

OBSERVATIONS ON THE STRATIGRAPHY OF EARLY AGRICULTURAL  
REMAINS IN THE KIRKNEWTON AREA OF THE NORTHUMBERLAND  
CHEVIOTS

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The following is a discussion of the chronological development and relationships between different agricultural techniques at several archaeological sites in the Kirknewton area, near Wooler, in north Northumberland. This paper is designed to be used as a working hypothesis, to be added to or amended when further relevant fieldwork becomes available. It cannot be viewed as a final statement on agricultural land-use in this area of the Cheviots, nor necessarily as a reliable indicator of the true chronological depth of various forms of agricultural remains. Its aim is to provide a selection of informative examples which reflect a demonstrable stratigraphic sequence, which it is hoped will provide an indicator as to the origins of certain agricultural techniques that can then be tested by comparison with a larger sample.

This paper is divided into two parts, the first is a generalised discussion of the various agricultural techniques in the area, cultivation terraces, narrow-rigg cultivation, and 'Medieval-type' rigg-and-furrow. The second part is a detailed analysis of each site with reference to plans or photographs where appropriate.

PART ONE: AGRICULTURAL REMAINS

A. Cultivation terraces and lynchets.

The establishment of cultivation terraces and lynchet formation are a comparatively widespread phenomenon in this area of the Cheviots, and have also been noted in the adjacent areas of Roxburghshire. The major problem relating to the interpretation of these agricultural remains has always been in connection with the dates of construction and exploitation. Frequently in earlier literature a Dark Age or Anglian phase of development was attributed, although as early as the publication of the Inventory of Roxburgh (RCAM (Scot) 1956), certain indicators were there which although they went against the grain of traditional interpretation were rightly and objectively noted. Hence we find recorded in this publication terracing that may be contemporary with a

phase of reoccupation of two homesteads on Fasset Hill (No 750). Similarly at Hayhope Knowe we have an example of terracing that antedates a homestead (No 754), and a further example at Sourhope Burn (No 684) where the construction of hut-circles has modified or obliterated adjacent terracing, thus firmly establishing a pre-Dark Age if not a "pre-Historic" date for this type of monument. Thus it should appear as no contradiction to the above body of evidence when it is noted that the examples from the Kirknewton area conform to this hypothesis of a pre Dark-Age construction date, and firmly anchor this type of field monument in the prehistoric period.

Within the field system of South-East Whitehall in the College Valley, a small series of broad cultivation terraces are overlain by a randomly distributed cairnfield and a walled field system with associated enclosed stone-built settlements. The terraces themselves would appear to be linked with a number of unenclosed stone built house stances similar in nature and dimensions to those excavated at Houseledge on Black Law, in an adjacent area of the Cheviots (Burgess 1980). Similarly at Kilham Hill the exploitation of a series of low cultivation terraces is terminated by the construction of a partially - scooped, enclosed Cheviot - type settlement across this terracing. Further examples exist at White Hill where terracing, which may be contemporary with a bivallate hillfort, is overlain by a hut-circle and an enigmatic rectilinear settlement (White Hill 1), and is also partially destroyed by cross-contour rigg-and-furrow. In addition the site of Hetha Burn Head has terraces which are initially "sealed" by a walled field-system with unenclosed hut-circles, which are both subsequently disturbed by the establishment of a complex of scooped enclosures.

Taken as a whole this data clearly illustrates the prehistoric context of many cultivation terraces and lynchets, although how extensively this rule can be applied is uncertain. It would seem more than likely that this form of cultivation has a wide chronology, if for no other reason than that it is one of the few methods available to agriculturalists to create a relatively flat area for cultivation on the upland slopes.

#### (B). Narrow-rigg ploughing

Narrow-rigg cultivation in the Kirknewton area has several consistent features. Firstly, it always respects the contour development in any specific area and rarely if ever crosses these contours, preference being given to a linear development along the slopes. One of the major advantages of this form of agriculture is that contour ploughing halts or slows soil erosion, thus helping to maintain the vital nutrient complements of the soil, which in the circumstances of cross-contour ploughing would slowly be leached out and washed downhill, therefore beginning the cycle towards the development of a podzolic regime. However, this may not be an irreversible trend, and it has been suggested recently that cultivation and erosion can reverse soil degeneration, prevent peat formation and reintroduce brownearth soils (Dr. R. Sheil in lecture 9.1.83), although it should be recognised that this hypothesis would need to be tested to establish its reliability over a diversity of upland habitats before its generalised applicability could be accepted.

The physical morphology of narrow-rigg cultivation is relatively consistent and comprises of rig development with consequent furrows at regular intervals of c.2.0m apart. Additionally, this technique appears in early contexts in each of the stratigraphical sequences discussed. On Mid Hill plateau it is demonstrably "sealed" by unenclosed stone-founded hut-circles, enclosed stone-built settlements, and a scooped Cheviot-type complex, and has areas of its perimeter overlain and destroyed by later cross-contour rigg-and-furrow (Plates 3A/B). This sequence is mirrored on the eastern slopes of Mid Hill where a narrow-rigg system, which may be contemporary with enclosed stone-built Cheviot-type settlements, is again destroyed in several areas by later cross-contour rigg-and-furrow (Plate 1 B). Quite clearly we are here dealing with potentially a very early form of agriculture from the information provided by its contextual background, and when combined with the fact that it occurs at relatively high altitudes, it may represent a phase of the earliest agricultural colonisation or exploitation in this area of the Northumberland Cheviots.

#### (C). Rigg-and-furrow

In each of the contexts discussed, the presence of rigg-and furrow appears as the final episode in the agricultural sequence, frequently altering the appearance or destroying the palimpsest of earlier features. It consistently occurs as a cross-contour ploughing technique with or without reverse 'S' bends, and must therefore from the agricultural aspect have promoted soil and nutrient erosion from the areas exploited, therefore being a particularly wasteful and possibly short-term form of agriculture.

At both Mid Hill sites the rigg-and-furrow can be shown to have encroached upon, and destroyed areas of earlier narrow-rigg cultivation which were running along the contours (Plate 2A). Similarly at White Hill several areas of terracing have been cut into by cross-contour rigg-and-furrow, and at Southernknowe this technique has almost totally destroyed an enclosed field system with associated unenclosed hut-circles (Topping 1981,23). Clearly at all of these sites we are seeing the final manifestations of cultivation, which in itself is also illustrating by stratigraphy the morphology of the earlier forms of land use.

### PART TWO: EXAMPLES OF AGRICULTURAL STRATIGRAPHY


#### (1). Hetha Burn Head

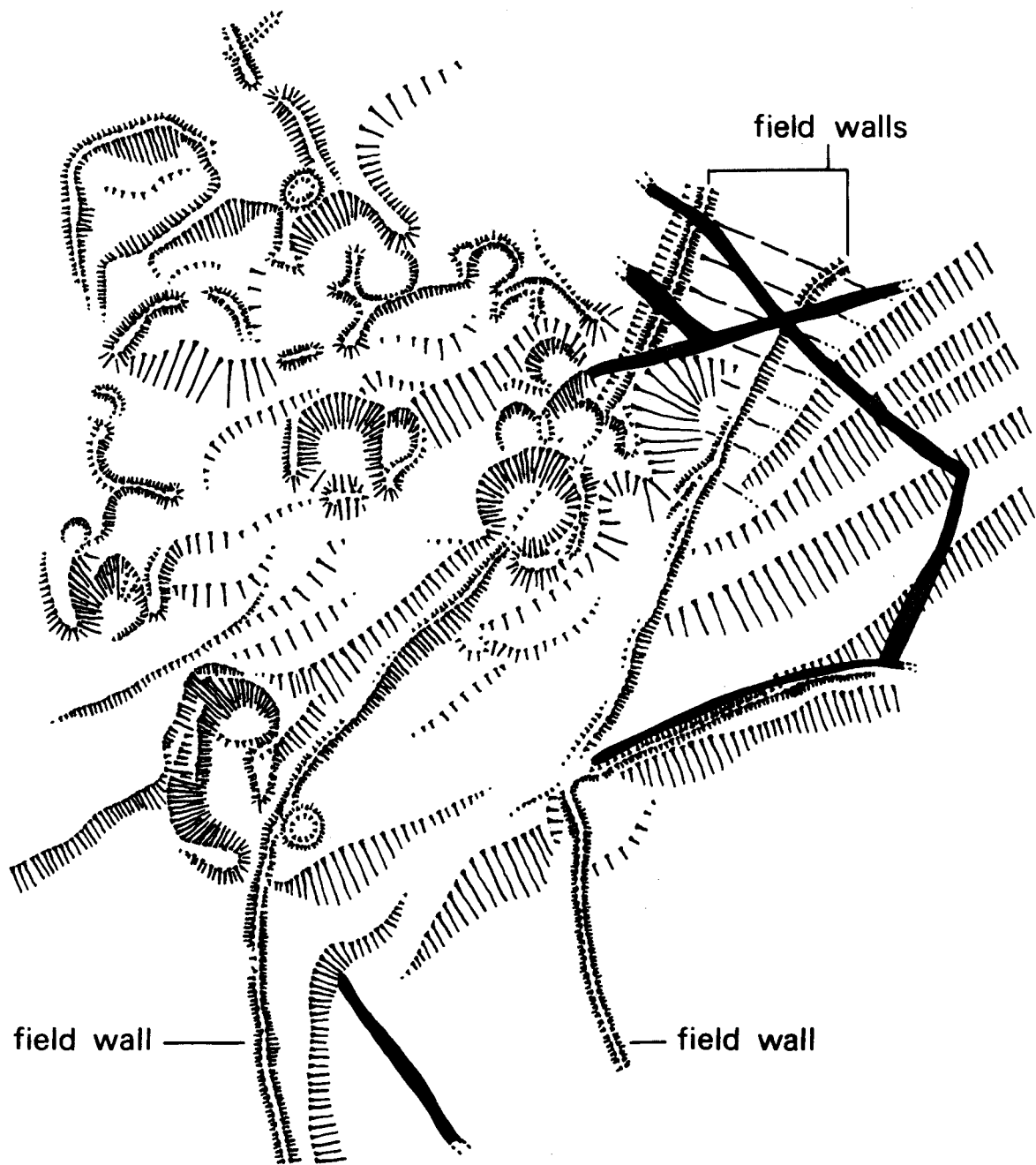
At the head of the Hetha Burn Valley is situated a complex of conjoined enclosures and settlements, which would seem to suggest a situation conducive to social stability and economic growth within this locality (see Fig 1). However the real importance of this settlement complex lies in the fact that it is the latest in a series of remains in this area, and overlies several earlier features which can be demonstrated by the current survey.

# HETHA BURN HEAD

8670 2640



 Modern drainage ditches



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The latest 'Cheviot-type' settlements and enclosures, some of which must have originally contained timber buildings, overlie and partially destroy a system of field walls, and are partially sited upon, and cut into a series of cultivation terraces. These episodes can be clearly seen in the northern and eastern areas of the settlement complex. That the field walls themselves, associated with an unenclosed stone-founded hut, overlie the cultivation terraces must indicate the 'terminus post quem' of the terracing and give a further dimensional depth to the chronological development of the site. So to summarise the chronological sequence, the initial phase would see the creation of the terracing, which after an unknown period of time was replaced by a walled field system associated with an unenclosed hut or huts, which was built at an angle to, and running across the terracing, effectively terminating the utilization of this terracing. Then, at a later date we see the development and expansion of the 'Cheviot-type' settlement complex which 'seals' and partially destroys the earlier two developmental phases, and must bring to an end these particular economic strategies exploited during those earlier periods which prompted the construction of the field system and terracing.

## (2). Kilham Hill

On the south-east facing slopes of Kilham Hill (8945 3050) at an altitude of 152 metres O.D. lies a partially scooped settlement. The importance of this site lies in the fact that it has been constructed across a number of cultivation terraces, thus establishing an effective 'terminus post quem' for the terracing if not for the culmination of crop agriculture on these slopes (Plate 1A). Although currently it is impossible to put a precise date on this type of settlement due to a dearth of scientific age determinations for this settlement form, it is clear that the latest potential date-range this site should probably fall within is the Romano-British period, (although possible continuity into the 'Dark Ages' should not be dismissed). Consequently, it is possible to view this series of cultivation terraces as predating the establishment of this settlement, and therefore being constructed and used up to, and possibly into the Romano-British period. They are clearly not of a presumed 'Anglian' phase or a development of later Medieval settlement in the area, and represent a convenient and useful local parallel to the sequence established at Hetha Burn Head discussed above.

## (3). Mid Hill ( eastern slopes)

On the eastern slopes of Mid Hill, roughly between the altitudes of c 137-274 m O.D. and following the contours southwards towards Laddie's Knowe over a distance of approximately 1.5 - 2km, the following stratigraphic sequence is apparent. The initial phase of cultivation is represented by narrow-rigg contour ploughing (Plates 1B,2A/B), and this phase would appear to be associated with a group of four enclosed stone-built settlements which may or may not be contemporary with one another. Although the precise relationship is difficult to establish purely from field survey alone, one could argue from the appearance of these settlements in low-light conditions that they may well overlie this form of agricultural practice perhaps providing a 'terminus post quem' (Plate 2B). However, whatever the exact relationship is, this contour ploughing is effectively 'sealed' by an intrusive area of cross-contour rigg and furrow cultivation complete with

'S'-bend reverses in the central area of the narrow-rigg adjacent to the three northernmost settlements. This stratigraphic relationship is beyond doubt as Plate No 2A clearly illustrates, and again indicates the chronological depth and antiquity that 'narrow-rigg' contour ploughing must represent.

#### (4). Mid Hill (Plateau)

On the relatively flat expanse of land between Mid Hill and Ring Chesters multivallate hillfort, a zone extending from the 274m contour to above that of 304m O.D. exists a vast tract of 'narrow-rigg' cultivation. This area of ploughing respects the edges of the hill slopes, its only deviation in altitude being to gently rise and cross the 1000 ft contour as it approaches the vicinity of Ring Chesters to the south-west.

Stratigraphically the 'narrow-rigg' appears to be the earliest feature in this area, and is overlain by a group of sites which include unenclosed 'hut-circles', traditional 'Romano-British Type' homesteads, and a scooped complex. That this interpretation is correct has been borne out by field survey which has established a total lack of plough-damage to these settlements, although the aerial photographs (plates 3A/B) clearly show the 'narrow-rigg' running right up to these sites, and consequently now apparently beneath them.

The sequence established so far would see an initial phase of 'narrow-rigg' cultivation overlain by varying forms of stone-built settlements. The establishment of these settlements may be contemporary with or pre-date the appearance of traditional cross-contour rig and furrow which cuts into the 'narrow-rigg' cultivation in two major areas along its north-western perimeter, with a further smaller area of rig and furrow encroaching at its southern perimeter adjacent to Mid Hill hillfort

The most likely settlement evidence to be associated with the primary phase 'narrow-rigg' cultivation would appear to be a group of unenclosed platforms clustered around an enclosure and later sheepfold roughly half a mile directly west of Mid Hill hillfort, (8735 2965), whose date could range to any point within the second or first millenium on current analogy with excavated examples.

#### (5). South-East Whitehall.

On the westerly-facing slopes of College Valley lies the complex field system of S.E. Whitehall, a field system that shows a stratigraphy which would seem to suggest the possibility of continuous exploitation of this area over a lengthy period of time. However, leaving aside the speculation as to the chronological development of this site (discussed in Topping 1981), it does illustrate on a physical level a developmental sequence which is quite illuminating.

The initial manifestation of the exploitation strategies takes the form of a series of five cultivation terraces, seen clearly on Plate 4 A, taken from the opposite side of the valley. They are carefully situated between a steep area of scree and a deep-sided ravine containing a tributary of the College

Burn, and maximise the use of the gentlest hill slopes available. Presumably in their initial conception they would also be limited in area by the current limits of woodland clearance, which may have been a further contributory factor which defined their situation.

The cultivation terraces may be contemporary with, or earlier than, a group of 73 randomly scattered clearance cairns. Several individual cairns overlie the positive lynchets of these terraces which may or may not imply a contemporaneity with the development of the terracing, or simply the fortuitous deposition of the cairns, as it is entirely feasible that they may have been one of the by-products of the creation of the terraces. However, it is possible to determine that they would appear to predate the establishment of the field walls by the fact that they are to be found over a much larger area than that enclosed by the walls, which seem to delineate a more contracted area than that utilized during the period when the terracing formed the main type of agricultural exploitation.

These early phases in the development of the field system seem to be associated with several unenclosed buildings such as No.s 9 and 14, which are situated outside the later field walls, and on the periphery of the area of cultivation.

At the close of this early period the cultivation of the terraces appears to end, whether through a deliberate change in the economic strategies or perhaps as a result of some form of environmental stimulus, or both, and we now see the development of a walled field system. This field system encloses a smaller area than that utilised in the earlier period, and only includes roughly half the area exploited by the cultivation terraces, possibly indicating that cultivation was no longer the principal concern within the economy. This interpretation is lent weight by the group of irregular sub-enclosures within the main perimeter wall of the field system, which would seem to imply some form of deliberate segregation and would have hindered the use of the plough in the southern area of the fields. However, one interesting possibility is that a mixed farming regime was adopted in this phase with the animal component penned in the sub-enclosure field, or paddocks, while the remaining undivided area was given over to crop cultivation or possibly as an enclosed pasture. It would seem to be at this time that the enclosed settlements are constructed and linked into the overall field system, and a series of trackways appear establishing routes within and through the fields, although the highest trackway clearly predates the field walls and would seem to be associated with the earlier phase, and presumably linked the College Valley communities to higher altitude pasture lands and with other settlements in the adjacent Common Burn area. However, the important factor at this time is the enclosure of settlements by what are clearly non-defensive walls, and the appearance of enclosures without buildings next to enclosures with houses (viz Nos 3,4,5, and 20) which must illustrate a series of new functional requirements presumably linked to economic strategies. It has been suggested elsewhere (Topping 1981, 22) that this is indicative of a move towards stock agriculture and a desire to maintain certain animals at specific times within the immediate vicinity of the settlements, probably to lessen the effects of predation and cater for the shelter needs of the stock.

The termination of this period illustrates the final usage by prehistoric and possibly early historic communities of this field system, and exploitation strategies would seem to terminate until the appearance of several Medieval shielings, two within settlement No 5, and Nos 11 and 12. These may well have been used by the communities from the deserted Medieval villages at Coldsmouth Hill or Hethpool, or the as yet unidentified manorial site in the Trowup Burn.

(6). Southernknowe.

On the valley bottom close to Southernknowe in College Valley is a further example of a field system that has a demonstrable chronological development, and provides yet another illustration of a stratigraphic sequence.

The earliest features of the sequence appear to be a group of at least three fragmentary hut-circles, Nos 28 and 29 (of Topping 1981, 23), which seem to be associated with the partial remains of a series of field walls. These structures occupy the lowest-lying areas of a group of river terraces and may well have been susceptible to flash-flooding when the nearby burn was in spate, although as an advantage this area is one of flush grazing where the soil's nutrients are constantly replenished and would have provided prime conditions for crop agriculture.

Probably at a later date we see the appearance of a group of three scooped enclosed settlements situated either upon (No26), or cut into the highest river terrace (Nos 25 and 26), which would seem to illustrate a desire to avoid settlement in an area prone to flood conditions. Obviously these settlements may not have been contemporary with one another, or possibly illustrate 'settlement shift', but what is certain is that No 26, and possibly No 24, must have been developed over a relatively lengthy period to account for their various complexities in plan, from sub-divisions within the enclosure walls to the addition of a number of huts on the exterior face of the main enclosure walls. They also, as in the case of S.E. Whitehall, would seem to indicate the requirements of a new set of functional attributes through the construction of the enclosure walls, which must illustrate a shift in economic emphasis from that followed by the communities inhabiting the unenclosed hut-circles.

The field walls may have remained in use in this secondary phase, although possibly with a change of emphasis from a clearance depository to stock maintenance. This phase would seem to mark the end of prehistoric and early historic land-use, and is terminated and partially destroyed by the creation of rigg and furrow cultivation, presumably of the Medieval period, which attests the continuing fertility of the soils of this area. This outlying area of cultivation may be associated with the settlement at Hethpool at the head of the valley, although a small shieling, generally associated with the practice of transhumance, does occur on the periphery of the ploughed area. (No 30).

The final phase of land-use is typified by a post-Medieval farmstead, No 27, which may have immediately predated, or have been contemporary with, the first modern enclosures in this area of the valley.



(7). White Hill and Laddie's Knowe.

On the south and south-east facing slopes of these adjoining hills are situated an impressive series of some of the better preserved cultivation terraces in the Northumberland Cheviots (Plate 4B). They form a continuous band of cultivation up to a rough upper limit at the 243m contour, where they are superseded by areas of narrow-rigg cultivation. Although they are in a very well preserved condition, certain specific areas do exhibit a stratigraphy which illustrates a greater potential chronology than would initially appear to be the case.

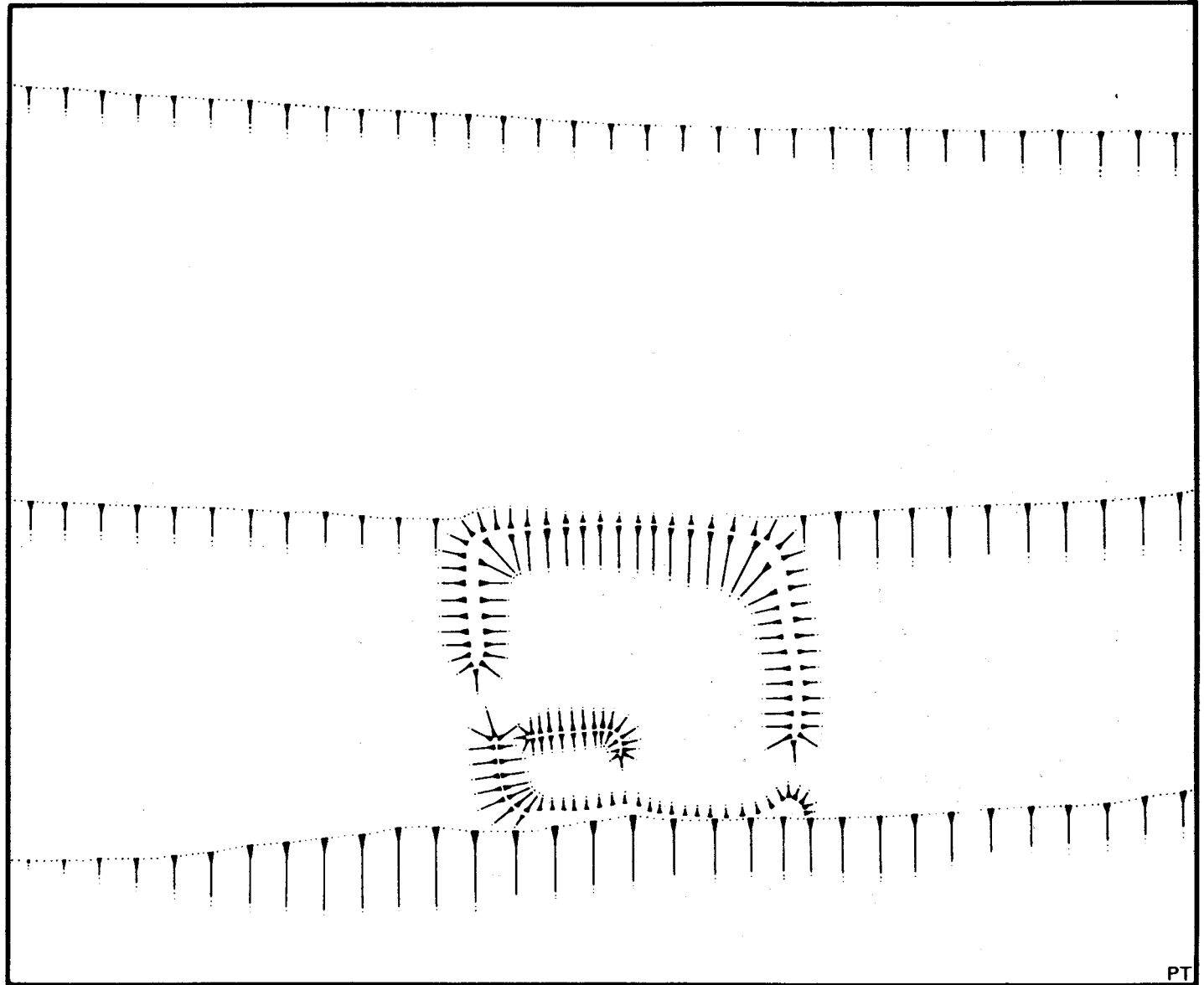
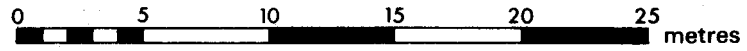
One of the earliest features to overlie this series of terraces is a hut circle at 8854 2884, roughly at an altitude of 182M O.D., and situated on one of the higher terraces in that area. This could be seen to imply that the lower terraces were already in existence when the hut-circle was constructed, as the logical development of such a system would be from the lower slopes upwards. Therefore if we could set a precise date on the hut circle we could gain some idea of the period of the use of the cultivation terraces, but unfortunately this as yet is impossible. However, it is possible to suggest a date within the prehistoric period with some degree of certainty, but whether within the Bronze Age or Iron Age is difficult to ascertain without recourse to excavation.

One further observation which would seem to be relevant to establishing a vague prehistoric date to this series of terracing is the fact that at 8830 2890 are the plough-damaged remains of what appears to be a bivallate hillfort. That this hillfort could be contemporary with the terracing is implied by the fact that the series of terraces adjacent to this site clearly respect its perimeter and avoid the proximity of the defences. This may well indicate a contemporaneity between these sites and provide direct evidence for part of the subsistence strategies utilised by the inhabitants of the fort. It is only the appearance of later ploughing which has finally destroyed this hillfort. Less precise stratigraphic information is provided by four areas of cross contour rigg and furrow cultivation [centred upon 8950 2870; 8905 2880; 8850 2850; 8820 2830] which cut through the terracing and effectively destroys them. Clearly this destruction has taken place following the abandonment of the terracing, although in this instance presumably following a considerable period of time if the above inference is correct and an approximate Medieval date is to be placed on the rigg and furrow cultivation. Thus it would seem that we can place the cultivation terraces with a degree of certainty within the prehistoric period, and state positively that they were not being utilised at the time of the creation of the rigg and furrow.

One further stratigraphic indicator does exist, and that is the roughly rectilinear earthwork, White Hill 1, which is situated upon one of the broader terraces (Fig 2). It is difficult to precisely date this site as it is not particularly diagnostic of any given period, however, what can be established beyond doubt is that it must give a 'terminus post quem' for the cultivation of this area of terracing as it effectively halts the use of the plough along these terraces.

# WHITE HILL 1

893 289



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