

THE SWALEDALE DYKES REVISITED

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Abstract

The Swaledale Dykes are the most prominent man-made pre-industrial features in the Swaledale landscape. Many theories have been put forward as to who built them and why. This paper demonstrates that the dykes are best considered as multi-period, culminating in their use as an integrated defensive system protecting the inhabitants of Swaledale against the many and varied threats of the 10th and early 11th centuries.

Introduction



Fig. 1 A general view of Harkerside, Swaledale to the south of Reeth, showing two sections of the Grinton-Fremington Dykes (enlarged in insets) running up Harkerside from the valley bottom. (Photo: Alan Mills)

The Swaledale Dykes consist of seven sections of once massive ditches and banks with the most striking being a pair of near parallel dykes running down Harkerside to the Swale and then continuing over the river up the north side toward Fremington Edge – see figure 2.

There has been much speculation over the years as to their purpose; perhaps they were built by the Brigantes to defend against the Romans, or later the British against the Angles, or as the boundaries of a ‘Dark Age’ / Early Medieval Kingdom of Swaledale or maybe defence against Viking raids. This paper will propose that in the light of recent radio-carbon dating the Swaledale Dykes should be viewed as a Viking-age integrated defensive system.

General description of the dykes.

The Swaledale Dykes system is the most visible man-made feature in the Swaledale landscape that pre-dates the impact of lead mining. The earthworks consist of a series of seven banks and ditches on both sides of the Swale valley, labelled D1-D7 in figure 2 below.

These seven sections are perhaps best considered as comprising two sub-systems: on the one hand, D1,2,3,4 and D7 each consist of a substantial bank and ditch facing east, whilst D5 and D6 also each have a substantial bank and ditch but facing either south (D6) or mainly east / south-east with a short section facing north-east (D5).

D1 and D3 may be viewed as one, running down Harkerside, crossing the Swale to the north bank and running up towards Fremington Edge, similarly D2 and D4. Collectively these four sections, effectively forming two approximately parallel dykes with the Swale floodplain intervening, are the best-known and most studied and are often referred to as the Grinton-Fremington Dykes.

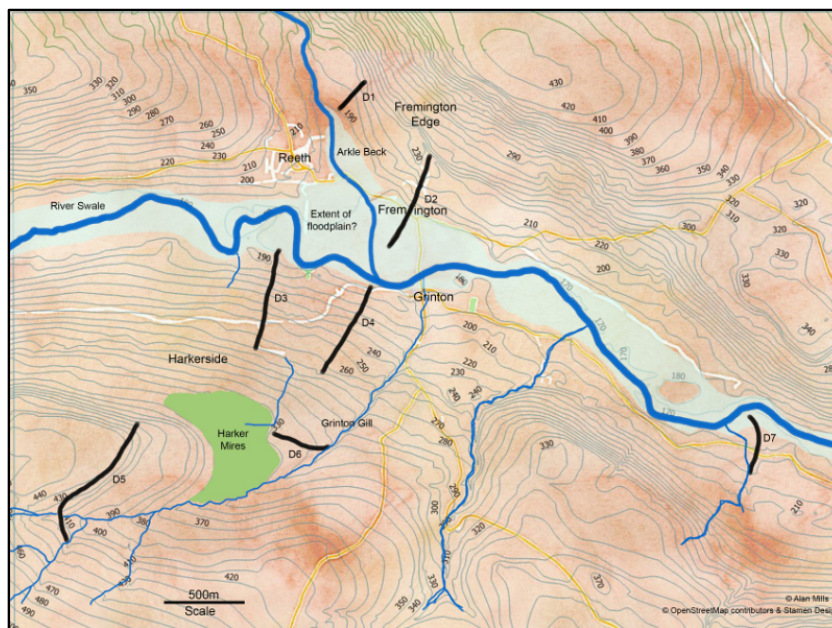


Fig. 2 Showing the Swaledale Dykes sections and their relationship with the topography

Various theories have been put forward as to the dating and purpose of the dykes; for example:

- Part of a series of fortifications developed by the Brigantes when they rebelled against the Romans (Fieldhouse & Jennings 1978)¹;
- Anglian (Fleming 1992)², later refined to be associated with a 'Dark Age' / Early Medieval Kingdom of Swaledale (Fleming 1998)³;
- Possibly late Bronze Age structures but may be as late as Romano-British (Ainsworth, Gates & Oswald 2015)⁴;
- possible early medieval route-blocking dykes (Grigg 2015, 2018)⁵.

This paper will consider the evidence for the dating of the dykes, their construction and purpose, and finally suggest how they fit into the history of Swaledale.

Dating the Dykes

The earliest written references to the Swaledale Dykes are in a charter dated 1185-91 AD which mentions Hodic⁶ and another dated 1189-1204 which mentions Ruedic⁷. Until recently Hodic was thought to be the eastern most (D4 figure 2) of the two Grinton-Fremington dykes⁸, with the name deriving from the nearby How Hill. In a recent paper Will Swales argues persuasively that Hodic is actually the westernmost of the two parallel dykes (D3)⁹. Ruedic is thought to be the dyke (D7) crossing the Grinton-Richmond 'turnpike' with Ruedic perhaps meaning straight dyke¹⁰.

¹A History of Richmond and Swaledale; R. Fieldhouse & B. Jennings; Phillimore 1978; pp3-4

² SWALB 9th Interim Report, 1992, p2 at <https://www.swaag.orgpublications/TimLaurie/InterimReports.htm> (last accessed 7th October 2020)

³Swaledale – Valley of the Wild River; A. Fleming; Edinburgh University Press; 1998; pp18-30

⁴Swaledale's 'Early Medieval Kingdom' Revisited; S. Ainsworth, T. Gates, A. Oswald; Landscapes vol16, no. 1, June 2015, p15

⁵Erik Grigg (2015) Early Medieval Dykes (400-850) REF PhD thesis (University of Manchester) <https://www.escholar.manchester.ac.uk/uk-ac-man-scw:264469> (last accessed 7th October 2020) p250 and in Warfare, Raiding & Defence in Early Medieval Britain; E. Grigg; Crowood Press; 2018; p39

⁶Early Yorkshire Charters vol 5; W. Farrer & C.T. Clay Eds; Cambridge University Press 2013; p346

⁷ibid; p32

⁸ Swaledale – Valley of the Wild River; A. Fleming; Edinburgh University Press; 1998; p143

⁹Grinton-Fremington Dykes : Names, Places & Spaces; W. Swales; Landscapes, 2020; DOI 10.1080/14662035.2020.1802133; p3ff.

¹⁰Fleming,1998, pp22-23



Fig. 3 Showing part of dyke, D3, on Harkerside, viewed from Reeth. Dyke House Close is the field immediately above the chimney pots, with the outline of the settlement visible in the snow.
(Photo: Alan Mills)

The Swaledale Ancient Landscape Boundaries (SWALB) project in the 1980s / 1990s, supervised by Tim Laurie and Andrew Fleming carried out a detailed survey in 1993 of the westernmost of the Grinton-Fremington dykes, D3, in a field known as Dyke House Close on Harkerside. They concluded that the Dykes were probably 'Dark Age' (ca. 500-800AD) boundary markers possibly for a Kingdom of Swaledale¹¹. In 2012 Stewart Ainsworth and colleagues surveyed the same area and came to the view that the Dykes were earlier, possibly Bronze Age/Iron Age¹².

A key issue arising out of both surveys was whether the dyke, D3, stratigraphically post-dates an apparently Romano-British settlement, located in Dyke House Close; see figure 3 above. Fleming's view at the time (1998) was that the dyke slighted the settlement, thus post-dating it, and therefore potentially Early Medieval¹³. Ainsworth and colleagues (2015) differed fundamentally on this issue stating that the dyke did not slight the settlement and that it could be dated only to somewhere between the late Bronze Age and the Romano-British period¹⁴. Fleming later seems to have changed his mind¹⁵. Nonetheless he does not resile from his earlier view of a polity of Swaledale, stating

It seemed clear, and still does, that the upper Swale valley above the linear earthwork zone was understood as a territorial entity in terms of social and political geography, and was evidently known as Swaledale in the late first millennium AD¹⁶.

¹¹Fleming, 1998, p21 and SWALB 10th Interim Report, 1993, p5 at https://www.swaag.org/publications_TimLaurie_InterimReports.htm (last accessed 7th October 2020)

¹²Ainsworth et al, 2015, pp3-17.

¹³Fleming, 1998, pp18-30.

¹⁴Ainsworth et al, 2015, p15

¹⁵Yorkshire Dykes; A. Fleming; Landscapes, Vol. 16 No. 1, June, 2015, pp18–25.

¹⁶Fleming, 2015, p19

Tim Laurie, Fleming's colleague in the earlier SWALB project, demurs and supports the initial view that the dyke slights the settlement¹⁷. Having paid several visits to Dyke House Close, the relationship between the dyke and putative Romano-British settlement is far from clear although we lean towards Laurie's view.

This disagreement illustrates well the difficulty in dating structures based on landscape surveys alone. In particular, and rather surprisingly, Ainsworth et al paid only passing interest in the radiocarbon dates obtained by Tim Laurie in 2009, the Swaledale & Arkengarthdale Archaeology Group (SWAAG) excavations in 2011 and further excavations also by SWAAG in 2015/16.

In 2009 Tim Laurie arranged for the analysis of samples he had collected from the High Harker Dyke, D5, during an initial site visit. Charcoal from a possible old turf line exposed by erosion near to the base of the one of the ditches provided a late medieval radiocarbon date, 1402 -1457 cal AD. A preliminary pollen assessment was also undertaken on a sample of a thin black humic layer in the upper ditch section.

The SWAAG excavations in 2011, supervised by Durham University Archaeological Services, were on the same dyke (D5) at High Harker¹⁸. Detailed profiles were recorded for each ditch. No artefacts were recovered. Palaeoenvironmental samples were taken from the fills of two ditches with three samples subjected to radiocarbon dating. The results were as follows:

1. A fragment of willow/poplar charcoal from a silty clay layer at the base of the upper ditch section, provided a date of 897-1025 cal AD.
2. A fragment of oak charcoal from a black humic layer above the silty clay layer provided a date of 3080-2904 cal BC. This is considered to be an extraneous piece of charcoal, possibly blown in, and not contemporaneous with the creation of the dyke.
3. A bulk sediment sample from a black humic layer in the lower ditch section, provided a date of 880-990 cal AD.

¹⁷Laurie 2019 pers comm.

¹⁸<https://www.swaag.org/LEADER/LeaderPDF/3032%20Swaledale%20High%20Harker%20SHH12rev.pdf> (last accessed 7th October 2020)

Combining the 82.6% confidence interval of sample 1, 943AD – 1025AD, with the 95.4% interval of sample 3, 880AD – 990AD, gives a radiocarbon date ‘terminus post quem’ for the High Harker dyke, D5, of 943AD – 990AD, the mid to late 10th C; that is, the dyke D5 was most likely constructed in or after this period¹⁹.

In summary, the report of the 2011 excavation concludes that the analysis of the palaeoenvironmental samples from both 2009 and 2011, together with radiocarbon dating, suggest a pre-conquest context for the construction of the earthworks, as this is the date of the earlier silts, with the remainder of the ditches probably silting up during the 11th-15th centuries AD in an environment dominated by open heathland vegetation.

The SWAAG excavations in 2015/16, investigating the Grinton-Fremington dykes, took place on the bank of the western-most section of dyke, D3, above Dyke House Close²⁰. Samples for radiocarbon dating were taken from a thin dark layer which lay directly over the natural deposits. A number of radiocarbon dates were obtained, mostly Bronze Age. However, charcoal from near the foot of the bank provided a date of 88BC – 72 cal AD; that is, a late Iron Age date.

Given the depth and location of the charcoal samples recovered, it seems reasonable to assume that the dates obtained relate to material buried at the time of construction of the bank, giving a ‘terminus post quem’ for dyke D3 of 88BC – 72AD; that is the dyke was most likely constructed in or after this period.

This very late Iron Age date of 88BC – 72AD for D3 is not inconsistent with the dyke either pre-dating or post-dating the probable Romano-British settlement in Dyke House Close as the charcoal may have lain in the ground for some time before being incorporated into the bank although pre-dating, as per Ainsworth et al, seems more likely given the otherwise potential gap of several hundred years between the charcoal being formed and its subsequent incorporation in the construction of the bank.

Neither is the dating of this section of the Grinton-Fremington Dykes inconsistent with the local tradition that the dykes were constructed by the local Brigantes tribe as a defence against the Romans. It is however inconsistent with construction in either the Bronze Age or the Early Iron Age.

¹⁹The detail of the radiocarbon dating is in the report on the SWAAG website; *ibid*

²⁰<https://swaag.org/pdf/SBDD15%20Report%20PDF.pdf> (last accessed 10th October 2020)

Given the similarities between the four sections of dyke (D1, D2, D3, D4) and their topographical relationship it seems reasonable to assume that all four sections were constructed at or around the same time. Further, it seems likely that Ruedic, D7, was also constructed at the same time, given that like D1-D4 it straddles Swaledale, facing east, and is of similar construction.

Other approaches help shed further light on the dating of the Grinton-Fremington dykes (D1-D4) which for the purpose of brevity will include Ruedic, D7.

Place name studies provide possible evidence that the Grinton–Fremington dykes running approximately north-south and crossing the River Swale are no later than early medieval in origin. To the north of the Swale, the hamlet of Fremington is bisected by dyke D2. This suggests that the dyke pre-dates Fremington as it is unlikely that a dyke would be built bisecting a pre-existing settlement. In addition, Grinton, which was to become the main settlement in the area with the only pre-medieval church, is between Ruedic to the east and the first of the parallel dykes to the west; thus it seems unlikely that Grinton existed when these dykes were built.

Further, most ‘ton’ names are thought to date from about 750-850AD²¹ and so it seems most likely that the Grinton-Fremington dykes were constructed some time between the radiocarbon date of the late Iron Age and say, around 800AD.

In addition, the dykes share many of the characteristics of early medieval dykes identified by Erik Grigg²². These are that generally such dykes:

- Tend to be ‘straight’ without any of the dogleg sections which are typical of prehistoric dykes.
- Have no clear evidence of any gateways or palisades.
- Are likely to be relatively small in scale although a minority eg. Offa’s Dyke are unusually long.
- Have a single bank and ditch, both quite large, whereas prehistoric dykes often have multiple banks and ditches, usually much smaller.

²¹M. Gelling, in *Anglo-Saxon Settlement and Landscape*, T. Rowley(ed) 1974, pp 91-101

²²Erik Grigg (2015) pp 76-81 and 2018 77ff

- Have ditches averaging 2.1m deep and 6.2m wide with the banks averaging 1.8m high and 8.3 m wide. Prehistoric dykes average 1.4m / 5.1m and 1.7m / 3.25m respectively. Excluding the ten largest probable medieval dykes the remainder have ditches averaging just 1.6m deep, banks averaging 2.6m high.
- Are more likely to have V-shaped ditches than U-shaped.
- Often have counterscarp banks, marker banks, berms, revetments and ankle-breakers.

The Swaledale Dykes are relatively short, have quite large single banks and V-shaped ditches and are basically straight, apart from the turn in D5, the High Harker Dyke, which follows the contour into what would have been a marshy area. There is no clear evidence of either gateways or palisades. The SWAAG excavation of the Dyke House Close Dyke (D3) revealed a small revetment (see figure 4) and both the High Harker dyke D5 and the Harker Mires dyke D6 have evidence of a berm (see figure 5).



Fig.4 Evidence of a revetment at the foot of the bank of the Dyke House Close Dyke; this was a significant feature measuring in excess of 0.5m in height. (Photo: Rob Nicholson SWAAG)



Fig. 5 A probable berm on D6, the Harker Mires Dyke

Whilst having these characteristics does not prove the dykes to be early medieval it is supportive of the assertion that they, or most of them, do date from around this time.

Note that we have not yet considered fully two of the radiocarbon dates. One of around 3,000BC from the High Harker dig in 2011 may be discounted as it was above a sample dated to 897AD-1025AD. The second is the 2009 sample which yielded a late medieval radiocarbon date, 1402 -1457 cal AD. The location of this latter sample suggests that the dyke was reworked in the 15thC possibly as part of the medieval Deer Park thought to be located to the West of the dyke D3 on Harkerside and shown to this day on the Ordnance Survey; it is thus not of direct relevance to the thrust of this paper although of interest nonetheless.

In summary, the totality of the evidence shows that the Grinton-Fremington Dykes (D1-D4) were constructed some time in or after the period 88BC to 72AD while the High Harker Dyke was constructed in or after the period 943AD – 990AD.

Further, the Grinton-Fremington Dykes were probably complete before 800AD or thereabouts. While absence of evidence is not evidence of absence, the lack of any dating evidence from the excavations at D3 after around 70AD suggests that this dyke was constructed nearer to 70AD than 800AD. In addition, Ruedic, D7, facing East, was probably constructed at the same time as D1-D4. The Harker Mires dyke (D6) looks very similar to the High Harker dyke (D5), having a berm for example. It also has a clear topographical relationship with D5 and so was probably constructed at the same time. Thus we can conclude the Swaledale Dykes were constructed in at least two phases, one between 88BC and 800AD, and probably nearer the earlier than the later date, with the other phase post 940AD, or thereabouts.

The probable purpose of the Swaledale Dykes

A wide range of potential reasons for constructing dykes has been proposed over the years²³. These include to control trade, as ecclesiastical / political boundaries, to enclose special, perhaps ritual, places or as physical barriers to deter raiders. Over time a dyke could of course fulfil several of these purposes.

It seems clear that none of the Swaledale Dykes was developed to control trade; had they been so, there would surely be some evidence of gateways through which trade could be monitored and controlled. Neither is there anything to suggest that any of them ever formed an ecclesiastical boundary and whilst Maiden Castle, a possible place of ritual, lies a short distance to the west, there is nothing to suggest any association with the dykes.

The Grinton-Fremington Dykes (D1-D4) consist of two roughly parallel dykes, both with deep ditches and high banks facing east, some 600m or so apart and spanning the River Swale. It is possible that they formed the boundaries of a British or Anglian Kingdom as suggested by Fleming, but given the nature of their construction, it seems most likely that their primary purpose was to defend Upper Swaledale and Arkengarthdale from attack from the east, with the western dyke a fall-back position from the eastern. These initial elements of the Swaledale Dykes would have provided an effective barrier against raids on British or Anglian settlers in Upper Swaledale and Arkengarthdale by attackers from the east. As Grigg puts it, these and Ruedic, are possible early medieval 'route blocking' dykes²⁴, blocking access up Swaledale and Arkengarthdale.

²³See for example Grigg (2015), p32ff and (2018) p22ff

²⁴Grigg (2015) p250; (2018) p39

Grigg's research indicates that such dykes often end at steep slopes or waterways²⁵ as these do, incorporating both the Swale flood plain and the steep wooded slopes of Fremington Edge.

However, although effective in providing a defence against raiders from the east, it is clear from Figure 2 that the south-east would have been a potential weakness. This, we suggest, was remedied by the construction of the High Harker – Harker Mires dykes, D5 & D6, in the mid to late 10th C, around 940AD-990 AD. These are also clearly defensive, route-blocking in nature, with substantial ditches and banks and berms, incorporating the very steep Grinton Gill to the east, the limestone scar, Long Scar, on High Harker to the west and Harker Mires itself in between, to create a substantial barrier to raiders from the south and south-east at a time when Viking raids were endemic, seeking plunder and slaves.



Fig.6 Showing the eastern terminus of the Harker Mires Dyke, D6, incorporating Grinton Gill (Photo: Alan Mills)

If these two dykes were constructed in response to an imminent threat, how long would it take, would there be sufficient manpower?

²⁵Grigg 2015 p245; (2018) p81

Grigg considers the number of ‘man’ days needed to construct an early medieval dyke²⁶. He estimates the total volume of material moved to create what he refers to as the Southern Dyke, the Harker Mires Dyke, D6, to be 3,276 cubic metres²⁷. He does not include D5, the High Harker Dyke in his study. This is nearly a kilometre long, nearly three times the length of the Harker Mires Dyke. The terrain is rocky in places so harder to dig, but on the other hand the dyke incorporates a section of Long Scar, so assuming the amount of material to be moved is three times D6 we get a total amount of material to be moved of approximately 13,000 cubic metres. After reviewing a number of studies he estimates that an early medieval labourer could probably move 1½ - 3 cubic metres per day. This suggests between 4,500 and 9,000 man days to construct the two dykes, Harker Mires and High Harker. If the objective was to construct these two dykes in one season, from say March to October, working 6 days per week, approximately 250 days, then a team of between roughly 20 – 40 men would be required. This seems not unreasonable if the objective was to counter a perceived imminent threat.

Thus, the pre-existing Grinton-Fremington Dykes together with the High Harker and Harker Mires Dykes should be viewed as an integrated early-medieval defensive system, developed over time but culminating in the Viking period, to guard against attacks from both the East and the South-East.

The nature of the dykes is such that they would not provide an effective defence against an army, but would against small raiding parties perhaps seeking slaves. Was there any such threat to guard against between the mid 10th C and the Norman Conquest?

Swaledale in the mid-10th century

Although this period is not well understood we can piece together what was happening here at that time.

In the mid-9th C the land to the east of Swaledale was occupied by the Danish Vikings who took York in 866-867AD and set up their capital there. In 874, under their King, Halfdan, they conquered the rest of Northumbria, broadly modern day Yorkshire, Durham and much of Northumberland, and in 876 Halfdan “divided up the land” amongst his followers. Thus, in the late 9th C Swaledale would have been under the rule of the Danish ‘Kings’ based in York.

²⁶Grigg (2018) p63ff

²⁷Grigg (2018) p146

They, or at least their leader, Halfdan, were Christian as evidenced by the coinage of the time although this did not stop them enslaving those who they conquered, with a major slave market in York and another in Dublin, the latter under the control of the Irish Vikings, the Hiberno-Norse, with whom the Danes of York had close links.

The pagan Hiberno-Norse were driven out of Dublin by the native Irish in 902AD and from that period on began to establish settlements in Cumbria and move progressively east. There is plenty of evidence to this day of the extensive Norse influence in Swaledale; place names such as Keld (Old Norse (ON) *spring*), Muker (ON *narrow field*), Gunnerside (ON Gunnar's saetr ie *summer pasture*) and also in field names as far down the valley as the Reeth and Grinton area e.g. Sleights (ON *flat place*), Dimple Keld; similarly Arkle Beck (ON Arnkell's river) and Grove Beck (ON 'Mine' river). Recently Tim Laurie and colleagues have identified several probable Viking settlements including what is believed to be Gunnar's saetr²⁸.

There is a lack of evidence regarding the precise timing of the Hiberno-Norse settlement in Swaledale but it seems highly likely that by the time of the building of the High Harker-Harker Mires dykes there was at least considerable Norse influence here if not actual occupation.

There are several possible reasons why the Anglo-Saxon / Hiberno-Norse Viking people of Swaledale might wish to enhance the defences for this part of Swaledale in this period by adding the Harker Mires – High Harker dykes to the already existing Grinton-Fremington dykes.

The Dykes might simply have been enhanced in order to make a statement of ownership, the boundary between the Norse Vikings in Swaledale and the people to the south and east, who at various times were Danish, Hiberno-Norse, Anglo-Saxon and Swedish.

Alternatively the Dykes might have been enhanced in response to one or more of the many potential and explicit threats during this period. For example, there were three decades of conflict between the Danes and the Anglo-Saxons of Wessex after the pagan Ragnaeld took York from the Christian Danes in 919. This culminated in the death of Erik Bloodaxe, probably in 954, at nearby Stainmoor, bringing to an end independent Viking rule in Northumbria.

²⁸[https://swaag.org/pdf/Winterings to Feethams Survey 2016 published 2019.pdf](https://swaag.org/pdf/Winterings%20to%20Feethams%20Survey%202016%20published%202019.pdf) (last accessed 12th October 2020)

The later 10th century and early 11th also saw several other major threats, any of which could have prompted the inhabitants of Swaledale to add the High Harker – Harker Mires dykes to the pre-existing dykes. Notable amongst these potential threats was King Ethelred of Wessex's order in 1002 to kill all the Danes in England, which although far from successful, did prompt violent retaliation from Svein Forkbeard, King of Denmark, with raids and settlement, and no doubt enslavement of the conquered population, continuing until he became King of England in 1014.

Summary

This paper has shown that the sections of the Swaledale Dykes known as the Grinton-Fremington Dykes were most likely constructed in the period between the late Iron Age and around 800AD. They would have provided an effective barrier against Anglian or later Anglo-Saxon raiders from the east. They might well be associated with a 'Kingdom' of Swaledale as Fleming suggests.

These dykes were supplemented by the High Harker – Harker Mires dykes in the mid -10th to early 11th century providing additional defence to the then Anglo-Saxon / Hiberno-Norse population of Swaledale against potential aggressors not only from the east but also from the south and south-east.

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