

The Archaeological Legacy of the Dartmoor *Carbonarii*

Project background and future research
proposal

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INTRODUCTION

The existence of a peat charcoal industry on Dartmoor, Devonshire (UK), with origins at least within the 13th century, has long been known from documentation, which suggests that this activity occurred on a massive scale (Fox 1994, 149-71). Peat charcoal was used as a source of heat for iron smithing from the medieval period up until the 19th century when, despite the availability of coke from coal, it was still preferred by many smiths in Devonshire. However, the major demand for peat charcoal was in the smelting of tin for which it was used from at least the 12th century and probably as late as the 19th. This demand, which initially came from the Devon tanners, was augmented during the 15th century when a charter of Edward IV allowed Cornish tanners to procure their supply from Dartmoor too (Worth 1930, 64). This was necessary because the supply of suitable peat to the west of the Tamar, mostly obtained from Bodmin Moor, was limited and quickly became depleted.

These massive, sustained demands on Dartmoor's peat resources would have had profound effects on the landscape of the upland areas from where the peat was cut, but also on the infrastructure as has been strongly suggested by Fox. Peat charcoal provided a major income for Dartmoor and its residents. Large areas of peat of a type appropriate for charcoal making would have been harvested and dried at the sites of the peat beds, then stacked into mounds and burned to produce charcoal. The hearth platforms onto which these 'meilers' were constructed are the only known field evidence for this process.

The evidence for cutting the peat or 'turf' exists in abundance on Dartmoor, although the study of the archaeological resource is still in its infancy and it has not been possible to date particular examples of turf ties. However, the evidence for the burning and production of peat charcoal has until now been limited, and research into this topic has been very neglected. The only published research to look at peat charcoal production is Woolner's short paper of 1966, wherein the author recorded a cluster of earthen platforms, which she asserted were the bases for meilers, on Wild Tor Ridge, and from which samples of carbonised material were retrieved, claimed by the author to be peat charcoal (Woolner 1965-7, 118-20). However, Woolner's findings have been largely overlooked and have yet to be incorporated into either the Dartmoor/Devon HER or the National Monument Record and no other archaeologist has taken this subject any further until now.

During a program of research in 2010 (Newman 2010), in which various aspects of the exploitation of peat on north-western Dartmoor were investigated, a reappraisal of a number of flat-topped earthen mounds or platforms on Greena Ball was included. These were previously believed to be peat steads (the bases of turf ricks), used by peat cutters to dry their fuel before transporting it, although they had originally been recorded on the OS as 'Tumuli'. Closer examination resulted in the chance discovery of fragments of carbonised peat (charcoal), exposed by animal erosion on the sides of several of these mounds. Comparison with the Wild Tor earthworks already recorded by Woolner, has confirmed these platforms to be a distinct site type, supporting Woolner's original assumption that such features are the surviving evidence of medieval meilers, upon which peat charcoal was produced. Further fieldwork near the head of Blackabrook, revealed an additional cluster of at least 50 meiler platforms, from several of which charcoal samples were retrieved. Subsequent laboratory analysis of the samples from Greena Ball and Blackabrook, together with fresh samples from Wild Tor Ridge, has confirmed that the peat was charred by burning (Jones 2011). Since these results became available, a survey of Wild Tor Ridge has resulted in 43 hearth platforms being recorded, while the examination of LiDAR data has revealed a number of potential sites for further investigation, on both the south and north moors, including Langcombe Hill, Shavercombe Head on the south moor and Walkham Head on the north. On Amicombe Hill on the North Moor, at least 44 hearth mounds have now been recorded from LiDAR and ground survey, and in 2018 an archaeological survey of the Erme Valley,

commissioned by DNPA enabled the accurate mapping of a further 35 mounds within two separate clusters, on Brown Heath and Stingers Hill (Newman 2018). Additional meiler platforms from which charcoal samples have been retrieved have also been identified following reconnaissance near Crossways and Great Gnats Head, Standon Hill. Altogether, thirteen clusters of mounds with potential to be, or with proven status as, meiler platforms are now known on Dartmoor.

These discoveries represent an important development in our knowledge of human intervention on the uplands of Dartmoor and could, through a programme of structured research, provide substantive material evidence for an industrial activity previously known only from documentation. However, these findings have also revealed that there is a major gap in our data and examples recorded so far are likely to represent only a portion of what may actually be present. All the research involved in collating and interpreting this evidence so far has been carried out by Phil Newman as a personal, unfunded research project. Charcoal production was not part of the project brief for any of the funded research through which they have so far been recorded, because there was little knowledge that these sites existed. It has not therefore been possible to expand the research to other parts of the moor and direct it solely at the evidence of the peat charcoal industry and its landscape impact. This will be a crucial next stage of the research.

It is now essential to maintain the momentum of this work by further fieldwork and analysis. This will enable an initial statement as to the overall distribution, quantity and character of these sites, which form a major component within the material record of Dartmoor's historic past but as yet have little or no recognition as heritage assets within the Dartmoor/Devon HER (although many of those described above do now have HER entries) or any published record, beyond Woolner's original notes on Wild Tor Ridge (but see Newman 2014, 21-3, for an up to date summary and research context).

The knowledge of these sites, and the fact that, hitherto, no official monument records for any of these features exists, also has major implications for the Dartmoor Mires Project, in particular any alterations to the landscape undertaken as part of the re-wetting process. It is vital that further research should be undertaken to fully realise the archaeological potential of the peat charcoal industry, particularly the locations of these extremely subtle, easily overlooked field remains, which could be lost or irretrievably affected through changes that may occur to the mires.

Project Proposal

The following proposal represents the minimum amount of research required to advance the subject sufficiently to prepare a statement on the topic as a published paper and provide appropriate data for the HER.

1. Desktop study using LiDAR and aerial photography to identify additional meiler platform sites
2. Field investigation, ground truthing and sampling (augering or test-pitting) to confirm some sites identified using above techniques and any others discovered through field observation¹
3. Produce GPS geo-reference map-scale surveys to establish distribution of known examples.
4. Undertake 1:1000 GPS earthwork surveys of some major clusters of meiler platforms, including Blackabrook, Greena Ball, Wild Tor Ridge, Standon Hill but also any others discovered. These surveys will record the form of the mounds but also the topography of the surrounding terrain.
5. Sample excavation. Remove surface turf and cut a section through a representative example to establish the precise nature of the remains,² and if possible to recover dateable evidence.³
6. Further analysis of peat charcoal samples and any other material.
7. Documentary research into contemporary accounts of peat charcoal making (UK and Europe)
8. Publish a paper, discussing the details and analysis resulting from items 1-7.

Notes

1. Where no animal erosion has occurred, small spits can be dug into the upper surface with a spade to retrieve charcoal, or alternatively a wide-bladed auger could be used. Approximately 3 or 4 meiler platforms within each cluster could require sampling to confirm status of the group. Permissions may need to be sought to do this task.

2. One of the Blackbrook meiler platforms has already been roughly 'sectioned' when an early 19th-century ditch transected it. This could be widened and the faces cleaned up to give a good sectional view of a meiler. At Crossways the peat railway has also bisected a meiler which is currently exposed in section
3. Now that we know what peat charcoal looks like, it would be unnecessary to analyse every sample. However, dating the mounds will be particularly challenging as radiocarbon is unlikely to be helpful in dating the peat. However, carbonised wood, which is known to have been used to construct the meiler stacks and kindle the fire, may survive and can be identified

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Earthwork remains of charcoal hearths (meilers) on Greena Ball.

Producing charcoal using a meiler technique. In this case wood charcoal is the product but peat charcoal was produced in a very similar way



Exposed charcoal layer of a charcoal hearth on Wild Tor Ridge.

Cover picture: samples of peat charcoal from Wild Tor Ridge.