South East Research Framework resource assessment seminar

White Horse Stone and the earliest Neolithic in the South East

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Introduction

The starting point of this article is a pair of early Neolithic rectangular, post-built structures or longhouses found not far from Maidstone, in a dry valley on the southern edge of the North Downs in Kent. The structures were found on adjacent sites called White Horse Stone (in reference to the large sarsen stones found nearby, sometimes thought to have been part of a megalithic monument) and Pilgrim's Way (after the trackway which separates the sites). Although numerous naturally-occurring sarsen stones occur in and around the site, and there is nothing to indicate that the Upper and Lower White Horse Stones were anything other than natural, the two structures do lie close to the eastern group of the Medway Megaliths: Little Kit's Coty is just 600 m to the west; Kit's Coty House 650 m to the north-west; and the possible tomb at Warrens Farm only 100 m to the north-east. The two post-built structures were excavated by Oxford Archaeology as part of the much larger archaeological project carried out in advance of the construction of the Channel Tunnel Rail Link.

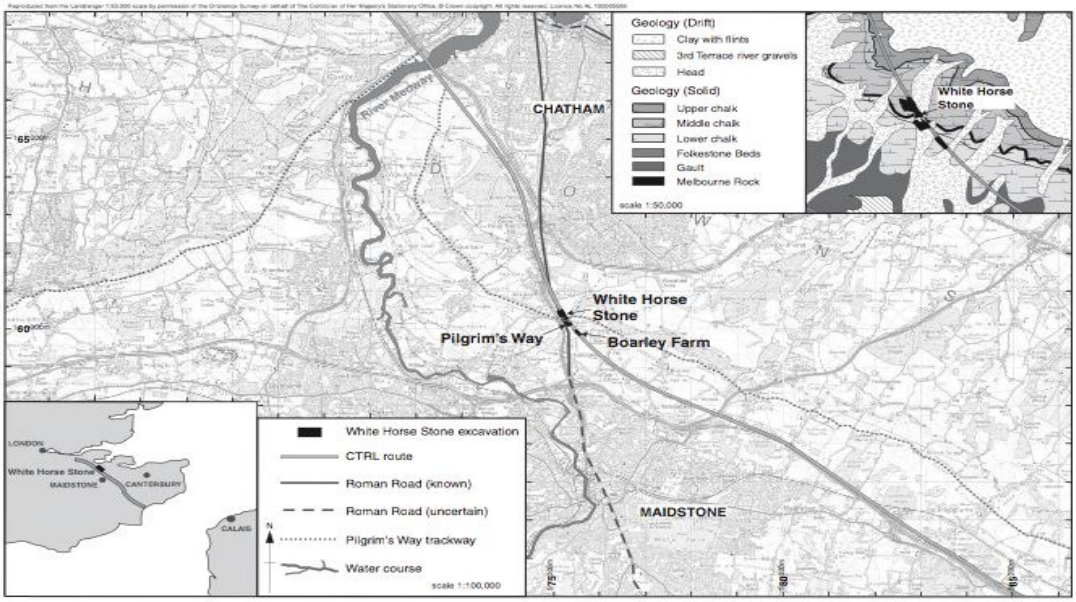

Figure 1: Location of the White Horse Stone and Pilgrim's Way sites

Chronologically, my discussion is limited to the period in which these structures were in use: the earliest Neolithic, the first two or three centuries of the fourth millennium BC, predating the causewayed enclosures which are discussed by Healy, in an accompanying article.[1]

Thematically, rather than attempting to review all of the earliest Neolithic evidence from the South East, which again is discussed more widely by Healy, this article attempts to relate these two structures to current debates concerning the earliest Neolithic in the British Isles. After briefly describing the two structures, focussing on the better-preserved White Horse Stone example, their significance is discussed under the following headings: the chronology

[1] I am very grateful to Frances Healy for allowing me to see, in advance of publication, her and her colleagues work on dating causewayed enclosures.

of the earliest Neolithic; the preservation of such structures and their representation in the archaeological record; evidence for how they were used and how the evidence can be related more widely to patterns of deposition in the earliest Neolithic; and finally their implications for our understanding of the continental roots of the British Neolithic.

The Structures

Two structures are involved: one quite well-preserved example on the White Horse Stone site, and another possible example, much less well-preserved, 240 m away on the adjacent Pilgrim's Way site. The evidence for this second structure consisted only of two parallel rows of postholes, and it is only because the spacing of these postholes – including two offset postholes at the northern end – matched the inner two posthole rows at White Horse Stone, that they have been interpreted as a second structure. It is the much more complete plan at White Horse Stone which forms the basis for the following discussion.

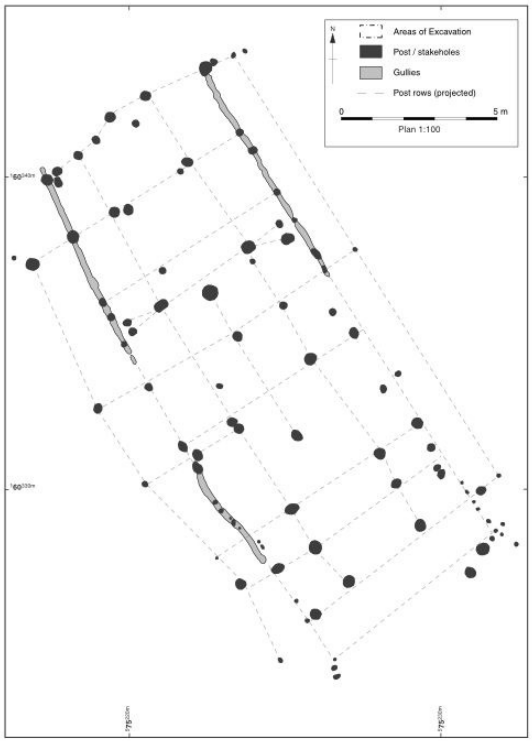

Figure 2 (left): Locations of the White Horse Stone and Pilgrim's Way structures; Figure 3 (right): Plan of the White Horse Stone structure

The White Horse Stone structure seems to have been a large, roughly rectangular timber hall, 17.5 m long and about 7 m wide, constructed using four approximately north-south longitudinal rows of postholes. There seem also to have been two additional rows of smaller postholes running along the sides, which may have held up the edge of the roof, perhaps forming a porch. There were also two or three postholes which might have belonged to a central row of posts. Overall, however, the evidence for a central posthole row is not very strong, and the basic structure seems to have been based on four rows of posts.

Along the long sides of the structure the walls seem to have been set into shallow bedding trenches. A gap in the bedding trench about midway along the western side may have marked the position of a doorway, he postholes on either side of which were noticeably deeper than the others nearby. The postholes in the central two rows were slightly larger than those

running along the walls, suggesting that they were the main structural posts holding up a presumably gabled roof. No indications of what this roof was made from were found.

There were slight structural differences between the northern and southern halves of the structure. At the northern end the postholes along the wall lie within the bedding trench, whilst to the south the larger postholes lie just beside the bedding trench, and rows of much smaller postholes were found with the bedding trench. Presumably these smaller postholes held posts which formed a framework for the walls. No evidence for daub was found by soil micromorphological analysis, and it is possible that the walls were of timber, perhaps made of planks, as is evidenced more clearly at some of the comparable Irish sites.

In the northern half of the structure some of the postholes were doubled-up. It is possible that these extra postholes were related to internal partitions or other kinds of internal features.

Figure 4: The White Horse Stone structure from the east. The large features near the centre of the structure are late Neolithic pits. Further late Neolithic features lie to the south of the structure (Fig. 5)

Figure 5: The White Horse Stone structure from the north

The earliest Neolithic: questions and approaches

There are several reasons why these structures are of particular interest. One is their early date in the Neolithic. The more precise dating of the early Neolithic discussed by Healy, which has been achieved through the Bayesian modelling of radiocarbon dates, has many implications for our understanding of the period, and of the White Horse Stone structures. It is, nonetheless, primarily in the light of recent debates about the character of early Neolithic settlement in the British Isles, and the processes involved in the Mesolithic to Neolithic transition, that the White Horse Stone structures assume a special significance.

Differences in the distribution of early Neolithic structures similar to White Horse Stone have provided part of the basis for two contrasting models of Neolithic settlement in the British Isles. Such structures are rare in England, and this scarcity has formed one of the reasons for rejecting a traditional model of Neolithic life in which the adoption of agriculture is associated with sedentary life in villages. Thus in what I will call the 'English model' (cf. Bradley contrasting a 'southern English/Wessex model' with an 'Irish/northern British model') it has been suggested that settlement remained relatively fluid and that, although present, the significance of farming was limited. This model of settlement could be applied to later phases of the Neolithic in this area. Indeed, arguably, it was not until the Middle Bronze Age that features thought of as stereotypically Neolithic became fully established.

In contrast to the situation in England, around 70 structures comparable to those at White Horse Stone are now known in Ireland, and there are also a number of examples in Scotland and Wales. Some of the Scottish examples, in particular, contained impressive quantities of charred cereals, and this, as well as the limited evidence for early field systems in Ireland, has made it much easier to retain a more traditional interpretation of Neolithic life, defining what I will call the 'Irish model'.

Needless to say, the discovery of structures such as those at White Horse Stone in the south-east of England does not immediately fit very easily into the English model, and could be taken to suggest that the Irish model should be extended. This raises one of the questions I will address: is the contrast between Ireland and England real, or might it reflect differences in preservation? The English model can, however, still be saved by questioning whether such structures were really houses – by which I mean simply the places where people ordinarily lived – and by suggesting instead that they could have been cult or feasting houses, used sporadically or seasonally. Such interpretations, of course, would leave the Neolithic population of England homeless. The second question I wish to address, then, concerns the evidence we have for the use of the structures.

As well as contributing to debates concerning the character of early Neolithic settlement, the White Horse Stone structures are also important in relation to our understanding of the transition from the Mesolithic to the Neolithic. As the nearest such structures in the British Isles to the continent, they clearly are of interest in relation to the continental origins of the British Neolithic. This is not so much because they provide evidence for the geographical sources (or one of the sources) of the British Neolithic, but because of the evidence they provide for the processes of cultural transmission which were involved.

Chronology

A series of nine radiocarbon dates can be related to the structure at White Horse Stone. They place it in a short phase, spanning no more than two or three centuries at the beginning of the Neolithic, predating monuments such long barrows, megalithic tombs, and causewayed

enclosures which have often been taken to characterise the early Neolithic. Of the nine determinations, seven were from postholes and two from hearths. It seems likely that the hearths were actually Late Neolithic features related to a group of more clearly Late Neolithic pits in the same area, and that the dated Early Neolithic charcoal and grain from the hearths was residual. It is questionable, therefore, whether these samples can be used to date the structure, even though they clearly derive from early Neolithic activity of similar date.

The available dates, with or without the hearth samples, both suggest that the structure was in use for a considerable period, almost certainly at least a century, and possibly as much as three (without the hearth dates: 100-250 years at one standard deviation (1sd); 50-300 years at two standard deviations (2 sd); including the hearth: 180-320 years at 1 sd, 70-340 years at 2 sd). If the determinations from the hearths are included, the dates suggest that the structure was probably constructed in the 40th century cal BC (4060-3890 cal BC at 1sd; 4120-3830 cal BC at 2 sd). Excluding the determinations from the hearth increases the probability that the structure was put up in the 39th century cal BC (3980-3830 cal BC at 1sd; 4080-3810 cal BC at 2 sd).

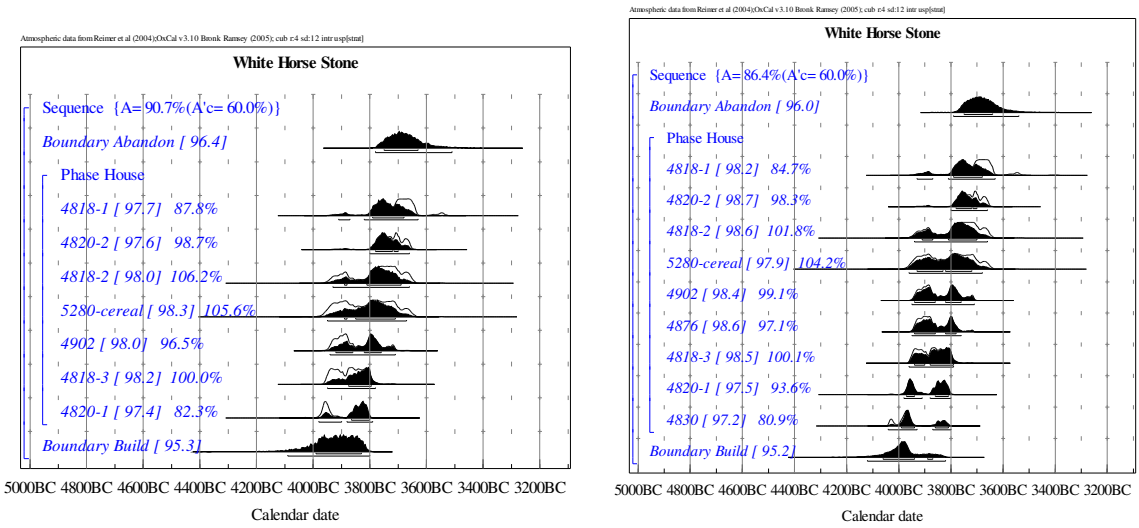

Figure 6: Modelled radiocarbon dates from the White Horse Stone structure. Left – excluding the hearth dates; right – including the hearth dates

Both sets of dates suggest that the structure is amongst the earliest well-dated Neolithic structures in Britain, predating causewayed enclosures which seem mostly to have been built in the late 38th or 37th century cal BC, and many of the long barrows and megalithic tombs in southern England which seem to have been constructed slightly earlier in the 38th and 39th centuries. The one notable exception to this is the Coldrum tomb in the western group of the Medway megaliths, which has dates suggesting construction in the 39th century: this is perhaps slightly later than the White Horse Stone structure, but certainly within the period within which it was in use.[2] The evidence for the chronology of the other Medway Megaliths is less certain, but some early pottery from The Chestnuts suggests that there may have been activity at that site in the same period, even if it cannot be reliably associated with the construction of the tomb itself.

The only other major group of sites within the South East with similar dates are the Sussex flint mines. In the absence of good series of radiocarbon dates it is difficult to be confident that other sites belong to this very early phase of the Neolithic. It can, however, be at least

[2] I am very grateful to Seren Griffiths for allowing me to discuss her and her colleagues' research on the Coldrum in advance of publication.

approximately related to the period characterised by Carinated Bowl pottery which is known from a small number of sites, consisting mostly of pits and a few tree-throw holes.

Arguably, then, the White Horse Stone structures belong to a quite distinct earliest Neolithic phase covering just a few centuries at the beginning of the fourth millennium BC, predating most of the major monuments types which characterise a slightly later phase of the early Neolithic. Although there are some later dates, many of the radiocarbon determinations from comparable sites elsewhere in the British Isles fall into the same period. It may be, therefore, that structures such as those at White Horse Stone were one of the most distinctive features of this early phase. One implication of this worth noting is that such structures do not solve the Neolithic 'housing crisis'; that is, the general paucity of domestic structures throughout the Neolithic. They belong, instead, to a quite short phase at the beginning of that period.

Preservation and representation in the archaeological record

One implication of this might be that the English and Irish models should be applied not to differing areas, but to two differing periods. A defence of this proposition, however, involves providing an explanation for the contrast in the numbers of such structures which have been found in England and Ireland. If such structures are characteristic of an early phase of the Neolithic in both areas, why are they not as common in England as they are in Ireland? The English model is partly based upon an absence of evidence which, as every under-graduate is taught, forms a very poor foundation for any argument. In this case, however, a strong case can be made in its support. Excavation has been extensive in southern England and numerous Bronze Age and Iron Age post-built structures are known: if structures from these periods survive, then why not those from the Neolithic?

Despite the undeniable force of this argument, several counter arguments can be advanced against it. One is that the short period over which such structures were constructed (perhaps no more than two or three centuries) and the fact that individual structures may have been in use for long periods (perhaps as much as two or three centuries), both conspire to limit the imprint such sites would have made upon the archaeological record. Iron Age roundhouses, for example, may have been constructed for each generation, new houses being sited close to older ones within a limited area, thus building up dense concentrations of features. A single Neolithic structure in use for a much longer period would leave much more scant remains. Combined with a presumably much smaller population, this suggests that it is not surprising that Neolithic structures are found much less often than those from later prehistoric phases.

Another argument can be advanced which suggests that, at least on chalk, Neolithic structures are likely to be much less well-preserved than those from later periods. At Stonehenge, Atkinson noted that the chalk under the bank survived to a height 0.35 m above that of the chalk elsewhere, and suggested that the difference was due to the fact that the bank had protected the chalk beneath it from erosion caused by acid rain. The implication of this is that all of the chalk lands of southern England have suffered from significant erosion, even without the effects of agriculture. The structure at White Horse Stone was preserved below a soil which appears to have been buried by colluvium in the late Iron Age and Roman period; the structure at Pilgrim's Way was not protected in this way and was correspondingly less well-preserved. Elsewhere, too, it is noticeable that similar structures have been found protected by alluvium at Yarnton and Fengate, or, more generally, that Carinated Bowl deposits have been been found below slightly later monuments (eg Hazleton).

If the contrasts in the geology, extent of arable agriculture and population density between England and Ireland are taken into account, this goes some way to explaining the contrasts between the two areas, and thus weakens the foundations of the English model.

The use of the structures

Even given the presence of such structures in the south of England, it is still possible to argue that rather than being houses they were used in some other way, for example as cult or feasting halls, perhaps only sporadically. At this point, it is worth stressing that the structures need not be seen as *either* a quotidian house *or* a ritual or ceremonial structure. Indeed, precisely because they are one of the centres of everyday life, houses occupy an important position within many rituals, as van Gennep long ago made clear. It is, nonetheless, still possible that the White Horse Stone structures did have some special role and were not at the same time day-to-day homes. Initially, the evidence from White Horse Stone seems quite consistent with the suggestion that they were not houses. The quantity of artefacts associated with the structure is extremely small (Table 1). Given that the structure may have been in use for as much as 200 years, these figures do not suggest intensive use. Furthermore, if a contrast is made, for example, with the quantities of material associated with *Linearbandkeramik* (LBK) houses, or, indeed, with some Irish and Scottish structures, the lack of finds is very striking, and could be used to support the idea that the White Horse Stone structure was not permanently occupied or was used in some special way which did not generate much debris.

The situation is not, however, so simple. There are a number of factors which make the comparison of the quantities of finds at White Horse Stone and other structures more complicated than might at first be apparent. Much of the material from LBK houses, for example, comes from ditches which ran along their sides. Lacking such features, the quantity of finds from White Horse Stone is naturally smaller. Similarly, the absence of pits at White Horse Stone must be borne in mind when comparing it to other similar structures in the British Isles, since, for obvious reasons, pits often contain greater quantities of finds than postholes. The first complication, then, involves the kinds of features associated with the structure. The second involves the way in which the structure was abandoned. Some of the Scottish examples, for example, were burnt down. Whether the burning was deliberate or accidental, it is not surprising that they contain much greater quantities of finds than does White Horse Stone, where it would seem either that the contents of the building were removed when it was abandoned or that, rather than having been preserved by charring, they suffered more from decay and erosion after abandonment. A further factor which may bias the quantities of artefacts recovered from such structures is the presence of special deposits. These may consist of stone axes, worked flint, animal bone, or human remains. And whilst they are clearly of interest in relation to the interpretation of the structures, they may well have derived from single, exceptional episodes of deposition. The finds at White Horse Stone, in contrast, seem to consist of small fragments which escaped cleaning of the structures and were scuffed around the floor before becoming incorporated into postholes accidentally. It thus seems likely that they reflect everyday, repeated activities associated with the structure.

A final factor which affects the quantities of artefacts recovered is the way in which the occupants of the structure managed the waste they produced. One ethnographic study found that, perhaps contrary to expectation, the longer a structure was occupied the less stray debris was left around it for the simple reason that greater care was taken to dispose of rubbish. This may well have been the case at White Horse Stone. What finds there were – such as a single cattle tooth and other fragments of animal bones, a few grains of cereal and fragments of hazelnut shell and charcoal, a few crumbs of pottery and small flint chips – can all be taken to imply the presence at one time of greater quantities of material which have been deposited elsewhere. It is worth noting that almost all of these finds were recovered by sieving of bulk samples from the postholes. If no such sieving had been undertaken, it would no doubt look as though the structure had hardly been used.

Table 1. Summary of finds from the White Horse Stone structure

Feature	*Context*	*Pot No sherds/weight g*	*Chips unburnt/burnt*	*Flakes unburnt/burnt*	*Irregular waste flakes unburnt/burnt*	*Blade (burnt)*	*Burnt unworked flint no/weight g*	*Bone number/weight g (unidentified unless otherwise specified)*	*Charred plant remains*	*Charcoal (unidentified unless otherwise indicated)*	*Other finds*	*Context type*
4888	4889		6/6									postpipe
4888	5122		14/3	1/0			1/8					packing
4890	5121		1/0				8/2			Pinus +		packing
5024	5025		6/3									single
5028	5030		2/0							Quercus+		packing
5113	5114									Pinus +		single
5117	5118		0/1				1/1					single
5150	5151		1/0									single
5327	5328		1/2	1/0								single
4866	4885	20/7 (charred residue)	0/1				6/14					single
4886	4887		6/1	0/1			3/12	2/0 unburnt				postpipe
4886	5145		35/8				3/3					packing
5019	5020		5/6	0/1			2/6					postpipe
5019	5021		6/0		3/0		1/?			+		packing
5066	5067		17/2							+		single
5209	5210		0/1									single
5291	5292		2/7	1/0			14/5			++		postpipe
4861	4862	1/2	1/3	2/1			9/2					primary
4861	4863		2/0	2/2			9/1					upper
5017	5221									+		postpipe
5244	5245		8/1		1/0							single
4895	5131		0/1							Pinus +		packing
5203	5204		12/0									single
5172	5173		2/1									primary
5264	5265		0/1									single
5136	5141		0/4				12/4			Fraxinus +		packing
5161	5159		7/3				2/2					postpipe
5280	5279		3/0					Micro-mammal rib 3/0 unburnt				packing
5280	5281		2/0	1/1			1/1		Triticum +			postpipe
5294	5295		31/24					11/2 unburnt				packing
5318	5320		46/6				1/5	1/1 burnt				upper
5315	5317									Quercus +		upper
4834	4835		1/1							Pinus +		single
4848	4849	1/2		2/0			1/1			+		single

Feature	*Context*	*Pot No sherds/weight g*	*Chips unburnt/burnt*	*Flakes unburnt/burnt*	*Irregular waste flakes unburnt/burnt*	*Blade (burnt)*	*Burnt unworked flint no/weight g*	*Bone number/weight g (unidentified unless otherwise specified)*	*Charred plant remains*	*Charcoal (unidentified unless otherwise indicated)*	*Other finds*	*Context type*
4855	4856									+		single
4857	4858				0/1		1/1			+		single
4828	5134		11/0	1/0				2/1 burnt				packing
4811	5133		0/2	0/1								packing
4824	4825	2/6	2/2				2/5	1/0 burnt				postpipe
4815	4816		2/12	0/1	0/2		4/8				Burnt Sarsen	single
4817	4818		12/3				6/15	8/2 unburnt	Cerealia + Hazel nut shell +	Alnus/Corylus +	Burnt Sarsen - 2	upper
4820	4821		8/2	0/1			9/7	1/2 burnt		Maloideae +		single
5339	5340		5/2					1/0 burnt				single
4899	4900	1/0										upper
4902	4904							cow molar				upper
4992	4993		1/0									single
5271	5272		19/3									single
5363	5364		0/2									single
Bedding gully												
5031	5135		6/2	2/0			2/11					single

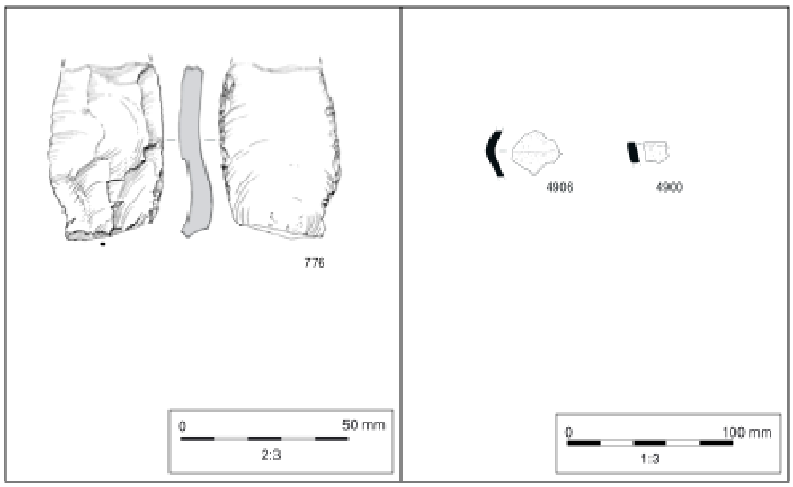

Figure 7: Finds from the White Horse Stone structure

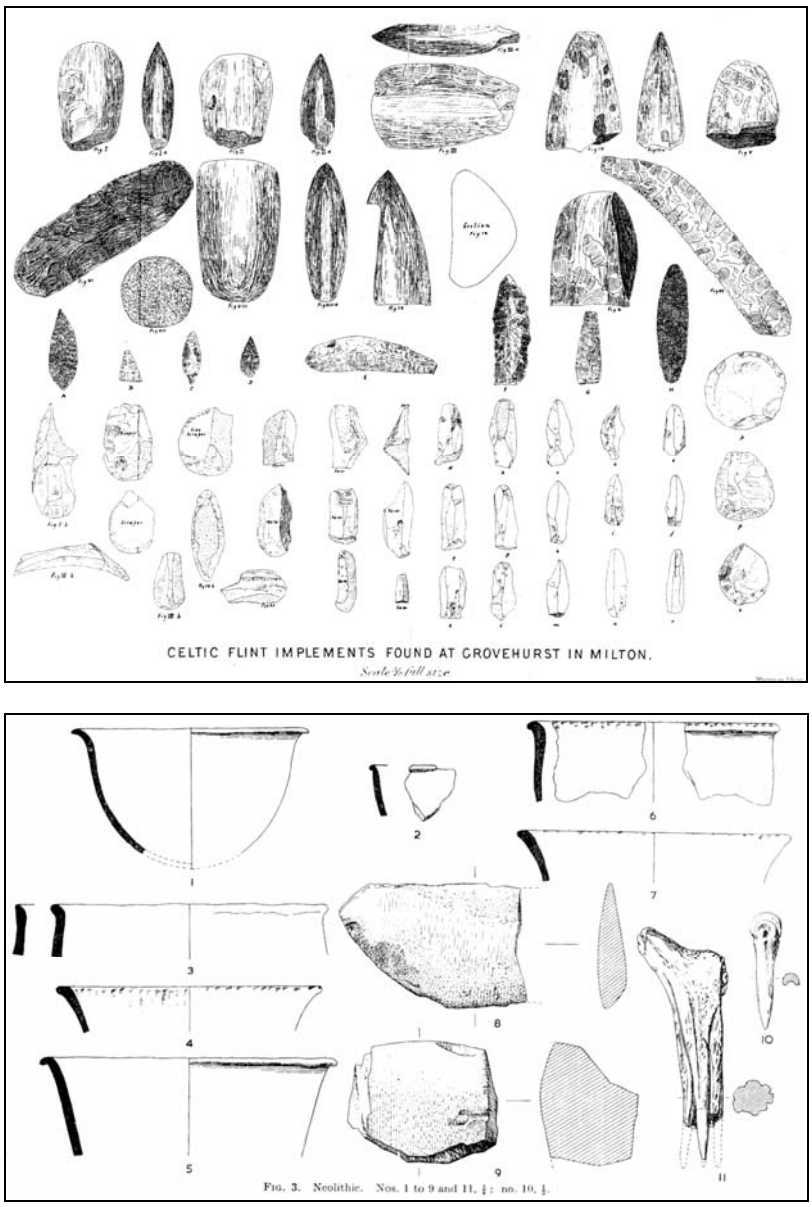

Figure 8: Finds from pits at Grovehurst (top) and Wingham (below)

Unfortunately, the finds which were recovered do not very clearly indicate how the structure was used. This is not a problem which is unique to White Horse Stone, but arises because the debris itself is not sufficient to allow us to make categorical distinctions, for example between feasting and everyday eating, which underlie the distinctions we might like to make between houses or special structures such as ceremonial halls. The fragmentary remains from White Horse Stone are, for example, quite consistent with the building having been used as a house: evidently there was a hearth, there are the remains of food, and of various tools and pots. Such remains, however, are also quite consistent with the structure having been used for feasting or for various cult purposes.

They also, however, raise the question of where the remaining debris was deposited. And in this respect the contrast between the very small quantities of finds, and the relatively large groups found in other contexts of similar date are striking. For example, the pits at some of the sites in Kent, such as Grovehurst and Wingham, contain assemblages of artefacts in some quantity. At Grovehurst, for example pottery, flint blades, arrowheads, scrapers, serrated blades, sickles, hammerstones, polished axes, cattle bone including skulls and horn cores, querns or rubbers and burnt vegetable matter were found. Even more striking is the contrast with the early Neolithic midden deposits at Eton, just outside our area, which contain vastly more material than was associated with White Horse Stone (although, alongside the Carinated Bowl, there is also slightly later pottery).

It is tempting to see these pits and middens as the places where the debris missing from structures like those at White Horse Stone was deposited, even if it is obviously impossible to make a direct connection. It is quite possible that most of the debris generated by activity at White Horse Stone was deposited in a midden somewhere nearby, as the finds at Eton, and scatters of artefacts elsewhere (eg Hazleton) suggest. Such deposits of rubbish perhaps represent the simplest way of getting rid of material (other than just dropping it where you stand), and might have formed a useful source of fertiliser (thus leading to the disposal and destruction of many potential finds). There is little reason to see the middens as anything more than that. Any such midden would have been affected by Iron Age and Roman agriculture, and the finds could quite easily have been dispersed. (It was only after the late Iron Age or Roman periods that the site was sealed and protected by colluvium, preserving the Neolithic structures and an Iron Age or Roman plough soil.) It should, however, also be noted that no comparable structures were found at Eton.

If middens were places for the routine disposal of rubbish, it becomes more difficult to understand why, in a sparsely populated Early Neolithic landscape, material would be deposited in pits. Although they are better known than the structures and middens, and thus may seem less special, the evidence we do have seems to mark out pits as places for exceptional deposits. It is worth noting that if there had been any pits around the White Horse Stone structures, it is highly likely that they would have been found (especially as a scatter of Late Neolithic pits, including some very shallow features, did survive across much of the White Horse Stone and Pilgrim's Way sites). The contrast suggests, then, that there was something special about the material placed in pits.

Whatever the case, it is at least possible to begin to glimpse the way in which contrasts were made between different sites in the landscape. This is, of course, can only be a very partial view, filtered through depositional practices and post-depositional transformations. Nevertheless, certain contrasts are visible. The White Horse Stone structures seem to have been long lived, and - perhaps associated with middens - may have been the focus for prolonged, ordinary deposition. In this, they contrast with the pit sites, which may have the

focus for perhaps special events of limited duration, the debris from which was buried there. Alongside structures such as those at White Horse Stone, middens and pits, we should of course add the contemporaneous tombs near to White Horse Stone. These too, can be seen as permanent structures, but unlike the White Horse Stone structures it seems likely that they were used only sporadically. Furthermore, they were presumably associated closely with the dead, or at least with their material remains. The limited quantities of finds from tomb excavations elsewhere suggest rather infrequent use, and that funerary and perhaps other rites which took place did not involve the deposition of large quantities of grave goods or other material. To this rather impoverished picture, it is easy to imagine how other elements could be added. There would, no doubt, have been other no longer visible contrasts in the landscape between, for example, fields or clearances and woodland. The components of this pattern – house, tomb and pits – may also have been related to different kinds of social groups.

Diffusion and cultural transmission

The White Horse Stone structures are significant not only for the reasons discussed above. It is also ideas concerning the character of the Mesolithic to Neolithic transition, and in particular the place of houses in that transition, which makes the White Horse Stone structures seem so significant. Plainly, the location of White Horse Stone in south-east England, not far from the channel and the Thames Estuary, makes it particularly interesting in relation to the question of the continental background to the British Early Neolithic. It is perhaps worth noting that there were almost no indications of Mesolithic activity at White Horse Stone: the structures were new establishments in an area which does not seem previously to have been of any particular significance.

It is also worth stressing that the much more precise chronology we now possess for the earlier Neolithic in Britain produces a quite new perspective on its continental background. For example, parallels for both Carinated Bowl pottery and causewayed enclosures have been sought in the Michelsberg culture. It is now apparent, that if such links were real, they must have related to two quite distinct periods. This adds a special significance to house-like structures such as those at White Horse Stone, because they now form one of the most distinctive features of the earliest phase of the Neolithic in the British Isles.

It is useful, at this point, to disentangle some of the elements which make up the traditional Neolithic package which spread across Europe. Agriculture is plainly now taken to be the defining element of that package, and houses form part of the cultural baggage which – as the evidence from much of Europe shows - travelled with it. Arguments can also be made which link the need to maintain crops with sedentism – and hence houses – on practical grounds. Equally clearly, two quite distinct processes must have been involved in the diffusion of the Neolithic package: the diffusion of domesticated crops and animals must have relied upon biological reproduction, while the diffusion of houses, of other elements of material culture, and of the practices that went with them, was the product of cultural transmission. This is part of the reason why a list of the domestic species from Neolithic Greece is not very different from the list from England, whilst the rest of the archaeological evidence is.

My reason for making these points is that recent work on processes of cultural transmission can, I think, help us create a more nuanced interpretation of the diffusion of the Neolithic package to south-east England. To over-simplify, a traditional archaeological approach to the continental background consists of formal comparisons of finds from Britain with those taken to be characteristic of various cultures (Michelsberg, Hazendonk or Chasséen) across the sea. Despite the fact that few people today would defend the idea that archaeological cultures are anything other than arbitrary constructs, it is easy to assume that the members of an archaeological culture produced the artefacts they did because they possessed a particular

culture, taken in an anthropological sense of sharing certain ideas. From this perspective the uniformity of material culture within an archaeological culture is unproblematic – it is simply what people do because of the way they have been acculturated. Recent work on cultural transmission, in contrast, treats the repeated production of the same kinds of cultural forms – whether items of material culture or of ideas – as a limiting case, and suggests instead that cultural transmission will usually lead to variation. This perspective seems to me to fit most archaeological evidence better than my caricature of a traditional approach. A further benefit of this perspective is that rather than leading us to attempt to define discrete cultures, it suggests that we should expect differing cultural elements to be more or less widespread.

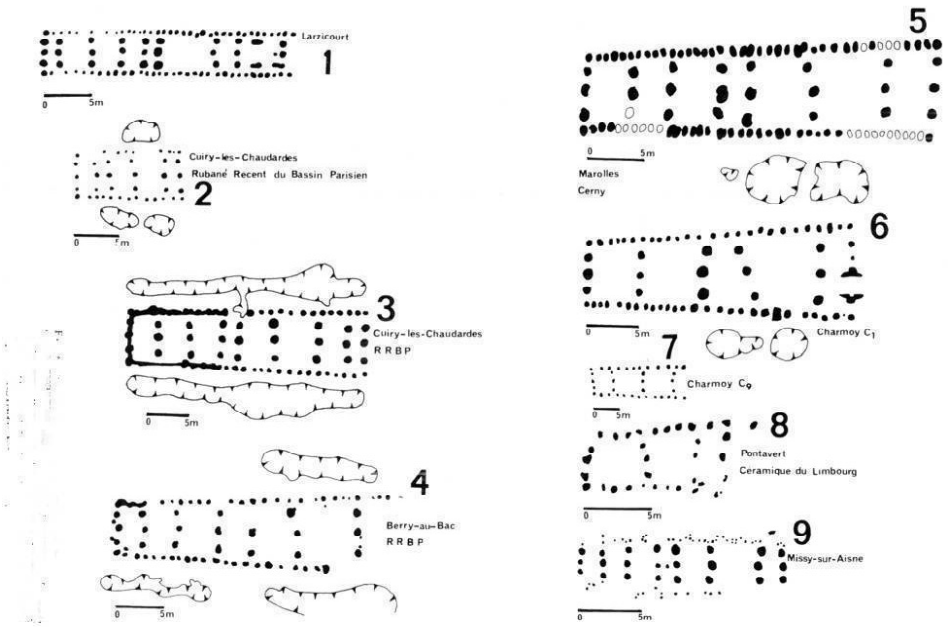

Figure 9: LBK and Cerny culture house plans

This approach has several implications. One is that, since the focus is on transmission, the question of whether the Neolithic was introduced by colonists or was adopted by indigenous populations becomes much less significant than many debates suggest. What matters is not the original moment when the Neolithic was introduced, but the fact that what was introduced was transmitted and reproduced on a wide scale. Reduced to a literal level, the question of adoption or colonisation boils down to the question of whether one generation involved in a long-term process was born on one side of the Channel or the other.

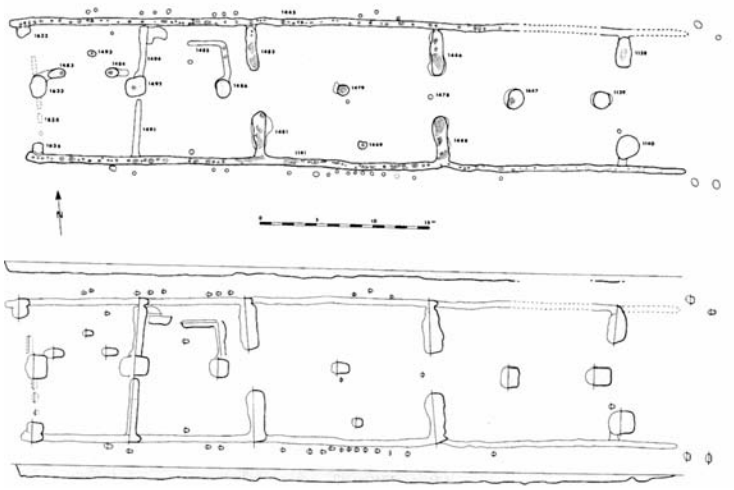

Figure 10: House plans from Les Hautes Chanvières

Another implication of stressing that cultural transmission will usually involve variation is that there is no reason to think that Neolithic house forms in Britain will be identical to those on the continent. On the contrary, this perspective suggests that uniformity requires explanation just as much as variation. It is, in general, clear that house forms usually belong to particular traditions: whilst they meet practical needs, in building houses people follow pre-established patterns. Exactly why they do remains obscure. Nevertheless, the remarkable uniformity of LBK structures is something that must have been the product of particular factors. It is also, of course, obvious that the Channel must have formed a barrier, no matter how permeable, to cultural transmission. So, given the expectation that transmission will usually introduce some variation, it is quite likely that once established in the British Isles, house forms would deviate further from their continental origins.

LBK houses are too early in date to be directly relevant to White Horse Stone, and if we look at the development of houses on the continent, it suggests that whatever the constraints were which lead to the uniformity of LBK houses, they had broken down, and house forms had become more varied. It must again be stressed, that the reasons for the uniformity of LBK houses, and for continuity and change in later houses, remain uncertain. Here I will draw particular attention to what I see as basic structural contrasts, but there must have been a host of other factors influencing the forms of the structures.

Long LBK houses, such as those at Berry-au-Bac in the Aisne valley, were constructed using five rows of large posts – two along the walls, often set in bedding trenches at one end, and three along the middle of the structure. The later, more or less trapezoidal structures of the Rössen and Cerny cultures (as at Marolles-sur-Seine, south-east of Paris), were also built using five rows of posts and bedding trenches. Structures which might be regarded as a continuation of this tradition have been found in a Michelsberg culture enclosure at Les Hautes Chanvières in the Ardennes, near the Belgian border, dating from the period *c.*4300-3800 cal BC (spanning the date of the White Horse Stone structures). The buildings at Les Hautes Chanvières were long, rectangular structures, constructed using posts set in, and sometimes beside, bedding trenches. There is also evidence for internal partitions comparable to those in some Early Neolithic structures in Britain, though the evidence at White Horse Stone is unclear. However, there are also significant contrasts. The most obvious is in the size: the largest structure at Les Hautes Chanvières was 13 m wide and 60 m long, and even the smallest, around 20 m long, was larger than the structures at White Horse Stone.

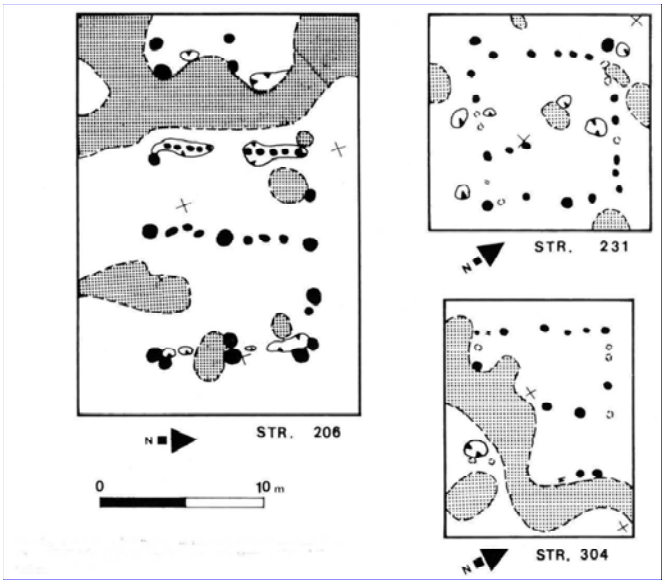

Figure 11: House plans from Berry-au-Bac

Equally striking, however, is the fact that the structures were built using three longitudinal rows of posts. By this date, a tradition of shorter structures associated with the Cerny and late Rössen cultures, such as these at Berry-au-Bac in the Aisne valley, is more comparable to those in the British Isles but also based on three rows of posts. These structures were often constructed with much smaller posts that those associated with earlier structures, but the structures at Berry-au-Bac do share the bedding trenches and internal partitions associated with some British structures. At Osly-Courtil, Aisne, similar-sized structures were found, but this time based upon four rows of posts. Both Berry-au-Bac and Olsy-Courtil predate White Horse Stone, albeit perhaps by no more than a few centuries. Later structures, constructed using four rows of posts have, however, been found in a Michelsberg culture enclosure at Ferme de l'Hoste, in the Hainault, Belgium, which are likely to be closer in date to White Horse Stone. The structures here, however, were much smaller than those at White Horse Stone – only about 5 m long by 3 or 4 m wide. They are curious also, in that the posts seem to have been set so close together as to make the structures almost uninhabitable.

In the period immediately before and contemporary with the construction of White Horse Stone, then, a range of different post-built structures were being constructed across the channel. The constraints that lead to the strict reproduction of LBK houses had weakened, and whilst they are all, post-built, rectangular structures, there was a much greater rate of change in house forms. The White Horse Stone structures are not a precise copy of any of these continental structures, but nor are the continental structures precise copies of each other. And White Horse Stone shares as much with them as they do with each other. Most of the elements which characterise White Horse Stone and other comparable structures in the British Isles, such as construction using four rows of posts and bedding trenches, can be found in these later continental structures. If there was space to compare White Horse Stone to similar early Neolithic structures throughout the British Isles we would find a comparable mixture of overlapping similarities and differences, although the similarities between White Horse Stone and some of the Irish structures is perhaps rather closer than it is between White Horse Stone and any of the continental structures.

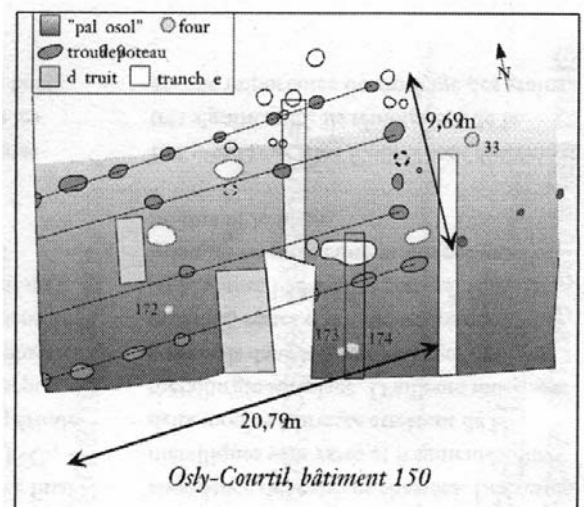

Figure 12: House plan from Osly-Courtil

Some of the variation seems to relate to the basic structure of these buildings: what held them up and in particular the number of post rows from which they were constructed. The ability of a structure to stay up must be one of the most basic factors affecting its chances of being reproduced. It should, then, perhaps be expected that such features would be reproduced quite faithfully, since any deviation would run the risk of being structurally unsound. It is for this

reason that I have stressed the number of post rows in the continental structures, implying that the closest relatives of the British structures are those at Osly-Courtil and the Ferme de l'Hoste. The use of four rows of posts is quite widespread in the British Isles, occurring, for example, in large structures at Lismore Fields, Llandegai, Ballygalley and Ballyglass. There are also large structures, such as those Balbridie and Claish in Scotland which have more elaborate arrangements. Other elements of construction seem also to have been quite widely distributed – the use of shallow bedding gullies, which evidence from burnt structures in Ireland and Scotland suggest were related to the construction of walls with planks.

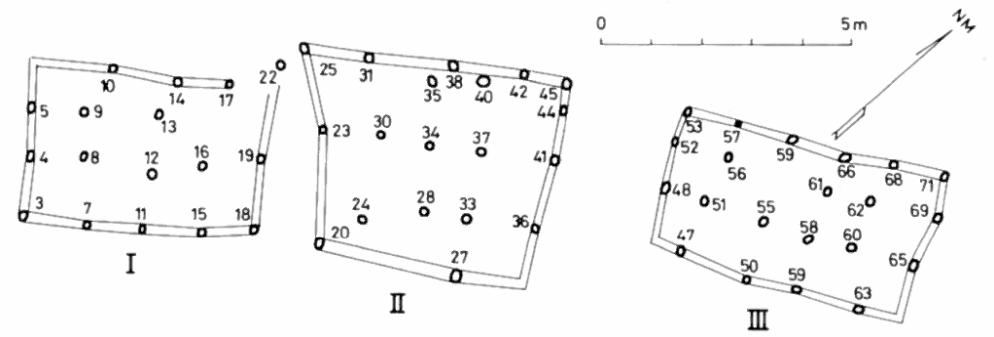

Figure 13: House plans from la Ferme de l'Hoste

There are other features, however, which might be widely distributed for quite different reasons. Internal partitions, for example, may have existed at White Horse Stone, and are present in numerous structures throughout the British Isles. Evidently such partitions were related to a separation of activities or occupants (or both). Since we know so little about how the structures were actually used, it is impossible to say much that is specific about such divisions, but they may well be a reflection of widely distributed social classifications.

In sum, cultural transmission does not automatically lead to the perfect reproduction of cultural forms: the process of transmission itself will lead to the incorporation of variations. Whilst the forms of houses and other structures clearly belong to architectural traditions, the extent to which house forms were faithfully reproduced varies. In the period in which White Horse Stone was constructed there was considerable variation in house forms in north-east France and the Low Countries. White Horse Stone was not a copy of any of the structures so far known in these or other areas, but it was constructed using elements which can be found there: elements which seem also to have been more or less faithfully reproduced across the British Isles.