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West Dean 2008: excavation of Bronze Age lynchets on Little Combes Hill

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The West Dean Archaeological Project is coordinated by the Institute of Archaeology in association with the staff of the Centre for Applied Archaeology. It forms the focus for teaching Institute undergraduates in the practical skills of archaeological fieldwork through researching the changing settlement and land use of the West Dean Estate and adjacent areas. It has been running since 2006 and an introductory account appeared in the last issue of Archaeology International.[1] In this article the authors describe the excavation of Bronze Age lynchets on Little Combes Hill in 2008.

The West Dean Archaeological Project is coordinated by the Institute of Archaeology and led by Bill Sillar, Mark Roberts, Ulrike Sommer and Andrew Gardner in association with the staff of the Centre for Applied Archaeology, in co-operation with the Edward James-Foundation. It forms the focus for introducing Institute undergraduates to the practical skills of archaeological fieldwork through researching the changing settlement and land use of the West Dean Estate and adjacent areas. In 2006 excavations were conducted at the Roman villa of Batton Hanger, while in 2007 and 2008 the focus for research was the lynchets (field boundaries) at Little Combes Hill.

Wider landscape context

West Dean is located in the Lavant valley in the South Downs near Chichester. The Trundle, less than 2km away, is the site of an early Neolithic causewayed enclosure, excavated in the 1920s by E. C. Curwen.[2] The hilltop enjoys a high visibility, both from the coastal plain and the Downs and dominates the landscape around it. In the Middle Iron Age a hillfort was constructed on top of the hill,[3] which later became the location of an Armada Beacon and a gallows. Bow Hill to the southeast and Harting Beacon to the northwest are inter-visible hilltops with commanding views of the area. Each has evidence of activity in the Neolithic, Bronze and Iron Ages.

Lynchets

In May 2006 we identified a series of long parallel lynchets on Little Combes Hill on the northwest flanks of the Trundle and these have been investigated through excavation and survey in 2007 and 2008.

Lynchets are soil accumulations along field boundaries, caused by ploughing on a hillside, with the soil eroding in the upper part of the field and slowly accumulating downhill (Fig. 1). Sometimes the actual field boundary was marked by a fence line, a row of pits, a wall or a hedge. Archaeological features are generally very well preserved on the Downs, where arable use is assumed to have ended in the Medieval period at latest. Cultivation began again only again during WWII, as happened to the valley bottom in front of West Dean House, and again after Britain joined the EU, when diverse subsidies made the cultivation of marginal land feasible. Since then, lynchets and other archaeological features have been ploughed out at an alarming rate.

The dating of lynchets is notoriously difficult as the deposition and preservation of datable finds is dependent on a number of factors, including the distance to the nearest settlement and its location (uphill or downhill), manuring practices and the general organization of waste disposal, the date of initial forest clearance, the type and intensity of land-use and the degree of erosion, both in the pre-lynchet and lynchet periods. Earlier residual material may be incorporated into the lynchets, but younger material can get in too, if the fields continue in use in later periods, when the lynchets are ploughed into, causing the bank to move forward progressively.

From the 1920s there were attempts to date lynchets on a typological basis.[4] In the 1930s long and narrow strip-lynchets tended to be assigned to the Anglo-Saxon period,[5] but with more excavations this assumption has become untenable.[6] The shape of the fields is influenced both by the local topography and the cultivation techniques. Fields are ideally ploughed parallel to the hill slope to slow down erosion. If land divisions are not yet in place when animal traction power is first used for ploughing, fields will tend to be laid out as long as possible, to decrease the number of times the plough team has to be turned around. In some cases, widened oval headlands at the ends of the fields have been interpreted as areas for turning. Small, rectangular or quadrangular fields are more likely to be associated with spade cultivation, which can also be used at the edges of ploughed fields. Field boundaries may be augmented by hedges or fences if the arable agriculture is being carried out in association with animal pasturing, when sheep, cows (and pigs) may need to be kept out as crops mature but brought in to eat the stubble. Cross dykes, such as those associated with the Trundle, have also been assumed to define pastures,[7] although they seem to delimit specific areas around hillfort enclosures and very few have been adequately dated.[8]

In the case of Little Combes Hill, the juxtaposition of the lynchets with the Bronze Age and Iron Age activity on the Trundle is of particular interest. Dating the field system and identifying any immediate occupation evidence would provide information on the development of the later prehistoric economy and settlement hierarchy in the area.

The lynchets on the upper part of Little Combes Hill are well preserved and visible from the valley. Six lynchets are visible under the short grassland, running roughly parallel following the contours of the hill, and at least two more are hidden under the mixed deciduous woodland that covers the top of the hill (Fig. 2).

The excavation

Two trenches excavated in 2007 investigated lynchets: Trench 2 ran down the hill through one of the major lynchets (no. 3), while Trench 4 investigated the uppermost of the surveyed lynchets (no. 5), which has a slighter bank than the lower ones. Another trench, Trench 5, a small test pit, uncovered a layer rich in burnt flints and some Bronze Age flint tempered pottery and worked flints above the weathered chalk, but contained no features. A resistivity survey conducted

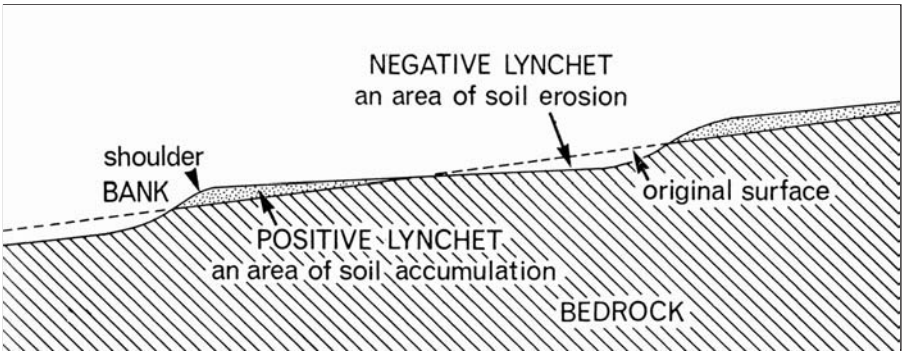

Figure 1 *The formation of lynchets.*
(after J. W. MacNab , "British strip lynchets", Antiquity 39, fig. 1, 1965)

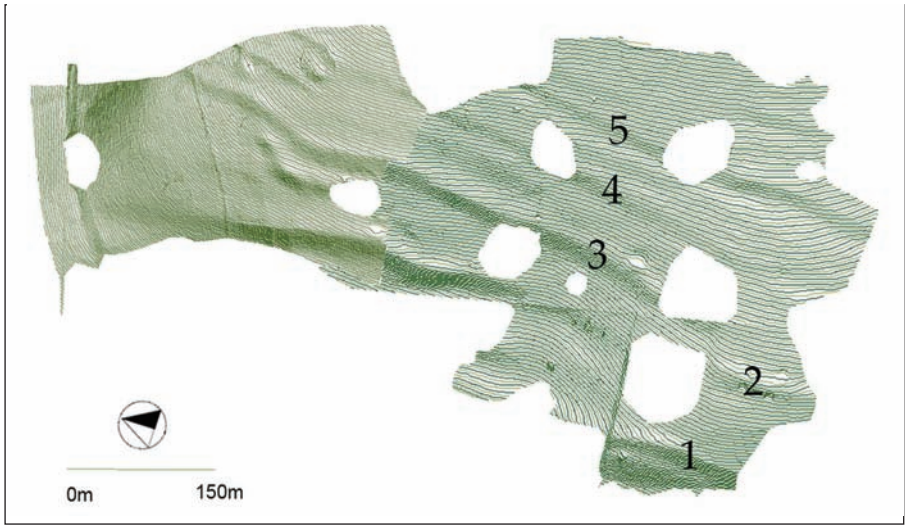

Figure 2 *Map of the Little Combes Hill lynchets (after Davis 2007)*

in 2008 indicated several areas of high values, maybe caused by concentrations of burnt flint.

In 2008, five trenches were opened. Of these, Trench 6 was laid out to cut across two lynchets (nos 4 and 3) and the area of the field between them, to investigate the relation between fields and lynchets. The positive lynchet proved to be formed by a soil that is slightly more clayey and a bit lighter in colour than the thin layer of topsoil above. The lower part of the lynchet deposit is more reddish in colour and probably contains traces of Atlantic brown forest soil.[9]

The majority of the finds, largely consisting of pottery sherds, fire-cracked and worked flints, came from the lower down-slope part of the positive lynchet, an area protected from further erosion by overlying lynchet material. The relatively high number of relatively well preserved, though mostly small, flint-tempered pottery sherds found in all of the lynchets suggests systematic manuring, as attested from other Late Bronze Age contexts.[10] The paucity of Iron Age pottery throughout the excavations is more problematic. While it may represent the abandonment of the fields at the end of the Bronze Age, it could mean that Iron Age farmers did not use domestic waste as manure. In Trenches 6 and 8, the lynchets also contained prehistoric tree-casts; these were filled with reddish silty clay overlying chalk which had been leached and rounded by acidic soil conditions, probably representing the remains of an Atlantic Brown Forest soil.[11] The tree-casts have been protected under the lynchet banks, and probably significantly pre-date the agricultural use; they may record the forest that would have covered the Downs during the Mesolithic Period.

In the field area between the lynchets, the soil was only between 10 and 25cm thick. No clear division could be discerned between the soil in the upper part of the lynchet and the field area, although the soil in the lynchet was richer in clay and a shade more yellowish/reddish. The soil in the field area contained numerous rounded chalk pebbles.

In the lower part of the lynchet, a small circular pit, 32cm in diameter and 31cm deep with straight sides and a flat base had been cut into the chalk and subsequently covered by the lynchet bank. The fill yielded Bronze Age sherds, charcoal concentrations and small pieces of dark grey cremated bone. It has not yet been determined whether the bones are animal or human. They are too few to come from a complete adult human, but "token deposits" of cremated human bone have been found elsewhere both in domestic contexts and in connection with field boundaries.[12] While the normal rite of the Late Bronze Age is cremation and urn burial in small cemeteries, deposits of bones without vessels are known from ditches, pits and postholes.[13] Postholes marking the boundaries of co-axial field systems have been uncovered on lowland sites like Barleycroft,[14] while pit-rows defining field boundaries are also known from Bronze Age sites in central Europe.[15] However, the West Dean pit is unconvincing as a post-hole: it lacks a post mould and the relatively large fragile pottery sherds lying on the base do not suggest that it supported a significant post. Moreover it is over 9m distant from the south end of Trench 7, which would give a rather wide spacing of the theoretical posts. However, it could mark a cross division or simply be an isolated feature.

Four flint axe fragments were found in a restricted area in Trench 6 (Fig. 3), though unfortunately, their exact stratigraphic relationship with the field is unclear. Neither of the rough-outs has a preserved butt, but the finished, heavily smashed piece seems to be of late Neolithic thick butted type. These finds are interesting in relation to possible flint mining activity in the vicinity, almost certainly pre-dating the lynchet formation.

Trench 7 was laid out perpendicular to Trench 6 across the lower lynchet (no. 3), connecting to Trench 2. It produced a number of flint-tempered Bronze Age sherds, worked flint and some animal bones.

Trench 8 explored the upper end of the upper lynchet (no. 5), where it had been hypothesized in 2007 that there might have been a hedge. Bronze Age hedgerows have been claimed in other sites, based on waterlogged wood remains (Meadow Lane, St. Ives; Lingwood Wells, Cottenham)[16] and on closely spaced double ditches (Barleycroft, Etton). Trench 8 extended the excavated area to the west and found tree-throws in the upper part of the lynchet (as in Trench 6), but they did not form any regular pattern and their distribution seems to be related to preservation under the lynchet rather than to any hedge-like structure.

In this trench, a thin layer of topsoil covered a clayey silt with a high content of angular and subangular flint. Such flinty soils can be the result of agriculturally induced erosion.[17] Finer particles are washed out, leaving only a stony skeleton soil behind that is resistant to further erosion. This would indicate that the low upper lynchet, no. 5, was subject to the heaviest erosion. A thin layer of reddish clay represented the last remains of the Atlantic soil, with thicker deposits in the numerous tree-throws. The excavated area was crossed by numerous involutions that ran more or less parallel in an east-west direction, with a maximum depth of 20cm. These grooves, distorted frost polygons, were filled with a heavily calcinated yellowish loess-like soil, which is probably all that remains of an early Holocene loess cover that may have reached a thickness of up to 1.2m.

Figure 3 *Damaged flint axe from Trench 6*

A badly preserved crouched skeleton was found at the edge of the trench on the bottom of one of the tree holes (Fig. 4). Only the upper part of the skull, the teeth and the long bones are preserved, all softened by the acidic soil conditions. There were no grave goods, and the body was extremely contorted. It was either buried in an extreme crouched and twisted position or the bones were re-arranged post-mortem. The N–S orientation of the skeleton follows the lynchet, which may indicate that it still operated as a field boundary at the date of the burial. The dating is open to speculation: it could be Bronze Age or, more likely, be a rapidly disposed-of victim of the gallows on the Trundle.

Trench 9 was located to assess a round anomaly identified by the resistivity survey, which we thought could be the site of a Bronze Age hut. However, although the sediments produced a large amount of fire-cracked flint and Bronze Age pottery, they also contained late medieval/early modern sherds and two iron implements. Although the number of finds could indicate a Bronze Age settlement in the area, the 19th century landscaping for a landscape park and a golf course has destroyed any structural evidence. The vegetation of Little Combes hill, which is extremely monotonous, consisting mainly of grass, containing few species typical of the dry calcareous grassland of the Downs, also indicates extensive landscaping, probably involving ploughing and re-sowing.[18]

As Richard MacPhail has pointed out, the remaining height of the lynchets masks quite substantial erosion. To evaluate the development of the lynchet and the soil profiles on Little Combes Hill in general, a series of auger cores was taken down the slope and across parts of the Lavant valley. These showed that the depth of soil of the lowest lynchets and even in the valley bottom was less than a metre. The valley bottom had a very deep deposit of highly abraded chalk colluvium, suggesting a period of exceedingly aggressive erosion probably pre-dating the lynchet formation and most likely relating to the demise of the Atlantic Forest cover. None of the lynchets excavated so far has shown any evidence for buried surfaces that would indicate longer periods of abandonment, but a more detailed soil analysis is clearly desirable.

Conclusion

The finds from the lynchets range from the Early Neolithic (leaf-shaped arrowhead from Trench 7) to the Roman period. The majority of the pottery comes from the Middle and Late Bronze Age, a period that saw the widespread creation of large scale field systems in other parts of Southern Britain.

Figure 4 *Excavation of the skeleton in Trench 8*

A broader picture of the prehistoric field systems in the West Dean area has been compiled from a study of aerial photographs and field survey.[19] The aerial photographs reveal numerous field remains across the estate (Fig. 5).

The fields identified so far fall into two major categories of long parallel

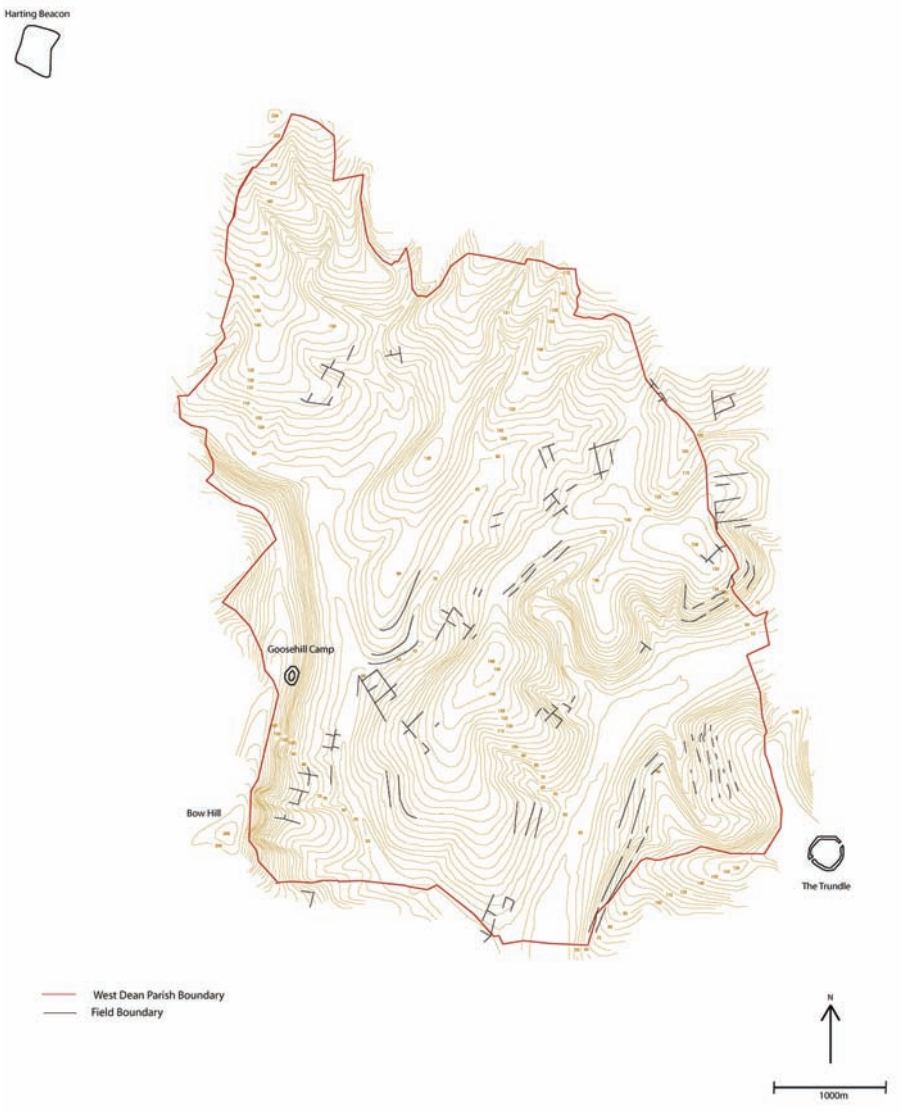

Figure 5 *Field systems in the West Dean area (after Davis 2007)*

lynchets and smaller rectilinear fields with pronounced corners. The topographic survey of 2008 targeted Hat Hill, where both field types were identified from air photographs. It was hoped that a detailed survey would pick up a chronological relationship between the two, but unfortunately no simple relationship could be identified. It is clear that dating these fields requires a programme of systematic excavation. However, the fact that the square-ended rectilinear fields tend to occur lower down and are most densely located near to known Roman villas suggests that they are later in date, probably Iron Age and Roman. The long parallel lynchets are well preserved high up on the hill-slopes in areas that currently have very limited soil depth. This location and the presence of Middle and Late Bronze Age pottery suggest they originate in the Bronze Age, although occasional Iron Age and Roman sherds may indicate that they were also used in later periods.

During the Later Bronze Age and again in the Iron Age, large swathes of Southern England, including the Sussex Coastal Plain, were enclosed within large rectilinear field systems. This apparent focus on agriculture, combined with the recorded increase in metal wealth in these areas, may indicate the rise of political economies based on the control of agricultural output and personal ownership.[20] The West Dean area lynchets do not fit this model very well, since they lack cross lynchets that could be interpreted as internal field boundaries. The very long fields suggest a high level of cooperation and may be indicative of a more communal type of land ownership and a different social economy. This will be one focus of future research at West Dean.

Notes

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