# Offa's Dyke Journal

A Journal for Linear Monuments, Frontiers & Borderlands Research

Volume 6

Edited by Howard Williams

## Aims and Scope

*Offa's Dyke Journal* is a peer-reviewed venue for the publication of high-quality research on the archaeology, history and heritage of linear monuments, frontiers and borderlands. The editors invite submissions that explore dimensions of Offa's Dyke, Wat's Dyke and the 'short dykes' of western Britain, including their life-histories and landscape contexts. *ODJ* will also consider comparative studies on the material culture and monumentality of land divisions, boundaries, frontiers and borderlands from elsewhere in Britain, Europe and beyond from prehistory to the present day. We accept:

1. Notes and Reviews of up to 3,000 words
2. Interim reports on fieldwork of up to 5,000 words
3. Original discussions, syntheses and analyses of up to 10,000 words

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**Front cover**: Photograph of the excavated ditch of Offa's Dyke, Chirk, north-facing section (Ian Grant, CPAT Photo 4565-0134)

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# Great works by great men? Rethinking linear earthworks

Howard Williams

*Introducing the sixth volume of the* Offa's Dyke Journal *(ODJ) for 2024, the introduction surveys the contents and recent related research published elsewhere as well as the main Offa's Dyke Collaboratory's activities during late 2023 and 2024.*

*Keywords*: monument biographies, borderlands, dykes, frontiers, landscape, linear earthworks

## Introduction

Linear earthworks define who we are today and where we imagine we come from in more ways than we are often willing to admit. They stalk our landscapes and our imaginations. Clearly, they held complex, shifting and contested uses and significances for past people, too. The task of this academic collection is to explore these varied meanings and significances of linear monuments in the past and the present through fresh academic research.

To set the scene, this article introduces *Offa's Dyke Journal* 6, setting out to present the rationale for this open-access publication before reviewing the five articles. The study then surveys recent key related publications exploring the significance of linear earthworks. The introduction then reviews the key activities of the Offa's Dyke Collaboratory since volume 5, aimed at promoting and supporting research on frontiers, borderlands and linear monuments (see Williams 2023a).

## Dykes as statements of power and origin myths

In his guidebook, Frank Noble described Offa's Dyke as built by the late eighth-century ruler of Mercia, Offa. He describes this ruler as a '… contemporary (and almost an equal) of Charlemagne' (Noble 1981: 9). Offa 'built this great earthwork when the nations of Europe were struggling into conscious existence out of the wreck of the Roman Empire' (Noble 1981: 9). This view by Noble of a 'great work designed and implemented by a great man' is a pervasive metanarrative for Offa's Dyke that has endured from long before the survey and interpretation of Sir Cyril Fox, which described Offa's Dyke as a 'unitary work' (Fox 1955: 282). It continues to dominate our thinking of this linear earthwork, carved in the hazy 'Dark Ages' of Britain, forged by, and simultaneously forging, the kingdoms that were to eventually morph into England and Wales (Hill and Worthington 2003; Ray and Bapty 2016).

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Motives assigned to King Offa vary. Offa is seen as perhaps using the monument to defend his territories, to assert hegemony over his Welsh opponents and own subject peoples, to aggrandise his achievements for his Anglo-Saxon rival polities, and to proclaim his identity and authority to a broader audience across these islands and, indeed, upon a European stage (Ray and Bapty 2016: see also Williams 2023b). Yet, Offa's Dyke is certainly a carefully designed, placed and organised monument, but this needn't imply a singular function, as Ray and Bapty (2016: 363) are at pains to emphasise. Still, the singular agency of a Mercian ruler, etching his name into history through the making of his Dyke and thus carving a legacy for himself, is a simple and seductive story. It is all-too-often adopted to the study of other linear earthworks of prehistoric and early historic periods by archaeologists and historians across Britain and beyond in which the contribution of others, and the experience of others, (during and after their construction) is neglected or downplayed. Dykes and walls are often perceived as having been designed for specific elite agencies for singular purposes to articulate power, authority, assert territory or implement specific military goals, at particular historical moments.

This approach is often deployed regardless of whether the evidence backs this up. It is often deployed to the exclusion of more complex stories hinted at by our evidence: of construction and contested meanings and uses. It is applied without consideration of longer-term patterns of landscape use, shifting impacts and significances of dykes through time on and for different communities: in other words, with little consideration of the complex agencies enmeshing people, monument and place in the life-histories (monumental biographies) of linear earthworks (Chadwick 2016). As we ask new questions, deploy fresh methods and techniques alongside tried-and-tested approaches, and interrogate fresh data, we find this 'great man' story sometimes might be borne out, at least in part, at other times requires significant revision, and in further instances it simply does not work and can be discounted.

This opening observation is particularly poignant for the subjects tackled in this volume of the *Offa's Dyke Journal*. The journal continues to promote new research that challenges our existing narratives through the interrogation of fresh data. Directly and by way of comparison, each contribution to this volume 6 collection of five new original research articles strives to develop novel perspectives on linear monuments, complicating and enriching our still-fragmentary understanding of why, where, when, how and by whom linear earthworks were built, and how they interacted with – creating and transforming – borderland and frontier landscape, settlement and monuments. The studies here thus reveal how dykes underwent contrasting life-histories of use and reuse over time, and they explore their significance and interpretation in today's world.

## Rationale and review

An open-access peer-reviewed academic publication venue for interdisciplinary research on linear monuments, frontiers and borderlands, *Offa's Dyke Journal* is edited and produced under the auspices of the Offa's Dyke Collaboratory supported and

funded by the University of Chester and the Offa's Dyke Association. Published online by JAS Arqueología and with paperback copies sold and distributed by Archaeopress, the journal is supported by an expert editorial board. Each article is peer-reviewed by multiple specialists. *ODJ* here reaches its sixth volume, the second sole-edited by Howard Williams (ably supported by Kate Waddington as stand-in editor for his own publication). The core aim is to provide a venue for researchers, scholars, students and the general public to learn about the latest work on frontiers, borderlands and linear monuments.

Volume 6 comprises this introduction and five research articles, arranged in crude chronological order in relation to their subject matter. Vyner provides an invaluable review of linear earthworks across Britain before presenting the latest data on cross-ridge dykes in North Yorkshire, arguing for their role in demarcating 'territories of ritual' in the early first millennium BC (Late Bronze Age), incorporating earlier cairns and mounds. Hankinson tackles a series of 'short dykes' in mid-Wales, arguing from their dates (where known) and spatial placement that they were part of an early medieval Welsh territory, the direct or indirect predecessor of the late medieval cantref of Mechain. Nevell considers Manchester's Nico Ditch and postulates, based on its position, that it might have been an early medieval period linear earthwork, roughly comparable in date and significance to Offa's Dyke, but controlling borderlands between Mercia and Northumbria. The penultimate publication by Belford, Grant and Malim builds upon the interim fieldwork report in volume 1 (Belford 2019), presenting important scientific dating (radiocarbon and OSL) for the construction of Offa's Dyke and Wat's Dyke, both confirming their early medieval date and prompting further questions regarding how and why they were constructed and used. Finally, Williams critiques the current heritage interpretation along the line of Offa's Dyke and the Offa's Dyke Path National Trail, advocating for a coherent strategy utilising new media, art and narratives to challenge misinformation and disinformation about the history of the borderlands and Offa's Dyke's significance within it. Together, the contributions provide new insights into the past and present uses and significances of linear monuments.

## New research on linear monuments

Previous introductions to volumes 1–3 and 5 surveyed recent research on linear earthworks (Williams and Delaney 2019; Williams 2020, 2021, 2023a). This review makes no claim to tackle all pertinent publications. Four critically relevant studies published in the past two years are here evaluated to set the articles published in this volume in their appropriate context.

### *Crawford's legacy*

In volume 3 of this journal, Garland *et al.* (2021) outline their Leverhulme Trust 'Monumentality and Landscape: Linear Earthworks in Britain' project. Building on this work, Moore *et al.* (2023) consider the legacy of pioneering archaeologist O.G.S.

Crawford's work on Britain's linear monuments. They chart the subsequent decline in interest in linear monuments until the recent revival, in no small part illustrated by the creation and maintenance of this journal. They identify the key challenge of varying chronological attributions for dykes based on limited evidence, including the default assumption that many will be 'sub-Roman' in date. One key issue with this approach is overlooking potential multiple phases of dykes' use and reuse. They subsequently identify the interpretative straightjackets applied, often contrasting between whether dykes are considered prehistoric, sub-Roman, or early medieval in date. Martial interpretations have been reduced for prehistoric monuments in favour of considerations of tenure, while defensive functions are considered more important for early medieval dykes, alongside their proposed role in delineating political territories and ethnic divisions. Moore *et al.* (2023) propose a cross-period comparative approach to understanding linear earthworks focused on considering their relationship with fluid social formations and as manifestations of power. Thus, more robust theoretical framework and fresh methodological applications are required for future studies beyond period-based interpretative constraints.

*Early medieval Wales reviewed*

Nancy Edwards (2023) has succeeded in producing the first up-to-date and detailed synthesis for the archaeology of early medieval Wales, in which linear earthworks are an important component of her chapter ten, which focused on 'power and authority'. Building on the foundations laid by Ray and Bapty's (2016) analysis, Edwards tackles both Offa's and Wat's Dykes by considering their role in defining and transforming relationships between Mercia and the kingdoms of Wales. She concedes there remain many unresolved questions regarding their dating, extent and purpose and Edwards recognises the possibility that the dykes might have multiple phases of construction and use. Edwards effectively reviews past work, including that by Hill and Worthington (2003) and is pitched to survey work up to Ray and Bapty's (2016) book. Unfortunately, the synthesis does not fully take into account more recent work including the studies in this volume since 2019, notably regarding Delaney for the Herefordshire Plain (Delaney 2021). Still, Edwards' account matches closely with that by Williams (2023b) regarding Offa's Dyke's functions in facilitating surveillance and controlling movement (Edwards 2023: 391). Edwards sets her interpretation in the context of the short dykes and a discussion of the evolution of the wider frontier landscape, where she brings to bear place-names, early medieval stone sculpture and ecclesiastical archaeology to consider the dykes' active role in the evolution of the frontier (Edwards 2003: 393–398).

*Four Crosses: Offa's Dyke in landscape context*

Britnell (2024) provides a detailed synthesis drawing on multiple phases of archaeological fieldwork at Four Crosses, Llantysilio, Powys, to consider it a multiperiod nodal point in the

Welsh borderland from the Mesolithic through to the modern era. The key monumental developments are the Middle Neolithic to Middle Bronze Age barrow cemeteries and associated land use, followed by Late Bronze Age land divisions, Iron Age metallurgy and burials, and Roman burials, field systems and enclosures. This long sequence of persistent, if not necessarily continuous, activity in the Four Crosses landscapes provides context to the origins of the kingdom of Powys in the vicinity in the fifth to seventh centuries, and helps us understand this as a landscape of contestation by Anglo-Saxon, Anglo-Norman and English polities with Welsh kingdoms and communities from the eighth to thirteenth centuries (Britnell 2024: 102). Britnell argues for continuity from the Iron Age and Roman periods into the early medieval phases, with evidence of a Roman enclosure at Arddleen recut in the fifth to eighth centuries AD. Meanwhile, nearby is the New Pieces elite settlement site dating from the fifth to seventh centuries AD.

Offa's Dyke carves through this landscape from the Severn to the south to ascend Llanymynech Hill. Its relationship with these earlier land uses is still unclear given that its line across the Vyrnwy floodplain is covered by the modern road. Still, Britnell reiterates the course of the Dyke as aligned between two ancient symbols of political power: the hillforts at Llanymynech and Y Breiddin, perhaps to control the former hill's mineral resources (Britnell 2024: 102–104). The close relationship of Offa's Dyke with the two churches, St Tysilio's, Four Crosses and St Agatha's, Llanymynech, both in circular churchyards and thus of possible early medieval foundation, are noted even if no stratigraphical relationships can be discerned (Britnell 2024: 103–105). The association of the Dyke and the church of St Tysilio's with the sprawling multi-phase prehistoric barrow cemetery is also noted. Britnell recognises the wider pattern of association between early medieval burial sites and churches with prehistoric ceremonial monuments but he equally notes the lack of conclusive and deliberate association between the Dyke and barrows or cairns elsewhere along its course. Thus Britnell is circumspect: suggesting that the associations of the barrows, with the church of St Tysilio and Dyke 'may be coincidental but there are perhaps hints that the earlier monuments had some influence in the eighth and ninth centuries AD', via 'ancestral, supernatural, mythical or historical associations' linked to identities, senses of place and social memory (Britnell 2024: 104–105, 110).

*Conserving Offa's Dyke*

Published in Cadw's popular *Heritage in Wales* magazine circulated to members, Upson and Davies (2024) provide a valuable synthesis of emerging conservation and management strategies for Offa's Dyke via their cross-border project. Having introduced Offa's Dyke, and explaining it as 'one of the greatest engineering achievements of the pre-industrial age' (Upson and Davies 2024: 32), they set out the Offa's Dyke Conservation Project from 2016 onwards, involving a survey of the condition of the monument and subsequently the enactment of conservation strategies in collaboration with landowners and other stakeholders. They present work from Drewin Farm, near Churchstoke, Powys, as a case study: one of a number of examples of best practice which is being identified and refined through ongoing conservation work.

## Collaboratory activities, late 2023–2024

The Offa's Dyke Collaboratory continues to support this ongoing work. The Collaboratory is a sustained research network for those investigating linear monuments, frontiers and borderlands. The core Collaboratory activity has been the production of this open-access academic journal and the maintenance of the Collaboratory website and blog. There has also been one key public event during the period under consideration.

### *Borderland events* [1]

The principal event in late 2023/2024 was a day-conference on 1 June 2024, held at Alyn Waters Country Park, and organised by Dave McGlade, Keith Ray and Howard Williams. Supported by the Offa's Dyke Association, the event was themed: 'Conflict, Collaboration and Early Medieval Frontiers'. With an audience of fifty people, the event brought together avocational and professional and academic investigators to explore the latest thinking and insights into Wat's Dyke, Offa's Dyke and their landscape contexts, and this was subsequently disseminated digitally (see below). A full review and compilation of videos of talks for this successful event can be found on the Offa's Dyke Collaboratory blog.[2]

### *Digital dykes*

The Offa's Dyke Collaboratory continues to support the publication of digital media to foster interest and educate understanding of the region's archaeology. A key component of the aforementioned 1 June 2024 conference – 'Conflict, Collaboration and Early Medieval Frontiers' – was its recording and sharing online. This was done both via the *Archaeodeath* YouTube channel[3] and the channel of the Offa's Dyke Association.[4]

In addition, the Collaboratory website hosted a blog-post reflecting on the landscape of the borderland via a guest post on the folklore of Llanymynech by Melanie Roxby-Mackay. This comprises part of her doctoral research exploring the long-term significance of borderland identities mediated by the lived experience of the landscape either side of the modern Welsh/English border.[5]

The blog also featured a discussion of the proximity and significance of Wat's Dyke to Y Cae Ras, now associated with celebrity ownership and with a Disney Plus television show following the fortunes of Wrexham AFC. The documentary also provides an entertaining light introduction to the history and heritage of Wrexham. Offa's Dyke is briefly and misleadingly represented in series 1 as part of the history of Wales for

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1 As reviewed on the Offa's Dyke Collaboratory blog: https://offaswatsdyke.wordpress.com/
2 https://offaswatsdyke.wordpress.com/2024/10/22/conflict-collaboration-early-medieval-frontiers-1-june-2014/
3 https://www.youtube.com/@archaeodeath
4 https://www.youtube.com/@OffasDykeAssociation
5 https://offaswatsdyke.wordpress.com/2023/11/14/lords-and-ladies-of-llanymynech-by-melanie-roxby-mackay/

beginners. Meanwhile, the mural on Crispin Lane has constituted a new feature of Wrexham's cityscape, thus celebrating both club and show in immediate association with traces of Wat's Dyke running parallel to the road and railway lines, although nothing explicit connects the two or allude to the Dyke's proximity. The blog-post also highlights the potential of the What's Wat's Dyke comic to educate and engage people with the story of the Dyke in relation to the history of the football club. If taken forward, such heritage initiatives would enrich the club and documentaries' paired impact on the city and the region, in which Wrexham's borderland identity as part of a deep-time contested landscape would be showcased for local people and visitors alike (Swogger and Williams 2021; Williams and Swogger 2021).

Building on existing resources on the Offa's Dyke Collaboratory blog, Howard Williams presented further instances of heritage interpretation in the landscape, focusing on Ruabon and Plas Power as well as digitally as part of the Ceiriog Heritage Trail. Together, these posts provide drafts of ideas later to be incorporated in Williams's contribution to the present volume.

## Conclusion

Linear earthworks often remain enigmatic, but the ongoing research showcased here indicates they were far more than 'great works by great men'. Built at different times involving varied agencies, linear earthworks were made with varying and overlapping motivations. Some were single-phase monuments and reflect royal and/or elite power. authority and design. Yet they can be constructed and utilised through multiple phases of building, use, neglect, abandonment and reuse, reflecting shifting cooperation and conflict between different individuals and groups. At each juncture dykes might thus accrue successive or overlapping functions and significances. Their traces continue to acquire complex valences and affordances to this day. It is our task as scholars, resarchers and professionals to explore and reveal, question and critique these functions and significances through our investigations, teaching and public engagement.

This journal continues to deliver the responsibility for accessible, up-to-date and original research to tackle new interdisciplinary investigations of linear earthworks in their wider borderland and frontier settings. *Offa's Dyke Journal* promotes reliable and accessible scholarship and resesarch to a broader audience and thus enhancing public understanding and appreciation regarding the history, archaeology and heritage of linear monuments, frontiers and borderlands. Simultaneously, the journal have also provided peer-reviewed academic content that is up-to-date and serves to critique and challenge false narratives.

To date, forty-nine published articles have appeared over six volumes, of which thirty-eight are original articles and five are 'classics revisited' publications of revised and reformatted content that had previously appeared elsewhere. The introductions to each

volumes are themselves reflections on new perspectives, public engagement and research impact. Together, the articles in *Offa's Dyke Journal* have transformed recognition and understanding regarding linear monuments, frontiers and borderlands in Britain and beyond.

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# An Indication of Northern Souls: Revisiting the 'Territory of Ritual'

Blaise Vyner

*This article revisits the interpretation of the distinctive cross-ridge boundaries of north-east Yorkshire and explains a regular association between these features and the far earlier Early Bronze Age burial mounds. Radiocarbon dating and palynological evidence now provides a chronology for the boundaries, while field survey and excavation evidence confirms a new and specific role for cross-ridge boundaries in protecting long established Early Bronze Age funerary areas and enabling their continued veneration in the changing landscape of the Late Bronze Age and Iron Age.*

*Keywords:* cross-ridge, boundary, chronology, funerary, territory

> The problems of bringing cross-ridge dykes into this discussion are, of course, considerable. A major problem is how, precisely, such dykes can be dated. Their construction appears to span perhaps a millennium. Secondly, superficially similar dykes may have been built for widely differing reasons. Cross-ridge dykes, like so much else in British archaeology, have tended to be swamped by all-embracing explanations. (P.L. Drewett 1978: 72)

## Introduction

This paper revisits the cross-ridge boundaries of north-east Yorkshire. This topic was reviewed some years ago, when attention was drawn to their distinctive topographical settings and the variety and complexity of their construction which makes them different from other boundary earthworks (Vyner 1994; 1995). Since then, excavation and field survey has recovered additional constructional detail of the boundaries and gathered palynological evidence and radiocarbon dating to provide an absolute chronology for the cross-ridge boundaries to be put forward. Constructed over the tenth and ninth centuries BC, if not longer, they confirm continuing ritual activity around funerary monuments set up a millennium previously.

## Background

Linear earthwork boundaries in general continue to remain poorly researched in terms of field survey and archaeological excavation. While the chronology and purpose of some may be suggested with varying degrees of confidence, the interpretation and dating of the majority very often rests upon assertion. Let us review recent archaeological work

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on linear earthworks in Britain, focusing on the ramifications for the landscapes of northern England in particular, to set the scene for new fieldwork and interpretations of the cross-ridge boundaries of north-east Yorkshire.

*Substantial 'monumental' linear boundaries*

An early medieval date is generally accepted for a limited number of substantial linear boundaries, including Offa's Dyke, famously surveyed by Cyril Fox between 1926 and 1931 (C. Fox 1955), with further work undertaken since, although still without good dating evidence (Hill and Worthington 2003; Ray and Bapty 2016: 55–92). A number of 'short dykes', some on the Welsh Border but including others on the Glamorgan uplands and elsewhere, have been considered to be of similar date (C. Fox 1955: 113). More recent work on deposits sealed by five short dykes in Powys appears to confirm a broad sixth and seventh-century date (Hankinson and Caseldine 2006: table 1) – it should be noted that photographs of two of the boundaries show them extending into a valley bottom, something that is not characteristic of the cross-ridge boundaries under discussion. Other upland earthworks, mostly slighter in scale, are also suggested to have had a defensive purpose and an early medieval chronology (Grigg 2018), although none has substantive dating evidence and, cumulatively, the case for a widespread early medieval date does not appear to be strong.

This work has a bearing on the possibility that linear earthworks in West Yorkshire and North Yorkshire might also be early medieval date, an argument postulated for Swaledale by Fleming (1998: 21–24). However, it appears increasingly likely that sections of substantial earthwork boundaries belong to a late Bronze or early Iron Age horizon. Among these are Scots Dike, Richmondshire (Haselgrove 2016: 23–25; Zant and Druce 2013: 97–99), while detailed field survey of the nearby Grinton-Fremington Dykes, in Swaledale, now restores them to the later Bronze Age or Early Iron Age (Ainsworth *et al.* 2015: 15). More recent work on the Grinton-Fremington Dykes suggests that they are land boundaries rather than defensive works (Swales 2019: 21). In West Yorkshire, Grim's Ditch and other sections of the Aberford Dykes have been shown by excavation to be probably late Iron Age and later (Wheelhouse and Burgess 2001: 123–148). However, in most instances the chronology of the boundaries rests on assertion rather than evidence and further assessment of them is called for (Moore *et al.* 2023: 1220–1227).

*Large earthworks enclosing deer-parks*

Late medieval deer-parks, numerous in North Yorkshire, and commonly associated in documentation with high status occupation across England, are enclosing earthworks whose identity is frequently retained in place-names, sometimes with documentary evidence for a late medieval date, but lacking absolute dates from the earthworks themselves (Rimington 1970 10–11; 1974; Spratt and Harrison 1989: 104–105). Although these may be very visible landscape features, research has rarely extended beyond

documentary and cartographic sources and limited field survey. Research and fieldwork in north-east Yorkshire has underlined the variety of activities associated with deer parks and their potentially complex development (Dennison 2005: 23–29). The deer park at Fyling, North Yorkshire, is thought to have been established by Whitby Abbey in the twelfth century. There the enclosing wall is well-known for including a series of substantial stone crosses, said to reflect ecclesiastical ownership, although their date is uncertain (Dennison 2019: 29–35). Fieldwork has identified chronological depth that underlines the potential of further investigation of these earthworks.

*Territorial earthwork boundaries*

Cunliffe outlines the development of arable agriculture over the chalk uplands of southern England, beginning with limited distributions of extensive earthwork boundaries associated with scattered farmsteads during the Late Bronze Age and Early Iron Age (1400–900 BC). Between 900 and 600 BC these systems were expanded and consolidated, with associated earthwork enclosures and midden deposits suggestive of large-scale cattle-management. From around 600 BC to 350 BC the boundaries were increasingly associated with the construction and occupation of hillforts (Cunliffe 2005: 420–428). It is these earthworks, variously described as 'ranch boundaries' and 'defensive linear earthworks' which dominate archaeological literature from Colt Hoare (1812: 19) through Grinsell (1958: 145–147) to the more recent Wessex Linear Ditches Project (Bradley *et al*. 1994: 137–152) and the study of the Salisbury Plain Training Area (McOmish *et al*. 2002: 51–86). As Cunliffe makes clear, however, the model for the Wessex chalklands may not be closely applicable to the north of England.

Similar earthworks are found on the Tabular Hills of north-eastern Yorkshire (Wheeler 1931; Spratt 1989), these also are suggested to have developed over the Late Bronze Age–Early Iron Age but are poorly dated, their relative chronology is occasionally indicated by relationships with other sites. Linear earthworks are also a feature of the Yorkshire Wolds, where they have suffered significant agricultural erosion and where modern excavation detail is almost completely lacking (Mortimer 1905: 374–377; Stoertz 1997: 40; Giles 2007: 106–109). The former complexity of the Wolds earthworks is indicated by Mortimer's informative 'Plan of the Entrenchments and Barrows' on the area of the Wolds that he investigated in the late nineteenth century (Mortimer 1905: 1). Fenton-Thomas's (2005: 41–45), useful discussion of the Wolds' linear boundaries notes that they tend to follow the valleys indeed, they have echoes of the ritual territories identified in this article.

*Cross-ridge boundaries*

Perhaps the least well-known and least well-understood of the earthwork types, cross-ridge boundaries are fairly readily recognisable from their topographical settings and, as this article will argue, for a narrow range of associations which betokens a particular purpose. These boundaries are found on upland margins but are not usually a

component of larger arrangements, usually appearing singly or, less frequently, in pairs (Vyner 1995: 16–17). Grinsell (1958: 146–147) accorded the cross-ridge dykes only a short paragraph in his discussion of the Wessex boundaries. Over fifthy years ago, Richard Bradley reviewed existing interpretations of cross-ridge boundaries. He concluded that they were associated with agriculture, but he demolished the interpretation of the boundaries as 'covered ways', and dismissed putative ridgeways (Bradley 1971: 8–14).

Further research confirms the cross-ridge boundaries were intended to identify, mark and protect the areas by then occupied by one or more Early Bronze Age burial cairns. This was the formal marking of the 'territory of ritual', which in all likelihood continued to be the area given over to the continuing deposition of burials, probably as cremations. Most if not all cross-ridge dykes have a relationship with round barrows or cairns. The commonest relationship is for an earthwork to mark a 'territory' within which are one or more burial mounds, as at Herd Howe, Gerrick Moor. Only occasionally does it appear that the boundary actually incorporates a cairn within its structure, as at Danby Double Dyke and Hesketh Dyke (Spratt 1993: 134).

## The history of cross-ridge boundary research

On the uplands of Glamorgan and north-east Yorkshire cross-ridge boundaries survive particularly well due to the absence of intensive arable agriculture – here the uplands between c. 275m to above 300m tend to be grazed by sheep in the winter months, with cattle and arable agriculture restricted to the valleys. In summer higher land is mainly grazed by sheep (Cowley 1972: 46–52). Elsewhere, in Hampshire, Sussex and Wiltshire, the boundaries have been variably eroded by ploughing. The boundaries exhibit a wide range of constructional characteristics, although they have seldom been closely examined. Historically, cross-ridge boundaries have tended to be considered as a sub-set of territorial linear boundaries. Spratt, who undertook a careful study of prehistoric linear boundaries in north-east Yorkshire, was unwilling to distinguish cross-ridge boundaries from other linear earthworks in the area, but a glance at his map (Spratt 1993: figure 58) suggests that there are three distinct focuses of linear earthworks there, each of which has distinguishing and sometimes puzzling features that mark them as discrete from others. At the south-west is the Cleave Dyke, to the south-east are the linear boundaries of the Tabular Hills which caught Wheeler's attention (Wheeler 1931: 34–39) and were later the focus for Spratt's enquiry (Spratt 1989). To the north are the more widely scattered cross-ridge boundaries on the Cleveland Hills.

In an early volume of *Antiquity*, J.P. Williams-Freeman drew attention to the cross-ridge boundaries of southern England, it was his view that they had potentially allowed blocking of ridgeway routes and at the same time acted as cattle-ways, in so doing he perpetuated two misinterpretations which by then were well established (Williams-Freeman 1932). Cross-ridge boundaries in Sussex were originally considered to be cattle-ways by Richard Colt Hoare (1812), while Cecil and Elliot Curwen also favoured a cattle-way interpretation

(Curwen and Curwen 1918: 35), although Cecil later recanted in favour of the term cross-ridge dyke (1951). Wiltshire cross-ridge boundaries were the subject of research by Peter Fowler (1964) and more recently Bradley (1971). In North Yorkshire, Elgee expanded upon Young's observations of the North York Moors cross-ridge boundaries (1930), while these have been revisited more recently (Vyner 1994; 1995). In South Wales, Cyril Fox had included a series of short boundaries as part of his survey of Offa's Dyke (Fox 1955), while Aileen Fox reviewed what she described as short dykes on the uplands of Glamorgan and elsewhere in South Wales (A. Fox 1936), a topic which was later taken up by the RCAHMW in their Glamorgan volume (RCAHMW 1976). In considering cross-ridge boundaries agricultural attrition combines with landscape and archaeological observation to create a certain amount of doubt as to whether all cross-ridge boundaries are strictly comparable. Where cross-ridge boundaries are located on land which has seldom, if ever, been ploughed it appears that more detail is present. This may be a direct reflection of the lack of damage from ploughing, but it may also reflect differences in available construction materials. Was detail originally present in areas which have been subject to ploughing, and do cross-ridge boundaries share a common purpose?

In north-east Yorkshire it is suggested that the repetitive occurrence of Early Bronze Age burial mounds in association with cross-ridge boundaries confirms their function. Taking Fowler's survey of cross-ridge boundaries on the Ebble-Nadder Ridge in Wiltshire as comparator (Fowler 1964: figure 1) and adding the barrows present on the same area of the OS One-Inch Sheet 167 map (1960) confirms a very similar association of round barrows with cross-ridge boundaries. Characterisation of the earthworks is important as not all short boundaries are cross-ridge boundaries. In addition to their topographical placement, constructional features and associations it is noticeable that they rarely comprise more than a single earthwork bank and sometimes a poorly-marked ditch.

The earthwork boundaries that have survived agricultural attrition were constructed on uplands in areas where evidence for lowland and valley settlement and agriculture has not survived intensive agriculture which developed from the medieval period and intensified from the nineteenth century. The result is that only very occasionally can earthwork boundaries on the uplands be directly linked with surviving contemporary settlements in the lowlands. This applies particularly to cross-ridge boundaries which occupy scarp-edges and other high points. Originally, such placements were commonly at some distance from settlement and at altitudes above 250–300m OD, which are not conducive to arable agriculture.

Although cross-ridge boundaries would appear to differ from other linear boundaries not only in topographical siting but also in complexity of construction, few conclusions have been drawn as to why this should be so, indeed, the distinction is rarely remarked upon. In four areas only, Sussex, Wessex, Glamorgan and north-east Yorkshire, have useful observations been made concerning the character and chronology of cross-ridge dykes, while only in north-east Yorkshire has archaeological fieldwork and excavation been undertaken in recent years. It is the latter evidence that forms the body of this study.

Figure 1: Horn Ridge, Farndale, North York Moors. Late eighteenth-century field walls indicate the limit of modern agriculture above which is now heather and bracken. A cross-ridge boundary crosses the ridge, its eastern end is on the ridge-top directly above the nearer electricity pole. On the demarcated 'nab' is a substantial Early Bronze Age funerary cairn. The foreground fields continue to be farmed and contain little earlier in date than the eighteenth century (Photograph: Blaise Vyner)

*Sussex*

In 1918, Cecil Curwen had, with his brother, Elliot, identified sixteen linear earthworks on the chalk Downs of Sussex, these they termed covered ways. The earthworks cut off upland spurs and comprised either a single ditch with a bank on each side, or closely-spaced multiple ditches, their length varying from 30 m to 500 m (Curwen and Curwen 1918: 35–75). One, on Upwaltham Hill, comprised paired earthworks which changed direction at a possible burial mound included in the boundary (Curwen and Curwen 1918: 44–45, pl. iv). At Highden Hill, they considered that a small barrow encroached upon a linear earthwork (Curwen and Curwen 1918: 61), while on Harting Down they noted one of a group of three earthworks had a gap in which stood a possible burial mound (Curwen and Curwen 1918: 52 and pl. vii). On Glatting Down the brothers observed that multiple earthworks change direction to avoid impacting on three burial mounds (Curwen and Curwen 1918: pl. viii). In review, thirty years later, Cecil Curwen abandoned the 'covered way' interpretation, preferring instead the term cross-ridge dyke. He drew attention to evidence for a Late Bronze Age to Roman construction date, concluding that the dykes 'must have been connected in some way with the movement of cattle or pigs from one valley to another or to and from the Wealden forest' (Curwen 1951: 99–101). Their association with burial mounds went unremarked.

In 1975, T.P. O'Connor excavated a section across a cross-ridge boundary at Alfriston, East Sussex. The dyke runs from a dry-valley to the north-facing scarp of the Downs, its ditch being c. 2m wide at the top and was roughly V-shaped with a narrow flat bottom and an average depth of 1m. The earthwork lay c. 50 m west of a round barrow, which

'implied a chronological association between the dyke and the barrow' (O'Connor 1976: 66). Reviewing prehistoric fields and land allotment in Sussex shortly afterwards, Drewett (1978: 72) noted cross-ridge dykes 'have tended to be swamped by all-embracing explanations'. Over the period 2016–2020 the cross-ridge boundaries of the South Downs have been the subject of further field examination. That survey concluded that, given the large number of barrows scattered across these uplands, there is no observable relationship between them and the cross-ridge boundaries (Lee *et al*. 2020: 48).

*Wessex*

L.V. Grinsell, whose comprehensive volume on *The Archaeology of Wessex*, one of the last and best of Methuen's County Archaeologies series (Grinsell 1958), followed Williams-Freeman in thinking that many of the Wessex linear earthworks served as boundaries as well as roads. He had very little to say about cross-ridge dykes other than suggesting that they were not defensive, 'but would function usefully as hollow-ways for cattle or sheep to enable them to move from farm to grazing ground, or vice versa, without straying over growing crops' (Grinsell 1958: 147).

In 1964, Peter Fowler reviewed the cross-ridge boundaries, settlements, 'some other relevant earthworks' and areas of Celtic fields along a 14.5km stretch of the ridge between the Rivers Ebble and Nadder which runs westward from Salisbury. He sought to gain a better understanding of the function of cross-ridge boundaries, in particular to examine evidence that the boundaries were cattle-ways, as suggested by Colt Hoare and others. The problem, as Grinsell (1958: 147) had suggested six years previously, would be elucidated by a combination of air photography, field archaeology and judicious excavation. Fowler noted 'there are significant regional differences masked by the term 'cross-dykes', and concluded, with caveats, 'bivallate cross-ridge dykes were primarily land boundaries, while univallate dykes in some way controlled traffic' (Fowler 1964: 51). However, in excluding the Bronze Age round barrows from his search of relevant features he missed the possibility of recognizing an association between the burial mounds and the cross-ridge boundaries (Fowler 1964: 51).

*Upland Wales – Glamorgan, Montgomeryshire, Radnorshire and Shropshire*

Aileen Fox drew attention to a group of cross-ridge dykes on the Glamorgan uplands, noting some variability in their construction: Ffos Toncenglau and Bwlch y Clawdd, Glamorgan, had stretches of stone-facing to the bank and, in places, dry-stone walling. In noting that the smaller earthworks presented no obstacle to either man or beast she concluded that these must have originally been surmounted by a palisade or thorn hedge and suggested that the dykes were intended to control movement along ridgeway routes. She also observed that a dyke on Cefn Morfydd 'has several gaps in it… one of which is likely to be original – to admit traffic along the Cefn Ffordd ridgeway' (A. Fox 1936: 282). The RCAHMW plan shows seven gaps in this dyke, of varying width, they

also note, as a single earthwork, two cross-ridge boundaries on Mynydd Eglwysilan, Pontypridd (RCAHMW 1976: 11). The southern dyke is broken by a gap 1.8m wide, the northern dyke is in two sections separated by a gap c. 15m wide. Fox suggested that the dykes could be assigned to the post-Roman period (A. Fox 1936: 284 and table p. 283); a decade later she put forward a more precise assessment of their chronology, again without evidence, asserting they were eighth century or later (A. Fox 1946: 117).

The dykes were revisited in the 1960s by C.B. Crampton, who retrieved samples in order to examine buried soils and their pollen content, concluding that the pollen profile accorded with the early medieval date suggested by Fox (Crampton 1966). These boundaries have the characteristics of the cross-ridge boundaries under discussion, with discontinuities in the banks and ditches, variations in construction and the nearby presence of Early Bronze Age burial mounds. Among these, Clawdd Mawr was revisited in 2016, when wind-farm construction necessitated the widening of an existing access track, in one of two breaks in the earthwork. An OSL date from a secondary fill of the ditch suggested the ditch had filled up between AD 1 and 800, although it did not preclude construction in the Late Neolithic or Early Bronze Age. As the excavator noted, the earthwork is c. 200m distant from an Early Bronze Age round barrow cemetery on Llyndwr Fawr. There would appear still to be a case for further scrutiny of the Glamorgan cross-ridge boundaries (Mason 2019: 105).

The Board of Celtic Studies volume for 1935 also included a notice by H. Noel Jerman of field survey of five cross-ridge dykes on the Kerry Hills of Montgomeryshire (Jerman 1935: 280). This was published more fully a little afterwards (Jerman 1936: 279–287), although, unfortunately, Jerman's proposed broader discussion of the short dykes was not completed, deflected by the behemoth of Cyril Fox's survey of Offa's Dyke and his eighth-century 'Mercian defence system'. Fox suggested the short dykes of the border had originated through 'localized effort' (C. Fox 1955: 160–168), the cross-ridge earthworks of the Glamorgan uplands, on the other hand, were viewed by Aileen Fox as constructed slightly later than Offa's Dyke, in the eighth century 'at the earliest', and intended to block ridgeway routes (A. Fox 1946: 117–118). Guilbert's note of a pair of earthwork enclosures, Castle Ring and Rattlinghope Camp, on an outlying portion of the Long Mynd, Shropshire, on which were also sited two cross-ridge boundaries, is a rare recognition of a potential association between cross-ridge boundaries and other features. He additionally suggested they might have been settlements on infield pasture associated with nearby valley settlements (Guilbert 1976: 122).

In common with other enthusiasts of upland tracks, neither Cyril nor Aileen Fox allowed any purpose for cross-ridge boundaries other than control of ridgeways. Questions of who might have been on hand to defend the earthworks, what provision was made to strengthen obviously weak points and whether lowland routes might not have been preferred seem never to have been posited, either then or since. While the RCAHMW survey of Glamorgan concluded 'there is no positive evidence for any substantial use of the ridgeways during the Roman period' it went on to suggest that ridgeways did become

important in the post-Roman period. Taking a cautious approach, the RCAHMW could identify twelve or thirteen routes across the mountains of Glamorgan, for around half of which a cross-ridge boundary was claimed (RCAHMW 1976: 3–4, figure 1). Evidence for the chronology of the routes took the form of the undated cross-ridge earthworks combined with early medieval inscribed stones. The limited stature of many of the dykes, however, combines with a scarcity of inscribed stones in upland locations to introduce elements of doubt. It would seem much more likely that the Roman route – generally that of the A48 along the populous coastal littoral – continued, in combination with the water routes along the Severn Estuary and elsewhere round the coast of Wales, until the First World War and later (Groom 2019; Vyner 2021a: 98). Nevertheless, the inferred use of upland ridgeways, and their control through cross-ridge earthworks, remained the preferred archaeological interpretation into the late 1970s and, indeed, survives more generally to the present time (Grigg 2018; Lea *et al*. 2020: 47).

*The cross-ridge boundaries of north-east Yorkshire*

In north-east Yorkshire cross-ridge boundaries on the North York Moors first drew the attention of Whitby Baptist Minister and historian George Young in the early nineteenth century (Young 1817: 683–685). Young made a number of useful observations regarding the topographical and constructional details of the earthworks, not all of which had the impact they might. Young provided a perceptive description of their settings and construction to which most later commentators added little or nothing, so it is worth quoting him fairly fully:

> Our moors, in all directions, are intersected with trenches, intended to ward off the attacks of the enemy. Some of these trenches are deep and strong: in many instances they are single, in others double, and in some triple; in general, the agger, or rampart, belonging to them, is formed merely by the earth thrown out of the ditch, but very frequently we find it surmounted by a parapet of upright stones. Some of these lines are extended to a great length, dividing one part of a moor or hill from another; but in general they obstruct narrow passes, where they reach from one morass to another, or one slack to another; or they cross the projecting points of hills, cutting off these elevated points, so as to render them a kind of camps. Almost all the lofty headlands that project into the vale of the Esk, on the south, have their points thus fortified, especially where these points have only a narrow ridge, or isthmus, to connect them with the principal moor. In some instances the isthmus is cut in two places, at an interval of 2 or 3 furlongs; as we see on the ridge which terminates at Castleton, and on that which separates Glaisdale from Egton Grange; on which last it is observable, that the higher trench is strengthened with a parapet consisting of a double row of upright stones, while the lower has only a rampart of earth. (Young 1817: 683–684)

In the mid-nineteenth century these attracted further comment from Robert Knox, who was much taken with the notion that the earthworks blocked upland ridgeways (Knox 1855: 155).

After Young and Knox the boundary earthworks on the North York Moors were not revisited until the late 1920s, but neither have they been the subject of ploughing, apart from in limited areas around their edges. When Frank Elgee, the largely self-taught curator of the Dorman Museum, Middlesbrough, explored the moors in the 1920s they remained much as they had been when Young and Knox saw them. Elgee (1930: 138) identified the earthworks as the defences of Bronze Age settlements, although he found little settlement evidence. His type-site was Danby Rigg, for which he imaginatively claimed 'a cemetery, sacred site, dwellings, enclosures and cultivation plots'. On the evidence of cross-ridge boundaries he identified other settlement sites of his 'urn people' on Castleton Rigg, Crown End Westerdale, North Ings Commondale and Danby Low Moor. In fact Danby Rigg remains one of only a few instances of a cross-ridge boundary co-existing with a range of monument types. Although in *Early Man in Northeast Yorkshire* Elgee (1930) had put forward a plausible model for the development of later prehistoric settlement on the moors, one of its shortcomings was that it claimed the existence of a wider range of monuments than was actually present. Another was to assume, as most others have, after setting aside the Early Bronze Age burial mounds which appeared to have no associations, most of the visible features on the moorland were contemporary components of an upland landscape which existed independently of the valleys, where ancient features did not survive (Vyner 1990). Although Elgee made a number of useful observations on the cross-ridge boundaries, his wider interpretations were limited by continuing lack of excavation evidence. This allowed his somewhat generalised outline of settlement on the North York Moors to survive for half a century.

A year after the publication of *Early Man*, R.E.M. Wheeler provided a chapter on 'Prehistoric Scarborough' for Rowntree's *History of Scarborough*. An appendix to Wheeler's paper focused on the linear earthworks because 'We know at present nothing as to the dates or circumstances in which these works were constructed' (Wheeler 1931: 34–39). In 1953 John Rutter, then Curator of Scarborough Museum, with members of the Scarborough Archaeological Society, initiated a study of earthworks and associated features on the North York Moors (Rutter 1960: 16). Between 1965–1974 reports focused on recording the detail of earthworks but, unfortunately, no conclusions were reached before Rutter moved from Scarborough to retire in 1975. Independently of Rutter, in 1959 the earthwork boundary on Horn Ridge, Farndale, was the subject of limited excavation by Raymond Hayes and Arthur Whitaker. The bank, where sectioned, was found to be 1.9m high with a ditch 1m deep: in the absence of finds or other evidence this was assumed to be a defensive earthwork of Iron Age date (Hayes 1963: 41, figure vi). It was included in Spratt's discussion of hillforts, although the absence of enclosing earthworks combined with its spur location attracted the comment 'there is some debate whether the rampart may be a cross-ridge dyke' (Spratt 1993: 128); it was in view of these characteristics that it was included in the list of cross-ridge boundaries (Vyner 1995: 28, table 2.1).

Figure 2: Cross-ridge boundary on Horn Ridge, Farndale, North Yorkshire: a large burial cairn occupies the centre of the demarcated area (Photograph: Blaise Vyner)

Figure 3: Cross-ridge boundary on Horn Ridge, Farndale, seen against a rain cloud which reveals the variable construction of the bank (Photograph: Blaise Vyner)

The air photograph shows the distinctive topographical situation of the Horn Ridge boundary (Figure 2): it marks off the end of one of the promontories which extend into the valley of the River Esk. In the centre of the bounded area is a substantial burial mound which bears evidence, as they all do, of antiquarian excavation.

The promontory itself is bounded by an earthwork on the landward edge only, its steep sides defining the area of interest. The earthwork is punctured by a track and by an apparently machine-made cut, but there are a further six breaks in the bank, now confirmed by Lidar, most of which appear to be accompanied by causeways across the ditch (Figure 3).

Danby Rigg was the subject of further fieldwork between 1984 and 1989, although excavation was restricted to a ring cairn with associated standing stone, a section across the Triple Dykes and a handful of small 'clearance' cairns (Harding and Ostoja-Zagórski 1994: 22–27).

While the Early Bronze Age burial mounds are known to include turves or to seal soils containing palaeoenvironmental and artefact evidence, other moorland monuments have rarely been excavated and, when they have, artefacts prove rare while little palaeoenvironmental evidence survives: Danby Rigg was not an exception. A section across the Triple Dykes there showed them to be of similar build, the banks varying from 0.65m to 1.23m high and between 2.5 and 3.5m or more in width, the central one being the most substantial. The buried ground surface was a leached-out horizon with no pollen present. The main filling of the southern ditch comprised clay and large boulders which suggested it had been deliberately slighted (Harding and Ostoja-Zagórski 1994: 76). Radiocarbon dates from burnt timbers in the southern ditch lower fills are cal. AD 810–1000 (HAR-8910, 8911), while dates from the base fill of the northern ditch are cal. AD 435–630 and 820–950 (HAR-8908, 8909). No excavation was undertaken on the single bank and ditch of the Cross-Dyke.

The two Danby cross-ridge boundaries appear to be typical of paired cross-ridge boundaries on the North York Moors, even to the extent of differing from each other. The bank and ditch of the Cross-Dyke has a break c. 80m long to accommodate a pre-existing burial cairn, Cairn 764. The western end of the Triple Dykes there is unevenly constructed, as Elgee (1930: 135 and pl. XX) pointed out, appearing to incorporate what he termed 'an arc' of four orthostatic stones, although these might as easily be a remnant of an alignment. After a gap c. 25m wide, the southern bank is discontinued and the earthwork changes direction. The remaining section includes a final break, c. 10m wide (Harding and Ostoja-Zagórski 1994: 26–27 and illus. 4). There seems little reason to doubt that in character and appearance the Danby dykes conform with other cross-ridge boundaries of the North York Moors, in which case some explanation has to be found for the radiocarbon dates derived from charcoal in the two ditches of the NW sector of the Double Dykes. The suggested slighting or other disturbance in the excavated area may well be attributable to Viking-period activity (Harding and Ostoja-Zagórski 1994: 76), a suggestion made all the more credible by the Viking burials attested at Kildale,

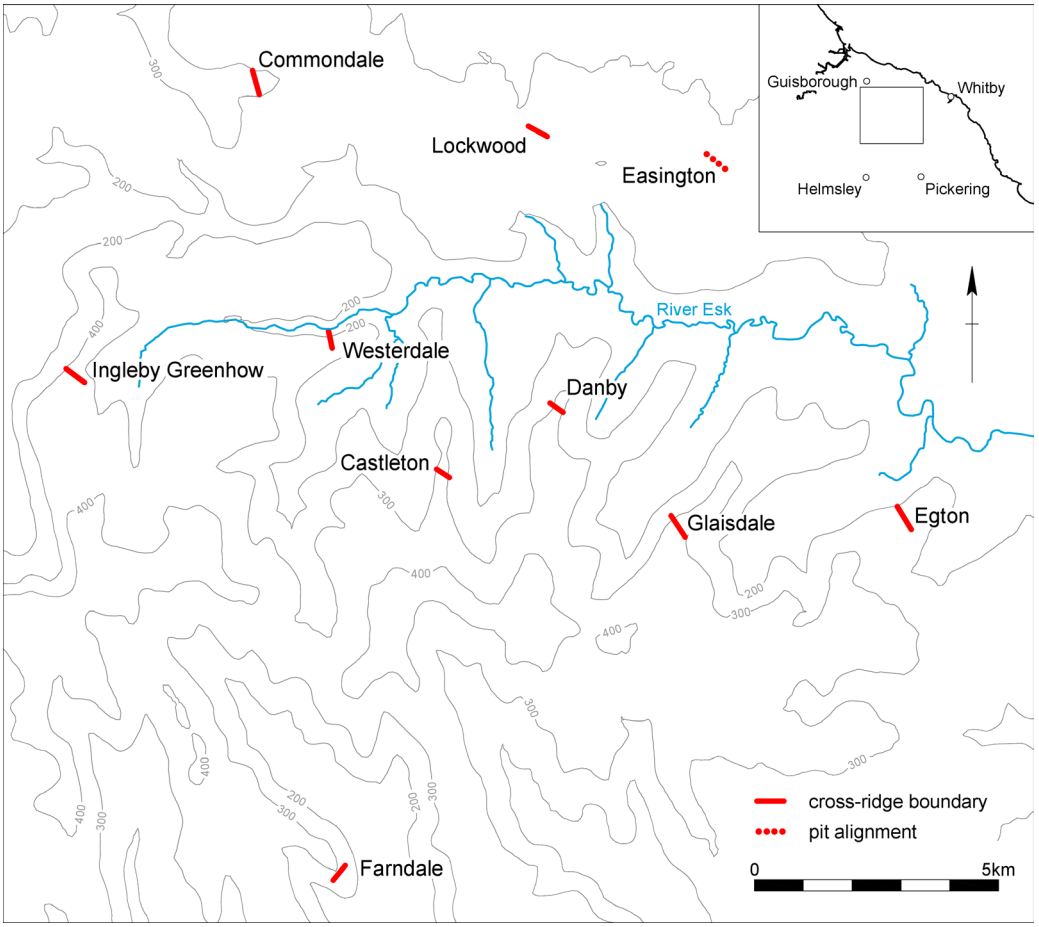



Figure 4: The Cleveland Hills, heartland of cross-ridge boundaries: others exist south and east of Farndale (Map by Dawn Knowles)

only some 10km west of Danby Rigg, where seven or eight burials with Viking weapons were discovered beneath the medieval floor of the church in 1867 (Elgee 1930: 220–221; Lang 2001: 128, fn. 2).

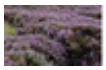
## Further researches into cross-ridge-boundaries

In the early 1990s Spratt's investigations into the linear boundaries on the Moors and Tabular Hills of north-east Yorkshire prompted a review of the cross-ridge boundaries (Vyner 1994; 1995), which feature so obviously on the large-scale OS maps of the area (Figure 4). Young's early nineteenth-century observations of the siting and constructional characteristics of these boundaries were well in advance of all other investigators since his time, but it was also clear that much constructional detail remained to be identified, while the relationship between the boundaries and other features remained to be clarified.

Figure 5: Battersby cross-dyke: heather burning reveals the bank and ditch to be broken at regular intervals while occasional standing boulders suggest that the boundary began as a boulder alignment (Photograph: Blaise Vyner)

Figure 6: Egton Grange, one of the two boundaries crossing Egton Rigg, has part of one side faced with boulders (Photograph: Blaise Vyner)

Table 1: Cross-ridge boundaries on the North York Moors: summary group pollen taxa: interim data, subject to final analysis and reporting (JCR: John Cross Rigg)

| Pollen | JCR Stone Row | JCR Bank 4 | JCR Bank 1 | JCR Bank 2/3 | North Ings | Gerrick Moor |
|---|---|---|---|---|---|---|
| Tree  | – | 40% | 8% | 3% | 50% | 65% |
| Shrub  | – | – | 17% | 9% | 14% | 33% |
| Heather  | – | 60% | 75% | 88% | 36% | 2% |
| C14 date | | 935±24 cal. BC | | 832±24 cal. BC | | |

Elgee had enthusiastically adopted from Young the idea that the cross-ridge boundaries were defensive, but that interpretation does not bear scrutiny. At around a quarter of the twenty-eight or so identified cross-ridge boundaries in north-east Yorkshire the bank and ditch is broken by causeways, so these are notable as open boundaries. Other boundaries were constructed as stone alignments, in most cases augmented by a bank at a later date. Most of the cross-ridge boundaries pass across areas of dry ground before ending on a slope (Figure 5), some steep, others shallow, or at a stream or where marshy ground begins (Vyner 1994: figure 2). Elements of stone construction are sometimes evident (Figure 6).

After Young at the beginning of the nineteenth century the structure and chronology of cross-ridge boundaries has rarely been considered in detail. In an attempt to remedy

Figure 7: Herd Howe, Gerrick Moor, excavated by Canon Atkinson (Photograph: Blaise Vyner)

this, two obviously differing boundaries, on Gerrick Moor, Lockwood and North Ings Moor, Commondale, were sampled in November 1991 (Vyner 1995: 27–29, figure 2.7). The Gerrick Moor boundary is a low bank of clay subsoil running from a deep stream valley 200m across the open moor before ending at the edge of marshy ground, it is accompanied by a ditch on what appears to be its outer side (Vyner 1995: 19 and figures). Within the enclosed area is Herd Howe (Figure 7), an Early Bronze Age burial mound, part-excavated by Canon Atkinson in 1863 (Atkinson 1864: 705–759; Elgee 1930: 95–96, pl. 19i; Crawford 1980: 48–49). Atkinson found a Food Vessel and ten Bronze Age Collared Urn cremations, one of which was deposited with a battle axe – there may well be other burials still to be excavated. Within the bounded area is a second substantial burial mound, Robin Hood's Butts West, also dug into by Atkinson (Smith 1994: 72).

Excavation confirmed the apparently uncomplicated nature of the bank and ditch on Gerrick Moor (Figure 8). Soil samples were recovered from beneath the earthwork bank and from the primary fill of the ditch. In this now heather moorland the modern soils are overwhelmingly laden with *Calluna* (heather) pollen (Table 1). However, the soil sealed by the bank was dominated by tree and herbaceous pollen, with only 2% heather present. This suggests a relatively early date for the construction of the boundary (Innes 1992. Given that tree clearance does not appear to have been synchronous across the North York Moors all that can be said at present is that this is likely to have been after 1500 cal. BC and perhaps more likely a century later.

Figure 8: Gerrick Moor, excavated section of the cross-ridge boundary bank and ditch (Photograph: Blaise Vyner)

Figure 9: A stone alignment and a low bank mark the cross-ridge boundary at North Ings, Commondale (Photograph: Blaise Vyner)

Of the second excavated boundary Elgee had written 'At the head of the North Ings valley we have one of the most remarkable defence works on the moors, one moreover, which no one seems to have previously noticed' (Elgee 1930: 148), he was right about all except the defensive purpose. This monument demonstrates that such features were not always built in what are topographically obvious locations: it extends over 0.5km from a well-defined stream valley and runs out in a poorly defined boggy area. The boundary appears as a straggly and discontinuous line of stone uprights linked by a low earthwork bank (Figure 9). The boundary marks an area within which lie two burial mounds, one of them dignified by a probable medieval name, Hob-on-the-Hill (Figure 10).

The North Ings boundary appears to exhibit a degree of chronological depth, the uprights seeming to have been set-up before the bank. Excavation confirmed this was indeed the case: the stones, placed in neatly excavated sockets and chocked with angular blocks, had clearly originally been free-standing (Figure 11). In the excavated section they proved to be set on average 0.60m apart, although in places along the alignment they were closer to each other. Many of the stones are a convenient size for gatepost or other use and robbing may account for some gaps. The boundary had been augmented with a bank 2m wide, placed against the stone row, where it appeared to have been given a rough walled revetment. The inclusion of stones as walling, revetment or facing is commonly mentioned in antiquarian accounts but is now difficult to confirm without excavation. The inclusion of stone or boulder alignments within later earthwork banks is, however, evident in a number of monuments (Table 2). At North Ings, as at other earthworks, the bank was modest: here it stood at most 0.70m high, the material derived from a ditch 1.7m wide and 0.65m deep. It may be that a similar sequence of boundary development exists at the much shorter boundaries on Battersby Rigg and High Stone Dyke, Castleton, where proportionately fewer boulders are now visible.

Despite these investigations, the absolute chronology of the cross-ridge boundaries remained uncertain while the absence of an obvious association with other features provided a more complicated interpretational challenge than either Elgee or Spratt were prepared to envisage. Cross-ridge boundaries tend to be shorter than linear boundaries and are usually located in areas distinct and distant from them. They also have consistent, even if not immediately obvious, associations with Early Bronze Age round barrows and, despite Spratt's (1989: 18) assertions, are only rarely present with the little 'clearance' cairns, or indeed, any features other than burial mounds (Table 1).

*John Cross Rigg, Fylingdales Moor*

On a visit to the cross-ridge boundary on John Cross Rigg, on Fylingdales Moor in 2018 the presence of a hitherto unremarked peat bog was noted (Vyner 2021b: 66). In considering the monuments of the North York Moors archaeologists have remained hampered by the fact that the most informative paleoenvironmental evidence derives from peat bogs which are temporally and physically far distant from archaeological sites,

Table 2: Constructional features of cross-ridge boundaries on the North York Moors: c/w denotes causeways across bank and/or ditch. Note that heather may mask detail at some sites

| | standing stones | bank | ditch | facing stones | NGR |
|---|---|---|---|---|---|
| Whorlton, Scarth Wood Moor | * | | | | |
| Whorlton, Barkers Ridge | | * c/w | * c/w | | |
| Ingleby Greenhow, Battersby | * | * c/w | * c/w | | |
| Commondale, North Ings | * | * | | | |
| Moorsholm, Old Castle Hill | * | | | | |
| Westerdale | * | | | | |
| Farndale, Horn Ridge | | * c/w | * c/w | | |
| Castleton High Stone Dyke<br>Low Crag Dyke | * | *<br>* | | | |
| Lockwood, Gerrick Moor | | * | * | | |
| Danby Rigg, Cross Dyke<br>Triple Dykes | | *<br>* | *<br>* | | |
| Danby Rigg | paired pits | | | | |
| Glaisdale, Glaisdale Rigg<br>Hart Leap | | *<br>* | *<br>* | | |
| Glaisdale, Ugthorpe | paired pits | * | | | |
| Roxby, Easington High Moor | paired pits | * | | | |
| Egton, Egton Grange<br>Bank House Brow | | <br>* | *<br>* | * | |
| Shatwith Barns | | * | * | | |
| Fylingdales, John Cross Rigg | * | * c/w | * c/w | * | |
| Latter Gate Hills | | * | * | | |
| Lockton, Low Bride Stones | * | | | | |
| Levisham Moor, north<br>south | | * c/w<br>* c/w | * c/w<br>* | | |
| Levisham, Horness Rigg | | * c/w | * c/w | | |
| Levisham, West Side Brow | | | | | SE 8263 9250 |
| Levisham | | * | | | SE 871921 |
| Lockton, Double Dyke<br>Cross Dyke | | *<br>* | | | |
| Lockton, East Toft Dyke | | * | | | |
| Lockton, Thompson's Rigg | * | * | | | |
| Egton, Wheeldale Moor | | * c/w | | * | |
| Eskdaleside cum Ugglebarnby, Low Bride Stones | * | | | | |

Figure 10: A substantial burial mound, Hob-on-the-Hill, is within the area demarcated by the North Ings cross-ridge boundary, together with at least one further, smaller, mound. The grass-grown mound, picture foreground, is a grouse-shooting butt (Photograph: Blaise Vyner)

Figure 11: North Ings, Commondale: standing stone and sockets for neighbouring stones, now robbed (Photograph: Blaise Vyner)

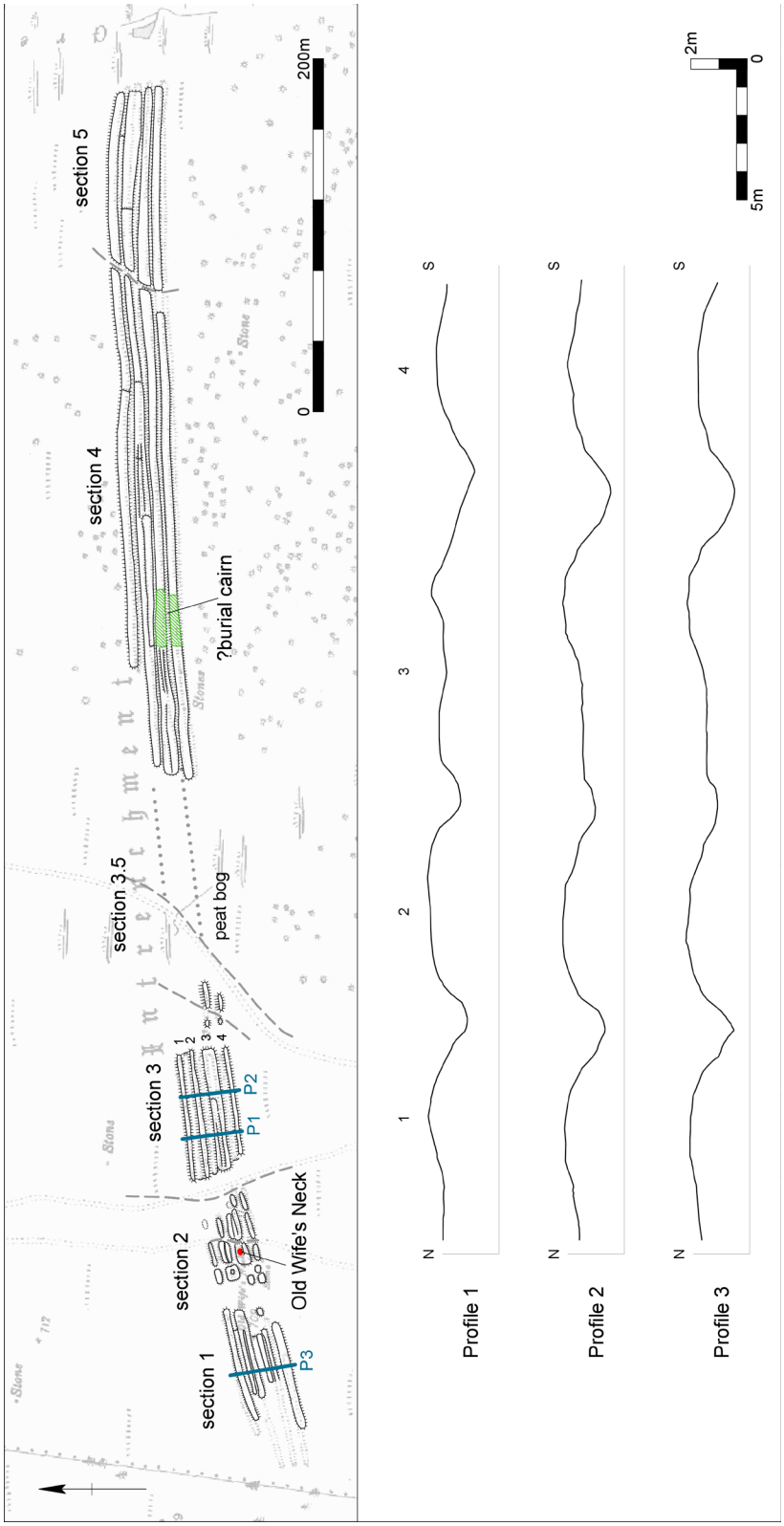



Figure 12: The cross-ridge boundary on John Cross Rigg. Upper: plan showing the sections of the earthwork identified by Mel Dalton and Sara Gibson, and, lower, profiles of the earthwork in Section 1, Section 2 and Section 3 recorded by Jeremy Gard and Bruce Webb-Ireland (plan and section by Dawn Knowles)

largely because people in the past did not usually choose to live in marshy areas unless for reasons of defence or other special purposes. The discovery of the peat bog on John Cross Rigg prompted a programme of investigation: some initial results of which are presented here in advance of the fuller reporting of the archaeology of Fylingdales Moor. John Cross Rigg is traversed by no fewer than four banks and three associated ditches, at 750m in length this is one of the longest and most complex cross-ridge boundaries on the North York Moors, but it remains remarkably little known (Vyner 2021c: 66–68).

The basic attributes of the boundary were recorded by observation and sketch-planning onto the 1893 OS six inch map base (Dalton and Gibson: 2020). This revealed the earthwork to comprise four banks, the two central ones, Bank 2 and Bank 3, being in places bifurcated. The banks are between 2.25m and 5m wide, but stand relatively low, between 0.11m and 1m high, while the ditches are between 2.20 and 4.80m wide and between 0.54 and 1.26m deep (Figure 12). Ditch 1, the only one to have been sectioned, is 1.26m deep with a flat base 0.90m wide: the depths of the other ditches were obtained by auguring.

That the site is known at all is largely due to the presence of 'The Old Wife's Neck', a standing stone with allegedly anthropomorphic features, accompanied by a plainer companion (Figure 13), which attract occasional visitors.

Although it appears that the banks and ditches on John Cross Rigg are of considerable stature, this is a visual effect resulting from the deposition of the upcast from a narrow but deep ditch associated with a disproportionately low and wide bank of upcast. It has previously been noted that the earthwork boundary ditches appear to have been constructed with more care than the banks (Wheeler 1931: 36). The ditches often appear to have level bases that contrast with banks which can be of varying height and width and of generally ragged construction (Figure 14). It may be that the ditches were regarded as more important than the banks, while the potential role of water is considered below.

The peat bog occupies the central portion of the boundary: west of it the banks comprise three sections, Section 2 being somewhat fragmented and containing in Bank 3 The Old Wife's Neck standing stone and a companion, associated with an area of scrappy paving.

The peat bog occupying the centre of John Cross Rigg cross-ridge boundary offered an opportunity to obtain paleoenvironmental and chronological information about a site which appeared to be more complex than most. Probing confirmed the outer banks, Bank 1 and Bank 4, appeared to extend into the peat bog from its eastern edge for a distance of at least 30m. The peat, confirmed by auguring to be 1.20m deep, retains water throughout the year, although it dries out markedly during the summer. Tussocky grass combines with hoof- holes left by grazing cattle to make exploration of Section 3.5 of the boundary (and beyond it, Section 4 and Section 5) extremely difficult.

Excavation was limited to the clearance of vegetation from a 40cm-wide strip across the earthworks, undertaken to record the earthwork profile and note any variations in their

Figure 13: 'The Old Wife's Neck' (right) and companion standing stone (Photograph: Blaise Vyner)

Figure 14: Looking east along John Cross Rigg boundary, across the peat bog (picture centre) to the just-visible continuing earthwork beyond (Photograph: Blaise Vyner)

construction. An area of the surface of Bank 3, from the foot of the slope to its crest and 1.5m wide, was excavated in order to examine a surface layer of thin stone paving covering the bank. This appears to have been a structural feature, although damaged by the passage of tracked vehicles. Comparable damage was observed during the excavation of the cross-ridge boundary on Gerrick Moor, noted above (Vyner 1995: 28–29). Cleaning of the slope revealed a straggly line of pits running along the foot of the bank (Figure 15). The pits proved to be the sockets of a somewhat ragged line of upright stones which, to judge from the loose nature of the pit fills, had been removed in the fairly recent past, anecdotally said to have been done during Second World War military training manoeuvres. The vehicle tracks combined with the loose fill of the stone sockets to suggest that a winch had been used to remove the stones vertically. A total of seven pits was revealed within the 4m wide excavated area, while a trench close to the western edge of the peat bog identified another pit, confirming that the stone alignment had extended the length of Section 3 of the bank.

At the eastern end Section 4 and Section 5 of the bank are separated by a narrow transverse path. A feature of Section 4 is a raised length of Bank 3 and Bank 4, 30–35 m in length, vegetated with moss rather than heather, where a surface scatter of stones is visible. This appears to be a pre-existing feature which has been incorporated into the boundary, it was perhaps a burial mound (Figure 16).

In the light of the pits along Section 3 of the bank, the Old Wife's Neck and companion standing stone in neighbouring Section 2 of the bank, to the west, can be seen as survivors of a longer arrangement of upright stones. It is unlikely that the alignment continued into the peat bog as walk-over surveys on nearby Stoupe Brow Moor have shown that boggy areas of the moor retain the impressions of tracked vehicles which strayed onto them in war-time manoeuvres eighty years ago (Vyner 2007: 14). If the vehicle used to extract standing stones had been used in the peat bog area the evidence of its tracks would still be present. Whether or not the alignment continued to the west end of Section 1 has yet to be established.

The robbed stone alignment at John Cross Rigg is very similar to the better-surviving alignments of standing stones at North Ings and Thompson's Rigg and finds echoes at the shorter Battersby Moor Cross Dyke and Castleton High Stone Dyke. Excavation demonstrated that the stone alignment at North Ings preceded the construction of the bank (Vyner 1995: 27), and although at present the damaged bank structure has so far eluded confirmation of the sequence, one which runs from open stone alignment to permanent earthwork boundary makes visual and functional sense. Establishing a stone alignment following the construction of an earthwork bank would be difficult, besides reducing the visual impact of the standing stones.

Cross-ridge boundaries are commonly around 0.25 km distant from the burial mounds they may be associated with, although their earthworks can also occasionally incorporate burial mounds (Figure 17; Table 3). This goes some way to explaining why clearance cairns have been a more obviously apparent association, even though that is itself rare. The defined 'territories of ritual' are discussed in more detail elsewhere (Vyner 1995: 22–24).

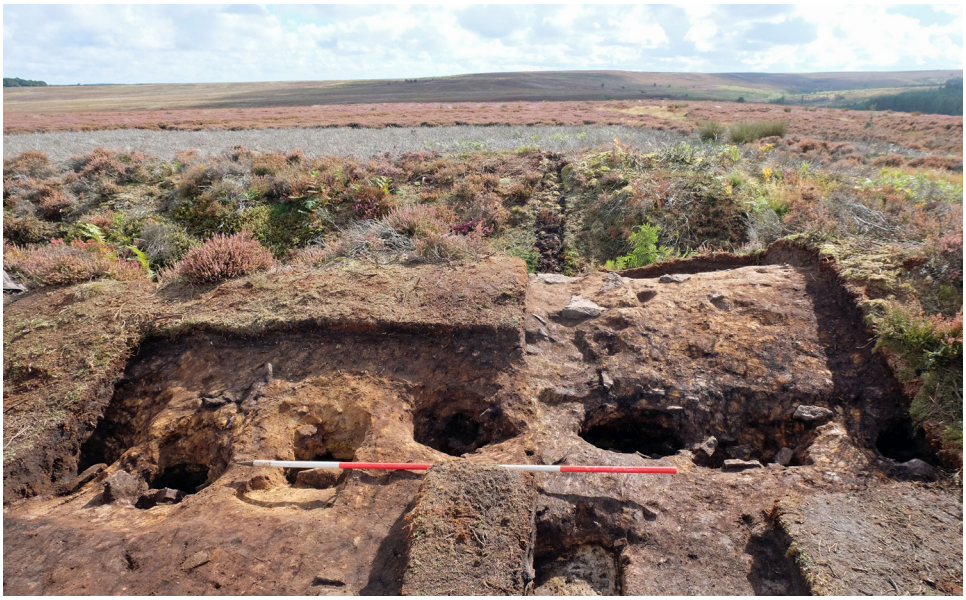


Figure 15: John Cross Rigg boundary: an alignment of stone sockets runs along the northern edge of Bank 3b, looking west (Photograph: Blaise Vyner)

Figure 16: John Cross Rigg: moss-grown burial mound or other feature incorporated into Section 5, Bank 3 and Bank 4 (Photograph: Blaise Vyner)

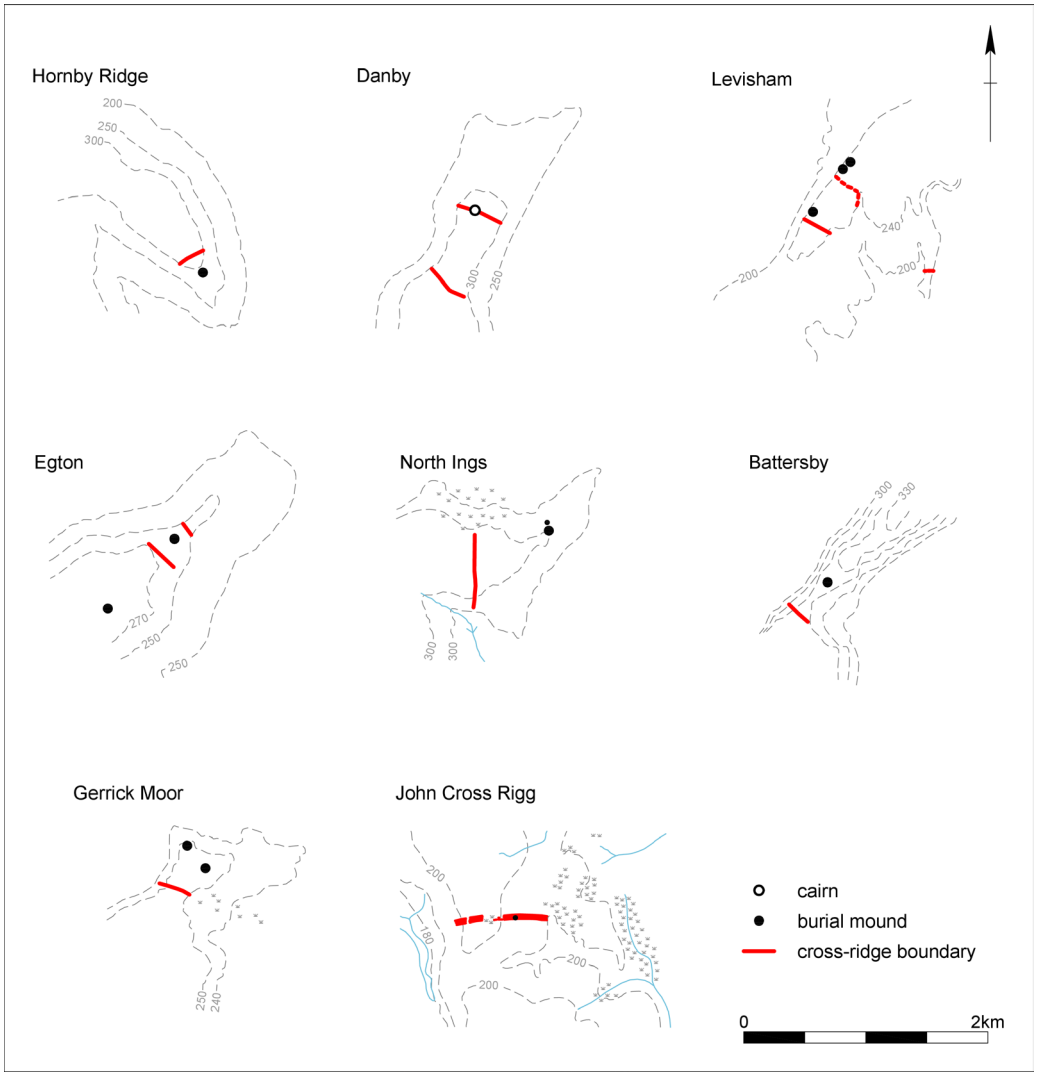



Figure 17: The territories of ritual defined by Cleveland cross-ridge boundaries (Maps by Blaise Vyner)

*The Cleave Dyke*

Named 'the Cleave Dyke System' by Spratt (1982a), this is a distinctive and somewhat complicated arrangement of burial mounds (Figure 18), earthwork enclosures (Figure 19) and pit-alignment boundaries (Figure 20) which extends over 9km above the western scarp of the North York Moors. The main part appears to be a somewhat *ad hoc* arrangement of linear earthworks which are closer in form to cross-ridge boundaries than to linear boundaries, the comparison is confirmed by their proximity to an extended series of round barrows. Included roughly mid-way in the linear arrangement is a scarp-edge enclosure, Boltby fort, confirmed by excavation (Powlesland 2011) as a palisaded enclosure succeeded by a ditched and ramparted fort (Figure 21), with, at the south end

Figure 18: Boltby Scar: burial mound within the 'fort' (Photograph: Blaise Vyner)

Figure 19: Boltby Scar fort ditch (right) and palisade trench (left) (Photograph: Blaise Vyner)

of the earthwork, the promontory enclosure at Roulston Scar (Spratt 1993: 123–128). Of the Cleave Dyke earthworks Elgee had noted only the hillfort at Boltby Scar, his plan showing the two burial mounds within its defences (Elgee 1930: 157 and figure 54). Hayes (1963: 60–62) noted Roulston Scar as a fort, associating it with the longer section of the Cleave Dyke and commenting on damage to it from forestry and agriculture.

For many years Roulston Scar has served as the base for the Yorkshire Gliding Club, with significant damaged caused to the ramparts by runway construction fifty years

Figure 20: Pit alignment in the Cleave Dyke (Photograph: Blaise Vyner)

ago, in connection with which Tony Pacitto undertook excavation, identifying a timber-framed rampart (Pacitto 1970: 14; 1971: 15; Oswald and Pearson 2001: 16–20). Don Spratt proposed an outline for the prehistoric settlement of the North York Moors which was supported by a range of techniques including documentary and cartographic research and small-scale excavation, as well as C14 dating, palynology, air photography and querns, evidence which had not been available to Elgee (Spratt 1993: 1–4).

Cumulative damage to the fort on Roulston Scar, was the eventual spur to its detailed survey by English Heritage (EH) (Oswald and Pearson 2001). The EH survey confirmed the area of the triangular enclosure as 24.5ha (60.5 acres), its near-complete circuit being 2.1km in length. The surviving sections of bank were confirmed as 7.2m wide and 3m high, with an external ditch 5.4m wide and 0.9m deep. It is notable that parts of the interior are waterlogged and likely to have been since at least medieval times (Oswald and Pearson 2001: 22). Air photographs confirmed the former existence of a substantial external counterscarp bank. Subsequent fieldwork has included surveys of a length of Casten Dyke North and a short length of Casten Dyke South (Richardson and Dennison 2017). Although this survey, like others, found no dating evidence it

Table 3: Cross-ridge boundaries on the North York Moors: loosely associated features

| | burial cairn | embedded feature | enclosure | walls/ clearance cairn |
|---|---|---|---|---|
| Whorlton, Scarth Wood Moor | * | | | |
| Whorlton, Barkers Ridge | ? | | | |
| Ingleby Greenhow, Battersby | * | | | |
| Commondale, North Ings | * | | | |
| Westerdale | | | | |
| Farndale, Horn Ridge | * | | | |
| Castleton High Stone Dyke<br>Low Crag Dyke | * | | | |
| Lockwood, Gerrick Moor | * | | | |
| Danby Rigg, Cross Dyke<br>Triple Dykes | * | cairn 764<br>stone ring | | * |
| Danby Rigg, paired pits | * | | | |
| Glaisdale, Middle Rigg, paired pits | * | | | |
| Glaisdale, Glaisdale Rigg<br>Hart Leap | * | | | |
| Ugthorpe, paired pits | * | | | |
| Egton, Egton Grange<br>Bank House Brow | * | | | |
| Shatwith Barns | * | | | |
| Fylingdales, John Cross Rigg | * | burial cairn | | |
| Latter Gate Hills | * | | | |
| Lockton, Low Bride Stones | | | | |
| Levisham Moor, north<br>south | * | | 250<br>250 | |
| Levisham, Horness Rigg | | | | |
| Levisham, West Side Brow | | | 250 | |
| Lockton, Double Dyke | * | | 280 | |
| Lockton, East Toft Dyke | | | | |
| Lockton, Thompson's Rigg | * | | | * |
| Egton, Wheeldale Moor | * | | | * |
| Eskdaleside cum Ugglebarnby,<br>Low Bridestones | * | | | |

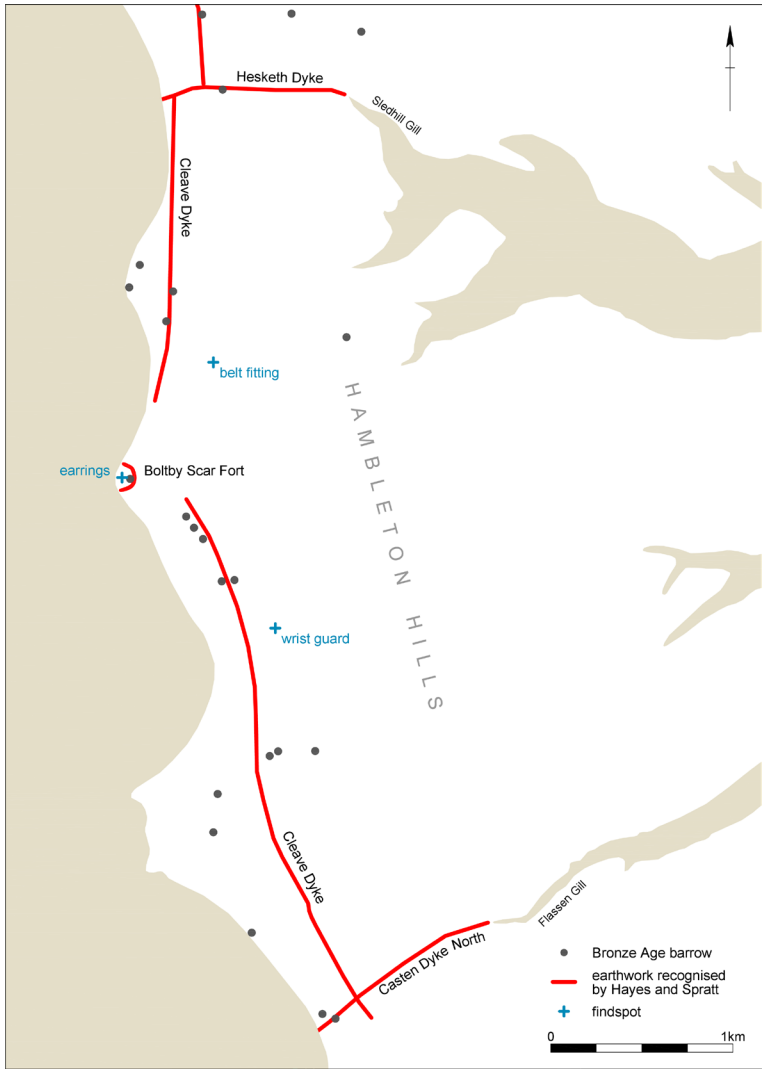



Figure 21: The Cleave Dyke: earthworks and burial mounds, showing the findspots of the Boltby gold earrings, jet wrist-guard and belt fitting from Spratt (1993), with minor additions (Map by Dawn Knowles)

concludes that 'a medieval origin is perhaps more plausible for Casten Dyke South' (Richardson and Dennison 2017: 59). However, the earthwork appears to have perhaps five breaks reminiscent of similar breaks in cross-ridge boundaries. Cumulatively, the Cleave Dyke earthworks confirm the essential similarities between later Bronze Age linear earthworks, smaller hillforts and cross-ridge boundaries. In the light of further fieldwork it is now possible to see that the cross-ridge boundaries are distinguished by a recurrent association with Early Bronze Age burial mounds and with increasing evidence for the reconstruction and remodelling of the boundary earthworks, some of which began as pit alignments (Spratt 1993: 141 and table 38; Spratt and White 1986).

**Cross-ridge boundaries and water**

Water and cross-ridge boundaries are associated most obviously in the use of marshy areas and, occasionally, streams, to assist in the definition of an area. The cross-ridge boundary at North Ings, Commondale, exemplifies these two characteristics. Here the first phase boundary comprises an alignment of standing stones which extends some 700m from the well-defined valley of the North Ings Slack to the marshy headwaters of Tidkinhowe Slack. The standing stones were later augmented by a bank of soil and rubble (Vyner 1995: 27 and 2.2). At John Cross Rigg the first phase of the boundary comprised a similar stone alignment which extended the length of Section 2 and Section 3 of the boundary, apparently running out at the western edge of a boggy area which was already developing. Bank 4, the southernmost of the banks, was the first to be constructed (Table 1). The stone alignment was augmented with a continuous bank, Bank 3, which was heaped up along its southern side, with some soil falling through the stones. Banks 3 and 4 ran the entire length of the boundary, impacting on an earth and rubble mound, presumed to be a round barrow, on the eastern side of the peat bog (Figure 22). Bank 1 and Bank 2 later accrued to the monument. It is difficult to know what ground conditions existed when the boundaries were established as some areas may have become wetter over time, as appears to have been the case at John Cross Rigg, while others may have become drier.

Boundary ditches gather water and, depending on ground conditions, can retain it. Causeways of unexcavated soil within the ditches demonstrate an interest in maintaining and manipulating water once it has been collected. On sloping ground water will run downslope and, depending on the slope angle and the depth of the ditch, may be fairly rapidly lost. Leaving causeways in ditches was a method by which water could be retained, even on sloping ground. Increasingly, causeways across the ditches have been observed in the cross-ridge boundaries of north-east Yorkshire, these are sometimes mirrored by breaks in the banks. At John Cross Rigg the ditches, eventually three in total, are variously provided with causeways which serve to create shorter sections of ditch. These collect water in varying quantities according to the slope of the ground surface, the extent of recent rainfall and the season. The water-retaining qualities of the ditches vary from impermeable clay to porous fragmented sandstone. It would have been possible to improve water-retention by lining ditches and pits in porous rock with puddled clay, in the same way as eighteenth-century canals were sealed. The capacity for the water to reflect participants or the sky raises the possibility that its presence might have been manipulated and reflections created by constructing or demolishing causeways.

Heavy rain during August 2020 fieldwork made the original builders' potential consideration and interest in water evident in Section 3 of the earthwork on John Cross Rigg (Vyner 2021c). Section 3 of the earthwork boundary is on more-or-less level ground and all the ditch sections contained trapped water (Figure 22). Ditch 1 has a causeway at each end of Section 3, while other causeways are visible in Ditch 2. John Cross Rigg has a

Figure 22: October rain demonstrates the water-retaining capacity of all three ditches in Section 3 of John Cross Rigg boundary. Note the causeways at either end of ditch 1, the uppermost ditch (Photograph: Blaise Vyner)

clayey subsoil along much of its course, although some parts have more permeable soils. While clay might have been imported to create water-containing ditches throughout its length it is perhaps more likely that attention focused on the manipulation of water in the sections where it could most easily be maintained.

Despite their ubiquity pit alignments rarely survive as above-ground features and there is at present little to add to Waddington's review (1997: 22–24). An exception does exist, however, in the form of the paired-pits which survive unploughed in a few places on the North York Moors. An alignment of paired-pits, between 2m and 4m in diameter on Easington High Moor was first described by Young (1817: 672–674). Elgee noted that the pits were unusual in being more-or-less full of water. He suggested that they might have constituted a cross-ridge boundary, observing that the Three Howes burial mounds also occupied the spur, though he did not directly connect the features (Elgee 1930: 151–152 and figure 51). The pits continue to be waterlogged and are seen well from the air because of the rushes that grow in them (Vyner 1995: 29 and figure 2.10). Lofthouse also noted during survey of Ugthorpe Moor that the paired pits held water, which, although not visible from a distance, 'had a striking effect when seen close to' (Lofthouse 1993: 390–391).

With the benefit of detailed survey by RCHME it can be seen that the pits on Easington High Moor appear to have been constructed in modular form, either as an individual pair, each with a short bank of upcast, or in larger groups of two to four or five pairs with

Figure 23: Water pooled in the pit alignment at Ebberston Low Moor (Photograph: Blaise Vyner)

appropriate accompanying shallow external banks. These features are thus distinguished by very specific constructional details. The alignment had been constructed in two sections, each approximately 230m in length, with a central gap of 25m (Lofthouse 1993: figure 2). The defined area is marked by contours and the boggy course of Bella Dale Slack and contains the Three Howes cairns. A second alignment, around 290m in length, lies east of the slack but has been much cut-about by tracked vehicles.

On Ugthorpe Moor, 4km east of the eastern end of the Easington alignment, two pairs of pits with banks, 230m apart, are associated with round barrows, while on Danby Rigg, 5.5km to the south-west, a group of three paired pits lies close to a large burial mound, while a pair of conjoined pits, on the same alignment as the group and 80m distant, lies within 4m of a burial mound (Lofthouse 1993: 388–390). Detail of distance is included here to raise the possibility that the groups responsible for constructing

these very distinctive features might have known each other, as the present-day farmers do. That possibility also extends over the 29km distance between Easington Moor and the cropmark of a very similar arrangement of five paired pits close to the Cleave Dyke, which again appears to have a specific relationship with a ploughed-down round barrow (Spratt and White 1986: 195). This suggests that there was a well-defined vocabulary of monuments, and presumably behaviour, within the 'territory of ritual'.

An interest in water may also be seen in the pit alignments which have come to light largely through air photography (Waddington 1997). These occasionally survive as earthworks in north-east Yorkshire (Spratt 1993: 141; Ainsworth and Oswald 1999: 10–31), and are seen to good effect after rain on Ebberston Low Moor (Figure 23). Pits are also found as part of the cross-ridge boundary repertoire in the Cleave Dyke, with one section of sub-rectangular pits 600m long and another 320m long running along the scarp edge above Boltby (Spratt and White 1986: 196). Pit alignments are now known to be widespread across England and Wales. Limited excavation detail is available, although on Gardom's Edge, Derbyshire, excavation revealed a shallow ditch into which a series of clay-lined pits had been dug, flanked by intermittent clay-lined pits (Barnatt *et al*. 2002: 50).

**The chronology of the cross-ridge boundaries**

John Cross Rigg has produced radiocarbon and palynological evidence which suggests it was the product of a construction process which extended over a century and a half from c. 1000 cal. BC – and almost certainly somewhat longer, taking into account the initial stone alignment, for which no date is currently available. Radiocarbon dates have been obtained from peaty soil beneath Bank 4 and from peat buried below and above one of the submerged banks, probably Bank 1. The soils were sealed beneath banks of yellow clay, leading to some confidence that the pollen had not been mixed by water movement or animal action, evidence for both of which was visible at the bank edges. Pollen was generally well-preserved and plentiful (Table 1).

Bank 4 appears to be the earliest of the banks, buried soils from beneath Section 3 of this earthwork produced a date of 985 cal. BC 90.6% probability SUERC-111116 (GU64412). The relatively early date of this bank is confirmed by the pollen profile of the buried soil, which comprises 40% tree pollen compared with 60% heather, with no shrubs. In contrast, Bank 1 sealed soils which contained only 8% tree pollen, there was a shrub content of 17% while the proportion of heather pollen had increased to 75%. Similar proportions were present beneath Bank 2/3. Peat buried beneath one of the banks submerged in the peat bog, probably Bank 1, produced a C14 date of 832 cal. BC SUERC-103776 (GU60198).

Peat from immediately above the bank produced a radiocarbon date of cal. AD 682 SUERC-103777 (GU60199), suggesting that it took some 1500 years for the peat to engulf the 0.33m high bank. The maximum depth of peat recorded in the bog is 1.10m.

Proportions of pollen contained in buried soil beneath the boundaries at North Ings and Gerrick Moor are also included in Table 1. The higher proportions of tree pollen in these samples suggests that both earthworks may be somewhat earlier than even the earliest phases of John Cross Rigg boundary.

At this point a list of the characteristics of cross-ridge boundaries can be offered. The boundaries:

- almost invariably have an indirect relationship with Early Bronze Age burial mounds;
- occupy locations well-defined by contours and/or marshy ground;
- almost never have a direct or indirect relationship with features other than round barrows;
- often begin their life with causeways or breaks, and some remained broken;
- others allowed passage between paired pit or stone alignments;
- have ditches that are more carefully made than the associated banks;
- have banks which are often 'ragged' or uneven and can be unfinished;
- show evidence for re-modelling, with rough walling and stone facing.

To which may be added further general observations:

- they could not have been effective for controlling the movement of people;
- they could not have contributed to the management of sheep or cattle;
- they could not have been useful for protecting growing crops.

**The purpose of cross-ridge boundaries**

Spratt (1993: 130–134) was convinced that the cross-ridge boundaries had an agricultural purpose: he wrestled unsuccessfully with their very few obvious associations – the undated clearance cairns, field walls and tracks. 'The function of the dykes', he said, speaking more firmly than the evidence '...was to define the outer limits of farming units, whose settlements and no doubt much of whose agricultural activity were on the lower ground' (Spratt 1933: 130–134). Agriculture may not have been far away, but consideration of the individual cross-ridge dykes, and the Cleave Dyke complex itself, confirms a close association between the Early Bronze Age burial mounds and the cross-ridge boundaries. There are no other consistent associations.

Conundrums remain, however: virtually all cross-ridge boundaries can be seen to relate to one or more burial mounds, but there are many more burial mounds than cross-ridge boundaries. Clearly, not all burial mounds had the same attraction for cross-ridge

Figure 24: Loose Howe: a significant barrow without a cross-ridge boundary (Photograph: Blaise Vyner)

boundaries: looking at Spratt's plan of the Cleave Dyke, for example, raises questions as to why there are no boundaries north of Kepwick Dyke, or in the area of Cold Cam to the south, even though there are burial mounds in those areas. There are a number of cross-ridge boundaries associated with barrows on Levisham Moor, at around 200m OD, there are no associations with the group of barrows at nearby Levisham at around the same height (Spratt 1989, figure 11). Some cross-ridge boundaries in this area might have been erased by agriculture, leaving the more substantial burial mounds standing, others might have taken the form of pit alignments or paired-pits. The substantial burial mound at Danby Beacon is not associated with a cross-ridge boundary, it is situated at over 300m OD – well above levels suitable for arable agriculture, while Loose Howe (Figure 24), a prominent burial mound, contained a tree-trunk coffin with a burial accompanied by a Collared Urn, an accessory vessel, a bronze dagger and a bronze trefoil-headed pin (Manby *et al*. 2003: 64). This appears never to have attracted further burials, or, indeed, a cross-ridge boundary.

The Early Bronze Age burial mounds in north-east England remain poorly dated, their currency appears to extend between 1930 and 1738 cal. BC (Vyner forthcoming). The cross-ridge boundaries post-date the burial mounds, they evidence the continuing tradition of depositing the ashes of the dead at or around the old burial mounds. For Barrett the ending of mound construction was emblematic of significant societal changes, with the burial mounds now the focus for veneration (Barrett 1994: 151). The surviving field evidence underlines a more complex reality. It is at least likely that many burial mounds had become

neglected or disused in the time intervening between cairn construction and the building of cross-ridge boundaries from perhaps the fifteenth century BC, although at present no date earlier than the eleventh century BC is available. Evidence for the variable survival of the status of mounds may be present in the way that the slightly meandering course of the Cleave Dyke includes some but not all of the scarp-edge burial mounds (Figure 21). In lowland areas, also, many burial mounds appear not to have needed earthwork boundaries to maintain their ritual status.

Most of the burial mounds of the North Yorks Moors have been excavated, or at least dug into to some extent, although there are few excavation records. The majority of the burial mounds appear to be of Early Bronze Age construction and contain Collared Urns, although a few, including Herd Howe (Figure 7, include vessels which are likely to be Late Bronze Age in date (Manby 1980: 319–320; Spratt 1993: 94–109). Grave-goods tend to be limited to funerary urns and accompanying vessels which often appear to have passed through the funeral pyre, which may also explain the absence of jet items, Although jet was fairly readily available in the Whitby area it survives only with the rare inhumation burials. It is unsurprising that little is known of contents of the burial mounds associated with the Cleave Dyke. There has been little investigation of any of the North York Moors burial mounds during the twentieth century and the patchy record of barrow excavation along the Cleave Dyke is typical and unhelpful, summarised in Smith (1994: 102–106). The chances of identifying burial mounds that might have been more significant than others is therefore limited. The area of the Cleave Dyke has, however, been the focus of fieldwalking which has produced, from two different barrows, jet objects described as 'very significant and rare', one being a wristguard, the other a substantial belt fitting (Sheridan 2023: 63–68). To these can be added a pair of gold 'earrings' from an uncertain context at Boltby Scar fort (Clarke *et al*. 1985: 187–188 and illus. 5.18), which, since they bear no sign of pyre damage, are likely to have been deposited with an inhumation burial in the early to mid-third millennium BC (Manby *et al*. 1993: 91). In a region where such objects are rare indeed, it would appear that the burial mounds along the Cleave Dyke had a particular importance which the cross-ridge boundaries were acknowledging.

## Conclusion

Cross-ridge boundaries are a feature of north-east Yorkshire, where they mostly occupy upland locations above the level of arable agriculture and in many cases are on land that could only be used for seasonal Agrazing. The broken and discontinuous nature of the majority of the boundaries argues against an agricultural function and for a ritual significance. The boundaries are distinguished by considerable variety and complexity of construction. Some upland areas in South Wales and elsewhere demonstrate a similar conjunction of burial mound and boundary that may yet prove to be comparable.

There is a recurrent association between cross-ridge boundaries and Early Bronze Age burial mounds and cairns, yet the boundaries can be shown by radiocarbon dating and

preserved pollen profiles to belong to the Late Bronze Age. They therefore appear to demonstrate an interest in marking areas which for lengthy periods of time had already been assigned a ritual function. These 'territories of ritual' continued in use for the deposition of the ashes of the departed, despite the diminution of mound-building and the increasingly limited use of burial urns.

If the cross-ridge boundaries confirmed the continuing function of some burial mounds there is a suggestion that in places the absence of boundary confirmed the disuse of other mounds. The Cleave Dyke arrangement of conjoined boundaries appears to thread its way between burial mounds, seeming to include some of the mounds set above the escarpment of the Hambleton Hills while at the same time appearing to deliberately exclude others. Can it be assumed that the absence of any boundary associated with prominent mounds such as Loose Howe, with its high-status coffin and grave goods, betokens the demise of its founding family? Similar contrasting patterns of maintenance and neglect can be observed in the burial grounds of the recent past half millennium and more.

At present it is not clear that cross-ridge boundaries share the same chronological horizon, a complication lying the increasing evidence for the maintenance, rebuilding and reconstruction of the boundaries. This may make it difficult to establish when some boundaries were first built, although it seems reasonable to assume that the social reasons for their establishment were widespread and that to a large extent the boundaries were coeval.

This project has drawn attention to the many practical and interpretational problems associated with understanding and interpreting cross-ridge boundaries. Almost seventy years ago Grinsell suggested that the problem presented by cross-ridge boundaries would be elucidated by a combination of air photography, field archaeology and judicious excavation. There has been only limited deployment of the last two of these techniques on linear boundaries of all kinds, but it is clear that comparative assessment and the application of scientific dating should be added to the list of necessary techniques.

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# The Short Dykes of Mechain

Richard Hankinson

*The article considers a group of short dykes which were examined as part of a study of this monument type, carried out by the Clwyd-Powys Archaeological Trust on behalf of Cadw, between 2000 and 2006. Various interesting points came out of the study, particularly regarding how short dykes in general fitted into their local landscapes. Their poor defensibility if viewed as monuments designed to impede or block access was also noted and this gave rise to an unease with this conventional interpretation of their function. Five of the dykes examined during the project, about a quarter, were dated by organic material which had been sealed beneath their bank at the time of construction and dates covering the period from the mid-fourth to late eighth centuries AD were obtained.*

*A group of six short dykes centred on the town of Llanfyllin in northern Powys were identified during the study, all of which lay close to the boundary of the medieval Welsh cantref of Mechain, as defined by Melville Richards. This implied that they might have been used to identify parts of this boundary and the acquisition of two radiocarbon dates collectively covering the period from the fifth to early eighth centuries AD from one of these dykes (Clawdd Mawr) was seen as being significant in perhaps showing that the cantref was based on an early medieval political entity. An analysis of the Mechain dykes will attempt to prove that they form a coherent group and have the potential to point further research of the site type in a more productive direction.*

*Keywords*: boundary, cantref, dykes, Mechain, Meifod, Powys, radiocarbon

## Introduction

The article considers a group of short dykes in close proximity to the medieval cantref of Mechain in northern Powys which were examined as part of a study of this monument type carried out by the Clwyd-Powys Archaeological Trust on behalf of Cadw between 2000 and 2006 (Silvester and Hankinson 2002; Hankinson 2002, 2003, 2005 and 2006). Various interesting points came out of the study and one of the key aspects was the dating of five dykes by organic material which had been sealed beneath their respective banks at the time of construction. A series of radiocarbon dates covering the period from the mid-fourth to late eighth centuries AD were obtained and reported on by Hankinson and Caseldine (2006). Further radiocarbon dates to those listed in 2006 were subsequently obtained in 2011 from samples taken during the original study, as listed below in Table 1.

Some of these radiocarbon dates seem very early if the short dykes were all features of Mercian origin, in which respect they have often been seen as some form of defence against alleged Welsh/British incursions; it is simply untenable to consider that Mercia had sway in mid-Wales during the fifth and sixth centuries, and questionable whether

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a seventh-century context this far west can be affirmed in the light of Capper's (2023) analysis of Mercian borders. By way of an example of this early reasoning, Aileen Fox (1949), in her summary of the Early Christian Period in Nash-Williams, had described the border dykes as 'all being Saxon work' and notes '...in the first phase they are designed locally to pen the Welsh back to their hills...'. However, one of the key observations from the fieldwork study concerned the way in which these earthworks fitted into their local landscapes and particularly their poor placement if viewed as monuments designed to impede or block access; many of the dykes were found to just stop at points which were not readily defensible. A line of reasoning that has sometimes been used to explain this kind of anomaly is that a dyke would have terminated at impenetrable woodland (Fox 1955: 207–211), but this was not supported by the results of the sampling, which, for example, indicated the presence of ericaceous vegetation at Clawdd Mawr (Hankinson and Caseldine 2006: 268), denoting an upland heath landscape.

Table 1: Dykes from which radiocarbon dates were obtained

| Short Dyke | NGR | Laboratory No. | Calibrated radiocarbon date from 2006 (Intcal 98) to two sigma (95%) probability | Calibrated radiocarbon date from 2011 (Intcal 04) to two sigma (95%) probability |
|---|---|---|---|---|
| Clawdd Mawr | SJ 061 213 | Beta-211075 | AD 630–710 | |
| | | Beta-290092 | | AD 420–610 |
| Crugyn Bank | SO 101 857 | Beta-212487 | AD 650–780 | |
| | | Beta-290091 | | AD 610–690 |
| Giant's Grave | SO 044 860 | Beta-186676 | AD 340–530 | |
| Short Ditch | SO 187 746 | Beta-223798 | AD 410–590 | |
| | | Beta-290093 | | AD 430–620 |
| | | Beta-290094 | | AD 400–540 |
| Upper Short Ditch | SO 194 872 | Beta-212488 | AD 540–660 | |
| | | Beta-290095 | | AD 660–780 |

Other dykes were found to have been positioned in the landscape in such a way that they are overlooked when there seems to have been no need to cede a strong defensive position to any alleged attacker, particularly if we hypothesise that a ruler of greater importance is most likely to have been responsible for their construction. More significantly perhaps, common features in the siting of short dykes include the tendency for them to provide links between natural landscape features, such as small incipient streams on opposite sides of a ridge or prominent landmarks, a good example being the Two Tumps Dyke I (HER No 4034), part of the composite Double Dyche, which crosses the Kerry Ridgeway near the source of the River Teme. The suggested implication of this is that these linear earthworks may have acted as features designed to verify a

boundary over which there was some doubt. Examples of the verification of boundaries by commonly understood and named features can be found in written records from the post-medieval period: the Radnor Forest being a notable example going back to the sixteenth century (National Library of Wales Harpton Court 341). There is a potential comparison with defensive earthworks, however, in that the arrangement of a typical enclosure bank and ditch would have the ditch as the external feature, facing away from the defended area; this idea might have been generally accepted to apply to individual dykes if a group of them collectively represented a boundary.

## The cantref of Mechain and the short dykes

One group of dykes were found to correspond very broadly with the boundaries of the medieval Welsh *cantref* of Mechain and it is this possible correlation which is explored in this article. It should be understood at this early stage that the discussion here is not intended to be a comprehensive academic review of the history of the cantref, all the mid-Wales dykes and their origins, or even of this specific group of dykes. Rather it is the product of a growing understanding over a number of years that field observations had a part to play in the understanding of this site type. The choice of this group reflects the opportunities to illuminate the relationship between linear earthworks and early medieval settlement or community formation, and in turn to suggest a relationship with the consequent administrative units of the region. It is hoped that this initial attempt will provide the impetus for more scholarly research and hopefully also, further field investigations including scientific dating.

It should be appreciated that only one of the dated dykes (Clawdd Mawr at AD 630–710 and AD 420–610) might be related to Mechain and although an early medieval date seems to be assured by the two dated samples, the difference in their dates is curious. One possibility is that the old ground surface sealed by the bank might have been of more than one phase, (cf. Short Ditch, where two peat layers were readily identifiable in the excavated section at the base of the bank). The constraints of the excavation at Clawdd Mawr meant that the section through the dyke was excavated in two parts with the samples being obtained from either side of the bank (see Figure 5) and therefore not directly related by observation.

These five short dykes are collectively centred around the town of Llanfyllin in northern Powys and all lie close to (within 1.2km of) the boundary of Mechain, as defined by Melville Richards (1969: 290; Figure 1). These dykes are individually known as 'Clawdd Mawr'; 'Clawdd Llesg'; 'Ty Newydd'; 'Aber Naint'; and 'Bwlch y Cibau', and there is also a sixth, called 'Bwlch Aeddan', which lies a little further distant (2.3km) from the boundary. Although the latter is morphologically distinct it has been included here for comparison, and its potential interest. If the correlation between the cantref boundary and these five dykes is valid, the radiocarbon dating of short-lived charred plant material on the old ground surface below the bank of Clawdd Mawr between the fifth and early

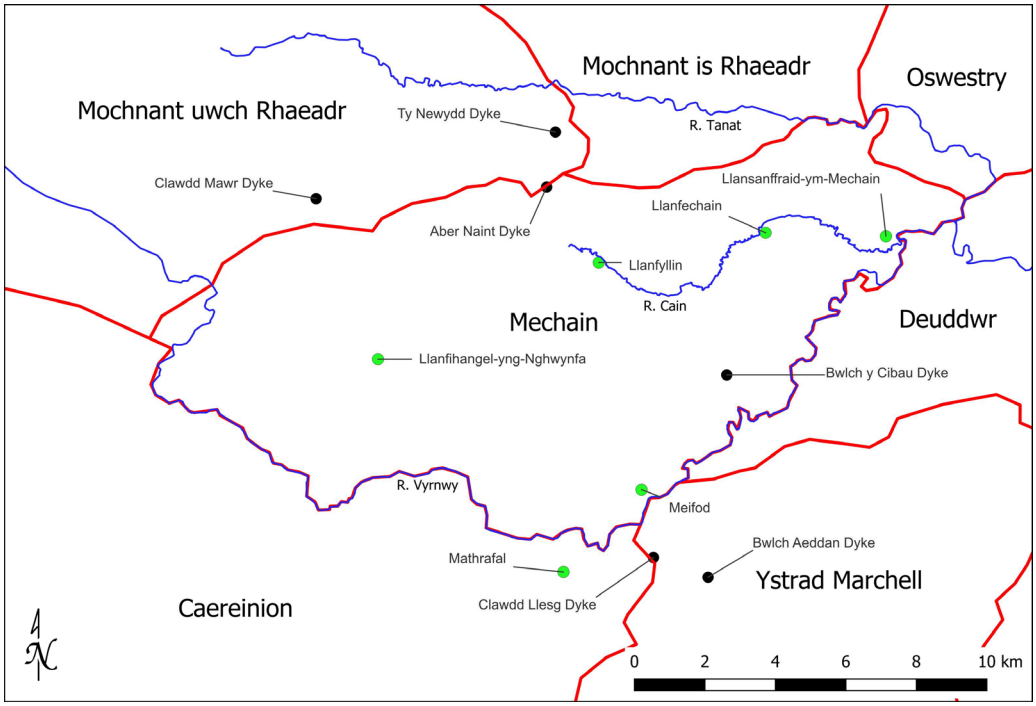



Figure 1: The cantref of Mechain with the adjoining medieval political divisions as mapped by Richards (1969: 290), in comparison to the short dykes (black spots) and the other places of interest, including the main settlements (green spots)

eighth centuries is significant. It appears to point to the possibility that the medieval cantref of Mechain was based on an earlier entity associated with this group of linear earthworks. The apportionment of the name 'Clawdd Llesg' to one of these dykes is interesting, given that this has been suggested to refer to Eliseg, an early medieval Prince of Powys (W.V. Lloyd 1889: 296). Lloyd also refers to Bwlch Aeddan, nearby, where he believed the origin of the name was also from a member of the Powysian dynasty of the early medieval period, so the presence of two such names in close proximity, may be significant in the light of Seaman's thoughts about the reasoning behind the use of the legendary rulers name 'Llywarch Hen' for a dyke at Llangors, in the old county of Breconshire. In this regard Seaman (2019: 108) noted that: 'In a world without maps, territorial boundaries, particularly those that were contested, had to be inscribed upon the physical landscape through the cultural memories of the inhabitants'.

Mechain in the medieval period covered an area of some 150–160 km$^2$, this being mapped by Richards (1969: 290) based on documentary evidence for place-names and personal names gathered by him from historical sources deposited in record offices and papers in private collections (Owen 2006: 81). The exact area must necessarily be approximate given the source material but the area of the cantref in modern times is focussed around the town of Llanfyllin, a settlement which first appears in the records in the mid-thirteenth century

Figure 2: Llys Farm, Llanfechain in the centre foreground with the cropmark single-ditched enclosure thought to be the court site outlined in red in the centre clearly overlapping an earlier double-ditched enclosure (CPAT 84-c-0188)

and became a borough in the 1290s, when a weekly market and annual fair were granted to the Lord of Mechain. It is believed that the church in the town was an early medieval foundation, with the origin of the name 'Mylling' being a Welsh version of the name of an obscure Irish saint, Moling, dating to the seventh century (Silvester 1992: 91). There is evidence, in the form of remnants of a sub-circular churchyard, which supports this as being the site of an early Christian settlement, or 'llan', though when this became a focus for settlement is unknown.

A number of factors support the likelihood that the centre of the cantref when it was functioning would have been what is now the village of Llanfechain, nearly 5km to the east. Although it has a church with a similarly early foundation (dedicated to the much better known St Garmon), this is also the site of the medieval motte and bailey castle known as 'Domen Gastell'. The motte and bailey, occupying a central location in the valley of the Afon Cain (the heart of the cantref), was considered by J.E. Lloyd (1939: 247) to have been the site of the court (llys) for the cantref but more recent work (Silvester 2015: 33–34) indicates that there was most probably an earlier llys about 1km to the north-west. This lay on the north side of the valley at SJ 1791 2083, where cropmark evidence of a D-shaped enclosure close to the farm still known as 'Llys' is thought to indicate its location (Figure 2).

Mechain also appears in the name of the village of Llansanffraid-ym-Mechain, where a pre-conquest date has also been attributed to the religious site, the name indicating that it fell within the bounds of Mechain at some point in its history. The original sub-circular churchyard and its location, as well as the dedication to St Ffraid all point to the establishment of a church or chapel here well before the Norman Conquest in the 11th century. However, precise information on this early phase and the settlement's development in the subsequent medieval centuries is absent. As 'Llansanfret', it first appears in the Norwich Taxation of 1254 (Silvester *et al.* 2012: 102).

In a religious sense, the most significant settlement in the cantref was Meifod, in the adjacent vale occupied by the Afon Efyrnwy/River Vyrnwy, of which the Cain is a tributary. The earliest religious site there is said to have been built by St Gwyddfarch in c. 550 and later Meifod became the cult centre of his more famous pupil, St Tysilio (Silvester 1992: 129). With its large sub-circular churchyard, reputed to have once contained multiple chapels, it is widely believed that Meifod functioned as a mother-church with a *clas* community in the early medieval period, with Davies (1946: 72) describing it as a *clas* church and J.E. Lloyd (1939: 218) as 'the old ecclesiastical metropolis of the district' and 'the premier church of Powys (J.E. Lloyd 1939: 248). Meifod was the subject of a praise poem to St Tysilio composed by Cynddelw in the mid-twelfth century, in which its churchyard was lauded as the burial place of kings, also noting that its archdeacon Caradog acted as priest to the inhabitants of Powys, thereby possibly implying spiritual authority over the entire kingdom (Pryce 1995: 63).

If some predecessor of Mechain existed as a land division in the mid-sixth century or later, the presence of Meifod within it would have given the inhabitants an elevated importance and this would have carried certain privileges, no doubt giving the ruler of the area primacy over his neighbours in that regard and allowing him the right to set his boundaries (see Jenkins 1986: 126–128 for why that would be the case). St Tysilio's position as a member of the royal family of Powys may also have been significant as his cult centre might indicate both the symbolic and administrative importance of Mechain for Powysian royal power and authority.

Mechain itself appears a number of times in medieval records, firstly as early as 1069 (Jones 1952: 15–16), when the Battle of Mechain was won by the forces of Bleddyn ap Cynfyn, a character who as Prince of Wales was involved in modifications to Welsh Law. It was noted by J.E. Lloyd (1939: 683) that Llywelyn ab Iorwerth of Gwynedd had support from the rulers of Mechain in the early thirteenth century, and by the middle of the thirteenth century the cantref was divided between three brothers: Llywelyn, Owain and Maredudd ap Llywelyn (J.E. Lloyd 1939: 709). Despite their seemingly weak position it appears that the rulers of Mechain still retained their holdings when much of the surrounding area was in the sole possession of Llywelyn ap Gruffydd of Gwynedd in the 1270s (J.E. Lloyd 1939: 748), something which might suggest that, despite its limited extent, the cantref retained some kind of residual importance or influence, though this would require further research.

## The morphology of the dykes

Analysis of the dykes in the vicinity of Mechain has been undertaken, to see if they have features which assist in enhancing our understanding and which perhaps suggest a degree of coherence to their form and location. The dykes are arranged by their record number (PRN) as given in the Historic Environment Record but are identified by name on the relevant maps. In the following plans showing the various dykes, different elements are identified by colour, with ditches being blue, banks green and scarped slopes red.

*Clawdd Mawr Dyke (PRN 54; Figure 3)*

Dated to AD 420–610 and AD 630–710 (Table 1). The earthwork runs from SJ 0615 2138 to SJ 0646 2170 (0.49km) and lies approximately 700m north of the suggested north-western boundary of Mechain (Figure 1). The dyke faces north-west, away from the core of Mechain, having its ditch on the upslope (north-west) side of the adjoining bank. While it crosses a ridge (see Figure 3), the layout is not readily defensible in terms of blocking access and could have been easily improved if that had been its function. The dyke is, however, a prominent landscape feature, visible from many parts of the cantref, and was probably close to its highest point (Figure 4).

The bank follows a broadly north-east/south-west alignment and is steeper on the north-west face than the south-east with a flat crest about 1.5m wide. The last 70m or so at the south-west end of the earthwork also has a lesser ditch on the south-east side. At its north-east end the earthwork stops at the crest of a steep north-facing slope, where a small streamlet flows down the slope to its confluence with a larger stream, though whether this was intentional is unclear.

Seven auger samples were taken in the vicinity of the dyke in 2004. The modern profile across the bank and ditch at SJ 0630 2146 was compared with the corresponding auger results and showed that the bank had covered a band of peat which represented the pre-dyke ground surface. A partial section (Figure 5) was then excavated across the earthwork at the auger location, revealing a V-shaped and partially rock-cut ditch. As constructed, the ditch was approximately 6.3m wide, with its base lying 2.1m below the original ground level. The surviving bank at this location was up to 7.5m wide and 1.8m high. Palaeoenvironmental samples taken at the time of the excavation were radiocarbon dated to AD 420–610 and AD 630–710, with their locations depicted on the section drawing referring to information in Table 1. These dates were obtained from short-lived charred plant remains recovered from the peaty former ground surface underlying the bank.

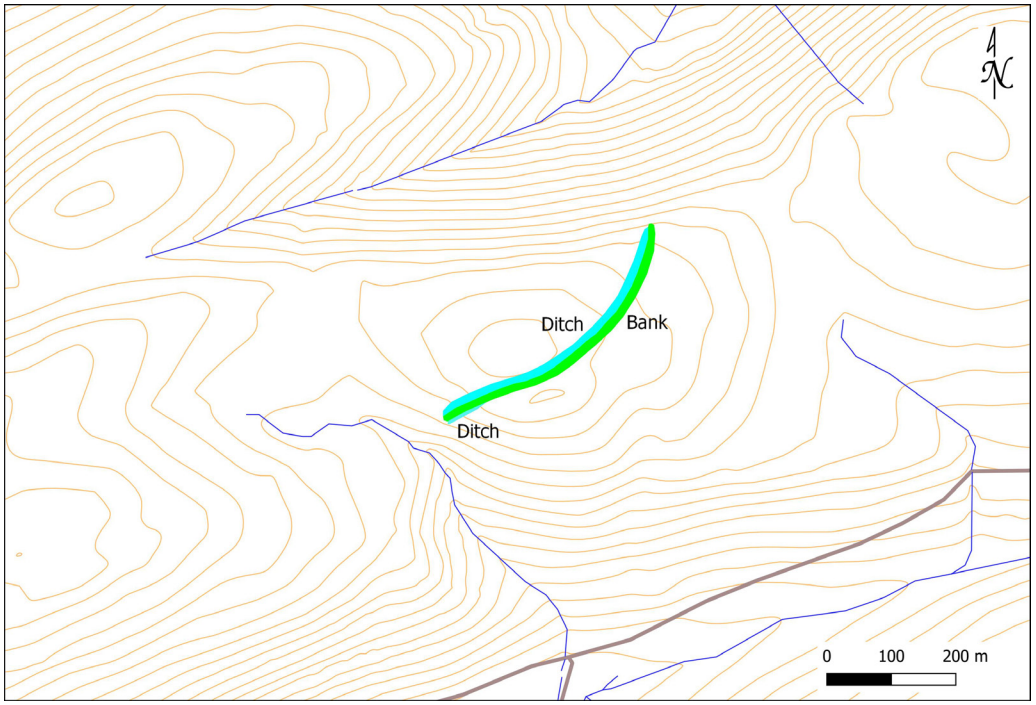
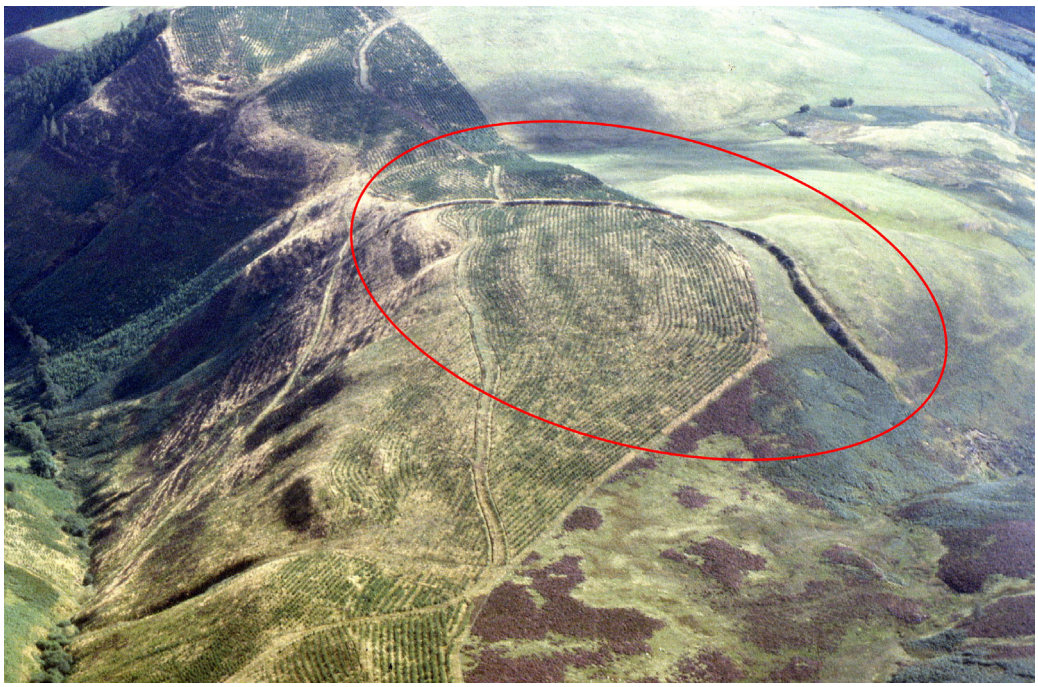



Figure 3 (above): Clawdd Mawr Dyke (Background mapping © Crown copyright and database right 2022). Note: here and in subsequent maps, blue indicates 'ditch', green indicates 'bank' and red indicates 'scarp'

Figure 4 (below): Aerial view of Clawdd Mawr (outlined in red) from the west (CPAT 81-c-0241)



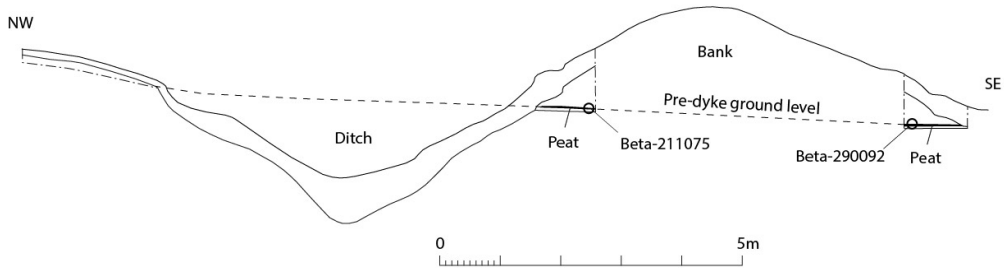



Figure 5: The partial section excavated through Clawdd Mawr, showing the location of dated deposits

*Bwlch y Cibau Dyke (PRN 64; Figure 6)*

This monument has not been dated. The earthwork runs from SJ 1780 1638 to SJ 1860 1713 (1.35km) and lies approximately 1.0km north-west of the suggested south-eastern boundary of Mechain; it faces south and east, away from the core of Mechain. The dyke is a complex linear earthwork, its form varying from a simple scarp to a more typical bank and adjacent ditch, with its most elaborate form being a multivallate section on the east.

Commencing at its west end at the base of a steep spur near Pen-y-boncyn (meaning 'head of the bank'), the earthwork is mainly a single bank and ditch or an enhanced scarp, up to 4m high and facing south. It is interrupted at Ty-newydd by farm buildings, but beyond this point continues in similar fashion with a ditch at the base of the scarp until SJ 1853 1668, where the morphology of the dyke undergoes a radical transformation and changes abruptly into a triple bank with two intervening ditches. There is no evidence that this complex form ever extended any further to the west than it does at present. The complex section runs east initially, then the earthwork turns north-east and the lower bank and ditch end, perhaps as a result of these having been levelled in the more recent past. The remaining earthworks continue to the north but are interrupted at the house known as 'Bitffald', beyond which preservation is variable, though there is evidence for the continuation of the double banked form to the end of the dyke, where it meets the valley of the Ceunant Mawr stream.

There has been some previous suggestion (from aerial photographic sources) that the dyke may have continued to the north of the Ceunant Mawr valley, but there is now no surface trace of any continuation and it seems that the cropmark evidence matches the alignment of a former field boundary, although this does not preclude the possibility that it represents a levelled section of dyke. There has also been a suggestion that the more complex section of the earthworks was originally part of a defensive enclosure, but the nature of this section suggests this is unlikely. Auger samples were taken along the dyke in 2004 at four locations but no evidence of a buried ground surface containing datable organic material was revealed.

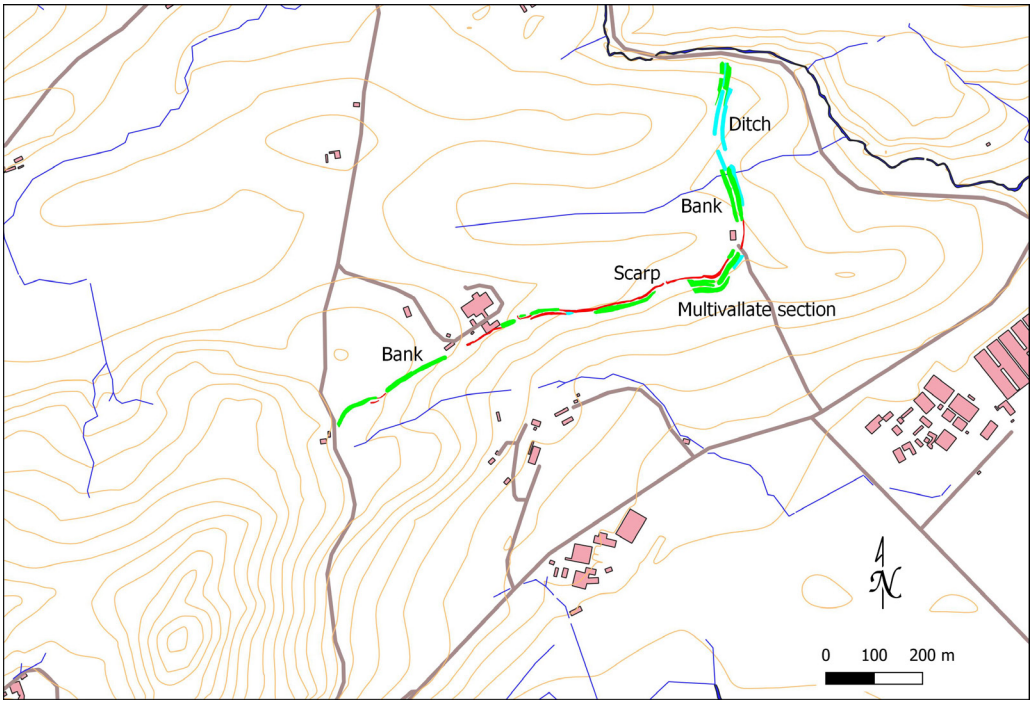



Figure 6: Bwlch y Cibau Dyke (Background mapping © Crown copyright and database right 2022)

*Bwlch Aeddan Dyke (PRN 77; Figure 7)*

Again, this linear earthwork is undated. The earthwork runs from SJ 1727 1064 to SJ 1690 1050 (0.42km) and lies approximately 2.3km south-east of the suggested south-eastern boundary of Mechain. The dyke faces north-north-west, towards Mechain, from the direction of slope of the simple scarp which defines it; this scarped appearance seems to be original and is different in nature to the scarped sections of the other dykes considered here. The dyke links the head of a stream with the crest of a ridge, indicating a possible use to define a boundary otherwise represented by natural features. Its course and the direction in which it faces suggest that it is more likely to have been constructed to define an area adjoining Mechain to the south; by the medieval period it fell within the commote of Ystrad Marchell. The origin of the personal name Aeddan for this earthwork is uncertain but a character by the name of Aeddan ap Blegywryd is recorded in the Welsh chronicles as being killed in 1018, and W.V. Lloyd (1889: 296) noted that it was a name used by Powysian princes.

The earthwork commences on the west-south-west at the base of a steep spur and runs east-north-east to a road cutting where a section of the dyke has been lost. It recommences on the other side of the road and runs along the north side of a ridge before it is again cut. The surviving parts of this section consist of a north-facing scarp, 3m–3.5m high, with an artificial terrace below. Further to the east-north-east the dyke

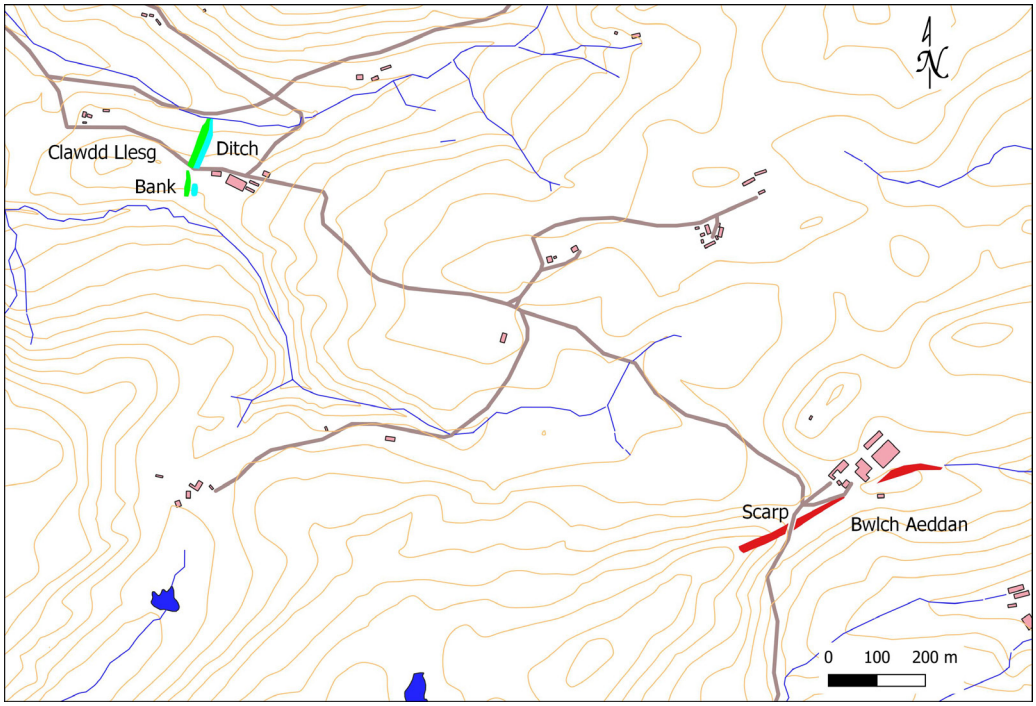



Figure 7: Clawdd Llesg and Bwlch Aeddan Dykes (Background mapping © Crown copyright and database right 2022)

has been removed by agricultural activity, recommencing beyond in a similar form to the previous one, but with a maximum scarp height of 4.2m. In the final section the dyke changes alignment to run east and also loses the lower terrace, ending where it meets the head of a stream valley.

*Clawdd Llesg Dyke (PRN 78; Figure 7)*

This undated earthwork runs from SJ 1573 1119 to SJ 1577 1136 (0.17km) and lies approximately 900m south-south-east of the suggested south-eastern boundary of Mechain. The dyke faces away from the core of Mechain towards the east-south-east, having its ditch on the upslope side of the bank as with Clawdd Mawr. It crosses an interfluvial ridge, appearing to link the two streams which define its terminals, though only a short distance downstream these join anyway. The morphology of the dyke comprises a low broad bank with a similarly broad ditch on its east-south-east side. As with Clawdd Mawr, the siting could have been improved if it was intended to be a defensive feature and it may be significant that a hypothetical continuation of its line to the north-north-east points in the direction of a defended enclosure. Clawdd Llesg is particularly interesting as it appears to be opposed by the Bwlch Aeddan Dyke, 1.4km to the east-south-east and it is tempting to see these dykes as identifying a buffer zone between two adjacent polities.

The personal names (Llesg = Eliseg and Aeddan), perhaps relating to previous Powysian personages and subsequently given to the dykes may also be significant in making them easier to identify (see Seaman's (2019) suggestions, above).

Seven auger samples were taken from the dyke in 2005–2006. No evidence of a sealed layer of organic material was recovered from any of the auger samples taken from the bank, although a few flecks of charcoal were found in what was thought to be a trampled layer, 1.2m below the crest of the bank, at SJ 1575 1132. Charcoal was also found in the ditch at this location. The only other layer of interest in the ditch was a mottled black, red and grey burnt clay, 1.05m to 1.2m below ground level at SJ 1573 1124. Comparison between the auger results and the profile of the earthwork suggested that at SJ 1576 1134, the ditch was originally excavated to an approximate depth of 2m with a width of 7m. Although the slope of the ground at this point may mean that the dimensions are not typical of the dyke as a whole, this section is the best-preserved portion of the dyke. The dyke retains some potential for radiocarbon dating owing to the presence of the charcoal, which might perhaps be used to date a phase of activity at the dyke, though not necessarily the dyke itself. Some caution is needed, however, as the small size of sample derived from the augering makes it impossible to determine the amount of datable material that may be available.

*Ty Newydd Dyke (PRN 1478; Figure 8)*

The next earthwork to be considered, also undated, runs from SJ 1294 2327 to SJ 1368 2346 (0.83km) and lies approximately 1.2km north of the suggested northern boundary of Mechain. The dyke faces generally north, away from the core of Mechain, and largely comprises a bank with a ditch on its north, downslope, side. As with many dykes it could have been easily bypassed if it had been intended to be a defensive feature. Curiously, this earthwork faces in the same broad direction as the Aber Naint Dyke, about 1.4km to the south, and this is difficult to explain unless perhaps it formed a successor or predecessor to Aber Naint; it would be interesting to know how the dates of the two earthworks compare, should the opportunity arise.

The dyke is set on a sloping hillside, terminating at a stream on the east and at the foot of a hill on the west. The earthwork was shown as an 'entrenchment' by the Ordnance Survey at the end of the nineteenth century and might have been one of a group of such named features mentioned by Thomas Pennant in the late eighteenth century (Pennant 1991: 362). The west end of the dyke is visible as a slight scarp on the steep north-north-east-facing slope, continuing to the east beyond Garth-ucha as a scarp up to 2m high that eventually gains a ditch on its north side. Further east the scarp is gradually replaced by a substantial bank, up to 2m high, where the overall width of the bank and ditch is generally 13.5m. To the east of a road there are intermittent sections of earthworks between 4.5m and 7.5m wide by 1m high as far as Ty'n-y-clawdd house. The dyke recommences beyond the house heading north-east as an embanked scarp with

a ditch on its north-west side, ending at the Nant Engyll stream. Five auger samples were taken in the vicinity of the dyke in 2004 but no material thought to be worthy of excavation and radiocarbon dating was identified.

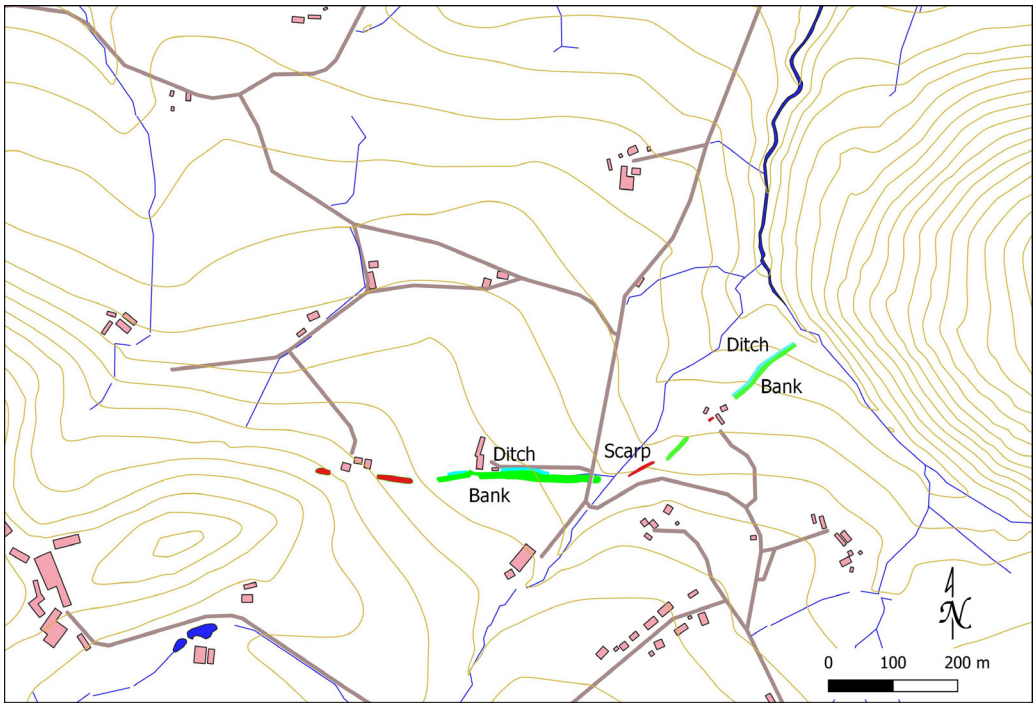



Figure 8: Ty Newydd Dyke (Background mapping © Crown copyright and database right 2022)

*Aber Naint Dyke (PRN 1479; Figure 9)*

Running from SJ 1269 2171 to SJ 1228 2202 (0.54km) and adjoining the suggested northern boundary of Mechain, this undated dyke faces north-east. The ditch is on the upslope side of the bank and crosses an interfluvial ridge, appearing to link the two streams which define it, in the same fashion as Clawdd Llesg. As with other dykes here, the siting could have been improved if it was intended to be a defensive feature. Strangely, the separation between this and the Ty Newydd dyke, at 1.4km, is the same as between Clawdd Llesg and Bwlch Aeddan, though here the dykes face in the same direction so it is less likely that they were intended to identify a buffer zone between polities.

The earthwork comprises a bank aligned broadly north-west to south-east on a slightly curving course with a ditch on the north-east (upslope) side along most of its length. The height of the bank is around 4.0m and the ditch 2.0m deep and up to 7.0m wide (Figure 10).

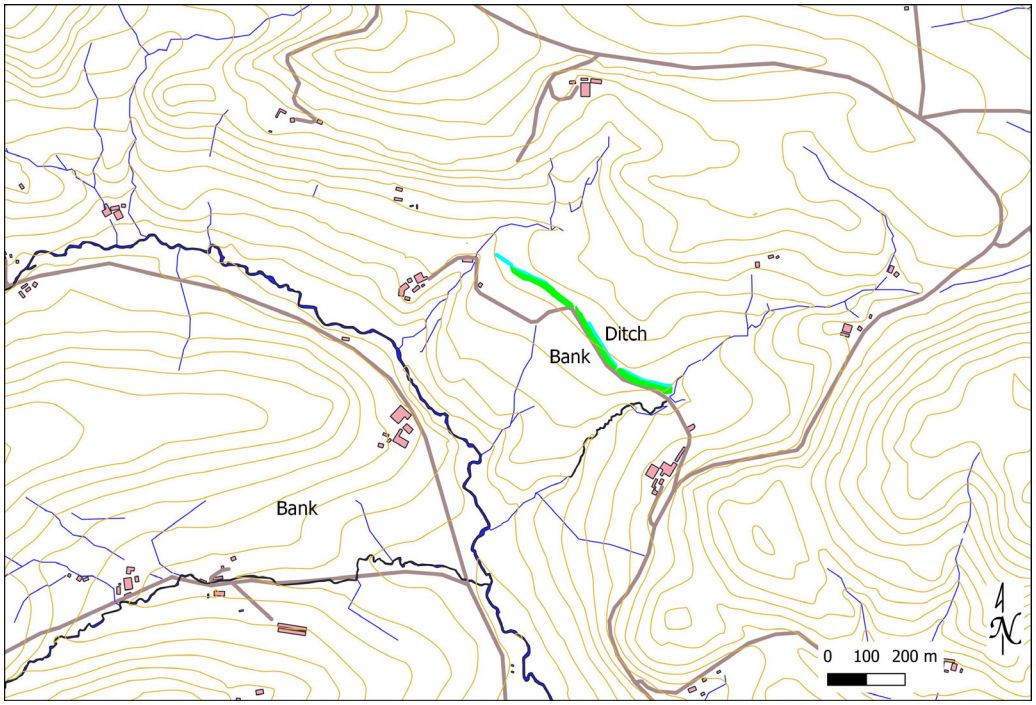



Figure 9: Aber Naint Dyke (Background mapping © Crown copyright and database right 2022)

## Discussion

While it is the five dykes within 1.2km of the suggested cantref boundary that are considered to potentially represent a predecessor to Mechain, the sixth (Bwlch Aeddan) could also have significance in our interpretation. There is a possibility that this dyke, with Clawdd Llesg, may identify a buffer zone between Mechain and Ystrad Marchell (or a predecessor) or that a time came when Ystrad Marchell was sufficiently important to set its own boundary. Without proof of dating it is impossible to be sure of this, but the foundation of Strata Marcella Abbey in 1170 by Owain ap Gruffydd, prince of southern Powys and lord of Cyfeiliog (Thomas 1997: 3), would have perhaps tipped the balance away from Meifod as a religious centre (and by extension Mechain), though that would imply a date for Bwlch Aeddan as late as the twelfth century. What is notable is the obvious difference in the nature of Bwlch Aeddan in comparison to the other local dykes, this being defined throughout by an artificial scarp with no trace of an accompanying ditch. The likelihood that these two, potentially opposing, dykes are both named after what may be historical personages could be significant given Seaman's (2019) arguments regarding the use of names to make boundaries more memorable (see above).

For the other five dykes, all are either completely, or have significant portions, formed by a bank and ditch, and in each the ditch is on the 'outer' side of the boundary if it is

Figure 10: The north-western part of the Aber Naint Dyke from the east, with the ditch in the foreground and bank beyond (Photo CPAT 2110-0043)

assumed that they define an area broadly equivalent to Mechain. Other factors which have been mentioned in general terms are the tendency of short dykes to link streams or prominent landscape features and these traits are found at the ends of all dykes in this area (Table 2).

All told, the boundary of the cantref of Mechain according to Richards (1969: 290) covers a linear distance of about 64km, while the relevant dykes total about 3.4km in length. Although this seems to be a very small amount in comparison, much of his identified boundary of the cantref appears to have been defined by watercourses which would have been obvious and easily remembered features, allowing them to be more reliably followed. The mapped cantref boundary actually only coincides with one dyke (Aber Naint) but the others are sufficiently close to be posited as boundary markers, when it is considered that Richards' delineation of the cantref boundary depends on imprecise evidence, so exact comparisons cannot be expected. There are some places where landscape features are lacking but there is always the possibility that rather more ephemeral landmarks were used in defining the boundary where there was no dispute; that existing artificial features such as hillforts and defended enclosures were employed; or that other dykes, which were once present, may have been removed in later times. It

is also true that there was a considerable length of time between the construction of the single dated dyke and the emergence of the cantref later in the medieval period, in which time the original boundary may have been adjusted – this is something suggested by the curious siting of Ty Newydd and Aber Naint, where the former may have been the successor to the latter, if its origin was as a result of a phase of later expansion.

Table 2: Common siting/morphology themes (* = mostly comprised of, [1] = one end, [2] = both ends)

| | |
|---|---|
| *Bank and ditch* | Clawdd Mawr*, Clawdd Llesg*, Ty Newydd, Aber Naint*, Bwlch y Cibau |
| *Ditch on outer side of suggested boundary* | Clawdd Mawr, Clawdd Llesg, Ty Newydd, Aber Naint, Bwlch y Cibau |
| *Upslope ditch siting* | Clawdd Mawr, Clawdd Llesg, Aber Naint |
| *Scarped slope* | Bwlch Aeddan*, Ty Newydd (part), Bwlch y Cibau (part) |
| *Dyke ends at or near a watercourse* | Clawdd Mawr[2], Bwlch Aeddan[1], Clawdd Llesg[2], Ty Newydd[1], Aber Naint[2], Bwlch y Cibau[1] |
| *Dyke aligned with a natural or artificial landscape feature* | Bwlch Aeddan[1], Clawdd Llesg[1](possible), Ty Newydd[1], Bwlch y Cibau[1] |

If the dykes can be credited with forming parts of the boundary of a predecessor to Mechain, then it seems worth attempting to define the most likely course of that boundary to initiate debate and this is given on the following plan (Figure 11). There are some illogical deviations, notably the section to either side of the Bwlch y Cibau Dyke, though there are natural features and pre-existing earthworks which may have stood for the boundary there. How, or indeed why, the boundary would have crossed the valley to the north-east of Meifod when it seems easier and simpler to follow the course of the River Vyrnwy is not known, though there are cropmarks (PRN 4610) by the Vyrnwy that may indicate where the crossing was. Further to the north-east of Bwlch y Cibau the boundary may have been formed by a group of hillforts/enclosures and possible linear earthworks, as a return to the Vyrnwy would seem to have also been illogical. The siting of Llansanffraid-ym-Mechain village outside this boundary is also curious but can be explained by the settlement post-dating the early boundary and indicate that the cantref had expanded beyond the original boundary on which it was based.

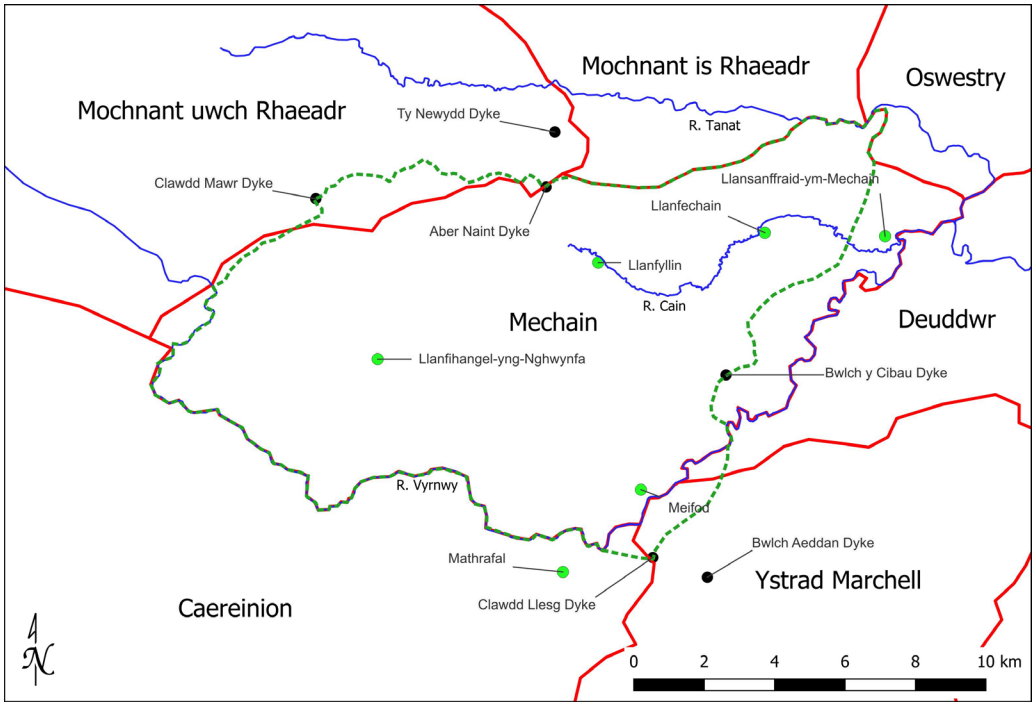



Figure 11: A conjectural boundary (in green) for the alleged predecessor to Mechain, utilising the dykes, natural features, and earthworks known to have been present in the landscape in the early medieval period, such as defended enclosures

Many questions remain to be answered, but if there is a correlation between the suggested pre-cantref boundary whose area later came to be identified as Mechain and the five dykes including Clawdd Mawr, then it appears that the boundary was in place by the end of the period covering the radiocarbon dates (AD 420–610 and AD 630–710), and perhaps even somewhere around the time when Meifod is thought to have become the cult centre of St Tysilio in about AD 600; it may even have been delineated in relation to and formalising that development. The accuracy of this assertion is difficult to judge based on the current lack of dating evidence for the other dykes in this area but there are morphological similarities between Clawdd Mawr, Clawdd Llesg and Aber Naint which suggest they were constructed in the same manner and with the same thinking so they could perhaps be contemporary. Techniques have also moved on in the time since the Cadw project was completed and the advent of Optically Stimulated Luminescence (OSL) dating brings with it the possibility of dating earthworks which do not have a relationship with organic material. The technique has proven its value in relation to Offa's Dyke and Wat's Dyke in more recent times (e.g. Malim and Hayes 2008; see also Belford *et al.* 2025). A programme of OSL dating covering the dykes discussed here could potentially resolve the issue of whether the five dykes are part of a contemporaneous border and if so perhaps refine the dating of that border.

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# Nico Ditch: A Review of its Form, Function, and Date

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*Nico Ditch is an enigmatic curvilinear earthwork, the core of which runs for c. 8km across the southern part of the City of Manchester from Hough Moss to Ashton Moss. Although much of its length was built over during the later nineteenth and twentieth centuries, where it survives as an earthwork it comprises a U-shaped ditch 2m to 3m wide and 1.5m to 2m deep, with possibly a low bank on its northern side. This article reviews research into the origins, form, and function of Nico Ditch, drawing on over 140 years of study, as well as discussing grey literature archaeological fieldwork from the 1990s and 2000s. Using this material, it is argued that the line of Nico Ditch extended further west of Hough Moss into Stretford. This longer monument strengthens the argument that the ditch dates from the early medieval period.*

*Keywords:* Nico Ditch; Manchester; early medieval; boundary; monument

## Introduction

Nico Ditch is an enigmatic curvilinear earthwork, the core of which runs for c. 8km (5 miles) across the southern part of the City of Manchester (Figure 1). Its eastern terminus is commonly agreed to be Ashton Moss, in Tameside, north-east of Denton Golf course (Figure 2), while the western terminus traditionally has been placed at Platt Fields, Manchester, on the edge of the former mossland of Hough Moss (Figure 3). A westerly extension between Hough Moss and Stretford Moss is probably contemporary with the core alignment.

Two pieces of mid-nineteenth century scholarship brought Nico Ditch to the attention of later Victorian antiquarians and historians. The first historical study of the earthwork was made by John Higson in the 1850s. In his 1859 book on the history of Droylsden, a small township between Manchester and Ashton-under-Lyne, he describes a large ditch running into the south-western side of Ashton Moss and forming the eastern boundary of the township. This he associated with a feature he called 'Nicker Ditch', that ran from Hough Moss near Platt Fields (Figure 4) in the west to Ashton Moss in the east (Higson 1859). Writing in the Manchester Guardian nearly a decade earlier in 1850 he observed that 'the formation of Nicker Ditch [sic] was apparently anterior to the general cultivation of the land through which it passes, if not the first colonisation of the District: else why is it that it acts as a mere or boundary to so many townships?' (Higson 1850).

The second Victorian study bringing the Nico Ditch to scholarly attention was by pioneering regional folklorists Harland and Wilkinson. Working in Lancashire in the 1860s, they recorded a local tradition in Denton and Manchester concerning a ditch known as Nico Ditch. This recounted that Nico Ditch was:

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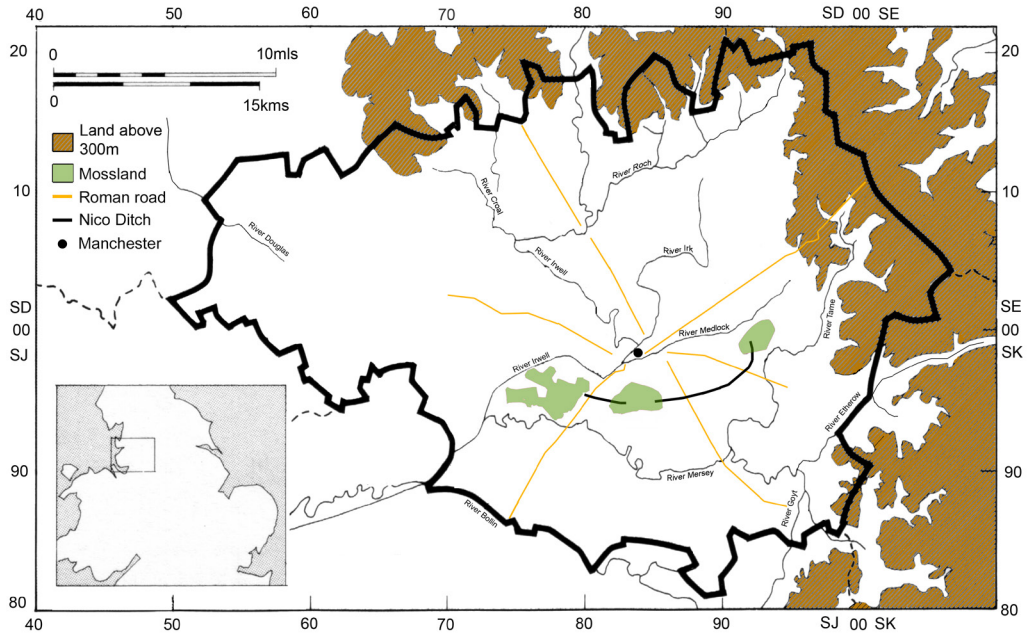


Figure 1: The location of Nico Ditch, Greater Manchester, in relation to topographic and historic landscape features (North upwards)

> ... made in one night, from Ashton Moss to Ouse [Hough's] Moss; such a number of men being appointed as to cast up each the length of himself, in order to entrench themselves from the Danes, then invading England. The land on one side the ditch is called 'Danes' to this day, and the place in Gorton called 'Winding Hill' is said to take its name from the Briton's winding or going round to drive off the Danes. The township of Reddish (anciently written and still locally pronounced by the peasantry, Red-ditch), adjoining to Gorton and Denton, is said to take its name from the water in this ditch after the engagement being red.' (Harland and Wilkinson 1867: 27).

Although most of the alignment of Nico Ditch was built over during the late nineteenth and twentieth centuries, where it survives as an earthwork it comprises a U-shaped ditch 2m to 3m wide and 1.5m to 2m deep, with possibly a low bank on its northern side. Two sections of the course of Nico Ditch are protected as scheduled monuments, at Denton Golf Course (a 205m long section was scheduled in 1997 as a result of research undertaken for the Tameside Archaeological Survey) and at Platt Fields (a 135m long section was scheduled in 1997 as a result of the 1996 excavation). In the absence of scientific dating the whole ditch has been inferred, on landscape, typological, and etymological grounds, to be early medieval in origin (A. Crofton 1885, H. Croften 1905; Hart 1977; Higson 1859; Melland 1936).

Figure 2: The best-preserved section of Nico Ditch lies on Denton Golf course, where the ditch and low bank are still visible. This section was scheduled in the 1990s (Photograph: Michael Nevell, 2023)

This article reviews research into the origins, form, and function of Nico Ditch, drawing on over 140 years of study, as well as discussing grey literature archaeological fieldwork from the 1990s and 2000s (held by the Greater Manchester Archaeological Advisory Service). Using this fresh data, it is argued that the line of Nico Ditch extended further west of Platt Fields, into Stretford, thereby the entire monument was blocking the lines of three Roman roads running south from the Roman fort at Manchester (Margary 7a, 71b and 711) and thus strengthening the argument that the ditch dates from the early medieval period.

Around fifty substantial boundary features have been identified as territorial markers in the Early Medieval period in England. These include examples in Derbyshire, East Anglia, southern England, Yorkshire, and along the Welsh border. These monuments range from under a kilometre in length as at Grey Ditch, Bradwell, in Derbyshire, to 240km in the case of Offa's Dyke. They survive both as earthworks and as buried features (Garland *et al.* 2021). In the late nineteenth and twentieth centuries Nico Ditch was identified as being one of these monuments by regional scholars such as A. Crofton, H.T. Crofton, Esdaile, Gardener, Melland, Hart, and Tindall, but its origins, form, and length remain matters for debate.

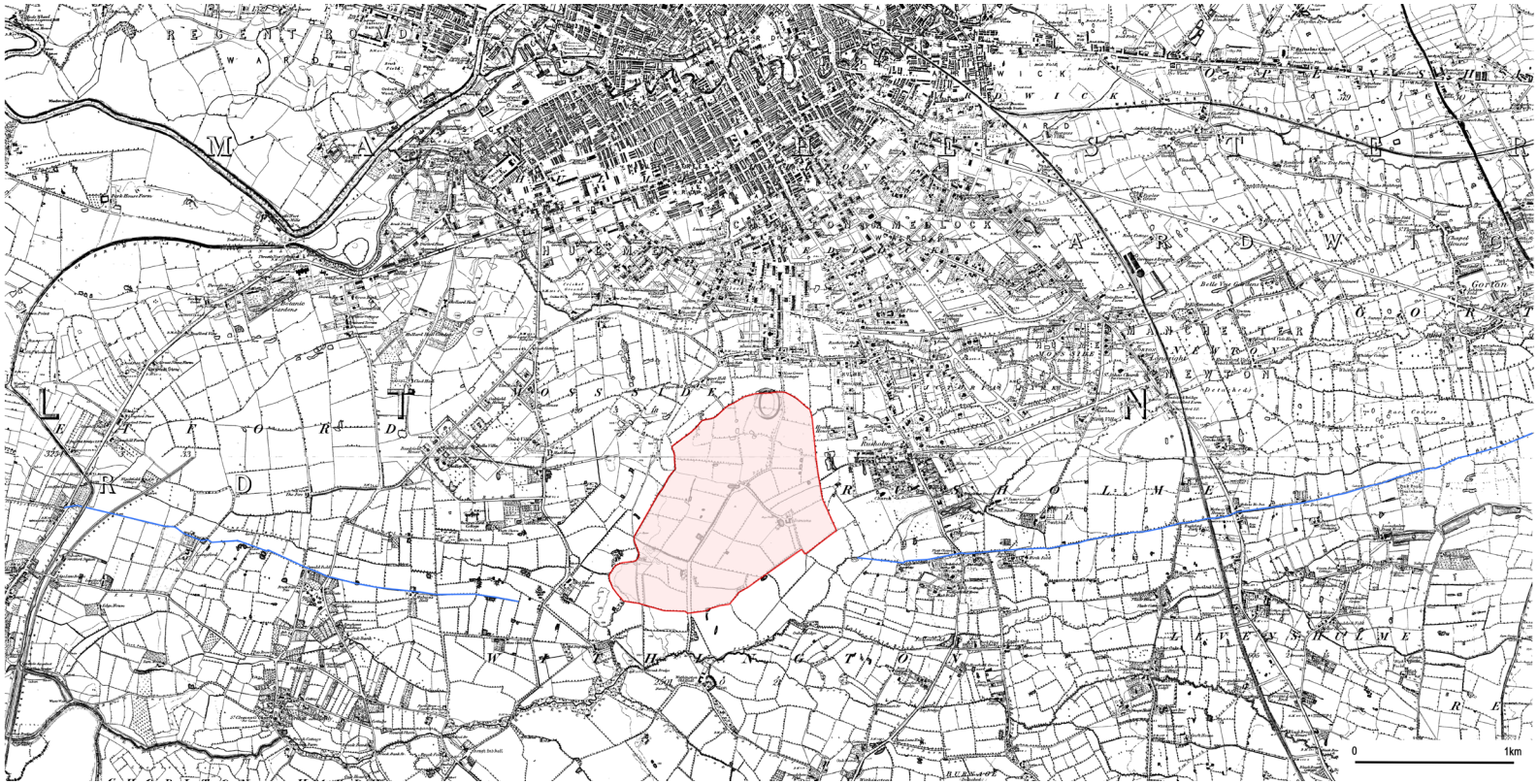


Figure 3: The course of Nico Ditch (in blue) as show by field boundaries on the Ordnance Survey Six Inch map for south Manchester (Sheet 104), surveyed 1843–1845. The extent of Hough Moss, shaded pink, is shown based upon mid-twentieth century drift geology data (N upwards)

Figure 4: Nico Ditch at Platt Fields, Fallowfield, in February 2020, where it functions as a drainage channel (Photograph: Michael Nevell, 2023)

## Origin of the name

During the nineteenth century the name 'Nico', 'Nicker,' or 'Nikker' is first recorded to describe the ditch alignment running from Hough Moss on the western edge of Platt Fields in southern Manchester eastwards to Ashton Moss on the Droylsden/Ashton boarder (A. Crofton 1885; H.T. Croften 1905; Esdaile 1892; Higson 1859; Higson 1850: 124–125, Manchester Central Library Archives). A. Crofton linked this name with a series of late medieval and sixteenth and seventeenth-century documents that mentioned a 'magnum fossatum', or 'Mykelldiche', 'Mekeldyche', and 'Muchildich' (great ditch) as a boundary in the following townships along its length from west to east: Fallowfield, Rusholme, Reddish, and Audenshaw. He also suggested that 'Nico', 'Nicker' or 'Nikker' were likely corruptions of the Middle English names used in these documents: 'Mykelldiche', 'Mekeldyche', and 'Muchildich' (A. Crofton 1885; H.T. Croften 1905)'. These place-names include an element derived from the Old English word 'micel', meaning 'big' or 'great' (Smith 1956). This would make the terms 'Mykelldiche', 'Mekeldyche', and 'Muchildich', direct Latin translations of the earliest Latin name for the monument, 'magnum fossatum'. The variants of 'Nico', 'Nicker' or 'Nikker' are first noted in the nineteenth century. Whether these names refer to the whole length of the monument or just its size is unclear.

Nico Ditch is first mentioned in two versions of a charter from the period 1190–1212 relating to the granting of land in Audenshaw south-west of Ashton Moss to the monks Kersal Cell (Farrer 1902: 329; Nevell 1991: 121; Nevell 1992: 78). A 'Mykelldiche' is referred to in the first manuscript, and a 'magnum fossatum' in the second. Since the boundaries described in each charter are the same there can be no doubt that it is the same landscape feature (now known as Nico Ditch) that is referred to in both documents. Around the same time Matthew son of William granted to the Hospitallers a piece of land in Platt Fields, Rusholme, which included amongst its boundaries a 'magnum fossatum' (Farrer and Brownbill 1911: 303, n. 8). The name next occurs as 'Meledyche' in 1317 in a deed relating to land in Fallowfield (Booker 1859: 124). The manuscripts of the survey of the manor of Manchester in 1320 or 1322 give three variants of the name, 'Mikeldiche', 'Muchildich', and 'Mocheldich', and locates the monument on the Reddish boundary of the manor. A deed of 1484, which gives the boundaries of lands held in Rusholme by William Birch of Slade Hall, refers to a 'Michewall Ditch'. This particular variant is also found in the original name of this estate, 'Milkewallslade', a form first attested in an undated deed of the c. 1270 and still in use as late as 1629 (Booker 1859: 231, 236).

## The form of the earthwork

These late medieval references to the monument mention only a ditch. The suggestion that it comprised both a bank and ditch can be traced back to John Higson who noted in 1859 that a 'hedge is on the Gorton or Manchester side all along. It seems to imply that when the land was first divided into fields the remains of the old breastwork were used as a cop or backing' (Higson 1859: 55). In support of this physical evidence of a bank H.T. Crofton argued that the variants 'Milkewallslade' and 'Michewall Ditch' provided the earliest indication that a bank existed as well as a ditch (H.T. Crofton 1905: 154–155). Since H.T. Crofton's study it has been assumed that this statement holds good for the whole length of the ditch from Hough Moss to Ashton Moss (Tindall 1982: 1).

While Higson's observation on the hedge alignment is suggestive, the surviving physical and place-name evidence is inconclusive. Among later sources, only Melland records the extant presence of a 'bank', in Levenshulme, where the monument runs along the southern side of Melland playing fields (Melland 1936: 60) (Figure 5), and unfortunately no trace of this survives today. The intermittent slight rise noted along parts of the northern edge of the ditch as it crosses Denton golf course might be the remains of an original bank but might also be the result of recent landscaping. While sections of Nico Ditch have been excavated (see below), in each case either the lack of a detailed record or twentieth century truncation of the early ground surface has meant that the existence of a bank could be neither disproved nor verified.

Difficulty also surrounds the place-name evidence, for while the forms 'Milkewall' and 'Michewall' are found in connection with the Slade Hall estate, there is an absence of similar 'wall' place-names elsewhere along the line of Nico Ditch. Furthermore,

although these variants seem to include the Old English element 'wall', usually meaning 'a rampart of stone, earth or other material for defence' (Smith 1956), it is possible that they are a corruption of the original Old English 'micel', meaning great, rather than an indicator of the existence of a bank at this point.

**The course of the ditch**

When A. Crofton (1885) first described in detail the course of Nico Ditch in the 1880s he was able to trace a near continuous ditch alignment from Platt Fields in the west to Ashton Moss in the east. This is the route mentioned in brief by Higson in 1850 (Owen MSS, volume lxxx: 124–125, Manchester Central Library Archives) and its course can be traced on the Ordnance Survey six inch to one mile first edition maps (Lancashire sheets 104, 105, and 111, surveyed in 1843–1845) along its entire length.

A. Crofton and Higson both believed that the western terminus of the ditch was Hough Moss, by Platt Brook, on the western side of what is now Platt Fields Park in Fallowfield. On the other hand, the Ordnance Survey first edition 6 inch to 1 mile map (Lancashire Sheet 104) shows a similar alignment of field boundaries running from the western edge of Hough Moss, SJ 8281 9419, towards Stretford (Figure 3). This is discussed more fully below.

East of Hough Moss the line of Nico Ditch can be traced through Platt Fields Park in Fallowfield. Here, alongside the Unitarian Chapel, is the first visible stretch of the ditch, although this has been disturbed by the planting of trees and shrubs. At this point the ditch displays a broad U-shaped profile and survives c. 2m to 2.5m below the ground level to the north and c. 0.5m below that to the south. Its maximum width is c. 5m from lip to lip. Although the ground level is noticeably higher to the north of the ditch, there was apparently no such difference in the early twentieth century when Gardener was able to confidently assert that 'there is no rampart remaining' at this point (Gardener 1908: 554, n.25).

After leaving Platt Fields the eastern course of Nico Ditch as far as Denton is largely built over but can be traced with reference to the early twenty-first century street plan and a section where the ditch is visible. This visible section is at SJ 883 949, Melland playing fields, where it is marked by a public footpath, along the southern side of which runs a steep V-shaped water-filled ditch, c. 4m in width and c. 1.5m deep. At this point there is no trace of the bank recorded by Melland in the mid-twentieth century (Melland 1936: 60–61), although, here, as elsewhere, there is a pronounced difference (of 1m to 2m) between the ground levels to the north and south of the ditch.

Its inferred alignment (where it is no longer visible) east of Platt Fields is marked by Old Hall Lane and the unadopted roadway known as Park Grove, before it crosses the A6 (the projected line of the Roman road from Manchester to Stockport) (Margary 1957: 97; Margary Road Number 711) at Midway (SJ 872 947). Its course is continued

Figure 5: Nico Ditch at Melland Playing Fields in Levenshulme, spring 2021. The ditch is heavily modified at this point, although there is a pronounced difference in ground level between the northern and southern sides. This stretch was investigated during landscaping works in 2008 to rebuild the footpath (on the right of the image) by the University of Manchester Archaeological Unit (Photograph: Michael Nevell, 2023)

to the east by Matthews Lane until, at Melland playing fields, in Levenshulme, it is once again visible. East of these playing fields, the ditch continues as a fenced property boundary, but without any sign of the ditch itself, behind the houses on the southern side of Holmcroft Road, the alignment here (SJ 890 951) coinciding with the administrative boundary between the Metropolitan Boroughs of Manchester and Stockport, the medieval Levenshulme/Reddish boundary, where it is again a visible landscape feature. At this point the ditch is of similar form and dimensions to that seen at the Melland playing fields. Beyond the eastern end of Holmcroft Road, Nico Ditch is crossed by railway embankments and goods yards. Although further to the east there is no visible trace of the ditch, its course, along the southern side of Debdale Cemetery and Cranbrook Road and the northern side of Laburnum Road, is clearly marked by its continued coincidence with the historic Gorton (Manchester)-Reddish (Stockport) boundary (Figure 6). Beyond Reddish Lane the line continues as the boundary between the medieval townships of Gorton (Manchester) and Denton (Tameside), along the northern side of Laburnum Road, although the ditch is no longer visible.

The projected line of Nico Ditch and the late medieval and modern administrative boundary continues as far as edge of Denton Golf course, where the two eventually diverge. At this point (SJ 903 960) the ditch once more becomes visible, although it is heavily overgrown and disturbed by landscaping for the golf course. Nevertheless, this c. 290m stretch represents, after Platt Fields, the best surviving portion of the earthwork (Figure 7). The ditch is c. 3–4m wide at the top and has a broad V-shaped profile 1.5m deep. There is a very slight bank (c. 0.3m high) at some points along its north-western side, although this could in places be the result of recent landscaping. Around this area are traces of ridge and furrow, c. 4m in width, and significantly these are aligned parallel to the line of the ditch.

To the north-east, the Audenshaw Reservoirs have obliterated any sign of the earthwork, although its line is recorded on the Ashton Estate Plan of 1765 as running west of the centre of Audenshaw village as far as Low Ash Farm (Ashton Estate Plan 1765; Nevell 1992, 81: 80–81). North of this farm it follows the present alignment of Lumb Lane. It is usually assumed that its terminus lies at the northern end of Lumb Lane. However, a large drainage ditch running east of Lumb Lane is named as part of the Nico Ditch system by the Ordnance Survey (OS 1:2500 map, SJ 9098 1965). Melland describes the north-eastern extension of this drainage ditch in the following manner; 'Under the walls of the Droylsden Rectory there is a dry ditch, four or five feet deep, which is the last sight one gets of it [Nico Ditch] before it disappears on Ashton Moss' (Melland 1936: 62).

This large ditch was recorded on the Ashton Estate Plan of 1765 and on subsequent maps, and was mentioned by Higson (Ashton Estate Plan 1765; Higson 1859: 10) as extending as far as Moor Side Farm. Its antiquity may be suggested by its use as a late medieval administrative boundary between Droylsden and Ashton townships, possibly from as early as the fifteenth century when it was referred to in a mossland dispute between the Ashtons and the Byrons: the boundary between the Byrons' moss and the Ashtons' moss followed 'streight upon the end of the overmast ditch [Nico Ditch, Lumb Lane] eastward that John the Buron has in Sunderland towards the Lytel Mosse, to the end of the same ditch [ at Moorside]'. However, it is not clear that this alignment is much earlier than the fifteenth century. Thus, the original eastern end of Nico Ditch would appear to run into Ashton Moss (Nevell and Wilson 1998).

**The Hough Moss to Longford Park alignment**

The western terminus of Nico Ditch has traditionally been placed at Platt Brook in Platt Fields, south of Manchester city centre, on the eastern edge of the former mossland of Hough Moss. In the twentieth century, it was suggested on topographical grounds that a further section of the ditch ran westwards from Hough Moss as a series of field boundaries through Longford Park as far west as Chester Road (a Roman road) in Stretford (H.T. Crofton 1905; Nevell 1997: 37) (Figure 3). The presence of a large expanse of mossland at Moorside, Urmston, immediately west of Chester Road, seems to provide a western terminus.

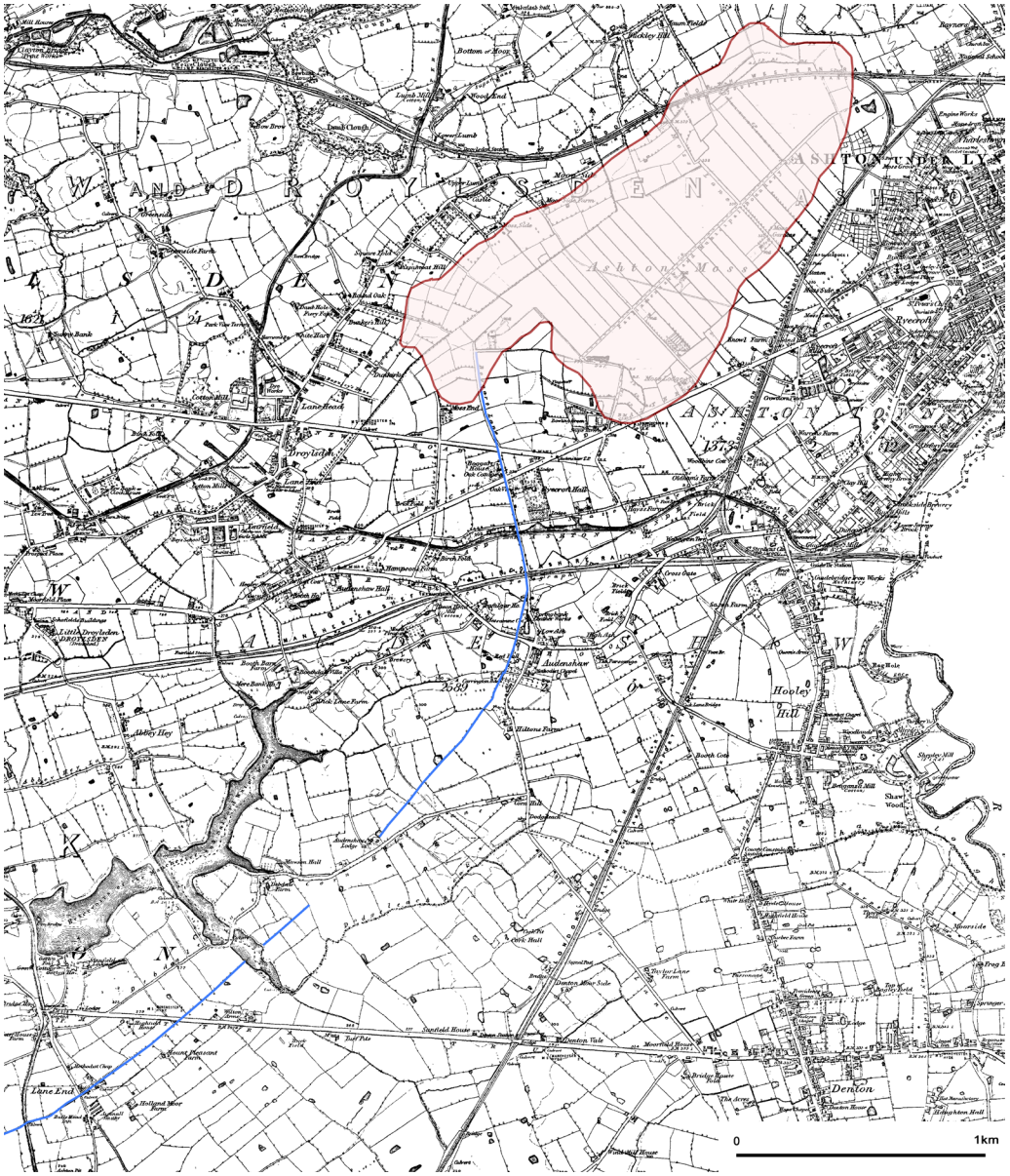


Figure 6: The course of Nico Ditch (in blue) as show by field boundaries on the Ordnance Survey Six Inch map in Denton and Ashton-upon-Lyne (Sheet 111), surveyed 1843–1845. The extend of Ashton Moss is shown, shaded pink, based upon mid-twentieth century drift geology data (N upwards)

The only section of this alignment that survives in open ground as an earthwork is the stretch through Ryebank Fields, on the eastern side of Longford Park (H.T. Crofton 1899). However, an estate map from the mid-eighteenth century shows the alignment running through the Egerton lands in Longford, Stretford (M24/1/2 Egerton of Tatton Muniments, John Ryland Library). This map, though undated, was surveyed around 1758, the context

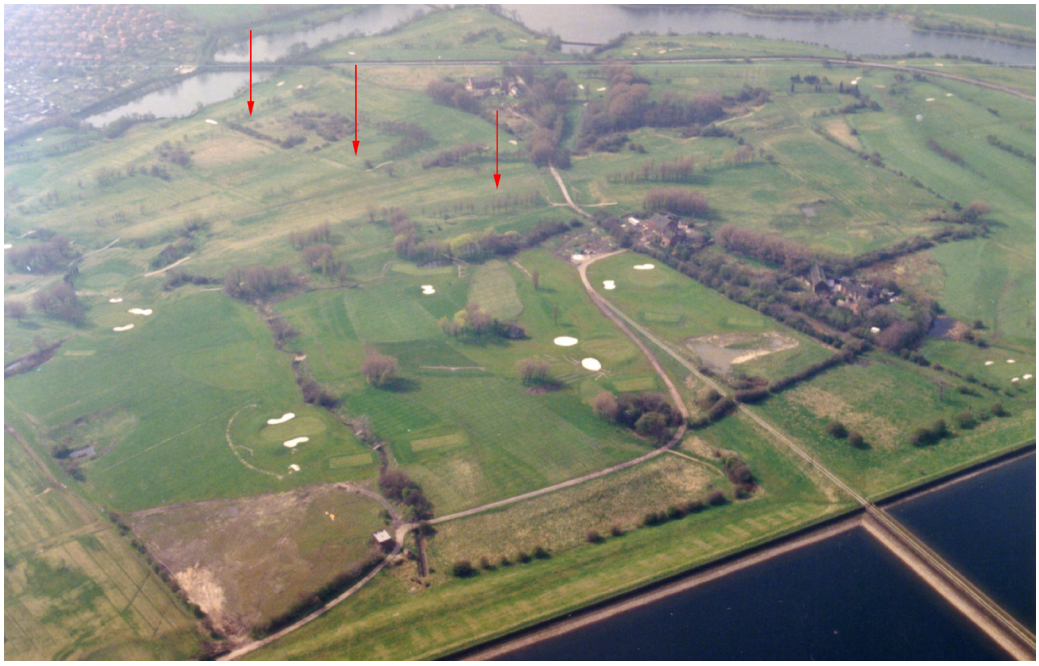

Figure 7: Aerial view from 1996 of the alignment of the Nico Ditch earthwork across Denton Golf Course (Copyright Dr Michael Nevell)

being, according to local historian Richard Bond (Nevell 2021: 8–11), the purchase by Samuel Hill of lands in Chorlton and Withington in 1755, which were then inherited by Samuel Egerton in 1758. As the plan is of the Withington demesne and Chorlton estates, it would make sense that the plan was drawn up when Egerton inherited. The estate map shows that west of Manchester Road, originally a country road that led into the northern side of Chorlton village, there was an open watercourse heading south from the Longford Brook and then heading west along this western alignment.

In the twenty-first century, the only visible feature on this western alignment is a stretch of earthwork is c. 26m long and, between 10m and 12m wide and roughly 0.5m deep, with a broadly U-shaped profile. It formed part of a continuous series of field boundaries and ditches, visible on the Ordnance Survey map Lancashire Sheet 111 published in 1848, running west of Hough Moss, through Longford Park, and ending at Chester Road in Stretford, a distance of 2.64km. This alignment seems to finish in Urmston at SJ 7829 9504, on the western side of Chester Road, a point which marks the eastern edge of the moss known as Moorside. A further length of ditch, known as Carr Ditch, runs on a similar alignment west of this point across the main body of the moss but is offset by 100m to the north, suggesting that is a later feature. An excavated section across this alignment in 1992 indicated its late medieval origins and proved that it was not part of the original alignment of Nico Ditch (Arrowsmith and Fletcher 1993: 30–31; Nevell 1997: 37).

The research undertaken by Richard Bond (pers. comm.) has mapped the route of this canal feeder in the process showing that the earthwork at Ryebank Fields pre-dates it, being present on the 1758 Egerton estate map, thereby confirming an earlier origin for the field boundary alignment from Hough Moss to Longford Park/Chester Road. This western alignment runs parallel to, but south of, Longford Brook and Bond has further suggested that its straightish course is the result of diverting the brook into an earlier manmade earthwork as part of the water feeder for the Bridgewater Canal in the early 1760s (quoted in Nevell 2021: 10–11).

## Excavating Nico Ditch

*Denton Golf Course, 1954*

Denton Golf Course contains one of the two best sections of the Nico Ditch to survive as an earthwork (which is why it is a Scheduled Monument, see above) (Figure 2), and the earliest one to be investigated archaeologically (Nevell 1992: 82). In 1954 Dr J.D. Bu'lock (1928–1996), Chemistry lecturer and Extramural tutor in archaeology at the University of Manchester, excavated a section of it at Denton Golf Course (Figure 8). This work was undertaken with extramural archaeology students. Although no records of the excavation were kept other than a rough sketch of the dig cross-section (Figure 9), he recalled in 1991 during a conversation with the current writer (pers. comm.) that the ditch was c. 8ft deep (2.4m) at this point and had been re-cut on numerous occasions. GMAU in summarising the work noted that a clay bank was located but no dating evidence was forthcoming (Tindall 1982: 6–7). This bank is still visible. This marked the eastern end of the Nico Ditch alignment and confirmed the presence of a ditch running north-eastwards towards Ashton Moss as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

*Shackleton Engineering Company site at Reddish, 1979–1980*

In 1979–1980, Dr Mawer of the University of Manchester Medical School conducted a trial excavation of Nico Ditch on the site of the proposed extension to the Shackleton Engineering Company's factory at Reddish (SJ 891 951), immediately west of the Manchester-Stockport border. Only below-ground remains survived. The results were summarised by the Greater Manchester Archaeological Unit (Tindall 1982: 6). A section through the earthwork revealed no bank, which he interpreted as having been removed by extensive twentieth-century disturbance, while the ditch, represented by an area of humic material c 2.5m wide, was not fully excavated. No finds earlier than the post-medieval period were recovered and no drawings or photographs of the dig survive. This confirmed the presence of a ditch running east-west in this area as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

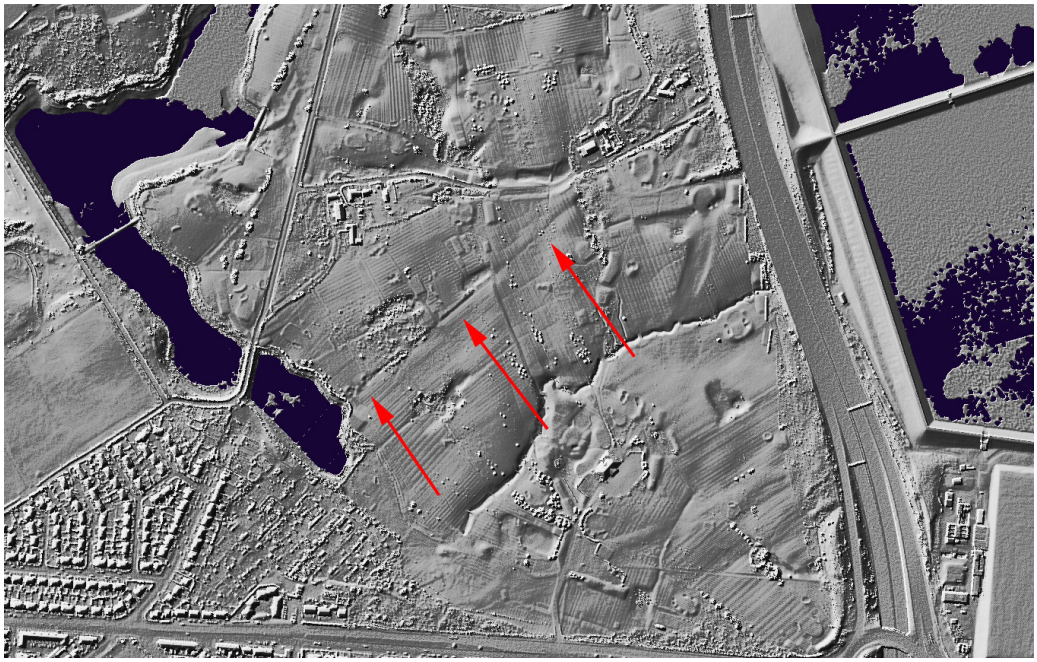

Figure 8: The 1m LIDAR data from 2021 showing the surviving shallow earthwork of Nico Ditch (arrowed) across Denton Golf Course (N upwards)

*Kenwood Road, North Reddish, 1990 (Figures ( 9 and 10)*

During November 1990 the Greater Manchester Archaeological Unit (GMAU) undertook trial trenching and small-scale excavation on the line of Nico Ditch at Kenwood Road, North Reddish, Stockport, just 20m east of Dr Mawer 's trench (SJ 8915 9515) (Nevell 1992: 82). Only below ground remains survived. This revealed a roughly U-shaped cut surviving to a depth of up to 1.30m and at least 3.2m in width. However, it is uncertain whether this cut retains its original profile or indeed represents the first construction of the ditch. In addition, severe truncation of the site had removed any evidence for a bank or contemporary ground surface. Three phases of later recutting were identified, of which the earliest had no associated finds while the others were of either nineteenth or twentieth century date (GMAU 1990). The work confirmed the presence of a ditch running east-west in this area as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

*Park Grove, Levenshulme, 1992 (Figures 9 and 11)*

In January 1992 two sections were cut across the line of Nico Ditch at Park Grove, Levenshulme (SJ 8723 9468) by GMAU, as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105). Only below ground remains survived. These were badly damaged by a twentieth-century culvert, which meant that the depth

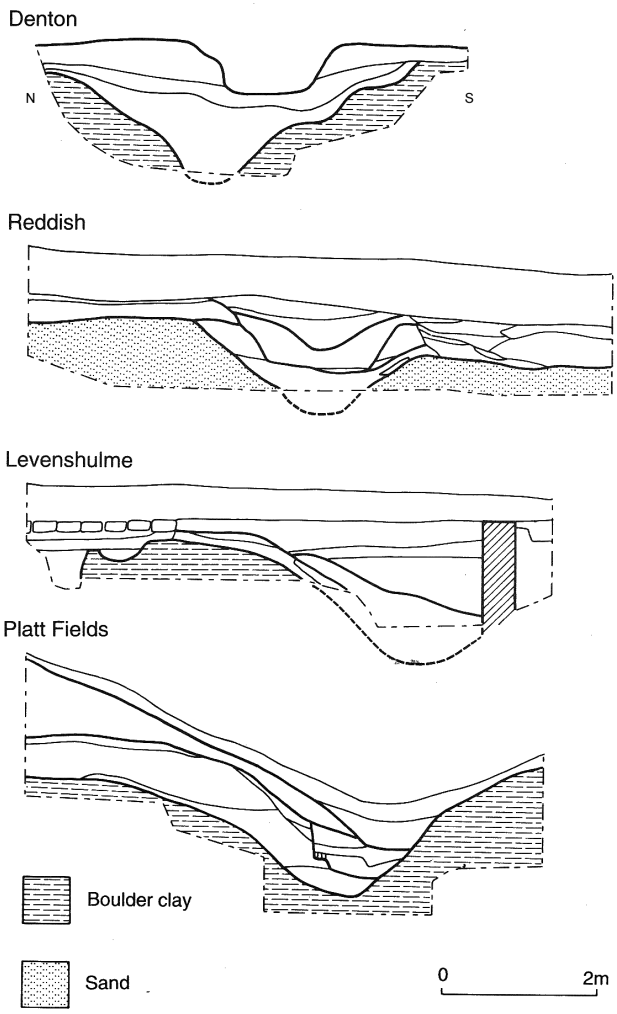


Figure 9: East facing sections across Nico Ditch as excavated in 1996 (Denton Golf Course), 1990 (Kenwood Road, North Reddish), 1992 (Park Grove, Levenshulme) and 1997 (Platt Fields) (Drawings: Michael Nevell, 2023)

of the ditch was not recoverable, these sections indicated that the ditch was between 3.5m and 4m wide, in keeping with the information from Kenwood Road in Reddish (GMAU 1992). There was no evidence for a bank.

*Audenshaw Lodge, Denton, 1996 (Figure 12)*

In March 1996 a section across the line of the ditch at Audenshaw Lodge in Denton (SJ 9083 9643) was excavated by the University of Manchester Archaeological Unit (UMAU) in advance of the construction of the M66. Only below ground remains survived. Here the ditch was found to be 4.65m wide and 1.45m deep, and roughly U-shaped with a flared profile. However, the line of the ditch had been heavily disturbed, with twentieth-century material close to the bottom of the ditch indicating that it had

Figure 10: The excavation of Nico Ditch at Kenwood Road, North Reddish in 1990 by the Greater Manchester Archaeological Unit. (Image courtesy of the Greater Manchester Archaeological Advisory Service)

been recently re cut (UMAU 1996: 4–5). There was no evidence for a bank, but the work did confirm the presence of a ditch running south-west to north-east in this area as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

*Platt Fields, Fallowfield, 1997 (Figures 9 and 13)*

Platt Fields Chapel, Fallowfield, Manchester (SJ 8550 9445) has one of the two best sections of the Nico Ditch to survive as an earthwork (hence its scheduling as an ancient monument), and lies at the traditional western end of the monument near Hough Moss. In January and February 1997, the University of Manchester Archaeological Unit excavated a single trench across the monument was ahead of landscaping works to extend an adjacent the playing field (UMAU 1997). Here, the monument is clearly visible as a U-shaped ditch, with a low bank on its northern side, running westwards from Platt Fields Chapel for a distance of c. 280m. It forms the modern boundary between Platt Fields Park to the south and the grounds of the Manchester High School for Girls to the north. The eastern end of the ditch now lies beneath Platt Fields Chapel and the A6010 (Wilmslow Road) but is continued eastwards by the modern course of Old Hall Lane, whilst the western end is cut off by the nineteenth century boating lake before it reaches Platt Brook. The evaluation was able to demonstrate that the present form of this monument through Platt Fields is the result of many phases of activity. Such a U-shaped, flared, ditch of roughly the same size, 4m to 4.5m wide and c 1.5m deep, can also be seen in the sections cut across Nico Ditch at Levenshulme, Reddish, and Audenshaw Lodge. Although no dating evidence was recovered from the primary ditch at Platt Fields the nature and extent of these early fills indicated that it was of considerable antiquity. No evidence was found for a bank contemporary with this first ditch cut: the existing bank to the north of the ditch was shown to be twentieth century in origin. However, the work did confirm the presence of a ditch running south-west-to north-east in this area as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

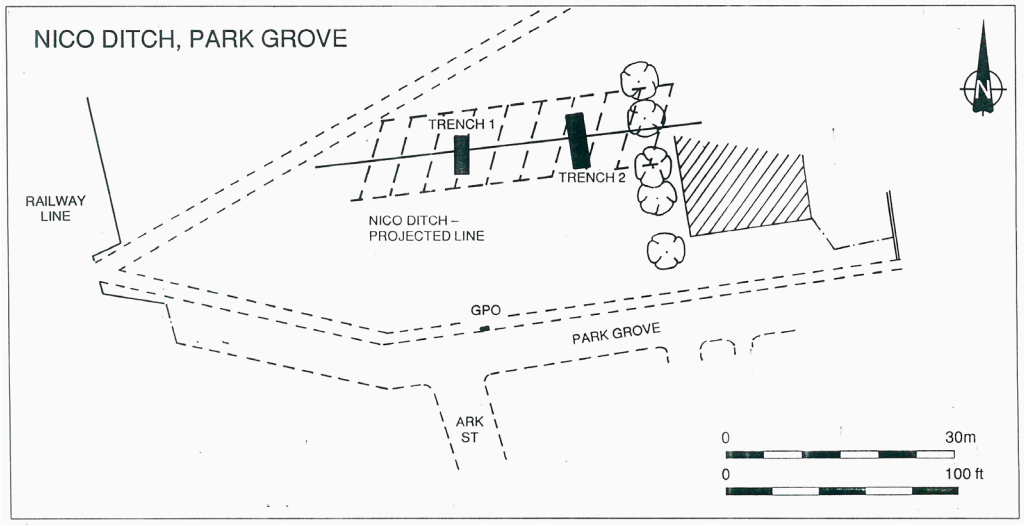


Figure 11: Plan of the 1992 excavation of Nico Ditch at Levenshulme by the Greater Manchester Archaeological Unit. (Image courtesy of the Greater Manchester Archaeological Advisory Service)

*Melland Playing Field, Gorton, 2008*

In 2008, a surviving earthwork stretch of Nico Ditch was investigated during drainage works in Gorton (UMAU 2008). The ditch ran along the southern side of Melland Playing Field (centred on SJ 883 949). The drainage works were associated with the Gorton Education Village development. The watching brief observed the construction of a cycle path and handrail on the northern side of the ditch, the construction of a footbridge across the ditch and also the clearing of modern detritus from within the ditch. No significant archaeological remains were encountered during groundworks and no significant disturbance was made to archaeological deposits forming part of the earthwork. The profile of Nico Ditch was also retained and was not altered during the clearing of modern detritus from within the ditch. No bank was recorded, but the work did confirm the presence of a ditch running west– east in this area as seen on the OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105).

*Audenshaw Barn, Denton, 2013*

In 2013, an archaeological watching brief was undertaken on the line of Nico Ditch during building work within Audenshaw Barn, on Denton Golf Course (SJ 9075 9634) (TAS 2013). This work was conducted by the Tameside Archaeological Society (TAS), on the alignment of Nico Ditch as shown on OS 6 Inch to 1 mile first edition map (published 1848, Lancashire Sheet 105). TAS recorded new foundations being dug within the centre of the barn to a depth of 0.5m. No early deposits were located and there was no sign of the alignment of Nico Ditch, possibly because of the shallow nature of the excavations.

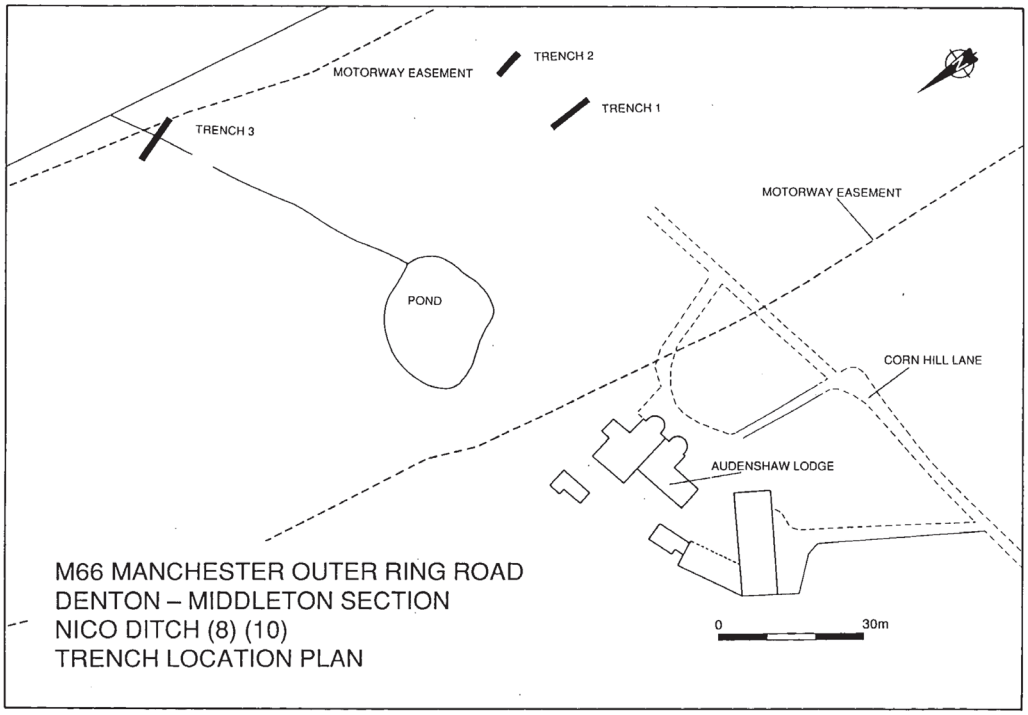


Figure 12: Plan of the 1996 excavations of Nico Ditch at Audenshaw Lode, Denton Gold Course. The Nico Ditch alignment runs through trenches 1 and 2, by the University of Manchester Archaeological Unit. (Image courtesy of the Greater Manchester Archaeological Advisory Service)

*Longford Park, Stretford, 2014*

The only archaeological excavations on the Hough Moss to Longford Park/Chester Road alignment of Nico Ditch, as recorded on the OS 6 Inch to I mile map of Lancashire (published in 1848, Sheet 105). This research was undertaken by University of Salford archaeologists working on the Dig Greater Manchester community archaeology project in Longford Park in 2014 (CfAA 2015). As part of the exploration of the remains of Longford Hall survey work in the grounds of the hall was undertaken. This involved excavating two test pits (1m by 1m) on the projected line of the ditch within the park. These were located in former fields immediately west of the Ryebank Fields earthwork (Figure 14) in an area landscaped as part of the park in the early twentieth century. Ground disturbance was detected to the full depth of each trench, 0.5m. No evidence for the line of the earthwork, which remained an open feature in this area until landscaping in the early twentieth century, was uncovered. This was due to the extensive ground disturbance encountered. However, LIDAR data from 2019 shows both the Ryebank Fields earthwork and to the west a shallow depression, less than 1m deep and c. 10m wide, on the buried alignment shown on the 1848 OS map (Figure 15).

Figure 13: The excavations of Nico Ditch at Platt Fields in 1997, by the University of Manchester Archaeological Unit. (Image courtesy of the Greater Manchester Archaeological Advisory Service)

**Conclusion: function and date**

The original function and date of Nico Ditch have long puzzled scholars. The discussion has been further complicated by the continuing use of parts of the ditch alignment as a drainage channel and an administrative boundary from the late medieval period onwards. Since the 1880s four suggestions have been made as to the function of the monument:

- as a drainage channel;
- an agricultural boundary;
- an administrative boundary;
- or as a defensive earthwork.

The suggestion that Nico Ditch was constructed for the purpose of drainage was first put forward by Esdaile, who noticed that the drainage of the ditch from east to west, starting at a height of 98m AOD on the edge of Ashton Moss and falling to 34m

Figure 14: The surviving earthworks associated on the alignment of Nico Ditch at Ryebanks Fields on the Streford/Chorlton border in February 2020 (Photograph: Michael Nevell, 2023)

AOD where it joins Gorebrook in Platt Fields (Esdaile 1892: 219). This theory was later discredited by H.T. Crofton largely on the basis that the ditch has a variable fall, especially immediately west of the Debdale valley in Denton where it rises from 80m to 85m before continuing its westerly trend downwards (H.T. Crofton 1905: 156). The course of the ditch also avoids the main local streams, and while sections across Ashton Moss in the east and Streford Moss in the west may have been dug for drainage these appear to be later additions to the original alignment which terminated at the edge of the moss.

The role of Nico Ditch as an agricultural boundary was first put forward by H T Crofton who suggested that the ditch was related to Roman centuriation, or land division, south-east of the fort at Castlefield in Manchester, between the River Medlock in the north and the River Mersey in the south (H.T. Crofton 1905: 158). This suggestion was revived by Richardson in the late twentieth century (Richardson 1986: 44). Since his work regular Roman land divisions have been identified around Chester at Saighton Camp (Wood 2016) and in the Manchester city region at Barton in Salford (Philpott 2023: 88–96). However, in connecting Nico Ditch to this centuriation Richardson overlooked the fact that a number of his projected Roman land divisions are cut by the ditch's course, in which case it would have to be of post-Roman date.


Figure 15: The line of Nico Ditch through Ryebanks Fields and Longford Park, Stretford, can be seen as shallow earthwork at several points (red arrows) on this LiDAR scan from 2021. Data Source: National Libraries Scotland, resolution 1m (N upwards)

The evidence for an administrative function is largely based on the coincidence of the Nico Ditch with a number of early parish, township, and estate boundaries, the ditch presumably being used as a convenient linear landmark (H.T. Crofton 1905: 139–142). At Platt Fields it marked the boundary between the townships of Rusholme to the north and Withington to the south from the end of the twelfth century, and still does. East of Platt Fields it marked the southern boundary of the Slade Hall estate, and later divided the townships of Levenshulme and Rusholme. Even where the parish of Rusholme straddled its course, Nico Ditch sub-divided it into discrete, recognisable, areas to the north and south. In AD 1320/2 Nico Ditch formed the boundary between the manors of Manchester and Reddish, and in later times divided the parish of Gorton to the north from the townships of Denton, Reddish, and Levenshulme to the south. Finally, in the period 1190–1212 the north-eastern section of Nico Ditch formed the eastern boundary of land in Audenshaw granted to the Monks of Kersal Cell (Nevell 1991: 121; Nevell 1992: 78). While its significance as an administrative boundary in the late medieval and early modern periods is undeniable, this later use by itself need not indicate its original function and date.

The mid-nineteenth-century folklore explanation of the earthwork's origin is that it was created in a single night by the Anglo-Saxon inhabitants of Manchester as protection against the Danish invaders of AD 869–870 (A. Crofton 1885: 190; H.T. Crofton 1905: 155–156; Harland and Wilkinson 1867). A possible context for its construction as a defensive feature has been suggested as the repair and manning of the burh at Manchester in AD 919, as reported in the *Anglo-Saxon Chronicle*, as part of the reconquest of the Danish areas of eastern and northern England by the kingdom of Wessex (Connor *et al.* 1991: 7). If

Nico Ditch was contemporary with this event, it would have enclosed the southern hinterland of the burh, although there are no other examples of such outworks around or close to a Saxon burh, cutting the route of three Roman roads (to Chester – Margary 71, Buxton – Margary 71b, and Melandra – Margary 711), routes that continued in use in the post-Roman period (Connor *et al.* 1991: 7; Kenyon 1991: 78). However, the absence of a confirmed bank along most of its length argues against its use as a defensive feature, although a use as some form of territorial marker is a possibility.

The location of the termini of Nico Ditch is crucial to any assessment of the archaeological context of the earthwork. If the alignment of Nico Ditch included only that section from Hough Moss in the west to Ashton Moss in the east, then, despite the fact that this route forms a continuous barrier from peat bog to peat bog, the monument could have been bypassed to the west of Hough Moss and Platt Brook by a landward route along the line of the present A56, marking the line of the Roman road between Manchester and Chester through Stretford (Margary 7a). A defensive interpretation or an interpretation as a territorial marker for Nico Ditch's origins would thus make more sense if the alignment was continued west of Hough Moss. In this regard the Hough Moss to Longford Park/Chester Road alignment can be seen as blocking this remaining gap. Together, these two stretches of ditch would have formed a series of moss-ditch-moss-ditch-moss barriers from the River Irwell in the west to the River Medlock in the east, as can be seen on the Ordnance Survey drift geology map covering the south of Manchester and by a comparison of both alignments with the distribution of historic mosslands in Greater Manchester (Hall *et al.* 1995).

Such a discontinuous boundary monument is a feature of many early medieval boundary markers, such as Grey Ditch in Derbyshire (Wild 1967), Grim's Ditch in Oxfordshire (Malim 2020), Offa's Dyke (Williams 2023), and Wat's Dyke (Williams 2021). Many early medieval boundary monuments consisted of a single bank and flanking ditch but they each vary considerably in their form and dimensions depending upon local topography. Evidence from contemporary documentary sources, excavation, and survey suggests that they were constructed in the early medieval period between the fifth and eighth centuries AD (Garland *et al.* 2021). The origin of Nico Ditch is likely as one of these landscape monuments, although in the absence of secure dates from intact early ditch deposits, this cannot be conclusively proved. If Nico Ditch can be interpreted as a territorial marker built during the early medieval period, then the context for this might be as a boundary marker between the kingdoms of Northumbria and Mercia. Perhaps it was constructed at the time when those kingdoms were at odds with each other under the kings Edwin and Oswald of Northumbria and Penda of Mercia in the mid-seventh century. Nico Ditch is the only early medieval linear monument so far identified in North West England. Furthermore, its relationship to the building of Offa's Dyke and Watt's Dyke has yet to be explored. Such analysis might form a useful next stage of research in the exploration of the wider context of this monument.

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# Offa's Dyke and Wat's Dyke: Scientific Dating at Chirk and Erddig

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*In 2018 and 2019, the Clwyd-Powys Archaeological Trust undertook excavations on Offa's Dyke at Chirk Castle, and on Wat's Dyke at Erddig. The background, circumstances and stratigraphic narrative of these projects were presented in Volume 1 of this journal, but the scientific dating programme was not complete at the time of publication and the results were further delayed due to the COVID-19 pandemic. This paper describes the radiocarbon and OSL dates obtained by 2021 and discusses implications for future research.*

*Keywords*: Dykes, Chirk, Erddig, excavation, radiocarbon dating, OSL dating

## Introduction

Offa's and Wat's Dykes are the pre-eminent linear earthworks within the Marches of England and Wales, and are amongst the longest and largest in Britain. They have been subject to detailed study and debate by successive generations of antiquarians and archaeologists, but beyond their geographic location, physical character and topographic positioning in the landscape, most discussion before the twenty-first century has used historical context to attribute a chronological framework for their construction and use. With the exception of Fox's excavation at Ffrith which deliberately targeted a Roman site to help determine whether Offa's Dyke pre- or post-dated the Roman settlement, archaeological investigations largely relied on serendipitous finds of artefacts or charcoal to provide dating evidence. The nature of the dykes, however, is sufficiently different to settlement that the finding of chance artefacts in association with these earthworks is remote. Additionally, the strategy of excavation has almost always comprised narrow trenches across the bank and ditch, rather than a broader excavation of the earthworks and their surroundings, an approach which reduces the chance of finding contextual and artefactual evidence.

Therefore, despite numerous surveys, excavations and speculations (over 80 excavations are together listed in Hill and Worthington's 2003 gazetteer for each dyke), dating evidence for the linear earthworks of Offa's Dyke and Wat's Dyke has been limited. Three excavations provided a broad chronological context using conventional landscape and artefactual evidence. Fox (1927, 1955) found Roman material in the bank of Offa's Dyke at Ffrith (Flintshire); Varley (1976) found a hearth and recovered an Anglo-Saxon loom weight within the infill and near the base of the ditch of Wat's Dyke at Mynydd Isa (Flintshire); and Everson (1991) showed that Offa's Dyke pre-dated surrounding ridge-and-furrow earthworks at Dudston

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(Shropshire). A very wide 'early medieval' (i.e. post-Roman but pre-Norman) date has been accepted for these dykes, but not refined.

More recently, however, scientific dating methods have begun to be applied in the context of development-driven fieldwork undertaken within the planning system, or state-funded 'rescue' archaeology. Until now this also comprised just three projects, namely:

1. Wat's Dyke at Mile Oak, Oswestry (Shropshire). Radiocarbon date from a hearth which 'predated the construction of the bank by only a very short space of time'; the calibrated date had a range of cal. AD 411–561 (1-σ) or cal. AD 268–630 (2-σ), suggesting a 'most likely' mid-fifth century date for the construction of the Dyke (Hannaford 1997: 5–6).

2. Wat's Dyke at Gobowen, Oswestry (Shropshire). Seven OSL dates for the buried soil and ditch infill sequence, of which the four associated with the primary and secondary fill episodes all overlapped within the period AD 792–852, and a contemporaneous one from the buried soil horizon; suggesting a possible construction date in the early-ninth century (Malim and Hayes 2008: 173–175).

3. Offa's Dyke at Plas Offa, Chirk (Wrexham). Four radiocarbon dates from turf that had been redeposited at the base of the bank during its construction; three within the range cal. AD 539–635 (1-σ) or cal. AD 430–652 (2-σ), and the fourth in the range cal. AD 897–990 (1-σ) or cal. AD 887–1019 (2-σ). Due to the circumstances of the project further work was not possible (Grant 2014; Belford 2017: 69).

These results are now joined by radiocarbon and OSL dates from four further excavations: on Offa's Dyke at Chirk Castle (Wrexham), on Wat's Dyke at Erddig (Wrexham), on Wat's Dyke at Greenfield Valley (Flintshire) and Rhosrobin (Wrexham). This article presents the results of the scientific dating programme associated with the first two projects and is effectively an extension to an earlier paper in this journal describing the circumstances, background and stratigraphic results of the excavations (Belford 2019). The projects at Greenfield Valley and Rhosrobin are part of ongoing research and will be reported on following further fieldwork and analysis.

## Background

The excavations at Chirk and Erddig were undertaken by the Clwyd-Powys Archaeological Trust (CPAT) in 2018 and 2019, with funding from Cadw, the National Trust and the Dee Valley and Clwydian Range Area of Outstanding National Beauty (AONB). Both projects were located in the landscaped grounds of National Trust properties in Wrexham County Borough, specifically in 'picturesque' parkland designed by William Eames. This landscaping work took place in the 1760s and 1770s at both

properties when Eames retained some earlier landscape features but largely levelled both dykes. Fieldwork took place at Erddig in 2018, and at Chirk in 2018 and 2019 (Grant and Jones 2019a; Grant and Jones 2019b).

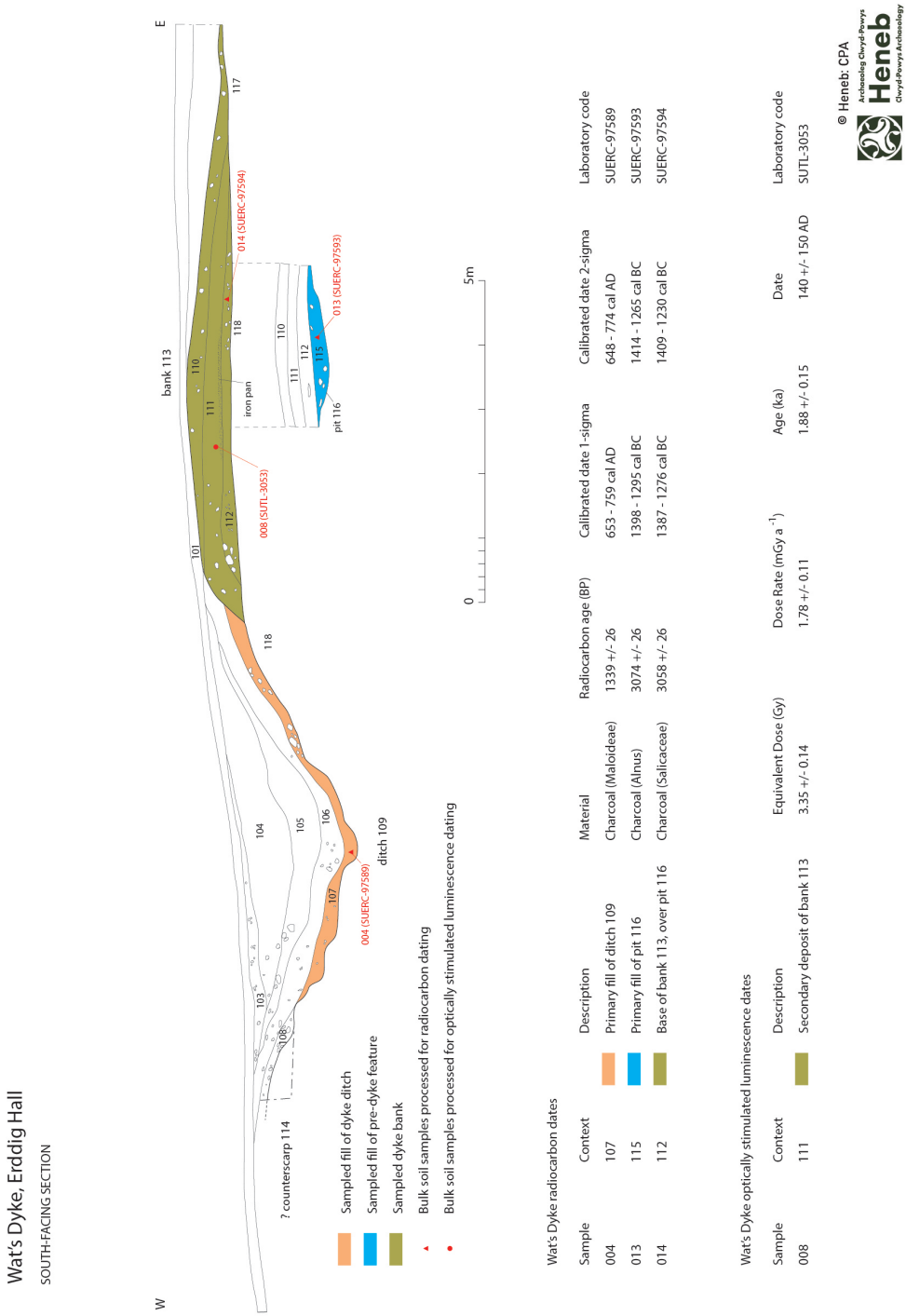
Some stratigraphic information is provided here to enable understanding of the context in which the samples were obtained, but this account is best read in conjunction with the earlier one which includes trench locations, plans and photographs (Belford 2019).

## Dating methods

A total of 32 samples (17 bulk soil samples which were processed by flotation for retrieving charcoal, and 15 specific sediment samples for OSL dating) were taken from both excavations. Not all of these were subjected to full analysis owing to several factors including the unsuitability of some samples for one or more of the dating methods chosen, and the effects that residual material might have had on the reliability of any dates obtained. Several samples from each site were analysed, with both radiocarbon and OSL dating undertaken at the Scottish Universities Environmental Research Centre (SUERC) in 2019–2021 (Tables 1 and 2). The OSL methodology is summarised in Appendix 1. Figures 1 and 4 show samples that were processed by SUERC and dates achieved, rather than showing all sample locations listed in Tables 1 and 2.

Radiocarbon dating was undertaken on single fragments of charcoal derived from identified species (Table 2) from bulk soil samples processed and assessed by Durham University's Archaeological Services. These were pre-treated by SUERC to remove impurities before analysis using accelerator mass spectrometer (AMS). Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory are described in Dunbar *et al.* (2013). The radiocarbon ages were calibrated to the calendar timescale using the Oxford Radiocarbon Unit calibration program OxCal 4, and the date ranges calibrated using the IntCal 20 atmospheric calibration curve (Bronk Ramsey 2009; Reimer *et al.* 2020).

Optical stimulated luminescence (OSL) dating of sediments depends on the accumulation of signals induced by naturally occurring ionising radiation in silicates, which can be stimulated to release measurable luminescence. Daylight effectively 'zeroes' sediment which has been sufficiently exposed to light at the time of deposition, and thus a new signal is developed subsequently. These signals are measured and quantified as equivalent radiation doses using calibrated laboratory sources. In complex sedimentary systems the extent of zeroing may be incomplete, for example in archaeological layers where bulk re-deposition of construction materials takes place with insufficient light exposure. Samples in these cases have residuals and may yield mixed age estimates from different portions (Cresswell *et al.* 2019). Two samples were dated by these means, one for Offa's Dyke at Chirk, and one for Wat's Dyke at Erddig Hall (Table 3). The methodology applied to this analysis is summarised in Appendix 1, but for both these




Wat's Dyke radiocarbon dates

| Sample | Context | Description | Material | Radiocarbon age (BP) | Calibrated date 1-sigma | Calibrated date 2-sigma | Laboratory code |
|---|---|---|---|---|---|---|---|
| 004 | 107 | Primary fill of ditch 109 | Charcoal (Maloideae) | 1339 +/- 26 | 653 - 759 cal AD | 648 - 774 cal AD | SUERC-97589 |
| 013 | 115 | Primary fill of pit 116 | Charcoal (Alnus) | 3074 +/- 26 | 1398 - 1295 cal BC | 1414 - 1265 cal BC | SUERC-97593 |
| 014 | 112 | Base of bank 113, over pit 116 | Charcoal (Salicaceae) | 3058 +/- 26 | 1387 - 1276 cal BC | 1409 - 1230 cal BC | SUERC-97594 |

Wat's Dyke optically stimulated luminescence dates

| Sample | Context | Description | Equivalent Dose (Gy) | Dose Rate (mGy a $^{-1}$) | Age (ka) | Date | Laboratory code |
|---|---|---|---|---|---|---|---|
| 008 | 111 | Secondary deposit of bank 113 | 3.35 +/- 0.14 | 1.78 +/- 0.11 | 1.88 +/- 0.15 | 140 +/- 150 AD | SUTL-3053 |

Figure 1: Section drawing of Wat's Dyke, Erddig, showing dyke profile, deposit sequence and sample locations, with resultant C14 and OSL dates tabulated (drawn by Richard Hankinson)

Table 1: list of samples taken for OSL dating

samples on-site gamma measurements were not taken when the sampling took place.

| SUERC code | Site sample number | Depth from ground surface | Description |
|---|---|---|---|
| **Chirk Castle (Offa's Dyke)** | | | |
| **SUTL3047** | #107 | 2.9–3.0m | Basal fill of ditch [023]. Context #021 |
| **SUTL3048** | #108 | 2.4m | Secondary fill of ditch [023]. Context #019 |
| **SUTL3049** | #111 | 1.08m | Secondary fill of pit [032] underlying bank [027]. Context #029 |
| **SUTL3050** | #117 | 0.6m | Basal or secondary construction deposit at central point of bank [027] overlaying a firm pale grey silty clay deposit (034) – probably natural subsoil. Context #024 |
| **SUTL3056** | | | Six profile samples from the ditch [023] |
| **SUTL3056/1** | #101 | 1.95–2.00m | Upper section of tertiary fill (019) of ditch [023] |
| **SUTL3056/2** | #102 | 2.1–2.2m | Mid-section of tertiary fill (019) of ditch [023] |
| **SUTL3056/3** | #103 | 2.3–2.4m | Lower section of tertiary fill (019) of ditch [023] |
| **SUTL3056/4** | #104 | 2.5–2.7m | Secondary ditch fill (020) of ditch [023]. |
| **SUTL3056/5** | #105 | 2.85–3.00m | Upper section of basal ditch fill (021) of ditch [023]. |
| **SUTL3056/6** | #106 | 3.1m | Lower section of basal ditch fill (021) of ditch [023]. |
| **Erddig (Wat's Dyke)** | | | |
| **SUTL3051** | #006 | 0.9m | Fill of pit [116] underlying Dyke bank [113]. Context #115 |
| **SUTL3052** | #007 | 0.7m | Basal deposit of bank [113]. Context #112 |
| **SUTL3053** | #008 | 0.5m | Secondary deposit of bank [113]. Context #111 |
| **SUTL3054** | #009 | 1.9m | Basal deposit of ditch [109], SW facing section. Context #107 |
| **SUTL3055** | #010 | 1.9m | Basal deposit of ditch [109], NW facing section. Context #107 |

Table 2: C14 samples

| Sample No | Context type | Identification | Lab No | Age BP | 1 sigma | 2 sigma and probability % |
|---|---|---|---|---|---|---|
| **ODCC 106 Context 21** | Ditch primary | Alder | SUERC 97595 | 1569 ± 26 | cal. AD 436–465<br>cal.AD 475–501<br>cal. AD 508–516<br>cal.AD 530–548 | cal. AD 428–562 95.4% |
| **ODCC 110 Context 31** | Pit primary | Birch | SUERC 97596 | 2239 ± 26 | 378–353 cal. BC<br>287–228 cal. BC<br>219–211 cal. BC | 388–346 cal. BC 25.1%<br>316–204 cal. BC 70.4% |
| **ODCC 119 Context 24** | Bank primary | Alder | SUERC 97597 | 2506 ± 26 | 768–748 cal. BC<br>688–666 cal. BC<br>642–567 cal. BC | 776–719 cal. BC 21.4%<br>709–662 cal. BC 19.2%<br>653–543 cal. BC 54.8% |
| **WDEH 004 Context 107** | Ditch primary | Maloideae | SUERC 97589 | 1339 ± 26 | cal. AD 653–680<br>cal. AD 748–759 | cal. AD 648–703 66.6%<br>cal. AD 741–774 28.9% |
| **WDEH 013 Context 115** | Pit | Alder | SUERC 97593 | 3074 ± 26 | 1398–1370 cal. BC<br>1356–1295 cal. BC | 1414–1265 cal. BC 95.4% |
| **WDEH 014 Context 112** | Bank primary | Salicaceae (willow) | SUERC 97594 | 3058 ± 26 | 1387–1339 cal. BC<br>1318–1276 cal.BC | 1409–1258 cal. BC 92.3%<br>1245–1230 cal. BC 3.2% |

Table 3: OSL sample dates

| Sample No. | Lab No. | Description | Equivalent Dose (Gy) | Dose Rate (mGy a-1) | Age (ka) | Date |
|---|---|---|---|---|---|---|
| 108 | 3048 | Chirk Castle: Secondary fill of ditch | 3.79 ± 0.09 | 3.18 ± 0.08 | 1.19 ± 0.05 | AD 830 ± 50 |
| 008 | 3053 | Erddig Hall: Secondary deposit of bank | 3.35 ± 0.14 | 1.78 ± 0.11 | 1.88 ± 0.15 | AD 140 ± 150 |

## Wat's Dyke at Erddig

An excavation trench was located at SJ 3258 4799, oriented east–west across the line of Wat's Dyke which at this point ran north–south. Despite Eames' levelling operations, the bank (113) was found to have survived to a height of 0.7m. It had been constructed directly over the natural subsoil, overlying an earlier shallow pit (116). The bank consisted of three layers, the earliest being a gritty silt (112); this was overlain by a sandy silt (111) which was in turn capped with a clay-cobble deposit (110). The ditch (109) had been cut through the undisturbed natural geology and survived to a depth of 1.5m. It had been filled by four deposits in sequence, all probably derived from natural weathering, and eventually sealed by a deposit (possibly levelling) (104) of eighteenth–nineteenth-century origin (Grant and Jones 2019a; Belford 2019).

A total of nine samples, taken from four contexts, were submitted for further analysis ((107), (111), (112) and (115)). Three of these samples were processed for radiocarbon dating and one for OSL dating. The resulting dates, together with the south-facing section of the trench annotated to show context numbers and sample locations, are presented in Figure 1 and a photograph of the excavated trench is shown in Figure 2.

In summary, the radiocarbon dating produced an unambiguous Bronze Age date for the fill of the pit beneath the bank of Wat's Dyke (115), but perhaps surprisingly, it produced a similar date for the lower level of the bank (112). This might be explicable by the samples having been contaminated by disturbance of this pit feature when the later earthwork was constructed. The date for the primary fill of the ditch (107), however, was indicative of the monument having been constructed before the end of the seventh century AD.

A total of five samples were taken for OSL processing, two from basal fills of the ditch, two from bank deposits, and one from the fill of the pit beneath the bank (Table 1). Analysis of three of these samples produced mixed results. The sample from pit fill

Figure 2: Photograph of excavated trench through Wat's Dyke, Erddig, looking north-east (Ian Grant, CPAT Photo 4526-0117)

(115) indicated high residual signals which meant that it was not possible to obtain an accurate date. Although laboratory profile measurements for both bank samples showed low apparent doses (and therefore the samples were probably consistent with archaeological ages), there were high residual signals in the sample from the lower layer (112).

Sample 008 from the secondary deposit of the bank (111) was analysed further. Profile measurements suggested that the quartz in this sample is bright and was zeroed prior to deposition. Equivalent doses were determined for 29 aliquots from this sample, with three aliquots rejected due to low sensitivity leading to very large uncertainties. The distribution of these equivalent doses is shown in Figure 3. This produced a broad dose distribution with a weighted mean age of AD 140 $\pm$ 150. This is clearly earlier than the expected date of construction of the bank. An exploratory evaluation of single-grain analysis confirmed that a small proportion of individual quartz grains (between 1 and 5%) gave measurable OSL signals, with doses that would correspond to mid-first millennium AD ages.

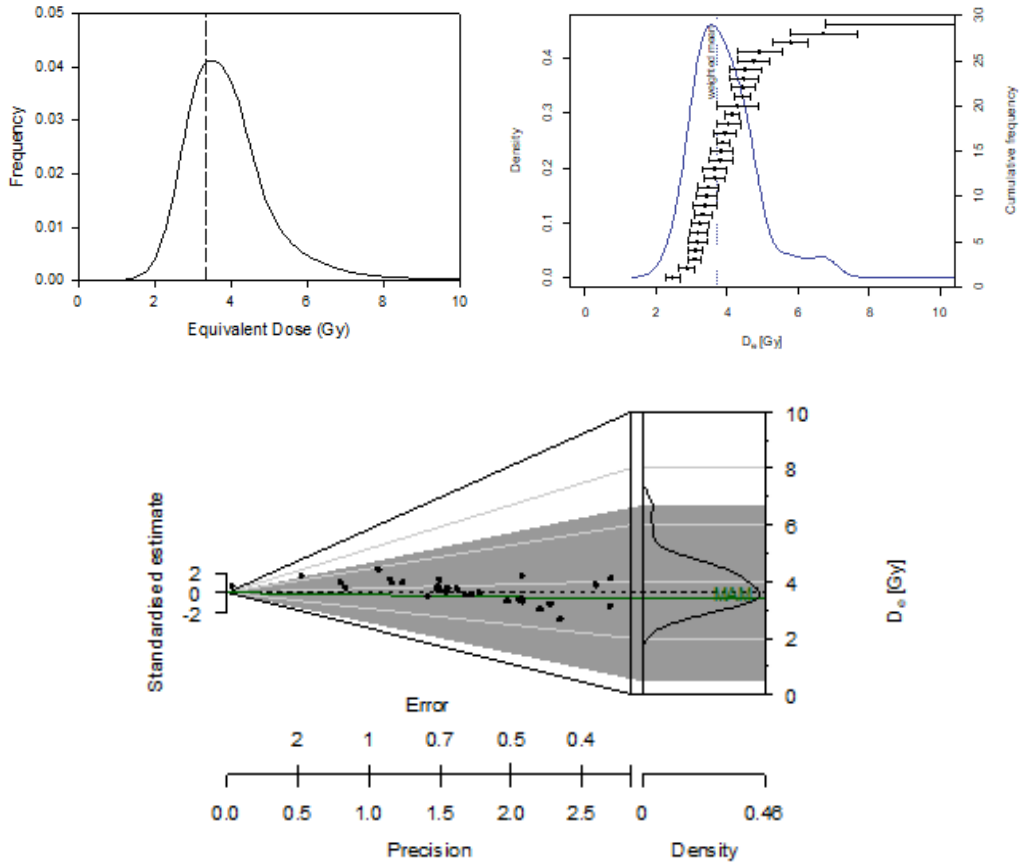



Figure 3: Dose distribution for SUTL3053 displayed as a probability density plot (top left), KDE (top right) and abanico plot (bottom). The dashed line indicates the weighted mean

## Offa's Dyke at Chirk Castle

An excavation trench was located at SJ 2694 3871, oriented north-west to south-east across the line of Offa's Dyke. The Dyke had been levelled at this point but was evident as an upstanding earthwork extending to the south-west. The original 2018 trench measured 29.0m by 1.5m in plan, later widened to 3.0m along the north side for most of its length. In 2019 this trench was partly re-excavated and extended to the east and south (Grant and Jones 2019b; Belford 2019).

As with Wat's Dyke at Erddig, the bank (27) had survived Eames' landscaping works and was extant to a height of around 0.40m. It had also been constructed partly over an earlier shallow pit (32) which itself had been cut through the subsoil; this was filled with a series of silty clay deposits. The ditch (23) was up to 2.80m deep including a vertically sided 'ankle-breaker' at the bottom. Most of the ditch fills appear to have been derived from the weathering of the bank, but this took place in distinct stages.


Offa's Dyke radiocarbon dates

| Sample | Context | Description | Material | Radiocarbon age (BP) | Calibrated date 1-sigma | Calibrated date 2-sigma | Laboratory code |
|---|---|---|---|---|---|---|---|
| 106 | 21 | Primary fill of ditch 23 | Charcoal (Alder) | 1569 +/- 26 | 436 - 548 cal AD | 428 - 562 cal AD | SUERC-97595 |
| 110 | 31 | Primary fill of pit 32 | Charcoal (Birch) | 2239 +/- 26 | 378 - 211 cal BC | 388 - 204 cal BC | SUERC-97596 |
| 119 | 24 | Base of bank 24 | Charcoal (Alder) | 2506 +/- 26 | 768 - 567 cal BC | 776 - 543 cal BC | SUERC-97597 |

Offa's Dyke optically stimulated luminescence dates

| Sample | Context | Description | Equivalent Dose (Gy) | Dose Rate (mGy a $^{-1}$) | Age (ka) | Date | Laboratory code |
|---|---|---|---|---|---|---|---|
| 108 | 19 | Secondary fill of ditch 23 | 3.79 +/- 0.09 | 3.18 +/- 0.08 | 1.19 +/- 0.05 | 830 +/- 50 AD | SUTL-3048 |

Figure 4: Section drawing of Offa's Dyke, Chirk, showing dyke profile, deposit sequence and sample locations, with resultant C14 and OSL dates tabulated (drawn by Richard Hankinson)

Figure 5: Photograph of the excavated ditch of Offa's Dyke, Chirk, north-facing section (Ian Grant, CPAT Photo 4565-0134)

The lower four fills (22, 21, 20 and 19) were sealed by a silty clay which appeared to have been *in situ* for some time before the post-medieval deposition of material from the levelling of the bank (Belford 2019; Grant and Jones 2019b).

A total of fifteen samples were taken from eight contexts. Three of these samples were subjected to radiocarbon dating and one to OSL dating. The resulting dates, together with the north-east-facing section of the trench annotated to show context numbers and sample locations, are presented in Figure 4, and Figure 5 is a photograph across the excavated ditch showing its profile and infill deposits. The C14 date from the primary fill of the ditch suggests construction during the middle of the first millennium AD, however, the sample from the basal bank deposit (24) with an Early Iron Age date could include material from the preceding prehistoric landscape, which had been incorporated as part of the bank construction. Pit (32) with its Middle Iron Age date, was cut into this earlier prehistoric landscape.

A total of two sediment samples were taken from basal ditch fills for OSL dating, and six samples for OSL profiling through the infill sequence. In addition, a single sample for OSL dating was taken from the base of the bank (SUTL3050), and another sample was taken from the fill of the pit beneath the bank (SUTL3049) (Table 1). The OSL, on both quartz and polymineral, yielded archaeological age apparent doses (<10Gy) for the majority of the samples from the ditch with larger doses for the pit and bank. The

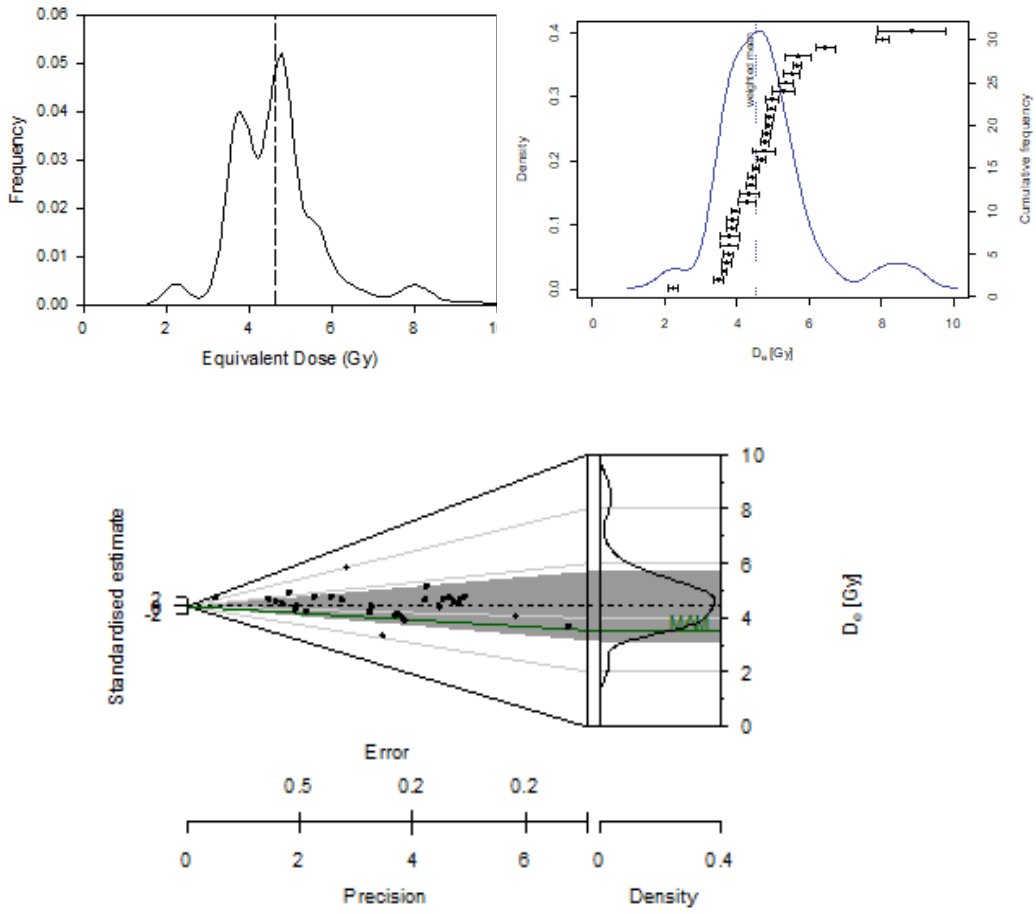



Figure 6: Dose distribution for SUTL3048 displayed as a probability density plot (top left), KDE (top right) and abanico plot (bottom). The dashed line indicates the weighted mean

ditch fill profiles showed that they had been sufficiently exposed to daylight to reset their dose, and the sequence seemed to be consistent with older dates for deeper sample locations. The OSL date for the primary fill (21) sample SUTL3047 (at 2.9–3.0m) has a significantly larger apparent dose and appears to be similar to the bank material. The sample selected for full analysis (SUTL 3048) came from the secondary fill (19) of the ditch and gave a date range of AD 830 ± 50 (Table 6). Profile measurements suggested that the quartz in this sample is bright and well zeroed prior to deposition. The distribution of these equivalent doses is shown in Figure 6.

## Discussion

It is clear from these results that there is considerable potential for the deployment of scientific dating techniques on linear earthwork monuments such as Offa's Dyke

and Wat's Dyke. Although there are inconsistencies between the results obtained here and elsewhere, and between the outcomes of different approaches and techniques, the results at Chirk and Erddig have further proved the efficacy of OSL dating in helping to understand linear earthworks, as demonstrated previously on Wat's Dyke by Malim and Hayes (2008). OSL dating needs to be deployed with care and understanding in how and where (stratigraphically) samples are taken and processed, as the degree to which residual effects are present can be better determined with careful profiling by specialists in the field. In the present context, the fact that charcoal was found at both excavations at Erddig and Chirk meant that the parallel use of radiocarbon dating has proved extremely valuable.

Comparison between the two techniques helps to correlate their validity, and Bayesian modelling could further refine the dates of specific events represented by the samples. At present these initial results have not been subject to such mathematical modelling, but this might be undertaken when funding becomes available and especially when further data is available to enhance the model, as the existing single OSL dates for each dyke in combination with the C14 determinations, would not provide sufficient results for effective statistical modelling.

The C14 and OSL results for Wat's Dyke at Erddig demonstrate the existence of prehistoric and Romano-British activity which include a Bronze Age pit sealed by the bank, and deposits within its make-up that had been disturbed during Iron Age or Roman times (OSL date of AD 140 ± 150). The primary infill episode for the ditch produced a C14 date in the second half of the seventh century AD, whereas the primary bank deposit appears to have included material from the Bronze Age pit which it had sealed, as it produced a very similar date to the pit. There is an alternative interpretation, however, which is that if the bank's basal deposit is correctly dated then its original construction in this location was during the Bronze Age which might explain the Iron Age/Roman date for the secondary deposit as an erosion event of bank material during this period. By analogy other linear earthworks have been dated to the Bronze Age, such as the Devils Mouth Dyke on the Long Mynd (Hankinson and Caseldine 2006), or West Wansdyke at Blackrock Lane, Publow (Erskine 2007). The primary fill for the ditch could then represent an early medieval remodelling of an earlier linear earthwork (also suggested for Wat's Dyke at Oswestry based on its proximity to standing stones and other prehistoric remains beneath, within, or in close vicinity, to the earthwork (Malim 2020), as the primary infill episode can be considered to act as a reasonably accurate *terminus ante quem* proxy indicator for the date of the ditch cut.

At Offa's Dyke a prehistoric pit was also found sealed by the bank, but the C14 date from its primary fill indicates an Iron Age origin, rather than Bronze Age. The C14 sample from the base of the bank, however, produced an earlier date in the Iron Age, and it is therefore assumed that this represents a land surface buried by the later earthwork. The C14 and OSL dates from the primary fills of the ankle-breaker ditch are from the

fifth–sixth centuries and the early ninth century AD, with their respective stratigraphic sequence aligning with sub-Roman and early medieval dates. The primary fills, however, were recorded in the field as discrete deposits grouped together by a clay sealing layer, before the bank had been deliberately pushed into the ditch. The c. 300–400 years difference between these dates therefore needs some interpretation, unless they reflect a long gradual process of infill, and that the ditch was excavated in Roman or immediately post-Roman times (as suggested for Wat's Dyke by Hannaford 1998, and similar to three or the four dates obtained for Plas Offa (Belford 2019)). Alternatively, the charcoal at the base of the sequence could have derived from material that was on the surface and fell in, soon after the ditch was excavated. It is worth noting that the OSL date corresponds closely with results obtained for Wat's Dyke at Gobowen (Malim and Hayes 2008).

**Conclusion**

The results do not conclusively confirm that either Offa's Dyke or Wat's Dyke were constructed around the middle of the first millennium AD. What they do confirm is that these linear earthworks were constructed into a landscape which already had evidence for prehistoric and Roman activity. Single C14 dates from the primary fills of each of the monument ditches suggest that both Offa's and Wat's Dykes are post-Roman, and a secondary fill for Offa's Dyke is OSL dated to the early ninth century, but unfortunately these conclusions are not supported by the results of dating from the banks. It is always possible, of course, that these linear earthworks have a more complex history than generally believed, and that the existing monument may be the latest in a sequence of such monuments.

The methodological approach to find the most effective sampling strategy and allied techniques for processing those samples for OSL, continue to be developed through detailed dialogue between archaeologists and scientists. New investigations on the dykes since 2021 have provided opportunities for close collaboration and enhancement of our approach. These have followed the normal strategy of relatively narrow excavation slots across the bank and ditch, as the principal aim has been to retrieve samples for scientific dating, and to assess whether the bank construction and infill sequences largely correspond between geographically different parts of these monuments. Open area excavations as undertaken by Jon Cane at Pentre Wern when the A5 was constructed near Gobowen in 1984–1985 (Cane 1996), and in 2006 further north at Gobowen (Malim and Hayes 2008) is another approach which would justify further adoption, as this allows other elements of the monument and its context to be better appreciated. For example, the extent of turf stripping, kerbstones, evidence for a marking out bank, palisade features, pits and hearths, ploughing or other agricultural activity, so that our understanding of how the linear earthwork was constructed, its impact on the pre-existing landscape and how it has survived later changes within that landscape, can be enhanced.

Further work is required to refine understanding of the chronology of the construction of these monuments, and to produce more sophisticated approaches to the use of scientific dating techniques in similar contexts. The authors would recommend that in future any work on these sorts of monuments – whether undertaken as research projects, or as part of development-driven or 'rescue' archaeology work, or in association with conservation and land management work – should include provision for adequate scientific dating as a matter of course. This should comprise multiple samples with good stratigraphic control, with as many dating techniques as possible applied so that OSL and C14, artefacts and stratigraphy can all be used to correlate the results, and Bayesian modelling adopted to better refine the event dates that the archaeological evidence provides.

## Appendix 1: OSL dating methodology

A.J. Cresswell and D.C.W. Sanderson (SUERC)

### Laboratory Profile Measurements

All sample handling and preparation was conducted under safelight conditions in the SUERC luminescence dating laboratories. Each sample was wet sieved to extract the 90–250 μm grain size fraction. This was subjected to an acid treatment of 1M HCl for 10 minutes, 15% HF for 10 mins and 1M HCl for 10 mins, with the sample washed thoroughly with deionised water between each treatment. Approximately half of the material was retained, washed in acetone to displace water and dried as a polymineral sample. The remaining material was subjected to a further acid treatment of 40% HF for 40 mins and 1M HCl for 10 mins, with the sample washed thoroughly with deionised water between each treatment. This fraction was washed in acetone to displace water and dried as a nominal quartz sample.

Clean 10mm diameter stainless steel discs were prepared with one side sprayed with silicone grease as an adhesive layer, with sample material dispensed as a monolayer onto the central ~5mm of the disc. For each sample, a pair of polymineral and a pair of quartz discs were dispensed.

Luminescence sensitivities (Photon Counts per Gy), sensitivity changes and stored doses (Gy) were evaluated from the paired aliquots of the polymineral and HF-etched quartz fractions, using Risø DA-15/DA-20 automatic readers equipped with a 90Sr/90Y β-source for irradiation, using blue LEDs emitting around 470nm (OSL) and infrared (laser) diodes emitting around 830nm (IRSL) for optical stimulation, and a U340 detection filter pack to detect in the region 270–380nm. For quartz, each measurement was preceded by a pre-heat at 200°C for 10s, with a 30s OSL measurement at 125°C. Measurements were conducted for the natural signal, and following nominal 5 Gy and 50 Gy irradiations, with all measurements accompanied by a nominal 1 Gy test dose. For the polymineral samples, each measurement was preceded by a pre-heat at

200°C for 10s, with a 30s IRSL measurement at 50°C and a TL measurement to 500°C. Measurements were conducted for the natural signal, and following nominal 5 Gy and 50 Gy irradiations. No test dose measurements were included.

**Quartz SAR measurements**

Approximately 50 g of material was removed for each tube and processed to obtain sand-sized quartz grains for luminescence measurements. Each sample was wet sieved to obtain the 90–150 and 150–250 μm fractions. The 150–250 μm fractions were treated with 1 M hydrochloric acid (HCl) for 10 minutes, 15% hydrofluoric acid (HF) for 15 minutes, and 1 M HCl for a further 10 minutes. The HF-etched sub-samples were then centrifuged in sodium polytungstate solutions of ~2.58, 2.62, and 2.74 g cm-3, to obtain concentrates of potassium-rich feldspars (<2.58 g cm-3), sodium feldspars (2.58–2.62 g cm-3) and quartz plus plagioclase (2.62–2.74 g cm-3). The selected quartz fraction was then subjected to further HF and HCl washes (40% HF for 40 mins, followed by 1M HCl for 10 mins).

All materials were dried at 50°C and transferred to Eppendorf tubes. The 40% HF-etched, 2.62-2.74 g cm-3 'quartz' 150-250 μm fractions were dispensed to 10 mm stainless steel discs for measurement. Initially, 16 aliquots were dispensed for each sample with further aliquots dispensed as required to improve the determination of dose distributions. The purity of which was checked using a Hitachi S-3400N scanning electron microscope (SEM), coupled with an Oxfords Instruments INCA EDX system, to determine approximate elemental concentrations for each sample.

Equivalent dose determinations were made on sets of 16 aliquots per sample, using a single aliquot regeneration (SAR) sequence (cf. Murray and Wintle 2000). Using this procedure, the OSL signal levels from each individual disc were calibrated to provide an absorbed dose estimate (the equivalent dose) using an interpolated dose-response curve, constructed by regenerating OSL signals by beta irradiation in the laboratory. Sensitivity changes which may occur as a result of readout, irradiation and preheating (to remove unstable radiation-induced signals) were monitored using small test doses after each regenerative dose. Each measurement was standardised to the test dose response determined immediately after its readout, to compensate for changes in sensitivity during the laboratory measurement sequence. The regenerative doses were chosen to encompass the likely value of the equivalent (natural) dose. A repeat dose point was included to check the ability of the SAR procedure to correct for laboratory-induced sensitivity changes (the 'recycling test'), a zero dose point is included late in the sequence to check for thermally induced charge transfer during the irradiation and preheating cycle (the 'zero cycle'), and an IR response check included to assess the magnitude of non-quartz signals. Regenerative dose response curves were constructed using doses of 1, 3, 6, 9, 12 and 20 Gy, with test doses of 1.0 Gy. The 16 aliquot sets were sub-divided into four subsets of four aliquots, such that four preheating regimes were explored (200°C, 220°C, 240°C and 260°C). All measurements were conducted using a

Risø DA-15 automatic reader equipped with a 90Sr/90Y β-source for irradiation, blue LEDs emitting around 470 nm and infrared (laser) diodes emitting around 830 nm for optical stimulation, and a U340 detection filter pack to detect in the region 270-380 nm, while cutting out stimulating light (Bøtter-Jensen et al., 2000).

The data were processed to determine quality parameters for the SAR procedure, with any aliquot which failed these tests rejected from further analysis, as follows:

- the sensitivity (c Gy-1) was determined from the response to the first test dose;
- the sensitivity change is determined from the difference between the last and first test dose responses divided by the number of measurement cycles, as a percentage of the first test dose;
- the recycling ratio is the ratio of the normalised OSL measurement for the repeat of the first regenerative dose divided by the normalised OSL measurement for the first regenerative dose. This should be unity;
- the zero cycle response is the normalised OSL measurement following the zero dose cycle. This should be zero;
- the IR response is the ratio of the response to IR stimulation following a 1Gy dose to the response to blue stimulation following a 1Gy dose. This should be zero;
- the dose recovery test uses the response to the first test dose normalised using the response to the first regenerative dose to confirm that the curve fitting returns the test dose value. This should be 1Gy.

For each regenerative dose, the OSL counts normalised using the corresponding test dose are plotted against dose and an exponential rise to maximum curve fitted through the data. These are plotted for the average of each of the four pre-heating groups and for all samples, and any differences between the pre-heating groups noted. Any aliquots showing significantly different dose responses compared to the other aliquots are removed from the analysis. The equivalent dose for each aliquot is determined by interpolation of the normalised natural OSL counts to the fitted curve.

**Dose rate measurements**

Field gamma spectrometry (FGS) measurements were not made at the time of sampling, therefore dose rates have been determined exclusively from the sampled material. Locally averaged gamma dose rates have been determined from all the relevant samples, and used in place of FGS measurements. For the ditch of Offa's Dyke these are the two samples from the ditch (SUTL3047 and 3048) and the sample from the bank (SUTL3050), on the assumption that the bank material is representative of the soil layers the ditch is excavated into. For the bank of Wat's Dyke these are the two samples from the bank (SUTL3052 and 3053).

Laboratory measurements of dose rate were conducted using dried bulk material from the surrounding of the sample tubes for High Resolution Gamma Spectrometry (HRGS) and from materials from the tubes for Thick Source Beta Counting (TSBC). Dating materials were weighed, saturated with water and re-weighed. Following oven drying at 50 °C to constant weight, the actual and saturated water contents were determined as fractions of dry weight. These data were used, together with information on field conditions to determine water contents and an associated water content uncertainty for use in dose rate determination.

HRGS measurements were performed using a 50% relative efficiency 'n' type hyper-pure Ge detector (EG&G Ortec Gamma-X) operated in a low background lead shield with a copper liner. Gamma ray spectra were recorded over the 30 keV to 3 MeV range from each sample, interleaved with background measurements and measurements from SUERC Shap Granite standard in the same geometries. Sample counts were for 80 ks. The spectra were analysed to determine count rates from the major line emissions from 40K (1461 keV), and from selected nuclides in the U decay series (234Th, 226Ra + 235U, 214Pb, 214Bi and 210Pb) and the Th decay series (228Ac, 212Pb, 208Tl) and their statistical counting uncertainties. Net rates and activity concentrations for each of these nuclides were determined relative to Shap Granite by weighted combination of the individual lines for each nuclide. The internal consistency of nuclide specific estimates for U and Th decay series nuclides was assessed relative to measurement precision, and weighted combinations used to estimate mean activity concentrations (Bq kg-1) and elemental concentrations (% K and ppm U, Th) for the parent activity. These data were used to determine infinite matrix dose rates for alpha, beta and gamma radiation.

Beta dose rates were also measured directly using the SUERC TSBC system (Sanderson, 1988). Count rates were determined with six replicate 600 s counts on each sample, bracketed by background measurements and sensitivity determinations using the Shap Granite secondary reference material. Infinite-matrix dose rates were calculated by scaling the net count rates of samples and reference material to the working beta dose rate of the Shap Granite (6.25 ± 0.03 mGy a-1). The estimated errors combine counting statistics, observed variance and the uncertainty on the reference value.

The dose rate measurements were used in combination with the assumed burial water contents, to determine the overall effective dose rates for age estimation. Cosmic dose rates were evaluated by combining latitude and altitude specific dose rates (0.185 ± 0.01 mGy a-1) for the site with corrections for estimated depth of overburden using the method of Prescott and Hutton (1994).

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# Today's Offa's Dyke: Heritage Interpretation for Britain's Longest Linear Monument

Howard Williams

*How is Offa's Dyke interpreted for visitors and locals in the contemporary landscape? The article considers the present-day heritage interpretation of Britain's longest linear monument: the early medieval Mercian frontier work of Offa's Dyke. I survey and evaluate panels, plaques and signs that follow the course of the surviving early medieval linear earthwork from Sedbury in Gloucestershire, north to Treuddyn in Flintshire, and along stretches away from the surviving earthwork and north to Prestatyn, Denbighshire, along the line of the Offa's Dyke Path National Trail. Critiquing for the overarching narratives and envisionings of Offa's Dyke the first time, I identify how anachronistic ethnonationalist narratives pervade its interpretation: pertaining to the origins of both England and the English, and Wales and the Welsh. As such, the article provides a baseline for further research into the contemporary archaeology and heritage of Offa's Dyke and affords insights of application to other ancient linear monuments in today's world. I conclude with reflections and recommendations for future heritage interpretation of the monument in relation to the national trail, the border and borderlands identities.*

*Keywords*: borderlands; heritage interpretation; linear earthworks; Offa's Dyke

## Introduction

Offa's Dyke is both famous and infamous; it remains enigmatic whilst powerful in the British landscape. It has often been seen as the singular agency, and reflecting the political agenda, of the eighth-century Mercian ruler Offa, variously considered as articulating his power, authority, territorial, military, economic and symbolic control of his kingdom's frontier with the polities of western Britain (Fox 1955; Noble 1983; Hill and Worthington 2003; Ray and Bapty 2016; Williams 2023a; Williams 2025a). Less considered until now is how Offa's Dyke operates as a monument in the contemporary Anglo-Welsh borderlands of the twenty-first century? This article evaluates for the first time the heritage interpretation of Britain's longest ancient linear monument, focusing on the eclectic 'authorised heritage discourse' (Smith and Waterton 2012) which seeks to mark and explain to the public, and to commemorate, the surviving presence and legacy of the early medieval monument. Despite the binding thread of the Offa's Dyke Path and Knighton's Offa's Dyke Centre, in contrast to the 'Frontiers of the Roman World' UNESCO World Heritage Site which for Britian incorporates both the Hadrianic and Antonine frontiers (see Witcher 2010a and b; Collins 2020, 2022; Jones 2020; Woodward *et al.* 2022), Offa's Dyke has no coherent and structured heritage interpretation along the course of its surviving traces and at associated heritage sites, museums and landscapes. Furthermore, it is starkly separated from the nearby Wat's Dyke and other borderland monuments. This evaluation is thus a timely intervention

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soon after the fiftieth anniversary celebrations of the Offa's Dyke Path National Trail which saw the opening of a brand-new heritage interpretation of the monument at the Offa's Dyke Centre in Knighton (Williams 2021). Moreover, I complement this discussion via a companion article where I expand the consideration beyond heritage interpretation to evaluate a wider range of other monuments, installations and material cultures associated with the earthwork, national trail and border (Williams 2025b).

## Background

On a global scale, there have been contemporary archaeology and heritage debates regarding linear monuments of our time, from the Iron Curtain to the Peace Walls of Northern Ireland, which have sought to explore their varying roles in constituting heritage and in negotiating identities (see McWilliams 2013; McAtackney 2020; McAtackney and McGuire 2020). The legacies and powers of ancient walls in politics, economy and society have also been considered from a host of perspectives, from the Great Wall of China to Hadrian's Wall and the Antonine Frontier, and how they are used in discourses about migration, borders and walls in the contemporary period (e.g. Billingham 2020; McAtackney and McGuire 2020). Yet, to date, there has been limited dedicated consideration of Offa's Dyke as a monument of our time despite the flurry of research on the monument's early medieval significance (e.g. Ray and Bapty 2016; Belford 2017; Ray *et al.* 2021; Ray 2000, 2022; Delaney 2021; Humphreys 2021).

Some key contributions to considering the contemporary nature of Offa's Dyke have, however, taken place. The conservation and management of the monument as a part-scheduled and thus protected heritage asset is one key area of recent reinvigorated attention (Haygarth Berry Associates 2018; Upson and Davies 2024). The book-length consideration of the monument by Ray and Bapty (2016: 373–376) addressed its ambivalent contemporary perception and significance, while Belford (2017) recognised the monument's role in a deep-time permeable borderland down to the present day. Ray (2020) built on these considerations to tackle how the monument continues to play an active part in contemporary cultural and political discourse (see also Williams 2020a). Also, Fitzpatrick-Matthews (2020) tackled Offa's Dyke as a focus of fantastical and pseudo-archaeological misrepresentations including false and spurious claims the monument was either a prehistoric canal or Roman frontier. In terms of tangible landscape iterations, Williams (2020b) explored the materiality and absent-presence of the monument in the contemporary landscape via its citation in place-names for settlements, roads and residences. Together, this work shows the complex and varying roles of Offa's Dyke in the twenty-first-century landscape of the Anglo-Welsh borderlands, as well as in popular imagination as a past divide that continues to influence national, regional and local identities.

The immediate precedent for this review took this considering of linear earthworks as heritage in fresh directions. John Swogger's work is key here in encouraging new ways

of envisioning and interpreting the past for communities and, specifically, for rethinking linear earthworks in relation to contemporary borderlands (Swogger 2019a and b). In a parallel survey evaluating Wat's Dyke's heritage interpretation, including both tangible and digital dimensions (Williams 2020c) and the potential for future heritage interpretation being recognised and explored, focused on fresh art/archaeological collaborations (see also Swogger and Williams 2021; Williams and Swogger 2021; Williams 2023b). However, while providing invaluable context and insights into the preservation, uses and significance of Offa's Dyke today in its modern borderland context, to date, the heritage interpretation and public archaeology of Offa's Dyke has escaped focused evaluation. Certainly, a consideration of both 'authorised' and planned installations to direct and mark Offa's Dyke, and commemorate its significance, as well as those that informally and by happenstance have become landmarks and features connected to it, has hitherto not taken place.

## Method

The survey presented here aims to redress the limited critical investigation of Offa's Dyke in the contemporary world by drawing on field observations made during walking Offa's Dyke and the Offa's Dyke Path at different times between 2016 and 2024 (Figure 1). By making digital photographic records of key signs and installations on the line of the Dyke and the Path, an extensive visual dossier has been created to inform this evaluation. In this fashion, I explore themes regarding how the signs, installations and monuments that constitute the assemblage of Offa's Dyke which have emerged as a composite of past and recent components, some with explicit commemorative and mnemonic dimensions, others which serve to bolster the monument's significance to locals and visitors alike. While my previous evaluation of Wat's Dyke also covered key publications and digital media (Williams 2020a), as did my discussion of the 'Walking with Offa' project (Williams 2023b), to maintain a focus on the embodied experience of engaging with lines in the landscape, this review will focus exclusively on the real-world landscape itself rather than publications and digital media. Certainly, the 'digital Offa's Dyke' is here considered an important subject of potential future enquiry, including the artistic and literary media involving it and assisting in its heritage interpretation (music, poetry, books, comics, drawings and paintings, for example; but see Swogger 2019a and b; Swogger and Williams 2021; Williams and Swogger 2021; Hall *et al.* 2023). Furthermore, although bilingual signs and heritage interpretations are noted, the Cymraeg dimensions of Clawdd Offa are only touched upon briefly but deserve further and future consideration and evaluation.

Taking on board these limitations in the parameters of the survey, I proceed by exploring 'Today's Offa's Dyke' by evaluating seventeen heritage locales in geographical sequence from south to north, considering the main heritage boards and plaques a visitor encounters as one travels northwards (Figure 1). This allows readers to navigate easily and shows the eclectic nature of the heritage interpretation as they appear in the present-day landscape. For each heritage interpretation panel I consider the text, focusing on the themes and story told, as well as its accuracy in relation to the latest

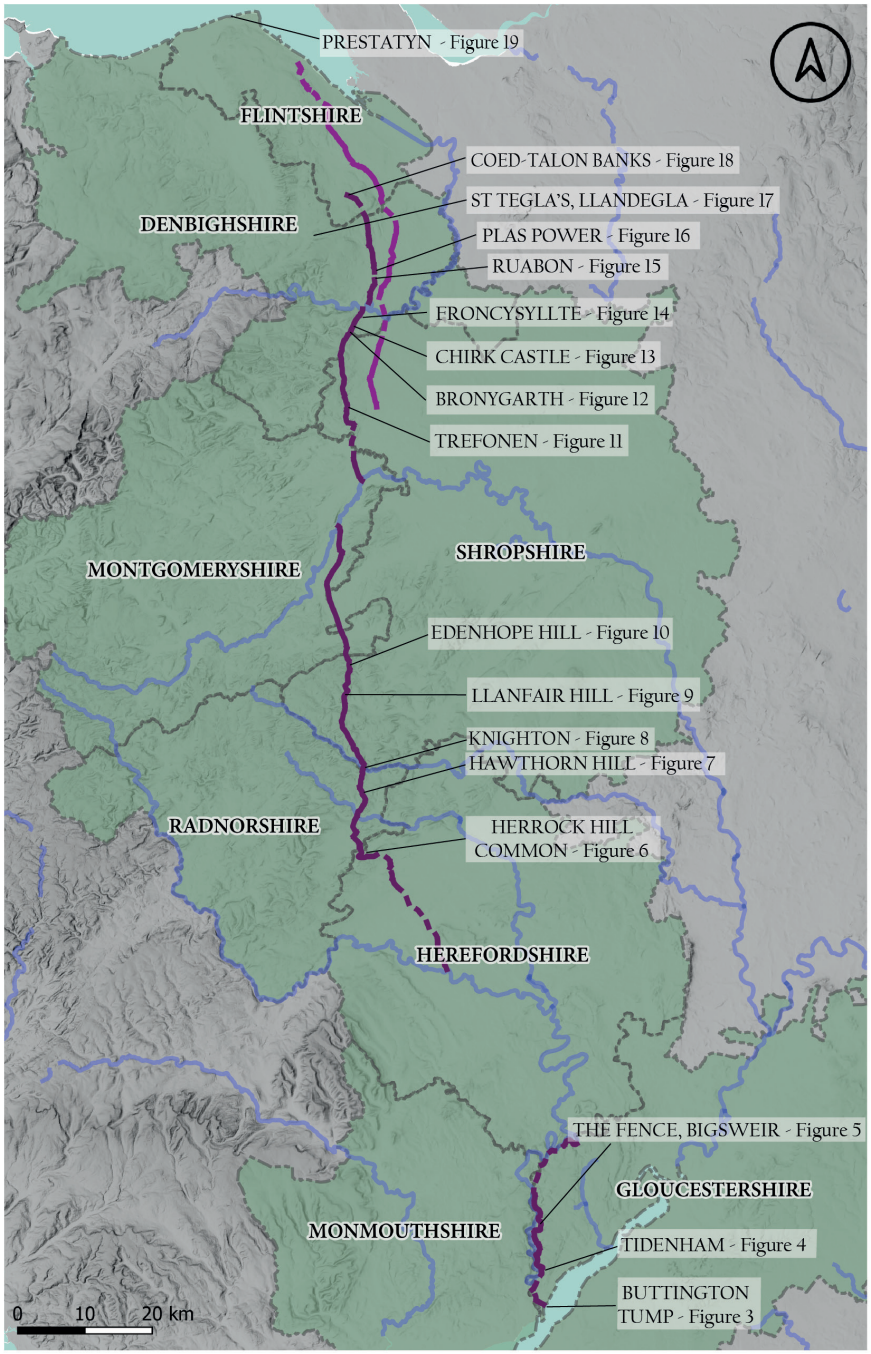



Figure 1: Map of the heritage interpretation panels/clusters of heritage interpretation addressed in this study and visited at various times between 2017 and 2024. The extant line of Offa's Dyke is marked in dark purple. The line of Wat's Dyke to the east and north of Offa's Dyke is marked in light purple. Pre-1974 historic county names and borders are shown (Map design by Lena Delaney)

research. Regarding images, I again focus on the themes and narrative but I also point out misleading or inaccurate elements.

This survey is more than a 'snapshot' since it has enabled the identification of aspects of the ever-changing nature of the assemblage that is Offa's Dyke in today's world either side of the global COVID-19 pandemic of 2020/2021. Equally though, there is no claim to an exhaustive identification of every feature that has been associated with Offa's Dyke in modern times. As such, I present a short-term early twenty-first-century window onto an evolving picture which affords the basis for future recommendations. Moreover, my blogging via *Archaeodeath* and the Offa's Dyke Collaboratory website has documented and critiqued these heritage interpretations in a more piecemeal fashion, as well as feeding forward into new heritage interpretations, such as those augmenting the signs and waymarkers at Chirk Castle. As such, it provides further detail and context to this article and readers are referred to the Offa's Dyke Collaboratory blog for further details and examples.

Further heritage dimensions are considered in a subsequent article when they pertain to other archaeological, historical and nature-related themes, as well as to the Offa's Dyke Path National Trail. I conclude by proposing future avenues for public engagement which connect these tangible heritage dimensions of Offa's Dyke that challenge anachronistic and ethnonationalist readings of the borderlands past and present.

## Offa's Dyke as an assemblage of three linears

Today's Offa's Dyke is constructed from sections of surviving early medieval linear earthwork braided with two other prominent linear features of the modern era. First, 'Offa's Dyke' refers to sections and traces of an early medieval linear earthwork resurrected for our time through its identification by antiquarian and archaeological research, in most places comprising (to varying levels of survival) of a bank and ditch (together with sundry hints of additional possible-related features) and afforded varying degrees of heritage protection under law (Fox 1955; Noble 1983; Hill and Worthington 2003; Ray and Bapty 2016). It runs through what are now (from south to north) Gloucestershire, Herefordshire, Powys, Shropshire, Wrexham and Flintshire, although archaeologists remain unclear whether it was originally continuous and whether it did originally run from 'sea-to-sea' (for recent debates on this point, see Ray 2020; Ray *et al.* 2021).

Second, Offa's Dyke exists via the Offa's Dyke Path National Trail (see Figures 7 and 9), which follows the linear monument but only along significant stretches in the south, along the Wye Valley from Sedbury Cliffs to Welsh Bicknor (Ray and Bapty 2016: 50: Ray *et al.* 2021: 38–50). It rejoins the monument at Rushock Hill in Powys and follows it for large parts of its route, northwards for c. 81km as far east as Froncysyllte on the south side of the Dee Valley on the Llangollen Canal towpath (noting the gap where the line of Offa's Dyke disappears at the River Severn). Here, the Offa's Dyke Path departs significantly from the remaining course of Offa's Dyke, instead heading via Trevor Rocks, Llandegla and the Clwydian Range to Prestatyn on

the coast of the Irish Sea. Therefore, where the dyke is no longer visible (or perhaps may have never existed in a form similar to its survival elsewhere), or in order to follow public rights of way and dramatic beautiful landscapes on its course, the Path stands as its proxy and extension in contemporary experience and imagination, providing a physical and conceptual thread from 'sea-to-sea' for an earthwork that has yet to be empirically demonstrated to have originally done so. In other words, in the contemporary popular imagination of locals and visitors alike, the Dyke and Path merge and coincide regardless of their precise spatial and material association. Thus, they are both conceptually 'Offa's Dyke' in the contemporary landscape even though only a fraction of the Offa's Dyke Path follows the surviving traces of the monument (less than 68km of 197km as the crow flies from Sedbury Cliffs to Prestatyn, no more than c. 29% of the total distance. To put it another way, half of the surviving monument is followed by the line of the Path (Upson and Davies 2024).

Third, Offa's Dyke exists in the imagination and in language as a metaphor for the modern political border between Wales and England which was formalised in the Laws in Wales Act of 1535 (see also Figures 1, 7 and 9). Again, the border coincides with the Dyke and Path in only restricted areas, notably in the Wye Valley, the Vale of Montgomery and the area to the south of Bronygarth (Williams 2020a: 11–15). Ray (2020: 128) estimates one-tenth of the surviving monument coincides with the modern border. There are road signs marking the entry into Wales and England, some associated with the Dyke and Path as in Knighton and Llanymynech (in each case where Shropshire and Powys meet), but otherwise this is an invisible border tied to Offa's Dyke in rhetorical and discursive fashions in popular culture. Wales and England's border is often referred to as Offa's Dyke in a vague and conceptual, rather than tangible and specific, sense.

Through these interconnections, Offa's Dyke operates as a borderline and a route, and as a result it operates as a zone or space in its own right: a shorthand reference to the borderland region. Thus, Offa's Dyke embodies the present-day political, cultural and historical division of Wales and England but it simultaneously operates a space apart: neither England nor Wales. While all three lines, or perhaps more appropriately 'zones' – that is, the modern border, Path and Dyke – coalesce and become confused in the popular imagination and use, only in a very few places do we find all three linears run in close proximity or contiguously, notably in the Wye Valley in Gloucestershire, and for three shorter stretches in the Vale of Montgomery: for c. 6.4km from Little Brompton to the Camlad; c. 1.2km from the River Vyrnway through Llanymynech; and c. 4km from Orseddwen north to Bronygarth (Williams 2020a: 12). Moreover, the border also crosses the course of Offa's Dyke on multiple occasions at Lower Harpton (Powys), Knighton (Powys), on the Kerry Ridgeway (Shropshire) and Brompton Hall (Shropshire) (Figure 1).

'Offa's Dyke' today is manifest on the ground and in the imagination, mediated by a triad of entangled lines in the landscape. But my point here is that the 'glue' that binds together these three 'strands' is not a coherent strategy of authorised heritage interpretation mediated by a single authority, although the Offa's Dyke Association

provides an enduring contribution. Instead, a host of contemporary material cultures and monuments beyond authorised heritage interpretation articulate the monument's identity in the landscape and augment the bank and ditch, path and (to a far lesser extent) the borderline. This multi-stranded line has hotspots of presence, long stretches of faintness and absence, and (as stated above) is braided. Moreover, its edges are fuzzy, since material representations and traces of this assemblage can be found miles away from the line of the Dyke and Path and rarely on the modern border line itself. I propose that this assemblage operates to configure and mediate with a host of audiences and residents in the contemporary landscapes, through not only the early medieval linear earthwork itself but also the long-distance footpath and associated heritage installations, signs, art and monuments constructed for a variety of purposes and functions.

## Heritage interpretation

Before we chart where Offa's Dyke receives heritage interpretation, it is important to recognise the many potential spaces where it is not provided on the ground. Indeed, there are a striking number of prominent heritage sites upon, or close to the line of, Offa's Dyke where the monument is ignored or very difficult to discern. Until recently, this applied to National Trust Chirk Castle although efforts have been made to improve this situation (see below). Other striking absences are the lack of reference to Offa's Dyke at the Cadw heritage sites of Chepstow Castle, Tintern Abbey and Montgomery Castle: all intervisible with the line of Offa's Dyke and yet lacking references to it. For Chepstow and Tintern, both are situated within sight of the linear earthwork's postulated and demonstrated line following the tops of the west-facing scarps of the east side of the Wye Valley, and yet at each location Cadw's heritage interpretation ignores Offa's Dyke in any substantive discussion of their prehistory and early history. Farther north, the same criticism applies to Montgomery Castle despite it affording vistas over a large stretch of Offa's Dyke crossing the Vale of Montgomery to its east.

Likewise, there are other key locations on the line of the Dyke where information could readily explain the location and character of the Dyke, but the opportunity is missed to do so, as at Highbury Wood National Nature Reserve where the Path is noted on the map but not the monument, which is described only as an 'Earthwork' without explanation. Likewise, the 'Clun' heritage board explaining the 'Environmentally Sensitive Areas Scheme' makes no reference to the monument even though it is right beside it. Also in the Clun Forest, the halfway point waymarker and plaque for the National Trail is situated right next to prominent traces of the Dyke's bank, and yet there is no reference to the monument in the text when discussing the Path. Another notable absence is the Pontcysyllte World Heritage Site: while Offa's Dyke runs through its hinterland from Chirk Castle to Ty Mawr, and the Llangollen Canal cuts its line, a heritage interpretation panel omits the linear earthwork completely (Figure 2a). The same applies to Chirk town itself, where the heritage interpretation map omits the dyke despite the accompanying text mentioning its presence (Figure 2b). Chirk Castle still includes maps that omit the

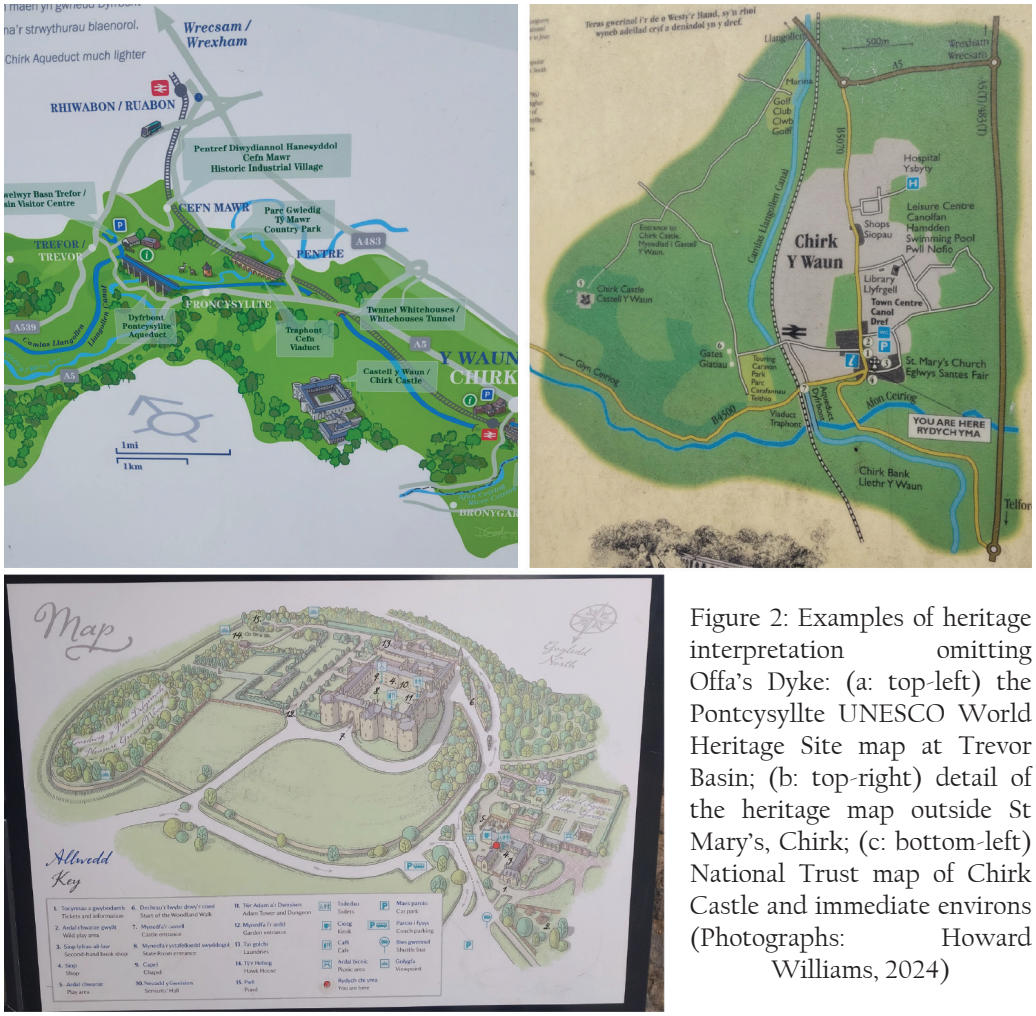



Figure 2: Examples of heritage interpretation omitting Offa's Dyke: (a: top-left) the Pontcysyllte UNESCO World Heritage Site map at Trevor Basin; (b: top-right) detail of the heritage map outside St Mary's, Chirk; (c: bottom-left) National Trust map of Chirk Castle and immediate environs (Photographs: Howard Williams, 2024)

monument (Figure 2c) although others do denote the monument (Figure 2d). A final and northernmost missed opportunity is to adequately interpret Offa's Dyke at Coed-talon Banks (see below). In each of these instances, the restricted or absence of reference to the monument partly reflects rigid periodisations of Britain's heritage sites, but also tensions regarding the potentially divisive story of the monument for twentieth and twenty-first-century audiences. Also, it reflects the impact of national organisations and rhetorics on telling authorised heritage accounts. In turn, the situation also reveals confusions in both the heritage discourses and popular culture regarding what and where Offa's Dyke runs, but also how it is situated, physically and conceptually, in relation to the story of the Welsh Marches. This long-term circumstance of 'forgetting' Offa's Dyke is compounded by heritage interpretation on the line of the Offa's Dyke Path that implies the presence of the Dyke where it is not confirmed, as at Prestatyn (see below).

Certainly, the situation reveals the lack of coordinated and planned heritage interpretation for the monument itself and its hinterland. Still, there are a selection of key locations along the monuments, charting from south to north, where interpretation panels occur, either situated as stand-alone structures or smaller versions appended to waymarker posts. I identify seventeen instances to present and critique (see Figure 1).

**'Ancient Defences': Sedbury Cliffs (Gloucestershire)**

Farthest south, we have a small waymarker post interpretation panel at Sedbury Cliffs installed by the Offa's Dyke Path with funding from Natural England and Gloucestershire County Council (ST 5521 9283) (Figure 3). Accompanied by an image of a band of early medieval warriors (whose identity is ambiguous: are they supposed to be Irish, Pictish, Welsh, Saxon or Scandinavians (Vikings)?) arriving by boat, one with arms outstretched as a sign of aggression or victory, it tells the story of the Beachley Peninsula. The text argues that Offa conceded the peninsula to 'Welsh hands' and speculates at the presence of a Welsh-owned fishing village and ferry. It then postulates Buttington Tump (the name for this section of Offa's Dyke) probably 'pre-dates the Dyke' and might reflect defences against Irish, Scottish and Gallic raiders in the fourth to fifth centuries AD, none of which have a specific connection to this part of the borderland landscape. There is no map or broader explanation regarding the date, function or significance of the monument. This is overall confusing: simultaneously the interpretation defines the earthwork as a pre-Offan monument *and* as a territorial strategic decision by Offa himself to demarcate and concede the peninsula to the Welsh! This is complemented by a second waymarker titled 'Congratulations!' stating that 'you've nearly made it' and thus encouraging you to walk the final stretch to Sedbury Cliffs and explaining that 'you are standing on Offa's Dyke, an eighth-century earthwork that defined the border between Anglo-Saxon Mercia and the kingdoms of the Welsh Princes' (Figure 3). So, the southern terminus of Offa's Dyke is marked as a 'border' between Mercia and various Welsh territories, but this narrative is contradicted by a proximal waymarker post suggesting this earthwork had pre-dated Offa's Dyke. The absence of any reconstruction or mapping of the monument is another stark omission. The web-link is accurate but does not provide a connection to the podcasts promised.

**'To the Devil's Pulpit and Beyond…': Tidenham (Gloucestershire)**

The second heritage interpretation zone comprises a cluster of heritage interpretation associated with the section of the monument in the care of English Heritage (Figure 4). There are a perfunctory pair of English Heritage signs titled 'Tidenham Section' describing the 'earthwork built by Offa, the powerful Anglo-Saxon King of Mercia (757–796 AD) to establish a frontier between his kingdom and the Welsh'. The geographical span of the monument is misleadingly defined as 'from the River Severn to the Dee' which oddly mistakes the presence and significance of the Wye Valley itself.


Figure 3: The Sedbury Cliffs heritage interpretation panel, Gloucestershire (Photograph: Howard Williams, 2017)

The signs are complemented by a larger heritage interpretation panel located away from the Dyke itself, 1.5km to the east of the Devil's Pulpit beside the English Heritage car park at Tidenham Heath (ST 5584 9927), on the B4228 between Sedbury and St Briavels. The board was funded by the Heritage Lottery, National Trails, English Heritage and other partners. While situated some distance from the monument, it is titled 'To the Devil's Pulpit and beyond...'. It has a map showing the route of the Dyke, images of ponies, walkers and the Path, plus a thirteenth-century manuscript illustration of Offa, an aerial photograph of Tintern Abbey, providing a sense of the landscape to be experienced by walkers.

A key component of this panel is the artist's drawing (by Alan Duncan) of the eighth-century landscape of Offa's Dyke. This is a distinctive birds-eye view, providing a sense of how the monument utilised the natural topography and divided up a populated and farmed landscape. Although one might question details of the representation's vision of


Figure 4: The Tidenham section heritage interpretation, Gloucestershire: (top-left) two signs beside the Dyke, (top-right) the Visit Wales bilingual folklore sign beside the Devil's Pulpit, (bottom) the panel beside the Tidenham Heath car park (Photographs: Howard Williams, 2017 and 2020)

the eighth-century landscape and a hypothetical settlement represented on the banks of the Wye, it does engage visitors with the likely multi-functional character of Offa's Dyke as a frontier work in peace and war, dominating and managing movement across and along the river (see also Ray and Bapty 2016; Williams 2023a).

The text works well in relation to the art: describing Offa's Dyke as an 'impressive and striking feature in the landscape' taking an aerial perspective looking north-east across the monument at Tintern. The tourism along the Wye and the popularity of the Devil's

Pulpit is complemented by a description of the monument as a 'keep out' sign: a 'potent symbol of Offa's power and authority over his frontier as well as a formidable obstacle to any invaders. It was designed to impress, with the surrounding trees cleared to ensure it was highly visible in the landscape. It has had a lasting impact on the way people living either side of it define their cultural identity'. The political, military and symbolic significance of Offa's Dyke is thus made apparent and the agency of the Mercian king is prioritised: a theme we will repeatedly encounter. The 177-mile Offa's Dyke Path National Trail is also recognised and its symbol displayed (Figure 4).

The final heritage interpretation of this section of the Dyke is the small fingerpost folktale of the formation of the Devil's Pulpit in relation to Tintern Abbey explaining the folklore surrounding the name of this prominent rock on the line of Offa's Dyke overlooking Tintern Abbey (ST 5429 9953). The bilingual sign focuses on the monks of Tintern being preached to by the Devil to tempt the monks of Tintern from their 'holy path'. A QR code affords a link to online information: a series of podcasts describing the monument, although the link defaults to a discussion of the Clun Forest section of the monument, not the Wye Valley.[1] Whilst in England, the site is funded by the Welsh government presumably because of the iconic view of Cadw's Tintern Abbey afforded from the Devil's Pulpit on the English (eastern) side of the Wye (funded by Croeso Cymru/Visit Wales) (where, notably, Offa's Dyke is not mentioned). Strikingly, there is no explanation of the monument itself at this location or near the Devil's Pulpit. The result is an odd disconnect and tension between the heritage interpretation of the later medieval Tintern Abbey and the presence of Offa's Dyke: they exist in the same landscape in different chronological phases but they are not allowed to touch each other in an historical narrative about the landscape.

### 'The Ancient Border of England and Wales': The Fence, Bigsweir (Gloucestershire)

The third location for heritage interpretation on Offa's Dyke is at the southern end of Cadora and Bigsweir Woods at The Fence (SO 5440 0557) (Figure 5). Commissioned by The Woodland Trust and titled 'the ancient border of England and Wales', the board was in a state of disrepair at the time of my visit (2017). Here, the text explains that the monument was 'one of the great engineering achievements of the pre-industrial age' and comprises 129km of earthworks 'along many parts of the Welsh border' and that it was built to 'show the power of King Offa of Mercia'. It poses the question 'was it for defence or just to mark a boundary or did it have some other purpose?'. As at Tidenham, an explanation is made regarding the Offa's Dyke National Trail and there are links to the web addresses of Clwyd Powys Archaeological Trust and the Offa's Dyke Centre (the former at the time of writing now automatically redirects to Heneb's website, the latter now defunct). A black-and-white artist's reconstruction drawing effectively affords an impression of the monument during construction, with a speculative but reasonable inference that a wooden

[1] https://www.shropshiresgreatoutdoors.co.uk/wp-content/uploads/2015/06/Walk-1-Climb-to-the-Edge-of-the-Kingdom.mp3


Figure 5: Heritage interpretation at The Fence, Gloucestershire (Photograph: Howard Williams, 2017)

fence topped the bank. The Dyke is shown from the English (eastern) side surmounted by the chest-height fence in construction. A second panel discusses the walks and wildlife (not illustrated) but the same map marks the course of Offa's Dyke where it survives on this panel too. Here, a sense is given of how the monument might have appeared, its identity considered an articulation of Offan power, and its status as an engineering feat is outlined. Offa's Dyke's potential multiple functions are considered yet it is misleadingly and anachronistically merged with the idea of a single 'Welsh border'.

### 'Offa's Dyke': Herrock Hill Common (Herefordshire)

Having explored Offa's Dyke's surviving lengths for the rest of the Wye Valley sections and across Herefordshire, there is no extant heritage interpretation. Therefore, we have to jump far north of the Wye Valley to find our next heritage interpretation panel (Figure 6). Described as a 'good stretch of Offa's Dyke' without clarifying what this means, the monument is interpreted on the heritage interpretation board on Herrock Hill Common, Powys (SO 282 593). It is mentioned only briefly alongside discussions of grazing, conservation and wildlife: the panel is the work of Wildlife Trusts and other nature conservation partners including Natural England. Offa's Dyke is referred to in a descriptive fashion as an eighty-mile long earth bank and ditch marking the 'historical boundary between England and Wales', followed by claiming its origins and functions are 'shrouded in mystery' as there


Figure 6: The Herrock Hill heritage and natural conservation panel, Powys (Photograph: Howard Williams, 2017)

are no written records to tell us 'how or why it was built'. Still, its placement is described as 'strategy' and 'looking towards Wales'. The anachronistic explanation that it defined a boundary between England and Wales is the defining issue. The accompanying map effectively shows the line of Offa's Dyke upon the Common, and the contrast with the line of the Path, but not how the monument may have once appeared.

### 'Offa's Dyke, the Backbone of these Breathtaking Borderlands': Hawthorn Hill (Powys)

Close to some striking upland stretches of the monument, upon Hawthorn Hill, between Presteigne and Knighton in Powys, there is an expansive bilingual board beside the layby of the B4355 between Knighton and Presteigne. It is funded by the Offa's Dyke Path and partners (SO 282 688) (Figure 7). Here there are three striking images of the monument, and a map showing the relationship to the Dyke, roads and footpaths, as well as the Sir Richard Green Price monument. This attempt to map the monument in relation to other historic landmarks is notable.

An inset black-and-white drawing imagines Offa, hands on hips, with the construction of his monument proceeding behind him. Versions of this same image with different backgrounds will be subsequently encountered through the middle section of the Dyke to the north (Figures 10, 11 and 15). The text describes the monument as a 'symbolic border' of the Mercia and the Welsh princes in the eighth century and describes Offa as a 'powerful


Figure 7: The Hawthorn Hill heritage interpretation panel, Powys (Photograph: Howard Williams, 2021)

king and statesman'. It poses the question: '[d]id he build the earthwork for defence, to control trade or to mark the edge of his kingdom? There are many theories. Whatever his reasons, the Dyke is a lasting monument to his wealth and power'. It is thus described as an '80-mile long marvel of Anglo-Saxon engineering'. It suggests that it may have augmented earlier earthworks and that despite his power waning it 'helped create the modern border' thus 'changing the landscape and the culture of its people forever'. This is the most sustained attempt to explain the monument through text, images and maps upon the monument's line outside of Knighton and the anachronisms found elsewhere are carefully avoided (see also St Tegla's church on the Offa's Dyke Path National Trail).

## 'The Most Impressive Work of the Old English Kings' and 'A Window on early medieval Britain': Knighton, the Offa's Dyke Centre and Park (Powys)

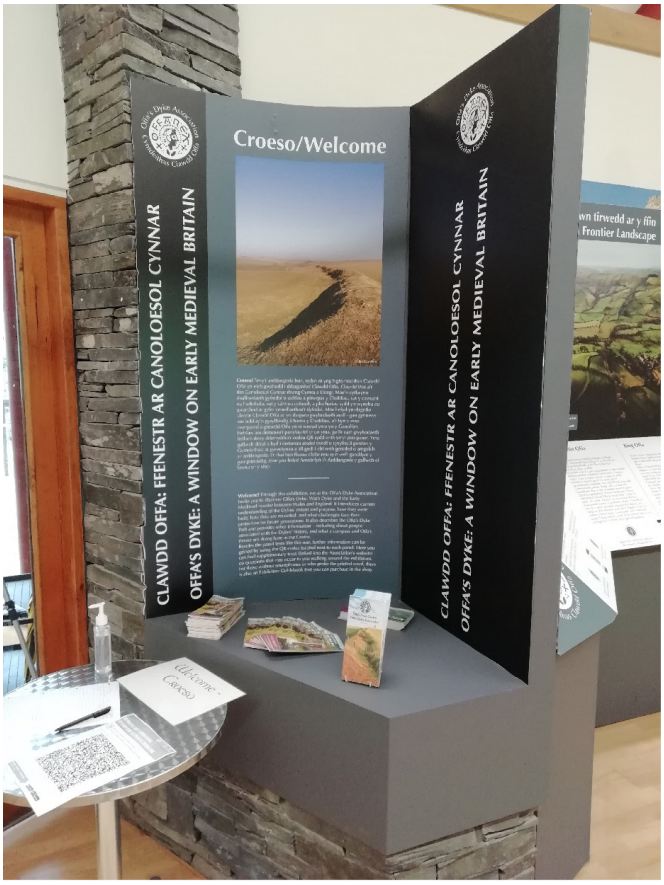
As previously considered regarding place-names (Williams 2020b), Knighton (Tref-y-Clwdd: the town on the dyke) is a distinctive memoryscape via an assemblage of citations to the triad of Dyke, Path and borderline (Figure 8). It constitutes the core focus of authorised heritage comprising the Offa's Dyke Centre, the Offa's Dyke Play Area, waymarkers for the Offa's Dyke Path and Pinners Hole. In this last location there is a surviving stretch of the monument framed by a plaque fixed to a concrete block commemorating 'the most impressive work of the Old English Kings' raised by the Offa's Dyke Association in 1971, and a monolith with a pair of plaques from 1971, one

commemorating the opening of the Offa's Dyke Park, the other commemorating the opening of the Path. As well as waymarkers, there is a recently added (2021) panel with paintings and poetry linked to Hall's 'Walking with Offa' project (Hall *et al.* 2021, 2023) and a new canopied heritage interpretation panel (Figure 9).

There are other related commemorative monuments linked to Offa's Dyke, including a stone by the car park commemorating William Hatfield (1859–1947) 'whose bequest to the town ensured the completion of the recreation and riverside park for all to use and enjoy' (1979). Nearby are Dyke-related road-names (Williams 2020b) and the bilingual road signs describing Tref-y-Clawdd/Knighton as 'Y Dre far y Clawdd'/'The Town on the Dyke' and brown signs directing visitors to the Offa's Dyke Centre. By the riverside, there are not only waymarkers for the Path and a picnic bench carved to commemorate Offa's Dyke, but the concrete bridge affording photo opportunities claiming that 'The line behind is the exact border between Wales and England. Please place your feet in two separate countries'.

Inside the Visitor Centre are not only maps, books and visitor information, but also an extensive indoor heritage interpretation designed by Professor Keith Ray (Williams 2021: 8). While the details of the panels are outside the remit of this review, it is fair to say that a wide range of visuals – maps, photographs and diagrams – help explain the monument's story to visitors, from its early medieval creation, functions and significance through to its use today on a transnational scale, as well as serving as a heritage hub for the Knighton community. This provides the gold standard and flagship exhibition to interpret Offa's Dyke in its chronological, geographical, historical, archaeological and heritage contexts (Figure 8).

In terms of open-air heritage interpretation, however, particular attention might be paid to the Dyke's most recent additional heritage interpretation panel by Powys County Council coordinated by Dave McGlade of the Offa's Dyke Association. It further shows the emergent nature, through construction and accumulation, of Knighton as a memoryscape tying together border, Path and Dyke in a contemporary conception of a living landscape. Drawing on the latest fieldwork, the bilingual text explains the scale and location of the monument, supported by two archaeological sections and a map which helpfully shows the surviving and projected line of the monument in relation to the modern Offa's Dyke Path and modern county borders. While no artist's impression of the monument is included, this board is unique in being the only place where Offa's Dyke is represented using archaeological field recording techniques. The interpretation reflects the monument's significance as an expression of power, showing the mobilisation of a labour force required to build it, and demonstrating its function to control customs and duties, as well as marking the sphere of direct Mercian control in a 'loosely drawn frontier'. The interpretation panel is also significant in explaining the results and implications of the Offa's Dyke Conservation Project (Figure 9).



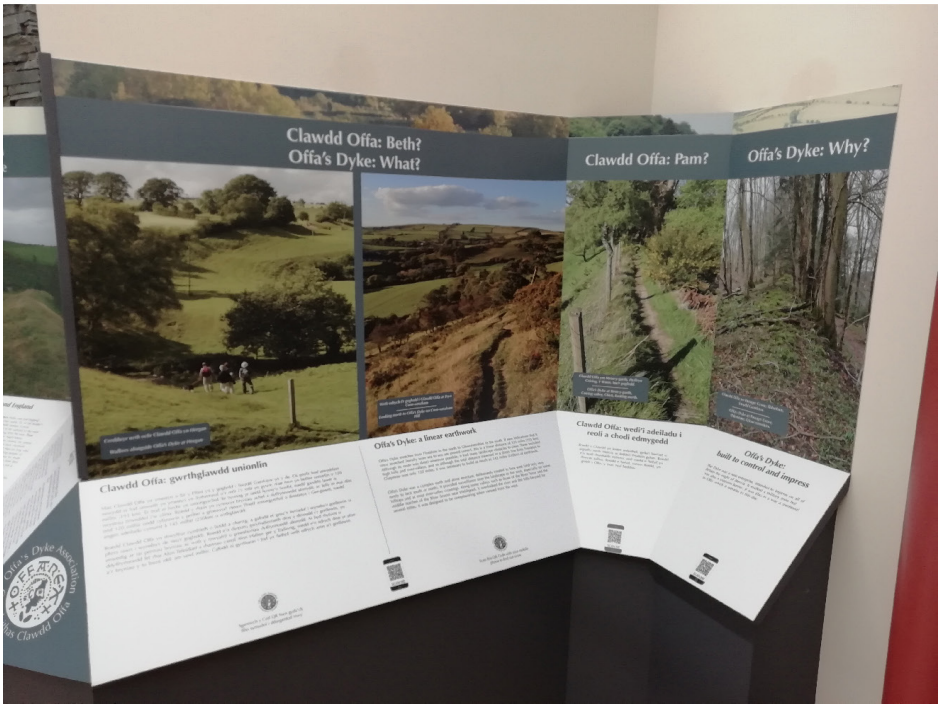




Figure 8: Elements of the indoor Offa's Dyke Centre exhibition commissioned by the Offa's Dyke Association on the story of 'Offa's Dyke: a window on early medieval Britain' authored by Keith Ray (Photographs: Howard Williams, 2021)

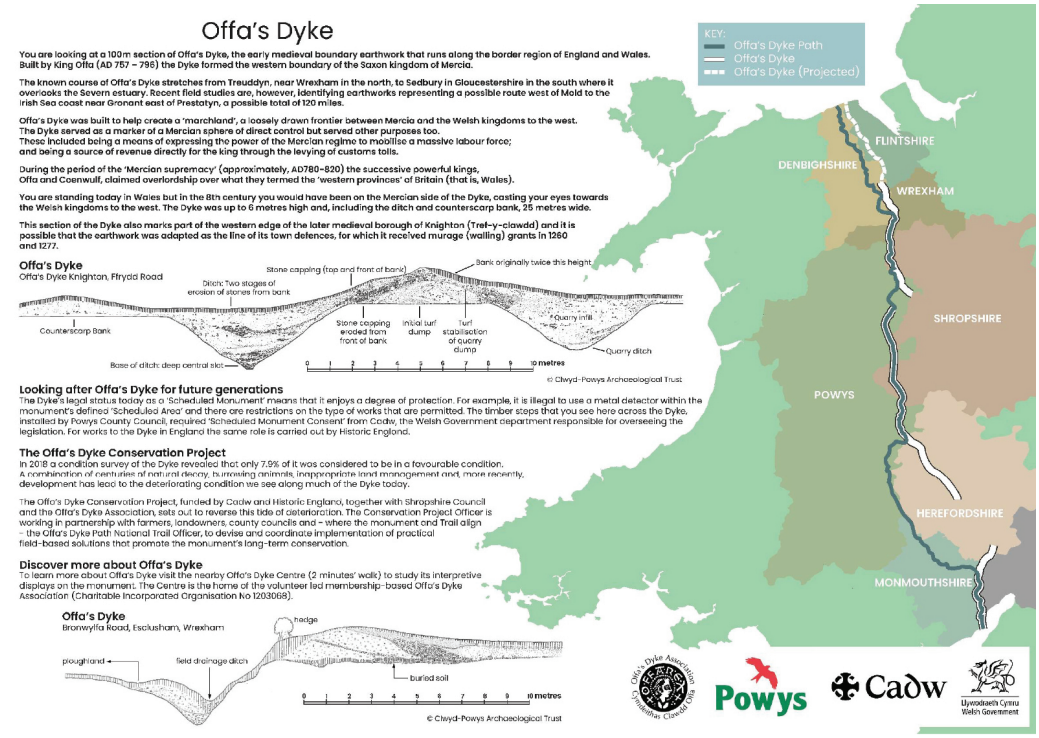



Figure 9: (top) The English-language half of the new heritage interpretation panel at Pinners Hole, Knighton, installed in 2024 (reproduced with the kind permission of Dave McGlade of the Offa's Dyke Association and Powys County Council); (bottom) photographs of the new management and interpretation space with the panels installed (Photographs: David McGlade, 2025)

## 'About the Earthwork': Llanfair Hill (Shropshire)

In contrast to the urban concentration of indoor and outdoor heritage interpretation at Knighton, the next panel to be discussed is one appended to a waymarker in a fairly isolated location on Llanfair Hill in the Clun Forest of Shropshire, located to the north of Knighton (SO 256 783) and coinciding with an iconic stretch of the linear earthwork.


Figure 10: The heritage interpretation panel at Llanfair Hill, Shropshire (Photograph: Howard Williams, 2021)

Funded by the European Union (via LEADER funding) and Welsh Government, the Offa's Dyke Association have funded this panel. The image is the same hands-on-hips Offa that appears at Hawthorn Hill. As at Herrock Hill, we are told the length of the monument (80 miles, 129km) and that it was built by the 'great Anglo-Saxon king' Offa to 'mark his border between Mercia and his enemies, the Princes of Wales' (Figure 10). Again, it repeats the theory that Offa constructed it to link together earlier dykes and it repeats the question from Hawthorn Hill about its function: 'Did he build it for defence, to control trade, or to show off his power? There are many theories. What do you think?'. A QR code links to the Offa's Dyke Path (the same link to that available at Tidenham). In the landscape with the monument in plain sight, the artist's reconstruction serves to side-step the demand to represent the completed monument and address un-answering questions about its precise appearance, whilst also visually articulating the arguments regarding the scale of the endeavour and its royal authorship and direction.


Figure 11: The heritage interpretation panel at Edenhope Hill, Shropshire (Photograph: Howard Williams, 2021)

## 'About the Earthwork': Edenhope Hill (Shropshire)

The second heritage interpretation locale in the Clun Forest is on Edenhope Hill (SO 262 882) and is identical to that on Llanfair Hill (Figure 11). Both Llanfair and Edenhope have the same funders' logos. They are situated upon well-walked and accessible stretches where the monument survives and can be appreciated. In this context, the absence of maps of the monument might not have significant impact on the effectiveness of the heritage interpretation. Furthermore, this modest-sized heritage interpretation affords the agency, once more, to King Offa in directing first-hand the construction of the monument, for whatever purpose. The QR code links to the same podcast as before.

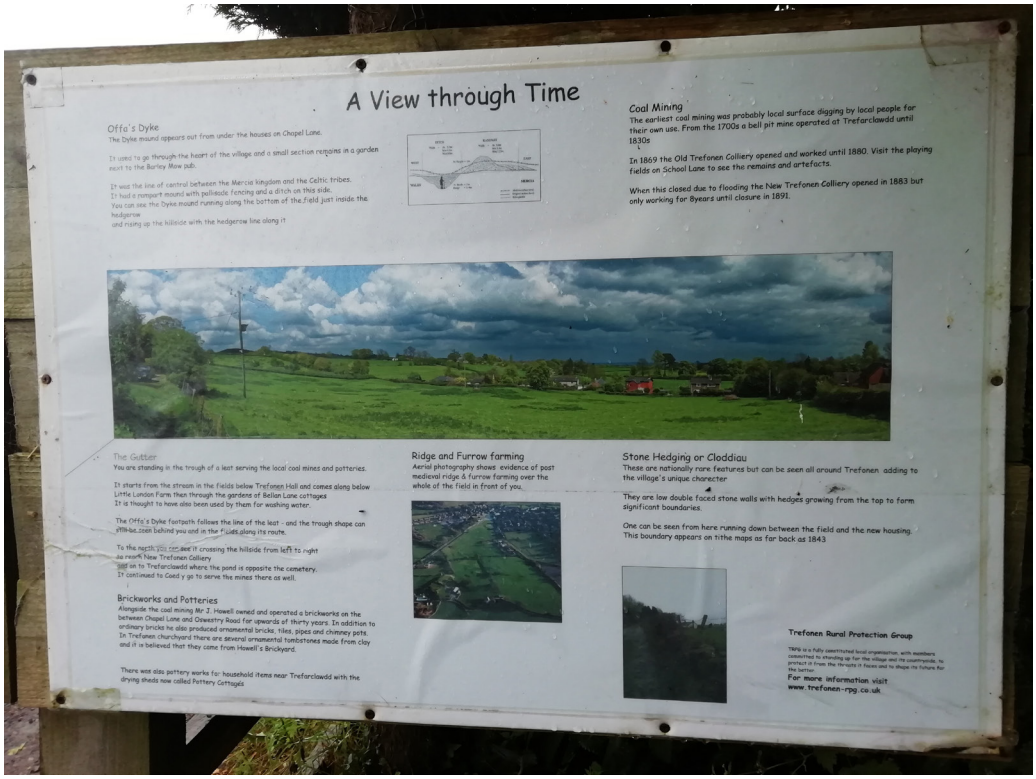



Figure 12: The Trefonen heritage interpretation panel (Photograph: Howard Williams, 2020)

## 'A View through Time': Trefonen (Shropshire)

The heritage interpretation panels discussed thus far are produced by various heritage and conservation organisations, but we now come upon a locally produced (by the Trefonen Rural Protection Group) heritage interpretation panel upon the line of the Path looking east over a field towards the line of the monument (SJ 258 269). What is distinctive here is less upon the interpretation of the monument itself and instead in trying to understand how the monument fits into the historic landscape (Figure 12). Thus, as well as a panorama photograph, aerial photograph and discussions of other dimensions of the historic landscape (ridge and furrow, coal mining and stone hedging) the line of the Dyke is explained and a section of the monument is reproduced. The preferred interpretation of the linear is as a 'line of control between the Mercian kingdom and the Celtic tribes', suggesting it had a palisade on the bank and a ditch to the west. While the term 'Celtic tribes' is inaccurate and potentially problematic, the attempt – to connect the monument into the landscape history of medieval farming and post-industrial mining connects the grand history of the monument to local people and place – deserves merit, as does the inclusion of a section drawing through the monument itself to show its profile.

**'Warfare in the Valley': Bronygarth (Wrecsam/Shropshire)**

A more recent heritage interpretation panel, replacing an older, much-worn and monolingual version, again connects Offa's Dyke to the locality, but in a different fashion to the Trefonen heritage panel. At the intersection of the Ceiriog Trail and the Offa's Dyke Path to the south-west of Bronygarth (SJ 260 370), there is a long-established location for an heritage interpretation panel next to striking surviving stretches of the Dyke, as it drops into the Ceiriog Valley with views north to Chirk Castle.

The earlier heritage board included a photograph of the Dyke's bank and described the monument as the Mercian construction of a 'boundary between the Saxon kingdom and the independent kingdoms of Wales (Celts)' (Figure 13a). The claim that the Dyke's bank can be up to 8m high is a stark exaggeration, presumably based on a confusion of imperial for metric measurements, since '8 feet' is a widely cited height for the bank (Hill and Worthington 2003: 48; see also below). The panel mentioned other theories: suggesting Offa's Dyke was of prehistoric origins as a trackway or a later Roman wall, neither of which are evidenced by archaeology or history. The association of the monument with a discussion of the Battle of Crogen and Chirk Castle is notable, thus the panel contextualises the Dyke in relation to a longer-term contested landscape.

The second heritage board picks up and updates this story of conflict through time in the locality (Figure 13b). This is a striking visual structure articulating itself as the second of nine panels constructed for the Ceiriog Heritage Trail, and with a cut-away section of the Dyke showing it traversing the valley with Chirk Castle in the distance. Offa is portrayed via its coin portrait. While stylised and thus misleading, particularly regarding the scale and shape of the bank and ditch, as well as the impression it navigates the landscape in a sinuous fashion, the visualisation of the monument serves to afford an impression for visitors regarding what Offa's Dyke was in the early medieval past. Together, with a trio of maps, there is a succinct text that describes the monument as an 'obstacle against raiding and a huge land grab by the dominant lord of the anglo-saxon [sic] kingdoms, Offa of Mercia'. Offa's Dyke is thus contextualised in relation to a borderlands landscape including the Battle of Crogen and the construction of Chirk Castle, although the positioning of the bank, facing upslope and northwards, is counter-intuitive for one trying to use the panel to interpret the landscape around them.

**'Marked the Border': Offa's Dyke at Chirk Castle (Wrecsam)**

As mentioned above, Offa's Dyke was neglected at Chirk Castle but this has been partly rectified with a new heritage interpretation panel (funded by the National Trust and added at Home Farm) located beside the monument where the path to the herb garden cuts across it (SJ 266 382). An aerial photograph in snow helps visitors to Chirk Castle NT appreciate the fact that Offa's Dyke straddles the parkland and cuts across the Ceiriog Valley, although this feature, and its relationship with the line of the monument visible in the distance at


Figure 13: Successive panels at south of Bronygarth at the intersection of the Ceiriog Heritage Trail and Offa's Dyke: (top) the earlier, faded, interpretation panel (Photograph: Howard Williams, 2015), (bottom) the new interpretation panel (Photograph: Howard Williams, 2023)


Figure 14: Heritage interpretation for Offa's Dyke, Chirk Castle: (above) beside the squash court, (below-right) on the path to the Castle, (below-left) at Home Farm (Photographs: Howard Williams, 2024)

Bronygarth, might not be apparent at all to the untrained viewer (Figure 14). The bilingual text is inaccurate to the core: claiming that the 'large linear earthwork' ran for 176 miles (the full distance of the Offa's Dyke Path and described explicitly as between Sedbury and Prestatyn) and demarcated the 'border between England and Wales': a starkly anachronistic statement. The dimensions and date of the monument are articulated and again it is claimed to be a 'border between [Offa's] kingdom and the Welsh kingdom of Powys: very much an argument promoted by Hill and Worthington (2003). Elsewhere in the grounds, including on the main walking path up to the castle, we encounter the estate map upon which the Dyke is marked but not interpreted. Together, the monument is situated in relation to the later medieval and modern-era castle and its designed landscape.

**'Engineering Marvels Meet': Froncysyllte (Wrecsam)**

Located at the final point of intersection between the Offa's Dyke Path and Offa's Dyke, on the tow path of the Llangollen Canal, is a bilingual dual-direction pair of signs appended to a waymarker post (SJ 202 408) (Figure 15). Offa, hands on hips yet again, directs the building of the monument against a different backdrop: distinct from the upland locations where this image was used at Edenhope, Llanfair and Hawthorn, to show Offa's Dyke traversing a valley and large river. Produced by the Offa's Dyke Path National Trail by the same funders (EU LEADER funding/Welsh Government), this is misleading in the geographical context since the Dyke, in fact, runs down to the Dee from south to north, but does not continue on the other side. Instead, it follows the Dee downstream before continuing northwards downstream and around two bends of the river (Williams 2023a). Still, in crude terms the image responds to the local topography and thus helps to explain the monument's placement in the landscape, running perpendicular to the later canal. The text persists in the narrative identified earlier of Offa's Dyke as a marvel of engineering and is entitled 'engineering marvels meet' to identify the crossing of the canal of the Dyke. Once more, it is argued that the Dyke was to 'mark' Offa's 'border' with his enemies, the 'Princes of Wales'. Again, it asks the tripartite question regarding the significance of the linear boundary as being either for defence, controlling trade or as a means of displaying power: 'There are many theories. What do you think?' An identical link is provided to the podcast located on the Llanfair Hill and Edenhope Hill sections, now defaulting to a recording discussing the Clun Forest section.

**'Special Offas and Clearance Deals?': Ruabon (Wrecsam)**

Located beside Tatham Road, overlooking the Dyke by Tatham Farm (SJ 298 444; Figure 15), is a heritage board that has been through two iterations in the duration of my visits, both times as part of the Ruabon Heritage Trail work. The older board I only witnessed in a faded state, the last time in 2020, and no clear photograph of its original contents could be obtained (Figure 16, top). Most unintelligible of all is the now heavily faded black-and-white drawing of the Dyke from an aerial perspective. Next to this was


Figure 15: The English-language panel of a pair of interpretation panels appended to a way-marker post east of Froncysyllte (Photograph: Howard Williams, 2020)

a map which shows the heritage trails linking Gardden Hillfort to the Dyke and town. The text is a bilingual essay, framing Offa's Dyke as the successor to Wat's Dyke, and asserting that it was a continuous monument from Prestatyn to Chepstow. It situates it as built following the last recorded Welsh attack of AD 784. It speculates that the bank may have been topped by a palisade and explains its similarity to urban defences of the time.

The 2022 replacement board (Figure 16, bottom) reflects changing ideas, describing the proportions of the monument and presents a lack of surety regarding the relationship with Wat's Dyke. In this regard, it can be considered a fully up-to-date heritage interpretation in which the monument is considered to have functioned for 'surveillance, communication and to assert control over the Welsh', and is no longer interpreted as continuous from sea-to-sea. In doing so, it responds to both the work

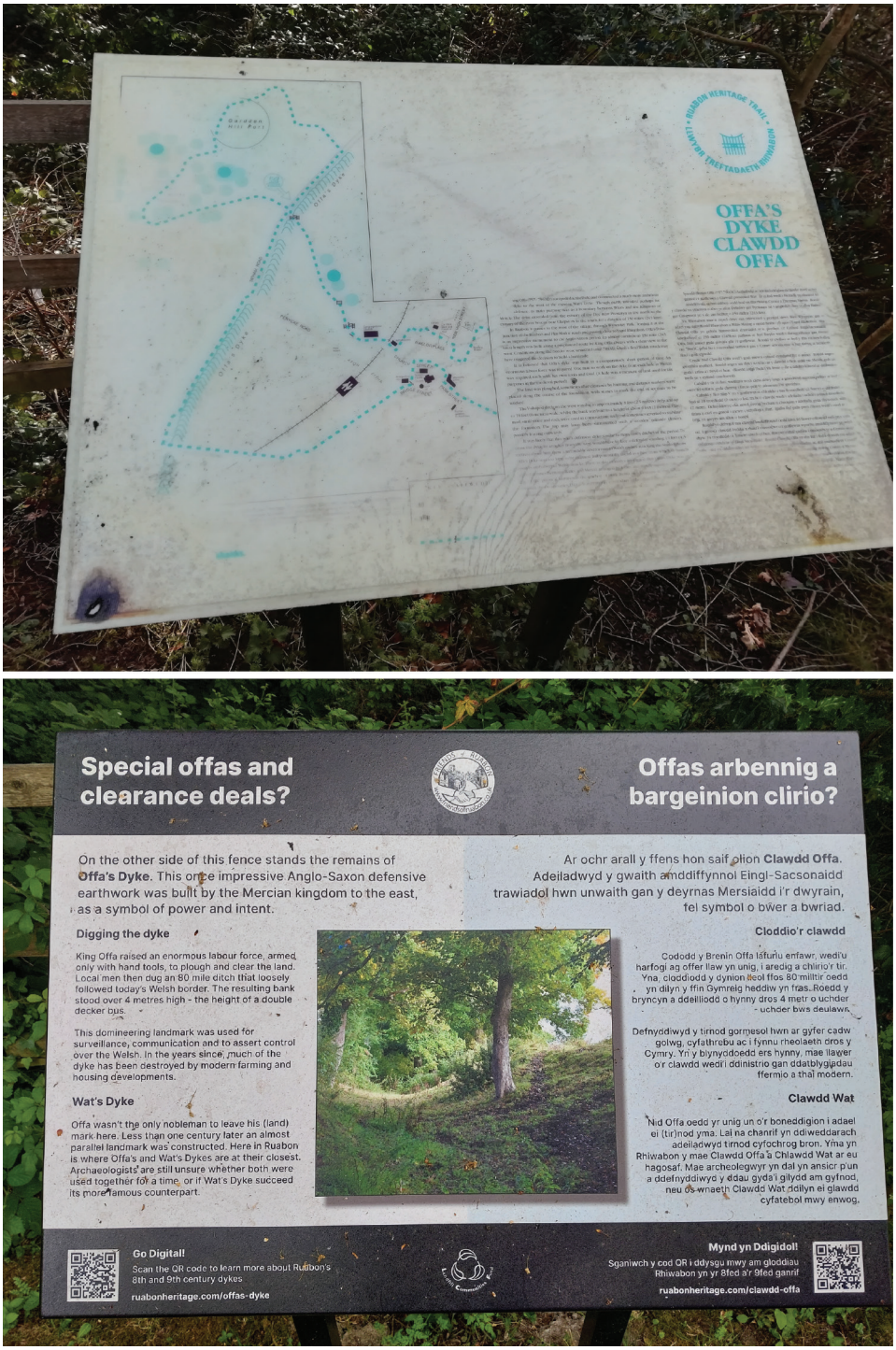



Figure 16: The Ruabon heritage interpretation panel, old (top; 2020) and new (bottom; 2023) (Photographs: Howard Williams, 2020 and 2023)

of Hill and Worthington (2003) and Ray and Bapty (2016; see also Williams 2023a). Explaining it as a 'symbol of power and intent', the text adds the inference that 'local men' dug the monument: a point over which we still have no direct evidence to either support or dispute (Figure 16). Describing Offa's Dyke as a 'domineering landmark' is evocative and useful, but describing the scale of the bank as 'over 4 metres high – the height of a double decker bus' is misleading and exaggerated (unless the height refers to the elevation of the bank above the bottom of the ditch). This is the only location where Offa's Dyke's relationship with Wat's Dyke is articulated 'at their closest', making it clear that archaeologists are 'still unsure' regarding their relationship. The QR code links to a website (ruabonheritage.com) that was sadly already inoperable and has been since as early as eighteen months after the heritage interpretation panel was installed!

**'Welcome': Plas Power (Wrecsam)**

In the woodland trails alongside the Afon Clywedog at Plas Power, east of Nant Mill (SJ 297 495), there is a tree sculpture associated with a nearby heritage interpretation panel (Ray and Bapty 2016: 367; Figure 17). Other signs have existed up and down the woodlands which cite the monument's presence and course. Portraying Offa pointing west into Wales, the monument and its excavation by workers are represented sculpted upon the tree, surrounded by floral ornamentation. This was carved in 2012 by Simon O'Rourke. A heritage board had been established to explain the art but it is no longer in situ, but when in place it had described the Plas Power section of the monument as 'impressive' and stated that the Dyke was either a 'defensive structure' or a 'boundary marker'.

In addition to the art, there is now a repositioned older bilingual heritage board by The Woodland Trust and dating from 2008. This had not been located beside the monument for many years, as based on personal observation. However, upon last visiting (2024), the panel was laid loose on the ground beside the dyke (Figure 17). The map shows the line of Offa's Dyke crossing the Afon Clywedog and the text states it was constructed 784–796 by Offa, King of Mercia, to 'limit growing Welsh incursions', a task apparently completed by Offa's 'local princes'. It then evokes the tradition of Offa dying in Rhuddlan (which is far from established) and mistakenly describes the Dyke as running from Treuddyn to Caerleon! So, inaccurate and misleading in regards the monument's function and course, this board takes a somewhat old-fashioned militaristic vision of Offa's Dyke but again promotes the agency of the king himself.

**'An Enigma of the Welsh Border Landscape' and a 'Masterpiece of Dark Age Survey': St Tegla's Church (Denbighshire)**

This is the first of two sites (the other being at the northern end of the National Trail at Prestatyn) that I will address beyond the demonstrated line of Offa's Dyke, but which lie upon the Offa's Dyke Path National Trail. Located within a church (SJ 195 524), the


Figure 17: Two of the heritage interpretation panels with maps showing the line of Offa's Dyke crossing the Clywedog, Plas Power: (above) near Bersham Mill, (below) an old heritage interpretation panel redisplayed upon the bank of Offa's Dyke (Photographs: Howard Williams, 2024)

indoor bilingual heritage interpretation at St Tegla's, Llandegla, tackles the monument's interpretation (Figure 18). The Offa's Dyke Association provided a graphic of a cross-section through the Dyke (this had been on display in a far larger form within the Offa's Dyke Centre) and there are two textual discussions. The first addresses 'What is Offa's Dyke?', referring to it as an enigma and quoting Asser's *Life of King Alfred*. As such, it is connected to Mercia's expanding territory resulting in driving the 'native British' into the 'mountainous land that we now call Wales'. This is the closest I have observed to an accurate and informed description of the historical circumstances surrounding the construction of Offa's Dyke (see Ray and Bapty 2016), when so many other heritage interpretation panels resort to anachronistic ethnonationalist descriptions being back-projected onto its building, function and impact. The second section focuses on how the monument was built, calling it a 'masterpiece of Dark Age survey' and a 'stupendous feat of engineering'. Explicitly referencing the work of Hill and Worthington (2003) and Ray and Bapty (2016), it states that it was built of long straight stretches and 'cleverly' follows the contours of the land in order to make it stand out when seen from the west. The estimate of '4 million man hours' is proposed for Offa's Dyke's construction. The Dyke is, however, misleadingly described, as we have seen elsewhere, as an 8-m high bank above a 6ft-deep V-shaped ditch: thus exaggerating the dimensions of the bank and mixing imperial and metric measurements together. A full-panel map designed by the Offa's Dyke Association and the Offa's Dyke Path National Trail shows the relationship between the Path, Dyke and border, as with the other graphics matching the design of the Offa's Dyke Association's displays in the Offa's Dyke Visitor Centre before its most recent redisplay.

**'Offa's Dyke' at Coed-talon Banks (Flintshire)**

We now return to the line of Offa's Dyke, and to the outdoors, at the northernmost point where Offa's Dyke can be traced with certainty in the landscape under the Treuddyn to Llanfynydd (B5101) road (Fox 1955: 30–31). Whilst this is not a heritage interpretation panel or plaque, it needs discussing as an abrupt (arguably botched) attempt at heritage interpretation (Figure 19). This brown sign, visible to those travelling south where the road mounts the surviving monumental bank, was installed following funding from Cadw and Treuddyn Community Council (SJ 266 577). Far removed from the Offa's Dyke Path, it marks the northernmost officially recognised extant section of Offa's Dyke upon which the B5101 now runs. Without further explanation, the bold statement 'Offa's Dyke/Clawdd Offa' is not comprehensible regarding the age, significance and location of the monument unless one already knows the road is situated on top of the bank of the monument. This information might be obtained by expert academic literature or online historic environment resources, but it would not be readily apparent to an uninformed visitor to this setting (Fox 1955; Ray and Bapty 2016). As a result, the sign renders the monument present, and yet frustratingly absent: a cenotaph of sorts in the Flintshire landscape.


Figure 18: Six of the panels explaining Offa's Dyke with graphics supplied by the Offa's Dyke Association, St Tegla's, Llandegla (Photograph: Howard Williams, 2025)


Figure 19: The 'Offa's Dyke' brown sign at Coel-talon (Photograph: Howard Williams, 2025)

## 'Helping define the Welsh nation': Prestatyn (Denbighshire)

Our final location is at the northern terminus of the Offa's Dyke Path National Trail. Beside the 'dechraua diwedd' (beginning and end) monument, overlooking the Irish Sea, there is a sign board explaining the significance of the Path in relation to the monument. Commissioned by the Arts Council for Wales, Denbighshire County Council and Prestatyn Town Council, and installed in 2009, together with seating, it claims to symbolise the sun and thus commemorates the start or finish of the Offa's Dyke Path National Trail, either evoking the rising sun for those starting their trek south, or the setting sun for those completing their journey in the north (Figure 20). While it makes clear that the Path diverges from the Dyke 'in the north', it repeats the anachronistic idea that the monument was built between two pre-existing entities known as 'England' and 'Wales' in the eighth century. Neutrality regarding


Figure 20: Drechraua diwedd, Prestatyn: (left) the monument, (right) the English versions of the explanatory texts (Photograph: Howard Williams, 2023)

the function of the Dyke is maintained beyond asserting it was built by the 'Mercian' ruler Offa: 'people have debated the purpose of the dyke for many years'. It then gives the options of 'boundary' or 'custom barrier'. As well as questioning how it worked, they pose the claim that it 'played a part in helping define the Welsh nation'. There is no artist's impression of the monument during construction or use. Instead, the map bears a single red line which perpetuates an equation of Path and Dyke. Offa's Dyke is here a modern and ancient single line defined by Path, border and Dyke.

## Discussion

These heritage interpretation panels comprise the authorised heritage discourse on Offa's Dyke for the twenty-first century. These panels, plaques and signs sit in variable landscape situations and relationships with the monument, national trail and other footpaths, the modern border and further heritage destinations and landmarks (Table 1, columns 1–3). They were installed in contrasting circumstances, at different times, by varying agencies and organisations. Of the seventeen, seven are instigated by the Offa's Dyke Path National Trail and the Offa's Dyke Association, two by the Woodlands Trust, the Tidenham set of signs largely by English Heritage. Yet almost half, at least six, while involving national funding and organisations to varying degrees, can be considered local initiatives (Table 1, column 4). They vary in form and design, as well as content, considerably. As such, these locales comprise a sparse and eclectic set of heritage interpretations which reflect partial and evolving understandings of the monument.

Table 1 (next page): Comparing the visual dimensions of the seventeen heritage interpretation boards, plaques and signs critiqued in this article, arranged from south to north. The information lists their spatial proximity to the surviving traces of the monument, National Trail and Welsh/English border, their principal commissioners, and the different types of images incorporated in their most recent iterations

In terms of visual material (Table 1, columns 5–11), there is little consistency and some stark omissions. Of the seventeen panels or plaques under consideration, three are associated with art installations, two abstracted, only one representing the Dyke and King Offa (Plas Power). Only five locate the overall line of Offa's Dyke in relation to the Anglo-Welsh borderlands, with six deploying local maps to help orientate visitors to the monument's location and course in the landscape. Notably, only two panels do both (Hawthorn Hill and Bronygarth). Thus, most do not even attempt to adequately position the monument in relation to the wider landscape, let alone its specific placement in any given locality and topography. In regards the nature of the monument, past or present, six represent photographs showing the landscape in which the monument is situated, two of which deploying historic photographs (Tidenham and Hawthorn Hill), meaning that, again, only a minority illustrate the physical appearance of the monument as it has survived. Archaeological sections are deployed twice to assist in explaining the monument's current dimensions and character, and only twice elsewhere are artistic schematics used to illustrate the cross-section and (in one of the two instances) afford an impression of how the monument was placed in the contemporary landscape. Artist's reconstructions appear seven times, in six cases showing the monument. In only one case, however, the birds-eye-view at Tidenham represents a completed monument envisioned in an early medieval landscape. Of the five remaining instances, an impression of the complete monument's form and function is implied once (The Fence, Bigsweir). The remaining four images are versions of the same one; foregrounding King Offa as 'author' whilst affording a vague impression of the scale of the monument and its placement in the landscape during construction, crossing either hills (Hawthorn Hill, Llanfair Hill, Edenhope Hill) or valleys (Froncysyllte). In no cases do artist's impressions attempt to adequately envision how the monument might have appeared when in use.

There remain key interpretative issues regarding the basic questions of 'what, where, when, why, how and who' about the monument, concerning the texts of the panels' considerable time-lag in presenting older arguments and ideas, perhaps with the notable exceptions of the newest panels at Knighton and Ruabon (see Hill 2020). Analysing the texts (Table 2), first, only twelve of the seventeen are bilingual (in both Cymraeg and English) reflecting those located in Wales or on the precise national border, and hence subject to Welsh legal requirements for bilingual public signage. The most common framing of interpretation is that Offa's Dyke was a 'border', 'frontier' or 'boundary', with its role in dividing ethnic groups and nations, often anachronistic references to the 'Welsh' and/or 'English', or indeed more starkly, to 'England' and 'Wales', which dominates the narrative. Hence, the concept of Offa's Dyke as a predecessor to the

| | Offa's Dyke proximity | National Trail proximity | Border proximity | Commissioner | Art installations | Borderlands Map | Local Map | Archaeological sections | Schematics | Artist's impressions | Photos |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sedbury Cliffs (Gloucs.)** | X | X | | Offa's Dyke Path National Trail | X | | | | | X | |
| **Tidenham (Gloucs.)** | X | X | X | English Heritage | | | X | | | X | X |
| **The Fence, Bigsweir (Gloucs.)** | X | X | X | Woodlands Trust | | | X | | | X | |
| **Herrock Hill (Herefords.)** | X | X | X | Herefordshire Wildlife Trust | | | | | | | |
| **Hawthorn Hill (Powys)** | X | X | | Offa's Dyke Path National Trail | | X | X | | | X | X |
| **Pinners Hole, Knighton (Powys)** | X | X | X | Offa's Dyke Association, Powys County Council | | X | | X | | | |
| **Llanfair Hill (Shropshire)** | X | X | | Offa's Dyke Path National Trail | | | | | | X | |
| **Edenhope Hill (Shropshire)** | X | X | | Offa's Dyke Path National Trail | | | | | | X | |
| **Trefonen (Shropshire)** | X | X | | Trefonen Rural Protection Group | | | | X | | | X |
| **Bronygarth (Wrecsam/ Shropshire)** | X | X | X | Ceiriog Heritage Trail | | X | X | | X | | |
| **Chirk Castle (Wrecsam)** | X | | | National Trust | | | X | | | | X |
| **Froncysyllte (Wrecsam)** | X | X | | Offa's Dyke Path National Trail | | | | | | X | |
| **Ruabon (Wrecsam)** | X | | | Friends of Ruabon | | | | | | | X |
| **Plas Power (Wrecsam)** | X | | | Woodland Trust | X | | X | | | | |
| **St Tegla's, Llandegla (Denbighs.)** | | X | | Offa's Dyke Path National Trail | | X | | | X | | X |
| **Coed-talon Banks (Flints.)** | X | | | Cadw, Treuddyn Community Council | | | | | | | |
| **Prestatyn (Denbighs.)** | | X | | Arts Council for Wales, Denbighshire County Council and Prestatyn Town Council | X | X | | | | | |

| | Languages | Border/Frontier/Boundary | Ethnic divider (English/Welsh) | Military barrier | Symbol of power & authority | Public work or engineering Marvel | Trade barrier | Dominerring or impressive scale | Built from earlier dykes | Relationship with Wat's Dyke | Later history, legacy and/or folklore |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sedbury Cliffs (Gloucs.) | E | | X | | | | | | | | |
| Tidenham (Gloucs.) | E | X | X | X | X | | | | | | X |
| The Fence, Bigsweir (Gloucs.) | E | X | X | X | X | X | | X | | | |
| Herrock Hill (Herefords.) | E | X | X | X | | | | | | | |
| Hawthorn Hill (Powys) | C/E | X | | | X | X | X | | X | | |
| Pinners Hole, Knighton (Powys) | C/E | X | | | X | X | X | | | | |
| Llanfair Hill (Shropshire) | C/E | X | X | | | | | | | | |
| Edenhope Hill (Shropshire) | C/E | X | X | | | | | | | | |
| Trefonen (Shropshire) | E | X | X | | | | | | | | |
| Bronygarth (Wrecsam/ Shropshire) | C/E | X | | X | | | | | | | X |
| Chirk Castle (Wrecsam) | C/E | X | X | | | | | | | | X |
| Froncysyllte (Wrecsam) | C/E | | | | | X | | | X | | |
| Ruabon (Wrecsam) | C/E | X | X | X | X | | | X | | X | X |
| Plas Power (Wrecsam) | C/E | | X | X | | | | X | | | X |
| St Tegla's, Llandegla (Denbighs.) | C/E | X | X | | | X | | | | | |
| Coed-talon Banks (Flints.) | C/E | | | | | | | | | | |
| Prestatyn (Denbighs.) | C/E | X | X | | | | X | | | | X |

Table 2 (previous page): Comparing the texts of the seventeen heritage interpretation boards, plaques and signs critiqued in this article, arranged from south to north. As well as recording the languages employed (E = English, C/E = Cymraeg/English), ten interpretative themes are set out, listing their spatial proximity to the surviving traces of the monument, National Trail and Welsh/English border, their principal commissioners, and the different types of images incorporated in their most recent iterations

modern border, framed in ethnonationalist terms, and giving all the agency to the proto-English Mercian kingdom and its king, is ubiquitous. Indeed, two panels only (Tidenham and Prestatyn) accurately frame its legacy as creating Wales and the Welsh, and nowhere is a Welsh perspective on the Dyke's construction or use articulated (cf. Swogger and Williams 2021). In this regard, there are parallels between the celebration of Offa and his agency comparable with the emphasis, only starting to be rectified, of Edward I and his architect and subjects, in the heritage interpretation of medieval castles in Wales. It also mirrors the emphasis on Romans over 'natives' in the heritage interpretation of Hadrian's Wall.

Despite the widespread references to established (and questionable) interpretations for Offa's Dyke, many panels and plaques are not categorical in their interpretations and the narratives sometimes actively highlight the boundary's enigmatic nature, presenting alternative readings of the monument's functions. This plurality of interpretation is a strength, not a weakness, and this is clearest at Llandegla, where its role for defensive purposes, as a boundary, and as an expression of power and status, are all entertained before postulating that a combination of these functions was the case. Its role in military defence or 'strategic' positioning is referenced fewer times by comparison: references to the monument's role as a symbol or expression of power and authority; as serving a possible role in controlling trade and tolls; or simply, as a public work/engineering feat, are more commonly highlighted in interpretations. Two panels allude to the idea that it might have 'joined up' earlier earthworks, and there is one panel referencing its association with Wat's Dyke. Notably, the later landscape histories for the localities are cited in a significant minority (just six instances). Unfortunately, the equation, directly or inadvertently implied, of the monument as an ethnic and political 'border' – and built on the direct instruction of King Offa and reflecting Mercian supremacy – is persistent. This is because, while Offa's agency and Mercian landscape dominance are key themes in current scholarship, this narrative is overly simplified and out-dated in its disregard for the multiple potential functions of Offa's Dyke as a frontier work and its relationships with topography, prehistoric, Roman and sub-Roman land-use, settlement and monuments. It also neglects the monument's afterlife down to the present day (Ray and Bapty 2016; Williams 2023a).

As the analysis demonstrates above, few panels and plaques are fully up-to-date in regards to academic research, with Ruabon and Knighton standing out as exceptions: unsurprisingly, they are the newest installations. Furthermore, only some panels and plaques explicitly respond to the local context of the monument, in relation to

topography, history and archaeology. Still, regardless of the detail of their contents in regards to text and images, together, with the Offa's Dyke Centre in Knighton's new displays, the boards serve to punctuate and engage visitors and walkers, and provide a platform from which best practice can begin to be discerned, and a basis upon which future projects can build a more coherent and creative strategy for heritage interpretation. The Offa's Dyke Association have contributed to the heritage interpretation of a selection of installations, where they coincide with the National Trail, and so there is a cohesion in interpretation for Hawthorn, Llanfair, Edenhope and Froncysyllte, even if elsewhere along the line of the Offa's Dyke Path (as at Trefonen and Bronygarth) and north of where the path departs from the Dyke (Ruabon and Coed-talon Banks), local heritage initiatives have created a range of attempts to interpret the monument with fluctuating success and accuracy. While few signs effectively explain key dimensions of the monument's form, placement and landscape context, and artwork is often misleading, this diversity can also be considered, in part, a strength, as they often respond to their respective localities in considered fashions, addressing specific themes and topics, rather than replicating a 'one-size-fits-all' approach. A key further observation is the yawning geographical gaps of coverage (Figure 1), particularly in the Wye Valley, Herefordshire and southern Powys, and between the Clun Forest and Trefonen through both Shropshire and Powys, where there is simply no heritage interpretation, even in close proximity to other heritage sites and historic buildings.

In summary, this review of the heritage interpretation panels presents a stark contrast to the coherent range of heritage interpretation presented on Britain's Roman frontiers by English Heritage, the National Trust and Northumberland National Park, which have actively involved local stakeholders and communities (see Collins 2020) with public engagement, education and place-making strategies. This coordinated outreach scheme has involved museums and heritage sites, art exhibitions, sculptures, murals and playparks, as well as community projects and a project linking the theme of diversity past to newcomers today (Jones 2020; Collins 2022; Woodward *et al.* 2022; Mills and MacDougall 2024; McMorrow 2024; Mountain and Alberti 2024; Shaw 2024). In many ways, one could argue that Offa's Dyke's strength is the eclectic nature of the current interpretation, as no single narrative needs to dominate – a democratisation of interpretation. Still, the monument lacks coherent and up-to-date heritage interpretation outside the Offa's Dyke Centre in Knighton. As highlighted, along and around much of the surviving early medieval earthwork's line and the Offa's Dyke Path National Trail, heritage interpretation is sparse and eclectic or else absent. Notwithstanding the many merits of these varied and local heritage interpretation initiatives, some designed and installed by communities themselves, and the fact that variability is only to be expected when funds and opportunities for heritage interpretation emerge at varied times and circumstances, there is a glaring need for a systematic strategy moving forward. This might include installations and/or digital resources, that relate to key points along the line of the monument pertaining to places where critical aspects of the monument's form, placement and landscape context relate to up-to-date archaeological interpretations of

the monument (see Bapty and Ray 2016; see Williams 2020c for a similar discussion for Wat's Dyke). Key points of intersection between other heritage destinations and Offa's Dyke could also be better highlighted in any strategy going forward, including prehistoric, Roman, modern, post-medieval and industrial heritage sites and museums, building on the potential identified for St Tegla's, Llandegla and Chirk Castle. First and foremost, it requires a 'heritage trail' approach to allow the integration of multiple locales along, around and beyond the surviving traces of the linear earthwork, incorporating – but not prioritising – the National Trail. Hence, I present the following recommendations for future heritage interpretation of the monument, that aim to tell its story as part of a complex borderland story of significance to people today, regardless of their nationality, ethnicity or origins:

- there is a tangible need for a systematically funded overhaul of heritage interpretation for Offa's Dyke, ideally with a coherent bilingual presentation along the monument, in both England and Wales;

- I recommend this takes the form of a formalised 'heritage trail' discrete from, but overlapping with, the Offa's Dyke Path;

- textual interpretations, images and maps need to explicitly differentiate between the Offa's Dyke Path, Welsh/English border and ancient monument known as Offa's Dyke and, in doing so, avoid simplistic anachronistic ethnonationalistic narratives and, in particular, incorporate more Welsh and international perspectives to counter the current Anglocentric biases;

- heritage interpretation needs to target areas without existing panels and signs in the first instance, focusing on locations where local people and visitors alike might benefit from up-to-date explanations of the monument, including in deprived areas;

- where possible and appropriate, heritage interpretation should facilitate engagement with the monument's interaction with landscape and the broader landscape history of the environment, including heritage sites and museums of different periods and character, as well as locations that illustrate specific aspects of the monument's form, placement and interaction with the broader landscape;

- rather than simply update and augment heritage interpretation panels, however, there is considerable benefit in supporting these prominent heritage interpretation panels with more simple and modest waymarkers to provide basic information and QR links to online resources;

- linked to the former point, a kay aim should be to augment heritage interpretation with integrated digital resources, building on the precedent set by the Offa's Dyke Collaboratory website and that of the Offa's Dyke Association;

- updating other open-resource online information on wikis and other interactive mapping software, such as Google Maps (see Welham *et al.* 2015) and ArcGIS StoryMaps, are further substantive ways of enhancing the digital on-site heritage interpretation. There is also considerable potential for fresh online, Augmented Reality (AR) and Virtual Reality (VR) mobile technologies;

- supporting these endeavours with fresh maps and artwork is essential, together with diversifying the media and community engagements deployed. Projects might include original art installations, nature and heritage-focused community projects and other sustainable strategies to explain the functions and significances, past and present, of the monument, borderlands and frontiers, to visitors and locals alike.

## Conclusion

This evaluation has identified the strengths of localised responsive and tailored heritage interpretation but also the out-dated, misleading, inaccurate dimensions and the glaring gaps in coverage for heritage interpretation. Setting out clear recommendations for improvements is one task: the need for a revitalised and coherent, planned top-down 'heritage offer'. Yet, simultaneously, the converse dimensions need evaluation: the wider range of happenstance, cumulative and emergent materialities by which Offa's Dyke exists as a late-modern feature of the borderlands landscapes of Wales and England. In order to fully appreciate and understand the contemporary assemblage that constitutes Offa's Dyke, we must thus look beyond authorised and semi-authorised heritage discourse of these interpretation panels to explore the wider quotidian material assemblage that constitute today's Offa's Dyke in the borderlands landscape (Williams 2025b).

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