Fighting and Farming

in Iron Age West Wales

Introduction

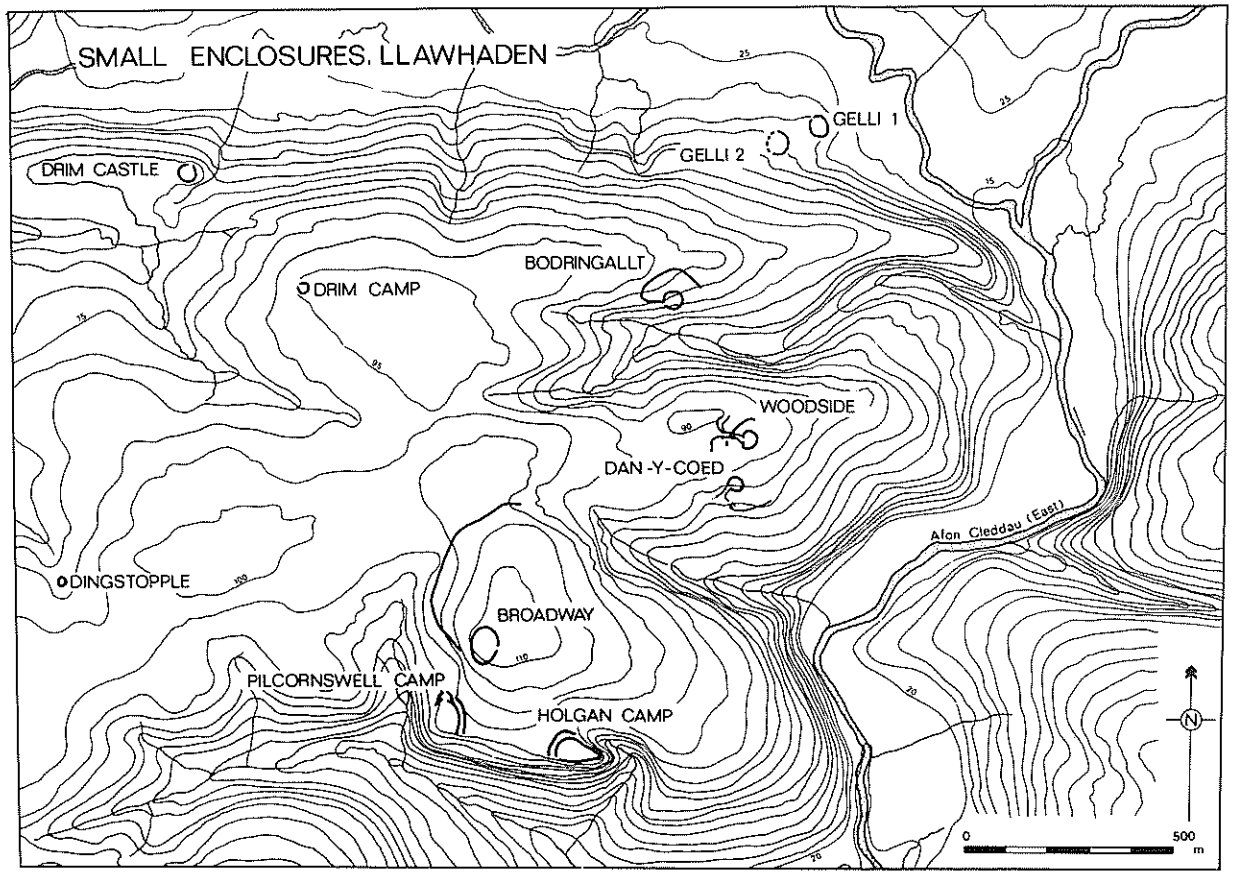
Over the last three years an important programme of excavations has been carried out on a group of small defended settlements of Prehistoric and Roman date near Llawhaden.

The Llawhaden sites are typical of the defended settlements of central Pembrokeshire. Today these usually survive as gentle grass grown banks and ditches representing the levelled remains of once formidable defences, which were necessary in the war-like Celtic society of the first millenium BC. Within these defences were houses and storage structures and additional outer enclosures were sometimes provided for the protection of livestock. Two main types of settmenent are known: the first, which can be called "small hillforts", are often situated in strong, naturally defensible positions and sometimes strongly defended artificially by two or more lines of banks and ditches. There are also "ringworks"; smaller, single banked enclosures often situated in non-defensive hillslope positions.

Archaeologists would like to answer a number of questions regarding these sites: exactly when were they occupied? Is one type earlier than another or were they occupied at the same time? What class of people lived in them - for instance was one type of site the residence of a chieftain and another of a person of less wealth and importance? What crops were grown and what animals were kept and how did the economy influence the type of society that developed?

Unfortunately, we are rapidly losing the chance of answering these questions. The majority of sites lie on farmland and slowly but surely year by year are being ploughed away, not so much by intensive arable farming but by reseeding operations. In order to obtain information on these sites before their final destruction, the Dyfed Archaeological Trust has undertaken a programme of survey and excavation, a large part of which has been focused on the group of sites north of Llawhaden.

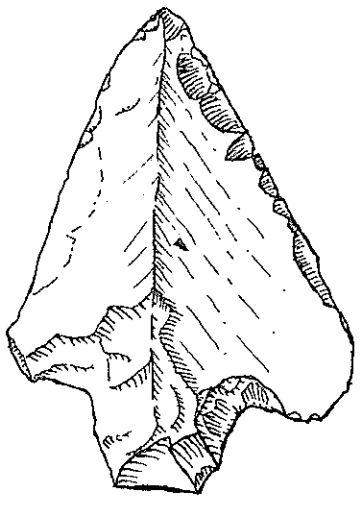
The Llawhaden Group



The sites occupy an extensive (4 sq. km.) tongue of land lying between Llawhaden and Gelli. Eleven defended sites are known in the area, which is the greatest concentration of small enclosures in Dyfed. A number of types of site are represented. Dingstopple Motte and Drim Castle are Medieval but the rest are of Prehistoric origin. Of these Broadway, Pilcornswell and Holgan are "small hillforts" while the remainder are "ringworks". The majority of these sites are under the plough. Small scale excavation has been carried out at Broadway, Pilcornswell, Holgan and Bodringallt while Drim, Woodside and Dan-y-Coed have been totally excavated.

The Early Bronze Age

The earliest occupation so far discovered lay below the defences of Pilcornswell, Holgan and Woodside. Archaeological features consisted mainly of pits and hollows but included a round-house at Woodside. Radio-carbon dates suggest this occupation belongs to the Early Bronze Age (as early as 1800 BC). These structures were long buried and forgotten when the main phase of occupation began and their preservation and discovery was to some extent a matter of chance.

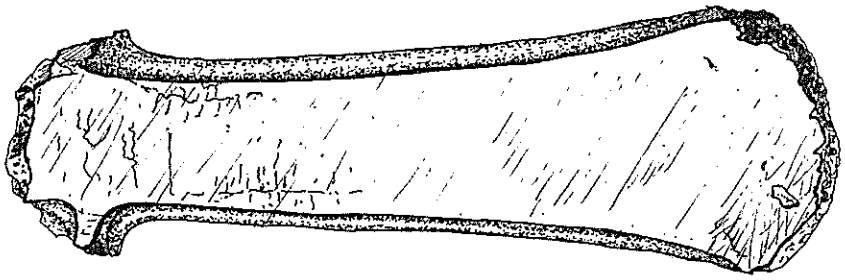


Early Bronze Age flint arrowhead from the pre-rampart occupation of Woodside. 2:1

These discoveries are important as they show a much greater density of Early Bronze Age activity in the area than would be suspected from the relatively few surviving monuments such as round barrows and standing stones. Many of these have long been destroyed by agriculture and the Bronze Age landscape of lowland Pembrokeshire was probably every bit as densely settled as the upland north.

The Later Bronze Age

After the Early Bronze Age is a period between 1400 and 800 BC when hardly any sites are known in West Wales. No certain settlement has been excavated at Llawhaden although a bronze trunnion chisel of the period was discovered embedded in the enclosure bank at Broadway. This may have been accidentally lost and only later incorporated into the rampart but it does suggest that there may have been a settlement of this date somewhere in the area.



Later Bronze Age trunnion chisel from Broadway. 1:1.

The Small Hillforts

This lack of settlement suggests that there may have been a catastrophic breakdown in society during the period, perhaps brought on by various factors such as over-population, over-cultivation of land and climatic deterioration. Certainly when settlements were again well established in the first millenium BC, society had become much more aggressive. Continuing competition for available resources led to widespread tribal warfare, which included ritualised head hunting and necessitated the construction of massive defences around settlements.

The earliest defended settlements at Llawhaden were the larger sites, the small hillforts Broadway and Pilcornswell. Broadway started as an undefended settlement, perhaps as early as the eighth century BC and only later was given a defensive bank and ditch. Pilcornswell was built from the beginning as a defended settlement, perhaps at a slightly later date. Its defensive rampart seems to have been supported by timbers which collapsed in flames into the ditch, perhaps as the result of enemy attack. This sequence demonstrates the increasingly warlike nature of the times.

The Ringworks

These tensions may have become worse from the third century BC onwards (the Later Iron Age) leading to a fragmentation of society and the construction of large numbers of ringworks. It is the total excavation of the ringworks - Drim, Woodside and Dan-y-Coed - that has provided the bulk of our evidence regarding the structure and function of these settlements. Dan-y-Coed and

Woodside were particularly interesting as they were paired sites, lying next to each other.

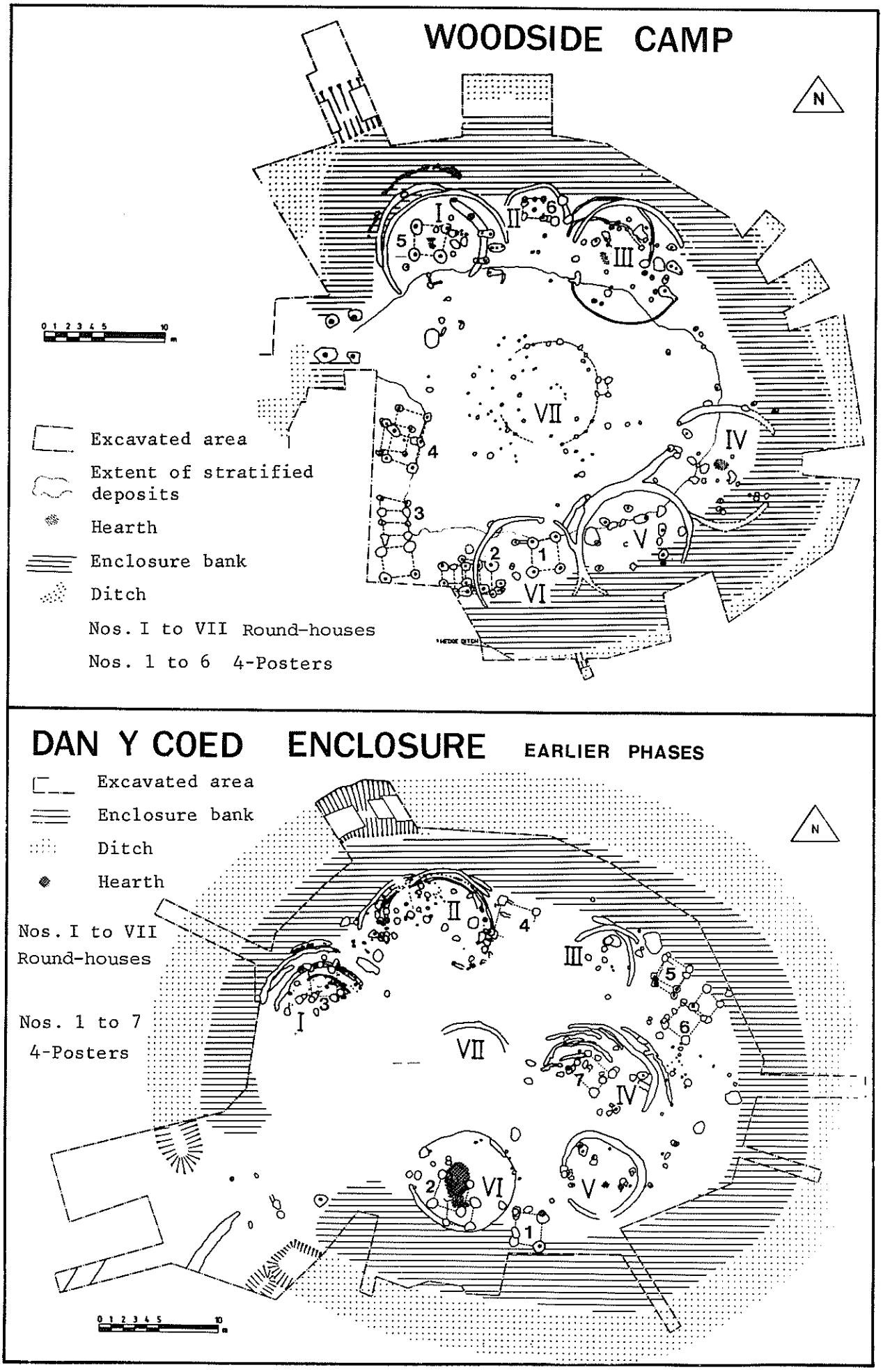
Although the sites were small, the defences were massive; the ditch at Dan-y-Coed was ten feet deep in places, the ramparts probably reaching an equal height. The ramparts would have been topped by a fighting platform and the entrances at Drim and Woodside were defended by timber towers much like an American cavalry fort. Internal structures - represented by post-holes, drains and wall gullies - included two main types. The first were round dwelling houses with low walls and high pitched thatched roofs, much like recent African houses. There were also "four-posters" - storage strucrures raised on four massive posts to protect the contents from damp and rodents. Many of these buildings were rebuilt a number of times leaving a complex sequence of post-holes and gullies for the archaeologist to interpret.

The most complete plans come from the larger ringworks Dan-y-Coed and particularly Woodside. The sequence of development is also clearest at Woodside. At first only one or two round-houses and 4-posters were built within the enclosure, but later it filled up with structures. In its later phase it had a neatly planned layout with round-houses arranged around the periphery of the site surrounding a central (perhaps slightly larger) round-house. The 4-posters were largely confined to the south western corner. At Dan-y-Coed there was also a succession of round-houses and 4-posters although the latter were not concentrated in any one area but were scattered throughout the enclosure.

A very elaborate approach was provided to Woodside Camp. At first this consisted of a metalled trackway flanked by banks and ditches with a timber tower set half-way along it. The excellent preservation of these features was due to their protection by two later arcs of bank and ditch laid out more or less concentrically to the main enclosure. Both these phases of outwork were probably intended to provide a monumental and impressive approach to the enclosure.

An indication of the dates of these sites is provided by finds of pottery and a brooch dated to the first century BC and by radio-carbon dates. These suggest that occupation at Dan-y-Coed and Bodringallt started in the later Iron Age (probably in the second century BC). Woodside and Drim were probably not established until early Roman times although buildings and material culture remained of a traditional native type.

The metalled trackway leading to Woodside.

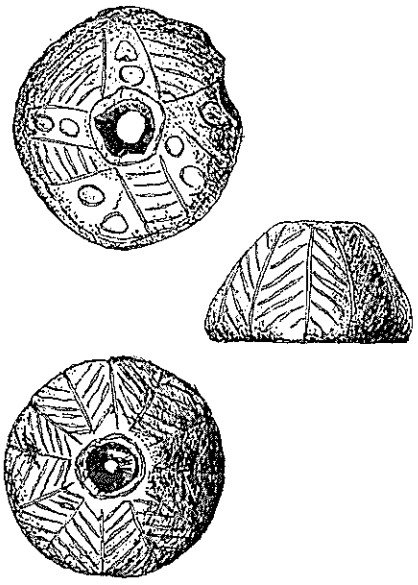

WOODSIDE CAMP
N
Excavated area
Extent of stratified deposits
Hearth
Enclosure bank
Ditch
Nos. I to VII Round-houses
Nos. 1 to 6 4-Posters
DAN Y COED ENCLOSURE
EARLIER PHASES
Excavated area
Enclosure bank
Ditch
Hearth
Nos. I to VII Round-houses
Nos. 1 to 7 4-Posters
N

Economic and Social Function

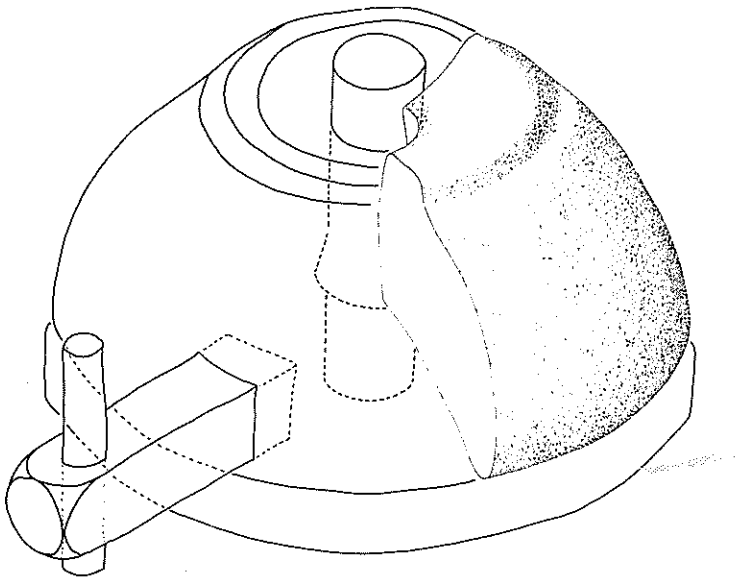
We can reach some conclusions regarding the economy and social function of the ringworks. A mixed farming economy was practised: although the soil is too acid for animal bones to survive, stock rearing is shown by the discovery of implements used in the spinning and weaving of wool and the dressing of skins and leather. Arable farming is demonstrated by the discovery of rotary querns or hand mills and of actual carbonised grain from the occupation layers. However, the latter is relatively rare and stock raising was probably more important; today the predominant activity in the area is dairy farming. The sites would have lain in an intensively farmed landscape. Although the ancient field systems have been destroyed by more recent farming, some field systems of this type still survive on the Pembrokeshire coast.

This intensively settled but basically stock rearing landscape could never produce large quantities of surplus wealth, so therefore it could not support complex and sophisticated societies with large nucleated centres, such as developed in the Iron Age in the more arable orientated areas of lowland England. However, in local terms the ringworks were undoubtedly important sites. The presence of relatively large numbers of 4-posters shows that the protection of societies' wealth in the form of stored foodstuffs was an important function, while much effort went into the construction of the defences and the elaborate approach to Woodside. Celtic society was an hierarchical one and this wealth, power and prestige would have been the prerogative of the upper strata of society. A site the size of Woodside would have housed a chieftain, his extended family and servants (about 30 people). The large round-house at the centre of Woodside was perhaps the residence of the chieftain and his immediate family. A smaller, single family group may have lived at Drim. Lower status individuals probably lived in hut groups scattered amongst the fields.

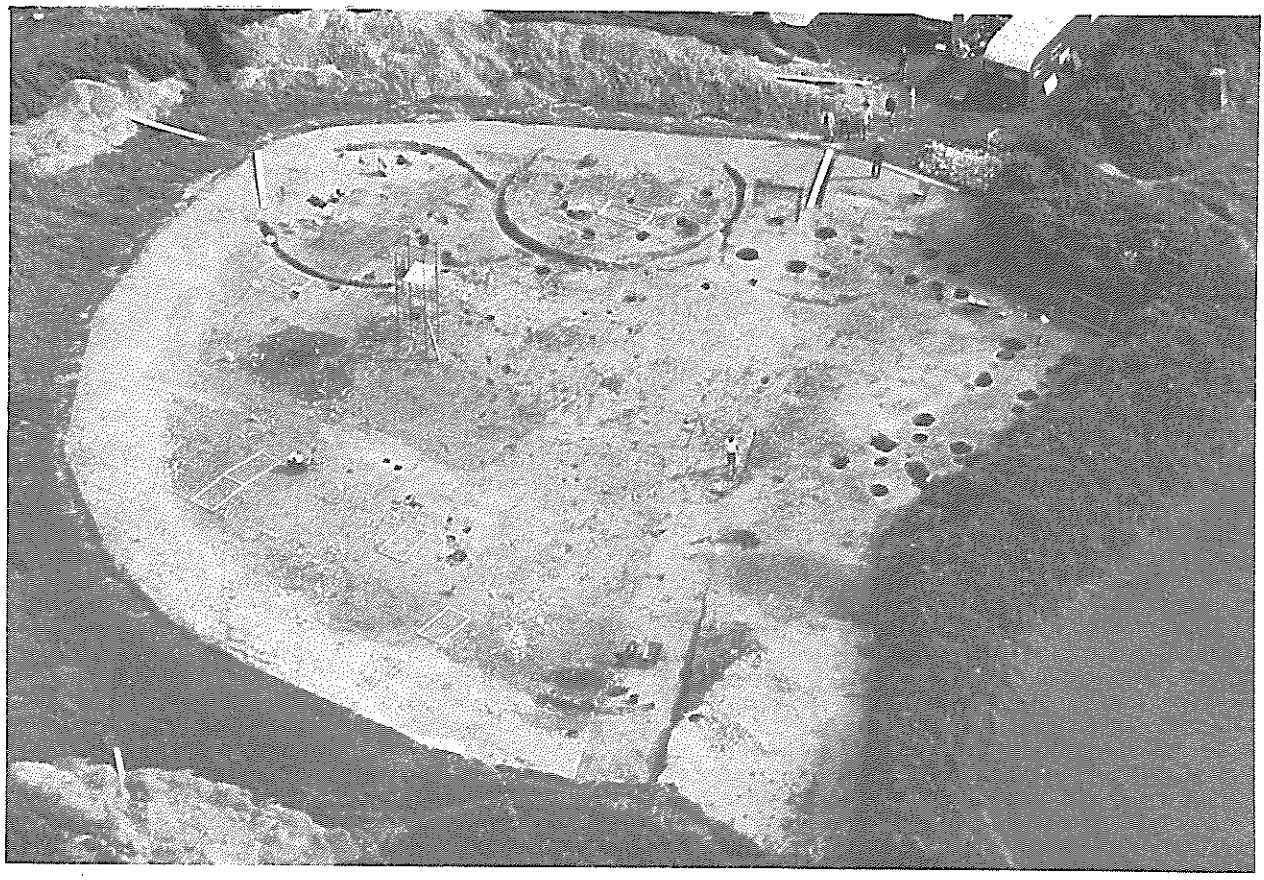
A very interesting question is the reason for the apparent increase in number of these high status sites throughout the Later Iron Age and Early Romano-British period. Reasons may include population increase but also perhaps the Celtic system of partible inheritance (Welsh cyfran) when inheritances were split between heirs rather than passing to the first born. This could be one explanation of the evolution of the paired settlement at Woodside and Dan-y-Coed.



Decorated stone spindle whorls from Dan-y-Coed. 1:1

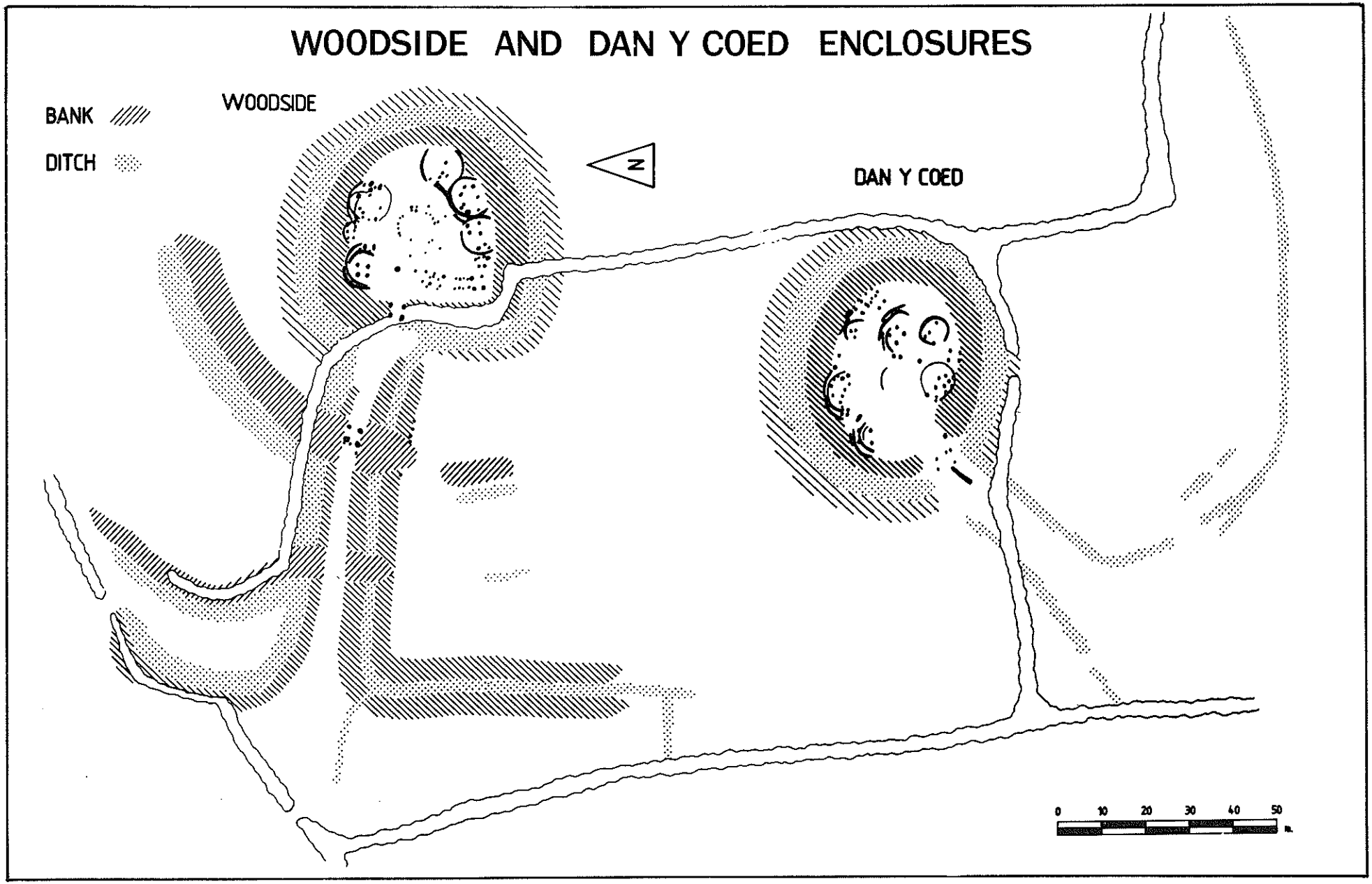


Reconstruction of quern from Woodside. approx 1:5



Aerial photograph of Woodside during excavation.

A round-house at Woodside during excavation.


WOODSIDE AND DAN Y COED ENCLOSURES
BANK
DITCH
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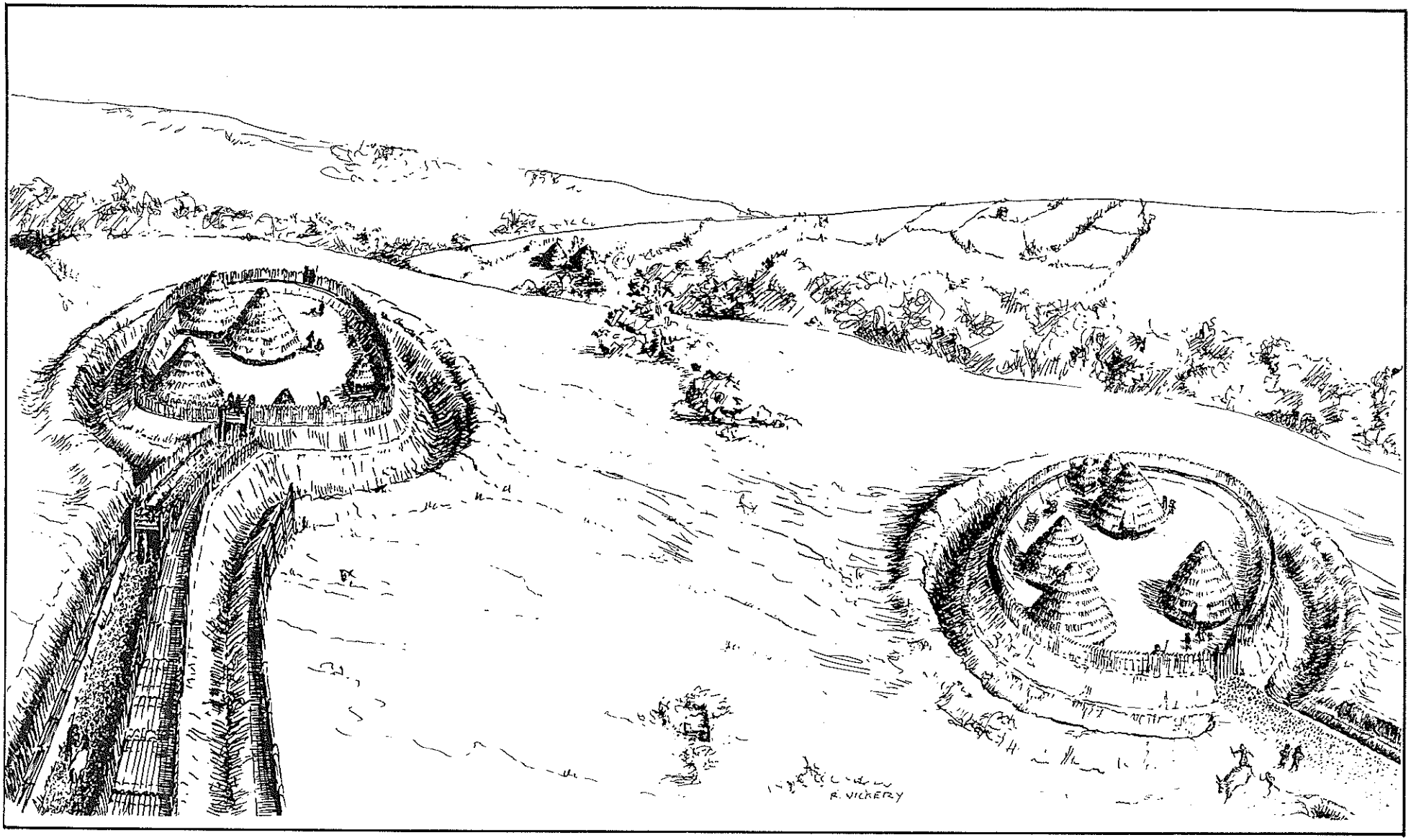
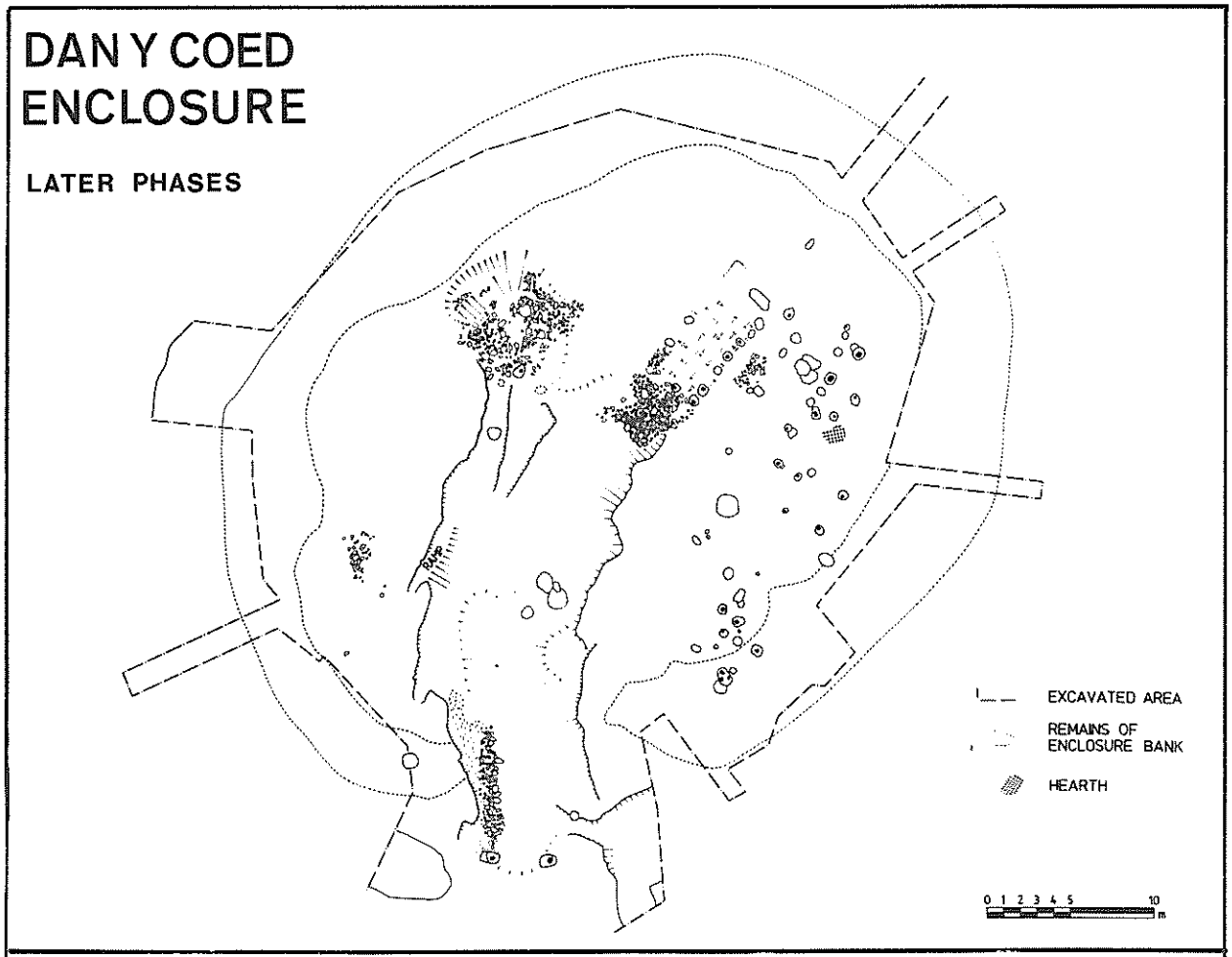
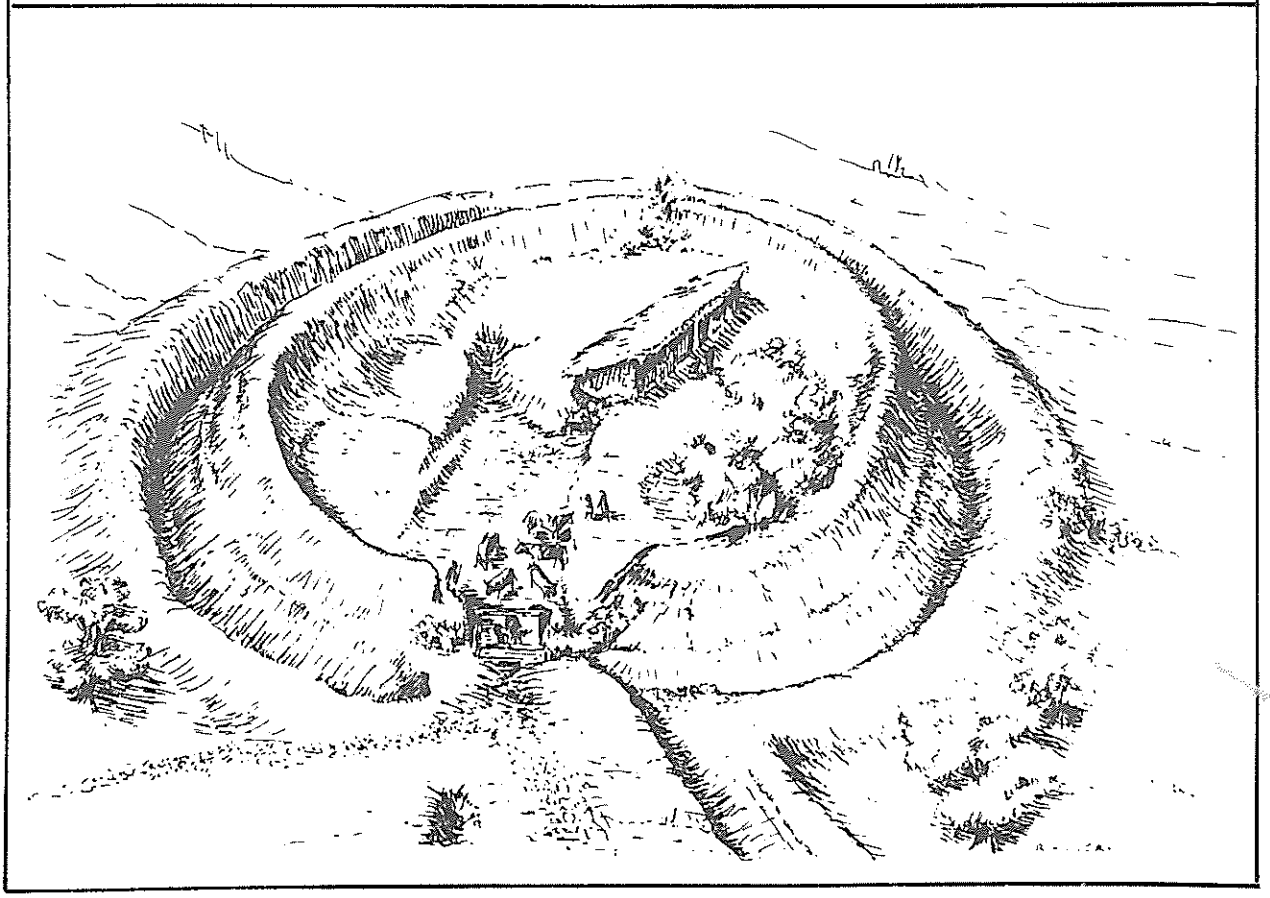


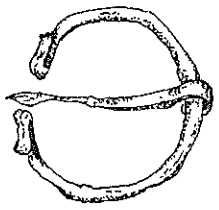
Reconstruction showing the early phase of the enclosures.
Left: Woodside. Right: Dan-y-Coed.



A reconstruction of Dan-y-Coed during its later phase with a plan of the enclosure shown above.



The Romano-British Period



Bronze brooch from Dan-y-Coed 1:1

Drim and Woodside seemed to go out of use fairly early in the Roman period although Dan-y-Coed probably remained in occupation longer and underwent major changes brought about by the Roman occupation. The more peaceful way of life enforced by the Romans led to the abandonment of the defences and many of the inhabitants were able to move outside the cramped confines of the site.

The centre of the enclosure was hollowed out to form a yard. There was only one dwelling house - sufficient for a single family - and this was a partly stone-built, rectangular structure adopting new fashions from more sophisticated Romano-British buildings.

Although these structures at Dan-y-Coed were fairly primitive, fragments of storage vessels for oil and wine and a complete bronze brooch (see above) suggest that in local terms this was a fairly wealthy settlement and possibly remained the dwelling of the descendants of the Iron Age chieftain and his immediate family. Similar development also occurred during this period at Bodringallt. Few sophisticated Romano-British buildings were known in West Wales because continued small scale land development did not produce sufficient wealth for large scale building programmes.

The Dark Ages

After a period of abandonment, an intriguing final phase of occupation occurred at all three of the ringwork sites. At Drim and Dan-y-Coed structures included very crude stone buildings (at Drim hardly more than hard standings for timber superstructures). Radio-carbon dates suggest this occupation may be late Roman at Dan-y-Coed but at Drim it probably belongs to the post Roman "Dark Ages". The chronological spread of this later occupation is demonstrated by a date of 950 ad from one of a number of large pits which form the latest phase of activity at Woodside.

The Dark Age activity is potentially one of the most exciting finds of the excavation as little or nothing is known of settlements of this period in West Wales. The period is marked by widespread social upheavals and an eventual end to the settlement pattern which had lasted for over a thousand years. Widespread folk movements occurred, including the immigration of Irish groups into Pembrokeshire. These upheavals were undoubtedly in large part the result of the end of the Roman occupation although, as at the end of the second millennium BC, the lack of settlement suggests a human catastrophy perhaps due to climatic or other environmental factors. It is in the context of these troubled times that we can perhaps see the re-occupation of Drim and Dan-y-Coed. Further analysis of these structures and remains will throw important new light on the period.

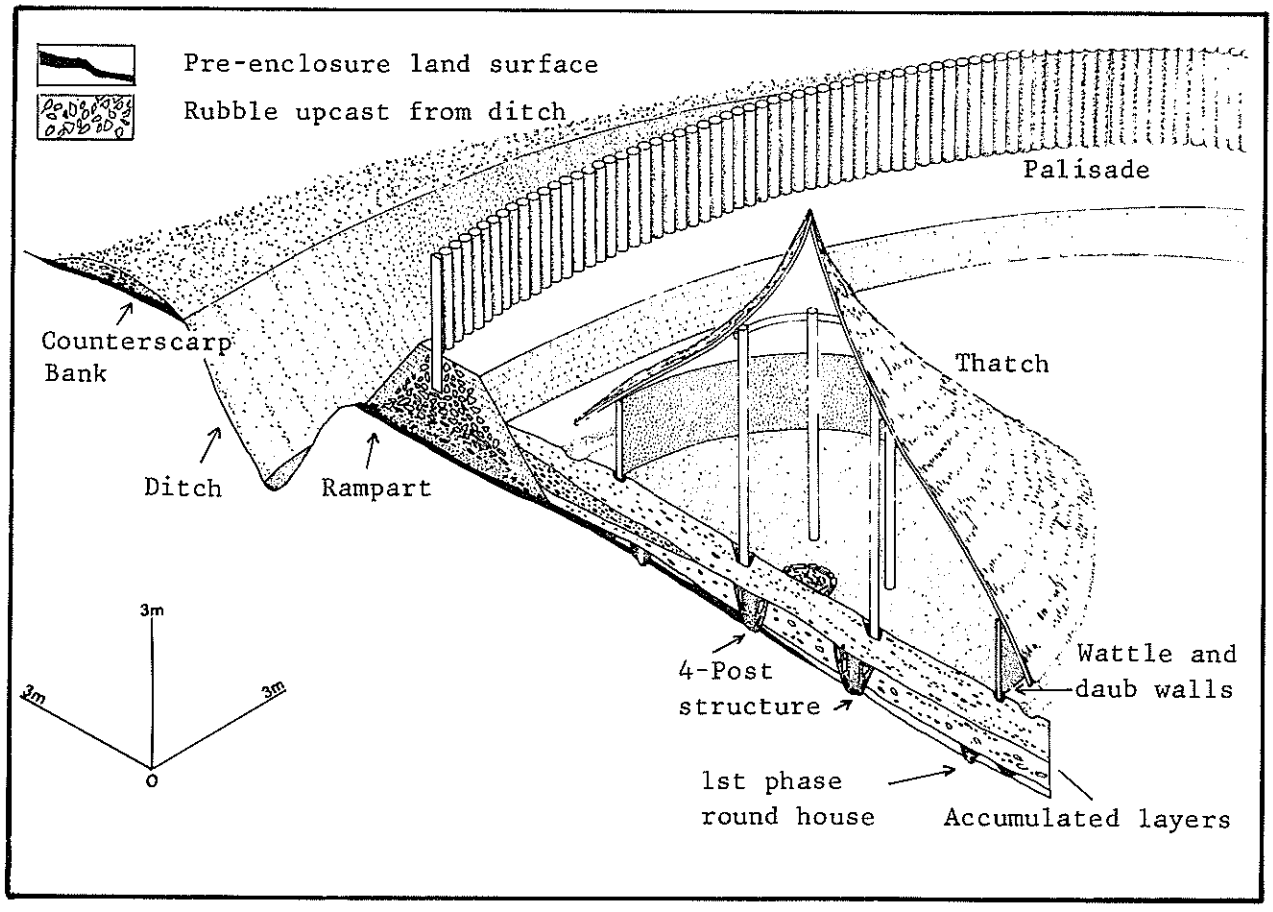
Archaeological Techniques

A number of techniques were used during the investigation of the Llawhaden enclosures. The first and most obvious is archaeological excavation itself, but before explaining this it is necessary to understand how early buildings were constructed, decayed and became buried.

The walls of the round-houses were of wattle or wooden planking faced with daub. Roofs were steeply pitched and thatched and quite often the entrances were

provided with a porch. The weight of the rafters was sometimes only supported by the walls but occasionally by an internal ring of roof supports. The houses were often surrounded by a drainage gully to prevent flooding of the interior by storm-water running off the roof. Within these structures were floor surfaces, sometimes with stone paving or cobbling, and hearths. The 4-poster storage structures were probably much simpler, circular or square structures, again with thatched roofs and supported on stilts. All these uprights, posts and wall lines were set directly into the ground in post-holes and wall gullies and held firmly in place by packing stones.

After a time the wooden supports would rot, usually at ground level. The structures may have been rebuilt, often on a slightly different line, or sometimes were dismantled or abandoned and allowed to fall into decay. Eventually they would become buried below the soil or by material which had fallen in off the defensive banks. Archaeological remains consist of post-holes and gullies dug into the subsoil, often distinguished by having a fill of softer darker soil containing packing stones. Internal features such as floors and hearths also survive. At a later stage another structure may be constructed on the same site, with post-holes dug from a slightly higher level, through the decayed remains of the earlier round-house, and the process of decay and construction may continue a number of times often leading to a very complex series of layers and structures.



Schematic Illustration of Archaeological Deposits, Defences and Round-house.

Excavation

During large scale archaeological excavation the modern ploughsoil is usually removed by machine down to undisturbed archaeological levels. These are then very carefully excavated, layer by layer, including all the walls, post-

holes, floors etc. belonging to each individual level. The main tool of excavation is the pointing trowel with which small amounts of soil can be carefully and cleanly removed. All archaeological features are planned, photographed and written descriptions are also kept. The positions of individual objects are also carefully recorded. From these records we can build up plans of the various phases of structure and also sections through the deposits showing the actual succession of structures.

As well as excavation a number of specialised techniques were used during the investigations at Llawhaden to gain the maximum information from the sites. The first series of techniques, aerial photography and geophysical survey, are concerned with the discovery of new sites and their investigation before excavation.

Aerial Photography

In some cases archaeological sites are only represented by slight earthworks which show up only when the sun is low and the earthworks cast long shadows. In many more instances the sites have no surface indication and only show as soilmarks or cropmarks. Over buried walls and stoney banks soils are thin and crops stunted and undeveloped. Over ditches soils are deep and crops are tall and lush. These observations show up particularly well in dry years or when cereal crops are ripening.

These differences cannot be fully appreciated from the ground but only from the air. The situation has been likened to a cat's eye view of a carpet: the pattern cannot be appreciated by a cat but only by a human observer.

Aerial photograph of Dan-y-Coed and Woodside before excavation.

Aerial photography is an invaluable tool for discovering new sites, particularly cropmark sites which only appear when conditions are right. Bodringallt in the Llawhaden group was discovered in this way. It was discovered on existing aerial photographs, taken for non-archaeological purposes for the Electricity Board in the 1950s. Aerial photography is also extremely useful in gaining new information on existing sites. Before beginning excavation Terry James of the Trust carried out a special aerial survey of the area, with particularly good results at Woodside and Dan-y-Coed.

Geophysical Survey

When looking for new information on existing sites, aerial photography can be combined with geophysical survey, which is the other main method of detecting buried features without recourse to excavation. There are a number of methods of geophysical survey, but we have carried out a geomagnetic survey using an instrument called a fluxgate gradiometer. This measures localised changes in intensity of the earth's magnetic field, which represent buried features. The reason for this is that the earth's magnetic field varies with the amount of magnetic iron oxide in the soil. Ploughsoil, which usually fills the upper part of buried ditches, is particularly rich in magnetic iron oxide, and its concentration is also greatly increased by areas of intense burning such as hearths and kilns. By plotting these variations on paper we obtain a plan of buried features on a site.

Using the information from both aerial photographs and geophysical survey we can build up a picture of the site allowing us to be very selective in deciding where to dig. The plan of the outworks at Woodside and Dan-y-Coed was obtained by just such a combination of survey and excavation.

The other main techniques deal with the use of samples derived from excavation. We can gain a tremendous amount of information from the charred remains of plants. There are two main techniques, radio-carbon dating and the identification of charred plant remains themselves.

Radio-Carbon Dating

One of the more important questions we can ask about an archaeological site is when it was occupied. In many cases we can obtain this information from objects on the site, particularly pottery, which is often very specific to particular periods. However, small finds of this sort are rare on Iron Age sites in South Wales and hence many sites excavated in the past remained undated. Today we can date sites by direct physical dating methods of which the most important is radio-carbon dating. Very small quantities of the radio-active isotope Carbon 14 are constantly produced in the atmosphere by the bombardment of cosmic rays. This becomes incorporated in the bodies of all living organisms which are ultimately based on carbon derived from the atmosphere: the uptake ceases at death and the radio-active carbon decays. If we measure the amount of Carbon 14 in a sample of bone or charcoal we can date the death of the organism and hence help date the archaeological feature in which it was found.

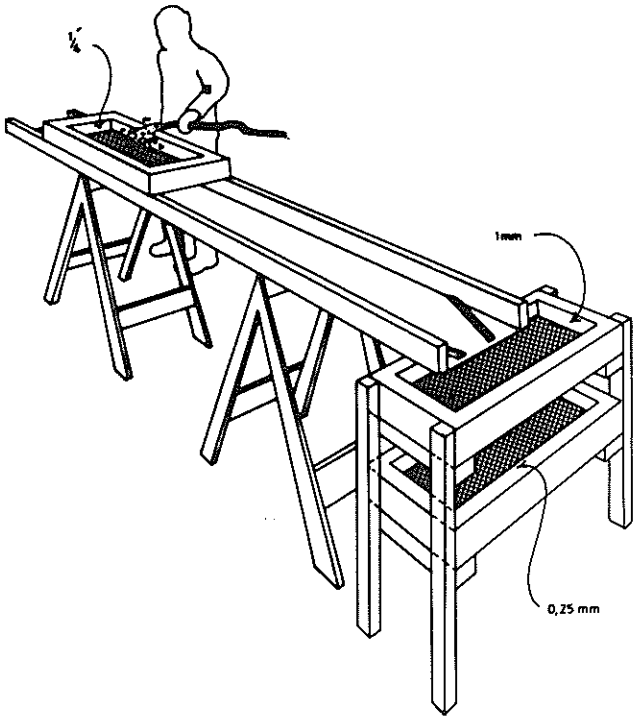
However, it is not as simple as this. The dates are expressed with a "standard" deviation or uncertainty factor. Hence a date of 300 ± 50bc will have a 60% chance of being within one standard deviation, i.e. 50 years either way of the stated date and a 90% chance of being within two standard deviations i.e. 100 years either way. Also, the amount of Carbon 14 in the atmosphere has varied in the past and hence the apparent dates derived by radio-carbon dating vary and need a more complex mathematical treatment or calibration, which often

results in even greater uncertainty as to the real date. It is only by obtaining a large number of dates from a range of sites as at Llawhaden, that we can obtain an indication of the real dates involved. By convention uncalibrated radio-carbon dates are expressed in lower case, i.e. bc and ad.

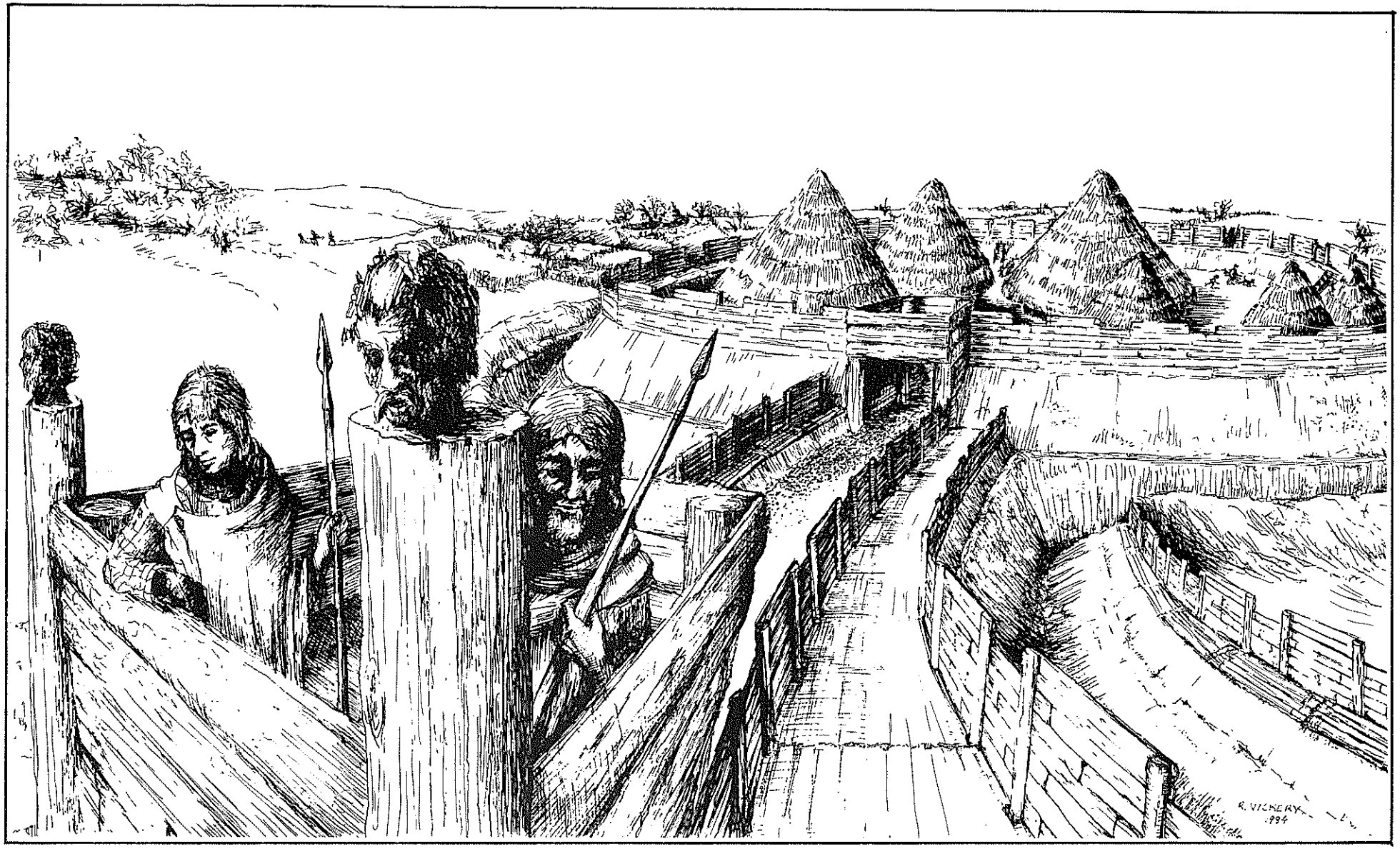
Environmental Archaeology

The final important technique is the analysis of plant remains which have been preserved by charring. Specialists can tell what crops were grown, how they were cultivated, harvested and later treated and whether or not they were actually produced on the site on which they were found. This can give us important information on the function of sites, on the climate, environment and on their economy. These are usually important factors as the type of society which develops depends to a large extent on its economic base and on local environmental conditions. For instance: a rich, mixed farming society may become a complex one with large administrative centres; a poor pastoral community is often much simpler with only small scattered settlements. In West Wales in particular, much information on the economy has been lost because animal bones are not preserved in acid soils; charred plant remains become considerably more important.

At Llawhaden we are carrying out this analysis of most excavated features. The final analysis is done in the laboratory, but it is nesessary to extract the charred remains from soil samples which is a laborious and unpleasant business. First of all the samples are washed through a series of sieves of various sizes to remove large stones and the bulk of the fine soil particles, using a technique that looks a little like washing for gold. The resulting samples of charred material, which are still muddy and unusable, are dried and the charred remains extracted by "flotation". The sample is gradually added to a container through which is passed a constant stream of water which runs off through a sieve. Remaining stones etc. sink and light, dry, charred particles are carried over into the sieve. In practice this is carried out with a bucket and hosepipe.



Schematic drawing showing the wet sieving equipment employed at Llawhaden.



Reconstruction of the approach to Woodside showing severed enemy heads on display.

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