ARCHAEOLOGICAL LANDSCAPES OF REETH MOOR

Tim Laurie

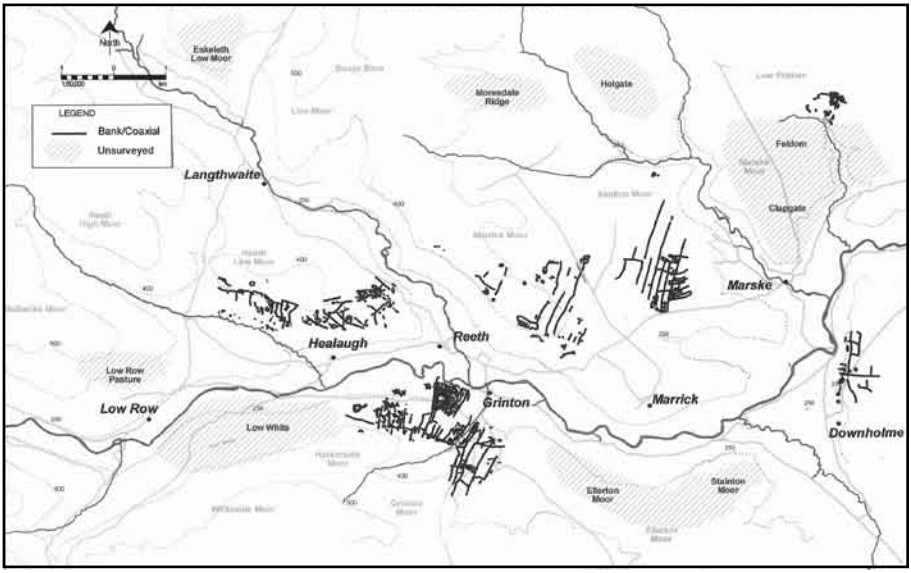

Figure 1. Swaledale early settlement [Crown Copyright. All rights reserved 100023740 (2010)].

The account provided below of the archaeological landscapes of Reeth High and Low Moors is a general account of the nature of the evidence which exists. The archaeological remains at any single location may be and usually are shrouded under thick heather. At any one time a proportion of the field remains will be visible where heather burning has recently exposed them. For this reason, it is not practical to direct the reader to any specific location since the remains may be invisible when the heather has re-grown. Very many separate visits to the moor by myself and many other field archaeologists over the course of almost 40 years were necessary to record the features depicted on the survey maps shown in Figures 1-3.

INTRODUCTION

The dry stone walled landscapes and the industrialised landscapes of the farmer-miners of Swaledale which are the special interest of Lawrence Barker, have long been admired. Only comparatively recently have the hidden landscapes, which exist beneath and beyond the upper limit of the stone walled pastures of the lower dale sides, been recognised and appreciated (see Figure 1). These hidden landscapes represent the lives, work and means of livelihood of past generations and are a palimpsest of sites of all periods which reflect aspects of the activities of the hunter-gatherer and early pastoralist communities who lived and gained their means of living across millennia, from the earliest Post-Glacial period through prehistoric time to the Native Roman, Medieval and recent time.

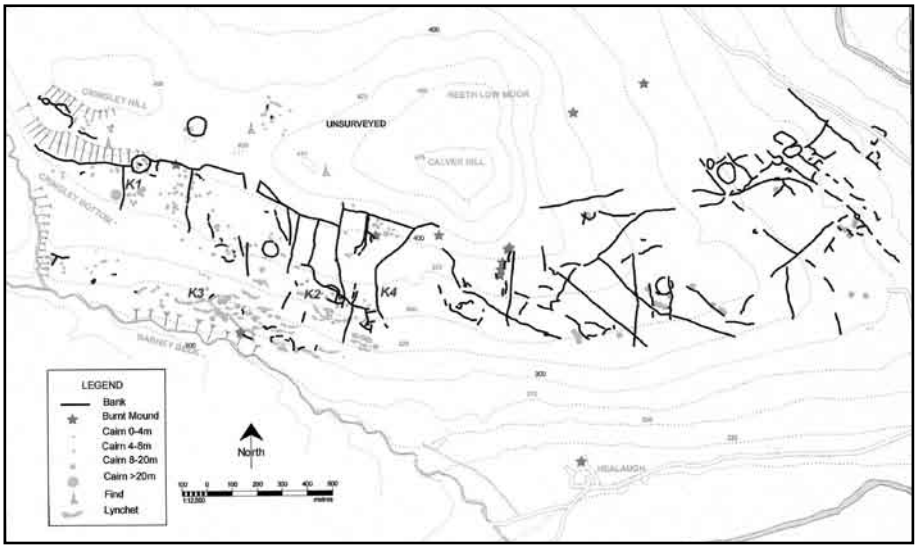

Figure 2. Reeth Low Moor - early settlement detail [Crown Copyright. All rights reserved 100023740 (2010)].

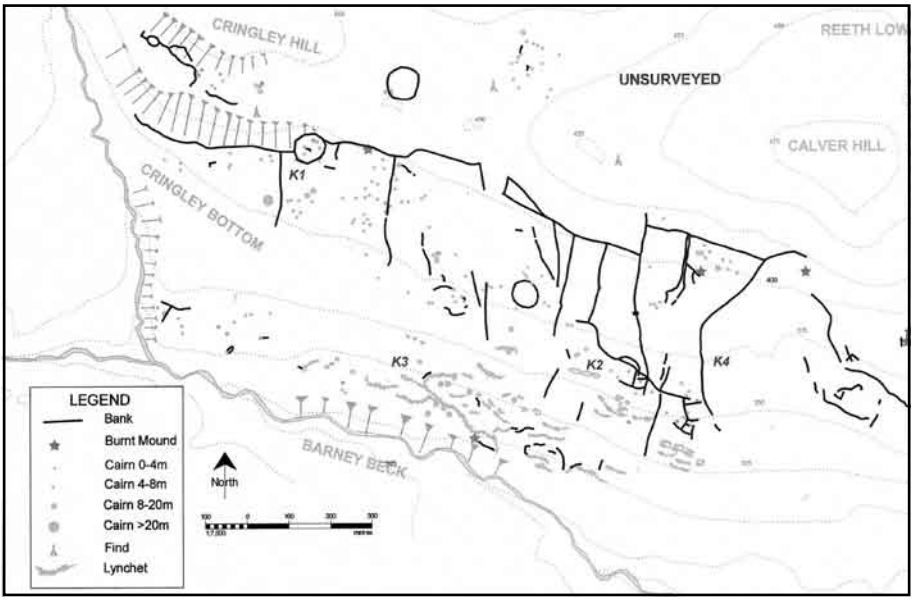

Figure 3. Reeeth Low Moor west (Calver Side) - early settlement detail [Crown Copyright. All rights reserved 100023740 (2010)].

These hidden landscapes have been recognised from the marvellous aerial photographs of Robert White and those taken, during the 1980's by his colleagues at the NYCC together

Figure 4. Reeth and Calver (right) from Reels Head.

with the field reconnaissance and survey during the last century by a number of field archaeologists, notably the late Edmund Cooper, David Hall and Robin Minnitt and from the late 1970's by the work of the Swaledale Ancient Land Boundaries (SWALB) Project directed by Professor Andrew Fleming and myself.

This earlier survey work was undertaken with the knowledge and support of local landowners and estate managers, including Lawrence Barker who took special interest in the survey work on Reeth Low Moor and who was our contact as Chairman of the Reeth Moor Committee.

The detailed surveys of the archaeological remains on Reeth Low Moor have been selectively discussed by Andrew Fleming.[1] More recently, the full extent of the earlier SWALB survey of the Low Moor has been made available together with further analysis of the prehistoric coaxial field systems on the Low Moor in the light of further fieldwork.[2]

This account will attempt to describe the archaeology in the form of a guided armchair walk which would commence at Reeth Market Place and traverse both Low and High Moors.

The structure and chronology of the field systems can best be understood from the archaeological reports. However, the fact of their existence can be appreciated by means of two traverses of the Low Moor, one across the higher slopes, the other, the return route, eastward at lower level just above or through the pastures on the lower dale sides.

I shall suggest that the walker or armchair observer chooses a path which would, on the outward section take him from Reeth to the open moor through Skelgate Lane. We shall pause at the top of the lane to consider the settlement there and the field systems on the eastern shoulder of Calver, Riddings Rigg and those extending across the eastern slopes of Black Hill (Figure 4).

The detailed archaeological survey of Calverside (Figure 3) can be regarded as the key to the structure of the field systems here. From Riddings Rigg (Figure 5) we shall continue on the track passing just below the uppermost, south facing slopes of Calver to pass above Five Intakes and Cleasby and across Cringley Hill to reach Foregill Gate.

A second recommended route to Cringley Hill would commence at the small Green at Healaugh and ascend to the Low Moor by the moor road to reach the open moor

Figure 5. Reeth Low Moor, Riddings Rigg and the Reeth Field system.

at Thirns. This alterative route has the advantage of passing through the area of extensive house platforms and cultivation terraces on the steep open moor side above the pastures of Low Cringley to the east of Cleasby Intake (Figure 6). This route then passes Cleasby to cross Cringley Bottom, an area of concentrated archaeological remains of bronze age character with the remains of a very large round cairn, many small cairns and an extensive field system. We then walk to the 70m diameter circular embanked enclosure at 420m AOD on Cringley Hill approximately 200m east of the well preserved limekiln on the Underset Limestone. The detailed archaeological remains here are all shown on the survey of Calverside West, Figure 3.

Figure 6. Low Cringley and Barney Beck pastures.

Having reached Foregill Gate by either of these routes we shall cross the stream through Bleaberry Gill at the well-known watersplash and having left the unfenced road to Low Row on the marked tracks across the flue from Surrender Mill to Barras End (Figure 7) to finally reach Healaugh Crag and the viewpoint at Old Gang Chimney. From whence the flue leading down to Old Gang Smelt Mill and the avenue of stone pillared supports to the peat store at Old Gang can be seen. Views can be had from the gritstone pavement at Healaugh Crag westward over Old Gang Beck to North Rake Hush and northward across the mining Ground at Wetshaw towards Stoddart Hush.

The view eastward from Healaugh Crag is across the summit of Calver towards the Vale of Mowbray and the North York Moors .

Following a visit to the ruined chimney and flue on Healaugh Crag we proceed down the steep slope at the northern end of Healaugh Crag, descending to the base of the crag to see the numerous examples of graffiti on the rock surfaces made by the quarrymen or masons constructing the flue or by the boys recovering the lead fume from the flue (Figure 8). The earliest example of this graffiti is dated 1812, the date of Napoleon's retreat from Moscow. Examples of graffiti are widely distributed on the vertical surfaces of the overturned, glacially-plucked blocks of gritstone.

Figure 7. Surrender Mill flue from Healaugh Crag.

We shall commence our return from Healaugh Crag towards Reeth at lower level, passing the flue from Surrender Mill on Barras End, thence to Surrender Mill and crossing Hard Level Gill. The return is through the pastures above Barney Beck below the farms of Low Cringley, Nova Scotia and Thirns. We shall walk on the line of the old trackway and remains of the miner/farmer cottages of 'Old Healaugh' from Thirnswood to pass Daggerstones and finally through the drystone-walled pastures above Healaugh to Reeth. My subject is Reeth Moor and space precludes the inclusion here of a detailed account of the Late Iron Age and Native Roman Age Settlements within the present day pastures above Barney Beck and Healaugh. This zone of Late Prehistoric and Romano-British settlement has been indicated in Figures 1-3 and has been described elsewhere.[1,2]

Figure 8. Graffiti on Healaugh Crag.

The remainder of this article will detail the general character of the archaeological evidence on both Reeth High and Reeth Low Moors. As I have mentioned, it will not be possible to direct the reader to all specific locations since at each location on the moor a fragment of the archaeological evidence will be close by, though not necessarily visible. Rather, I

recommend that the walker looks for these fragments and compares his specific location with the surveys, Figures 2 and 3.

First though, in order to set the scene, I shall provide a few thoughts on the physical background and those characteristics of Reeth Moor which would have been primary to this area of the NE Pennines having been so attractive to human hunting and settlement through post-glacial time.

NOTES ON ACCESS TO THE MOOR

Although the open moorland is CROW Access Land, it is not necessary to leave the more prominent footpaths across the Low and High Moors, which include a section of the Coast to Coast Path, in order to experience the archaeological landscapes described here. In particular, it is requested that all walkers keep to rights of way during the whole of May to July, when ground nesting birds are most vulnerable to disturbance.

In addition to the rights of way shown on the map there are many well-defined and well-used tracks which can be used to walk towards Calver and to traverse the lower and higher terraces of Calver Side and of Cringley Hill. No footpath map is provided here and the reader is invited to make his own exploration using the most prominent tracks.

The archaeological features described are field boundaries and small cairns, visible as low banks and heaps of highly consolidated field clearance stone which are virtually invisible under thick heather and can only be seen where heather has been burnt. It is not recommended that the heather moor is searched for these features. Rather, it is suggested that areas of burnt heather both nearby and distant from footpath tracks are examined to see fragments of these banks and occasional disturbed cairns visible as mounds or concentrations of rocks

The following account details the various elements which together contribute to the palimpsest of the fossil landscapes of different periods on Reeth Moor. Examples of each and every category of field evidence detailed below are to be seen on the Moor and for further information on the chronology of the lithic finds, structure and chronology of the field systems and settlements, the reader is referred to: http://www.swaag.org/publicationsSWAAG00.htm for the published archaeological surveys which relate to Swaledale and adjacent areas.[3]

THE CONTEMPORARY WOODLAND ENVIRONMENT

For detailed geological maps and descriptive accounts of the geological structure of Reeth Moor, refer to the BGS England and Wales Solid and Drift Edition: Richmond Sheet 41 and Kirby Stephen Sheet 40.[4]

Calver, the highest point on Reeth Low Moor occupies a dominant location in mid-Swaledale between the River Swale and Arkle Beck and lies on the natural routeway from the South and East (from the Vale of Mowbray) to the North and West (The Vale of Eden). The hill is well blessed with natural features essential to successful human settlement throughout time.

Figure 9. Massed birch remains in the blanket peat above Arndale Beck, Kexwith Moor.

Most significant of these advantages are the Main and Underset Limestones - thick strata which form the uppermost scars of Calver and Cringley Hill and of the constant springs which rise at an elevation of around 380m AOD at intervals on the slopes below the Underset Limestone. Further springs rise below the Middle Limestone on the lower dale sides. Thick deposits of glacial drift mask the rock strata on the lower dale slopes.

The limestone and the drift or boulder clays, largely derived from the limestone, give rise to fertile soils rich in mineral nutrients and which possess all the qualities necessary for the grass pasture of today and which, in prehistory would have once supported species-rich ash woodland or hazel scrub at high exposed elevations.[5]

This rich ash woodland with hazel on the dale sides would have been extremely attractive to the early pastoral farmers, providing excellent browse and pasture once the hazel woodland was opened up by their flocks of cattle, goats and sheep. The woodland would also have supported large populations of wild boar, red deer and of aurochsen, the wild white cattle similar to the surviving herd which survives today at Chillingham Park in Northumberland.

The woodland on the high Pennine plateau was very different and comprised stunted, calloused, thin multi-stemmed, upland oak/birch woodland growing on the intractable hard siliceous strata of the high plateau above the Main Limestone. There the strata are the Main and Richmond cherts and Millstone Grits of Namurian age. Remains of this upland birch woodland can be seen today below the blanket peat at Wetshaw Bottom and elsewhere below the peat hags and at streams incutting the High Moor Plateau above 500m AOD (Figure 9).

Finally a woodland composed of alder and sallow, similar to that to be seen today at West Arngill above Muker, was present during later prehistory on the lower dale sides where today infestations of soft rush denote spring-flushed wet pasture. This alder wood forms the third of the woodland communities most prominent on the dale sides during later prehistory and would be the contemporary environment in the vicinity of the springs and burnt mounds on Calver. See below.

Today, fragments of limestone ash wood with hazel can only survive within remote waterfall ravines and on sheer limestone cliffs beyond the reach of rabbit and sheep. A rare exception to this is Horse Pasture Wood, at Browna Gill, which survives as a

Figure 10 (left). Lithic finds from above Calvert Houses.
Figure 11 (right). Late Mesolithic micro triangle from the track to Old Gang.

last remnant of the woodland which once was widespread across the whole of the dale sides from the high scars to the River Swale floodplain.

It will be a surprise to learn that the heather-dominant moorland, which is so widespread today, only developed in Swaledale towards the end of the Roman occupation. It followed the clearance of the woodland and a climatic deterioration which led to rapid impoverishment and podsolisation of the woodland soil on the upper slopes. The pollen evidence supports the view that Swaledale was essentially a landscape of species-rich, mixed deciduous woodland from around 4000 BC, when all tree species, including lime (now only surviving on the cliffs of lower Swaledale), wych elm, oak (now absent),sallow, field maple (now absent from upper Swaledale but present near Richmond) and finally, ash had colonised Northern Britain and had formed the climax communities best suited to the abruptly changing soil conditions of the alternating and faulted rock strata.

I envisage the landscape of the higher slopes of Swaledale, which is now open heather grouse moor, to have been open grassland or parkland with some woodland during later prehistory right through the Roman period. The wide-ranging, early coaxial field systems would have been a managed pastoral landscape of linear fields with parallel hedgerows with mature trees and a landscape of grassland quite different from the acidic heather moorland of today. This early landscape would have supported herds of deer and wild cattle in parallel with the tended herds of the earliest pastoral farmers. This landscape developed into a managed landscape of wide ranging pastures - hay meadows with hedgerows and hedgerow trees which extended across what is now open grouse moor far beyond the limit of the present day walled pastures. This then was the late prehistoric pastoral landscape that you will cross when we commence our virtual walk from Reeth towards Calver across the open heather moor of Riddings Rigg from the end of Skelgate Lane.

EARLIEST EVIDENCE OF HUMAN OCCUPATION

Evidence for the Mesolithic, Hunter Period on Reeth Moor is confined to lithic finds from the High Moor. Lithic scatters with microliths have been recorded in the Archaeological Register of the Yorkshire Archaeological Society Prehistory Section from time to time but the finds were not drawn. I have found very many scattered stray lithic finds on the Low Moor and three occupation sites with moderate numbers of lithic artefacts (mainly chert but with some flint) which are all scraper dominated and of Neolithic and Early Bronze Age character.

A single small unpatinated flint micro scalene triangle, characteristic of Late Mesolithic Hunter Period activity (7000-4000 BC), was found on bare ground by the track to the Old Gang Smelt Mill, see Figure 11.

Two small scalene triangles like the example from Old Gang were found further west above Calvert Houses, together with a rare chipped stone tranchet axe.[6] These Mesolithic finds were all found together at the same location and were mixed with other finds of Neolithic character, which included a large discoidal knife, several fine scrapers on flakes of fine black translucent flint and a very small flint barb and tanged arrowpoint. Finds of different periods are frequently found together since an attractive viewpoint on the spring line would be attractive to hunter groups of all periods. These lithic finds are on display in both the Richmond Museum and Swaledale Museums at Reeth, see Figure 10.

A few undiagnostic finds of mainly chert flakes and scrapers have been recorded on the High Moor, including a single blade-like flake from Healaugh Crag.

Whereas the evidence for Mesolithic hunter gatherers across Reeth Moor is sparse, there is abundant evidence for early human activities during the Neolithic, Bronze and Prehistoric Iron Age periods. The evidence which follows represents seasonal rather than permanent occupation on the Low Moor and predates but formed the pioneering origins to the later coaxial field systems associated with a more settled landscape.

FUNERARY RELATED ACTIVITIES

Round Cairns

Round Cairns are mounds constructed of surface rock or stone clearance. They are usually from 4-20m diameter and are distinguished from the many small stone clearance mounds in that they are well built. They have been frequently disturbed by quarrying and are very circular, sometimes kerbed. The rather large, usually slightly elongated mounds composed of boulder clay are, in Swaledale, most probably small drumlins of natural glacial origin.

The indistinct remains of a very large round cairn have recently been recognised at Cringley Bottom, see Figures 12 and 3. This cairn is located on open moorland very close to the modern drystone wall at the limit of Low Cringley Pastures and has been severely quarried.

Figure 12. Round cairn at Cringley Bottom.

Elsewhere on Calver Side, there are occasional large well built and very circular cairns situated among the smaller clearance cairns. These may prove to be burial cairns.

The Type Site for an excavated round cairn in the NE Pennines is How Tallon on Barningham High Moor. The finds from a late 19th century excavation of this round cairn included Late Neolithic Beaker and Early Bronze Age food vessel burials.[7]

Ring Cairns

Ring Cairns which are circular enclosures, usually less than 30m diameter overall, defined by stone dump banks which may be revetted with large slabs set on edge. There are several small circular stone structures on Reeth Low Moor , occasionally compound sites with two or the conjoined rings, which may be ring cairns.

Elsewhere in Swaledale, there are good examples of ring cairns,[6] the best example being at Harker Mires on Harkerside.

No ring cairn has yet been excavated in Swaledale but these monuments are well understood and are best described as enclosed cremation cemetaries. On excavation they are found to contain collared urns containing cremations which date to the Early Bronze Age. Very few of these ring cairn sites, which are rare nationally and always merit Scheduled Ancient Monument status, remain undisturbed by archaeological excavation.

The Type Sites for this class of monument are the excavated ring cairns on Danby Rigg[8] and that at Oddendale, near Shap.[9]

SETTLEMENTS AND SETTLEMENT RELATED SITES

Scraper dominated lithic scatters indicative of occupation sites

Lithic finds are either of single stray finds, usually of discarded flakes or debris from knapping which may indicate the possibility of an occupation site in the vicinity. Very rarely the find may be a stray arrow point, which may mark the place of death of an animal wounded by a flint tipped arrow point. These stray arrow points frequently exhibit characteristic impact fractures.

Where a small concentration of lithic artefacts with significant numbers of scrapers

are recognised, these may indicate the existence of an occupation site. Such a site was located in the ruts of an old track, now re-vegetated, on Cringley Hill. This site produced no less than 27 scrapers and one very small barbed and tanged arrowpoint which dated the site to the Late Neolithic or Early Bronze Age. Finds from this site are on display at the Swaledale Folk Museum. Selected finds from a similar occupation site, further west, above Calvert Houses are shown in Figure 10.[6]

Cairnfields or unenclosed round house settlements

Cairnfields are the descriptive term archaeologists have attached to groups of small cairns (visible as stone mounds or the earth-fast remains of stone mounds which have been quarried away). These cairns are usually but not always roughly circular. They represent stone field clearance although they occasionally contain cremation burials of the Early or Middle Bronze Age or very occasionally the skeletal remains of later, Iron Age burials.

Groups of such cairns together with fragmentary stone field banks, the remains of small irregular shaped paddock-like fields are to be seen almost everywhere that deeper soils gave rise to the possibility of cultivation, on the upper slopes of Calver and Cringley Hill .

These cairnfield or unenclosed round house settlements, which are widespread on the higher slopes of Swaledale from Stainton Moor to Harkerside and from Marske to Gunnerside (Figure 1), represent the earliest pioneering seasonal settlement of Mid- to Late Bronze Age in Swaledale. They were probably transient homesteads with small slash and burn cultivation plots designed to take advantage of the transient fertility of the humus-rich soils following woodland clearance. The two available pollen reports show a presence of cereal pollen in Bronze Age peat deposits.[1,20]

Visible round houses are occasionally present but the slightly constructed timber huts of these first farming communities would leave no surface trace today of their existence.

The Type Site for the unenclosed settlements of the NE Pennines is the excavated round house settlement at Bracken Rigg in Upper Teesdale.[10]

Burnt mounds

The locations of a total of ten burnt mounds are indicated on the surveys of Reeth Low Moor, Calverside, Figures 2 and 3. The burnt mounds on Calverside are numerous but not especially large and are not easy to locate; perhaps the example most easy to locate is that below Cringley Hill at NZ 001 003, 400m AOD (Figure 13). This is a medium-sized site located at a spring rise and is peat heather covered with eroding patches revealing the visible burnt stone core. It is of characteristic crescentic form. The turf covered double mounds of fire cracked sandstone of this burnt mound can be compared with the burnt area with lead slag marking early lead bale activity close by.

Burnt mounds are now regarded as the sites of prehistoric sweat houses or saunas visible today as crescentic mounds of fire cracked stone, see the photograph of the recently

Figure 13. Burnt mound below Cringley Hill, Calver Side.

excavated burnt mound at Sturdy Springs, Whashton C.P. on the Feldom Ranges. (Figure 14). They are always located on the brink of streams often at the spring rise. Until recently they were regarded as prehistoric cooking places, however no direct evidence of cooking has been recognised from the very many sites throughout Britain and Ireland which have been excavated.

These sites were used to heat water with hot stones. Water sprinkled on rocks heated to red heat would provide steam within a hide covered shelter - a prehistoric sauna. Very many burnt mounds have been excavated throughout Britain and these sites are not confined to the uplands. Among the first of the burnt mounds to be excavated and discussed were found by the banks of a stream in a Birmingham Public Park.[11] Troughs and hearths are always present. Small levelled platforms which would support light structures which may have been hide covered shelters are sometimes to be seen on the mounds or in their vicinity.

Figure 14. Excavated burnt mound at Sturdy Springs, Whashton.

Overall, throughout Great Britain and Ireland, burnt mounds are the most numerous of all prehistoric sites. They are very numerous throughout Wensleydale, Swaledale and Teesdale, present but less numerous in Upper Teesdale, Weardale and Nidderdale. A few examples have been recognised west of the Pennine Divide in Wharfedale and Craven. More than 150 individual burnt mounds have now been recorded in Wensleydale, Swaledale and Teesdale and further sites remain to be discovered (see Figure 15). There is a very large bibliography devoted to the excavations of burnt mounds and of their uses and a gazetteer has been compiled.[12]

For the comparative distribution of burnt mounds with Middle Bronze Age metalwork across the British Isles, see Figure 16. This map shows areas where these sites are most common and correlates their distribution with finds of metalwork of Middle Bronze Age date.

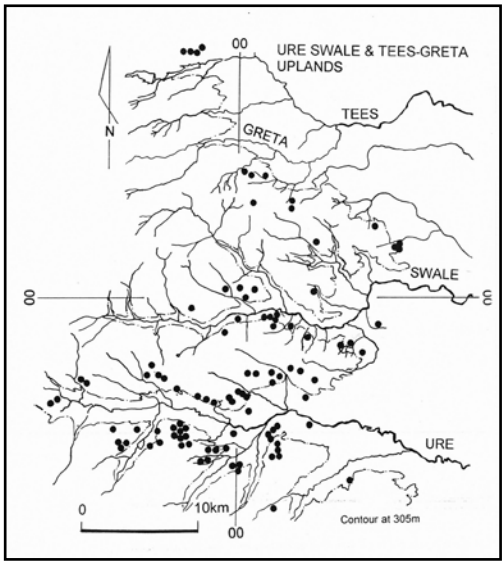

Figure 15. Distribution of burnt mounds in Teesdale, Swaledale and Wensleydale.

Burnt mounds of exceptional interest are occasionally found, as at Liddle on South Ronaldsway in Orkney, where a very large mound encompassed a building with central trough. This building, dated to the Middle Bronze Age, has been interpreted as being used for cooking, however, absence of animal bone points to use as a sweat lodge as being more probable.

Burnt mounds can be very large; most are between 8m and 15m diameter and up to 2m high, some are slightly larger. They are located throughout Wensleydale, (81 known sites, Swaledale (41 sites) and Teesdale (29 sites) at 1-2km intervals at the most constant springs, which rise below the Underset and Main Limestones, generally above 300m AOD. A few sites have been found at lower elevations, near the river floodplain.

Examples of two burnt mounds which have recently been excavated in the Dales will be given, the first of these, at Sturdy House Springs within the Feldom Army Range, was excavated in October 2006. Here, the lowest of a group of three burnt mounds at the same spring stream was partially excavated by University of Durham Archaeological Services with the assistance of Defence Estates Conservation Funding. Two radiocarbon dates were obtained from the Sturdy Springs Group of Burnt Mounds:

1. Sturdy Springs Burnt Mound Site 3, (Top site, unexcavated, hazel charcoal from side of rabbit hole), 2400-2140 BC.
2. Sturdy Springs Burnt Mound Site 1, (Lowest site, charcoal from fill to trough) 1430-1260 BC.

Thus the three burnt mounds at this spring head stream were in use for a period of at least 1,000 years, from the Late Neolithic, the time of the great henge monuments and stone circles through to the Middle BronzeAge, the period when the first pioneering permanent year round farming settlements were established in the Dales. The Sturdy Springs burnt mounds are within an area of moorland (the Feldom Ranges) rich in Late Neolithic cup and ring marked rocks.[14]

The second burnt mound was identified at the head of Kingsdale in Craven during the excavation of an adjacent medieval site by the Ingleborough Archaeology Group. See The Kingsdale Head Project, An Ingleborough Archaeology Group Publication.[15]

Elsewhere, very many sites have been excavated and radiocarbon dated, for example, the two burnt mounds at Titlington Mount Farm, North Northumberland were found to have been

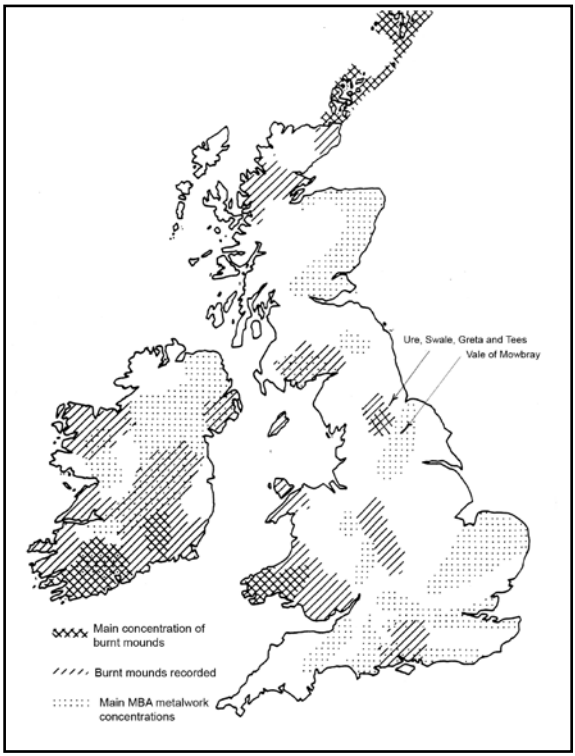

Figure 16. The distribution of burnt mounds and the main concentrations of Middle Bronze Age metalwork in Britain and Ireland. [After Ehrenberg 1991 with additions].[13]

in use over periods of 380 years and 160 years respectively, from 2130 BC to 1430 BC.[16]

Rare examples, which imply Dark Age re-invention, perhaps also for cooking and for bathing have been dated to the mid-centuries AD. However, the scarcity of burnt mounds in Britain dated to the Dark Age Heroic Period is surprising since the Irish Annals, the earliest chronicles of the deeds of legendary Dark Age Irish heroes, detail use of these sites for après-hunt cooking, bathing and feasting.[17]

In consequence, burnt mounds were, on these grounds uncritically considered to be cooking places and named *'fulacht fiadh'*, or the cooking places of the Fianna, after a Dark Age Irish tribal group.

When, in February 1998, the first 64 burnt mounds in the North East Pennine Dales were reported as Bronze Age sweat houses the use of the word 'sauna' by the Yorkshire Post caused a seven-day wonder in the press and on television.

Burnt Mounds - Sites for Healing and Spiritual renewal?

There can be little doubt that the activities at burnt mound sites could include all or any of the day to day processes which require hot water and it has been proposed that, in addition to cooking and bathing, they were used for brewing, fulling of woollen cloth, for the manufacture of felt and woollen textiles, for the smelting of copper and for working of metal.

The evidence of finds from excavated sites does not support or preclude absolutely all or any of these activities. However the total absence of animal bone, pottery and - as at Sturdy Springs where the trough was specifically investigated for the presence of fatty acids - the absence of animal fats, does argue against the use of burnt mounds for cooking.

Many of the sites excavated have no finds at all; where rare finds do occur, these tend to be of a very special nature, including polished stone axes from a site in Upper Teesdale[18] and bronze axes. A set of six yew wood pipes from the trough of a burnt mound at Charlesland Co Wicklow (Inf. Arch. Con. Labs. see attached.) have been radiocarbon dated to 2000 BC and are among the earliest musical instruments known. These special finds from burnt mounds, dating to the Late Neolithic and Early Bronze Age indicate a communal special purpose, that of healing and ritual cleansing by sweating, which has an exact parallel today:

It has been said that archaeology is blind in one eye and without ethnology - the study of indigenous peoples - would be blind in both eyes. Since no direct unequivocal evidence exists for the activity at burnt mounds, the writer is of the view that their purpose is best explained by reference to the activity of indigenous peoples throughout northern latitudes today and specifically of North American Native Peoples who today maintain and value their traditions at sweat lodges.

Sweat lodges using dry heat or saunas as we know them - when steam is produced with water on hot rocks - have been and still are widely used by indigenous people across northern latitudes. Their widespread use by North American Plains Indians has been extensively documented. Today, quite apart from the health benefits of sauna use, the Navajo regard the ceremonial use of sweating with steam and hot rocks as primary to their cultural heritage, in that:

1. The sweat lodge is regarded as the Symbolic Entrance to the Womb of Mother Earth.
2. The sweat lodge experience provides the occasion for both spiritual renewal and recovery from ill health or trauma.

For example Native American soldiers suffering from post traumatic stress syndrome from their war experience in Iraq have been offered sweat lodge treatment and found the experience to be very helpful in their process of recovery. (I am not now sure where I got this information, but it rings true, TCL.)

Burnt mounds, a summary

The very numerous burnt mounds, which are discard mounds of fire cracked sandstone formed by repeatedly pouring water on hot rocks to produce steam or hot water, testify to the widespread use of the sweat lodge throughout the NE Pennine Dales by our Bronze Age ancestors. These sites which have only recently been discovered, are numerous and widespread throughout Wensleydale, Swaledale and Teesdale, see Figure 6.
The distribution of these sites at 1-2km intervals around the North Eastern Dales provides evidence for the presence nearby of seasonal encampments of the earliest family groups of pastoral farmers who returned each summer with their cattle, sheep and goats to pitch their hide covered tents at favoured springs and take advantage of the good grazing and browse available on the limestone soils of the upper dale terraces.

EARLIEST SETTLEMENTS OF THE IRON AGE AND ROMAN PERIODS

The first evidence for permanent year round settlement on Reeth Low Moor may be in the form of isolated curvilinear stone embanked enclosures, a total of seven examples

are known- the best known being the 70m diameter enclosure on Cringley Hill and that on the ridge of Riddings Rigg (see Figure 3). These circular enclosures are as yet undated but the enclosure on Riddings Rigg is overlain by and therefore predates the later of the two field systems on Riddings Rigg - the north/south trending Healaugh coaxial field system (See below). These circular enclosures are interpreted here as thorn kraal like enclosures - the Dales equivalent of the palisaded enclosure of the Cheviot Fringe which are isolated farmsteads of round houses enclosed within true palisades dated to the Earlier and Mid Iron Age.[19]

These circular enclosures predate the later, north/south trending Healaugh phase of the two prehistoric coaxial field systems on Calverside but may not predate the earlier, Reeth coaxial field system which trends WNW-ESE. These possible settlements are centrally located within the earlier coaxial fields and may be associated with this early phase of land division.

These enclosures are on heather moorland and usually very difficult to locate on the ground. The largest and most prominent is that on Cringley Hill which is the only archaeological feature shown on the 1:25,000 OS Map.

The presence of wolf, lynx, bear and eagle in the contemporary prehistoric landscape would require that cattle, sheep and goats were tended and protected at all times.

THE COAXIAL FIELD SYSTEMS OF SWALEDALE

The extent of the coaxial field systems in Swaledale on Grinton Moor, on Harkerside Moor, on Reeth Low Moor, on Marrick Moor and on Skelton Moor which have been mapped to date and those which remain unsurveyed are shown in Figures 1-3. The largest of these coaxial field systems extend across Marrick Moor and Skelton Moor. This field system shares the same NNE-SSW orientation at elevations reaching 430m AOD on Marrick Moor. It extends across the Hurst Road and Stelling Bottom to reach the high moorland of Munn End above Telfit Farm on Skelton Moor and covers a total area of 9km^2 with individual field boundaries 2km in length.

General Note

I have spent half a lifetime recording the early field systems on the high open heather moorland in the vicinity of Reeth. Accordingly I cannot recommend that the interested general reader with limited time earning a living in a busy world, attempt to repeat this experience. Although many glimpses of different stone-banked field boundaries will be seen in the course of a single traverse of Reeth Low Moor, these are aligned in different directions and can only be assigned to a structural plan by careful survey.

The field evidence for these ancient field systems is in the form of very substantial, but low and inconspicuous stone banks which, evidence from the excavated trench at Location 3, Figure 3 suggests, commenced as fence lines then as hedgerows with mature hedgerow trees. The stone banks themselves formed over a very lengthy period of time by a process of gradual accrual of field clearance stones. In the manner of a Cornish hedge, the stone banks were roughly revetted and stone faced with occasional earthfast

Figure 17. Section through field bank, radiocarbon dated to 300 BC.

stone slabs set on edge. These slabs or 'orthostats' as they are termed still occasionally survive. To emphasise this point, I shall reconstruct the contemporary landscape of the High and Low Moors before and at around 1200 BC.

At this time, evidence of the two available pollen reports from Ellerton Moor[1] and the unpublished report from Grinton Moor[20] indicate that some clearance from human activities had occurred and the evidence from tree remains below blanket peat[21] suggests that the poor soils derived from the sandstone and chert strata which form the high moorland plateau would have supported species poor woodland composed of stunted and calloused birch fringing small stunted birch/oak/sallow woodland wherever the shelter of incutting streams allowed. The most exposed summit areas may have been fairly open.

In contrast, the fertile soils derived from the Main and Underset Limestones on the upper dalesides would support hazel scrub or species rich mixed deciduous woodland providing good browse to the cattle, sheep and goats of the earliest pioneering pastoral farmers whose seasonal camps were located on sheltered terraces at the most constant springs rising below the Underset Limestone. The limestone scars and screes would have been heavily wooded with much yew, wych elm, lime, ash, bird cherry, hazel etc – much as the well-vegetated cliffs of Lower Swaledale are today.

The glacial clay covered lower slopes of the dalesides would have been impassible. Similarly, heavily wooded but with alderwood on the wet spring flushed soils and river flood plain - much as the woods of Lower Swaledale are today..

Under these conditions human activity was centred at the higher elevations where the rich hazel woodland was less dense. This early settlement was seasonal rather than permanernt with small family groups moving with their animals from their year round settlements located on the fertile light soils over the gravels of the lower Swale and Ure.

The field systems are termed 'co-axial' for the reason that the stone-banked field boundaries are parallel one to another to an accuracy of one degree of a compass bearing, although in the short run the banks waver as though constructed by unsupervised labour; they are not dead straight. The field systems on Reeth Low Moor extend from Fore Gill Gate to the unfenced Arkengarthdale Road and also across the NE slopes of Calver on Black Hill.

Figure 18. Healaugh Pastures, settlement platforms below the deserted farmhouse at Riddings.

The interest and significance of these field systems rests with the fact that throughout Swaledale they were conceived as land management systems on a landscape scale which, in their final form would have been associated with the very many individual farmstead settlements of Late Iron Age and Native Roman Age located on the lower dale sides.

These field systems were the outfield element of many individual farmsteads occupied through many centuries during later prehistory and extending through the period of Roman occupation.

At least two phases of coaxial fields have been recognised on Calver Side. The earlier field system, termed the Reeth System[1] is aligned WNW-ENE and is defined by very substantial stone banks which terminate on a top dike boundary which reaches an elevation at around 400m on the south facing slopes of Cringley Hill and an elevation which reaches 425m on the higher slopes of Calver Hill. This early field system is considered by the author to have developed from the small seasonal cairnfield type settlements established on and below Cringley Hill and on the higher slopes of Calver Hill during the Bronze Age. It is also possible that the large circular enclosures described previously were associated with this early Reeth field system.

The later, Phase Two field system named the Healaugh System is aligned due North-South. One of the relatively slight banks of this later field system can be seen to overlie and slight the circular enclosure on Riddings Rigg. A different boundary of the N-S trending Healaugh system has been shown, by excavation, to override the more substantial boundaries of the earlier WNW-ENE, Reeth System on Riddings Rigg.

A westward extension of the Healaugh Field System is associated with a large complex of platform settlements and cultivation terraces located within the present day drystone-walled pastures above Barney Beck (Locations 3 and 4, Figure 3) and extends upward to the open moorland above Nova Scotia Farm to terminate on a lower contouring boundary at around 360m.

The coaxial field systems of Reeth Low Moor West

Recognition of settlement cores commensurate with the extent of the coaxial field systems has always proved difficult. Indeed the complex of settlements which exist on the open moorland of Reeth Low Moor between Nova Scotia and Cleasby were

recognised but not fully understood during the SWALB Project and were recognised subsequently as a high elevation settlement complex with cultivation terraces and house platforms. This extensive settlement complex is believed to represent the settlement core associated with the later of two phases of coaxial field system, the lower field system which terminates at 360m AOD on Calverside West.[2]

The coaxial field systems of Reeth Low Moor East

The coaxial field systems of Reeth Low Moor have been extensively surveyed and described previously. It is not my intention to detail the structure of these field systems here, rather I have only been able to provide here a brief hint of their complexity.Suffice to say here that a walk at any level across the south facing slopes of Calver towards low Cringley will reveal the presence of the low stone banks, once fence lines then hedgerows with hedgerow trees, for these early field systems. The extent and complexity of these fields which reach an elevation of 425m on Calverside is remarkable, not for what they are now but as relict land management on a landscape scale.

LATE IRON AGE AND ROMAN AGE SETTLEMENTS ON THE LOWER DALE PASTURES

SWALB worked for several years on the open moorland of Reeth Low Moor before the series of platform settlements of Late Iron Age and Native Roman Age above Healaugh were recognised. These settlement platforms are well seen from the unfenced Harkerside road or from the earthworks at Maiden Castle, from where they were first noticed.

The extent of early platform settlements together with the strongly lynchetted field systems associated with the settlements within the walled pastures above Healaugh is shown as Figure 9 [7] in Andrew Fleming's 'Swaledale, Valley of the Wild River'.[1]

The Healaugh Pastures are very steep. Any building requires a level platform to be cut into the hillslope. Hence the survival of these early building bases as eyebrow like platforms with a steep rear scarp and pronounced front edge scarp formed by cut and fill. Platforms vary greatly in dimensions, small platforms accommodate a single structure which may be abandoned or demolished and subsequently rebuilt. Large platforms were constructed to accommodate a complete farmstead complex. All these settlements are located centrally within a planned landscape of arable fields laid out before or with the settlements at right angles to the incredibly steep dale side.

Lynchets are short steep breaks of slope and are formed by ploughing or by animal traffic against a boundary fence. Lynchets are usually and sensibly laid out on the contour - as the series of lynchet terraces (selions) of the medieval Reeth West Field below Riddings Farm. Not so the lynchets on Healaugh Side - these lynchets run directly up and down slope. There can be no doubt that the lynchetted fields on Healaugh Side were contemporary with the Late Iron Age settlements since the processes which formed the lynchets would have slighted the settlements which are close to but not overlain by the lynchets. Just one typical small oval platform on Healaughside has been excavated. This excavation has been detailed by Andrew Fleming.[1]

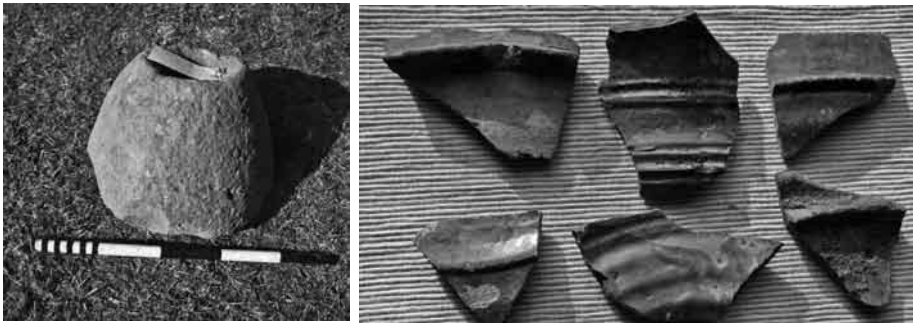

Figure 19. (a)Beehive quern from the excavated oval platform on Healaugh Side and (b) medieval pottery finds from Old Healaugh.

The finds from the excavations included inter al., several Late Iron Age or Roman beehive querns and one earlier saddle quern which was built into the flagged floor of the Phase 2 circular Romano-British House. The presence of these querns confirmed the use of cereals and most probably the arable use of the fields on Healaugh Side.

As mentioned earlier, no substantial confirmed settlements have been located within the field systems on the open moorland, except those further west, above Nova Scotia Farm (see Figure 3) and it is considered that these field systems may have related to the circular enclosures interpreted as kraal like, embanked thorn-protected settlements.

However, subsequent to the SWALB Project, the partial remains of a significant rectangular enclosed settlement has been recognised at the very point that Skelgate Lane terminates to give access to the open moorland. This settlement may have related to the Phase Two (which overrides and is later than the more substantial Phase One Reeth System) North-South trending field system on Black Hill and on Riddings Rigg.

SETTLEMENT AT SKELGATE AND FIELD SYSTEM ON BLACK HILL

At the point where Skelgate Lane reaches the open moor there are the fragmentary remains of a substantial settlement which extends into the present day walled pastures. The enclosures associated with this settlement are visible from Skelgate Lane by looking over the wall into the pasture on the northern side of the lane. To the south of Skelgate Lane the settlement has been entirely ploughed out. On leaving the lane, a curving heather and turf covered bank is visible together with a rectangular house platform. This is interpreted as the northern edge of a large settlement enclosure which once existed here. The main area of the settlement is within the improved pastures of Riddings Farm and has been obliterated. This settlement has not been recorded previously and is undated but is likely to be Late Iron Age or Romano-British.

Substantial field banks centred on this settlement running from the walled pastures north of the settlement across the open moorland towards Black Hill. This field system extends for almost 1km across the open moor and represents early enclosure of the whole of the eastern slopes of Calver, across what is now open moorland down to the Arkengarthdale Road.

OLD HEALAUGH AND THE FARMER MINERS

SWALB have recently completed a survey of the archaeological landscapes within the pastures of Daggerstones Farm.[22] This report summarises the multi-period settlement and field systems which include several rectangular building bases interpreted as the cottages of farmer-miners aligned on a contouring track which runs from Thirnswood below Daggerstones House through the pastures of Healaugh towards Reeth. These cottages have been interpreted by Andrew Fleming[1] as Old Healaugh.

Figure 20. Post-medieval pottery finds from Old Healaugh.

MINING REMAINS

The detailed remains of mining activities widespread across the Moor are beyond the scope of this article. However traces will be noticed on the upper slopes of Calver and of Cringley Hill of the concentrated bale smelting activities carried out here. A site here was the first of a number of bale sites to have been radiocarbon dated (AD 1454 +/-15) and was undertaken at the initiative of Lawrence Barker.[23] Another site was dated from a charcoal dump to the 14/15th centuries (AD 1300-1470).[24]

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