MONUMENTS IN A LANDSCAPE

MONUMENTS IN A LANDSCAPE: AN ANALYSIS OF THE PLACEMENT OF MONUMENTS IN THE LANDSCAPE OF THE LOWER BARROW RIVER VALLEY 4500 BC TO AD1500

By

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ABSTRACT

This thesis endeavours to reconstruct and interpret the cultural landscape of the Lower Barrow River Valley in southeastern Ireland, focusing primarily upon the creation of sacred landscapes. Through an examination of the placement of monuments in the valley over a period of 6,000 years (4500 BC to AD 1500), two multi-period complexes of primarily sacred prehistoric sites have been identified. This identification was achieved through the construction of highly detailed distribution maps. These maps facilitated both the statistical analysis of relationships between monuments and aspects of the natural landscape and a more subjective interpretation of the spatial relationships between different monument types over the time period in question. Whereas numerous correlations between monument types and particular aspects of the natural landscape have been identified, the spatial associations between different monuments and larger geographical features such as the Barrow River, Brandon Hill and the Pass of Gowran proved to be crucial in the creation of sacred landscapes.

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CHAPTER 1

INTRODUCTION

The Barrow River in southeastern Ireland, flows south for over 100 km (60 miles) from its source in the Slieve Bloom Mountains through the heart of the province of Leinster, emptying into the Irish Sea. Along its path, it gains the strength of both the Nore and the Suir, which converge with the Barrow from the west. Together, the "Three Sisters" and their tributaries provide the drainage for the rich soils of one of Ireland's most agriculturally productive areas.

Due to a lack of fieldwork in the area and the comparative absence of visible prehistoric monuments, the Southeast had long been considered to be void of intensive early prehistoric settlement (Cooney and Grogan 1994: 207-208). This is especially apparent when the Southeast is compared to the extensive Mesolithic and Neolithic landscapes to the north and the Late Neolithic/Bronze Age landscapes to the west identified through archaeological investigation. More recently this outlook has begun to change. Through intensive survey and analysis of lithic materials, extensive Mesolithic and Neolithic settlement has been demonstreted in the Barrow River Valley (Ramsden et al. 1995: 330-332) as well as along the Suir and Barrow estuary in eastern Co. Waterford (Green and Zvelebil 1993: 15-18). Although the Southeast in general and the Barrow Valley in particular, exhibit significantly less dense distributions of megalithic tombs, this is no longer accepted as the sole

indicator of the intensity of settlement (Cooney and Grogan 1994: 208). This is evident in the distribution of Neolithic lithic scatters (Ramsden et al. 1995: 331) and the abundance of Early Bronze Age burials in the region (Waddell 1990: 35-37).

What follows in this work is an attempt to document and explain the distribution of monuments in the Lower Barrow River Valley from the Neolithic through to the Medieval Period (c.4500 BC to AD 1500) (Fig. 1). This study area was chosen for a number of reasons: initially, the project was born through the invitation of Peter Ramsden to address the monuments along the Barrow River and subsequently the later prehistory and early history of the valley, as part of the Barrow River Project. It was soon decided that instead of simply documenting the monuments, a more interpretive approach that attempted to reconstruct the cultural landscape, and how it changed over time, was possible. Since the inception of human settlement in the region (c. 7000 BC), the Barrow River has constituted both a natural transportation corridor, from the sea to the interior of the island, and a formidable border. Historically, the Barrow has acted as a border between the kingdoms of Ossary and Leinster during the Iron Age/Early Christian Period (Smyth 1982: 8-9) and between numerous counties from the Medieval Period through to the present day.

The entire length of the Barrow Valley could not be adequately addressed within the scope of a Master's thesis. It was decided to focus attention of the lower part of the valley, with the confluence of the Suir and Barrow as the southern limit of the study area and the border between Cos.

IRELAND : INDICATING STUDY AREA

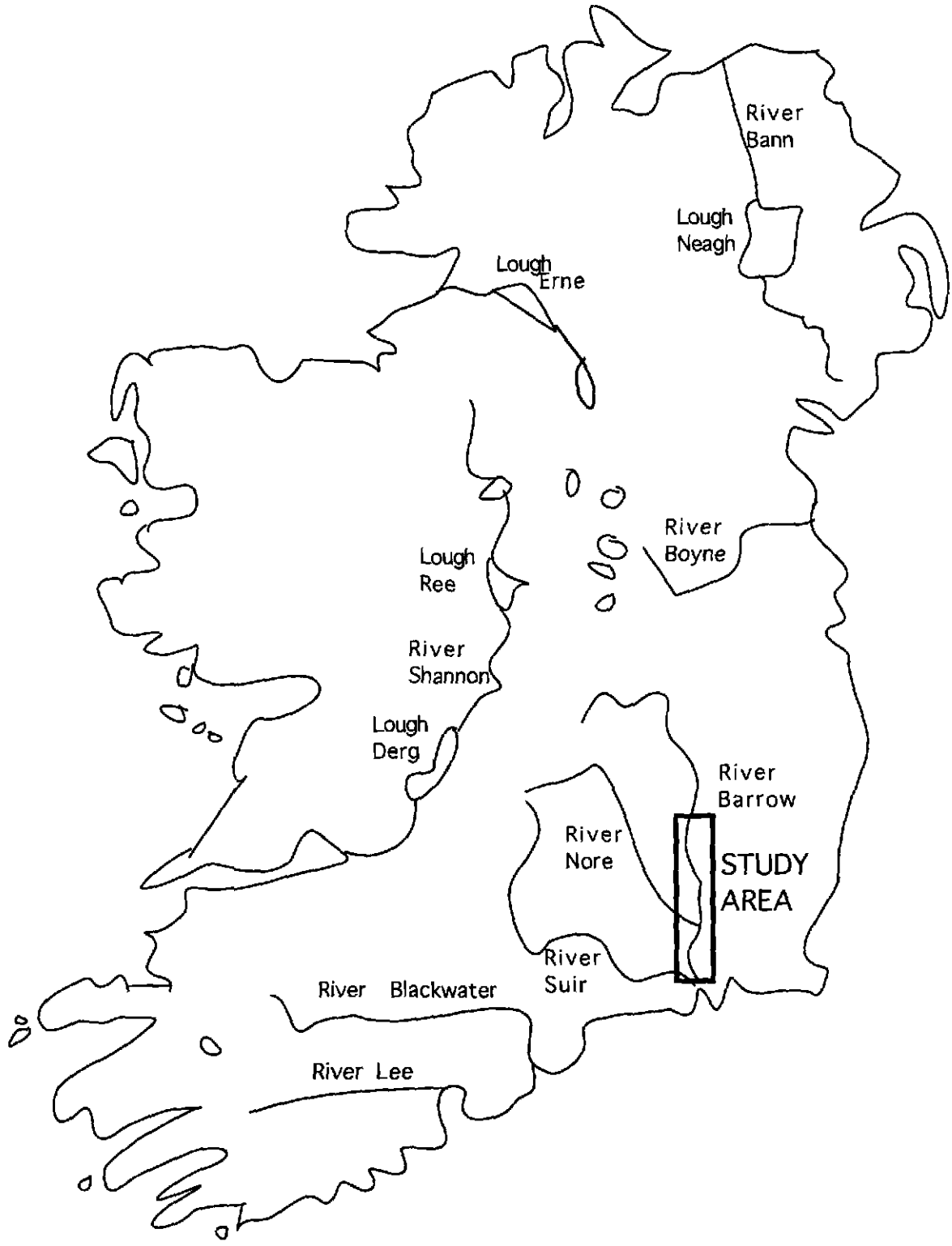


Fig. 1

Carlow and Kildare as the northern limit. This section of the valley was chosen for a number of reasons. The 42 mile (67.2 km) stretch of the river includes both riverine and esturine environmental zones, some of the most fertile soils in Ireland and a varied topography that includes both a rolling valley floor and gentle slopes, rising to the inhospitable and dramatic heights of the Blackstair Mountains, Brandon Hill and the Castlecomer Plateau. This section of the valley contains examples of almost all the major monument types found in Ireland.

Another important criterion for the selection of this particular area and the subsequent delimitation of the study area itself, was the availability and nature of the information. The distribution maps that form the basis of this study are based upon the Ordinance Survey of Ireland's Six Inch to a Mile maps (fig. 2). The extremely small scale and accuracy of these maps have allowed for the inclusion of the location of monuments, both prehistoric and historic, on Sites and Monuments Record (S.M.R.) versions of the maps by the Office of Public Works (O.P.W.). These maps are accompanied by lists that provide the information on the type of monument, its associated townland and position on the Irish National Grid (Reeves-Smyth 1983: 129). More recently, the O.P.W. has begun to combine the S.M.R. lists with more detailed information for each site in the form of County Archaeological Inventories. As the Carlow Inventory was published just as this project was begun, it was decided to include as much of Co. Carlow as possible within the study area, due to the potential for increased detail and accuracy in the identification and classification of monuments. As this project progressed, the Co. Laois Inventory was published and was incorporated, but unfortunately, the

OUTLINE OF STUDY AREA BASED UPON COUNTY SIX INCH TO A MILE S.M.R. MAPS

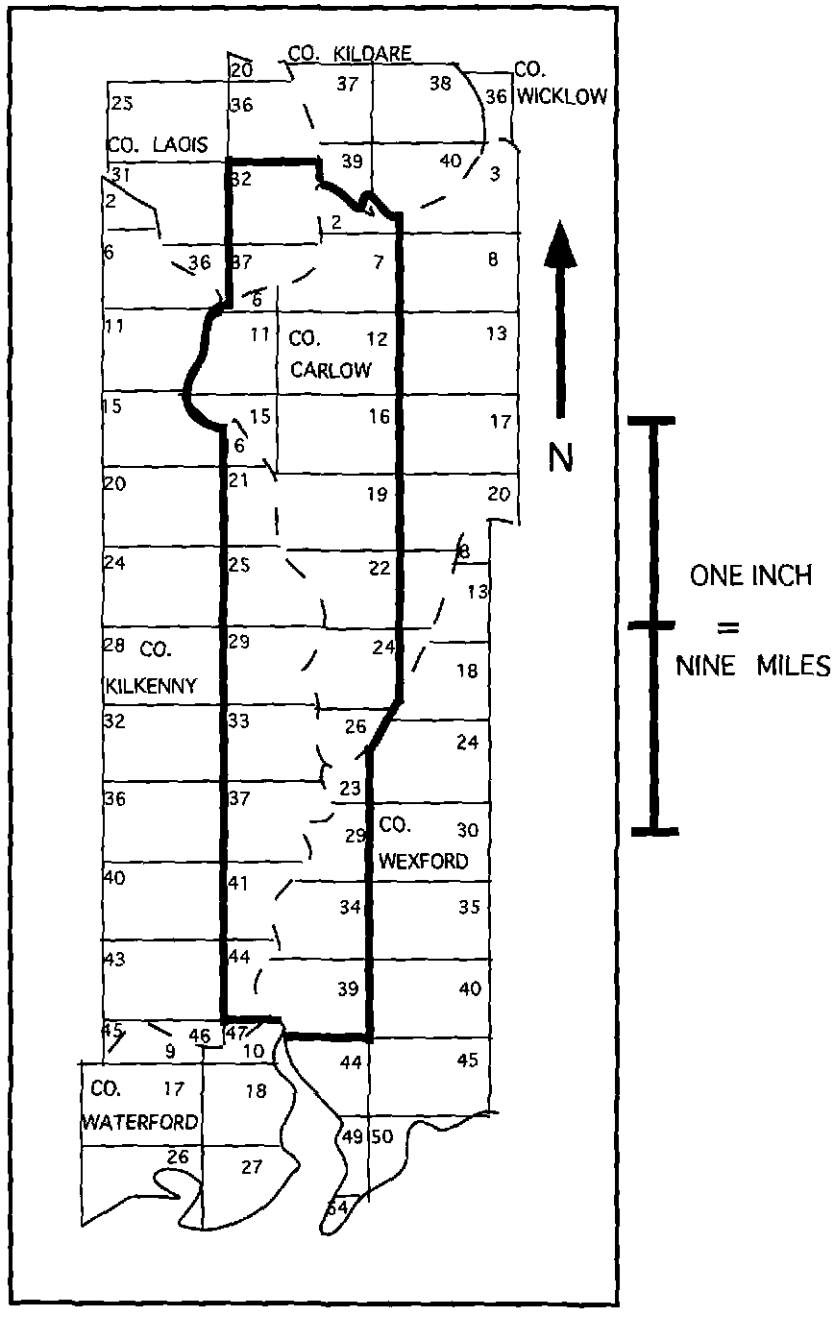
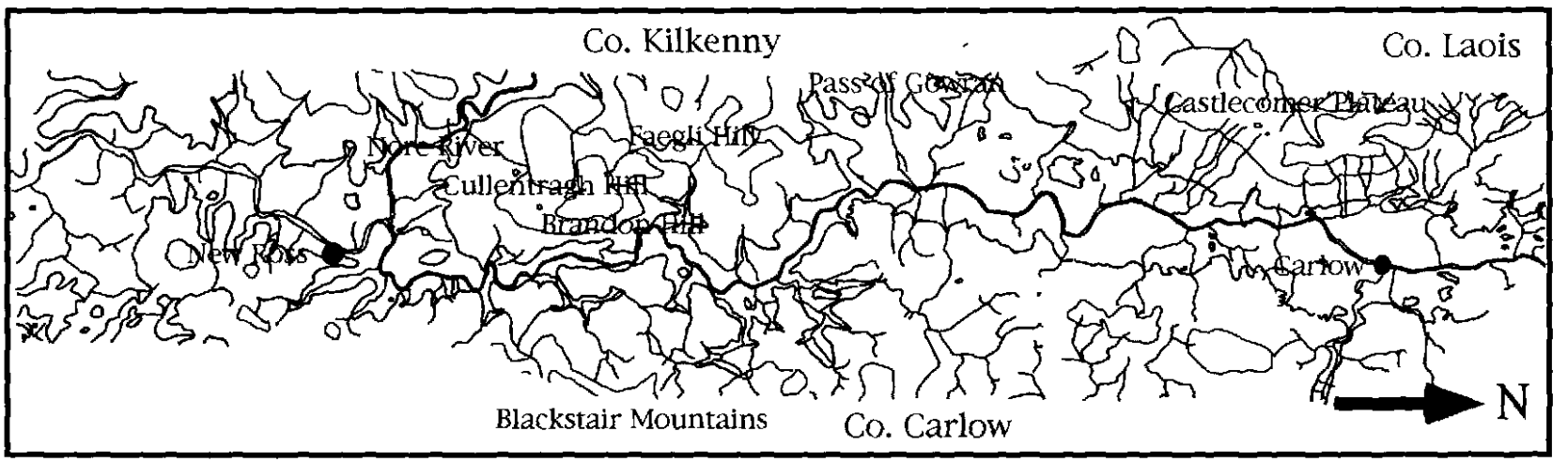


Fig. 2

Wexford Inventory was released too late to be considered. More detailed information for Co. Kilkenny was obtained directly from Victor Buckley in the O.P.W., who is currently compiling the Kilkenny Inventory and was kind enough to provide updated and more detailed S.M.R. lists for the county.

Within the study area, the Barrow Valley encompasses portions of four counties: Carlow, Laois, Kilkenny and Wexford (fig 3). The largest part of this area is dominated by Kilkenny on the west and Carlow on the east side of the river. The study area is not based upon the national grid and thus does not exist as a neat box of land. To keep the focus on the river and to limit the number of Six Inch Maps to analyze, it was decided to include one map on either side of the river. As the Barrow twists and winds through the valley, and as each county survey is based upon a different central point, the shape of the study area is not quite rectangular. The study area measures exactly 42.33 miles (68.1 km) north-south and between 8 and 10 miles (12.9-16.1 km) east-west, creating an area of 372.06 square miles (967.4 sq. km) and is encompassed by 25 Six Inch to the Mile S.M.R. maps. A total of 570 monuments covering all periods have been identified and located within this area. As the data used in this thesis come from four counties that made use of different techniques and criteria, (at different times with their own biases), definite discrepancies in the level and accuracy of the data from each of the counties are evodent. As a result of this situation some information, such as soil data, was available for only two of the four counties.

The distribution maps which form the basis of this study were constructed through scanning the S.M.R. maps in 8" by 14" sections,



THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

ONE INCH = 5 MILES

ONE CM = 3.15 KM

transporting them into a drawing program (Canvas 3.5.3) where they were traced and put back together. A number of movable layers were created to contain the location of the different monument types and various forms of geographical data. Most of the analysis in this thesis is based upon data derived from these distribution maps.

RESEARCH STRATEGY

The central purpose of this study is to explain the placement of monuments in the landscape and how this changed over time, thus chronicling the development of the cultural landscape. Two main avenues of explanation will be pursued:

1. The relationship between monuments and aspects of the natural landscape including, altitude, topography, soil type and soil suitability.

2. The relationship between monuments, both contemporary and with those from earlier periods.

The interpretation of observed relationships between monuments and aspects of the landscape, both natural and cultural, will focus upon the degree of continuity and discontinuity in their placement over time. The temporal range of this study, covering approximately 6000 years, five major cultural periods and including 28 different monument and site types, sets this endeavor apart from most other landscape studies in Ireland. While changes in the placement of monuments in the landscape over this period are obviously

expected, it will be argued that a certain degree of continuity exists in the importance of "place" (Cooney 1991; Evans 1985; Tilley 1994; Cooney and Grogan 1994) and in the creation of sacred places that remained important over a number of temporal periods. The concept of sacred space and how it is manifest in the cultural landscape will be discussed in the following section.

After several aborted attempts to actually visit the study area and see some of the monuments that are examined in this work, it was decided for a number of reasons to remain ignorant on this level. Although visiting some of the monuments in the Lower Barrow River Valley would have allowed for the treatment of such factors as intervisibility between monuments and how they were approached in the landscape, not to mention getting a "feel" for the places, an experimental quality was added to the study in the attempt to reconstruct the cultural landscape without having actually seen it. Obviously this approach has a number of strengths and weaknesses.

On the downside, a certain degree of information is not available to the researcher who has not seen the monuments that are being studied. Mainly this includes factors of visibility: what can be seen from the position of the monument, including other monuments and natural features, and how the monument itself is seen from certain vantage points. The simple factor of whether or not the Barrow River is visible could be of real importance. Although it is possible that this can be better estimated cartographically as modern vegetation cannot be expected to replicate prehistoric conditions. Due to these drawbacks, it is quite likely that some of the claims made in this work could easily be challenged by someone who has simply seen the monuments.

On the other hand, a certain degree of objectivity is possible through the exclusive focus on cartographic and literary information. While the perception of past landscapes is obviously important, it seems unlikely that a modern investigator could "see" through the veneer of modern changes and actually perceive the monuments and surrounding landscape as they were when they were created. While this ability is not claimed here, the focus on cartographic sources allows for a more objective approach that is not biased by a perspective formed through the researcher's experience with the present landscape. The experimental aspect of this study will demonstrate that a reconstruction and interpretation of past landscapes is possible and justified, based solely upon information that has already been collected and is readily available.

Throughout the following chapters, an attempt will be made to present, reconstruct and interpret the cultural landscape of the Lower Barrow River Valley, focusing upon changes in the conception and use of sacred space. It will also be possible to discuss the general history of settlement and landuse in the valley. Chapter two will review current approaches in landscape archaeology and the theoretical perspectives used in the reading of cultural landscapes, including the identification and nature of sacred space. Chapter three will focus upon the natural landscape. Chapters four and five include a description of the monument types and their chronological context, and the analytical methods employed in this study respectively. Chapter six will present the results of this analysis while chapter seven, discussestheir interpretation. This work will conclude with an attempt to draw together the patterns observed in the Lower Barrow River Valley over the time frame in

question. An appendix is included to provide accurate distribution maps of the different monument types examined in this work.

CHAPTER 2

READING THE CULTURAL LANDSCAPE AND THE CREATION OF SACRED SPACE

> The experience of sacred space makes possible the "founding of the world": where the sacred manifests itself in space, the real unveils itself, the world comes into existence.
> Mircea Eliade, The Sacred and Profane, 1959: 63

> The landscape is continually being encultured, bringing things into meaning as part of a symbolic process by which human consciousness makes the physical reality of the natural environment into an intelligible and socialized form.
> Christopher Tilley, A Phenomenology of Landscape, 1994: 67

As this thesis is concerned primarily with the reconstruction and interpretation of the cultural landscape in the Lower Barrow River Valley, this concept will require elaboration. What follows in this section is an overview of approaches to identifying and interpreting the cultural landscape in a general archaeological framework, and within Irish archaeology in particular. As was mentioned in the introduction, the nature of sacred space, how it is manifest in the landscape and how this changed over time, is also of relevance to this endeavor.

The field of landscape archaeology does not represent a unified body of theory, nor does it include a consistent methodological framework. What is common to most approaches in landscape archaeology, is a more complex interpretation of the relationship between humans and the environment than has been practiced, at least in the areas where it is currently popular (Western Europe and Britain in particular), and an awareness of the "cultural landscape". The concept of the cultural landscape is derived from cultural geography and is based upon the idea that throughout both prehistoric and historic periods, the impact of human settlement on the environment has not only altered the landscape, but that the perception of the "natural" world by successive generations incorporates the changes affected in earlier periods (Faegri 1988). These changes can occur through such actions as the removal of forest, land improvement, land degradation or the exploitation of various resources.

Another change wrought by humans has been through the construction of monumental features. The term "monument" is used in this instance as any built feature or modified natural feature that, whether intentionally or incidentally, has survived the ravages of time and remains not only visible in the landscape, but recognizable as a non-natural object. In Ireland, as in most areas of Western Europe, monumental construction began with megalithic tombs during the Neolithic period, many of which are still present and identifiable in the landscape after up to 6000 years. This is not to say that there was no cultural landscape prior to the Neolithic. In fact there is considerable evidence that during the Mesolithic, the surrounding landscape was already becoming encultured. The process of forest removal was already

underway prior to the introduction of agriculture, probably for the creation of niches that would attract wildlife (Cooney and Grogan 1994: 29; Green and Zvelebil 1993: 20).

This perspective on the relationship between humans and the landscape is very different from other approaches to the environment in archaeology. As much of the archaeology in Ireland is still conducted within a culture-historical framework, environmental data have commonly been used as a backdrop against which migration and diffusion led to culture change (Trigger 1989: 206; for examples see Harbison 1988; O'Kelly 1989). Landscape archaeology also differs from approaches to the interaction between humans and the environment put forth as part of the New Archaeology (processual paradigm) that has had some, albeit minor influence, on Irish archaeology in the 1970s and 1980s. While the treatment of the environment in the New Archaeology incorporates a degree of sophistication not usually present in culture-historical approaches, its relation to human action is often considered to be one sided. Within this perspective, humans are assumed to be inherently conservative, their adaptive strategies delimited by the constraints of the environment with culture change occurring as a reaction to outside, uncontrollable pressures (Trigger 1989: 289-291). With few exceptions, the perception of the environment by the people who experienced it and their impact upon it, were not considered crucial to the shaping of human culture.

While landscape archaeology, as it is currently practiced, does not exhibit a unified theoretical framework, it has developed alongside, and found a place within, contextual archaeology and other post-processual approaches.

This approach has developed throughout the 1980s and 1990s as a reaction to the New Archaeology and the processual paradigm (Trigger 1989). Within this framework, material culture is not viewed as a passive reflection of human culture, but as a constantly changing medium through which "the integration of belief and action are rearranged in particular ways as part of the strategies and intents of individuals and groups" (Hodder 1982: 217). In a similar manner, the concept of the cultural landscape implies that the shape of human culture is not simply a passive reflection of environmental constraints and changes. The landscape becomes a medium for human action, through which society creates, maintains and transforms itself (Evans 1985: 82). While the limits of a particular environment will contribute to the shaping of human culture, the landscape itself is also shaped by human action and instilled with cultural meaning that will influence future social change.

In fact, the concept of the cultural landscape was born in human geography, as part of a similar reaction to empiricism and claims of scientific objectivity that led to the development of contextual archaeology. The basic premise of the contextual approach is that it is necessary to incorporate data from all aspects of the archaeological record if we are to understand any one part of it (Trigger 1989: 350). Landscape archaeology has thus for many archaeologists become part of the larger contextual approach, providing information concerning the perception and use of the landscape and how this relates to other aspects of the archaeological record. The most recent treatment of Irish prehistory by Cooney and Grogan (1994), incorporates such a perspective of the cultural landscape within a contextual framework. "This applies at the level of both understanding different activities on individual

sites and looking at the relationship between sites of the same and differing functions and their setting in the landscape" (Cooney and Grogan 1994: 4).

Despite its connection with contextual archaeology, or perhaps because of it, a number of different, but interrelated foci exist within landscape archaeology. One such approach is related to the wider influence of literary and historical concepts of text and narrative in the social sciences. Within this framework, the landscape constitutes a text to be read by the archaeologist (Thomas 1991: 32; Barrett 1994: 78-79). In human geography, this has become part of a more existential understanding of the environment which "seeks meaning in the landscape as it would in literature, because it is a repository of human striving" (Tuan 1971: 184, in Evans 1985: 81). Within archaeology this has been expressed in a number of ways. With the view of landscape as text and its associations with relativist critiques of supposedly "objective" and "scientific" archaeology, the text can be read by the archaeologist in a number of different ways and this reading is an inherently subjective act (Tilley 1994: 29-34; Thomas 1991: 31-32). This text is not only read by the archaeologist, but is written, read, interpreted and rewritten throughout the history of a particular landscape. "The physical environment is intrinsically linked to culture and social structure, it is ordered and conceptualized by cognitive systems and its conferred meanings are 'read' by society" (Evans 1985: 81). The construction of monuments plays an important role in encoding the landscape with meaning, altering people's perception of the world (Bergh 1995: 20, Thomas 1991: 32). This is obviously a cumulative and inherently historical process whereby each successive generation reads the landscape and through their actions, encodes it with meaning to be read by future generations.

However, while many researchers in landscape archaeology have adopted language metaphors in their treatment of the cultural landscape (Evans 1985: 81), few actually apply the concepts presented above and fewer still question their "reading" of the cultural landscape, especially in Irish archaeology.

One concept that has significantly permeated many of the approaches in landscape archaeology is that of "place". Place has come to mean a number of different things in archaeology as its value "is individually and socially subjective" (Evans 1985: 81), although at its most basic level, place refers to sites, to loci of human action in the landscape. At first glance, this does not appear to be a revolutionary concept. However, places are always more than just locations in a landscape, for they have distinctive meanings and values for the people who experienced them (Tilley 1994: 15). Within Irish archaeology in particular, the concept of place has come to signify the importance of how locations and sites were perceived and how they were related to other locations in the landscape (Cooney 1993: 633; Cooney and Grogan 1994: 5). As important as places is how they were linked through human action and communication throughout the broader landscape (Cooney and Grogan 1994: 4; Green and Zvelebil 1993). Space, as the area between places, constitutes a "medium of action", a context in which places are ordered and through which people move from place to place; it is likewise both culturally and individually defined (Evans 1985: 83; Tilley 1994: 15-20).

Whereas the subject of this study, monuments, constitute "places" in the cultural landscape, other, non-monumental loci of human action are just as much "places". Place can refer to any location in the landscape that is used by

people, for settlement or other activities, as well as any feature or location that is otherwise named and imbued with cultural meaning. Thus mountain peaks, valleys, rivers and other topographical forms become places and part of the cultural landscape.

> Place names are of such vital significance because they act so as to transform the sheerly physical and geographical into something that is historically and socially experienced. By the process of naming places and things, they become captured in social discourses and act as mnemonics for the historical actions of individuals and groups (Tilley 1994: 18).

At the beginning of this section, it was stated that the enculturaion of the landscape began in the Mesolithic with the clearance of forests. This is to say that this was the first identifiable act by prehistoric peoples which would affect the perception of the landscape by future generations. This is not to say that the landscape was not otherwise encultured, filled with named places, loaded with meanings and values. With current research indicating a degree of continuity between the Mesolithic and Early Neolithic use of the landscape in Ireland (Cooney and Grogan 1994: 25-27; Green and Zvelebil 1993: 24; Ramsden et al. 1995), it is quite possible that places in the Mesolithic landscape remained important through the transition to agriculture. However, a slightly different view is held by Bradley (1991: 135), who sees a difference between Mesolithic and Neolithic concepts of place. While places were obviously important to Mesolithic hunter-gatherers, they were much closer to nature than later Neolithic monuments which indicate a more concerted and highly visible attempt at enculturing the landscape (Bradley 1991: 135-136). While Mesolithic settlement is assumed to have been present within the Lower Barrow River Valley, research in the area has been restricted to regions north (Ramsden et al. 1995) and south (Green and Zvelebil 1993) of the current study

area, and thus correlations between places in the Mesolithic and Neolithic are not possible.

As the focus of this study concerns monumental sites in particular, it is not said to be a study of places in the cultural landscape, although it will be argued here that monuments constitute a special kind of place, due primarily to differences in scale and intention. While not all monuments in this study are exceptionally large or captivating, for the most part they are built features, either constructed with stone or through the movement and shaping of large amounts of earth. Thus unlike other places the construction of monumental features involves significant amounts of labor and planning (Bradley 1985: 2; Startin and Bradley 1981: 292). In most cases as well, the intention of the builders is the creation of something permanent, "the lasting embodiment of shared beliefs" (Bradley 1985: 7). Whereas the creation and naming of places in the landscape instills it with cultural meaning, monuments were intentionally created, their meaning broadcast throughout the landscape and as they are "permanent and beyond challenge", through time as well (Bradley 1985: 9). While not all of the monuments considered in this study were necessarily constructed with the intention of monumentality as it is described above, the simple fact of their permanency has led to their importance in the cultural landscape and their reinterpretation over time. At the very least, monuments that have lost their meaning to the current inhabitants of the landscape, remain as timeless symbols of the past (Bradley 1985: 9). Another common aspect of the monument is its "rootedness in nature", namely the association with significant natural features that re-enforce their importance (Bradley 1985: 9; 1991: 136).

While few researchers in landscape archaeology make explicit statements of the fact, it is clear that history plays an important role in the development and perception of cultural landscapes. Although the study of history and an awareness of the role of historical processes throughout prehistory have been avoided in much of the current archaeology (Trigger 1989: 312-313), it has again found a place within contextual archaeology. While the New Archaeology advocated scientific and objective research with a focus on universal systems as opposed to particular historical processes, contextual archaeology has re-adopted a more historical outlook in the attempt to better understand the actions and intentions of people throughout prehistory (Hodder 1986: 77).

Here, the role of history can be said to operate at two different levels. The first is that through a more historical perspective, the archaeologist is able to focus on the particular and make statements about what makes a given culture or society unique as opposed to generalizations about how it fits into the broader spectrum of prehistoric sequences (Hodder 1986: 101). The second is that history played a role in the lives of people throughout prehistory. "Social actions are mediated through traditions of knowledge and, as a consequence, social systems must be thought of as being brought into existence as the recursive products of human agency" (Barrett 1994: 165). Within a landscape framework, the role of traditional knowledge, i.e. history, in the perception and use of the landscape is unavoidable. With each successive generation and each period in the archaeological sequence, the landscape is not read and reinterpreted in a vacuum, but is interpreted and

manipulated within a particular cultural framework which is based, at least in part, on past experience and the collective memory of that experience. It can also be said that the cultural landscape itself becomes a sort of historical text and "serves as a vast mnemonic system for the retention of group history and ideals" (Evans 1985: 81).

As this study incorporates such a long chronological component, over 6000 years, it is assumed that from the Neolithic to the Medieval Period, the reading of the landscape and the historical information it contains will have changed considerably. However, it will be argued that some degree of continuity existed in the nature of the cultural landscape throughout much of the time period in question. This is related primarily to the historical approach of Braudel and the Annales school of thought. Braudel identified three scales in the historical process, the long term, social history (a middle phase associated with groups and general trends), and the individual and event (Hodder 1987: 2). Of greatest importance to the landscape approach is the history of the long term. The long term denotes "continuities which are both the aggregate of previous events, and structures and beliefs which form those events" (Hodder 1987: 3). The history of the long term is also inexorably linked to the physical geography of a region (Hodder 1987) and, I would argue, to the cultural landscape in particular. For it is through the enculturation of the natural world that it becomes meaningful and a forum for cultural development and change.

While this section is concerned primarily with theoretical issues, a discussion of methodological approaches in landscape archaeology is

important, as it will explore how archaeologists actually obtain the information facilitating the "reading" of the cultural landscape. As with the lack of theoretical solidarity discussed above, there is no agreed upon methodology for landscape archaeology, and certainly no formula for interpreting the cultural landscape. However, it will be demonstrated that approaches in landscape archaeology fall into two broad categories. One is an inherently subjective "reading" of the landscape, where through actual first hand experience and/or through the construction of maps containing relevant landscape data, namely the relationships between the distribution of different types of places (monuments, sites, natural features) and the natural landscape (geology, soil, elevation, resources), the archaeologist is able to identify patterns and relationships. The data are often presented in a very visual manner; distribution maps combining places and geographical data being the most common. Numerical data are often provided concerning numbers and frequencies of places, although the data generally speak for themselves with little or no statistical testing.

Two examples of this approach in landscape archaeology are Tilley's (1994) A Phenomenology of Landscape and Cooney and Grogan's (1994) Irish Prehistory: A Social Perspective. While very different on a number of levels, these two works constitute excellent examples of the approach discussed above. Both are very visual in the treatment of places in the landscape. Tilley (1994) incorporates distribution maps and numerous photographs in his exploration of the relationship between Mesolithic and Neolithic places in certain landscapes of Wales and Southern England, focusing primarily on visible links between monuments and other places in the landscape and the incorporation

of particular topographical forms. Cooney and Grogan's (1994) work, following a similar style to Bradley's (1984) The Social Foundations of Prehistoric Britain, combines landscape archaeology with a more contextual approach that incorporates vast quantities of data from other sources including artifacts, technology, economy, settlement and mortuary practices, focusing on prehistoric society and social change in Ireland. While more than just a landscape study, the cultural landscape remains a consistent theme throughout the work. Their treatment of the landscape data relies however, upon a very visual presentation, utilizing topographical cut-aways to better demonstrate the placement of monuments in the landscape, in addition to the traditional distribution maps. The number and frequency of sites in different regions, while provided, are not treated statistically, with identified relationships based upon simple comparisons of frequencies and a more complex integration of the landscape information with other forms of data.

What is common between these two studies is the reliance on "eyeballing" relationships between places and the landscape and in their focus on the perception of the landscape, the importance of the visual component both for those who created and lived in the cultural landscape and for the archaeologist's interpretation. Tilley (1994), advocating a phenomenological approach to the landscape, emphasizes the need of the archaeologist to feel the landscape in order to understand it. As was mentioned in the discussion, this thesis is not based on any first hand experience with the landscape of the Lower Barrow River Valley, although it was certainly suggested in its initial stages (Cooney pers. comm.). For Tilley (1994: 8-9), this approach is in direct response to the failings of the more scientific and

"objective" spatial analyses of the New Archaeology, while for Cooney and Grogan (1994: 1-3) it is combined with a more contextual perspective that is a marked break from traditional culture-historical archaeology in Ireland.

Other approaches to interpreting the cultural landscape involve a more concerted focus on numeric data and statistical significance, as they relate to the distribution of places, both in relation to other sites and aspects of the natural landscape. An example of this approach includes Fraser's (1983) analysis of the placement of chambered cairns in Neolithic Orkney. In this study, univariate statistical tests are used to identify relationship between the placement of the cairns and individual geographical features, in addition to a multivariate examination of the cairns and all geographical data (Fraser 1983: 263). This statistical rigor is coupled with an excellent treatment of the archaeological record of Neolithic Orkney, in association with a more subjective reading of the cultural landscape involving intervisibility between monuments, and a treatment of ritual and symbolism (Fraser 1983: 363-401). Another example includes the recent investigation of the Mesolithic to Neolithic transition in southeastern Ireland (Green and Zvelebil 1993; Ramsden et al. 1995) where a survey strategy employing random and stratified survey techniques, statistical testing and extensive palaeoenvironmental reconstruction is used in an attempt to interpret the cultural landscape. More than most landscape studies, this research relies predominantly upon a more scientific methodology and "objective" reconstructions, the perception of the landscape for both researchers and the Mesolithic and Neolithic peoples in question not being of great importance. This is a good example of the coupling of the New Archaeology with the landscape approach.

Another recent approach in landscape archaeology is that of site catchment analysis. Through a focus on the placement of sites in the landscape and their distance from other sites and important resources, statistical testing can be used to identify significant relationships between different sites and other aspects of the landscape (Cross 1993). A powerful new tool utilized in this and other landscape studies (Cross 1996; Green and Zvelebil 1993; Grogan et al. 1995) is the GIS (geographical information system). This software allows for the compilation of vast quantities of geographical and archaeological data with built in quantification and statistical analysis capabilities.

Both of the approaches to interpreting the cultural landscape discussed above have different strengths and weaknesses, although they usually establish and seek to answer different questions. The first, more explicitly subjective approach, focuses upon the perception of the landscape, how it was experienced and how prehistory was constructed (Cooney 1993: 632). The other gives precedence to quantifiable data and statistically significant results, and a focus more on general patterns than particular sequences. A combination of these perspectives will create a truly contextual landscape archaeology. Within Irish circles, landscape archaeology is still new, although growing in popularity with both of these approaches being employed to varying degrees. The first extensive treatment of the physical landscape and how it related to prehistoric and historic settlement and land use, was Aalen's (1978) Man and the Landscape in Ireland. Undertaken from a more geographical than archaeological perspective, this study concentrates

on changes to the environment, how this affected settlement and how human action impacted upon the landscape. Dealing with all of Ireland, from the Mesolithic through to the modern era, this work is by necessity broad, although it remains one of the most important sources of geographical data and its relationship to human society in Ireland.

Based upon a conference at University College, Cork in 1981, Landscape Archaeology in Ireland (Reeves-Smyth 1983) marks the first attempt at unifying geographical and archaeological approaches to prehistory. While many of the studies presented in this volume constitute marked breaks from the mainstream culture-historical perspective, their focus on combining archaeological reconstruction with geographical data, appears relatively atheoretical. A definite focus is given to quantifiable data and techniques, borrowing from the New Archaeology (Reeves-Smyth & Hammond 1983: 380) and the impact of human's on the landscape drawing from human geography (Groemann van Waateringe 1983). Otherwise, much of the archaeology in this volume appears to be the same old thing with a heightened focus on the landscape (Lacy 1983; Woodman 1983).

More recently, landscape archaeology in Ireland has developed in a number of different ways. These include Cooney's (1991; 1993) focus on place in relation to megalithic tomb cemeteries, frontiers and routeways in Bronze Age Co. Clare by Condit and O'Sullivan (1996) and the site catchment analysis of a Middle Bronze Age landscape in Co. Limerick by Cross (1996). Larger projects include the North Munster Project's reconstruction of three prehistoric landscapes in Cos. Clare and Limerick incorporating landscape reconstruction,

intensive surveying and mapping in addition to the excavation of key sites (Grogan et al. 1993). As already mentioned, Cooney and Grogan's (1994) examination of the landscape and its relationship with other aspects of the archaeological record provide one of the best treatments of the cultural landscape in prehistoric Ireland. Most of these recent studies are part of a wider trend in Ireland with a move from a more culture-historical perspective to a more contextual approach, where the cultural landscape becomes an inseperable aspect of the archaeological record.

As with many landscape studies, this thesis cannot be defined by any one of the theoretical or methodological approaches discussed above. In fact a combination of approaches has been applied. Theoretically, attempts have been made to make this study as contextual as possible, drawing information from all available sources. However, with the research focus strictly upon the cultural landscape, important information concerning artifacts, settlement and mortuary practices, while certainly considered, are not included in the analysis, although this work will certainly lay a foundation for further investigations in the area. A regional perspective is also offered, with information from other regions of Ireland being incorporated in the interpretation of the cultural landscape in the Lower Barrow River Valley. The main focus of this thesis concerns the placement of monuments in the landscape and how this changed over time. While patterns of placement will be sought, it is certainly understood that the perception of the landscape by the people who built and used these monuments is of utmost importance. In a

like manner, my own perception of the landscape, limited as it is through the use of maps, is understood to be subjective.

Methodologically, a combination of the approaches discussed above will be utilized. Following from Fraser (1983), a univariate statistical approach towards establishing relationships between monuments and aspects of the natural landscape has been adopted. It is understood however, that the results of these tests will not provide answers, but indicate certain patterns that still require explanation and interpretation. As will be demonstrated in later sections, non-significant statistical results will require as much explanation as those that are significant. The identification of relationships between different monuments, will be arrived at mostly through "eyeballing" based upon the distribution maps accompanying this thesis. Results from the univariate analysis will be incorporated in an attempt to distinguish between the placement of monuments that are related primarily to geographical factors or the position of other monuments, or a combination of both.

A very important aspect of this study, and one that sets it apart from other such landscape endeavors, is the long time line involved. Most landscape studies in Ireland are limited to one chronological period (Cooney 1991; Cross 1996) or at most, the prehistoric (Cooney and Grogan 1994; Condit and O'Sullivan 1996). It is generally accepted that with the introduction of Christianity and the end of the Iron Age, a very different stage in Irish history began, characterized by marked breaks with previous patterns in the landscape (Cooney and Grogan 1994: 220). Through the inclusion of both Early Christian and Medieval monuments in this study, any major changes in the use

and perception of the cultural landscape can hopefully be identified and explained. In addition, through the focus on such a long time line, and an awarness of the role of historical processes throughout both historic and prehistoric periods, an opportunity to explore "long term" history in the Lower Barrow River Valley is presented.

In addition to identifying and explaining the placement of monuments in the landscape and how this changed over time, the interpretation of this material will focus on the concept of sacred space and the creation of primarily sacred landscapes. In light of the discussion above concerning places, this could be better referred to as sacred place. Based upon accepted archaeological knowledge in Ireland, a number of the monuments examined in this study have been identified as having a primarily sacred function. For the most part, these include burial monuments such as tombs and barrows, although other, more ambiguous sacred places such as standing stones, rock art and hillforts have been included. The identification of a sacred landscape is obviously a subjective endeavor, as the differential preservation of monuments in some area may obscure the nature and extent of these landscapes. By referring to a landscape as sacred is not to imply that secular activities did not take place in these areas, or that sacred monuments are not spatially related with contemporary settlement. However, through the construction of large scale, permanent monuments, many of them related to burial, the perception of the landscape cannot help but be dominated by these features. In addition, these landscapes are often associated with a broader sacred geography (Harding 1991: 147-149) in which both important natural and cultural features are spatially associated. Harding (1991: 141) has also

argued that this sacred geography is not necessarily based upon concepts of typical combinations of monuments and spatially associated natural features, but often develop in unique and novel ways.

The nature of sacred places or "space" as it is referred to by Mircea Eliade (1959: 22), is part of the primary religious experience common to all of humanity. With the creation of sacred space, a point is fixed in the landscape, a place of order in an otherwise chaotic world without which it is impossible to orient oneself. Special activities are associated with sacred places, namely ritual and ceremony, the practice of which orders the world and reproduces society (Garwood 1991: 26-28). Sacred space is also inherently related to the concept of sacred time. Sacred time refers to the timeless nature of ritual and related sacred places, in which ties between the present and a past, whether ancestral of mythical, can be made through linking the present with the "beginning" (Eliade 1959: 68-69). Within the context of landscape archaeology, the concept of sacred time is especially important. Most areas identified as sacred landscapes, involve the spatial association of sacred monuments from many different periods (Cooney 1991; Harding 1991). The timeless nature and permanency of the monuments provide concrete links with the past, and through their spatial association with later monuments, justifications for the present (Bradley 1985).

CHAPTER 3

THE LANDSCAPE OF THE LOWER BARROW RIVER VALLEY

The following pages will focus upon a description of the natural landscape in Ireland, and in particular, that of the Lower Barrow River Valley. The focus will be upon both the nature of the landscape, including land forms, drainage, climate, soils and vegetation, as well as changes to these aspects over the course of the time period in question. These changes can be seen as the results of both natural and cultural factors. From the very dawn of Irish prehistory, the people who lived there have had a dramatic effect on the landscape. With the advent of the Neolithic, the development of agriculture and the construction of the first monuments, the inhabitants of Ireland had not only altered the land through their exploitation of its resources, but left permanent and highly visible messages in the landscape that have shaped the perception and use of the land over subsequent generations (Aalen 1983: 357).

The physiography of Ireland is characterized by an extensive central lowland underlain by Carboniferous rocks and upland regions consisting of four main constituents: Pre and Post-Carboniferous, Tertiary basalt and granite, found with only a few exceptions along the coast (Aalen 1978: 10-11). The average elevation of the lowland region is between 60 (195') and 120m (390') above sea level, while the uplands range from 150 (488') to 610m (1983'), with a few peaks above 900m (2925')(Aalen 1978: 12-14). The Lower Barrow

Valley straddles three geological formations, with Pre-Carboniferous structures in the south, Carboniferous to the northwest and the Granite of the Leinster Chain to the northeast. While the elevation of the Barrow Valley itself is generally between 0 and 500', it is bordered by a few upland regions with elevations in excess of 1000'. These include the Blackstairs Mountains to the north and east, and the granite masses of Brandon and Cullentragh hills on the west side of the valley, just north of the merger of the Nore and Barrow Rivers, where the valley reaches its narrowest. Farther to the north, the Barrow runs along the eastern fringe of the Castlecomer Plateau which characterizes the terrain of northern Co. Kilkenny and southern Laois. While the relief of the Castlecomer Plateau was determined by the differing resistance of rock types to environmental factors rather than tectonic forces, the Leinster Chain has a noticeable north-east to south-west grain created by Caledonian folding (Aalen 1978: 10).

The glacial features of the Lower Barrow River Valley correspond closely with the geological formations described above. The southern edge of the Carboniferous rock and the most recent glacial drift can be related to the terminal moraine of the last glaciation, with older drift being associated with the Pre-Carboniferous and Granite formations to the south and west of the Lower Barrow Valley, as well as the area roughly equivalent with the Castlecomer Plateau (Aalen 1978: 20-21). While the soil record of the Barrow River Valley is quite complex and will be dealt with in greater detail later in this section, the main soil type can be broadly characterized as an acid brown earth and is considered to be reasonably productive (Aalen 1978: 20-27). In addition, the Barrow Valley is well drained, with the exception of areas of the

flood plain itself and some of the bordering upland areas such as the Castlecomer Plateau (An Foras Talúntais, 1967).

The climate of the Barrow Valley and the Southeast of Ireland in general is warmer, sunnier and drier than most other areas of the island. The mean annual rainfall ranges from 800 to 1200 mm with less than 225 average rain days per annum (Aalen 1978: 25). Mean air temperatures for January and July are 6.0 and 15.5 °C respectively and 3.5 to 4.0 average hours of sunshine per day. While Ireland's climactic features have obviously changed somewhat over the time period in question, it is unlikely that the factors that distinguish the Southeast from the rest of Ireland would have been that different.

Around 8000 BC., the last glaciers retreated creating a Pre Boreal and after 7000 BC., a Boreal environment defined by rising temperatures, rising sea levels and the immigration of woodland species (Aalen 1978: 38). By the beginning of the Atlantic period and the subsequent development of the Neolithic, Ireland was warmer than now, with near current sea levels and thick forest cover consisting of alder, oak, elm and pine (Aalen 1978: 37-38). The following table outlines the major trends in climate and how they relate to woodland cover and periods of human history and prehistory.

Table 1: Chronology of Climactic, Vegetational and Cultural Periods

From Aalen 1978.

TIME	CLIMATE	VEGETATION	PERIOD
1500	SUB ATLANTIC: cold, oceanic	Human activity removes wood-land cover	Historic
500			
AD. 0 BC.			Iron Age
500			
2000	SUB BOREAL: Drier	Humans break forest cover	Bronze Age
3000			Neolithic Period
4000	ATLANTIC: Warm, Oceanic	Climax of decid-ous forest	
5000			

THE NEOLITHIC

At the beginning of the Neolithic period the Barrow River Valley was thickly forested by species of hazel, alder and oak (Ramsden et al. 1995: 331). General settlement and resource utilization strategies for the Late Mesolithic, as identified through the spatial distribution of lithic artifacts, appear to have been concentrated near the boundary between the seasonally wet, alluvial flood plain and drier, forested terraces (Ramsden et al. 1995: 330). However, with the advent of the Neolithic, and especially throughout some of the later periods, settlement and land use in the Barrow Valley appear to have shifted away from the valley floor to more upland areas. This pattern can be seen

throughout Ireland during this period, as a move away from riverine and coastal ecozones (Aalen 1978: 46-49). This can perhaps be related to the needs of early farmers, for while rich, the alluvial soils of the valley bottom would have been too heavy for the existing agricultural technology. Evidence derived from the placement of monuments in other parts of Ireland indicates that perhaps hill slopes were preferred by early farmers, as they were well drained, have thin, easily worked soils and less dense forest cover that would have been easier to clear (Aalen 1978: 55).

While the decline of elm in pollen diagrams throughout Western Europe has long been used as an indication of the earliest stages in forest clearance, this explanation is no longer tenable as it has been established that the clearance of woodland and the appearance of herbaceous and cereal pollen predates the elm decline by hundreds of years (Groenman-van Waateringe 1983: 217). Relatively extensive episodes of forest clearance, associated with burning, Neolithic artifacts and cereal pollen have been dated to the later fifth millennium BC. (Groman van-Waateringe 1983; O'Kelly 1989: 35; Cooney and Grogan 1994: 45). These seem to have been predated by lesser occurrences of clearance, with the general pattern throughout the period indicating short term clearances and utilization, followed by forest regeneration, often within a century (Aalen 1983: 359). Based upon evidence from a number of different sites throughout Ireland, the economic emphasis of the Neolithic appears to have been livestock, including cattle, sheep and pigs, although cereal cultivation, generally conducted at a small scale, was probably critical to the early farming economy and important for considerations of settlement location (Aalen 1983: 359; Cooney and Grogan 1994: 40-41). With very little

existing data indicating permanent settlement in Ireland during the Neolithic, and with comparable data from Britain (Bradley 1984), it is most likely that Neolithic peoples practiced shifting agriculture, moving throughout the landscape to make the most of seasonally available resources and land use capabilities (Aalen 1983: 364-365). However, with such sparse settlement evidence for this period, conclusions remain tenuous and it is possible that a number of different land use and settlement strategies were in operation at any one time.

THE BRONZE AGE

Whereas forest clearance in the Neolithic was characterized by small-scale, sporadic episodes, followed by lengthy periods of forest regeneration, the Final Neolithic and Early Bronze Age landscape shows signs of widespread deforestation associated with the growth of blanket bogs in upland areas and the colonization and clearance of lowland regions (Aalen 1983: 365; Cooney and Grogan 1994: 98-99). It is unclear what factors, natural or cultural, initiated these changes in the environment and settlement patterns. While the thinner hillside soils would have been easier to work with Neolithic technology, they would have also been quickly degraded. Intense leaching would have led to podsolization and, eventually, peat formation (Aalen 1983: 361). However, it is possible that forest clearance and subsequent neglect may have facilitated peat formation already underway (ibid.). Thus it is unclear whether the shift in focus from upland to lowland in the Bronze Age was a result of land degradation in the uplands or the cause (Aalen 1983: 365).

While some upland regions continued to be used and lowlands in some areas were certainly exploited during the Neolithic, the Early Bronze Age is marked by the expansion of settlement into lowland zones (Aalen 1978; 1983; Cooney and Grogan 1994: 98-99). Pollen evidence points to the widespread deforestation of both ecozones during this period, possibly due to a combination of environmental degradation and human activity. While environmental factors such as soil deterioration and blanket bog growth probably influenced the initial colonization of the more fertile lowlands, population growth and the development of new agricultural strategies and technologies may have had a strong influence on the development of Bronze Age settlement patterns (Cooney and Grogan 1994: 98).

While good settlement evidence for the Bronze Age is like that of the Neolithic is virtually non-existent, the pollen record and the location of Early Bronze Age burials give strong support to an increasing emphasis on the lowlands. The strong association between Early Bronze Age pit and cist burials with kame and esker formations (glacial sands and gravels) may support their roles as loci for early lowland settlement (Aalen 1978: 64). These drier, less thickly forested areas may have constituted communication routes between settlements in the Neolithic and footholds for lowland settlement during the Bronze Age in an otherwise damp and thickly forested environment (Aalen 1978: 63; 1983: 363). Wetlands also seem to assume increasing importance throughout the Bronze Age, both for ritual purposes, evident in the intentional deposition of metalwork in lakes, rivers and bogs, and for at least part of the settlement pattern, demonstrated by the use and placement of fulachta fiadh. A new settlement form also appears during the

Bronze Age, the Hillfort, providing considerable evidence for permanent settlement. While hillforts are most often associated with the Iron Age (Aalen 1983: 366), the initial stages of construction at a number of major hillforts date to the Late Bronze Age (Cooney and Grogan 1994: 219; O'Kelly 1989: 309) with pre-hillfort settlement in some places dating to the Middle Bronze Age (Grogan et al. 1993). It is proposed that (Cooney and Grogan 1994) the hillfort became the foci of both settlement and ritual in the later prehistoric cultural landscape.

THE IRON AGE

The absence of Iron Age materials in the archaeological record and settlement data beyond the hillforts, coupled with the potential influence of a cooler wetter climate, forest regeneration and bog growth, has often led researchers to see an economic collapse associated with the initial stages of the Iron Age (Aalen 1983: 365). It is unclear, however, how these factors influenced land use and settlement during this period, let alone the social framework. With evidence of forest regeneration and a decrease in the emphasis on cultivation, as is evident in the scarcity of cereal pollen, a shift from cultivation to an even more pastoral economy may have taken place (Aalen 1983: 365). While evidence for such a shift may be present, whether or not such a change constitutes a "collapse" is more problematic, for such a change is coupled with considerable evidence for continuity between the Bronze and Iron Ages. This can be seen particularly at numerous high status sites such as hillforts (especially the royal sites) (O'Kelly 1989: 309-310). This continuity is also apparent in the use of similar burial forms and the

continued deposition of metal goods in wetland contexts (Cooney and Grogan 1994: 182-183).

Thus the Iron Age appears to be a period of both continuity and change. Evidence for lower status settlement types is patchy and my be the result of a more nomadic, pastoral economy. However, it has been argued that the pollen record may be too gross a measure to indicate such a dramatic shift from cultivation to pastoralism (Cooney and Grogan 1994: 194). The material evidence for this period includes a greater number of querns (grinding stones) and an increase in the retrieval of macroscopic plant remains (Cooney and Grogan 1994: 195). It is possible that the Iron Age witnessed an increase in cultivation over the latter half of the period, for by the beginning of the Early Christian period, cultivation was again well established. Continuity between the Iron Age and Early Christian period may also be evident in the development of Early Christian settlement types such as ringforts, cashels and crannogs during the Iron Age. While most excavated sites of these types have been dated to the Early Christian period (Edwards 1990: 9-11), it is possible that some were constructed during the Iron Age or that they overlay earlier settlements (Edwards 1990; Cooney and Grogan 1994: 194). It is clear, however, that by the beginning of the Early Christian period in Ireland, the landscape was fairly well settled and the dominant settlement types appear to be permanent in nature (Aalen 1983: 365).

THE EARLY CHRISTIAN PERIOD

From the very beginning of the Early Christian period, palynological and other types of evidence depict a landscape in which forest clearance in both up- and lowland areas was extensive, with an abundance of herbaceous and cereal pollen (Aalen 1978: 79). For the first time, there is evidence for widespread permanent settlement in the interior lowlands, probably due to the introduction of the heavy plough drawn by oxen, enabling the easier exploitation of the heavy soils in this region (Aalen 1983: 365). It is probable that the Barrow Valley, stretching from the southern coast into the heartland, may have been one of the transportation corridors for such an expansion. While forest clearance in this period was more pronounced than in earlier periods, and settlement more widespread, the cultural landscape of the early historic period was very different than in subsequent periods. The majority of the island was still forested during this period, with much of the growth being secondary in nature (Aalen 1983: 365). The long-term cycle of small-scale clearances throughout the earlier periods, quickly abandoned as new land was sought, eventually led to the removal of most of Ireland's climax forest.

The biological data are supported by the settlement record, as the proliferation of Early Christian settlement types attest to the diffuse and extensive nature of the settlement pattern during this period. Data from both excavated sites and aerial photography allow some insight into the nature of the economic system at this time. While settlement was definitely more

widespread than in earlier periods, visible field systems indicate that agricultural practices during this age were still small in scale, with evidence of small, irregular fields centered around ringforts and other habitations, including ecclesiastical sites (O'Corráin 1983; Williams 1983). The settlement pattern at this time could be considered "nodular", with no urban centers to speak of, and only some nucleation around churches and monasteries. There is also some clustering around the better soils (Aalen 1983: 367; Laing and Laing 1990: 153; Edwards 1990: 6-10). This is very different from Britain, where at the end of the Iron Age, "the landscape of many areas was seemingly as fully used, owned and demarcated as in any later period" (Aalen 1983: 366). Although we see an increase in the extent of cultivation during this period, pastoral pursuits were still emphasized.

It was also during the Early Christian period that historical data become available and the role and perception of the Barrow Valley in a larger Irish context become possible. Until the Anglo-Norman invasion of Ireland in 1169, and in many ways after, the island was conceptually, if not realistically, divided into five kingdoms. That which concerns the Barrow River Valley is the Kingdom of Leinster, for which the later province was named. The Barrow River acted as a key communication corridor between the northern and southern ends of the kingdom, a focus for settlement in the northern and mid-reaches of the valley, and as a border between Leinster and Ossraige south of St. Mullin's, where the Barrow River becomes tidal (Smyth 1982: 10-11). The study area considered here conforms with the far western and southern section of the kingdom of Leinster. The western boundary of Leinster is characterized by near impassable natural features. The Bog of Allen in the far

north, the Castlecomer plateau in the central region and Brandon Hill and the tidal reaches of the Barrow River in the far south all served to protect Leinster from the neighboring kingdoms of Munster and Ossraige to the west and south (Smyth 1982: 11). The only point of access into the Barrow Valley, and subsequently Leinster from the west is the Pass of Gowran. 'Pass' in the old Irish sense does not refer to a mountain pass, but a road or path through otherwise impassable forest land. Thus the Pass of Gowran refers to the low lying area south of the Castlecomer Plateau and north of Brandon Hill on the west side of the river. During the early historic period, this area was still heavily forested, although some route must have existed, as it was the entryway for invading armies in both directions (Smyth 1982: 11-12).

From both early historical references and the cartographers of the Medieval Period, it is clear that during the Early Christian period, much of the valley floor was still thickly forested (Smyth 1982: 24-26). However, contrary to the view of Smyth (1982), it is unlikely that this forest was primeval in nature, as both the pollen record (Ramsden et al. 1995; Aalen 1978) and the archaeological record depict a situation of wide scale, if sporadic, forest clearance and settlement on the Barrow Valley floor. The existence of the Kingdom of Leinster and its probable boundaries can be projected with relative certainty, several centuries before the earliest surviving documentation (circa 800 AD) to the Later Iron Age. In later chapters, the relationship of these boundaries and the histories and legends of the Leinstermen to the distribution of monuments in the valley will be further explored.

THE MEDIEVAL PERIOD

The Anglo-Norman invasion of Ireland heralded renewed forest clearance and the reclamation of bogland, population expansion and the creation of new settlement types, including the establishment of towns and villages. Land clearance and field systems were more extensive than in earlier periods, often radiating outward from settlement nuclei and the manors (castles, tower houses, motte and baileys) of the lords (Aalen 1983: 368-370). In many of the Irish held areas of the island, settlement remained diffuse and the economy based upon husbandry. The Southeast however, felt the full brunt of the invasion and was greatly affected both socially and economically (Aalen 1978: 114-115). The Barrow and other fertile river valleys in the Southeast were the focus of the Anglo-Norman conquest and were subsequently the areas most influenced by associated changes in settlement type. Cultivation increased in importance and extensive forest clearance created larger, more regular shaped field systems (Aalen 1978; Barry 1977: 22-25).

However, by the end of the Middle Ages, many of these settlement types were left deserted, as many people reverted to a more mobile lifestyle based primarily on animal husbandry, and in many areas of Anglo-Norman Ireland, the settlers eventually were fully assimilated into "gaelic" Irish society (Aalen 1983: 368). A number of factors contributed to this situation, including the spread of various plagues throughout the 14th and 15th centuries, climatic deterioration and a general lack of support for Anglo-Norman settlers as

England became preoccupied with their wars with the French (Aalen 1983: 369). It was not until renewed English interest in Ireland during the Tudor period that land clearance and cultivation were renewed on a large scale.

At various points in this work, reference will be made to smaller geographical areas for the purpose of describing and explaining site distributions. These regions are based upon natural features that I believe would have influenced the perception of the landscape. The most southerly region of the study area (see fig 3) is defined by the fertile lowlands of southeastern Kilkenny and northwestern Wexford, between the confluences of the Barrow and Suir and the Barrow and Nore rivers. The Barrow river is tidal throughout this region and much wider than anywhere else in the valley. The valley floor, land below 200 feet, is quite wide in this region. The topography of this area is gently rolling with very little land above 300 feet.

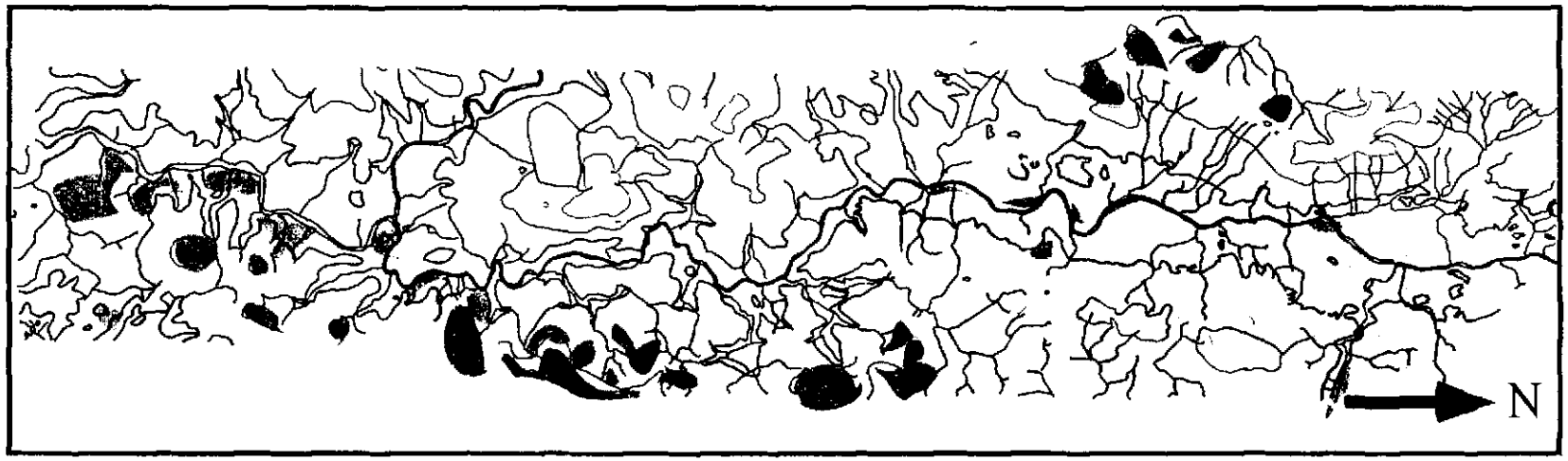
The south central region of the study area is defined by the narrowing of the both the Barrow River and its valley floor, which is almost 'pinched' between the granite massif of Brandon Hill on the Kilkenny side and the Dranagh Hills, the most southwesterly reaches of the Blackstair Mountains, on the Carlow side. The land here rests upon a granite base, with thinner, rockier soils and is generally considered the least fertile stretch of the valley (Smyth 1982: 141). Much of the landscape is hilly here, with the highest point in the valley at 1700 feet atop Brandon Hill.

Northwards, the valley again widens with gently sloping hills and terraces with most of the land lying below 500 feet. The western side of the valley at this point is characterized by the Pass of Gowran, a lowland area between Brandon and Freagli Hills and the Castlecomer Plateau. On the eastern side, the gentle valley slopes stretch eastward outside the limit of the study area, until they encounter the Blackstair Mountains. The eastern side of the Barrow at this point in the valley exhibits some of the densest prehistoric habitation and land use in the valley.

The far northern section of the study area includes the Castlecomer Plateau where Co. Carlow borders Co. Laois and that part of Co. Carlow on the east side from where the Burrin runs into the Barrow until the border with Co. Kildare. The valley bottom is considerably wider here than to the south, especially on the eastern side. The western side of the valley is dominated by the Catslecomer Plateau, rising over 1000' above the valley floor and covered with extensive peat formations, constituting one of the most inhospitable areas in the Lower Barrow Valley, a factor which is certainly reflected in the distribution of sites from all periods.

As mentioned earlier in this section, the soil record of the Lower Barrow Valley is quite complex. Unfortunately, solid soil data were obtainable for Counties Carlow and Wexford only, just over half the total study area. Detailed soil information was derived mostly from An Foras Talúntais's (National Soil Survey of Ireland) survey of Co. Carlow (1967) with additional data for Co. Wexford obtained from that county's archaeological inventory (1995). A total of 37 different soil types have been identified in Co. Carlow, and for the most

DISTRIBUTION OF SOIL TYPES



THE LOWER BARROW RIVER VALLEY

PODZOL

GLEY

REGOSOL

ALLUVIAL

LITHOSOL

PEAT

200 FEET

500 FEET

1000 FEET

ATHY COMPLEX

BROWN EARTHS

BROWN PODZOL

ONE INCH = 5 MILES

ONE CM = 3.15 KM

GREY-BROWN PODZOL

part, are the same as those found in western Co. Wexford. These 37 soil types can be broken down into broader categories called, Great Soil Groups, each of which contains a number of related soil series. For the purposes of this study, the use of the Great Soil Groups will be more than sufficient to understand the relationship between soil type and the placement of monuments in the landscape (fig 4).

The most common greater soil group in the study area (Cos. Carlow and Wexford) comprises predominantly brown earths, and covering 41.9 percent of the total area. Rarer in the northern half of the study area, they are certainly dominant in the southern part of Co. Carlow and the for all of western Co. Wexford. These soils can be acidic in places, due in part to the underlying granite in this part of the valley and the subsequent lack of lime that is more common in the rest of the valley (An Foras Talúntais 1967: 10-31). While not as productive as some of the other soil groups, the brown earths, with some care, can be quite arable. The brown earths are reasonably uniform and have not been overly degraded (ibid.). The next soil group is actually a complex of different soils, referred to generally as the athy complex. A total 13.27 percent of the study area is made up of these soils, mainly centered on the Barrow and Burrin rivers in the northern half of Co. Carlow. These soils are based primarily on fluvio-glacial coarse limestone sands and gravels, and while variable in some areas due to drainage problems, these soils are considered prime agricultural land and is easy to till due to its coarseness.

The grey-brown podzolic group, covering 12 percent of the area in question, is another very productive soil group and is found predominantly in the northern part of Co. Carlow. They are generally well drained, and while heavy in texture, are considered suitable for both tillage and pasture (An Foras Talúntais 1967: 25). The brown podzolics, constituting 5.5 percent of the study area, are a more intensely leached and degraded version of the Brown Earths. Although not as high in naturally occurring nutrients as the brown earths, the brown podzols can be reasonably productive, especially with proper care (ibid. p. 36). They are found mostly on the Castlecomer Plateau in western Co. Carlow and in southern Carlow and western Co. Wexford.

The second most common soil type in the study area at 23.17 percent and by far the least productive, is the gleys (An Foras Talúntais 1967: 46). This groups consists of a number of different soil types, their common attributes being severely poor drainage and/or intermittent water logging. Gleys dominate the soils of the Castlecomer Plateau in northwestern Co. Carlow and are found in small pockets throughout the area. Other concentrations occur in the higher altitudes of southern Co. Carlow. Alluvial (including regosols) soils cover 2.7 percent of the area, with most of that being along the Barrow and Burrin rivers, with concentrations along the former in Co. Wexford. These soils are considered immature with naturally low nutrient levels (An Foras Talúntais 1967: 57).

Other, less common soil groups found in the study area include, podzols and lithosols. The former are similar to the brown podzols but are more leached of nutrients and are considered less productive (An Foras Talúntais

1967: 41). They cover only 0.3 percent of the area and are found in very small pockets on the Castlecomer Plateau and in southern Co. Carlow. The Lithosols are restricted to the extreme southeastern part of Co. Carlow and are associated with the higher elevations of the Blackstair Mountains. They constitute 0.8 percent of the area and are very rocky. The lithosols are considered unsuitable for both tillage and pasture and are the least productive of all soils in the study area (An Foras Talúntais 1967: 58).

The preceding paragraphs have provided the basic soil information available for the study area. These data will be crucial in the analysis of the distribution of monuments in relation to the natural landscape. Another set of data which will also be incorporated into this analysis will be the soil suitability rating developed by An Foras Talúntais (fig 5). While this rating is based upon the soil groups described above, they also take into consideration factors that would be lost if only the soil groups themselves were used. For the soil suitability rating, letters are used to designate relative productivity, with A being the best and F being the worst. The majority of the soils in the study area are of very good quality with 67.12 percent of the total area being graded as A. The A class soils are associated mostly with the athy complex, the grey-brown podzols and the brown earths. Both the B and C class soils are less common with only 5.5 and 4 percent of the total area, and indicate a decreasing productivity to where C soils would be considered from moderate to poorly suitable for tillage and pasture. These are related mostly with the brown podzols and podzols. The D soils are considered poorly suited for both tillage and pasture and are mostly associated with Gleys and Alluvial soils. They represent the second largest suitability group, with 20.5 percent of the area.

DISTRIBUTION OF SOIL SUITABILITY TYPES

THE LOWER BARROW RIVER VALLEY

A SOILS

B SOILS

C SOILS

D SOILS

200 FEET

500 FEET

1000 FEET

F SOILS

UNCLASSIFIED

ONE INCH = 5 MILES

ONE CM = 3.15 KM

They are concentrated on the Castlecomer plateau and in smaller pockets throughout Cos. Carlow and Wexford. The unsuitable F soils are limited to the lithosols of southeastern Carlow and constitute 1.9 percent of the total area.

Unfortunately, soil suitability data were obtainable for Co. Carlow only. While these data basically reflect the inherent productivity of the Soil Groups, some important discrepancies have been noted and could be very significant. For example, while grey-brown podzols are considered quite productive and would rate an A, many poorly drained pockets would actually be a C or D. The use of the soil suitability data will help in identifying trends based not so much of the soil type but its productivity.

CHAPTER 4

A MONUMENTAL CHRONOLOGY

The main focus of this section will be to provide information concerning the different types of monuments found within the Lower Barrow River Valley and to place them within a chronological framework. Comparisons will also be made between the types of monuments found in the Barrow Valley and the rest of Ireland in an attempt to place the study area within a larger regional framework.

THE NEOLITHIC: 4500 BC- 2300 BC

Settlement data for the Neolithic in Ireland is quite scarce, with the archaeological record for the period being overwhelmingly dominated by monumental structures, the vast majority of which are mortuary related. While there exist a number of different megalithic tomb types, with relatively specific distributions throughout Ireland, the Barrow Valley and the Southeast of the island, in general, have a disproportionately small number of tombs. The Barrow Valley falls well outside the northerly distribution of both court and passage tombs and east of the mostly western concentration of Wedge tombs (O'Kelly 1989: 85-98).

However, the Southeast and the Barrow Valley in particular, exhibit a significant distribution of portal tombs. Although concentrated mainly in the north, small pockets are found through the southeast and in Cos. Clare and Galway to the west (O'Kelly 1989: 93). A total of 165 portal tombs are known in Ireland, eight of which are within the Barrow Valley study area. Of the handful that have been excavated, none are in the Barrow Valley. Portal tombs consist mainly of one, but sometimes two main chambers, incorporating two upright portal stones which define the entrance and usually one very large capstone. They were often surrounded by low mounds or cairns, although they are less common than with other types of megalithic tomb (O'Kelly 1989: 94-96). Most dates for portal tombs range from 3300-2900 BC., placing them securely within the early/middle Neolithic (Brindley and Killfeather 1993). They contain primarily communal cremated burials, with some grave goods, mostly decorated pottery and lithic items very similar in style to those found in court tombs, indicating some relationship between these two types and/or the people who made and used these monuments (Aalen 1978: 58; Cooney and Grogan 1994: 54).

Another type of Neolithic monumental burial, the Linkardstown cist and related burials, is interesting in that their spatial distribution is restricted to Leinster and northeast Munster. They also differ form other types of megalithic tombs, in that there are far fewer examples of Linkardstown burials, only a few dozen in total and they, for the most part, involve single discrete deposits, usually of a single male with pottery. Unfortunately, only one definite Linkardstown cist and two possibles are known in the Barrow Valley. Generally, a large square cist was erected on the ground, including a

capstone, over which an earthen and stone mound was raised. Although few sites have been dated, they range from the Early Neolithic with dates between 3300 and 3700 BC at Ballintruer More Co. Wicklow and Ashleypark Co. Tipperary, to the Late Neolithic/Early Bronze Age dates of 2000-1700 BC at Baungenasraid and Linkardstown in Co. Carlow. Chronologically, this places single inhumations after the communal cremations in this region. This is a similar pattern to that in the rest of Ireland, as single burials, while occurring at various times and places throughout the Neolithic, do not constitute a widespread tradition until the Final Neolithic/Early Bronze Age interface (Cooney and Grogan 1994: 81). It is interesting to note that the Linkardstown cists, most common in the Southeast of Ireland, show some similarities with Early Bronze Age cists, especially the larger burial cairns (O'Kelly 1989: 130) that are found in greater concentrations in this part of Ireland.

General trends regarding the distribution and placement of megalithic tombs throughout Ireland point to the initial colonization or exploitation of higher ground by the first farmers. This would have been due primarily to the less densely wooded hill slopes which had better drained, thinner soils that were easier to clear and work (Aalen 1978: 53-58). The thickly forested lowlands were probably not exploited until the Bronze Age and into the Iron Age (Aalen 1978: 65-66). While the distribution and contents of portal tombs are very similar to those of the court tombs in the north of Ireland , the presence of portal but not court tombs in the east/southeast of Ireland indicates some break in tradition. In fact, the distribution of portal tombs in the Southeast follows a very similar pattern to that of the distribution of a

small number of passage tombs. Unfortunately, only one probable passage tombs falls within the section of the Barrow Valley currently under examination. This example is a large cairn set dramatically atop Cullentragh Hill Co. Kilkenny with some evidence for an orthostatic kerb, similar to those of other such tombs (Gibbons 1992: 25).

When all of the megalithic tombs from Ireland are considered, there appear to be certain similarities in the placement of portal tombs and Linkardstown cists that differentiate them from the other types of tomb. They are both generally found at lower altitudes than either court or passage tombs and were predominantly placed in less commanding areas in the landscape, flat land and hill/valley slopes as opposed to the terrace and hilltop location commonly associated with other tomb types (Cooney and Grogan 1994: 65-66). While court and passage tombs are often found at low altitudes, they are commonly placed on low eminences which while not high, provide greater visibility and a more commanding presence in the landscape (Cooney and Grogan 1994: 61-65). Portal tombs also differ from Linkardstown cists in that they are very commonly found near at least one and often several water sources, including streams, lakes and rivers (ibid.)

THE BRONZE AGE 2300 BC - 600 BC

The Bronze Age, often divided into Early (2300 BC - 1700 BC.), Middle (1700 BC. - 1200 BC.) and Late (1200 BC. - 600 BC.), is a worrisome chronological division as it is based only upon the introduction of copper, bronze and gold working technologies. It ends with the introduction of Iron technology,

masking the evidence for continuity between the Neolithic/ Bronze Age and Bronze Age/Iron Age interfaces.

A number of monument types have been dated consistently to the Early Bronze Age. One very important distinction between the Neolithic and the Early Bronze Age is the move from the construction of communal megalithic tombs to the nearly invisible practice of single inhumation and cremations in cists or pits. While this trend had obviously begun in the Neolithic with Linkardstown cists and Wedge tombs, the move from monumental expressions of death to less conspicuous graves marks an important conceptual shift in the relationship between the dead and the living in prehistoric Ireland. While the focus of this study is monumental in orientation, knowledge concerning the nature and placement of Early Bronze Age burials will be important in comparison to earlier periods. It is also interesting to note that while the megalithic wedge tombs continued to be constructed and used into the Bronze Age, the distribution of Wedge tombs is restricted to the west of Ireland (O'Kelly 1989: 116). However, in comparison to the Neolithic, where the Southeast was underrepresented in terms of megalithic tombs, Leinster and South Leinster in particular have the highest concentration of Early Bronze Age pit and cist burials in Ireland (Cooney and Grogan 1994: 96-97; Waddell 1990). This indicates that either the Southeast was not heavily settled until the early third millennium BC. or that the numbers and distribution of megalithic tombs in the Southeast is not representative of the population or distribution of Neolithic peoples.

The majority of Early Bronze Age burials in South Leinster were in cists as opposed to pits, and generally occurred in isolation rather than in cemetery groups (Cooney and Grogan 1994: 96-97; Waddle 1990: 52-159). A total of 331 Early Bronze Age burials have been identified in Leinster, compared to the 50, 70 and 232 from Munster, Connacht and Ulster respectively (Cooney and Grogan 1994: 96-97). Fifteen Early Bronze Age burial sites are known in the Barrow study area, including three cemeteries containing multiple cists at Leighlinbridge, Wells and Strawhill Co. Carlow. They may be either inhumations or cremations and generally contain one pottery vessel, either a bowl or a vase. There appears to be a general correlation between bowls and cremations and between vases and inhumations, but this is certainly not a rule (Cooney and Grogan 1994: 107-109). The burial sites are often found in low lying areas, which is often seen as indicative of population expansion and a move into the more fertile lowlands and valley bottoms (Aalen 1978: 63) . Early Bronze Age burials are also most commonly found in proximity to glacial sands and gravels, especially kame and esker deposits (Aalen 1978: 62-63). While this may be a product of modern quarrying in these areas, there are significant grounds to argue for the preference of these areas by Early Bronze Age peoples for settlement (Aalen 1978). The incorporation of these non-monumental burials in this study will be crucial in explaining differences in attitudes towards death between the Neolithic and Bronze Age, as well as explaining the distribution and placement of Bronze Age monuments such as standing stones.

Standing stones, while generally difficult to date, were most likely erected during the Final Neolithic/Early Bronze Age (Aalen 1978: 53; Brindley and Killfeather 1993: 11). While they most often occur singly, pairs, alignments and circles are also known, although the majority in the Barrow Valley, nineteen of twenty-two, appear to be lone examples. However, three stone alignments, each consisting of three stones, are located in the study area: one atop Brandon Hill Co. Kilkenny, one on the slopes of Knockscur Co. Carlow and the other at Whitechurch Co. Wexford. A number of interpretations of their function have been proposed, including a role as territorial or grave markers (O'Kelly 1989: 228). Convincing arguments have been put forward for the use of alignments and circles as tools for marking astronomical events such as the solstices and equinoxes (Aalen 1978: 53), although this could hardly have been the case for single standing stones as back and foresights are generally required for the plotting of astronomical phenomena (Thom 1967; Ruggles 1984). It has also been observed that standing stones are commonly placed near megalithic tombs, which if they do date to the Early Bronze Age, indicates the continuing importance of megalithic tombs in the perceptions and use of the landscape (Aalen 1978: 3).

Another monument type, probably dating to the Early Bronze Age, concerns rock art placed on earth fast boulders and rock outcrops (Brindley and Kilfeather 1993: 15) Design motifs include spirals, ring and cup marks. Their role is unknown, although in the southwest where they are more numerous, it is believed that they may be associated with copper deposits (Brindley and Killfeather 1993: 15). Because there are no such deposits in the Barrow Valley, their role as boundary markers is more likely. Due to the

pattern of archaeology in the region, most of the rock art in the Barrow Valley has been identified on the Carlow side (Brindley and Killfeather 1993), with one lone example on the east-facing slope of Brandon Hill Co. Kilkenny. Whether this reflects their actual distribution or a product of the intensity of archaeological survey in Co. Carlow is unknown.

In the Barrow Valley, there a number of other burial monuments usually dated to the Middle and Late Bronze Age. A total of 22 barrows, ring barrows and ring ditches have been located in the study area. Based upon the Carlow inventory (Brindley and Killfeather 1993: 7), barrows are defined as earthen monuments consisting of a raised, circular center and enclosed by one or more concentric fosses. Ring-barrows consists of a "domed" central area surrounded by both fosse(s) and bank(s). Ring-ditches are similar to ring-barrows without the raised central area. Another type of burial monument, the cairn, is defined as a mound of pilled stone, with or without a kerb. While barrows, ring-barrows and ring ditches are most commonly associated with the Bronze Age, cairns are more difficult to place chronologically, as in fact they may be small Neolithic tombs, or burials from the Bronze Age, Iron Age or even later periods. For analytical purposes, the ten cairns in the Lower Barrow River Valley will be treated both separately and as Neolithic tombs.

Fulachta Fiadh, a relatively common Bronze Age monument type, refers to crescent shaped mounds of burnt stone with associated troughs. They are most likely either seasonal cooking sites (Cooney and Grogan 1994: 102) or were used for sweat lodges (Condit and O'Sullivan 1996: 40). They are always

found close to water; the trough was presumably filled and then heated with hot stones. The resulting crumbling and discard of the burnt stone leads to the formation of the mound. Obviously, to create such a mound, the site required constant usage over a long period of time. *Fulachta fiadh* are believed to have been used seasonally as they are often found in areas that would be inaccessible during any other time except high summer, such as the shores of terloughs (seasonally shrinking lakes) and flood plains (Cooney and Grogan 1994: 102). Radiocarbon dating of these monuments places them consistently within the second millennium BC. (ibid.). While the actual monumental aspect of these sites appears to be a by-product rather than the intention, their inclusion in this study is important for a number of reasons. First, in the absence of good settlement data for the Bronze Age, these sites provide a clue to at least part of the settlement pattern. In addition, the regular, seasonal uses of these sites, their association with water and possibly with intentional metal deposits (Grogan pers. comm.), may indicate a primarily sacred role for fulachta fiadh, possibly associated with seasonal feasting. Thus their inclusion in this study will aid in the reconstruction of the Bronze Age sacred landscape. A total of thirty-three fulachta fiadh have been identified in the Barrow Valley study area, with the majority, 20, being from the Kilkenny side of the valley.

THE IRON AGE: 600 BC - AD 400

The Iron Age represents the final stage of Ireland's prehistory and one of the most enigmatic. Beginning with the introduction of iron technology around 600 BC. and ending with the introduction of Christianity in the fifth

century AD., the Irish Iron Age is characterized by the general absence of known settlement types, burial forms and pottery in addition to the uniqueness of the period in comparison to its contemporaries in Britain and on the Continent and in general, its apparent continuity with the Late Bronze Age (Cooney and Grogan 1994: 184; O'Kelly 1989: 245; Laing and Laing 1990: 145). All of this evidence runs contrary to the popular image of the Irish Iron Age as the time in which Ireland became "Celtic", with the invasion of successive waves of peoples from the Continent as is outlined in the mythological cycles (O'Kelly 1989: 252-255). There is no evidence for a large scale population intrusion during this period and the major exterior influence on Ireland may have been Roman-Britain (Cooney and Grogan 1994: 200-202; Laing and Laing 1990: 145).

This continuity between the Iron and Bronze Ages in Ireland can also be seen in the monumental record. One of the difficulties in identifying Iron Age monuments is the apparent continuous use of not only forms but actual sites as well. Even the monument type most commonly associated with the Iron Age, the hillfort, and in particular those mentioned in the early literature as royal sites, such as Dun Ailinne, Emain Macha and the Hill of Tara, exhibit continuous use from at least the Late Bronze Age and throughout the Iron Age (Cooney and Grogan 1994: 187). Burial forms as well show continuity in the placement of cremated remains in barrows, mounds and ring-ditches, some of which are actual Bronze Age sites reused in later periods (ibid.).

The only identifiable "Iron Age" monuments in the study area are two hillforts, both on the Carlow side of the Barrow about 6 kilometers apart

(Brindley and Killfeather 1993: 19). They are both small by hillfort standards. Ballinkillin, a bivallate construction, is the largest with maximum dimensions of 267 X 225m, while the univallate Knockscur is only 101 X 112m. Both are situated on prominent hilltops. It is unknown what period these sites can actually be assigned to as no excavation has been conducted, although their use during the Iron Age is probable. While the role of hillforts was predominantly habitational, especially during the initial stages of construction, their later use appears to be at least in part ceremonial (Cooney and Grogan 1994: 187). The consistent association of such sites with high prestige material items such as fine metal work and Roman imports (O'Kelly 1989: 309-324), and their association with the royalty of the mythological and Early Christian literature and the concepts of kingship in particular, indicate the special status of these sites (Byrne 1973: 48) The sacred nature of these sites is further exemplified in the common integration of pre-existing burial monuments from the Neolithic and Early Bronze Age in the construction and placement of hillforts (O'Kelly 1989: 315; Cooney and Grogan 1994: 187). The effort required in the construction of some sites such as Mooghaun South, Co. Clare, surpasses that necessary for the construction of the great passage tombs of Newgrange and Knowth. Their placement in the landscape may indicate a preference for the hillforts own visibility and presence in the landscape, rather than defensive concerns (Grogan et al. 1993).

Two other potential hillfort sites will be included for analytical purposes: a large stone faced enclosure atop Knockmore Co. Carlow and Dinn Ríg, a platform fort on the Barrow near Leighlinbridge Co. Carlow. Knockmore is included as a hillfort based upon its placement in the landscape

(straddling a prominent hilltop), its size (80m in diameter), and its apparent elaborate construction (Brindley and Killfeather 1993: 13). Although the site of Dinn Ríg is referred to in the Carlow inventory as a Medieval motte (Brindley and Kilfeather 1993: 78), historically and mythically it is associated with the founding of the Kingdom of Leinster and acted as a symbol of kingship from the Iron Age through the Early Christian period (Smyth 1982: 9). Whether or not this site is actually a motte is inconsequential as the historical evidence points strongly to the construction of an Iron Age fort at this location (ibid.). It is possible that this fort either resembles a motte in form or that a motte, later constructed here due to its strategic position overlooking the Barrow, obscures evidence of the fort.

The southern Barrow Valley, while containing only two identifiable and two possible hillforts, is quite near at least three major hillforts, Freestone Hill Co. Kilkenny, Dun Ailing Co. Kildare and Rathgall Co. Wicklow. While these three sites fall outside the study area, their proximity to the Barrow Valley may have had an impact on the development and perception of the Late Bronze - Iron Age landscape. .

THE EARLY CHRISTIAN PERIOD: AD 400 - AD 1167

The Early Christian Period, stretching from the introduction of Christianity in the fifth century AD. to the Anglo-Norman invasion at the end of the twelfth century, marks the end of the prehistoric period in Ireland. The introduction of Christianity in Ireland is usually associated with St. Patrick's

mission, who came from a Romano-British background and became a Christian while a slave in Ireland, later returning as an emissary of the Roman Church. As is implied above, however, there were already Christians living in Ireland at least a century before the coming of St. Patrick (Edwards 1990: 99). These were probably settlers or traders from Britain, returning native mercenaries or captured slaves, and mark one of the most obvious impacts of the Roman Empire on early Ireland (Edwards 1990: 99). The conversion of the Irish was a slow process, with the majority still following pagan traditions well into the sixth and seventh centuries (Edwards 1990: 99). Possible correlations between Early Christian and earlier pagan sites may indicate that the eventual conversion of the Irish was facilitated through the intentional incorporation of pagan themes and the appropriation of pagan sacred sites.

The introduction of Christianity also heralds the beginning of the historic period in Ireland. While the oldest surviving written records date to only the twelfth century, many of these had been recopied several times and can be dated with certainty to the seventh century (O'Kelly 1989: 252). It is also known that prior to the introduction of writing, the Irish had a very strong oral tradition and the origins of many of the oldest chronicles can be extended back to at least the fourth century (O'Kelly 1989: 252-253; Laing and Laing 1990: 143). Early Irish literature includes both poetry and prose, mythological, heroic, romantic and kingly tales, as well as legal tracts and genealogies. The stories provide great insight into the structure and nature of Early Historic and possibly, Iron Age Ireland. While their relation to real events must be questioned, the literature comprises large amounts of information concerning social, political and economic organization.

A number of monument types date to the Early Christian period and, in comparison to earlier times, especially for the Barrow River Valley, dominate the archaeological record in terms of both number of types and sheer quantity. There are at least 40, 000 ringforts in Ireland (Laing and Laing 1990: 148), making it the most ubiquitous monument type. This holds true for the Barrow Valley as well, with over 160 ringforts and Early Christian enclosures located in the study area. The ringfort is a circular or subcircular enclosure consisting of one or more earthen banks and external fosses, although in many areas they were constructed from stone (referred to as cashels) or a mixture of earth and stone (Aalen 1978: 81-84). Size varies considerably, although a diameter of 30m is considered average (Aalen 1978: 84; Brindley and Killfeather 1993: 40). While a small number of "ringforts" have been dated to the Iron and Bronze ages, the vast majority can be confidently placed within the Early Christian period and probably not before the third century AD. (Laing and Laing 1990: 149). The earlier dating of some ringforts has been shown to be the result of their construction over earlier sites (Laing and Laing 1990: 149-150; Edwards 1990: 15-18).

As very few of the known ringforts in Ireland have been excavated, their role in Early Christian society is not fully understood. The traditional interpretation of the ringfort is that they constitute defended homesteads (Brindley and Killfeather 1990: 40), possibly belonging to the "boaire", or strong farmer, referred to in Early Irish literature, denoting a class of prosperous, free farmers (Edwards 1990: 7-8). However, it is questionable how defensible ringforts actually were. According to Aalen (1978: 84-85), most

ringforts are found in sheltered areas, on hill slopes as opposed to hilltops and very rarely in commanding or prominent locations. In addition there is little evidence that the low earthen banks or stone walls were substantial enough to prevent intruders, although there is some evidence for the construction of palisades on top of the banks or the possible use of thorn bushes as mentioned in early law tracts (Edwards 1990: 24). It is likely that the primary function of the ringfort was to keep animals in (O'Kelly 1989: 307). From those few sites that have been excavated, a wide variety of internal structure types have been identified, mostly circular in form, which are generally interpreted as being dwellings and associated farm buildings (Edwards 1990: 11-28). A number of sites that have yielded no finds or evidence of structures, may have simply been used as enclosures for stock.

There is little evidence for their role as higher status settlements, as the material remains appear for the most part to be indistinguishable from contemporary unenclosed sites and very different from those of Crannogs (lakeside settlements) which clearly involved higher status inhabitants (Edwards 1990: 22 O'Kelly 1989: 305-306). However, there appears to be a correlation between larger ringforts, more substantial structures and more prestigious material goods. Ringforts larger than 50m in diameter and/or incorporating two or three banks and ditches (bi and trivallate ringforts) appear to be more defensible in terms of both their siting and structural form (Edwards 1990: 19-21).

As the form, function and role of ringforts is so variable and their distribution so widespread, it is difficult to place the Barrow Valley examples

within a larger context, although some generalizations can be made. For the most part, ringforts were constructed on better quality soils and in intermediate lowlands, generally between 30 and 120 m (100' and 400') (Aalen 1978: 85). As mentioned above, they are often located on sheltered hill slopes rather than hill tops or valley bottoms. However, this pattern cannot be seen as relevant to all areas of Ireland. In the poorly drained drumlin belt, they were sited on hilltops because the lower areas were less suitable for settlement (Aalen 1978: 85), and in hillier country, they can be found at much higher altitudes (Edwards 1990: 23). The ringfort constitutes the strongest evidence for Early Christian settlement in Ireland and their distribution will be compared with both contemporary and earlier sacred sites.

A number of sacred monument types are associated primarily with the Early Christian period. These include holy wells, high crosses, bullaun stones, Ogham stones and other inscribed stones in addition to churches and other religious structures. While some of these monuments are often found in isolation, they are commonly found in association with known early church sites or with other monument types. Hundreds of holy wells dot the Irish landscape and are well known for their reputed healing powers and associations with Early Irish saints. It is difficult to accurately date holy wells as they are not generally investigated through excavation and they vary in form from deep, stone lined wells to natural springs. Although many are still venerated today, a considerable number have fallen into disuse or simply disappeared, leaving only legend and traditional lore to indicate their supposed location and use. It is also possible that a number of early holy wells are in fact of earlier, but forgotten origin. Thus the inclusion of holy wells as

sacred monuments from the Early Christian period is based on both associations with early ecclesiastical remains and local lore. Over forty-five holy wells are known from the lower Barrow River Valley and vary considerably in form and level of preservation. It is also possible that the use of holy wells and their association with early Irish saints may be the result of an intentional move by the Early Church to Christianize pagan holy sites. From early church records in Britain and Gaul, we know that the Celtic religion placed considerable importance on natural sacred sites, such as sacred groves, stones and springs (Laing and Laing 1990; McCluskey 1993). It is also possible that the veneration of water sources may be related to the emphasis placed on wet lands, lakes, rivers and bogs, in the preceding Bronze and Iron Ages, as places for the intentional and ritualistic deposition of metal work (Cooney and Grogan 1994).

Bullaun stones are found throughout Ireland and are often associated with early church sites, although a few examples are found in isolation. They consist of one or more circular, shallow basins cut into earth fast boulders or rock outcrops and were used to hold holy water, primarily for baptisms. Most of the bullaun stones found within the study area are associated with existing ecclesiastical sites. A few however (9), occur as isolated finds and may have been outdoor altars or may have been associated with now invisible early ecclesiastical structures constructed from wood.

Like Bullaun stones, crosses and cross-inscribed stones are most commonly found in association with church or monastery sites, although a

few do exist as isolated examples. These may be the result of once nearby and now invisible ecclesiastical structures, although some may very well have been moved from their original location and/or placed intentionally as the goal for pilgrimages or to mark the edges of church lands (Brindley and Kilfeather 1993: 60).

The remainder of the Early Christian material involves early churches, chapels, graveyards and monasteries, including round towers. The vast majority of these, however, cannot be dated before the eighth century, as prior to this time period, ecclesiastical structures were constructed exclusively of wood (Edwards 1990: 12). This may explain the number of ecclesiastical remains without associated structures. Precise dating is often very difficult as continuous construction and remodeling has left but the scantiest traces of antiquity at many sites. In many cases, the sole indication of a site's antiquity rests upon associated features such as Bullaun stones and stone crosses (Brindley and Kilfeather 1993: 53). For structures with possible Early Christian architecture, a number of criteria are used to place their initial construction prior to the Anglo-Norman invasion. These include Romanesque ornamentation, lintelled doorways, antae, west-gabled entrances and well joined cyclopean masonry (Brindley and Kilfeather 1993: 53). Early churches and monastic sites are also often enclosed within circular or subrectangular earthworks, in many ways similar to earthen ringforts although generally much larger (Edwards 1990: 104-112). A total of 36 Early Christian ecclesiastical sites are located in the Lower Barrow Valley. While a few of

these locations consist of stray crosses or bullaun stones, most are either churches or monasteries and often include graveyards and stone crosses.

In some cases, monastic complexes became social and economic, as well as sacred centers. These complexes were the only centers of any size within the generally rural and diffuse settlement pattern of the Early Christian and preceding periods (Edwards 1990: 111; Aalen 1978: 101). These complexes eventually formed the nuclei of the earliest medieval towns, established soon after the Anglo-Norman invasion. The location of early ecclesiastical sites appears to have been shaped by both the need for transportation and communication in addition to the nature of the existing settlement pattern. Locations close to the coast or navigable water sources were preferred for the sake of contact with Britain and the Continent (Edwards 1990: 104). Early churches were also often placed on the border between different kingdoms, the basic unit of territorial organization during the early Christian period. This strategy would have made the best of the existing settlement pattern from which large centers were absent and may be similar to the distribution of pagan sacred sites (Edwards 1990: 105). It is also interesting to note that townland boundaries were often based on, or incorporated into the enclosures of early ecclesiastical sites (McErlean 1983: 315). The origin of the townland system is unknown, although by the medieval period the entire country had been divided into over 62, 000 townlands. Based upon this reasoning, it is possible that some of these townlands, and in particular their boundaries, may represent the once border of a tuath or kingdom.

THE MEDIEVAL PERIOD: AD 1167 - AD 1500

The beginning of the Middle Ages in Ireland is marked by the invasion of Anglo-Normans in 1167, one century after their conquest of Britain. This involved the first major migration of peoples into Ireland in a millennium and had a profound effect on Irish society and the cultural landscape. Unlike the earlier invasion of Britain, the Norman settlement of Ireland was not centrally organized but involved the effort of individual, land hungry barons, mostly from the borderlands of Wales (Aalen 1978: 111). They were attracted primarily to the agriculturally rich lowlands of the Southeast and their superior military strength enabled them to conquer about two thirds of the country, dramatically altering the cultural landscape with the construction of castles, walled towns, churches and monasteries and, for the first time, inland urban centers (Aalen 1978: 109). The introduction of new agricultural and husbandry techniques pulled the Southeast of Ireland into the modern, feudal world of Western Europe. Like earlier political organization in Ireland, the Norman colonies, as they were created through individual enterprise, lacked a sense of unification and attempted to maintain their independence from the English kings (Aalen 1978: 111). Due to a number of factors, including the invasion by the Scots in the early fouteenth century ans subsequent epidemics such as the plague, the control of much of Ireland returned to the native Irish with the exception of the Pale, an area centered around Dublin and including counties Louth, Meath and Kildare (Aalen 1978: 115).

As mentioned above, the Irish landscape was considerably altered as a result of the Anglo-Norman invasion. A number of new site types are associated with this change. These include motte with or without baileys, rectangular earthworks (moated sites), castles and defended towns in addition to churches and monasteries. In comparison to earlier periods it appears that the major monument types of the middle ages had a primarily political and military focus. The creation and demarcation of sacred space and the shape of the sacred landscape is characterized solely by the placement of churches and monasteries.

The churches of the middle ages in Ireland differ significantly from those constructed prior to the Anglo-Norman invasion. Defining characteristics include opposed entrances in north and south walls, square towers, double bell cotes, detailed moldings and gothic ornamentation (Brindley and Kilfeather 1993: 62). However, the usually criterion for assigning churches to the middle ages is the absence of any diagnostic Early Christian features, as those from later periods were often added on to earlier structures. A total of 88 Medieval ecclesiastical sites are known in the Lower Barrow Valley and include both churches, monasteries and graveyards. It is believed that the placement of churches in the middle ages would have differed from the preceding period, primarily due to the establishment of formal parishes, towns and urban centers (Aalen 1978).

Moated sites are believed to have been the sites of defended Norman settlements and are found throughout the colonized regions of Ireland. Moated sites are primarily rectangular or sub-rectangular in shape and are

surrounded by a series of banks and ditches, many of which were filled with water (Barry 1977: 33). The interior of the enclosure would usually be further protected by palisades and would usually contain dwellings and farm buildings (Brindley and Kilfeather 1993: 80). Approximately 30 moated sites are known from the Lower Barrow River Valley. This should provide a reasonable picture of Anglo-Norman settlement patterns in the early Middle Ages. Barry (1977: 30-32) has demonstrated that moated sites in the Southeast of Ireland are fewer in number than in other areas, a surprising conclusion given the concentration of Anglo-Norman settlement in this area. However, the need for defended settlements in a region with a strong Norman presence would have been less than in the border regions. Even within the Southeast, the distribution of moated sites is limited to more isolated regions and were generally located at a distance from other Anglo-Norman settlement types (Barry 1977: 126).

Mottes, with or without baileys, were primarily military fortifications and probably were constructed within the first hundred years after the Anglo-Norman invasion (Aalen 1978: 115). The motte consists of a steep, conically shaped flat-topped mound (Brindley and Kilfeather 1993: 78) usually built on flat ground, although they often incorporated pre-existing earthworks such as ringforts (Aalen 1978: 116). The bailey is usually a crescent shaped or rectangular area enclosed by a bank and ditch and was either attached to the motte or else was separated by a ditch. The top of the motte and the banks of the bailey were also surrounded by a palisade and incorporated a number of wooden structures such as towers and dwellings

(Brindley and Kilfeather 1993: 78). Eight mottes and motte and baileys have been identified in the study area.

Arguably, castles constitute the defining monument type of the Middle Ages in Ireland and retain a marked place in the landscape to this day. Castles were the strongholds of the ruling lords and their vassals. They were the economic, political and social centers of their time. The earliest Anglo-Norman stone castles were built in Ireland circa 1200 AD. and consist of an enclosing wall and associated towers, gates and buildings. They differ from the later tower houses which were simple square or rectangular fortified dwellings (Brindley and Kilfeather 1993: 84). Unfortunately, a large number of medieval castles are either in horrible disrepair or have been completely erased from the landscape, necessitating a reliance on documentary evidence. Approximately 80 known and potential castles have been identified in the study area, of which the sites of only 42 can be accurately located. This does not include the 19 known tower houses.

The construction of the cultural landscape denotes a marked break with many traditions that characterize the earlier periods of Irish history and prehistory. The majority of the monument types during this period appear to have had a political and economic focus. While many of the monument types associated with earlier periods may certainly have fulfilled such functions, their primary roles appear to have been sacred in nature. Thus the predominantly sacred landscape of Irish prehistory and early history is greatly altered with the apparent divisions of sacred and secular power.

CHAPTER 5

DATA AND ANALYSIS

The main focus of this thesis is to examine the placement of monuments in the landscape of the Barrow River Valley and how this changed over time, from the Neolithic through to the Middle Ages. My main interest is in monuments that would have had a primarily "sacred" role to the people who built and used them. This is a difficult distinction to make as many of the sacred monumental sites that will be examined may very well have fulfilled a number of different functions, including political, economic and/or social. While the sacred nature of these sites may have been only one component of their complex roles in early Irish society, it will be argued that the concept of sacred space was central to both their placement in the landscape and their subsequent use. In a more general sense, this thesis will establish a history of land use, and possibly settlement, in the Lower Barrow River Valley, over the time period in question.

Monumental sites that will be examined in this study that had a primarily sacred role include: megalithic tombs (Neolithic), burial cairns (Neolithic and Bronze Age), barrows and ring barrows (Bronze Age), standing stones (Early Bronze Age), hillforts (Late Bronze - Iron Age), Early Christian and Medieval ecclesiastical sites (incl. churches, monasteries, friaries), round towers (assc. with Early Christian monasteries), holy wells (Early Christian -

Medieval), high crosses (Early Christian) and Christian cemeteries (Early Christian - Medieval). Non-monumental sacred sites such as Bronze Age cist and pit burials will be incorporated to compare with more monumental forms of burial. The term "monument" will be used in the broadest possible sense, denoting above ground features that have left a significant mark on the landscape, becoming part of the ever-changing "cultural landscape" and in fact, through their very presence, shaping subsequent perceptions and use of the land.

A number of monumental sites that did not have a significant sacred component in their intended use, will also be incorporated in this study for comparative purposes. While some of these sites such as ringforts and cashels (Late Iron Age - Early Christian) may have been simply settlement sites, the majority from later periods would have constituted some sort of center, whether it be economic, social or political. These include: motte and baileys (Early Medieval), moated sites (Medieval), tower houses (Medieval) and castle sites (Medieval). The placement of these sites will be examined in relationship to the landscape and the distributions of sacred sites from the same periods. It is clear that while the majority of monumental sites from the prehistoric periods had a primarily sacred function, this changes in the Early Christian and is especially pronounced in the Medieval period, when the construction of monumental sites came to include political and economic centers. This will be an important aspect in determining the changing roles of monumental features over time.

Another type of site that will also be included are *Fulachta Fiadh*. These are mounds of burnt stone that have accumulated from the repeated use of heated stones to boil water in an associated pit, and date exclusively to the Bronze Age. While they may have had a sacred function, they will be included here primarily as a component of the settlement pattern during the Bronze Age. Where possible, Neolithic flint scatters will also be incorporated for the purpose of comparing this aspect of the Neolithic settlement pattern with the placement of Megalithic tombs and cairns..

Organization of the data and subsequent analysis will focus upon two main criteria:

1- The placement of monuments in regards to various aspects of the natural landscape.

2- The placement of monuments in regards to the cultural landscape. Basically, in relation to the placement of other monuments, both contemporary and from previous periods.

The main goal of this study will be to prove that the placement of sacred monumental sites did not occur at random in the landscape but was governed by the builders' perceptions of the landscape, including both natural and cultural features. Attempts will be made to explain the relationship between the placement of monuments and features of the landscape (natural and cultural) and their supposed functions and roles in the construction of sacred space. For later periods, secular monumental sites will be included to examine

their relationship with sacred sites and explore the separation of the sacred from political and economic roles.

Locational analysis will be used to determine the relationship between the placement of monuments and the natural landscape. A univariate approach will be used to compare the placement of monuments and single aspects of the environment. Expected vs. observed frequencies will be employed for the purpose of demonstrating that the placement of monuments was not random. Chi-square tests will be used to determine the nature of the relationship between the real and expected distributions. As chi-square testing produces statistically significant results only when the sample size is greater than five for each cell and the expected number of sites per category is greater than one, the results generated in the following tests are not always going to be statistically significant. This is especially the case when the distribution of monuments in relation to soil type is considered, as many of the soil types cover so small an area that the expected number of sites on these soils are often far smaller than one. Thus chi-squares in these instances are used as an indicator of notable, although not statistically significant, deviations from a random distribution. The actual chi-square values in these cases may not be considered significant, yet the numeric breakdown of the monuments' distributions will provide important information and insight into their relationship with aspects of the natural landscape. The associated tables will allow the reader a more intuitive reading of the data.

1. Elevation: This refers specifically to height above sea level and all references to elevation hereafter are in feet ASL. A percentage of total land

area for each of four main altitudinal divisions is provided below. These divisions were chosen as 200 feet delimits the valley floor, 201-500 feet the low hills and ridges that dot the valley, while the third and fourth indicates the higher hills, plateaus and mountains that define the Barrow River Valley. A Chi-square test for the distribution of each monument type in relation to an expected distribution based on percentage of area of the altitudinal divisions, has been calculated for the purpose of determining whether or not the distribution of sites differs significantly from the expected, thus proving a non-random placement in the landscape in relation to elevation. With three degrees of freedom and a confidence interval of 95%, chi-square values greater than 7.815 will be considered significantly different.

Table 2: Elevation - Area

ELEVATION	% of AREA	Sq. Miles
0-200'	37.6%	139.89
200-500'	48.1%	178.96
500-1000'	12.0%	44.65
1000'+	2.3%	8.56
TOTAL	100.0%	372.06

2- Topography: This term denotes actual landscape forms and while related to elevation, refers more specifically to the shape of the land. Topographical divisions will include: river's edge, flat, hill top, hills slope and hollow. Unfortunately, it will not be possible to determine total land area associated with each form, especially as the designations are both subjective and derived almost exclusively from cartographic sources. However, the position of sites

will be noted in relation to these forms and where possible, as in the case of hill slopes, a facing direction will be determined. While not statistically sound, strong association between certain types of monuments and land forms will be identifiable. For this purpose percentages will be calculated for each site type in relation to topography.

3- Soil Type: Data concerning soil types was compiled for Cos. Carlow and Wexford from soil maps and related literature (An Foras Talúntais 1967). The different soil groups are discussed in chapter 4. Chi-squares will be used to determine the degree of variance between real and expected distributions. The soil types and their percentages of the total area (Co. Carlow and Co. Wexford) are summarized below. With nine degrees of freedom and a confidence interval of 95%, a chi-square value greater than 16.919 will be considered significantly different.

Table 3: Soil Type - Area

SOIL TYPE	% of Area	Sq. Miles
Athy Complex	13.3%	28.56
Alluvial	2.2%	4.72
Brown Earths	41.9%	89.98
Brown Podzols	5.5%	11.81
Gleys	23.2%	49.8
Grey-Brown Podz	12.0%	25.77
Lithosols	0.8%	1.72
Podzols	0.3%	0.64
Peat Bogs	0.3%	0.64
Regosols	0.5%	1.07
TOTAL	100.0%	214.75

4- Land Use Capabilities: These qualities are detailed on associated soil maps and incorporate soil and other data to arrive at estimates of the lands fertility and potential for use. The different categories are discussed in chapter 4 and their respective frequencies are summarized below. Chi-square tests will be used to determine the degree of variance between the real distribution of sites in relation to an expected distribution based upon the area covered by the different soil suitability types. With a confidence interval of 95% and five degrees of freedom, a chi-square value greater than 11.070 will denote a significantly different distribution.

Table 4: Soil Suitability - Area

SUITABILITY TYPE	% OF AREA	Sq. Miles
A	67.1%	112.22
B	5.5%	9.20
C	4.0%	6.69
D	20.5%	34.29
F	2.0%	3.35
U (unclassified)	0.9%	1.51
TOTAL	100.0%	167.25

The relationship between the monuments of a given period and others from the same and earlier periods, will be determined a bit more subjectively, namely through the analysis of the numerous distribution maps included in

this work. Through the use of Canvas 3.5, a drawing program, the different monument types have been plotted on a composite map in a series of layers (appendix) that can be juggled in an endless variety of combinations.

Two main avenues of explanation will be pursued when attempting to determine such patterns:

1. The relationships between specific monuments and landscape features established in the first section of the analysis, will hopefully allow for the identification of the complementary positioning of different monument types that may be due to their consistent associations with certain landscape features.

2. For those significant relationships identified between different monument types that cannot be linked to similarities in use of the landscape, other explanations must be sought. These explanations will focus upon the role of the existing cultural landscape in the placement of later monuments. This relationship can manifest itself in a number of ways, although most would include either attraction or avoidance. For example, a considerable amount of attraction may be observed between the placement of Iron Age hillforts and Neolithic and Bronze Age burial monuments, while Early Christian sites may be situated in areas that avoided existing royal centers. These relationships most likely are very complex and their explanation will draw from evidence in the rest of Ireland, Britain and Europe.

From this evidence comes a number of corollary hypotheses that will be tested throughout the analysis. For the most part, they are derived from studies conducted in the rest of Ireland and relate to relationships between monuments and landscape features, as well as between different types. This will facilitate the situation of the patterns observed in the Barrow River Valley in a broader Irish context. They include:

1. The placement of Megalithic tombs on hill slopes with light soils (Aalen 1978: 49-50; Cooney and Grogan 1995: 44-47).
2. The placement on Bronze Age cairns on highly visible hill tops.
3. The proximity of Bronze Age standing stones to Neolithic tombs (Aalen 1978: 53).
4. The association between Bronze Age cist and pit burials with kame and esker deposits (glacial sand and gravel) (Aalen 1978: 63; Waddle 1990).
5. Iron Age-Early Christian ringforts between 100 and 400 feet elevation, on the best soils, usually slopes or hollows (Aalen 1978: 85).
6. Late Bronze-Iron Age hillforts in association with Neolithic-Bronze Age tombs (Aalen 1978: 88-92; O'Kelly 1989: 310; Cooney and Grogan 1994: 187).
8. Early Christian monasteries in isolated areas, especially avoiding the "royal" hillfort sites (Aalen 1978: 102-103; Smyth 1982: 26).

Whether or not these relationships are evident in the Barrow Valley will be established by the end of this thesis. I do believe that there will be some differences between the Barrow Valley and the rest of Ireland due in part to the regional nature of much of the archaeological record in Ireland

and because the Barrow Valley is but one small part of the island and exhibits rather limited landscape variation.

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CHAPTER 6

A Description of the Distribution of Sites

The distribution of prehistoric and historic monuments in the Lower Barrow Valley paints a complex picture of settlement and landuse over a period of more than 6, 000 years. While this region of Ireland was first settled during the Mesolithic period (c. 7000 BC) (Ramsden et al. 1995: 331), the construction of lasting monuments and the creation of sacred landscapes begins with the first farmers in the Neolithic (c. 4000 BC). Here it will be demonstrated that the people who constructed and placed these monuments in the landscape did so with careful consideration of the existing landscape, incorporating both natural and cultural features. The distribution of both sacred and secular sites, for those periods in which there is evidence of both, show complementary patterns and together document the history of settlement and landuse in the Barrow Valley.

The following pages will focus upon descriptions of the distributions of the various site types. Consideration will be given to their placement in relationship to such landscape features as elevation, topography, soil type and quality, in addition to the position of both earlier and contemporary sites. For the analysis of the relationship between monuments and landscape features, a univariate approach will be used to demonstrate that the distribution of these

sites are not random. The square area for each division of the landscape and its percentage of the whole is provided in the preceding chapter.

Although chi-squares were conducted for the distribution of monument types in relation to elevation, soil type and quality, tables on the results of these tests are provided only for elevation and soil type. With the exception of the Neolithic, no monument types from any other period demonstrate a distribution greatly different from that which was expected based upon soil suitability. The relationship between each site type and soil suitability will be discussed in this section, while the issue of such widespread nonsignificance will be addressed in the following chapter. As soil suitability data were available for Co. Carlow only, the sample sizes for the different site types are, in most cases, smaller than those for which soil type data was available.

THE NEOLITHIC

Three different type sites are associated with the Neolithic, all of which had a primarily burial function (fig 8). Portal tombs and Linkardstown cists are definitely Neolithic in date, while the cairns may cover a potential Neolithic Passage tomb such as on Cullentragh Hill (Gibbons 1990: 25), or they could also date to the Bronze Age or even later. Only one Neolithic monument is known from the southern section of the valley, a portal tomb at Glencloghlea, Kilkenny. North, where the valley narrows, an interesting pattern is observed; three cairns are found on each side of the river. On the west side, two are found atop Brandon Hill and the third, possibly a passage tomb, is on Cullentragh Hill. On the east side, three are located on west facing

slopes on Dranagh Mountain, Co. Carlow. Although intervisibility is not being considered with this study, it could certainly be of importance in this situation as these sites are located directly opposite each other. Further to the north, where the valley again widens, the greatest concentration of Neolithic monuments occurs. Most of these are to be found on the east side of the valley, on low-lying hill slopes or terraces overlooking the river itself, with a few more on hilltops or slopes further inland. An interesting arrangement of 3 portal tombs and 2 cairns in a near straight line occurs just above the 200' interval, overlooking the valley floor. The remainder of the Neolithic monuments appear to be quite dispersed, with the only other concentration consisting of three sites at the head of tiny tributary valleys on the east side.

Of the 25 monuments considered to be of Neolithic origin, 4 (16%) are found between 0 and 200 feet, 10 (40%) from 200-500', 8 (32%) at the 500-1000' interval and 3 (12%) above 1000'. When these percentages are compared to those of the areas of these zones, it is clear that the placement of the these monuments was not random in regard to altitude. Neolithic sites are significantly underrepresented between 0 and 200 feet, about average from 200-500', and overrepresented again at both the 500-1000' and 1000'+ intervals. In fact, Neolithic monuments have the single greatest mean altitude of any monument type in the valley at 504 feet. Even without the 3 sites above 1700 feet, the mean is 341', second only to the rock art sites. A chi-square test for all Neolithic monument types in relation to elevation, demonstrates that their distribution is quite different from the expected. With three degrees of freedom and a confidence interval of 0.05, a value greater than 7.815 indicates a distribution that is obviously different from the expected.

Table 5: Neolithic Monuments - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	4	9.40	3.10
200-500'	10	12.03	0.34
500-1000'	8	3.0	8.33
1000'+	3	0.57	10.36
Sum	25	25	22.13

When the three Neolithic monument types are considered separately, a considerably different pattern emerges. The cairns are much more greatly underrepresented at the lower altitudes with only 1 of the 14 below 200' (7%) and 5 between 200 and 500' (36%) and subsequently much greater at the higher altitudes with 5 (36%) between 500 and 1000', and 3 (21%) above 1000'. This is a marked contrast with the portal tombs, the distribution of which conforms most closely to a random distribution. Three (37.5%) are found below 200' , 4 (50%) between 200 and 500 feet and 1 (12.5%) above 500'. Although there are only 3 Linkardstown cists in the study area, their makers appear to have chosen higher altitudes as 2 of the 3 occur above 500' with the third between 200 and 500'. Chi-square tests for cairns, portal tombs and Linkardstown cists and portal tombs combined (3 Linkardstown sites is not a large enough sample) demonstrate that separately, only the cairns exhibit a distribution that is greatly different from the expected (> 7.815).

Table 6: Cairns - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	1	5.26	3.45
200-500'	5	6.73	0.44
500-1000'	5	1.68	6.56
1000'+	3	0.32	21.60
Sum	14	14.0	32.05

Table 7: Portal Tombs - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	3	3.01	0.00
200-500'	4	3.85	0.01
500-1000'	1	0.96	0.00
1000'+	0	0.18	0.18
Sum	8	8.0	0.19

Table 8: Portal Tombs and Linkardstown Cists - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	3	4.08	0.29
200-500'	5	5.30	0.02
500-1000'	3	1.32	2.14
1000'+	0	0.30	0.30
Sum	11	11.0	2.75

The relationship between Neolithic monuments and soil type, with a few exceptions, is very close to a random distribution. Two notable exceptions are the number of sites on grey-brown podzols with 6 of the 19 sites (31.57%) and the 3 cairns located on lithosols (15.79%). This last association greatly affected the chi-square values for the distribution of Neolithic tombs in general and cairns in particular in relation to soil type. This is due primarily to the expected number of monuments on lithosolos being somuch smaller than the the necessary 1. With nine degrees of freedom, a value of 16.92 will indicate that the observed distribution is very different from that which is expected (> 16.92) based upon the frequencies of the different soil types.

Table 9: Neolithic Monuments - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	1	2.52	0.92
Brown Earth	4	7.96	1.97
Brown Podz.	2	1.05	0.86
Gley	3	4.4	0.45
Grey-Brown P	6	2.28	6.07
Lithosol	3	0.15	54.15

Other	0	0.62	0.62
Sum	19	19.0	65.04

Table 10: Cairns - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	1	1.33	0.08
Brown Earth	2	4.19	1.14
Brown Podz	1	0.55	0.37
Gley	2	2.32	0.04
Grey-Brown P	1	1.20	0.03
Lithosol	3	0.08	106.58
Other	0	0.33	0.33
Sum	10	10.0	108.55

It is obvious that the three cairns located on the lithosols skews the results of the chi-squares dramatically. This point is demonstrated as the portal tombs and Linkardstown cists are considered together without the cairns. In this case, the distribution of tombs does not differ greatly from the expected (> 16.92). While these numbers do not accurately reflect reality, the above table indicates the nature of the cairn's relationship to soil type.

Table 11: Portal Tombs and Linkardstown Cists - Soil Type

Soil Type	Observed	Expected	Chi-square
Brown Earth	3	3.77	0.16
Brown Podz	1	0.50	0.50
Gleys	1	2.09	0.57
Grey-Brown P	4	1.08	7.89
Other	0	0.38	0.38
Sum	9	9.0	10.62

Due again mostly to the unique location of three cairns on the slopes of Dranagh, southeast Carlow, the relationship between the distribution of Neolithic monuments in general and cairns in particular, are quite different from that expected based upon soil suitability. This is particularly

demonstrated when cairns and the other monument types are considered separately. This is the only site type in the entire study area to exhibit such a relationship. Eleven (57.9%) of the 19 Neolithic monuments are located on A soils, with four (21.05%) on D soils. One (5.26%) is found on C soils and the remaining three on F soils (15.79%). It is this last association, as is evident below, that skews the chi-square tests. With 5 degrees of freedom and a confidence interval of 95%, values greater than 11.07 are considered to indicate a distribution different from the expected.

Table 12: Neolithic Monuments - Soil Suitability

Soil Suit.	Observed	Expected	Chi-square
A	11	12.75	0.24
B	0	0.55	1.05
C	1	0.40	0.08
D	4	2.05	0.00
F	3	0.20	18.06
U	0	0.09	0.17
Sum	19	19.0	19.60

When the cairns are considered separately from the other Neolithic monuments, the level of variance increases dramatically.

Table 13: Cairns - Soil Suitability

Soil Suit.	Observed	Expected	Chi-square
A	4	6.71	1.09
B	0	0.55	0.55
C	1	0.40	0.9
D	2	2.05	0.00
F	3	0.20	39.2
U	0	0.09	0.09
Sum	10	10.0	41.83

When the portal tombs and Linkardstown cists are considered together, without the cairns, a very different relationship is observed. The distribution

of these sites in relation to soil suitability is definitely not different from the expected (>11.07).

Table 14: Portal Tombs & Linkardstown Cists - Soil Suitability

Soil Suit.	Observed	Expected	Chi-square
A	7	6.01	0.16
B	0	0.5	0.50
C	0	0.36	0.36
D	2	1.85	0.01
F	0	0.20	0.20
U	0	0.08	0.08
Sum	9	9.0	1.31

THE BRONZE AGE

The southern section of the study area, that which is north of the confluence of the Suir and the Barrow and south of Brandon Hill, while practically devoid of Neolithic monuments, presents a significant Bronze Age landscape. Seven standing stones are known, with at least one alignment at Whitechurch Co. Wexford, over 20 *fulachta fiadh*, 3 Early Bronze Age cists and 1 barrow. Almost all of these sites are found below 200', with only *fulachta fiadh* being found on higher ground on the west side of the valley. The higher ground on the east side is virtually bare of monuments. The focus of most of these sites appears to be rivers and streams flowing into the Barrow. Unfortunately, the sacred nature of this landscape appears to be minimal as the majority of the sites are *fulachta fiadh*, and while they are certainly a part

of the Bronze Age settlement pattern, their association with ritual activity, while possible (Cooney and Grogan 1994: 124), is not substantiated.

Another significant Bronze Age landscape is that atop Brandon Hill, with a stone alignment, a piece of rock art, a single standing stone and a possible boulder burial (a site type common in the southwest of Ireland). In addition, one more standing stone and an alignment are located on the slopes of Dranagh Mountain on the east side of the Barrow. This Bronze Age landscape appears to be closely related spatially to the Neolithic/Bronze Age cairns on these hill sites.

The other, much larger, concentration of Bronze Age monuments is located in the midreaches of the valley, north of Brandon Hill and consist of an extensive barrow, ring-barrow and ring-ditch cemetery which straddles both sides of the river, but appears to be concentrated on the east side. There is considerable overlap between the distribution of the barrows and that of earlier cist and pit burials, including the cemeteries at Leighlinbridge, Wells and Strawhall. Both types of sites are found predominantly below 200'. Standing stones are much rarer in this region, and those that do occur, are found at higher altitudes. Rock art, another type of Bronze Age monument, with the exception of one example on Brandon Hill, are restricted to the east side of the Valley. This landscape also incorporates existing Neolithic tombs and cairns, both in the Brandon Hill region and further north, where the line of five tombs and cairns overlooking the barrow cemetery would surely have been known to those who made the barrows.

With the exception of the EBA flat cemetery at Strawhall and one barrow, the extreme northern region of the valley, in the shadow of the Castlecomer Plateau, is quite bare of monuments from this period, as well as the Neolithic.

The distribution of cist and pit graves (fig. 9), although not of monumental stature, provide important insight into the perception of the sacred landscape during the Early Bronze Age, and constitute a link between the monumental burial traditions that pre and post dated their use. Of the 15 known sites in the study area 12 (80%), including the three cemeteries at Leighlinbridge, Wells and Strawhall, are found below 200' and demonstrate a marked riverine focus. Of the remaining three, 2 (13%) are located between 200 and 500' and 1 (7%) above 500 feet. A chi-square test for the distribution of cist and pit graves in relation to elevation indicates that their distribution is different from that which is expected (> 7.815), with a confidence interval of 95%.

Table 15: Early Bronze Age Cist and Pit Burials - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	12	5.64	7.17
200-500'	2	7.22	3.77
500-1000'	1	1.80	0.36
1000'+	0	0.34	0.34
Sum	15	15.0	11.64

In relation to soil type, the cist and pit burials demonstrate a very strong concentration on the Athy complex soils, with seven of the twelve (58.3%) being thus located. The remaining five are located on brown earths

with four (33.3%) and grey-brown podzolics with one (8.3%). These sites demonstrate the most limited of distributions in relation to soil, being found on only three of the ten different types. A chi-square test confirms that their distribution is obviously different from the expected (> 16.92).

Table 16: Early Bronze Age Cist and Pit Burials - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	7	1.59	18.41
Brown Earth	4	5.03	0.21
Grey-Brown P	1	1.44	0.13
Other	0	3.94	3.94
Sum	12	12.0	22.69

In relation to soil suitability, the nine Early Bronze Age cist and pit burials are found exclusively on class A soils. While the majority of the sites in the study area are found on such soils, this is the only site type to exhibit a 100% concentration.

The distribution of the cist and pit graves is complementary to that of the later barrows, ring-barrows and ring-ditches (fig. 10). Of the 22 barrows of different types, 18 (82%) are found below 200', with the remaining 4 (18%) below 500'. Together, the different burial types from the Bronze Age exhibit the greatest concentration of all site types between 0 and 200'. This shows a marked break with the focus on higher ground in the Neolithic. The distribution of burial monuments in the Bronze Age, also differs from the distribution of other site types from the same period. The chi-square for barrows, ring-barrows and ring-ditches indicates a distribution that differs greatly from the expected (> 7.815).

Table 17: Barrows, Ring-barrows and Ring-ditches - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	21	9.40	14.31
200-500'	4	12.03	5.36
500-1000'	0	3.0	3.0
1000'+	0	0.57	0.57
Sum	25	25.0	23.24

The relationship between soil type and the placement of barrows and related monuments is also similar to that of the cist and pit burials. However the barrows show an even greater concentration on the Athy complex soils, with 16 of the 25 (64.0%) being located here. These monuments also differ from the pit and cist burials in that they are more commonly found on grey-brown podzolics with 6 of the 25 (24.0%) and do not occur on brown earths at all. A chi-square test demonstrates that the distribution of barrows, ring-barrows and ring-ditches varies considerably from the expected (> 16.92).

Table 18: Barrows, Ring-barrows and Ring-ditches - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	16	3.32	48.43
Brown Podz	1	1.38	0.10
Gley	1	5.79	3.96
Grey-Brown P	6	3.0	3.0
Regosol	1	0.13	5.82
Other	0	11.19	11.19
Sum	25	25.0	72.71

Differing only slightly from that of the earlier cist and pit burials, the distribution of barrows, ring-barrows and ring-ditches in regards to soil suitability, 23 (92%) of the 25 examples are found on A class soils. The remaining two (8%) are located on D class soils.

Standing stones (fig.11) appear to have a relatively diffuse distribution in relation to elevation, with 6 (27%) of the 22 found between 0 and 200', 11 (50%) between 200 and 500', 4 (18%) between 500 and 1000', and 1 (3%) above 1000'. This is a fairly even distribution in relation to the area of the altitude zones but, when compared to the contemporary burial record, demonstrates a significant focus on higher ground. While there are some associations between standing stones and Bronze Age burial types, no significant relationships are readily identifiable. The chi-square for the distribution of standing stones in relation to elevation shows that it is very close to the expected.

Table 19: Standing stones - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	6	8.27	0.62
200-500'	11	10.58	0.02
500-1000'	4	2.64	0.70
1000'+	1	0.51	0.47
Sum	22	22.0	1.81

In relation to soil types, standing stones demonstrate a nonrandom distribution but, like the cairns, this is in part due to the location of two sites on the very small patch of lithosols in the extreme southeast of Co. Carlow. Other than this, the observed distribution of standing stones is quite close to the expected, with 7 of 13 (53.85%) on brown earths, 2 (10.53%) on brown podzolics and conspicuously, none on either gleys or grey-brown podzolics. A chi-square test is used to indicate the standing stones' difference from the expected (> 16.92).

Table 20: Standing Stones - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	1	0.27	1.97
Athy Complex	1	1.73	0.31
Brown Earth	7	5.45	0.44
Brown Podz	2	0.72	2.28
Lithosol	2	0.10	36.1
Other	0	4.72	4.72
Sum	13	13.0	45.82

Standing stones are one of the few monument types to exhibit a distribution that is close to being different from the expected in relation to soil suitability. Only 3 (42.85%) of the 7 are located on A class soils, with 2 (28.57%) on D class and one each (14.29%) on B and F class soils. As with the cairns, it is this last example that creates the larger chi-square value of 9.57, close to the 11.07 level of significance with a confidence interval 95%. Standing stones are also one of the few monument types to have less than half its total found on A class soils.

Rock art (fig. 11), another type of potentially sacred site usually associated with the Early Bronze Age, is found at much higher elevations than any of the other Bronze Age monuments, with a mean elevation of 357 feet. Most of the rock art is found clustered at the heads of tiny valleys created by streams flowing in to the Barrow, on the east side of the river. Of the seven known sites from the study area, none are known below 200', 5 (71%) between 200 and 500' and 2 (29%)above 500'. There is no apparent association between the rock art sites and other monuments from the Bronze Age, with their distribution being more complementary to the Neolithic monuments . A chi-

square test for the seven rock art sites indicates that its distribution in relation to elevation is not different from the expected.

Table 21: Rock art - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	0	2.63	2.63
200-500'	5	3,37	0.79
500-1000'	2	0.84	1.60
1000'+	0	0.16	0.16
Sum	7	7	5.18

With only five rock art sites in the section of the study area for which soil information was available, chi-squares were not utilized to determine the degree of variance. However, it is interesting to note that all rock art sites are located on brown earths. In relation to soil suitability, 4 of the 5 are located on A class, the other on B class soils.

Fulachta fiadh are found predominantly in low lying areas close to sources of water (fig. 12). They have one of the lowest mean elevations at 130 feet, with the majority falling below 200' , 19 (57.5%) of 33, the remainder of which, 14 (42.5) occur below 500'. While these sites may not have been part of the sacred landscape, their role in the Bronze Age settlement pattern in unquestionable. In other parts of Ireland, *fulachta fiadh* have been proven to have been used seasonally and, by their very nature, repeatedly (Cooney and Grogan 1994: 124)). Whereas Neolithic settlement has been argued to have been confined to the more easily tilled hill slopes, a contention supported by the distribution of monuments from this period, at least part of the settlement pattern in the Bronze Age was focused upon the valley bottom and along streams flowing into the Barrow. The greatest concentration of *fulachta fiadh*

is found on the Kilkenny side of the valley and while this may represent the real distribution, it is also likely that this is due to differences in county survey technics and the criteria used to identify such sites. Through the use of chi-square testing, the relationship between the distribution of *fulachta fiadh* and elevation is demonstrated to be different from the expected.

Table 22: *Fulachta Fiadh* - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	19	12.40	3.51
200-500'	14	15.86	0.22
500-1000'	0	3.96	3.96
1000'+	0	0.78	0.78
Sum	33	33.0	8.47

Based upon chi-square testing, the distribution of the 13 *fulachta fiadh* in relation to soil type is also quite different from that which was expected. However, this is due mostly to the location of three (23.08%) on alluvial soils which make up only 2.2% of the area. Another 2 sites (10.53%) are located on the athy complex, and 4 each (30.77%) on gleys and brown earths.

Table 23: *Fulachta Fiadh* - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	3	0.27	27.60
Athy Complex	2	1.73	0.04
Brown Earth	4	5.45	0.38
Gley	4	3.01	0.33
Other	0	2.44	2.44
Sum	13	13	30.88

Of the six *fulachta fiadh* for which soil suitability data is available, only 2 (33%) are found on A class soils. Three (50%) are on D class soils while the remaining one (17%) is on C class. It is interesting to note their apparent

concentration on D class soils. However, the small sample size and the probability that the majority of the *fulachta fiadh* in Co. Wexford, at least, appear to be located on better quality soils, weakens the strength of this association. Regardless, the chi-square value for this limited distribution was not different from the expected.

THE IRON AGE AND EARLY CHRISTIAN PERIOD

In regards to monuments, the Iron Age poses a problem as there are few monument types that can be dated accurately to this period as they often resemble those from both preceding and subsequent periods. One type of monument, the hillfort, remained focal points in the Iron Age landscape, although many were in use by the Late Bronze Age. Conversely, the Early Christian Period is represented by the largest number of monuments from any period. Sacred sites during this period shift away from the funerary monuments of the preceding periods to the church and monastery. Bullaun stones and stone crosses, while often associated with ecclesiastical complexes, are sometimes found on their own and may represent pilgrimage destinations or early church sites that did not survive. This is quite possible as many of the earliest churches were built of wood (Edwards 1990: 22). Grave sites during this period are predominantly associated with churches and monasteries, although a few are found in isolation. As with bullaun stones and crosses, they may or may not represent church sites. While the dating of the holy wells is ambiguous, a number appear to be of Early Christian origin based solely on spatial associations. Whether the well was considered 'holy' before the

construction of the site, became so during its use or later based upon its association with such an historic and sacred site, is unclear.

By far the most numerous monument from this period, or any period being considered in this study, is the circular enclosure. The majority of these sites are ringforts or cashels, and are central to the Early Christian pattern of settlement because they were used as homesteads and/or animal pens. Sites designated simply as enclosures for lack of more specific identification are usually similar in design to ringforts and may just be larger versions of these. However, a few of these sites are so large that their possible role as sites of greater importance (small hillforts, ritual enclosures) will be entertained. While most excavated ringforts and cashels have been dated to the Early Christian Period, it is probable that at least some are of an earlier date and thus can give us an idea of the Iron Age settlement pattern and how it relates to the hillforts.

The distribution of these monuments is more extensive and even than those from earlier periods (fig. 13). Although the densities of these sites change from region to region, their overall positioning in the landscape is very consistent and indicates a marked break from that of the Bronze Age. This period also heralds the beginning of the historic age in Ireland, with many of the writings containing previously recorded oral lore that can be dated well back into the Iron Age. While the relationship of these early legends and stories to historical reality is uncertain, their potential interpretive role cannot be dismissed as many of the most important sites from both the Iron Age and Early Christian period are mentioned. In some

cases, they may provide the location of destroyed sites and certainly some insight into how these sites and the larger landscape were perceived. This will be dealt with to some degree in following sections.

Only two definite hillforts (fig. 14) are known from the study area, Ballinkillin and Knockscur, both in Co. Carlow within close proximity of the other. Both are situated on hilltops which provide commanding views of the surrounding landscape, Ballinkillin at just above 400' on a hill overlooking the Barrow and Knockscur above 800' in the foothills of the Blackstair Mountains. Ballinkillin is the largest of the two with a bivallate, subcircular construction of earthen banks and ditches, with maximum dimensions of 267 X 225 m (868' X 731'). Knockscur is a smaller (101 X 112 m), univallate, subcircular fort with a stone faced rubble rampart. A recurring feature of hillforts throughout Ireland, and especially those designated as 'royal' sites through historical associations and including the nearby sites of Freestone hill and Dun Ailing, is their tendency to incorporate into their construction monuments from the Neolithic and Bronze Ages (O'Kelly 1989; Cooney and Grogan 1994). While neither Ballinkillin nor Knockscur have such features within their walls, they are both located in close proximity to preexisting monuments. Knockscur has one standing stone and one alignment of three stones within 500m of its ramparts. Ballinkillin is situated so as to overlook the section of the Barrow discussed above that contains such a high density of Neolithic/Bronze Age burial monuments.

Two other sites, one referred to as an enclosure and the other as a motte in the Carlow inventory, will be considered as hillforts for the purpose of this

study. For the ofrmer, I do this based upon the historical descriptions of it as a fort and seat of power for the kings of Leinster (Smyth 1982:7-9), and for the other, based upon its size, location and spatial associations. The first, known historically as Dinn Ríg, is located in Co. Carlow on the west side of the Barrow river near the modern town of Leighlinbridge. Smaller than the other hillforts, it rests on a platform, and not a hilltop, overlooking the Barrow. Like Ballinkillin, Din Ríg has no direct spatial associations with earlier monuments, although it is located near the large Early Bronze Age cemetery at Leighlinbridge and the barrow cemetery along the banks of the river. Knockmore is located on a hilltop above 700 feet, about 4 km south of Knockscur. This site consists of a univallate circular enclosure with a stone faced earthen bank with an internal diameter of 80m. Located on the same hilltop, about 500m west of Knockmore is evidence for a collapsed megalithic tomb, probably a portal tomb (Brindley and Killfeather 1993: 2). If not technically a hillfort, Knockmore was probably still an important site based upon its size, defensive position and spatial association with a Neolithic tomb.

The placement of Early Christian churches, monasteries and other sites in the landscape, while complementary to the contemporary settlement pattern, presents some important differences (fig. 15). Throughout this entire period we see a shift in the focus of ritual sites from the banks of the Barrow to the gentle slopes of the valley and along streams and rivers flowing into the Barrow. The mean elevation for Early Christian ecclesiastical sites is 214 feet, considerably higher than that of the Bronze Age monuments. One third of the 36 Early Christian sacred sites are to be found between 0 and 200 feet with the remainder being located between 200 and 500'. This demonstrates a fair

degree of emphasis on this later division, with those sites falling below 200' being located within the Nore River Valley or in a few places, along the Barrow. It is possible that different distributions of sites will be found in different regions of the study area as, historically, this area included two distinct kingdoms, that of Leinster which forms the greatest part of the study area, and that of Ossraige, restricted to that part of Co. Kilkenny on the west side of the Barrow and south of Brandon Hill. This will be further explored in following sections. A chi-square test demonstrates that the distribution of Early Christian sites in relation to elevation does vary from the expected (> 7.815), but just barely with a value of 7.9.

Table 24: Early Christian Ecclesiastical Sites - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	12	13.54	0.18
200-500'	24	17.32	2.58
500-1000'	0	4.32	4.32
1000'+	0	0.82	0.82
Sum	36	36.0	7.90

Early Christian ecclesiastical sites, in relation to soil type, exhibit a distribution very similar to that which was expected. The majority of these sites are located on brown earths, with 13 (46.43%) of the 28. Four each (14.29%) are located on the athy complex and grey-brown podzols, 5 (17.86%) on gleys and one each (3.57%) on both brown podzols and alluvial soils. A chi-square is used to indicate that the distribution of Early Christian ecclesiastical sites does not vary significantly from the expected (> 16.92).

Table 25: Early Christian Ecclesiastical Sites - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	1	0.65	0.19
Athy Complex	4	3.71	0.02
Brown Earth	13	11.73	0.14
Brown Podz	1	1.54	0.19
Gley	5	6.49	0.34
Grey-Brown P	4	3.36	0.12
Other	0	0.71	0.71
Sum	28	28.0	1.52

In relation to soil suitability, the largest concentration of Early Christian ecclesiastical sites is on A class soils with 17(73.9) of the 23. Only one(4.35%) is located on B class, with 2 (8.7%) on C class and 3 (13,05%) on D class soils.

In relation to other monuments, the distribution of Early Christian ecclesiastical sites is very interesting. Both of the definite hillforts in the study area, Ballinkillin and Knockscur are situated in close proximity to two early church sites. In addition, the location of Dinn Ríg is located very near two early stone crosses. As well, three of the early church sites located along the Nore river have included in their construction existing standing stones. While Early Christian ecclesiastical sites are found in the same areas as ringforts, there is no indication of their role as settlement nuclei.

Ringforts and cashels constitute the single largest group of monuments in the Barrow River Valley, with 137. While they are fairly evenly distributed throughout the landscape (fig. 13), there are some important concentrations and some blank spots which are also considered to be significant. The

southern part of the valley, especially the eastern side of the Barrow, is very underrepresented. The southwest portion of the valley is better represented, although the main concentration here is relatively restricted, focusing on the higher ground and away from the Barrow and Nore rivers. The region north of the Nore to the slopes of Brandon Hill was very sparsely settled during this period.

Northwards, where Brandon Hill and the foothills of the Leinster Mountains cause the valley to narrow, the density of Iron Age/Early Christian settlement increases dramatically. However, the eastern side of the valley shows a much greater concentration of ringforts and cashels. This again diminishes towards the north, especially on the western side, where the Castlecomer plateau is virtually bare. Cashels, as compared to ringforts, have a much more restricted distribution. They are located almost exclusively in the foothills of the Blackstair Mountains, in far southern Co. Carlow and only on the eastern side of the river. This last attribute may very well be a factor of terminology and the level of archaeology that has been completed for each of the different county surveys. Whereas the Carlow inventory distinguishes between ringforts and cashels, both the Wexford inventory and the Kilkenny S.M.R. lists refer to all such sites as 'ringfort/cashels', making it impossible to distinguish between them.. However, the distribution of cashels in Co. Carlow is still considered important due to its southerly concentration.

As stated by Aalen (1978), the distribution of ringforts and cashels in relation to altitude is very regular with a primary focus between 200 and 500 feet. The mean elevation for the ringforts is 278 feet, with that of the cashels

being just slightly higher at 285 feet. It is interesting that with such a large sample, we would find significant relationships with the landscape based upon elevation. This lends support to the findings in regards to elevation and the placement of other, less numerous monuments. Of the 137 ringforts and cashels, only 17 are found between 0 and 200 feet (12%) while 106 and are located between 200 and 500 feet (77%). The remaining 14 are between 500 and 1000'. Of all the sites considered in the study, ringforts and cashels show one of the strongest associations with a specific altitudinal zone, with 77% of the sites being between 200 and 500 feet. This is second only to the lowland (0-200') focus of the Bronze Age barrows and cists at 82% and 80% respectively. Ringforts also have the smallest percentage of any site type between 0 and 200', with only 12%. This presents a marked break with the distribution of both Bronze Age funerary monuments and settlement types as seen through the distribution of barrows and *fulachta fiadh* and their obvious lowland focus. Chi-square testing for the relationship between the distribution of ringforts and elevation indicates a very significant difference between real and expected (> 7.815).

Table 26: Ringforts and Cashels - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	17	51.51	23.12
200-500'	106	65.90	24.40
500-1000'	14	16.44	0.36
1000'+	0	3.15	3.15
Sum	137	137.0	51.03

Of the 91 ringforts and cashels within the section of the study area for which soil data were available, a large proportion of the sites is found on the less productive soils. Twenty-six (28.57%) are located on gleys and a

disproportional 12 (13.19%) on brown podzols. Ringforts are underrepresented on brown earths with only 24 (26.37%) and very close to the expected average on the athy complex and grey-brown podzols, with 13 (14.29%) and 15 (16.48%) respectively. In relation to soil type, ringforts and cashels demonstrate a distribution that varies greatly from the expected (> 16.92).

Table 27: Ringforts and Cashels - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	13	12.08	0.07
Brown Earths	24	38.13	5.20
Brown Podz	12	5.07	9.47
Gley	26	21.08	1.15
Grey-Brown P	15	10.92	1.52
Regosols	1	0.50	0.50
Other	0	3.25	3.25
Sum	91	91.0	21.16

Ringforts and cashels, like other monument types do not exhibit a distribution significantly different from the expected based upon soil suitability. Of the 75 located in the section of the study area for which such data are available, 46 (61.33%) are on A class soils. Twenty-one (28%) are located on D class soils, the largest concentration on this soil type of any monument type besides standing stones. Of the remaining 8, 5 (6.66%) are on B class and 3 (4%) on C class soils.

While their landscape focus in relation to altitude and topography vary somewhat, the spatial relationship between Early Christian ecclesiastical sites and ringforts is very complementary. Conversely, while the hillforts were not

shunned by the ringfort builders, neither do they appear to have been settlement foci. Nor are there any strong relationships between ringforts and any of the earlier site types. One exception may be the localized association in the extreme southwest of the valley, between ringforts and fulachta fiadh. While this may or may not be significant, it is also interesting to note that this is also the area where we see similarities in the placement of Early Christian church sites and that of standing stones. The one site type that does appear to have had influence over the placement of ringforts in the landscape is other ringforts. Although the distribution of ringforts is relatively dispersed, there do appear to be small clusters of 2, 3 and 4. This is consistent throughout the study area. Without excavation however, it is impossible to determine whether or not the ringforts in these clusters were contemporary, constituting small hamlets or large extended family holdings, or if they represent different occupational episodes over time due to the primacy of the locations.

The distribution of sites defined as enclosures varies somewhat from that of ringforts (fig. 14). Most of the enclosures, mainly ringfort-like features over 40m in diameter or those for which only crop marks remain, are most likely larger versions of this most ubiquitous site type. However, the concentration of these sites in the northeastern part of the study area, and the extremely large size of some (150m (488') diameter at Carlow), indicate some important differences. The mean elevation of these sites is only 210 feet, much lower than that of the ringforts (278'). Likewise, the distribution of enclosures over the altitudinal zones is considerably different. Of the 28 enclosures, 10 are found below 200 feet, or 36%, very close to the expected average of 37% . The remaining 18 (64%) are found between 200 and 500 feet.

Their positioning in the landscape indicates a greater lowland focus than for the ringforts. It is important to note, however, that this northerly concentration of enclosures is in an area underrepresented by ringforts and that the area is known to have been central historically, both during the Early Christian Period and the Iron Age (Smyth 1982), to the Kingdom of Leinster. The point is that the majority of the enclosures may simply be large ringforts, and their lower distribution a product of the greater amount of land below 200 feet in this part of the valley. Chi-square testing indicates that the distribution of enclosures, varying greatly from the ringforts, is not different from the expected (> 7.815) in relation to elevation.

Table 28: Enclosures - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	10	11.28	0.15
200-500'	19	14.43	1.45
500-1000'	1	3.6	1.88
1000'+	0	0.69	0.69
Sum	30	30.0	4.17

In relation to soil type, the distribution of enclosures presents an obviously different pattern than that which was expected. Of the 30 enclosures, the majority are found upon athy complex soils with 14 (46.66%) of the total. They are also overrepresented on the grey-brown podzolics with 7 (23.33) as compared to the 3.6 expected. Four each (13.33%) are found on brown earths and gleys, with the remaining one (3.33%) on brown podzols. A chi-square test confirms the significance of their distribution.

Table 29: Enclosures - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	14	3.98	25.23
Brown Earth	4	12.57	5.84
Brown Podz	1	1.65	0.26
Gley	4	6.95	1.25
Grey-Brown P	7	3.60	3.21
Other	0	1.25	1.25
Sum	30	30.0	37.38

Of the thirty enclosures, 25 (83.4%) are located on A class soils. This is one of the highest percentages of any site type in association with such soils. Only 4 (13.3%) are on D class and the remaining one (3.3%) on B class soils.

THE MEDIEVAL PERIOD

During this period we see some of the greatest changes in the distribution of sites, both sacred and secular, than at any other time in the history of the valley. Wide-scale land clearance and increasing population meant that a greater portion of the valley was settled, especially in the lower elevations along the Barrow. All of the site types from this period exhibit a degree of continuity and complementarity in their placement in the landscape. For the first time, we see extensive settlement in the extreme southeast of the valley, that part of the study area consisting of far western Co. Wexford. Less densely settled is the southwest portion of the valley. This is very different from the Iron Age/Early Christian settlement pattern which saw the exact opposite. The remainder of the valley appears to have been

fairly evenly settled although some blank spots do occur. The most important of which is in southern Co. Carlow where, with the exception of the area around St. Mullin's, the foothills of the Blackstair Mountains, which were so heavily settled during the preceding periods based upon the distribution of ringforts and cashels, appears to have been shunned by the Anglo/Norman conquerors. As well, the extreme northwestern section of the study area, including northwest Co. Carlow and southeastern Co. Laois, appears to have continued to be sparsely settled.

Medieval ecclesiastical sites constitute the second largest monument type after ringforts with 79 examples in the study area. The distribution of these sites exhibits a marked riverine focus (fig. 17), with 41 of the 79 sites being located along the river's edge. The remainder are set on hill slopes facing the general direction of the river or in small valleys cut by streams flowing into the Barrow and Nore rivers. The mean elevation of these sites is 170 feet, with 32 (41%) of the 88 sites falling below 200 feet and 47 (59%) between 200 and 500 feet. This extremely low mean elevation in comparison to the distribution of sites over the altitudinal zones, is due to an especially large number of sites between 0 and 100 feet. The distribution of Medieval Ecclesiastical sites appears to be fairly well dispersed across the different elevation classes, although lower in focus than the preceding period but not as low as during the Bronze Age. A chi-square test, however, demonstrates that the distribution of Medieval Ecclesiastical sites in relation to elevation is significantly different from the expected (> 7.815).

Table 30: Medieval Ecclesiastical Sites - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	32	29.7	0.18
200-500'	47	38.0	2.13
500-1000'	0	9.48	9.48
1000'+	0	1.82	1.82
Sum	79	79.0	13.61

The relationship between Medieval ecclesiastical sites and soil type is very interesting. Fully 18 (32.14%) of the 56 sites occur on grey-brown podzols, a greater proportion than any other monument type. Fourteen (25.0%) are found on brown earths, 11 (19.64%) on gleys and 10 (17.86%) on athy complex soils. Chi-square testing demonstrates that the distribution of medieval ecclesiastical sites is quite different from that which was expected.

Table 31: Medieval Ecclesiastical Sites - Soil Type

Soil Type	Observed	Expected	Chi-square
Athy Complex	10	7.43	0.89
Brown Earths	14	23.46	3.81
Brown Podz	1	3.08	1.40
Gley	11	10.97	0.00
Grey-Brown P	18	6.72	18.93
Regosols	2	0.28	10.57
Other	0	2.02	2.02
Sum	56	56.0	39.65

In relation to soil suitability, 27 (75%) of the 36 sites are located on A class soils. Four each (11.11%) are found on C and D class soils. Only one (2.8%) is associated with B soils.

Holy wells exhibit a rather diffuse distribution across the landscape of the Lower Barrow River Valley (fig. 16). They are found in all areas and are found in association with both Early Christian and Medieval ecclesiastical sites, as well as on their own, with no apparent association with any existing ecclesiastical sites. Their distribution in relation to elevation is interesting in that none of the 47 holy wells are found above 500 feet. Twenty-two (47%) are found below 200 feet and the remaining 25 (53%) between 200' and 500'. Chi-square demonstrates that their distribution is significantly different from that which was expected (> 7.815) due mostly to the lack of sites above 500 feet.

Table 32: Holy Wells - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	22	17.67	1.06
200-500'	25	22.61	0.25
500-1000'	0	5.64	5.64
1000'+	0	1.08	1.08
Sum	47	47.0	8.03

However, in relation to soil type, the distribution of holy wells does not vary greatly from the expected (> 16.92). Eighteen (56.25%) are located on brown earths, 5 (15.63%) on each athy complex soils and gleys. The remainder are on grey-brown podzols with 2 (6.25%) and brown podzols and alluvial soils, with one (3.13%) each. Chi-square testing is used to support this.

Table 33: Holy Wells - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	1	0.70	0.13
Athy Complex	5	4.25	0.13
Brown Earths	18	13.41	1.57
Brown Podz	1	1.76	0.33
Gley	5	7.41	0.78
Grey-Brown P	2	3.84	0.88

Other	0	0.63	0.63
Sum	32	32.0	4.45

The distribution of holy wells in regard to soil suitability, exhibits a strong concentration on A class soils, with 15 (83.33%) of the 18 examples. Of the remaining three, one each (5.55%) is located on B, C and D class soils.

Moated sites have one of the most interesting distributions of any of the Medieval monument types found in the Barrow Valley (fig. 19). While many of the moated sites are associated spatially with castles, many appear at higher elevations, well away from other medieval sites and may thus represent outlying defended settlements. The mean elevation of these sites is 297 feet, higher than that of any other period in the history of the valley, with the exception of the Neolithic monuments and rock art sites. However, the distribution of moated sites over the landscape is somewhat different. Six (21%) of the 28 sites are located below 200 feet, 18 (64%) between 200 and 500 feet, and 4 (14%) over 500 feet. While both site types indicate a focus on the land between 200 and 500 feet, the distribution of moated sites is more dispersed. However spatially, the placement of moated sites in the landscape conforms fairly closely with areas that contain concentrations of ringforts. In addition, through the use of chi-square tests, it is clear that the distribution of moated sites in relation to elevation is not different from the expected (7.815).

Table 34: Moated Sites - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	6	10.53	1.95
200-500'	18	13.47	1.52

500-1000'	4	3.36	0.12
1000'+	0	0.64	0.64
Sum	28	28.0	4.23

The distribution of the 19 moated sites is quite diffuse, with 6 (31.58%) found on gleys, 4 each (21.05%) on brown earths and athy complex soils and 2 each (10.52) on grey-brown podzols and alluvial soils. Moated sites constitute one the most random distributions in relation to soil type, denoting a distribution which is not obviously different from the expected (> 16.92)

Table 35: Moated Sites - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	2	0.42	5.94
Athy Complex	4	2.50	0.9
Brown Earths	4	7.96	1.97
Brown Podz	1	1.07	0.05
Gley	6	4.40	0.58
Grey-Brown P	2	2.30	0.04
Other	0	0.35	0.35
Sum	19	19.0	9.78

With 11 moated sites in the section of the valley for which soil suitability data were available, 6 (54.5%) of these are located on A class soils. One (9.1%) is on B class and two each (18.2%) on C and D class soils.

The distribution of castles during the medieval period (fig. 18) is difficult to determine accurately as it is evident from the County S.M.R.s and inventories that many of the castles that once existed in the valley are gone with so little trace that their locations cannot be determined. It is interesting to note that far fewer of the castles from this period survived the test of time

than did their ecclesiastical counterparts. This will be discussed further in the following section. Overall, the distribution of castles is similar to that of the ecclesiastical sites with a mean elevation of 170 feet. Nineteen (45%) of the 42 castle sites are located between 0 and 200 feet, while the remaining 23 (55%) are situated between 200 and 500 feet. Like the ecclesiastical sites, the castles demonstrate a definite focus on the River Barrow in addition to other key defensive positions such as along the entrance to the pass of Gowran and along the Burrin river. In addition, we also see the fortification of three riverside settlements during this period, at Carlow and Leighlinbridge in Co. Carlow and New Ross in Co. Wexford. Whereas the area around Carlow and Leighlinbridge have seen considerable settlement and landuse from the Neolithic/Bronze Age, the environs of New Ross was relatively under populated until the medieval period. A chi-square test indicates that the distribution of castles in relation to elevation is not greatly different from the expected (> 7.815).

Table 36: Castles - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	19	15.79	0.65
200-500'	23	20.20	0.39
500-1000'	0	5.04	5.04
1000'	0	0.97	0.97
Sum	42	42.0	7.05

Likewise, the distribution of castles in relation to soil type is not different from what was expected (> 16.92). Of the 27 sites, 11 (40.74%) are located on brown earths, 7 (25.92%) on grey-brown podzols and 3 (11.11%) on athy complex soils. Two each (7.40%) are found on brown podzols and gleys,

with one (3.70%) each on alluvial and regosol soils. Chi-square testing supports this conclusion.

Table 37: Castles - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	1	0.60	0.27
Athy Complex	3	3.58	0.09
Brown Earths	11	11.31	0.01
Brown Podz	2	1.49	0.17
Gley	2	6.26	2.90
Grey-Brown P	7	3.24	4.36
Regosols	1	0.14	5.28
Other	0	0.38	0.38
Sum	27	27.0	13.46

In regards to soil suitability, 13 (81.25%) of the 16 castles are on A class soils. One (6.25%) is located on B class and two (12.5%) on D class soils.

The distribution of tower houses (fig. 18), defended habitations of the medieval period, varies somewhat from that of the castles. Their mean elevation is much lower at 134 feet as is their distribution across altitudinal zones. Twelve of the 19 (63%) sites are located below 200 feet; the remaining 7 (37%) between 200 and 500 feet. The greater lowland focus of these sites when compared to the castles is coupled with a very definite focus on the Barrow, with 10 of the 19 being located on the banks of the river, with the majority of the others lying upon hill slopes oriented towards the river. The use of chi-square testing demonstrates that the distribution of tower houses in relation to elevation does not vary from the expected (>7.815).

Table 38: Tower Houses - Elevation

Elevation	Observed	Expected	Chi-square
0-200'	12	7.14	3.31
200-500'	7	9.14	0.50
500-1000'	0	2.28	2.28
1000'+	0	0.44	0.44
Sum	19	19.0	6.53

Of the nine tower houses in the section of the study area with sufficient soil data, 4 (44.4%) are located on grey-brown podzols, 2 each (22.2) on athy complex soils and brown earths, and one (11.11) on alluvial soils. Their distribution is not obviously different from the expected.

Table 39: Tower Houses - Soil Type

Soil Type	Observed	Expected	Chi-square
Alluvial	1	0.20	3.20
Athy Complex	2	1.19	0.55
Brown Earths	2	3.77	0.83
Grey-Brown P	4	1.08	7.89
Other	0	2.76	2.76
Sum	9	9.0	14.73

With only 7 tower houses in the area for which soil suitability data were available, 6 (85.7%) are on A class soils. The other (14.3%), surprisingly, is located on F class soil.

CHAPTER 7

A DISCUSSION OF THE DISTRIBUTION OF SITES IN THE LOWER BARROW RIVER VALLEY

In this section, explanations will be explored concerning the distributions of sites and monuments presented in the preceding chapter. In the first half of this section, interpretation will focus upon the relationship between monuments and aspects of the natural landscape. The second half will explore the spatial and temporal relationships between the different monument types, with a special focus on certain sub-areas of the Lower Barrow River Valley and the creation of multi-period sacred landscapes.

MONUMENTS AND THE NATURAL LANDSCAPE

Before the relationship between the monuments and aspects of the natural landscape can be properly addressed, a discussion concerning the results of the chi-square tests and their relationship to reality is necessary. The univariate approach to locational analysis undertaken in this work is derived from Fraser's (1983) study of the placement of chambered cairns in the Orcadian Neolithic. Following his interpretations (Fraser 1983: 263-205), chi-square results indicating a random distribution of monuments in relation

to a particular geographical feature can be interpreted as suggesting that geographical features were being a major factor in the placement of monuments in the landscape. Likewise, chi-square results that denote a non-random distribution, that are greatly different from the expected, indicate the importance of a particular geographical feature or zone in the placement of monuments and, probably, the preference for one or more categories within that class of geographical data.

While this dichotomy between random/unimportant and non-random/important, in relation to the role of geographical features and the placement of monuments, will form the basis of the arguments presented in this section, it is clear that these simple relationships will require further explanation. For example, a number of monument types are found exclusively below 500' but, depending upon the sample size and the actual proportions between 0-200' and 200-500', this may be identified statistically as either a random or non random distribution. Whether or not the distribution of individual site types differs significantly from the expected, it is important that they all occur below 500'. Statistics are useful tools for analysis, however, their interpretation requires considering of a number factors that have not been approached statistically, such as topography, the inter-visibility of sites, relationships with settlement and the focus on large scale geographical features such as the Barrow River and the Pass of Gowran. Some of these factors will be dealt with in more depth in the following sections and will aid in the interpretation of the relationship between the distribution of sites and the natural landscape.

THE NEOLITHIC: 4500 BC - 2300 BC

While cairns, portal tombs and Linkardstown cists have all been considered as Neolithic for the purposes of analysis, it appears more likely that they belong to different, but related traditions in regards to their placement in the landscape. Portal tombs have one of the most "random" distributions in relation to elevation of any monument type, with only one of the eight being located above 500'. Conversely the cairns exhibit a very non-random distribution, with a definite focus on higher elevations. Even when the three above 1000' are excluded, five of the remaining eleven occur above 500' (Tables 5 and 6). Cairns and portal tombs also differ in relation to topography. The portal tombs appear to be relatively evenly dispersed across the different topographic categories, while fully ten of the fourteen cairns are located on hill slopes. Linkardstown cists, with only three examples in the study area, were not eligible for any of the chi-square tests. However, their distribution appears different from that of the portal tombs with two of the three being found above 500'.

Chi-square results for the distribution of Neolithic monuments in relation to soil type, indicate that soil was an important factor in their placement in the landscape. However, the location of three cairns on lithosols (Table 9), a soil type that constitutes only 0.8% of the study area, dramatically skews the chi-square results. When cairns are considered separately, this is made even more apparent. However, if their distribution is to be considered without the three cairns located on lithosols, they appear to be dispersed quite randomly in relation to soil type. In addition, if one is to attribute the

importance of monument placement in relation to soil type as a result of the soil's role as an agricultural resource, it cannot be said that the significantly non random distribution of cairns is due to the soil's importance. The lithosols constitute the least fertile soil in the study area and the placement of three cairns on this soil type should not be taken as a sign of this soil's importance. It is more likely that the desire to construct three cairns on the slopes of Dranagh Mountain was due to factors other than the presence of lithosols.

Portal tombs and Linkardstown cists, when examined separately from the cairns, exhibit a random distribution in relation to soil type (Table 10) However, this is not to say that soil type was unimportant. When the three cairns located on lithosols are removed from the equation, the portal tombs and Linkardstown cists appear to be placed with a greater focus on better quality soils. Four of the nine are located on grey-brown podzols that would have been especially useful to Neolithic farmers due to its fertility and general location on hill slopes that would have been easier to till (Cooney and Grogan 1994: 44-46). This relationship is even more apparent when the distribution of Neolithic monuments is considered in relation to soil suitability. Fully seven of the nine portal tombs and Linkardstown Cists are located on A class soils while only four of the ten cairns are thus situated. Based upon these observations, it is clear that soil, as an agricultural resource, was more important for the placement of portal tombs and Linkardstown cists than it was for cairns.

Based upon these interpretations of the distribution of Neolithic monuments in relation to elevation and soil, it appears that the placement of

cairns followed different criteria than with either the portal tombs or Linkardstown cists. With most of the cairns being located on lesser quality soils and in rather inaccessible location like atop Brandon Hill or on the rocky slopes of Dranagh, it is less likely that these sites were associated with Neolithic settlement. Portal tombs and Linkardstown cists on the other hand, are located on better quality soils and at elevations better suited to Neolithic settlement. In fact, the placement of portal tombs and Linkardstown cists in the study area is very close to that which was predicted based upon patterns of Neolithic settlement observed in the rest of Ireland. Megalithic tombs are often situated in areas suited to Neolithic settlement with light, well drained soils (Cooney 1983: 188), avoiding the heavily wooded lowlands with a focus on hill slopes and terraces (Aalen 1978: 49-50; Cooney and Grogan 1994: 44-47).

Another clue to the relationship between the placement of megalithic tombs and Neolithic settlement is how they were approached. Portal tombs were often constructed with their entrances facing upslope, thus indicating how they were viewed and approached in the landscape (Cooney and Grogan 1994: 64). Whether placed upon a hill slope, valley side or flat land, the entrances of the portal tombs on the Carlow side of the Barrow, generally face away from the river in an easterly direction, upslope (Brindley & Kilfeather 1993: 1-2; 98). If we are to assume that these tombs were approached from Neolithic settlements, it is likely that Neolithic settlement, at least on the east side of the Barrow, was concentrated above the 200' contour on the more easily managed hill slopes. This is also supported by the distribution of Neolithic lithic scatters in the valley, which like their Mesolithic counterparts and the portal tombs, were concentrated around the 200' contour that more or less

marks the edge of the valley bottom (Ramsden et al. 1995). The concentration of Neolithic flint scatters and portal tombs on the edge of the valley floor indicates a pattern of land use that incorporates the more easily worked soils on hill slopes above 200' and access to fishing, hunting and gathering on the valley bottom. Despite ample evidence for widespread domestication in the Neolithic, wild resources retained their importance and were fully part of the Neolithic economy (Cooney and Grogan 1994: 36-42).

As the distribution of cairns differs from that of either the Linkardstown cists or portal tombs, and because their association with Neolithic settlement is unlikely, it is possible that their placement is part of a different Neolithic tradition, or that they date to a later time period. However, when the distribution of cairns is compared to that of other monument types, spatially they are more closely associated with portal tombs and standing stones and bear no resemblance to the distribution of other Bronze Age monuments. The relationship between cairns and other monument types and their place in the cultural landscape will be explored further in the following section.

THE BRONZE AGE 2300 BC - 600 BC

The distribution of monuments in the Bronze Age, especially of those related to burial, contrasts sharply with that of the Neolithic. Both the non-monumental cist and pit burials and related cemeteries of the Early Bronze Age and the barrows, ring-barrows and ring-ditches commonly associated with the

Middle Bronze Age, exhibit a marked focus on the Barrow River and were commonly located on different soils, below 200'. Chi-square tests for both EBA and MBA burial types indicate a distribution very different from that expected based upon elevation. This is due primarily to their obvious concentration on the floor of the Barrow Valley and below the 200' contour, with 12 of the 15 cist and pit burials and 21 0f the 25 barrows, ring-barrows and ring-ditches being thus located (Tables 14 and16). Topographically, these sites exhibit the strongest riverine focus of any site type from all of the periods considered in this study, as 8 of the 15 cist and pit burials, including the 3 cemeteries and 20 of the 25 barrows, ring-barrows and ring-ditches are located along the river's edge.

These site types also demonstrate a similar, obviously non-random distribution in relation to soil type. Seven of the 12 cist and pit burials, including the three cemeteries and 16 of the 25 barrows, ring-barrows and ring-ditches are located on Athy complex soils (Tables 15 and 17). Some difference between the two types are evident in the association of 4 cist and pit burials with Brown earths and only 1 on grey-brown podzols while no barrows are located on brown earths (the only site type to do so) and 6 on grey-brown podzols. Regardless of the actual soil type, all of these sites exhibit a very strong concentration on the best (A class) soils, with all of the EBA and 23 of the 25 MBA burial types being thus located. These concentrations on A class soils are greater than for any other site types in the study area.

The distribution of both cist and pit burials and barrows, ring-barrows and ring-ditches in relation to soil, elevation and topography, exhibit a strong

sense of continuity in the placement of the dead in the landscape from the EBA to the MBA and a marked break with that of the Neolithic. These data support the general trend identified in the rest of Ireland where during the Bronze Age, populations expanded into the more heavily wooded lowlands (Aalen 1983:365; Cooney & Grogan 1994:98-99). The strong association of these sites with high quality soils in addition to the increase in deforestation evident throughout Ireland in the Bronze Age (Aalen 1983: 364-366), indicates the importance of agriculture and cultivation in particular, during this period. The low-land focus of Bronze Age settlement is also supported by the distribution of fulacht fiadh. Nineteen of the 33 fulacht fiadh in the study area are located below 200' and while not as great a proportion of sites as the Bronze Age burial types, contributes to its non-random distribution in relation to elevation (Table 21). The 13 *fulacht fiadh* sites for which there are soil data, exhibit a rather disperse distribution in relation to soil type, although one that is obviously non-random. This is due mostly to the location of 3 sites on alluvial soils which constitute a very small part of the total area. Although there are only 6 *fulacht fiadh* in the area for which soil suitability data were available, only 2 of these are found on A class soils, which is very different from contemporary burial sites.

However, *fulacht fiadh* cannot be viewed as evidence for the complete settlement pattern of the Bronze Age as there is considerable evidence that they were used on a seasonal basis (Cooney and Grogan 1994: 102). In addition, *fulacht fiadh* and contemporary burial monuments (barrows, ring-barrows and ring-ditches) are located in very different sections of the Lower Barrow River Valley. The majority are located on the west side of the valley in the

southern section of the study area, whereas the burials are found predominantly on the east side in the north-central section. While this may be a result of differential preservation or different identification criteria used by county surveys, such a discrepancy is not evident for any other site types. It is possible that the distribution of *fulacht fiadh* and barrows, ring-barrows and ring-ditches represent two different Bronze Age populations. It is also possible that they represent the differential use of the landscape for burial and other activities. It is obvious however that different selection criteria were used in their placement. Whereas burials are consistently associated with high quality soil, the apparent association of *fulacht fiadh* and lower quality soils probably reflect the pre-eminent importance of a water source and stones for heating. While burials during the EBA and MBA appear to be associated with agriculturally productive land, fulacht fiadh are associated with consumption: cooking, eating and gathering. It is important to note that this pattern is not present in other parts of Ireland, where *fulacht fiadh* are consistently associated with both contemporary settlement and ritual sites (Condit and O'Sullivan 1996: 41).

The distribution of other Bronze Age monuments in the Lower Barrow River Valley exhibit a very different pattern of placement in the landscape than do burials. Both standing stones and rock art sites appear to be placed randomly in regard to elevation, although in comparison to both EBA and MBA burial types, they are generally found on higher ground. Sixteen of the 22 standing stones and all seven of rock art sites are located between 200 and 1000 feet (Tables 18 and 20). This is very different from the concentration of Bronze Age burials below 200'. This difference is seen topographically as well,

for only one standing stone and none of the rock art sites are found along the river's edge, in comparison to 80% and 53% of the barrows, ring-barrows and ring-ditches and cist and pit burials respectively. Rock art sites are located on hill slopes and valley sides, while standing stones are well dispersed across topographical forms, with concentrations on hill slopes, valleys and flat land.

In relation to soil, the placement of standing stones and rock art sites are also markedly different from that of contemporary burial types. Standing stones exhibit a distribution different from the expected (Table 19). However, as with the cairns, a significant contributor to the high chi-square value is the location of two standing stones on the small area of lithosols in southeast Co. Carlow on the slopes of Dranagh Mountain. When these two examples are removed from the equation, their distribution appears to be more random than not, with the only great concentration (7 of13) of standing stones being on brown earths (Table 19). While a chi-square test was not used for the distribution of rock art in relation to soil type, 4 of the 5 are located on brown earths. This is very different from the concentration of both EBA and MBA burial types on Athy complex soils (Tables 15 and17). Only one standing stone and none of the rock art sites are located on Athy complex soils.

In the section of the study area for which soil suitability data were available, only 3 of the standing stones are located on A class soils. While this does not constitute an obvious nonrandom distribution, it contrasts sharply with the strong focus of the contemporary burial types on A class soils. Four of the 5 rock art sites are located on A class soils. Thus while soil type does not appear to be important in the placement of either standing stones or rock art,

the overall quality of the soil appears to be more important for the later than the former. The different distributions of standing stones and rock art sites in comparison to other Bronze Age sites in the study area may be related to different regional foci. Whereas the burial sites are located along the mid-reaches of the Barrow River and fulacht fiadh on the west side of the river, rock art is clustered around a series of small valleys on the east side with the largest numbers of standing stones being located in the southern half of the study area. These differences in the distribution of Bronze Age monuments and sites in relation to both geographical features and regional foci, will be explored further in the following section.

THE IRON AGE AND EARLY CHRISTIAN PERIOD: 600 BC - AD 1167

As in the previous chapter, these two periods are being considered together, mostly because of the lack of identifiable Iron Age monuments besides the hillforts, and the apparent similarities in the nature of Iron Age and Early Christian settlement patterns. Although the greatest indicator of settlement during this period is the distribution of ringforts and cashels, consistently dated to the Early Christian period, the use of the landscape and the dispersed nature of settlement were probably similar during the Iron Age (Laing and Laing 1990). While it is unclear how the Iron Age relates to the Bronze Age in regards to the perception of the cultural landscape, by the introduction of Christianity, the distribution of monuments is very different from that of the Bronze Age. Although the initial stages of construction and use of many of the major hillforts in Ireland have been dated to the Late

Bronze Age , they were used throughout the Iron Age (Cooney and Grogan 1994: 195).

The two definite and two possible hillforts in the study area are all located in the mid-reaches of the Lower Barrow River Valley. As is evident in their name, 3 of the 4 are located on prominent hilltops while the fourth, at Leighlinbridge, is on a platform over-looking the River Barrow. This topographical focus is due to a number of inter-related concerns. These include defense, the field of view from the hillfort and their own visibility within the landscape. As most of the excavated hillforts in Ireland have provided little evidence for continuous habitation, their role as sacred monuments and symbolic centers of power appears more likely. Excavations of the large trivallate hillfort at Mooghaun Co. Clare, has led the investigators to suggest that the site's visibility in the landscape was more important than defensive concerns (Grogan pers. comm.). Although the hillforts in the study area are found at relatively high elevations, 400' for Ballinkillin and 700' and 800' for Knockmore and Killoughternane respectively, elevation is not as important as the prominence of the site in the landscape as is evident in the location of Dinn Ríg at an altitude of only 100'.

In relation to soil types, the distribution of hillforts indicates a preference for better quality soils. Dinn Ríg is located on Athy complex soils and Ballinkillin on Brown earth. Both Killoughternane and Knockmore are located on brown podzols, a very interesting association, although it probably is related more to the importance of those particular hilltops than to a preference for brown podzols. Indeed both of these hillforts are located very

close to brown earths. However, the most interesting aspect of their placement in the landscape is their relationship with other, earlier monuments. This will be further explored in the following section.

The distribution of Early Christian ecclesiastical sites, including churches, cemeteries, crosses and bullauns, is very dispersed in the landscape and very different from that of monuments from earlier periods. In relation to elevation, Early Christian ecclesiastical sites exhibit a distribution different from the expected, although just barely (Table 23). This is due to a complete lack of sites above 500' and a marked concentration between 200' and 500', with two thirds of the total. However, in relation to soil type, these same sites appear to be distributed randomly (Table 24). While individual soil types may not have been important in the placement of Early Christian ecclesiastical sites, soil quality definitely was, with 74% of the sites being located on A class soils. Topographically, these sites are also quite dispersed, being located on hill slopes, flat land, in valleys and along the river's edge, and even one on a hilltop. The relationship between Early Christian ecclesiastical sites and the contemporary settlement record will be discussed in the following section, in addition to their apparent avoidance of certain areas in the Lower Barrow River Valley.

The distribution of ringforts and cashels, the most common site type in the study area with 137, is more extensive and dispersed than any other monument type. In regards to elevation, ringforts and cashels exhibit a distribution very different from the expected and one that is certainly non-random (Table 25). The vast majority of these sites are located below 500', with

only 14 between 500 and 1000'. However, of the 123 remaining, 106 are located between 200 and 500', the greatest concentration of any monument type in this altitudinal zone. The majority of the ringforts are associated with hill slopes and flat land, with 13 located on hilltops, the greatest number of any site type in the study area. Only 9 are found along the river's edge. In relation to soil type, the distribution of ringforts and cashels is also very different from the expected (Table 26). The single largest proportion of sites are located on gleys, a pattern not seen with any of the other monument types. Twelve are located on brown podzols, a significantly larger number than other site types. Conversely only 24 are located on brown earths, the most common soil type in relation to the distribution of contemporary ecclesiastical sites. This focus on lower class soils is also evident in that just over 60% of the ringforts are located on A class soils, the remainder being on B, C and D class soils, denoting a lesser concentration on better soils than most other sites.

As these sites are primarily related to Early Christian settlement, a larger concentration of sites on better soils would be expected, especially as cultivation became of increasing importance during this period (Aalen 1979: 79). A number of factors, singly or in conjunction, could account for this distribution. The first is differential preservation. While this is obviously a factor with all of the monuments in the study area, no other monument type exhibits such an extreme avoidance of elevations below 200'. While this pattern fits with Aalen's (1979:85) contention that ringforts are generally located between 200' and 400', at least in the Lower Barrow River Valley , this seems to preclude an association with the better soils. However, the intensive nature of agriculture in the region during the last few centuries, especially in

the lower elevations, may have led to the destruction of a number of ringforts. This may be directly related to the location of unclassified enclosures found on better soils at lower elevations. These sites, which remain only as crop marks today, may in fact be ploughed out ringforts. This theory is further strengthened in that within the general region of the largest concentration of unclassified enclosures, there are not many ringforts (Map).

However, the placement of many of these enclosures in the landscape is very similar to that of the barrows, ring-barrows and ring-ditches located along the river. Although not greatly different than the expected, the distribution of enclosures in relation to elevation indicates a marked concentration below 500' with 29 of 30 and a greater proportion of sites below 200' than the ringforts with one third (Table 27). Their relationship to soil is also very similar to that of the barrows, ring-barrows and ring-ditches, with 14 of the 30 located on Athy complex soils and 7 on grey-brown podzols. Likewise in relation to soil suitability, over 80% of the enclosures are located on A class soils. This is very different from the ringforts and very similar to the MBA burial types.

Without further data, it would be difficult to further classify the enclosures. However, it appears likely that some of them anyway, are in fact the remains of barrows, ring-barrows or ring-ditches. In addition, there are a number of other factors besides differential preservation that can account for the distribution of ringforts in relation to soil. Brown podzols, on which a number of ringforts are located, are in fact degraded brown earths and at the time of the ringforts' construction, may have been of better quality than is

denoted by the modern soil suitability classification of B and C for these soils (An Foras Talúntais 1967). As well, a number of excavated ringforts have not yielded settlement debris (O'Kelly 1989: 307) and may have been used principally to hold livestock. This may explain the location of a number of sites on poorer soils, as it is logical to assume that in a mixed farming economy, lesser quality lands would be used for pasture and the better soils for cultivation.

A number of other factors that could have influenced the distribution of ringforts, such as the placement of ecclesiastical sites or other political/economic concerns, will be explored further in the following section. It is important to note however, that while there are a few bare spots on the ringfort distribution map, it is clear that by the Early Christian period, the Lower Barrow River Valley was intensively settled and the perception of the cultural landscape markedly different from that of the prehistoric periods.

THE MEDIEVAL PERIOD AD 1167 - AD 1500

The distribution of Medieval ecclesiastical sites exhibits a very different pattern than that of similar sites from the preceding period. Their distribution is considered significantly different from that which is expected based upon both elevation and soil type. Of the 79 Medieval ecclesiastical sites, all are found below 500', with a larger proportion below 200' than during the Early Christian Period, (41% compared to 33%, Table 29). In regards to soil, the largest concentration of Medieval ecclesiastical sites (18) is located on grey-

brown podzols (Table 30). This is the only monument type to demonstrate such an association apart from portal tombs and Linkardstown cists (Table 10). This association is certainly related to the marked riverine focus of Medieval ecclesiastical sites and the concentration of such sites in the northern section of the study area, along the Rivers Barrow and Burrin, where grey-brown podzols are more prevalent. Twenty-six of the Medieval ecclesiastical sites are placed along the river's edge, with a number of others being located on hill slopes overlooking the Barrow River.

Holy wells follow a similar pattern to that of Medieval ecclesiastical sites in relation to elevation, with all 47 sites located below 500', although the proportions between 0'-200' and 200'-500' are about equal (Table 31). However, in relation to soil type, they do not display a distribution greatly different from the expected, with the largest concentration of holy wells being on brown earths, with only 2 on grey-brown podzols (Table 32). This is quite different from the Medieval, and closer to the distribution of Early Christian ecclesiastical sites in relation to soil type. Although again, in regards to soil suitability, the distribution of holy wells is closer to the Medieval, with over 80% of the sites located on A class soils.

The distributions of both castles and tower houses, while different in some respects, appear to be in keeping with the trend set by contemporary ecclesiastical sites. While the distribution of neither castles nor tower houses is different than expected in relation to elevation, both site types are found exclusively below 500', although tower houses demonstrate a greater focus below 200' (Tables 35 and 37). Likewise, in relation to soil type, neither site

type exhibits a distribution significantly different from the expected (Table 36 and 38). The largest concentration of castles is located on brown earths, with a smaller, but significant focus on grey-brown podzols (Table 36) while the largest proportion of tower houses is located on grey-brown podzols (Table 38). However, both castles and tower houses were generally located on better quality soils according to soil suitability classification with 81% of the former and 85% of the latter being thus located. Where these two site types do differ is in relation to topography. The majority of the tower houses, 10 of 19, is directly associated with the River Barrow, in comparison to only 12 of the 42 castles. Most of the castles are located on hill slopes or flat land.

Most of the tower houses in the study area are probably of later date than the castles, being defended residences for nobility and their focus on the Barrow River may be related to commerce. Likewise, the three walled towns in the study area and the first urban centers in the Lower Barrow River Valley, Carlow, Leighlinbridge and New Ross, were obviously located on the river for purposes of trade and communication. All three are located on good quality soils, grey-brown podzols, Athy complex and brown earths respectively. This pattern appears to be indicative of the Anglo-Norman settlement pattern in the valley, with a focus on the Barrow River, elevations below 500' and concentrated on the better soils. This pattern is also evident in the distribution of mottes, defensive earthworks constructed in the first few decades of the Anglo-Norman invasion (Aalen 1978: 116-117). Of the six mottes in the study area, all are located below 300' and are on better quality soils. Three are located at major strategic points on the Rivers Barrow and Nore, while the other three are located on hill slopes overlooking the Barrow River.

The distribution of castles differs somewhat, with a more inland focus and a primarily defensive role. Differential preservation is also certainly a factor in the distribution of castles in the study area. The entire central portion of the valley appears to be barren of castles, although historic information refers to a large number of castles in this area (Brindley & Kilfeather 1993: 88-93) that appear to have left little or no physical trace. The distribution of moated sites, defended Medieval settlements, is different from any of the other contemporary sites, although some similarities with castles are evident. For the most part however, moated sites appear to be located on more marginal lands, in areas where an absence of castles would have necessitated the construction of defended settlement such as around Brandon Hill and on the Castlecomer Plateau. While their distribution is not significantly different from the expected in relation to both elevation and soil type, their distribution is very different from other Medieval sites. Four are found above 500', the only monument type from this period to be thus located. Of the remainder, three times as many are found between 200' and 500' than between 0' and 200' (Table 33). This indicates a greater focus on higher ground than any contemporary site type. Moated sites appear rather diffusely distributed in relation to soil type, although the single largest concentration is found on gleys, soil of a definitly lesser quality (Table 34). This is reflected in their distribution in regards to soil suitability, where only 54% are located on A class soils, the lowest frequency of any Medieval site type. It is clear that the distribution of moated sites is concentrated on more marginal soils and at less accessible elevations, well away from most other population centers and the

Barrow river. This relationship will be further explored in the following section.

The above discussion concerning the distirbution of monuments in relation to aspects of the natural landscape, indicates that the choices invloved in their placement can rarely be reduced the importance of single geographical features. While chi-square tests have aided in indicating preferences for certain soil types or elevations, it is diffcult to identify the most important as these factors are often interrelated. Thus it cannot be said that the placement of MBA burial types is due to a preference for athy complex soils, elevations below 200' or locations on the Barrow River. It is more likely that a combination of these factors were involved in their placement in the landscape. Intertwined with these criterion is the importance of historical associations with certain areas and the presence of both earlier and contemporary monuments. These factors are explored in the following section.

SACRED LANDCSAPES IN THE LOWER BARROW RIVER VALLEY

In this section, the distribution of monuments from different periods will be examined, focusing on specific regions of the study area where significant concentrations have been identified. The interpretive focus will be upon sacred monuments and the construction of sacred landscapes as discussed in chapter two. Two such multiperiod concentrations of prehistoric sacred monuments have been identified in the study area, and are discussed in

the first half of this section. The second half will focus upon the relationship between Early Christian and Medieval sacred monuments, ties with contemporary settlement and with prehistoric monuments. The arguments presented in this section will obviously be less scientific than in the previous, as they constitute a subjective "reading" of the cultural landscape, based primarily upon the distribution maps and related data. Attempts will be made to compare observed patterns with those in the rest of Ireland.

Through the examination of the distribution maps in the appendix, it should be clear that there are very few consistent associations between monument types that are apparent in all areas of the Lower Barrow River Valley. Some possible associations include the location of portal tombs and cairns, EBA and MBA burial types and hillforts with any number of prehistoric monuments. While cairns exhibit a distribution very different from that of portal tombs, there are at least three direct spatial associations between cairns and portal tombs in the mid-reaches of the valley. While the portal tombs are definitely of Neolithic date, it is unclear if the cairns are contemporary or of a later date. A fourth cairn, lying equidistant between two portal tombs in a near straight line overlooking the River Barrow, lends strength to the association between these two burial types in the lower elevations of the valley.

EBA and MBA burials not only share similarities in their placement in relation to topography, elevation and soil, but are spatially associated in their placement along the Barrow River in the mid-reaches of the valley. This is a

very interesting observation in that the EBA burials, even the larger flat cemeteries, would probably not have been visible to those who constructed the barrows ring-barrows and ring-ditches. This implies that either knowledge of their placement was transmitted over the hundreds of years separating the EBA and MBA or, more likely, this particular stretch of the river remained important throughout the period. This importance could be related to continued settlement in the area, in addition to the position of earlier monuments and geographical features. The four hillforts in the valley are consistently located in spatial association with at least one, and often a number of earlier monuments. Ballinkillin is located overlooking the extensive barrow, ring-barrow and ring-ditch cemetery along the valley floor and very close to a rock art site. Killoughternane is located in direct association with one stone alignment and a single standing stone. The alignment runs NW-SE, towards the mid-reaches of the valley bottom to the northwest, and to the Blackstair Mountains to the southeast. Knockmore, a smaller fortified enclosure, is located in direct association with a collapsed portal tomb and a cairn. Dinn Ríg overlooks the Barrow River and the MBA cemetery along its banks.

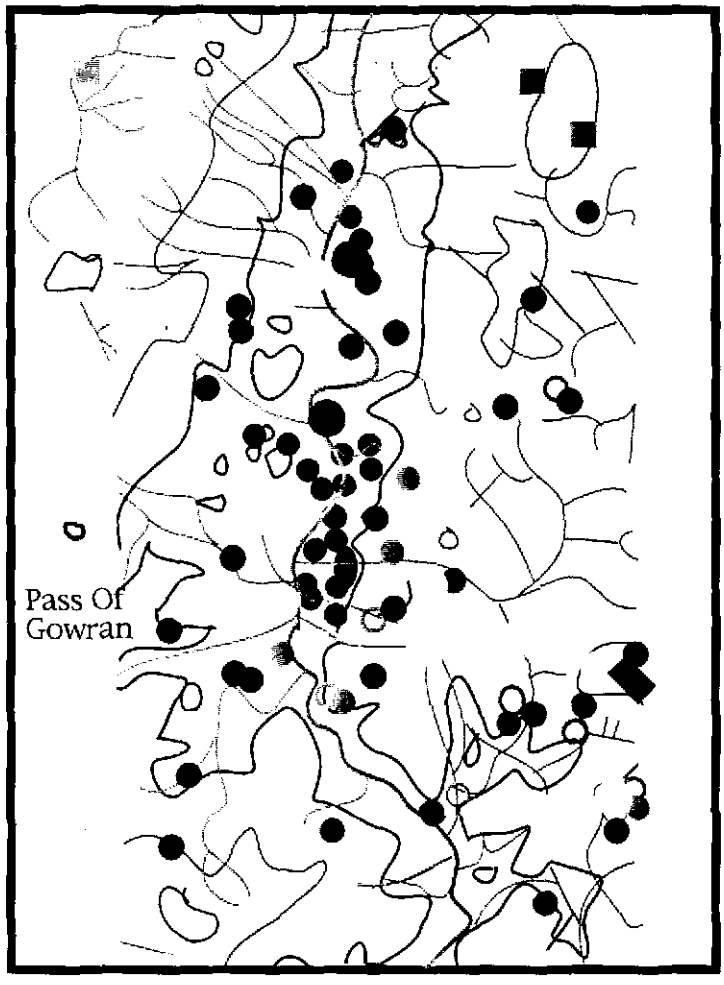
THE MID-REACHES OF THE LOWER BARROW RIVER VALLEY

All three of the multiperiod spatial associations between sacred monuments presented above are found in the mid-reaches of the Lower Barrow River Valley. This area constitutes the most significant sacred landscape in the study area (fig. 6). Another sacred landscape has been identified on higher ground over looking the River Barrow at its narrowest

points. While prehistoric sacred monuments are located in other regions of the study area, such landscapes do not appear to be present. While the northern section of the study area contains one portal tomb and three Linkardstown cists, they do not appear to be associated with any other monuments, either contemporary or from later periods. Nor are there any great concentrations of Bronze or Iron Age monuments in this section of the valley. The southern part of the study area, south of Brandon Hill, contains a number *fulacht fiadh* and standing stones, but only one Neolithic and three EBA burials are found in this entire section. While this area was obviously settled during prehistory, there are no apparent associations between the monument types or a clearly visible sacred landscape.

The mid-reaches of the Lower Barrow River Valley, south of Carlow town and north of Brandon Hill, constitute the most obvious example of a multiperiod sacred landscape in the study area. The first monuments constructed in this section of valley were the portal tombs and, most likely, the cairns. Two concentrations are observed, one of three portal tombs and two cairns in a near straight line overlooking the Barrow River, directly opposite the Pass of Gowran, and another of two portal tombs and four cairns stretching from atop Knockmore westward, through a system of small valleys to the Barrow River. The tombs and cairns overlooking the Barrow River, would certainly have been visible to those who created the extensive EBA and later MBA cemeteries along the banks of the river. While the focus in burial location obviously changed from higher ground overlooking the river, to the banks of the river itself, this particular section of valley remained a focus for the monumental expression of death from the Neolithic through to Middle

DISTRIBUTION OF PREHISTORIC MONUMENTS IN THE MID-REACHES OF THE LOWER BARROW RIVER VALLEY



N

1 INCH
=
3.5 MILES

PORTAL TOMB

LINKARDSTOWN CIST

CAIRN

E.B.A. CIST or PIT

E.B.A. CEMETERY

BARROW, RING-BARROW
or RING-DITCH

ROCK ART

STANDING STONE

STONE ALIGNMENT

FULACHTA FIADH

HILLFORT

Bronze Age, with an intervening period of non-monumental expression during the Early Bronze Age. This change, from higher elevations to the edge of the river, is probably due to the pattern of settlement expansion and deforestation in the lowlands during the Bronze Age that is so well documented in other areas of Ireland.

The focus on this section of the river for the monumental disposal of the dead, while obviously related to the importance of the river and the placement of earlier monuments, also appears to be associated with the Pass of Gowran. This pass between the highlands of Faegli and Brandon Hills and the Castlecomer Plateau, constitutes the only point of access into the Lower Barrow River Valley from the west. It will be argued here that the initial placement of Neolithic burial monuments overlooking the Barrow River, and the continuing importance of the Pass of Gowran to the people who lived in this section of the valley, influenced the placement of burials during the Early and Middle Bronze Ages and hillforts in the Late Bronze Age and Iron Age. Two different factors would appear to explain this distribution of prehistoric mortuary sites. The first is the continuing importance of this area as a sacred landscape related to the disposal of the dead, and a probable tradition of ancestor veneration. The second is the focus on natural features, including the Barrow River and, in particular, the Pass of Gowran as an expression of territoriality.

Other prehistoric monuments in this section of the valley include five rock art sites, four of which are on the east side of the river and a small

number of standing stone and one alignment. There are apparently no general rules regarding their associations with other monuments, although most appear to be closely related with the sacred landscapes discussed above. Three of the rock art sites are located in the series of small valleys between Knockmore and the Barrow River, two of which are closely associated with the cairns and portal tomb similarly located. The standing stones are quite dispersed and fewer in number than in the southern section of the valley. One is located among the collection of EBA and MBA burials around Leighlinbridge, another in association with the line of portal tombs and cairns overlooking the river and another with a cairn further inland. The stone alignment atop Killoughternane is oriented northwest towards the Neolithic/Middle Bronze Age cemetery, the Barrow River and the Pass of Gowran, linking the edge of the valley with its center.

The distribution of hillforts in the region indicate an awarness of the earlier sacred landscape. Defensive concerns appear to have been important as well, with both Ballinkillin and Dinn Ríg over looking the Barrow River, the former being located directly opposite the Pass of Gowran. Dinn Ríg, while not situated on a more dependable hilltop, is located at a strategic point directly on the river, the importance of which is emphasized by the later imposition of a Medieval motte (Smyth 1982: 7). The strategic importance of controlling the Pass of Gowran to the people who lived in the Barrow Valley, is apparent in the location of another major hillfort along the northern edge of the pass below the Castlecomer Plateau. Freestone Hill, just outside of the study area, consists of a large univalate enclosure of earth and stone and a smaller stone enclosure on the summit. The second enclosure was constructed from, and surrounds a

large EBA multiple cist cairn (O'Kelly 1989:310-312). Its prominent location high on a hilltop would have given it a commanding view of the Pass of Gowran, as well as being highly visible itself.

The importance of the Pass of Gowran is further emphasized in the legends and literature from the Iron Age and Early Christian period, and historical records in the Medieval period. The pass was considered a major frontier outpost for the kingdom of Leinster. Armies from Ossary and Munster swept through this pass in 858, 870 and 908 AD, while armies from Leinster used the pass to invade the western kingdoms in 906 and 941 AD (Smyth 1982: 11). In 1169 AD, MacMurrough and an army of Anglo- Norman invaders fought their was through the pass with heavy losses into Ossary (Smyth 1982: 11). While it is unclear whether or not invading armies were a concern during the Neolithic and Bronze Age, the Pass of Gowran, like the River Barrow, would have constituted a major access point into the heart of the valley and would have been important for both trade and communication with the west. The other two hillforts in this area, while not focused on either the River Barrow or the Pass of Gowran, are closely associated with the distribution of tombs, cairns and rock art between Knockmore and the Barrow, which may also be directed at controlling access from the south. The hillforts at Knockmore and Killoughternane may also be thus located due to the proximity of Berna an Scala, a pass through the Blackstairs Mountains and connecting Co. Carlow and Wexford (Smyth 1982: 157).

The development of monumental mortuary practices throughout Ireland and the rest of Europe is tied to the Neolithic and domestication. The

encluturation of the landscape, through the transformation of places into permanently visible aspects of the cultural landscape through the construction of monuments, signifies a great degree of difference between Mesolithic and later perceptions of the landscape. During the Mesolithic, natural places and the paths that connected them were the focal points of action, both for ritual and subsistence purposes (Bradley 1991: 135; Tilley 1994: 37-42). This is related to the perception of the natural world by hunter-gatherers in that they are a part of nature (Bradley 1991: 135). This is very different from the perception of the natural world in agricultural societies, where nature is more likely viewed in opposition to, and outside of culture (Hodder 1990); where culture can be imposed upon nature through the construction of monuments. For the most part, agriculture involves the continuous occupation of an area, often over generations. Concerns of land ownership and territoriality would have become increasingly important. Through the construction of monuments for the dead, ownership and control of the land is directly linked to the veneration of ancestors and their relationship with the living through descent (Bradley 1991: 135-136; Garwood 1991: 14-15; Barrett 1994: 137). Rituals surrounding the disposal of the dead and veneration of ancestors would have facilitated the reproduction and continuation of society and the reinforcement of their relationship with the land (Garwood 1991: 10-11; Barrett 1994: 137).

The associations observed in the mid-reaches of the Lower Barrow River Valley between Neolithic, EBA and MBA burial traditions and later hillforts, imply not only the importance of ancestral ties with the land and the construction of monuments as a permanent reminder of this link, but the

intentional spatial association of such monuments with those from an earlier period. Through the appropriation of earlier sites, whether directly or indirectly, the role of monuments as a symbol of ancestral ties with the land is further strengthened and justified (Cooney and Grogan 1994: 218-219). This strategy was used throughout Ireland prehistorically, although in many different manifestations. The most obvious association is between Later Bronze and Iron Age Hillforts, especially the royal sites, and funerary monuments from the Neolithic and Early Bronze Age (O'Kelly 1989; Aalen 1978; Cooney and Grogan 1994). Another example would be the construction of henges around the larger passage tombs in the Later Neolithic, their associations with Bronze and Iron Age burial and their symbolic ties with the concept of Irish kingship into the historic period (Cooney 1991; Cooney and Grogan 1994: 219). While the combination of monuments differs from region to region, the cultural appropriation of earlier features in an attempt to legitimize both social and territorial control, appears to be integral to social strategies in Ireland throughout prehistory.

It is difficult to determine the relationship between settlement and the distribution of monuments throughout the periods in question. Based upon the location of both Neolithic and Bronze Age monuments on the best soils, it is fair to assume that they were closely related as is evident in other areas of Ireland (Cooney 1983; 1990; Cross 1996). As most of the monuments are located on the east side of the river, opposite the Pass of Gowran, I would argue that settlement was also thus focused, with the Barrow River acting as a natural territorial boundary.

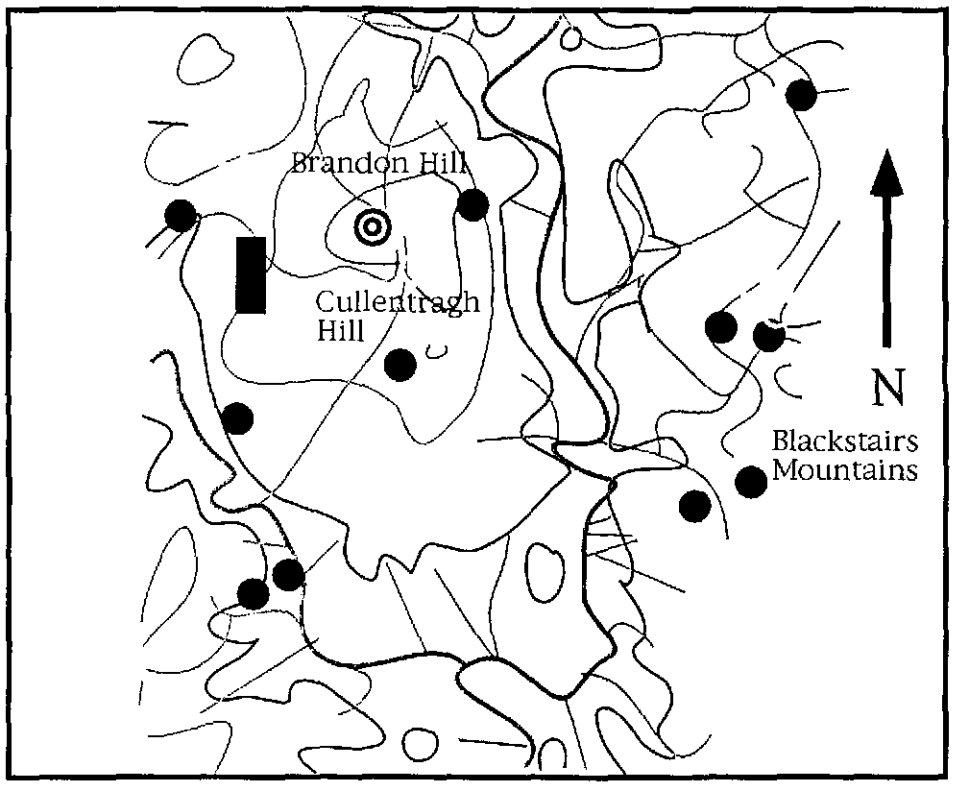
While this particular area exhibits a great degree of continuity in the placement of mortuary monuments and the disposal of the dead, the nature of the relationship between the dead in the living changed dramatically. Neolithic portal tombs (O'Kelly 1989: 92-97) are commonly associated with communal cremations and would have symbolized the relationship between the community and its resources through the veneration of common ancestors (Cooney and Grogan 1994: 136-137). However, already in the Neolithic, the burial focus switched from communal to individual with the construction of Linkardstown cists. This extends through the EBA and MBA, where individual burials and associated grave goods give way to individual burials and the intentional deposition of artifacts. Thus, the arena for ritual action shifts from the veneration of ancestors to the actions and prestige of living individuals through conspicuous consumption of wealth through the intentional disposal of goods (Cooney and Grogan 1994; Bradley 1985). The shift from the higher ground in the Neolithic to the river's edge in the Bronze Age may be related the increasing importance of wet lands: bogs, lakes and rivers, as a focus for artifact deposition (Cooney and Grogan: 137-138). It is interesting to note than none of the three Linkardstown cists is spatially associated with either contemporary or later monuments.

THE BRANDON HILL REGION

Just south of the area discussed above, where the Barrow River reaches its narrowest in this stretch of the valley, is another, although smaller, Neolithic/Bronze Age sacred landscape (fig. 7). Brandon and Cullentragh Hills on the west side of the river and the southern end of the Blackstair Mountains on the east side, converge to "pinch" the Lower Barrow River Valley. Brandon Hill is the highest point in the valley with an elevation over 1700 feet. The smaller peak of Cullentragh Hill, just south of Brandon Hill, is just over 1000 feet. The southern end of the Blackstair Mountains (Dranagh Mountain), also rises just above 1000 feet. These two highland areas are only about 7 miles apart and would have provided commanding views of the entire valley. Brandon and Cullentragh Hills also overlook the Nore Valley that leads into the heartland of Co. Kilkenny, and was extensively settled through the prehistoric periods (Gibbons 1990: 7-9). These hills constituted an important aspect of the cultural landscape in the Lower Barrow River Valley. For anyone traveling up or down the river, this narrowing of the valley would have dominated their perception of the area, an entrance/exit between the southern and central regions of the valley.

The importance and enculturation of these natural places, although probably significant in the Mesolithic cultural landscape, increased throughout the following periods with the construction of large and highly visible monuments. The earliest monument in this area is a large cairn situated atop Cullentragh Hill. The extremely large size of the cairn (13m in

DISTRIBUTION OF PREHISTORIC MONUMENTS IN THE BRANDON HILL REGION



CAIRN

STANDING STONE

STONE ALIGNMENT

200 FEET

500 FEET

ROCK ART

STONE CIRCLE (BRONZE AGE BURIAL?)

PASSAGE TOMB

1000 FEET

ONE INCH = 2.5 MILES

diameter), its commanding position and indications of an orthostatic kerb suggest that it is indeed a Neolithic passage tomb (Gibbons 1990: 26). If so, this is the only example of this tomb type, not only in the study area but in the entire area between northern Co. Wicklow and southern Co. Waterford (O'Kelly 1989: 86). It is certainly significant that this lone example is located in the Brandon Hill region.

Other Neolithic/Bronze Age monuments include two more cairns on the summit of Brandon Hill and three on the slopes of Dranagh Mountain, directly across the valley. While it is nearly impossible to determine the intervisibility of these sites across the valley, this could have been an important factor in their placement. Two standing stones are directly associated with the cairns on Dranagh and two more about a mile south, just inside the Wexford border. One standing stone rests on the southern slopes of Cullentragh Hill and a single piece of rock art on the eastern slopes of Brandon Hill. Four more standing stones are located along the Nore and its tributaries south of Brandon Hill. A single stone alignment (its orientation unknown) is found on the southwestern slopes of Brandon Hill. Another unique site type is also located atop Brandon Hill. This consists of a boulder enclosure, approximately 8m in diameter with a central pit (Gibbons 1990:26). This is probably a plundered burial from the Early Bronze Age. These site types are quite common in the extreme southwest of Ireland and generally consist of a low stone circle, with a central pit covered by a large capstone resting atop a number of boulders (O'Kelly 1989:237). They are generally located in association with stone circles, of which there are none in the Lower Barrow River Valley.

While the sacred landscape on Brandon Hill and Dranagh Mountain is not nearly as extensive as that located in the mid-reaches of the valley, it constitutes an integral aspect of the cultural landscape in the study area. There is some evidence for settlement on the slopes of Brandon Hill in the form of hut circles and enclosures, but how they are related to the monuments is unclear (Gibbons 1990: 27-28). Obviously, the rocky slopes of these hills were not ideal for settlement in comparison to the rich soils of the valley floor, although the importance of the area for the monumental disposal of the dead is unquestioned. It is more likely that the construction of these monuments is related not only to expressions of territoriality concerning the hills themselves through ties with an ancestral presence, but that from this vantage point, control over the narrowest part of the valley and thus movement between southern and northern sections. These monuments constitute highly visible messages that were not intended to be seen by people on top of the hills, but from the river and the valley floor.

The importance of this area is further emphasized through the construction of two unique monuments: the passage tomb and boulder burial. These monuments are obviously not part of any of the burial traditions identified elsewhere in the study area, or anywhere else nearby for that matter. Whether the people who constructed these monuments were earlier colonizers, allies or invaders, they obviously decided that the one place important enough to establish an ancestral presence was in the Brandon Hill region. As well, the nearby and equally dramatic twin summits of Faegli Hill, are completely bare of prehistoric monuments. This is probably a result of a lack of intervisibility between Faegli Hill and the Barrow River. The

placement of a large cross on the summit of Brandon Hill in recent history attests to its visibility and continued importance as a sacred place in the landscape.

Like the importance attributed to the Barrow River and the Pass of Gowran through the placement of monuments, the enculturation of Brandon Hill is a good example of a natural place as a monument (Bradley 1991: 136). While the construction of monuments often incorporates the imposition of cultural features in the landscape, prominent natural features are often incorporated into the cultural landscape through the construction of monuments, transforming the entire feature into a monument (Bradley 1991: 136). These places include wet lands, mountains, passes and fords and like Brandon Hill and the River Barrow, would have been integral, named (Tilley 1994) focal points in the cultural landscape throughout the history of settlement in the area. Research in Co. Clare has identified both mountain passes and river fords as "monuments" in regards to their role as foci in the landscape, as is evident in their spatial association with monuments and the intentional deposition of artifacts throughout the prehistoric periods (Condit and O'Sullivan 1996). The narrowing of the Barrow Valley, the Pass of Gowran and the Barrow river itself, constitute just such a focus.

EARLY CHRISTIAN AND MEDIEVAL LANDSCAPES

Both the settlement pattern and the placement of sacred monuments in the landscape exhibit marked changes during the Early Christian period, with the Medieval period heralding an even greater change. The most obvious

observation that can be drawn from the distribution maps is that settlement had spread throughout almost all areas of the valley. While it is unclear what the Iron Age settlement pattern actually was, settlement during the Early Christian period was markedly different from that of the Bronze Age, with a significant focus on higher ground and away from the Barrow River. By the Medieval period however, settlement had again returned to a focus on the lowlands and the river.

The distribution of Early Christian ecclesiastical sites, while exhibiting a greater focus on the Barrow River, is generally complementary to the settlement pattern based upon the distribution of ringforts and cashels. This is due mostly to the introduction of Christianity into an already established and very diffuse cultural landscape. As there were no urban centers to speak of in proto-historic Ireland, with a political and territorial system based upon small tribal kingdoms, the Christian missionaries built their churches in areas with access to the greatest number of people. This is seen in the practice of situating sacred sites on the borders of kingdoms (McErlean 1983: 315). As the borders of these kingdoms changed relatively frequently, churches and monasteries later became centers for settlement, usually under the patronage of the local king (Smyth 1982: 52-55). A number of existing features of the cultural landscape became incorporated into the Early Christian sacred sites, including the construction of large earthen enclosures around ecclesiastical complexes and the appropriation of pagan elements such as sacred wells and trees (Edwards 1990: 100).

Some notable areas in the Lower Barrow Valley however, appear to lack a significant Christian presence. These areas include the prehistoric sacred landscape in the mid-reaches of the valley, the Pass of Gowran and the Brandon Hill region with the exception the Nore River Valley. Settlement during this period, while apparent in the mid-reaches of the valley, is also absent in the Pass of Gowran and the Brandon Hill area. There seems to be very little association between Early Christian ecclesiastical sites and the distribution of earlier sacred sites. The hillforts in the region are an exception. While Aalen (1978: 103) states that Early Christian sites are rarely located in association with existing royal sites, three of the four hillforts in the study area are directly associated with Early Christian Ecclesiastical sites. Churches were constructed near both Ballinkillin and Kiloughternane, while two early stone crosses are located near Dinn Rig. Through the appropriation of these sacred sites, much of the significance attributed to these special places would become associated with the Christian church.

While the Brandon Hill region is generally void of Early Christian sites, one very important site whose significance continued throughout the Medieval period is situated nearby. A monastery founded by St. Mullins is situated along the Barrow River at the narrowest point in the valley, in the shadow of Brandon Hill. The importance of this site is reflected in the cluster of ringforts and cashels on the higher ground above the monastery. A ferry crossing on the Barrow has long been associated with this site. As the Barrow south of this point is tidal and less easily crossed, the ferry at St. Mullins constituted the southernmost crossing point on the Barrow providing an important communication link between the eastern and western sides of the

valley (Smyth 1982: 11). Thus the importance attributed to this spot in the valley through the construction of monuments on Brandon and Dranagh hills continued into the Early Christian period with the location of a very important ecclesiastical center. It would be interesting to know how far back this spot constituted the southernmost crossing point of the Barrow River and if this is related to the prehistoric importance of the region.

While there is some settlement associated with the earlier sacred landscape of the mid-reaches of the Lower Barrow River Valley, ecclesiastical sites are notably absent. It is very interesting that this area in particular was avoided, as the Pass of Gowran was a considerable political focus during this period, as the only point of access for invading armies in either direction (Smyth 1982: 11). Thus while some aspects of the existing pagan religion like sacred trees and wells, and possibly standing stones in the Nore Valley, were appropriated by the Christian church, other elements such as burial monuments, appear to have been shunned. This is very different from the situation in Britain, where existing sacred sites were consistently incorporated into ecclesiastical complexes as a strategy for converting the pagans (Bords and Bords 1985). In Ireland, ecclesiastical sites were not generally associated with earlier cemeteries, but in turn attracted burials, with the disposal of the dead becoming firmly linked with church and monastery sites during the Early Christian and subsequent periods.

Early Christian sites appear to be relatively absent from the northern section of the study area. Again this may be due to a practice of avoiding large scale pagan sacred landscapes. While archaeologically it has yet to be located,

the confluence of the Burrin and the Barrow at the site of modern Carlow town, was supposedly the location of Carman, a very important site for the kingship of Leinster (Smyth 1982: 34). óenach Carman was a triennial tribal assembly for the Kingdom of Leinster, and was integrally tied to the kingship. It was an important gathering for social, economic and ritual purposes, including games, trading and fertility rites and dates back into prehistory, although it continued well into the Early Christian period (Smyth 1982: 34-35). Smyth (1982: 35) also states that this gathering had a funerary function due to its association with the prehistoric burial grounds associated with the Leinster kings. However, the area surrounding the confluence of the Barrow and Burrin rivers, with the exception of the EBA flat cemetery at Strawhall and the Brownshill portal tomb, is relatively void of funerary monuments. However, the association between the concept of Irish kingship and especially inauguration rites, have been consistently tied to prehistoric burials as is evident in their association with royal sites and other hillforts. Thus it is likely that either a more extensive prehistoric, although archaeologically invisible, sacred landscape exists in the Carlow region, or perhaps the site of Carman was in fact situated farther south in the mid-reaches of the valley. Dinn Ríg, located in association with an extensive EBA and MBA burial ground and closely tied with the founding of Leinster and its kingship, may have been a likely location for Carman.

With the Anglo-Norman invasion and subjugation of southeastern Ireland in 1167 AD, a very different settlement pattern was imposed upon the landscape. The focus of settlement in the Lower Barrow River Valley was once again on the Barrow River and lower elevations in general. This is especially

apparent in the distribution of ecclesiastical sites and tower houses which exhibits a marked riverine focus. This is coupled with an apparent increase in the intensity of settlement in the northern and southern sections of the study area. At this time as well, the first urban centers in the region were established at Carlow, Leighlinbridge and New Ross, and a number of smaller, unwalled towns. This process is also associated with agricultural expansion and the establishment of large regular field systems, very different from the smaller, nodular fields around ringforts and other earlier settlements (Barry 1977: 25). Through this increase in agriculture, the southeast of Ireland became increasingly prosperous, a trend which was to continue until industrialization.

There do not appear to be many similarities between the placement of Early Christian and Medieval ecclesiastical sites, although some places like St. Mullins remained important throughout the period. With the limited data collected for this work, it is difficult to determine if any of the Early Christian centers continued to be used in the Medieval period, although some later churches do appear to be placed on earlier sites (Brindley & Kilfeather 1993 62). As in the Early Christian period, however, some areas appear to have been avoided during the Medieval period, including Brandon Hill, the Pass of Gowran and the Castlecomer Plateau. However, in contrast to the earlier period, there is a significant concentration of Medieval ecclesiastical sites along the Barrow River in the mid-reaches of the valley. It is unlikely that this association between Medieval and prehistoric sacred monuments is that significant, as most of the population was already Christian and there would have been no need to appropriate pagan sacred sites. It is probable that this

association is due to the riverine focus of settlement in the Medieval period and the high quality soils along this stretch of the valley. The Pass of Gowran, while still important in this period for defensive purposes, as is evident in the location of three castles across its breadth, ceased to be a focus of sacred activity in the Medieval and preceding period.

The increase in population attributed to this period and the expansion of settlement (Barry 1977: 35) is apparent in the distribution of moated sites. These sites, in comparison to other contemporary and higher status settlement sites like castles and tower houses, are more commonly found in marginal areas, at higher elevations and on poorer soils. This is apparent in their location on the rocky slopes of Brandon Hill and the Castlecomer plateau, unsettled in earlier periods. Conversely, mottes are located in better areas, concentrating on the Barrow River. However, their primary purpose was defensive, being associated with the first decade of Anglo-Norman rule and lingering hostilities with the Irish.

The Medieval period also denotes a major shift in the nature of monumental structures and their placement in landscape. While in the Early Christian period, large scale monuments were still confined to sacred places, the construction of large stone castles in the Medieval period heralds the increasing role of secular monumental sites. Throughout the prehistoric period, settlement sites and other secular places are virtually invisible in later periods. In the Early Christian period, visible settlement sites like ringforts and cashels, while technically monumental within the framework of this

study, were probably not built with the intention of creating highly visible and permanent messages in the landscape. While they may have certainly denoted territoriality symbolically, it is likely their monumentality, as with later moated sites, is more a residue of their use than the intention of the builders. The construction of castles and tower houses, however, while obviously defensive in nature, also became centers of social, economic and political power, monuments to the power and prestige of the nobility. So we see a separation of sacred and other types of power and their associated monuments.

However, this is not to say that sacred and other monuments were treated at all the same. The lack of visible remains for so many castles in the study area, as opposed to the abundance of ecclesiastical sites, indicates their differential treatment in later periods. It seems that a castle was more likely to be demolished for building materials than a contemporary church site. Obviously this is related to the continued importance of the Christian religion in Ireland and the recognition of these places as sacred sites. In the same way, it could be argued that the preservation of even earlier monuments are related to their scared and/or supernatural nature. Prehistoric monuments continued to be important in the realm of folklore and legend, associated with everything from fairies to mythological heroes. This process can also be related to the survival of so many ringforts and cashels in Ireland. At some point in history, ringforts in particular became known as "fairy forts". It was, and in some areas, still is, considered bad luck to cut down trees or otherwise remove wood from a fairy fort. This has not only led to the preservation of a large number of ringforts, but in their remaining wooded as well. It is as if

merely through their mere continuous presence in the landscape and association with a timeless past (Bradley 1985) they have appropriated a sacred nature not at all related to their original function. This could also explain the survival of even earlier monuments. While their original function and sacred nature may be long forgotten, their commanding presence and association with a mythological past have contributed to their continued recognition as sacred places in the cultural landscape.

CHAPTER 8

CONCLUSIONS

The history of settlement and landuse in the Lower Barrow River Valley, as presented in the previous chapters, indicates the continued importance of certain geographical features in the development of the cultural landscape. The Barrow River, the Pass of Gowran and the Brandon Hill region, constituted major foci for the creation of sacred landscapes in the prehistoric period. During the Early Christian and Medieval periods, while these areas often remained important for a number of reasons, the sacred nature ascribed to them appears minimal in comparison, if present at all. Throughout the prehistory of the Lower Barrow River Valley, large monuments of a primarily sacred nature dominated the perceptions of the cultural landscape and influenced the placement of later monuments.

The patterns observed between the distribution of these monuments and aspects the natural landscape indicate that factors such as elevation, topography and soil quality, were often important factors in the placement of monuments in the landscape. While these relationships often differed, both between contemporary monuments and between different periods, they retained a common focus throughout. For the entire prehistoric period, it appears that in the sections of the study area where significant sacred landscapes have been identified, consideration for the position of earlier sites figured prominently in the placement of later monuments. Even non-

monumental sacred sites such as Early Bronze Age cist and pit burials, were situated in close proximity to earlier portal tombs and cairns.

The prehistoric sacred landscape in the mid-reaches of the Lower Barrow River Valley, situated on highly arable land, was probably closely associated with settlement. The close relationship between settlement and burial has been well documented in other areas of Ireland during the Neolithic and Bronze Age (Green and Zvelebil 1993; Cooney 1983; Cooney 1990; Cooney and Grogan 1994). While such sacred landscapes are often situated in the middle of settlement territories (Bradley 1991), it is argued here that in this instance, the sacred landscape was deliberately set along the Barrow River, a natural border, and opposite the Pass of Gowran, the only major passage into the Lower Barrow Valley from the west. Like the association of monuments with the narrowest point in the valley, these areas were important for the expression of ancestral ties with the land, in the areas where they would be most visible to those entering the area, further defining an already naturally bounded territory. These places have been witness to thousands of years of settlement, trade and communication between different social groups and would have been instilled with cultural meaning in the form of myths, folklore and history (Tilley 1994; Condit and O'Sullivan 1996).

While significant, multiperiod sacred landscapes have been identified in a number of areas in Ireland, there do not appear to be any hard and fast rules on the association of particular monument types. From a brief review of the relevant literature, there do not appear to be any sacred landscapes in Ireland composed of portal tombs, cairns, cist and pit burials, barrows, ring-

barrows and ring-ditches, rock art and hillforts. While many of these features often occur in combination with others, and monument types not listed here, this particular pattern is unique. It is perhaps this uniqueness (Harding 1991), as opposed to the repetition of a typical pattern, that sets this and other sacred landscapes apart, increasing their visibility in the landscape.

During the Early Christian, and to an even greater degree, the Medieval period, these prehistoric sacred landscapes became less important. While geographical features like the Barrow River, Brandon Hill and the Passage of Gowran were obviously still important during these periods for a number reasons, including political and economic, their association with sacred monuments is no longer central to their placement in the landscape. The placement of Early Christian ecclesiastical sites was based primarily on the nature of the existing Iron Age settlement pattern, although in later centuries, this became a more reflexive relationship as churches and monasteries attracted settlers. In the Medieval period, the location of both sacred and secular monumental sites was decided by invaders who imposed a settlement system upon the existing landscape. Through the creation of towns and estates, the development of large open field systems and widespread deforestation, the cultural landscape was altered more in a few hundred years than in the preceding millennia. Sacred sites became more closely associated with settlement and commerce than important features of the landscape.

REFERENCES CITED

Aalen, F.H.A. 1978. Man and the Landscape in Ireland, London: Academic Press.

Aalen, F.H.A. 1983. "Perspectives on the Irish landscape in prehistory and history", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

Barrett, J.C. Fragments from Antiquity: An Archaeology of Social Life inBritain, 2900-1200 BC, Oxford: Blackwell Publishers.

Barry, T.B. 1977. The Medieval Moated Sites of South-Eastern Ireland: Counties Carlow, Kilkenny, Tipperary and Wexford, BAR 35.

Bergh, S. 1995. Landscape of the Monuments: A Study of the Passage Tombs the Cuil Irra Region, Co. Sligo, Ireland, Stockholm: Bureau for Archaeological Excavation.

Bord, J. & C. Bord 1976. The Secret Country: An Interpretation of the Folklore of Ancient Sites in the British Isles, London: P. Elek.

Bradley, R. 1984. The Social Foundations of Prehistoric Britain, London: Longman Press.

Bord, J. & C. Bord 1985. Sacred Waters: Holy Wells and Water Lore in Britain and Ireland, Granada: Ireland.

Bradley, R. 1985. "The archaeology of monuments and the archaeology of deliberate deposits" University of Edinburgh. Paper No. 13:1-20.

Bradley, R. 1991. "Monuments and Places", in Sacred and Profane: Proceedings of a Conference on Archaeology and Ritual, ed. by P. Garwood, D. Jennings, R. Skeates and J. Toms, Oxford: Oxford University Committee for Archaeology.

Brindley, A. & A. Kilfeather 1993. Archaeological Inventory of County Carlow, Dublin: The Stationary Office OPW.

Byrne, F.J. 1973. Irish Kings and the High Kings, London: Batsford.

Condit, T. & A. O'Sullivan, 1996. "Formoyle Beg hillfort and later prehistoric frontiers in east Clare", The Other Clare, Vol. 20:39-45.

Conry, M.J. & P. Ryan 1967. Soils of Co. Carlow, Dublin: An Foras Taluntais.

Cooney, G. 1983. "Megalithic tombs in their environmental setting: a settlement perspective", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116, pp. 179-191.

Cooney, G. 1987. "Irish Neolithic settlement and its European context", The journal of Irish Archaeology 4:7-11.

Cooney, G. 1990. "The place of megalithic tomb cemeteries in Ireland", Antiquity 64:741-753.

Cooney, G. 1992 "Body politics and grave messages: Irish Neolithic mortuary practice", Vessels for the Ancestors, ed. by Sharples & Sheridan,

Cooney, G. 1993. "A sense of place in Irish prehistory", Antiquity 67(256):632-640.

Cooney, G. & E. Grogan 1994. Irish Prehistory: A Social Perspective, Dublin: Wordwell.

Cross, S. 1993. "The life and death of site catchment analysis", paper presented at the CAA annual general meeting, Montreal 1993.

Edwards, N. 1990. The Archaeology of Early Medieval Ireland, Dublin: B.T. Batsford Ltd.

Eliade M. 1959. The Sacred and the Profane: The Nature of Religion. New York: Harcourt Jovanovich.

Evans, C. 1985. "Tradition and the cultural landscape: an archaeology of place", Archaeological Review from Cambridge 4:1 pp. 81-94.

Faegri, K. 1988. Preface in The Cultural Landscape: Past, Present and Future, ed. by H.H. Birks et al. Cambridge: Cambridge U.P.

Fraser, D. 1983. Land and Society in Neolithic Orkney, BAR BS 117.

Garwood, P. 1991. "Ritual tradition and the reconstruction of society", in Sacred and Profane: Proceedings of a Conference on Archaeology, Ritual and Religion, ed. by P. Garwood, D. Jennings, R. Skeates & J. Toms, Oxford: Oxford University Committee for Archaeology.

Gibbons, M. 1990. "The archaeology and early settlement of county Kilkenny", in Kilkenny: History and Society, ed. by T. O'Malley, Dublin: Geography Publications.

Green, S. & M. Zvelebil 1990. "The Mesolithic colonization and agricultural transition of Southeast Ireland", PPS 56:57-88.

Green, S. & M. Zvelebil 1993. "Interpreting Ireland's prehistoric landscape: the Bally Lough archaeological project" in Case Studies in European Prehistory, ed. by P. Bogucki, Boca Raton: CRC Press Inc.

Groenman-van Waateringe, W. 1983. "The early agricultural utilization of the Irish Landscape: the last word on the elm decline?", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

Grogan, E., T. Condit, F. O'Carroll & A. O'Sullivan 1995. "North Munster Project", Discovery Program Reports 2, Dublin: Royal Irish Academy.

Harbison, P. 1988. Pre-Christian Ireland: From the First Settlers to the Early Celts, London: Thames & Hudson.

Harding, J. 1991. "Using the unique as typical: monuments and the ritual landscape, in Sacred and Profane: Proceedings of a Conference on Archaeology, Ritual and Religion, ed. by P. Garwood, D. Jennings, R. Skeates & J. Toms, Oxford: Oxford University Committee for archaeology.

Hodder, I. 1982. Symbols in Action, Cambridge: Cambridge U.P.

Hodder, I. 1986. Reading the Past: Current Approaches to Interpretation in Archaeology, Cambridge: Cambridge U.P.

Hodder, I. 1987. "The contribution of the long term", in Archaeology as Long-term History, ed. by I. Hodder. Cambridge: Cambridge U.P.

Hodder, I. 1990. The Domestication of Europe, Cambridge: Cambridge U.P.

Hodder, I. 1993. "The narrative and rhetoric of material culture sequences", World Archaeology 25:262-282.

Lacy, B. 1983. "The archaeological survey of County Donegal", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS.

Laing, L. & J. Laing 1990. Celtic Britain and Ireland AD 200-800: The Myth of the Dark Ages, Dublin: Irish Academic Press.

McErlean, T. 1983. "The Irish townland system of landscape organization", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hamond BAR BS 116.

O' Corráin, D. 1983. "Some legal references to fences and fencing in early historic Ireland", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

O'Kelly, M.J. 1989. Early Ireland: An Introduction to Irish Prehistory. Cambridge: Cambridge U.P.

Ramsden, P. 1991. "Prehistoric Archaeology in the Burrin River Valley, Co. Carlow, Ireland", Carloviana.

Ramsden, P. et al. 1995. "Stone Age settlement in South-Eastern Ireland", Current Anthropology 36,2:330-332.

Reeves-Smyth, T. 1983. "Landscapes in Paper: cartographic sources for Irish archaeology", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

Reeves-Smyth, T. & F. Hammond, 1983. "Conclusions: Landscape Archaeology in Ireland", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

Ruggles, C.L.N. 1984. Megalithic Astronomy: A New Archaeological and Statistical Study of 300 Western Scottish Sites, B.A.R.

Smyth, A.P., 1982. Celtic Leinster: Towards an Historical Geography of Early Irish Civilization A.D. 500-1600, Irish Academic Press: Dublin.

Thom, A. 1967. Megalithic Sites in Britain, Oxford: Clarendon Press.

Thomas, J. 1991. Rethinking the Neolithic, Cambridge: Cambridge U.P.

Tilley, C. 1994. A Phenomenology of Landscape: Places, Paths and Monuments, Berg: Oxford.

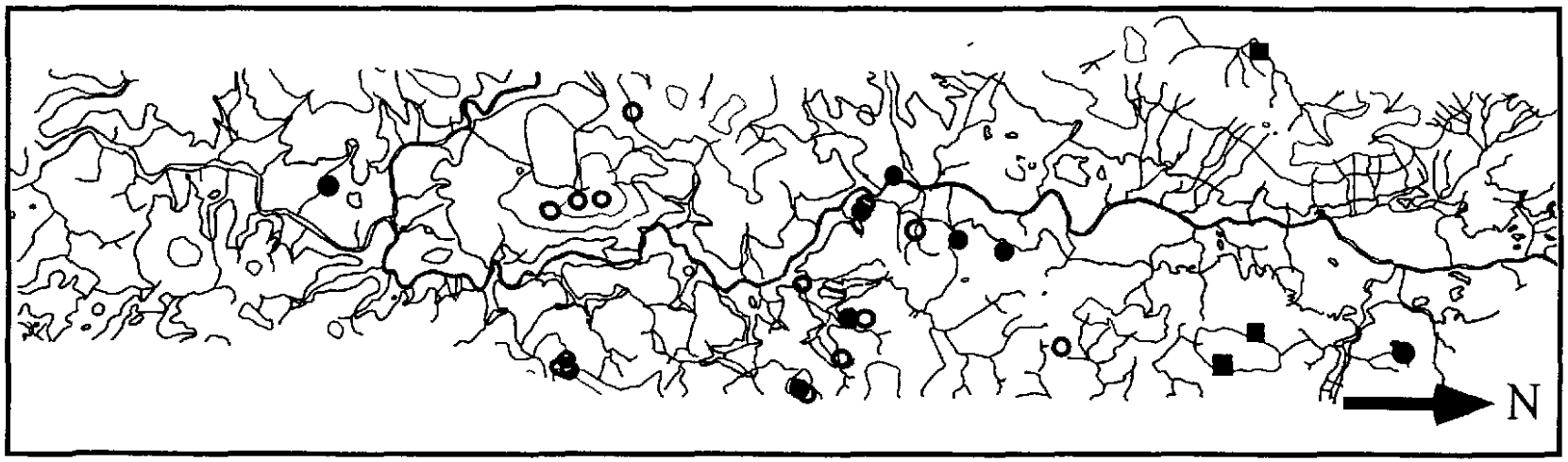
Trigger, B.G. A History of Archaeological Thought, Cambridge: Cambridge U.P.

Waddell, J. 1990. The Bronze Age Burials of Ireland, Galway: Galway U.P.

Williams, B.B. 1983. "Early Christian landscapes in County Antrim", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond, BAR BS 116.

Woodman, P. 1983. "The Glencloy project in perspective", in Landscape Archaeology in Ireland, ed. by T. Reeves-Smyth & F. Hammond BAR BNS 116.

DISTRIBUTION OF NEOLITHIC MONUMENTS



THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

PORTAL TOMBS

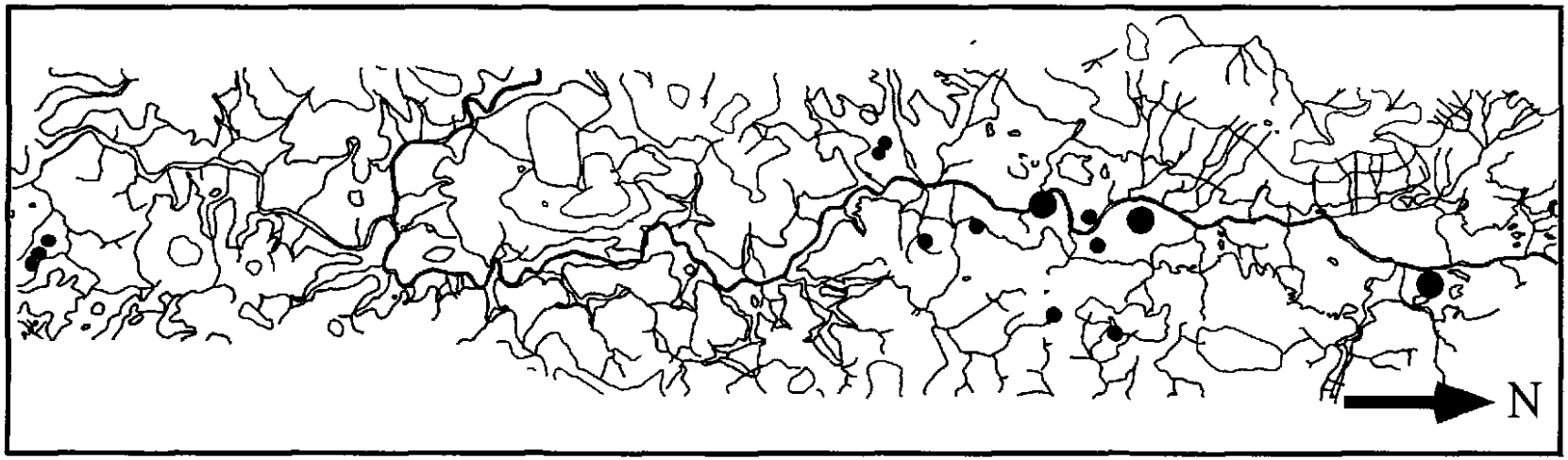
LINKARDSTOWN CISTS

CAIRNS

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF EARLY BRONZE AGE BURIALS



THE LOWER BARROW RIVER VALLEY

CIST OR PIT BURIAL

CEMETERY

200 FEET

500 FEET

1000 FEET

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF BARROWS,RING-BARROWS AND RING-DITCHES

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

BARROW, RING-BARROW OR RING-DITCH

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF STANDING STONES AND ROCK ART

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

ROCK ART

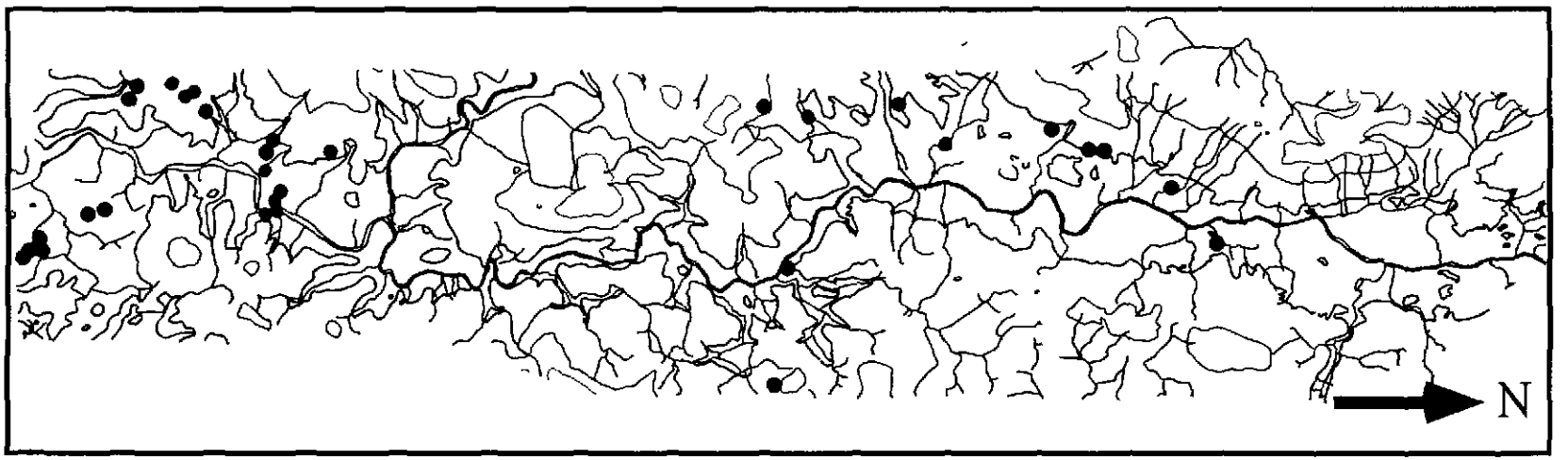
STANDING STONE

ALIGNMENT

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF FULACHTA FIADH



THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

FULACHTA FIADH

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF RINGFORTS AND CASHELS

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

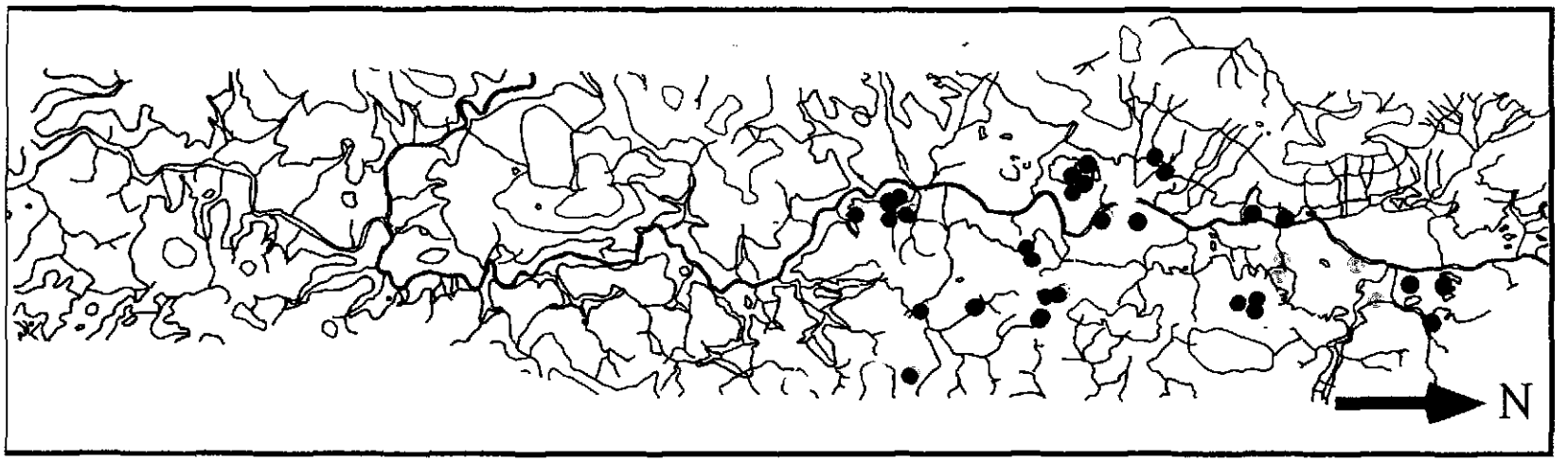
RINGFORT

CASHEL

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF ENCLOSURES AND HILLFORTS



THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

ENCLOSURE

HILL FORT

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF HOLY WELLS

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF MEDIEVAL ECCLESIASTICAL SITES

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

CHURCH

CEMETERY

MONASTERY

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF TOWER HOUSES AND CASTLES

THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

CASTLE

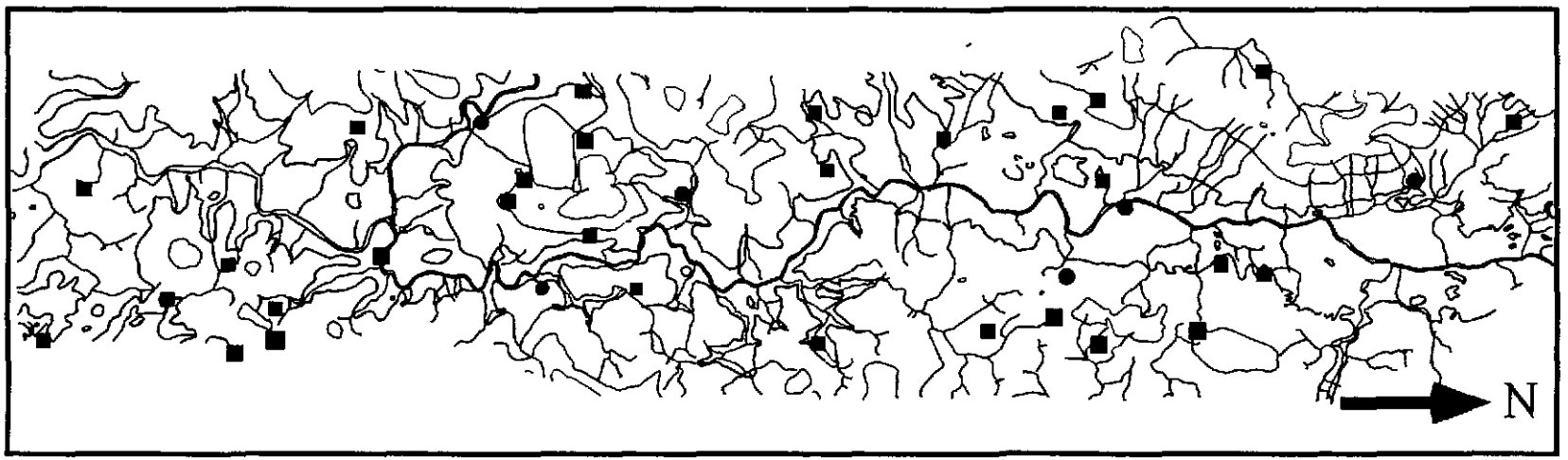
WALLED MEDIEVAL TOWN

TOWER HOUSE

ONE INCH = 5 MILES

ONE CM = 3.15 KM

DISTRIBUTION OF MOTTES AND MOATED SITES



THE LOWER BARROW RIVER VALLEY

200 FEET

500 FEET

1000 FEET

MOATED SITE

MOTTE

ONE INCH = 5 MILES

ONE CM = 3.15 KM