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Reader R (2012) Over the ditch and far away: Investigating Broxmouth and the landscape of South-East Scotland during the later prehistoric period. PhD Thesis. University of Bradford.

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## **Chapter 3. Methods**

### **3.1 Introduction**

It has been argued that a combination of quantitative and qualitative methods can begin to reveal the reasoning behind the construction of enclosed sites and the ways these sites imprinted on the landscape and affected people's relationships with and within the landscape. These approaches will incorporate site-specific data into a wider picture of landscape utilisation during the later prehistoric period. The analysis of the Broxmouth data utilised with a wider landscape study can be incorporated into a 'taskscape' framework and thus allow for considerations of the temporality of landscape exploitation and also the implications for the unexcavated sites. The data are not 'imposed' on unexcavated sites; rather the results are used to consider the wider picture and what may have been happening elsewhere during this period.

### **3.2 Broxmouth: investigating site-specific data**

The archaeology of Broxmouth itself is analysed in terms of patterns of ditch creation, maintenance and silting as well as the varying forms of enclosure and entrance building. The stratigraphy of the enclosure system is analysed to build a biography of the site. Aspects of landscape utilisation can be inferred from this analysis and the implications can be discussed in relation to other excavated sites and the wider settlement pattern in general.

AutoCAD was used to digitise the ditch sections, partly by the author but also as part of the ongoing strategy of the project. Ditch sections were recorded through the east, west and south-west entrances plus those uncovered during the initial trial trenching (see Figure 4.1). The entrance structures also aided analysis of site design and establish a relative sequence to reveal episodes of creation, modification and decay which can be further refined by AMS dates and Bayesian statistics from the absolute sequence.

### **3.3 Study Area Data: characterising the later prehistoric settlement pattern in south-east Scotland**

To provide the landscape context for Broxmouth, a study area was defined with the intention of incorporating different 'scapes' as well as a manageable number of sites for analysis. The data were inputted into Microsoft Excel and came from a variety of data sources, primarily CANMORE but also *Discovery and Excavation in Scotland* (DES) reports, from 1947 onwards and excavated reports of sites in the area. In all, 296 potentially later prehistoric enclosed sites are recorded within the study area in CANMORE (the database of the RCAHMS).

#### 3.3.1 Compiling the Database

Using CANMORE, all known potentially later prehistoric sites within the study area were inputted into Microsoft Excel. This was achieved using a keyword search comprising 'fort', 'hillfort', 'settlement', 'enclosure', 'cave' and 'midden'. For the purposes of this study, the later prehistoric period extends from c.1300 cal BC

through to cal AD 400, although the continuity of landscape is considered in other chapters. This extends from the late Bronze Age through to the late Roman Iron Age and is a largely pragmatic definition derived from radiocarbon dates (all quoted at 2-sigma unless stated otherwise) of enclosed sites in south-east Scotland.

### 3.3.2 Enclosed sites

Hillforts are described as 'forts' on CANMORE and this is the current preferred term of the RCAHMS. A 'fort' is defined in CANMORE as "an enclosure, often located on a hilltop, bounded by one or more banks, ditches, ramparts or walls. Use for prehistoric and early historic sites" (<http://canmore.rcahms.gov.uk>). Settlements and sub-categories of enclosures on CANMORE are listed as 'enclosures' in the thesis database. These are defined by CANMORE as "areas with defined boundaries", although the RCAHMS online thesaurus also links to sub-categories of enclosure, either referring to morphology (circular; curvilinear; rectilinear etc) or possible function (ritual; mortuary; stock etc).

These definitions have considerable potential for overlap and are thus unsuitable for detailed analyses; therefore all sites have initially been treated as belonging to one category and are subjected to the same analyses and descriptive categories. This study relies heavily on cropmark evidence which is used as the primary indicator of characteristics such as morphology and number of ditches. This allows categories and differences to emerge from the analysis of the dataset, rather than imposing categories from the start. Other studies have adopted a similar approach to the

inclusion of earthwork and cropmark sites together, without prior differentiation (e.g. Moore 2006; Bruhn 2008).

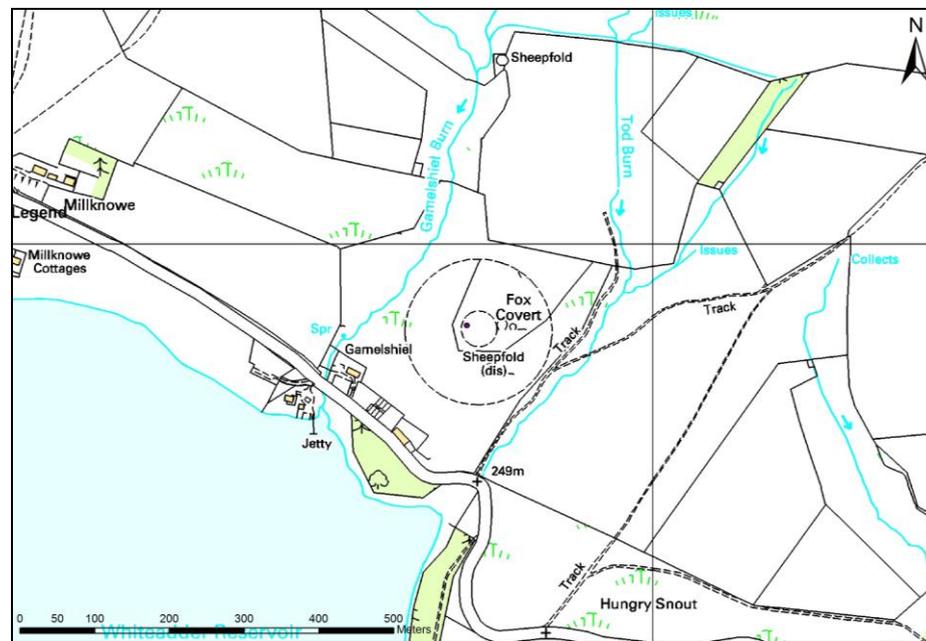


Figure 3.1 A disused sheepfold, converted into a fox covert - one of the sites ruled out as a later prehistoric site (Contains OS survey data. © Crown copyright 2012. An Ordnance Survey/EDINA supplied service)

The CANMORE definitions rarely categorise sites according to time periods and on closer evaluation, it is apparent that some sites are clearly not later prehistoric in date. Using 1:10,000 Ordnance Survey maps, some of the sites classed as enclosed sites can be ruled out as being modern constructs, especially upland sites which can be identified as sheepfolds (see Figure 3.1). Some sites listed in CANMORE have no accompanying cropmark data or other supporting evidence and can also be omitted. Sixty nine sites were ruled out, leaving 226 sites for analysis and it is this 'cleaned' database that will be used in the subsequent analysis.

### 3.3.3 Unenclosed sites

The evidence for other types of later prehistoric activity is also considered although it is not amenable to the same analyses as for the enclosed sites. The term 'unenclosed' refers to a variety of sites that are not known to have been enclosed with a rampart and a ditch or palisade. These sites fall primarily into three categories: isolated roundhouses/open settlements, cave/midden sites and stray finds. CANMORE was again, the primary source for the first two and the cropmark data could be used to an extent (see limitations below) to identify isolated roundhouses. However for stray finds, due to the vast number of categories employed within CANMORE, data primarily came from DES and also a recent list of later prehistoric finds from East Lothian published by the Traprain Law Environs Project (TLEP) (Hunter *et al* 2009, 146-7).

## 3.4 Examining the visual impact

The visual impact of an enclosed site can affect people's relationships and attitudes with the resident population and other people and it is argued that this can change over time according to whether boundaries are left to decay, added to or enhanced. The utilisation of particular topographic locations and siting in relation to other sites and the surrounding landscape can also have a bearing on people's attitudes and interactions with and within the site. Sites still standing in the landscape were selected to examine these aspects and investigate the wider landscape relationships, entrance placement and number of boundaries.

### 3.4.1 Field Visits

Tilley has emphasised that experiencing a place first-hand is important when conducting landscape studies (1994, 74). It is difficult to theorize about the past landscape if we have no sense of what the modern landscape is like. Although many elements of the landscape have changed over the past three thousand years, there are largely unchanged elements such as the topography. In other words, “the skin of the land has gone for good... but not its shape” (Tilley 1994, 73). Palaeoenvironmental evidence and pollen evidence from excavated sites can additionally hint at past environment, farming practices and possible tree cover. Field visits form one part of recording the visual impact of later prehistoric enclosed sites. Even after two thousand years, if not more, of erosion, sites such as Chesters Drem and Black Castle attest to the impressive heights of ramparts still surviving today. Whether intentional or not, a visually impressive monument was created and many of these are visible for miles around.

A small number of upstanding sites were thus selected for phenomenological study, on the coastal plain and fringes of the uplands. Regional visibility was recorded as was access to water sources, ease of access and relationship to nearby sites. Views were taken from the entrances of the landscape, again to record regional visibility and also the extent to which certain topographic features dominated in the area. The phenomenological study primarily investigates the views from the site and offers a subjective description of the sites and the landscape settings. This complements GIS based studies looking at views to the site from the surrounding landscape.

### 3.4.2 Viewshed Analysis

Viewshed analysis is employed to investigate views to and from the sites and the potential visual impact of ramparts and the potential influence of the creation, maintenance and decay on the people living and working within these areas. The viewshed of a viewpoint is the set of target cells, in this case the enclosed site that can be seen from a viewpoint. The aim of this analysis is to produce multiple viewsheds, with values either defined as one (visible from one or more viewpoints in the landscape) or zero (not visible from any viewpoint) (Conolly and Lake 2006, 227). A raster data map is needed for viewshed analysis as the algorithms are calculated from individual cells which store the height data of the topography. Various scales of raster maps can be utilised, depending on the detail required of the views (Conolly and Lake 2006, 225). The viewsheds quantify 25 metre squares recording whether a 1.7m person standing within them can, or cannot, see a particular target.

### 3.5 Considering Landscape Continuity

Landscape patterning can have considerable antiquity and can have implications for the utilisation of the landscape during later prehistory; Roman roads may follow older paths, depopulated landscapes may be traced back further than catastrophic medieval events and definition of parish boundaries may relate to much older land tenure (Hoskins 1955). Tracing landscape utilisation through old maps and documentary sources can be a difficult process and must be treated with caution. The Old and New Statistical Accounts for this area are a useful source of information on farming conditions, topography and resource exploitation in the

Medieval and Post-Medieval period. Old maps of Scotland are readily available on the National Library of Scotland website (<http://maps.nls.uk/>) and Inglis (1916) provides a good overview of the primary maps referred to in this thesis. The documents and maps are also used to document changing land use, along with the Historic Land-use Assessment (PASTMAP – <http://jura.rcahms.gov.uk>) to assess the level of preservation of later prehistoric settlement and potential 'blank areas'.

The archaeological evidence for early prehistoric evidence is outlined primarily to identify areas of exploitation and possible settlement and to examine whether this corresponds to later prehistoric settlement. The same is done for Roman and early medieval evidence to examine whether traces of the later prehistoric landscape utilisation can be seen in subsequent periods.

### **3.6 Conclusion**

This study employs a varied suite of methods to quantify aspects of the landscape and to try and describe the qualitative aspects, based on the theoretical background of the taskscape. Marrying site specific data with wider landscape data is difficult as they operate at two opposing scales. The Broxmouth data were analysed to create a picture of landscape utilisation specific to the area of Broxmouth, however the artefacts and particularly utilisation of resources such as wood, animals and shells shows wider exploitation, which can be compared to excavated sites in East Lothian and the wider area. Careful use of analogy can then extend discussion to unexcavated sites and the wider landscape to build up a picture of landscape utilisation during the later prehistoric period.