clear that such an approach alone was not ideal. Given the small number of tor enclosures, their distribution over a wide region and the possibility of local variation (both in terms of differences in terrain and in social actions), it was difficult to draw statistically relevant conclusions based on such a small subject population. Even the use of standard deviation to assess trend outliers

is problematic in such a small population group, as just one outlier at each end of the distribution curve would have represented around 15% of the population.

Perhaps the biggest problem is the possibility that a broad media of expression (common types of architecture or material culture) were given local meanings, thus preventing a single explanation. Interpretive generalisations are similarly problematic when applied to other kinds of Early Neolithic sites: for instance, causewayed enclosures are found over much of England, but their form and landscape setting can vary tremendously, even when very close to each other. The same could be said of chambered tombs. The introduction of fuzzy-logic modelling techniques (Wheatley & Gillings 2002, 100) might have been used to mitigate against these problems, but this has potential to present a dichotomy between accuracy and precision, and would entail the use of arbitrary variables if any particular final answer was attempted. Thus, although statistical analysis was used, it was not relied on as the deciding factor when drawing conclusions. It was assumed, instead, that each case would fit the statistical model to a different extent, and that there would be some cases that, despite being Early Neolithic tor enclosures, appeared not to fit the trends in a purely statistical sense.

However, the statistical analysis did have value in that it allowed the recognition of initial patterns in the data. Gaffney points out, however, that pattern recognition is pointless unless one can understand why the patterns were created, and thus why members of a particular sample group might not conform to the pattern (Gaffney & van Leusen 1995, 373). In this case, once the statistical analysis allowed particular trends concerning some tor enclosures to be identified, the interpretation of these trends then allowed other enclosures to be considered in similar ways even if they did not conform to that empirical trend. For instance, once it was shown that certain tor enclosures were positioned near major rivers or the main highland streams that fed them, it was possible to argue that the river valleys acted as routeways and that the tor enclosures were positioned to be on these routeways at the edge of highland areas. Then, it could be posited that enclosures not located near such watercourses, and thus not following the statistical trend, were also built with respect to routeways of other kinds. For instance, Carn Galver is not next to a major watercourse but could be said to be on a seaborne routeway (Section 8.3.2).

9.2 Interpretive approaches

Throughout this project the ethnographic record has been cited to interpret the data produced by landscape and site analysis. Of course, ethnographic analogy can only be used to provide possibilities; it cannot be used to prove models. Thus, the approach taken in several chapters has been one of outlining a number of different possible interpretations. Although different, they appear to fit

within the limits of the landscape analysis and are supported by examples from the ethnographic record, or from interpretations placed upon other aspects of the Early Neolithic of Britain. The differences in interpretation are not necessarily a problem. If it is not possible to provide a single, definitive answer, then presenting a set of possibilities will allow the reader to decide which they prefer, and will also act as a basis or further avenues of research. Indeed, many of the possibilities presented are not mutually exclusive, and there is no reason why the tor enclosures would not have had different meanings to different people at different times or in different social contexts. The limited and coarse nature of the data currently available means that, at this stage in the study of tor enclosures, any narrative produced must be fairly broad. Nonetheless, in Chapter 8, those explanations that seemed most appropriate were used to produce a ‘best-fit’ narrative for the Early Neolithic in the southwest and its links with other areas. Again, this is not intended as any kind of final answer, but rather as a springboard to further discussion.

The project has also followed two other linked avenues of enquiry, the use of experiential analysis, and the consideration of natural monuments. Tilley (1994; 1995) used phenomenology to comment on the prehistory of a number of locations including the southwest. Kytmanow (2008) has criticised this approach based upon her own empirical work and on Flemming’s (1999) critique of Tilley’s shortcomings, suggesting that some of his results were based upon flawed data and that his method of interpretation was inadequate. She does not believe that “leaning against a tomb and staring against the horizon is the most accurate form of field work” (Kytmanow pers. comm.), implying that phenomenology is problematic because it relies on the experience of the individual, and no two people can be expected to experience the same phenomena in exactly the same way. While this is indeed true, her own approach is also laden with problems. The descriptive aspects of her work, especially her survey, typology and cataloguing of the portal dolmens of the British Isles, are extremely valuable, yet her empirical approach hamstrings her interpretation. She finds it extremely difficult to talk about what these monuments were used for or what meaning they might have had to their builders. When she does try to link them to occupation sites she falls into the same trap that she accuses Tilley of: she can present little evidence to support her claims. Even so, both of these approaches add value to the understanding of the past and neither should be dismissed. This thesis tends toward a middle ground, using a ‘quantitative’ approach to create a foundation for investigation, supplemented by a phenomenological or experiential examination of what it meant to be at a tor and a tor enclosure.

The consideration of the tors as ‘natural monuments’ is very much inspired by Bradley’s *Archaeology of Natural Places* (2000). Although the subject of natural tors as meaningful places was already touched on by Tilley (1995; 1996b), he tended to view them only as important cultural places rather than explaining why they might have gained this importance or how people related to them.

Only by understanding what the tors may have meant before enclosure can one hope to fully understand why they were enclosed and what changes enclosure brought. Unfortunately, As Bradley (2000, 43) has pointed out, doing archaeology on ‘natural’ places is difficult as their very naturalness means that human modification of them is usually minimal, and so the evidence available is limited. Again, ethnographic analogy can be drawn upon to present possibilities rather than hard and fast answers.

This discussion of meaningful natural tors before enclosure invites a potential problem: if the act of enclosure is used to demonstrate that these places were important before enclosure, and the importance before enclosure is used to understand enclosure itself, there is a risk of circular argument. However, the evidence from Roche Rock (Cole and Jones 2002-3) and, potentially, Clicker Tor demonstrates that unenclosed tors, positioned similarly to those that were enclosed, also had importance in people’s movements during this period. There is also Early Neolithic evidence at Carn Brea that implies that the tor was visited before enclosure. Across the Severn Sea there is strong evidence for extensive use of the Clegyr Boia tor before the enclosure walls were built (Vyner 2001, 87). These examples strongly suggest that unenclosed or pre-enclosure tors had significant meanings attached to them, and that the importance of enclosed tors originated from a time before the walls were built.

This project was initially focussed on the tors’ enclosures to examine the disagreement between Mercer’s (1986; 1997; 2003) model of Early Neolithic defended farming settlements of the southwest, and Thomas’s (1999) model of mobile, hunting and gathering communities of nearby Wessex. A surprising development, however, was how focus changed from the tor enclosures to the tors themselves. This very much reflects the nature of the tor enclosures: although some have walls that are still quite substantial, it is the natural tor that takes precedence when one views them from any distance. The walls, thus, seem to be an amendment to an existing structure, be that an existing physical structure of rock, or an existing ideological structure of how tors were used to *think* (to borrow Whittle’s description of animals in the Neolithic; 2003, 94). Just as Barrett (2000, 63) suggests that the archaeological record privileges the making of things, and that later changes to a built site are often ignored, so too it might be suggested that the meaning of sites before the first visible episode of physical making is also often ignored. If such a line of enquiry were followed more often, although fraught with difficulty, it might lead to a fuller understanding of many Early Neolithic monuments (as shown in the Wessex examples of Chapter 8). At the very least it would allow them to be looked at in new ways.

Although the initial model generated for the tor enclosures (Section 8.1) very much favours Thomas’s (1999) explanation of Early Neolithic society in Wessex, mobile, reliant on wild resources, with rapid

cultural changes compared to slower economic ones, it must be recognised that it is very much a child of its times (and academic location). Just as Mercer's interpretations of the tor enclosures reflected the general themes of the New Archaeology, this thesis reflects the themes of the Post-Processualist interpretative approach, with change treated as being possible on purely cultural grounds, its emphasis on social drivers, its use of phenomenology, and its interest in the interpretation of natural places. Recently, however, the results of interpretative approaches such as those proposed by Thomas (1999) have been challenged. Interpretations of the Early Neolithic in Ireland, where the Processual approach remains stronger (e.g. Kytmanow 2008) and where the evidence better lends itself to more 'economic' interpretations (e.g. Cooney 2000), have become more widely accepted for parts of the Irish Sea zone (e.g. Schulting 2004). In England, new scientific techniques, such as stable isotope analysis of bone (e.g. Schulting 2008), have suggested the switch to domesticates as a staple may have been more rapid than previously thought. Thus, although not entirely accepting Mercer's view, the second part of Section 8.1 allows for a faster and wider take up of domesticates in the southwest. Again, this interpretation occupies a middle ground between, for example, Thomas (1999) and Rowley-Conwy (2004), in that it allows for the use of domesticates as staples, and a degree of sedentism, while recognising the tors as culturally-significant sacred places used by largely mobile populations. This stance is influenced by work on North American Indians, such as Spector's (1993) explanation of the Wahpeton Dakota, who spent part of the year in fixed houses, and part moving around using temporary shelters. During their yearly round they used both domesticates and wild resources depending upon season, context and location. It is hoped that this is seen as an attempt to accommodate disparate but profitable approaches to the issues, rather than an endeavour to avoid selecting one side over the other.

9.3 The study of tor enclosures - where next?

The fieldwork campaign at and around Carn Galver is set to continue for several years. If dating and occupation evidence can be found at the tor enclosure, the understanding of such sites will be greatly enhanced. That the project director, Andy M. Jones, is approaching the subject from an interpretive standpoint (e.g. Jones & Taylor 2000), in contrast to Mercer's Processual approach, may also prove beneficial in creating a balance between theoretical influences. This project might also shed light upon the elusive greenstone quarries: potential sources of greenstone are known but no actual quarry has yet been identified.

That none of the sites at the higher end of the elevation range for tor enclosures has been excavated to modern standards leaves a substantial gap in the archaeological record. If the opportunity arises to excavate at other tor enclosures, Stowe's Pound or Roughtor would be ideal candidates as they tie in

well to the mobility and landscape use models outlined in this thesis, and are at a much greater elevation than Carn Galver, Carn Brea and Helman Tor. Unfortunately, as outlined above, excavations at higher sites might prove especially difficult. Among the lower sites, De Lank has very good access via the modern quarry. This site has some sections of wall and an entranceway similar to one at Carn Brea, and is located on the edge of the Bodmin Moor granite highland close to Roughtor. Damage to a large part of the site by quarrying might give further impetus for excavation there.

Even if excavation is not possible, improved survey work would benefit the understanding of tor enclosures. Non-intrusive survey work is becoming more difficult at certain tors such as Carn Galver and Carn Brea due to the furze. Given the dramatic differences in the existing surveys of some of these sites, for instance Carn Brea (*cf.* Mercer 1981, Fig 2; Jones 1991, Fig 22), and the lack of modern detailed survey of others, for instance Hound Tor, it would certainly be beneficial if these could be surveyed in detail using modern equipment, before vegetation encroaches further, and damage is done to what evidence remains by shrinkage of moorland peats, or by visitors (e.g. Farnworth 2010). Where vegetation has already encroached the use of LIDAR and other remote scanning techniques (Chapman 2006, 58) may combat the problems caused by the furze.

The remains of the walls at some tor enclosures are extremely difficult to recognise even when they are known to be there, thus it is possible that undiscovered tor enclosures exist. The interpretations made in this thesis might be used to target specific tors in the search for new tor enclosures, thus reducing the effort associated with the process. There are certainly areas around Dartmoor with no known tor enclosures, but where there are tors that fulfil many of the characteristics outlined; for instance, around the Rivers Dart, Erme and Avon.

Like the southwestern tor enclosures, those of southwest Wales, the Peak District and Cumbria have also been relatively under-represented in the archaeological literature. These would benefit from examination based upon their own characteristics, rather than treating them as rock-built causewayed enclosures (*cf.* Oswald *et al.* 2001, 85-90). Although not necessarily of the same nature as the southwestern tor enclosures, they suffer from the same low levels of interest compared to, say, the enclosures found on the southern English chalklands. A landscape archaeology approach, as used in this thesis, might help to link them to the Neolithic landscapes around them, while not requiring the effort and expense of excavation. Indeed, it is becoming more and more apparent that there were many other Early Neolithic enclosure types (e.g. Darvill & Thomas 2001, 8) than causewayed enclosures, and as such the causewayed enclosures do seem to be over represented in the archaeological literature.

Regarding this thesis, it is hoped to publish it initially as shorter articles in the southwest's archaeological societies' journals. On giving a lecture to the Cornish Archaeological Society in 2008 the author found that despite the audience's keen interest in archaeology, and the number who had visited enclosed tors, there was a distinct lack of appreciation as to what tor enclosures were and the issues surrounding them. Publication in these journals would help to raise awareness within the local community, of the rich archaeological heritage to be found on the area's high moorland. Publication in academic journals will also be targeted as even among parts of the academic community there has been little exposure to the subject of tor enclosures and their potential importance. Returning to the opening comments of this project, the southwest, Cornwall especially, has tended to be viewed as isolated from the rest of southern England, and almost seen as another country. This is a major shortcoming in understanding the Early Neolithic of Britain.

9.4 Final thoughts

These approaches have allowed the four questions that were set out as the aims of the project to be answered as far as the evidence currently allows. The tor enclosures do not have to fit precisely into either Mercer's (2003) economic model of the southwest or into Thomas's (1999) social model of Wessex, rather they represent a unique regional expression of what it was to live in the Early Neolithic that might incorporate aspects of both. Thus, it would seem much too simplistic to merely write them off as rock-built causewayed enclosures. Similar tor enclosures in other parts of Britain also warrant further investigation and cannot be written off as rock-built causewayed enclosures either, but represent further unique regional expressions of Neolithic life-ways. Finally, the study of the southwestern tor enclosures can have an impact on 'Wessex-focused' models of the Early Neolithic, but it is not the one that has to be based on Mercer's interpretations. This new interpretation of tor enclosures does not deny that Wessex was home to mobile groups relying mainly on hunting and gathering for the bulk of their staples; but rather it helps to show why such populations might suddenly start to build monuments, and helps to explain why those monuments might have been located in certain places.

Based upon their size, the effort needed to construct them, the material culture assemblages found at some and their locations, the tor enclosures must stand as some of the most spectacular constructions of the Early Neolithic in Britain. Yet they have not been a focus of detailed attention for some time, and previous studies have been focused on a site-based rather than regional-scale analysis (e.g. Mercer 1981; 1997). There has been virtually no attempt to compare them to similar sites in other parts of the country. This thesis, it is hoped, has demonstrated the potential that the tor enclosures have for expanding our knowledge of the Early Neolithic in the southwest and beyond.

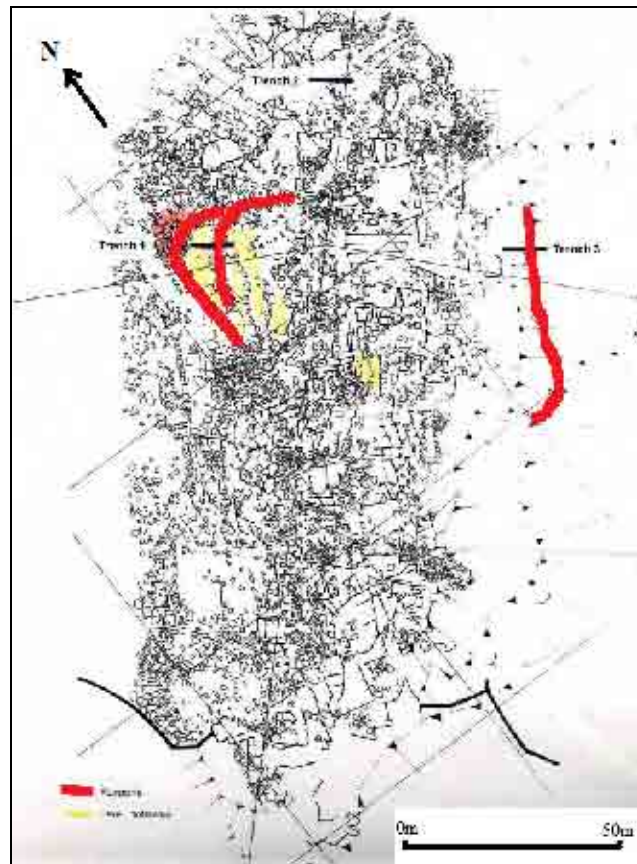
Appendix A: the tor enclosure sites

Listed below are the potential Early Neolithic southwest tor enclosure sites considered in this thesis.

Key to site details

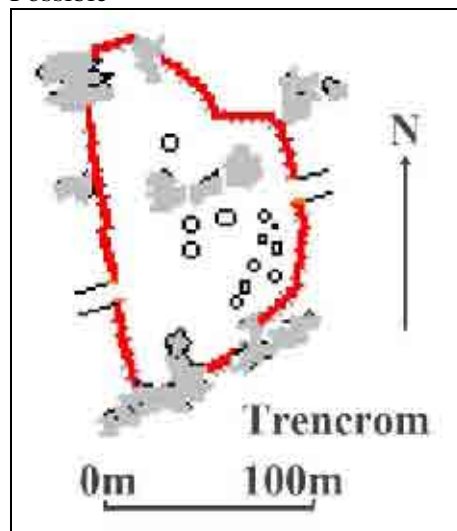
Name	Name of site as used in thesis
Location	Parish and county
SMR Number	As recorded in county SMR
NMR Number	As recorded in National MR
NGR	Location using OS national grid reference
Description	Brief description of site - see main thesis for more detail.
Landscape	Type of landscape setting
Elevation	Elevation in metres OD.
Watercourses	Details of surrounding watercourses.
Views	What can currently be seen from the high point of the site.
Excavation	Reference to excavation report or excavator.
Status	'Proven': by excavation 'Probable': a number of similarities with other sites 'Possible': some similarities with other sites
Plan	Site plan where available.

Name	Carn Galver
Location	Zennor, Cornwall
SMR Number	33203
NMR Number	SW 43 NW 121
NGR	SW4275036050
Description	<p>This is the nearest tor enclosure to the sea, being situated on the northern edge of the West Penwith massif overlooking the coast. There are a number of West Penwith Chambered Tombs (portal dolmens and quoits) and two proposed greenstone quarry sites nearby.</p> <p>Recent excavations by Andy Jones of the Cornwall Archaeological Unit revealed a substantial tumbled wall probably of orthostatic construction but lacking dating evidence. Excavation of a terrace in the centre of the enclosure also produced no dating evidence.</p> <p>The walls appear to form an enclosure around the southern, moor-side, end of the enclosure, and there are several terraces within.</p>
Landscape	Situated near the coast on the northwestern edge of the West Penwith granite peninsula. A narrow belt of flatter land separates the hill from the cliff tops above the shore line.
Elevation	245m
Watercourses	Around 1km to the north, beyond Hannibal's Carn, a stream flows down to the sea.
Views	The tor offers extensive views along the coast, and good views back into the moorland.
Excavation	Jones 2009
Status	Possible
Plan	



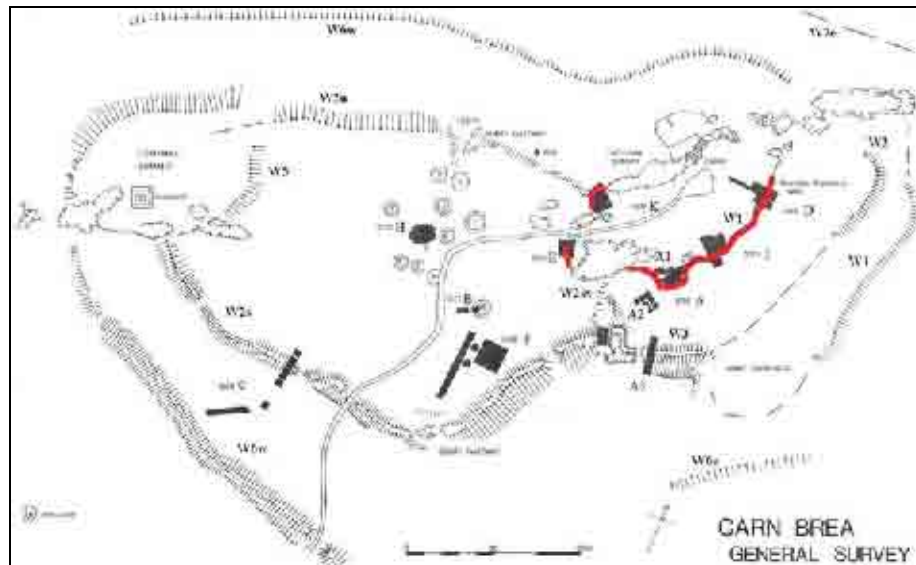
Adapted from Jones 2008

Name	Trencrom
Location	Ludgvan, Cornwall
SMR Number	31136
NMR Number	SW 53 NW 18
NGR	SW5179036210
Description	<p>A wall of large orthostats links natural outcrops of rock and encloses an area of around 1ha. The wall construction is similar to that of Carn Brea.</p> <p>Group II and V axe heads have been found nearby (Mercer 1997, 57).</p> <p>There are hut circles within the enclosure and the gateways are elaborated, both of these features are likely to be later prehistoric structures (Oswald <i>et al.</i> 2001, 159).</p> <p>The position is notable because it is one of the few places in Britain where the sun both rises from and sets into the sea.</p>
Landscape	Situated on the northeastern edge of the West Penwith granite massif.
Elevation	155m
Watercourses	Between two watercourses that flow into the River Hayle estuary on the north coast.
Views	Good views all around, but especially to the north and south where there are extensive views of the sea.
Excavation	-
Status	Possible
Plan	



Adapted from Kickback Archaeology

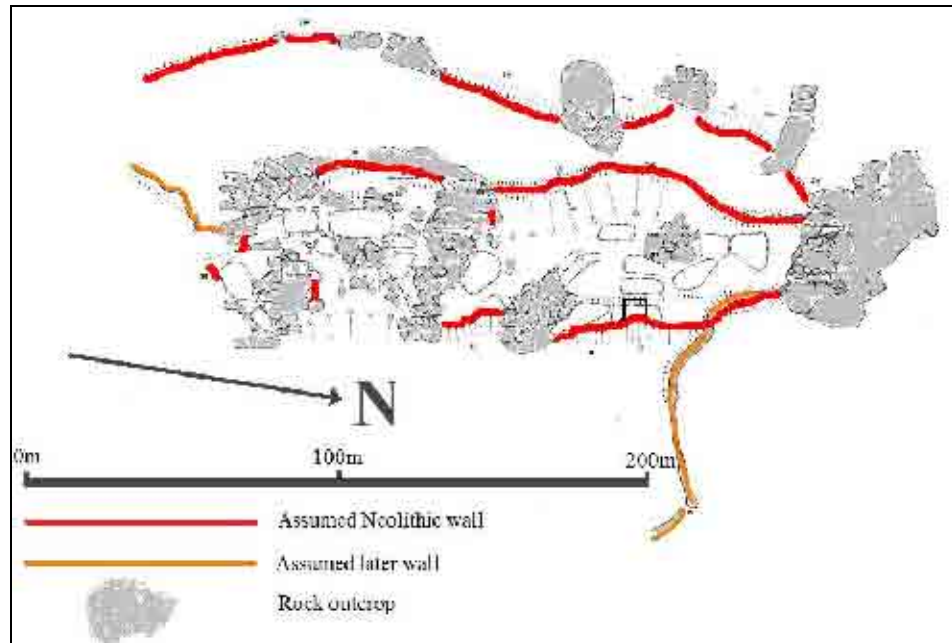
Name	Carn Brea
Location	Kerrier, Cornwall
SMR Number	18163
NMR Number	SW 064 SE 5
NGR	SW6860040800
Description	<p>Carn Brea is the best known of the tor enclosures and the one that has been subject to the largest campaign of investigation. The enclosure is built around the central and eastern summits of the 210m tall hill, and consists of up to seven circuits of orthostatic walling.</p> <p>Large amounts of Early Neolithic material culture, including ceramics, flint tools and axe heads, were retrieved. A small number of radiocarbon dates were taken from block wood in one area, yielding dates of 3900-3650 (BM 825), 3600-3350 (BM 824), and 3530-3310 (BM 823) cal BC (Mercer 1981, 63).</p> <p>The majority of the finds came from the upper, eastern summit enclosure which seems to have been the centre of occupation attention. At one excavation site the array of post and stake holes suggest the outline of a small timber building. In the centre of the hill's saddle are a number of later prehistoric round house bases. Much of the site has been damaged by mining, quarrying and the building of a monument and a castle. The site is also being overrun by dense vegetation.</p>
Landscape	On the northern edge of the Carnmenellis granite massif moorland.
Elevation	210m
Watercourses	The Red River flows around 1km to the southwest, and a smaller stream flows around the northeastern edge of the hill. Both of these flow north to the nearby coast. The sea is around 6km away.
Views	The ground falls away dramatically to the north, giving wide views to and along the coast. To the south the land initially drops before the higher hills of the granite moorland rise up to block the view.
Excavation	Mercer 1981
Status	Proven
Plan	



Adapted from Mercer 1986, Fig 2.

Name	St Stephens Beacon
Location	Brannel, Cornwall
SMR Number	20651
NMR Number	SW 95 SE15
NGR	SW9597064620
Description	This site is situated on a spur on the southeast edge of the Hensbarrow massif/St. Austell uplands. Oswald <i>et al.</i> (2001, 159) suggest that the site consists of a poorly preserved stone wall surrounding a tor outcrop, however the rocks atop the hill are now less convincing as a notable tor compared to the other sites listed here, and the structure of the walls is difficult to define. The area has been the subject of much destructive mineral extraction and quarrying.
Landscape	Situated on the western edge of the St. Austell granite uplands.
Elevation	215m
Watercourses	A stream, which feeds the River Fal, is about 1km to the northeast
Views	Good views to the west and south, fair views to the east and north where the higher hills and extraction heaps of the St. Austell uplands block the view.
Excavation	-
Status	Possible
Plan	-

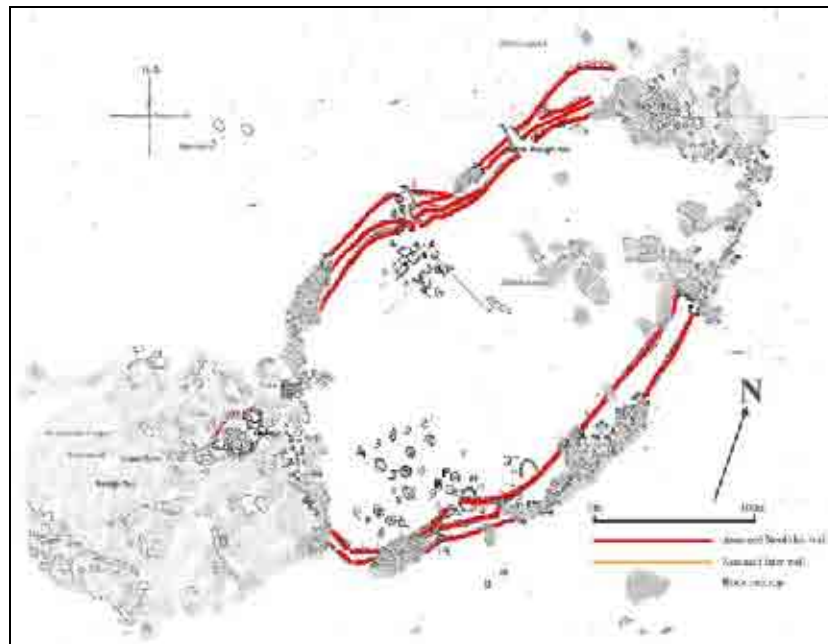
Name	Helman Tor
Location	Lanlivery, Cornwall
SMR Number	21396
NMR Number	SX 06 SE 33
NGR	SX0616561662
Description	<p>The natural outcrops along a north-south ridge are enclosed by at least one wall to the east and two to the west.</p> <p>Like Carn Brea, Helman Tor has also been the subject of excavation by Mercer (1997). The excavation was on a smaller scale but produced similar evidence: amounts of Early Neolithic material culture including ceramics, flint tools and axe heads. The excavated wall had an orthostatic structure similar to those of Carn Brea.</p> <p>A number of radiocarbon dates were produced, although some are questionable, that suggest the enclosure is broadly contemporary with Carn Brea (Mercer 1997, 21).</p>
Landscape	To the eastern part of the St. Austell granite uplands, on the northern end of a raised spur. To the west are the higher hills of the St. Austell uplands.
Elevation	195m
Watercourses	Although nearer to the south coast, the hill is surrounded on three sides by a stream that feeds the River Camel that, in turn, flows into the sea on the north coast. Around 1km to the east is a stream that feeds the River Fowey which runs into the sea on the south coast.
Views	The ground falls away to the east and Bodmin Moor can be seen in the distance where it is possible to pick out the Roughtor and Stowe's Pound tors. Beyond an area of lower land the higher hills of the St. Austell uplands crowd the horizon to the west.
Excavation Status	Mercer 1997 Proven
Plan	



Adapted from Mercer 1997, Fig 2.

Name	De Lank
Location	St Breward, Cornwall
SMR Number	12709
NMR Number	SX 17 NW 118
NGR	SX1008075250
Description	<p>De Lank is situated on a spur above a bend in the De Lank River on the western edge of Bodmin Moor. Two tors, around 280m apart, are linked by walls of rock construction, being partly faced with orthostats on the inner face in the south-western corner (Herring 1991, 166). The walls enclose an area of just under 1ha (Mercer 1997, 58).</p> <p>Much of the walling has been damaged by quarrying (Oswald <i>et al.</i> 2001, 158). An entrance still exists in the southwestern section that is not dissimilar to those at Carn Brea (Herring 1991, 166). The wall is around 4m wide, with an inner face height of 1m and outer of 2m in the best preserved part. There is no sign of a ditch (<i>ibid</i>).</p> <p>The centre of the site has been removed to allow for an access road to the quarry. Much of the site is overgrown by furze.</p>
Landscape	Situated on the northwest edge of Bodmin Moor, slightly below the high moorland hills and oriented to the west.
Elevation	180m
Watercourses	On a bend on the De Lank River.
Views	The ground to the west falls away rapidly to give long views in this direction. The views onto the Moor are poor as the ground rises up sharply on the other side of the river.
Excavation	-
Status	Probable
Plan	-

Name	Roughtor
Location	St Breward, Cornwall
SMR Number	3384
NMR Number	SX 18 SW 38
NGR	SX1472080870
Description	<p>Roughtor is an extensive area of rock outcrops located on the northwest side of Bodmin Moor in Cornwall's highest moorland. The two summits of the hill, Roughtor and Little Roughtor, are on a northwest-southeast aligned crest, separated by approximately 350m of flatter land. To the north and south are steep slopes. The two summits are connected by orthostatic walls which enclose an area of around 6.5ha with a maximum width of 210m (Tilley 1995, 15).</p> <p>It is one of the most visually impressive tors with good views all around. Due to its exposed nature and lack of water Tilley (1995, 16) believes that it is a ceremonial rather than domestic site. Based upon its elevation and substantial size, Mercer (1997, 57) also doubts that the site would have had a similar function to Carn Brea or Helman Tor.</p> <p>The wall construction method is not dissimilar to Carn Brea with granite blocks being erected in an orthostatic manner. There are a number of terraces within the site (Mercer, 1997, 57). There are up to four lines of wall on each side of the ridge. Two concentrations of seemingly later oval house platforms are found within the enclosure (Tilley 1995, 15). Within 3km there are three possible long barrows (Tilley 1995, 17), and the Roughtor outcrop contains at least one tor-cairn.</p>
Landscape	Situated on the northeast edge of Bodmin Moor, to the off-moor-side of Brown Willy, the highest point in Cornwall.
Elevation	400m
Watercourses	A stream, that feeds the River Camel, marks the bottom of the slope to the west; and a further stream, that feeds the River De Lank, is overlooked to the south.
Views	Views are excellent all around, it being possible to pick out Stowe's Pound and Helman Tor.
Excavation	-
Status	Probable
Plan	

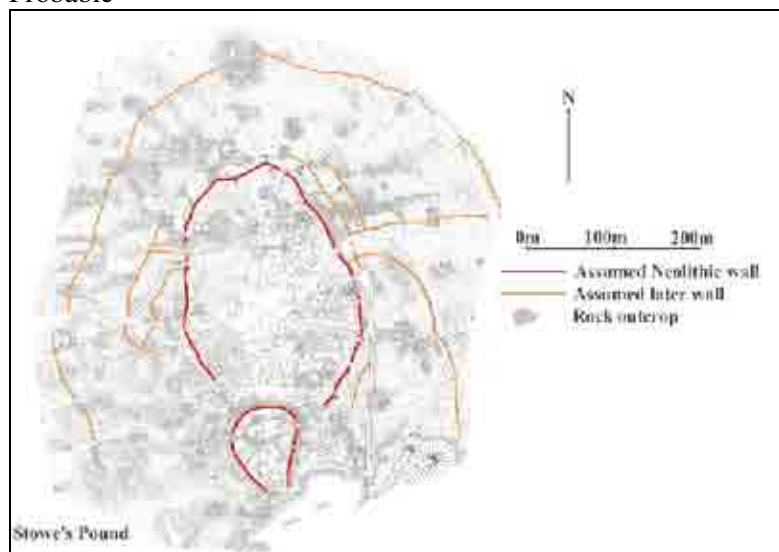


Adapted from RCHME 1985.

Name	Berry Down
Location	St Neot, Cornwall
SMR Number	1566
NMR Number	SX 16 NE 5
NGR	SX1970068950
Description	This enclosure is situated on the southern edge of Bodmin Moor. It currently consists of a later prehistoric 'round' next to a scarp top natural rock outcrop. However at the entrances of the round, where the earthen covering has been eroded, there appear to be orthostatic stones at its core. The round does not link up to the tor but passes within a few metres of it.
Landscape	Situated on the southern edge of Bodmin Moor, slightly oriented to the south or southwest.
Elevation	285m
Watercourses	Between the Fowey and the St Neot rivers.
Views	Excellent views to the south and west, where the ground drops away, and fair views into Bodmin Moor to north and east.
Excavation	-
Status	Possible
Plan	-

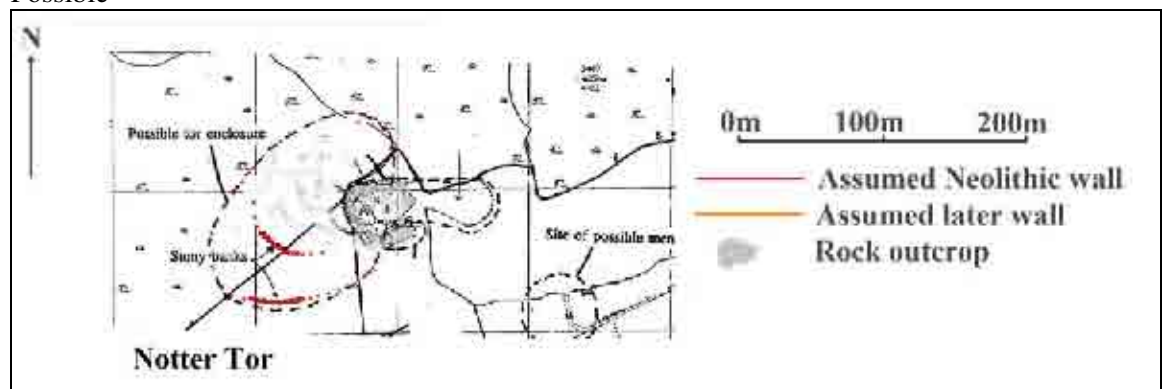
Name	Tregarrick
Location	St Cleer
SMR Number	176374
NMR Number	SX 27 SW 105
NGR	SX2410071100
Description	This site is situated at on a scarp top between two watercourses on Bodmin Moor. It is 1ha in size and the tor has a cairn built upon it. Oswald <i>et al.</i> (2001, 159) list it as a possible tor enclosure, but Mercer (2003, 65) doubts that it is of the Carn Brea type due to elevation and location. It is not dissimilar to Dewerstone in form and location. The wall, although orthostatic appears to have been less substantial than those at Carn Brea.
Landscape	On the southern edge of Bodmin Moor.
Elevation	320m
Watercourses	Overlooking the modern Siblyback Lake and the streams that flow into it.
Views	Good off moor views, but ground rises on the moor-side to reduce views. Stowe's Pound is prominent on the horizon.
Excavation	-
Status	Possible
Plan	-

Name	Stowe's Pound
Location	Linkinhorne, Cornwall
SMR Number	1401
NMR Number	SX 27 SE 7
NGR	SX2578072470
Description	<p>Stowe's Pound is situated on the southeast edge of Bodmin Moor. There are two enclosures, the smaller around the upper summit to the south and the larger to the north, surrounding the lower summit.</p> <p>The southern, upper enclosure contains an area of around 0.75ha with the flat-topped wall reaching 4.5m in height and 4m in width to the north. Where well preserved, the wall appears to be faced with orthostats separated by dry stone walling which may be a later addition (Fletcher 1989, 71-76).</p> <p>The upper enclosure contains a number of flat, turf covered areas but little sign of occupation. There are some hollow scrapes behind parts of the wall, possibly similar to those at Carn Brea (Fletcher 1989, 71-76). The wall itself links together a number of 'cheese-ring' type rock formations that surround the edges of the summit.</p> <p>The lower enclosure has an area of around 5ha. The wall stands up to 1.5m tall and is made up of a rubble core faced with orthostats, earth fast boulders, and, again, some dry stone coursing. This wall may have up to 14 entrances. There are around 110 identified hut circles within this lower area, as well as 19 platforms cut into the ground (Fletcher 1989, 71-76).</p> <p>To the southeast, just off the moor, is the Trethevy Quoit portal dolmen. Two further possible long barrows are within 3km of the site (Tilley 1995, 17).</p>
Landscape	On the southern edge of Bodmin Moor.
Elevation	385m
Watercourses	Streams that feed the River Lynher flow on three sides of it, and the main feed for the River Seaton is just to the south.
Views	Good views all around, especially to the east where the ground falls sharply away and Dartmoor can be seen on the horizon, and to the sea to the south. Also good views into the Moor, Roughtor can be seen on the opposite edge. Commanding views down onto Notter Tor and Tregarrick.
Excavation	-
Status	Probable
Plan	



Adapted from Fletcher 1989, Fig. 2.

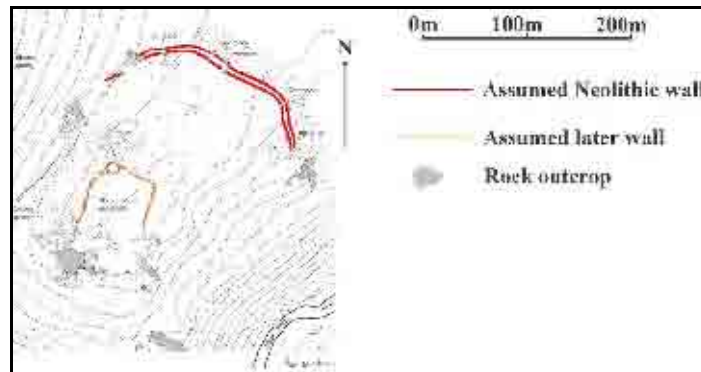
Name	Notter Tor
Location	Linkinhorne, Cornwall
SMR Number	1756373
NMR Number	SX 27 SW 111
NGR	SX2715073770
Description	<p>This site is situated on spur a between two watercourses on the southeast edge of Bodmin Moor (Mercer 2003, 65). Two sections of fairly well preserved stone wall link outcrops of the tor on the southwestern side, however little investigation has been carried out upon them (Oswald <i>et al.</i> 2001, 159).</p> <p>It is significantly lower than Stowe's Pound which towers above it. To the east is the Bearah Common tomb.</p>
Landscape Elevation	On the southeast edge of Bodmin Moor, slightly below the nearby high tors. 280m
Watercourses	Streams that feed the River Lynher flow around both sides of it.
Views	Good views to the east where the ground falls sharply away and Dartmoor can be seen on the horizon. Poor views into the Moor, as the higher tors, Stowe's Pound, Sharp Tor, etc., block the views.
Excavation Status	- Possible
Plan	



Adapted from Cornwall SMR.

Name	Whittor
Location	Peter Tavy, Devon
SMR Number	4102
NMR Number	SX 57 NW 8
NGR	SX54247866
Description	<p>Whittor is situated in high moorland on spur between two watercourses on the west side of Dartmoor. The enclosure consists of two low rubble walls that link rock outcrops (Silvester 1979, 188), and diverge to the eastern end. The loose construction of the walls suggests that they were never very high (Todd 1987, 76).</p> <p>The site was excavated in 1899 but the finds have since been lost (Silvester 1979, 188). At least eight hut circles and tor-cairns have been identified within the enclosure and both Neolithic and Medieval ceramics have been found (Devon sites & Monuments Record).</p>
Landscape	Situated on the northwest edge of Dartmoor. Oriented slightly in an off-moor direction.
Elevation	470m
Watercourses	Between two streams that flow into the River Tavy.
Views	Dramatic views to the west, where the ground falls away sharply, over to Bodmin Moor. Moor-side views are fair but higher tors reduce them.
Excavation	Baring-Gold 1900
Status	Possible
Plan	-

Name	Dewerstone
Location	Meavey, Devon
SMR Number	2380
NMR Number	SX 56 SW 14
NGR	SX53876399
Description	<p>The site is situated on a promontory spur in a bend of the River Plym on the southwest edge of Dartmoor. A low, double wall cuts off the promontory and links a number of rock outcrops. The hill slopes steeply on the other sides of the 3ha site (Mercer 1997, 58). The 1.5m thick walls have a 2.75m gap between them and five possible entrances (Devon Sites & Monuments Record). The enclosed area contains a number of hut circles (Silvester 1979, 188). Oswald <i>et al.</i> (2001, 86) suggest that the double walls and gaps there in, resemble closely the structure of a causewayed enclosure.</p> <p>Within the enclosure is another wall that has been assigned to the Bronze Age as it has a hut circle built into it.</p>
Landscape	Situated on the southwest edge of Dartmoor on a promontory with steep drops to the south.
Elevation	220m
Watercourses	Above the confluence of the Rivers Plym and Meavy.
Views	Views to the south are long, taking in the Plymouth Sound. The moor-side views are blocked as the ground rises up from the site.
Excavation	-
Status	Possible
Plan	



Adapted from Oswald *et al.* 2001 Fig. 5.10.

Name	Hound Tor
Location	Manaton, Devon
SMR Number	-
NMR Number	SX 77 NW 99
NGR	SX74307897
Description	This site is situated on a hilltop in the high moorland toward the east edge of Dartmoor. A poorly preserved and difficult to see stone wall incorporates outcrops of the tor (Oswald <i>et al.</i> 2001, 159). The outcrops themselves are among the most impressive of those found within the tor enclosure group.
Landscape	Situated a little way in from the east edge of Dartmoor. Oriented to the east.
Elevation	390m
Watercourses	Streams that feed the River Bovey flow to the east of the tor around 1km distant.
Views	There is a sharp drop and reasonable views to the east, but the ground climbs on the moor-side and the surrounding higher tors block views in this direction.
Excavation	-
Status	Possible
Plan	-

Appendix B: Radiocarbon dates

Wall: Site	Date	Comments
Carn Brea. W1: Site D	3900-3650 cal BC (BM-825: 3049 +/- 64 bc)	Block charcoal, post hole, Layer 4, Site D. Wall bounds the layer so must have been standing by this date.
Carn Brea. W1: Site E	3600-3350 cal BC (BM-824: 2747 +/- 64 bc)	Block charcoal, Layer 4, Site E. Sealed by fallen stones from the wall.
Carn Brea. Site A2	3530-3310 cal BC (BM-823 2640 +/- 90 bc)	Charcoal in scoop beyond W1 - no direct relationship with the wall.
Helman Tor. Layer 4	3970-3370 cal BC (HAR- 8818: 4880 +/- 120 bp)	Post hole.
Helman Tor. Layer 4	3345-3040 cal BC (HAR- 8820: 4490 +/- 70 bp)	Hearth.
Helman Tor. Layer 4	2920-2700 cal BC (HAR- 8821: 4240 +/- 70 bp)	Hearth.
Helman Tor. Layer 6 (?)	3350-3100 cal BC (HAR- 8819: 4530 +/- 60 bp)	Top of layer abutting wall. Mercer (1997, 22) questions reliability.
Helman Tor. Post layer 6	3650-3380 cal BC (HAR- 8822: 4790 +/- 70 bp)	Hearth that cuts layer 6.
Helman Tor. Post layer 6	3640-3380 cal BC (HAR- 8823: 4570 +/- 70 bp)	Hearth that cuts layer 6.
Helman Tor. Layer 4	3970-3370 cal BC (HAR- 8818: 4880 +/- 120 bp)	Post hole.
Helman Tor. Layer 4	3345-3040 cal BC (HAR- 8820: 4490 +/- 70 bp)	Hearth.
Roche Rock	3710-3520 cal BC (Wk- 14913: 4839 +/- 42 bp)	Pit deposit: hazelnut shell.
Roche Rock	3650-3370 cal BC (Wk-14914 4775 + / - 44 bp)	Pit deposit: hazelnut shell.
Roche Rock	3650-3370 cal BC (Wk- 14915: 4776 + / - 44 bp)	Pit deposit: hazelnut shell.
Roche Rock	3780-3640 cal BC (Wk- 14916: 2914 +/- 40 bp)	Pit deposit: short lived species.
Roche Rock	3650-3370 cal BC (Wk- 14917: 4768 +/- 43 bp)	Pit deposit: hazelnut shell.
Roche Rock	3790-3630 cal BC (Wk- 14918: 4908 +/- 47 bp)	Pit deposit: short lived species.

Figures given are at 95% probability. (Mercer 1981, 63; 1997, 21; Cole & Jones 2002-3, 133)

Appendix C: landscape analysis - technical details

The majority of the statistical landscape analysis was carried out using a bespoke GIS package. The system (Av_GIS) was originally designed to look at specific aspects of Neolithic archaeology from cultural perspectives, making use of viewshed and 3D modelling (see Davies 2009c), but was subsequently enhanced to include more 'traditional' GIS functionality.

The 3D models were auto-generated from the GIS in VRML and screen dumps are from IE 7 via the Cortona Client add-on.

Topographical data was acquired from the Ordnance Survey via its DigiMap service. © Crown Copyright/database right 2005. An Ordnance Survey/EDINA supplied service.

The GIS uses Land-Form Panorama data to obtain spot heights to the nearest metre at 50m horizontal intervals. Each tile covers a 20km by 20km area (400 by 400 points) and is generated from 2003 OS 1:50,000 maps. Accuracy is typically better than 6m root mean square error but suffers in areas of complex terrain. The DEM tiles were downloaded in Drawing Exchange Format (.DXF).

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