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Anglo-Saxon England and the Irish Sea Region AD 800 - 1100

An Archaeological Study of the Lower Dee and Mersey as a Border Area

by

David Wyn Griffiths

A Thesis presented for the degree of
Doctor of Philosophy

Department of Archaeology

The University of Durham
1991



18 AUG 1992

ABSTRACT

This thesis is a detailed archaeological survey of a north-western border area of Anglo-Saxon England - the Lower Dee and Mersey (East Clwyd, West Cheshire, Merseyside and South Lancashire) - set within an analysis of the economic, social and political relationships between later Anglo-Saxon England and the Irish Sea region.

A comprehensive archaeological gazetteer of individual site surveys, together with full descriptive catalogues of finds and hoards, is located at the end of the thesis and acts as a principal source of reference.

This regional study is approached within the context of international research issues in medieval archaeology, in particular the rise of towns and trade (1). The documentary evidence for the period 800-1100 in the area of case-study is reassessed (2), leading to revisions in the emphasis of the historical record and stressing the Anglo-Welsh relationship as of particular historical importance. The topography and settlement of the area is discussed in detail (3), and the theme of urban-rural interdependency is further demonstrated in focusing on the topography and economy of the burhs (4).

Further analysis of the database follows; artefacts (5), hoards and coinage (6), including a wide-ranging survey of the use of coinage and silver in the Irish Sea region (6.6). The role of economic activity from the 5th to 10th centuries in the Celtic West/Irish Sea region is discussed as a background to trade and urbanism in north-west England (7). The social context of Late Saxon and Viking settlement and exchange is explored (8), leading to a comprehensive reappraisal of the chronology and development of Late Saxon and Viking activity in the Irish Sea region. This, it is suggested, may stand as a detailed regional counterpart to Europe-wide research themes in medieval archaeology.

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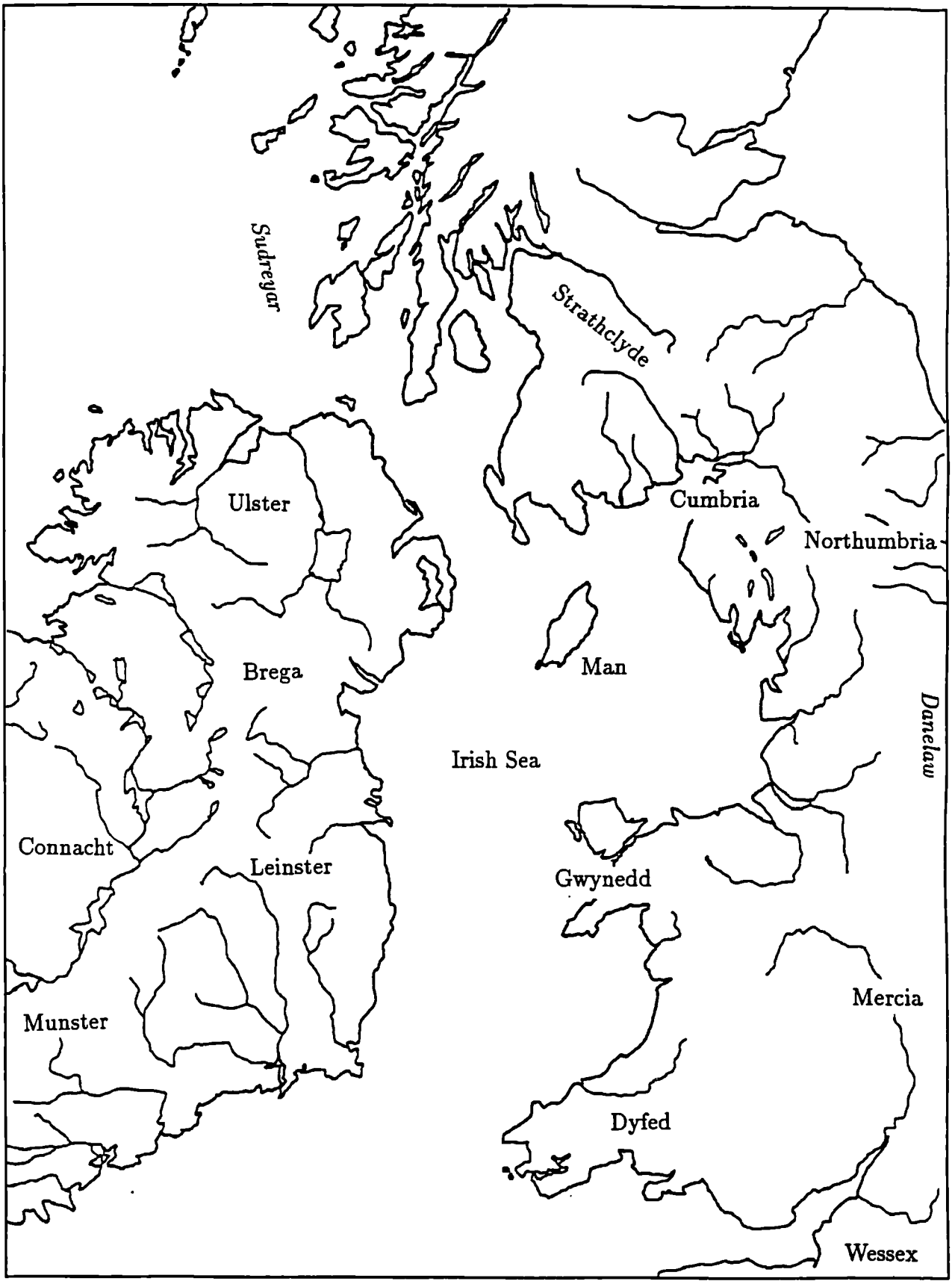
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ABBREVIATIONS USED IN TEXT

ASC	Anglo-Saxon Chronicle
B	Historisk Museum, Bergen
BM	British Museum
BMC	British Museum Catalogue
C	Universitets Oldsaksamling, Oslo
cap	chapter
CBA	Council for British Archaeology
CPAT	Clwyd/ Powys Archaeological Trust
gaz	Gazetteer
GM	Grosvenor Museum, Chester
H.B.M.C.	Historic Buildings and Monuments Commission (England)
NMGM	National Museums and Galleries on Merseyside
NMI	National Museum of Ireland
O Celt	Old Celtic
OE	Old English (Anglo-Saxon)
ON	Old Norse
O Scand	Old Scandinavian
O.D.	Ordnance Datum
O.P.W.	Office of Public Works (Ireland)
R.C.H.M.E.	Royal Commission on the Historical Monuments of England
S.M.R.	Sites and Monuments Record
T	Vitenskapsmuseum, Trondheim
TS	Tromsø Museum
WM	Warrington Museum
Y	Yorkshire Museum

Abbreviations used to denote artefact types can be found at the beginning of Appendix B (page 256).



Frontispiece: The Irish Sea Region in the later 1st Millennium

CHAPTER 1: INTRODUCTION

This thesis represents an attempt to explore the relationship between the Celtic West of the British Isles and the English, or Anglo-Saxon, East. During the period covered here, the north and west of the British Isles saw the advent of the Viking raids, and later settlement; the first significant medieval urban societies, and the active political interest of the Mercian and West Saxon kingdoms.

The scope of the research might, I hope, offer new enquiries into the wider history of the North and West. The disparate kingdoms, monastic sites and Viking settlements of Ireland, south-west Scotland, the Isle of Man, Wales and north-west England were linked, as are their descendants, by the shallow tidal waters of the Irish Sea. H.J. Mackinder (1902:20) was the originator of the idea, popular with many writers during the twentieth century, of the Irish Sea as the 'British Mediterranean'. This implied a measure of geographical and cultural coherence, or at least interplay, which inspired an increasing volume of archaeological and historical research on the prehistory and early history of the Irish Sea coastlands (cf. Davies 1946; Bowen 1970:18). Studying the history of the Irish Sea has since become an end in itself, with historical overview conditioned by the perceived *unity* of the geographical region (eg. Maple 1985). The Irish Sea has been described variously as a *province, area,* and *region.* Of these, *region* is adopted for the purposes of this thesis, to avoid the political connotation of 'province' and to distinguish a large, varied geographical concept from a more compact, distinct *area.*

The later first millennium in the Irish Sea region is characterised historically by a number of major themes. The artistic flowering of the Irish and Northumbrian Church, the ascetic piety of the monastic communities and the grandeur of Celtic kingship have provided the impetus for historical and archaeological research. A.T. Lucas (1966), followed by D. O Corrain (1972), C.D. Morris (1979) and others, have revolutionised the previous historical perception of the Viking invasions as a rude awakening for the gold-laden Celtic world which preceded their arrival. Detailed study of the politics, beliefs and economics of the Celtic West has revealed the Vikings often as victims themselves, and the riches of their settlements as prey to the violence and avarice of their neighbours.

The history and archaeology of Anglo-Saxon England has also been subjected to unprecedented academic interest during the last thirty years. Historical research, written with a national stance following F.M. Stenton (1971, 3rd ed) has concentrated on the development of the traditions and practices of English kingship and administration. The small and numerous Anglo-Saxon kingdoms of the sixth-eighth centuries were subsumed into Northumbria, Mercia and Wessex, thence (via Wessex) into England. Various personalities; Bede, Offa, Alfred, Æthelred the Unready, dominate the series of events. The consolidation of Christianity as the national religion, the introduction of regional, then national coinage, and the creation of the 'burh' system by Alfred and his successors were all characterised by a spirit of energetic cultural and territorial expansion.

With the relationship of Celt to Teuton and West to East as the background, this study focuses on a particular time and place. The rivers Dee and Mersey (fig 1) and their surrounding landscape represent the northern corridor linking lowland England with the Irish Sea. Bordered on the west by the uplands of Wales and on the east by the marshes of south Lancashire and the Pennine foothills, the area has been of considerable strategic importance throughout recorded history. From the establishment by the Romans of *Deva Victrix* at Chester in the first century through to the imperial supremacy of the port of Liverpool in the second half of the nineteenth century, the area has played a dynamic role in strategy and commerce.

In the early medieval period the Area was affected by most of the salient developments in the history of the British Isles. Historically, its border position made it the scene of political confrontation between the Anglo-Saxon authorities, the Welsh and the Scandinavians of the Irish Sea (below, cap 2). The Anglo-Saxons came into armed conflict with the Welsh numerous times throughout the Late Saxon period. Anglo-Viking conflicts also took place, although at greater intervals. The English hold on the area was constantly threatened. The significance which the rulers of distant Wessex attached to their control of the Lower Dee and Mersey is emphasised by their personal participation in its defence. After Æthelflæd of Mercia had commanded the resistance to the Norse attack on Chester around 905, her brother Edward the Elder met his death at the royal estate of Farndon, south of Chester, after organising the defeat of a local rebellion in 924. Edgar was present in Chester in 970 to receive the submission of Celtic *subreguli* representing most

of the surviving non-English nations in Britain (below, cap 2.2). Edmund Ironside personally supervised the punishment of the local population after they had shown themselves less than wholehearted in support of his defence against the Danes in 1016, and it is an attractive hypothesis (originally advanced by J.McN. Dodgson in 1957) that perhaps the greatest of all battles between the English monarchy and the Celtic and Viking inhabitants of the West and North, *Brunanburh*, was fought on the banks of the Mersey (below, cap 2.2).

The low-lying estuarial landscape around the two rivers was settled by a diverse mixture of inhabitants, ranging from the Welsh and the earlier Anglo-Saxon population which had come north in the seventh and eighth centuries, to Hiberno-Norse and Danish settlers and an influx of new farmers, artisans and officials with the creation of the Anglo-Saxon burhs and their attendant estates in the early tenth century (below, cap 3.2.1). The tenth century was characterised by an increase in agricultural and industrial production in a landscape and economy increasingly dominated by local centres. Among these were the royal estate centres in each of the hundreds, but of principal importance were the urbanised burhs. Although *Cledemutha* (Rhuddlan) can claim some status as a town in the period, the majority of economic and political importance in the area was dependent upon Chester (below, cap 4.1).

Research into the history and archaeology of the Lower Dee and Mersey Area has not tended to approach the area as a distinct zone of inter-regional cultural and economic contact in the early medieval period. Coverage of historical and archaeological material has been conditioned by modern political boundaries (fig 2; cf. Bu'Lock 1972; Kenyon 1984; Thacker 1987). This has given undue weight to the modern area of Cheshire, and has perhaps encouraged an inward-looking stance. Wales, Cheshire and Lancashire have been considered largely as separate areas of interest. It is an important precept for this thesis that the interpretation of the early medieval economy, settlement topography and therefore the history of the area is dependent on the area's role as a cultural and economic border between the Anglo-Saxon and Celtic/Viking worlds.

This study aims to be interdisciplinary; it aims to advance a coherent account of the topography, economy and strategic importance of the area using all the

information, both empirical and theoretical, which can be brought to bear on the research problem within the relatively limited confines of a doctoral thesis. The evidence - historical, archaeological and toponymic - is taken as the starting point and foundation of the study. Consequently it is absolutely necessary to be sure about its extent and limitations. Detailed primary research into any of these three areas is possibly the most demanding of all forms of research. The author here is extremely lucky in that the groundwork in the historical and toponymic spheres is now at an advanced stage, thanks to the hard work of others.

F.T. Wainwright should perhaps be singled out as the authority who forged a dynamic and lasting historical synthesis (1975). This succeeded county histories of varying antiquity (Ormerod 1882; Brownbill & Farrer 1906), recently updated for Cheshire by A.T. Thacker (1987). As a case-study within the wider context of North-West England and the Irish Sea region, the area also benefits from its relatively extensive coverage (for the northern counties) in the Domesday Survey. The complexities of the Domesday assessments have also been made more accessible by the primary linguistic and palaeographical skills of other scholars (Tait 1916; Darby & Maxwell 1962; Sawyer & Thacker 1987). However, only one Domesday compilation covers the entire Lower Dee and Mersey area in a single, unified source (Morgan 1978)[1]. Whilst making no comment on the quality of other editions, this particular edition is used here.

Simlarly, the place-names of the area have largely been covered by detailed primary research. The author is even less well equipped to tackle the historical and linguistic complexities of place-name research. The work of J. McN. Dodgson (1970-72), E. Ekwall (1922), B.G. Charles (1938), D. Kenyon (1984) and G. Fellows-Jensen (1985) is fundamental to this thesis, and is used extensively as an important secondary source.

The third main grouping of source material for the history of the area in the early medieval period is the archaeological evidence.[2] It is here that this thesis fully engages in primary research. The archaeology of the area is varied and rich (especially within the context of the North-West). Among the more outstanding

[1] A modern edition and translation of the 1782 Farley Domesday, the first printed edition.

[2] A full discussion of the relationship of archaeology and other historical disciplines is contained in appendix D.

remnants of the period are the carved stone crosses found at many of the early church sites in the area. Perhaps as a result of their conspicuous presence, the crosses have received considerable scholarly attention (Allen 1893; Collingwood 1928; Nash-Williams 1950; Bu'Lock 1958; White 1986; Blundell 1989). A full-scale illustrated catalogue with extensive interpretation is forthcoming (R.N. Bailey, *Corpus of Anglo-Saxon Stone Sculpture*). The detail needed to catalogue and assess the sculpture in this thesis would have required substantial economies of scale in other areas of the research. These monuments have, however, been included in the topographical gazetteer, and aspects of the social and cultural significance of the crosses have profoundly influenced the view of the settlements expressed in chapter 8.

The archaeology of the City of Chester has been mainly revealed by a series of rescue excavations. These have continued since the 1920's when they received their initial impetus from Professor R.J. Newstead. It is only in more recent years and perhaps only since the foundation of the Excavations Section of the Grosvenor Museum in 1973, that the early medieval period has been accepted wholeheartedly as of equal interest to the Roman period. Publication of the excavations has proceeded, the more recent excavations achieving final publication in the *Grosvenor Museum Excavation and Survey Reports* series of monographs.[3]

Research into the local and regional context of the city has been more patchy however, possibly since this was not included until recently in the research brief of the Museum Excavations Section. The archaeology of Later Anglo-Saxon and Anglo-Scandinavian settlement in the Lower Dee and Mersey Area has been in need of a comprehensive reappraisal. Many of the known sites are still dependent on the verdict of Victorian antiquarians for the essentials of their historical profile. Other sites have been considered at intervals during this century, the most significant of which must be the multi-period coastal settlement at Meols. Newer discoveries, re-interpretation of field evidence and realisation of archaeological potential have all taken place (partly as a result of research for this thesis). Up to now, however, no authority had compiled a detailed, illustrated gazetteer of archaeological information relating to the early medieval period in the area.[4]

[3] Now Chester Archaeological Service Monograph Series.

[4] The most extensive previous coverage is Thacker 1987:286-92.

The topography of the sites and the extensive collections of finds in local museums represent a rich source for early medieval history, not just of this particular locality, but also of its surrounding regions. The major sites - Chester, the other Anglo-Saxon *burhs* and Meols - are primary components in the common history and archaeology of the North-West and and the Irish Sea region. Their external relationships, evident in their archaeology, will also affect the interpretation of the archaeology of sites in Ireland, the Isle of Man, Wales and other areas of England.

The first aim of this thesis is, therefore, to compile an authoritative account of the archaeological evidence. This has been attempted in three sections. First and most important is the topographical gazetteer. This includes the author's interpretation of all sites in the area which have, to date, offered facts or clues as to the early medieval settlement of the area. Where available, the history of the archaeological remains is outlined. The importance of the gazetteer as a framework for the text and the more detailed descriptive catalogues (appendix A, B, C) is reflected by its inclusion within the main text of the thesis (below, pp 209-52). Potential for future work is a crucial aspect; the author envisages the research in this thesis not as a final statement but as a foundation for future work. It is hoped that the possibilities generated by the thesis may prompt future research (cf. below, cap 9). The gazetteer is arranged so as to make the information readily accessible to others. The site descriptions are fully referenced both to published sources and the relevant Sites and Monuments Records (SMR's).

Only a proportion of the sites in the gazetteer have produced early medieval finds. However, the objects which do exist (held mainly in local museum collections) represent the richest and most varied assemblage in the north-west of England. Most of the finds come from Chester and Meols. However, to avoid over-concentration on these two sites, the finds have been included in a systematic catalogue which records evidence from the whole area covered by the thesis (appendix B). Those artefacts which can be described as post-Roman but which are earlier in date than the bulk of the early medieval finds (which date to between AD 800 and 1100), have been included in a further (unillustrated) catalogue (appendix A). Although distinguished by site, the artefacts are treated as a related group within the archaeology of the area. Consideration of the artefacts has to proceed from the most basic typological level. They are analysed (cap 5, below) by grouping them into types

and sub-types. From this base, they are subjected to a detailed comparison with a range of parallels. This leads to an emergent series of artefactual links with other sites and other areas in Britain, Ireland, Scandinavia and the Continent. These links represent a considerable interpretative challenge. The interpretative methods and hypotheses used to explain this pattern of external contacts are outlined below.

The other group of archaeological evidence is the contents of the hoards. The Lower Dee and Mersey has one of the most notable concentrations of coin and silver hoards dating to between 800 and 1100 in the North-West. Thankfully, the groundwork of experienced numismatists has already provided identifications for almost all of the coins. Until now, however, the hoards have not been brought together as a related group of sources. The information relating to the coins and the other silver objects is variously published and unpublished. The hoards are hardly recent finds (the most recent was in 1950). However, there have been various small additions and changes to the content of the hoards. Alongside the hoards are the single finds of coin in the area, and there have been recent additions to this assemblage. The hoards, coinage and the history of the Chester Mint are vital to understanding the history of economy and commerce in the area, and have required a substantial chapter (cap 6) entirely devoted to considering their meaning. The hoards and single finds have been catalogued (appendix C). Anglo-Saxon coins (which form the majority of the catalogue) are easily classified using a detailed system dependent on reign, issue, mint and moneyer. For reasons of space, the full issue descriptions (eg. *First Small Cross* or *Circumscription Rosette*) are dropped in favour of the British Museum Catalogue system (North 1963) which allows an issue in a particular reign to be expressed as one numerical category (eg. *BMC Vii* etc.).

The compilation of a systematic, descriptive account of the archaeology of the area can have only a minimum of appeal to the outside world if it is not created within an active interpretation of its meaning (see below, appendix D). Such an interpretation must offer a critical explanatory framework for the evidence, seeking to *inform* about the past.

The historical and archaeological evidence in the Lower Dee/Mersey area is some-

what contradictory. A survey of the documentary sources reveals that the *historical* background to the period is dominated by political relations between the Mercian authorities and the Welsh (below, cap 2). The toponymic and archaeological evidence, however, points to the Norse-dominated Irish Sea region as the most significant arena of economic contact for this periphery of north-western Mercia. The interpretation of the strategic importance of the area (as demonstrated by the creation of the burhs and the personal involvement of successive kings of England) must attempt to reconcile the Cambrian obsession of the contemporary chroniclers with the manifest importance of the two rivers as the location of Irish Sea trade.

The inherent aim of this piece of research is to re-evaluate the relationship between the Anglo-Saxon and Celtic/Viking worlds which overlapped in the Lower Dee/Mersey Area. The nature of this border, it is argued, has been consistently misinterpreted as a political and cultural *confrontation* (see also below, cap 8.6). This can hardly be reconciled with the evidence for extensive trade and cultural contact between burhs and the Norse-dominated Irish Sea region from the early tenth century onwards.

The external links of the area, evident in the history, topography, artefactual assemblages and hoards (below, caps 2-6), are discussed in a detailed consideration of the role of Chester, Meols and other sites as economic centres linked to maritime trade in the Irish Sea and consequently attracting traffic and trade from other areas of England (cap 7). The nature of this contact, and its relationship with the distribution of Norse-dominated settlement around the Irish Sea, is assessed in chapter 8 where some preliminary conclusions are reached as to the changing social character of the Scandinavian settlements.

The academic context for such a project is provided by *medieval archaeology*. Medieval archaeology has become one of the most important arenas for research into the early historic past. The redevelopment of British towns and cities after the second world war and the renewed phase of reconstruction in the 1960's and 1970's opened up opportunities for the study of historic townscapes on an unprecedented scale. Urban archaeology revealed the early medieval topography and with it evidence for the economy of an increasing number of towns. Parallel to this (but

not necessarily connected), rural settlement studies, artefactual, art-historical and architectural research have gathered pace.

In the north and west of the British Isles, archaeology of all periods had previously been dominated by a tradition begun in the age of Victorian antiquarianism, involving the recording and classification of archaeological material. Until the excavations, beginning in the 1950's and 1960's in York (Radley 1971) and Dublin (Ó Riordáin 1971, 1976), urban archaeology of the early medieval period was almost unknown. Rural excavations and site studies in Ireland (eg. Hencken 1936, 1942; Ó Riordáin 1954), the Isle of Man (Neely 1940; Bersu 1949), Scotland (Curle 1913-14) and Northern England (Cowen 1948) tended to be restricted in interpretation, relying on an overall cultural context, such as Viking or Early Christian, to provide the background to descriptions of the sites and finds. Thematic considerations of economy and settlement in the 1960's and 1970's (eg. Proudfoot 1961; Alcock 1963; G.R.J Jones 1965, 1976) made considerable difference to research strategies which began to stress the importance of individual sites within the context of historic landscapes and economy (eg. Davey (ed) 1978; Higham & Jones 1975; Higham 1979).

Although D. Kenyon (1984) analysed considerable toponymic evidence for the early historic landscape of the Lower Dee/ Mersey Area, detailed work aimed at locating Chester, Meols and the other settlements of the area within a regional economic study has not so far been attempted. The relationship of the towns to the estates, and the evidence for external trade has not, up to now, been the scene of very great research activity. The need at least to embark on such a study is made all the more pressing by the great increase in information available in comparable situations elsewhere. The excavations of Viking Dublin, especially since the beginning of the major programme of post-excavation work on the Fishamble Street/Wood Quay sites in the 1980's, have begun to provide a very extensive stratified collection of archaeological information encompassing settlement topography, commerce, industrial production and artistic and cultural change. The evidence from Dublin acts as a reference against which the archaeology of Chester, Meols and other Irish Sea sites can be substantially re-interpreted. Other towns, such as Waterford, Wexford and Limerick, are now adding to the Irish reference material. On the eastern side of the Irish Sea, excavations in York, Lincoln, Winchester and

a range of other urban and rural sites have revolutionised the scale and range of data available for comparison. Further afield, the study of early medieval towns, their societies and regions has become a central research problem in Scandinavia and the European Continent.

Contemporary theoretical debate within the wider field of archaeology has made an undeniable impact on medieval archaeology. Medieval archaeology in the 1950's and early 1960's was characterised by a descriptive stance which is still its most common resort. This method was, and is, dependent on *inductive* thinking: "the idea that facts speak for themselves, that data are collected and then ordered to turn into history" (Rahtz 1983:14). Medieval archaeology has not successfully come to terms with its role in an academic field dominated by documentary history (below, appendix D). It is positioned awkwardly between adding details of daily life to the narrative of political history, and a further role as a conduit into the historical past for the concepts and practices of prehistoric archaeology.

Some of the 'ecological determinism' of the 'New Archaeology' in the 1970's gradually and controversially filtered its way through to medieval archaeology (Hodges 1983). The New Archaeology has been phrased as *predictive,* having advanced universal models developed from an evolutionary, materialist base. 'Hypothetico-deductive' in approach (Renfrew 1980, quoted by Hodges, ibid:25), the New Archaeology went beyond the established presence of scientific techniques *within* archaeology to phrase archaeology as a scientific enterprise itself (for further discussion, see appendix D). Emphasis was laid upon testing hypotheses against the archaeological record, with comparatively little consideration devoted to the subjective and debatable content of the record itself (cf. Shanks & Tilley 1987:36).

Since this thesis is essentially a consideration of the social consequences of the rise of towns, intensified production and trade in a cultural and political border area, one major debate in early medieval history and archaeology is particularly relevant. The 'causal' relationship between trade and urbanism first suggested by H. Pirenne (1925) has led to a re-examination of the causes of the rise of towns in the British Isles and Scandinavia during the later first millennium AD. The concept of ranked societies, originally advanced by Service (1965) and Fried (1967) was elaborated and moulded to suit the emerging ports and urban settlements principally of the

north-western European continent and southern England. (Hodges 1977, 1982b; Randsborg 1980). The hypothesis of state development through control and redistribution of resources went beyond the historically-conceived view, attempting to illustrate the history of 'social processes' and the "relationship of man and his environment, in addition to the history of events and personalities" (Braudel 1980, quoted by Hodges 1988b:1)

In the work of Hodges, Randsborg and others, this hypothesis was manifested in an attempt to explain the history of medieval Europe as a consequence of the economic collapse of the Late Roman Empire (Hodges 1977, 1982a; Randsborg 1980). The syntheses of early medieval economics attempted by Hodges and Randsborg charted the rise of early states in a series of evolutionary stages (eg. Hodges 1982a:197-8). A model was developed, offering an explanatory structure for the actions of early medieval rulers: creating markets, instituting coinages and founding towns. The cultural impulse for the spread of urbanism and the Carolingian ideal of kingship to Anglo-Saxon England has been explained in the context of the 'peer-polity interaction' model (Hodges 1986; Hodges & Moreland 1988:81-2). This characterised the 'move to statehood' in a peripheral polity (such as Middle Saxon England) via emulation, transmission of innovation and increased exchange with a 'core polity' (namely Carolingian Europe; Hodges & Moreland, ibid.).

Towns, coinage and markets were founded in the Lower Dee/Mersey area between 800 and 1100. However, Hodges' and Randsborg's model does not provide an easy means of explaining these social and economic changes in the particular historical context of the North-West and Irish Sea, which is rather too complex for the ideal peer-polity situation postulated for cross-channel relations in the Mid-Saxon period. The border between Mercia and the Norse-dominated settlements of the Irish Sea littoral was awkwardly placed in very close proximity and involved considerable overlap or 'greyness' (below, cap 8). The Anglo-Saxon presence in the area was essentially an extension of an existing system, and was apparently directed primarily at a third force (the Welsh).

Apart from its fundamental reliance on the theory of social evolution which is itself open to very substantial criticism (below, appendix D). The 'normative' approach with its universal stance is dependent on an insidious *reductionism.* This can

broadly be characterised as an avoidance of detail, and the over-simplification of the historical profile of sites, polities and regions. As G. Astill (1985:224) put it: *The strange thing about it* [Dark Age Economics, Hodges 1982a] *is that, although it is a book about early medieval archaeology, the archaeological data are given little detailed treatment.*

Whilst Hodges has contributed the only substantial interpretative framework for early medieval economics and urbanism [in Britain] so far, its relevance to the Irish Sea periphery of Anglo-Saxon England is as yet unproven or even untried. Although the Irish towns figure in Hodges's most significant analysis, their 'reduced' profile is dismally evident: "there is virtually no evidence of interaction between the Viking colonies isolated on the coastlines and the great heartland of Ireland with its dense population" (Hodges 1982a:195). Hodges made even less of Chester in its two appearances in his analysis, tragically asserting that Chester was in the Danelaw under Æthelstan (1982:168) and adding (p.181) that "Chester, a major mint, is often said to have dominated Irish Sea trade during the tenth century; the absence of material evidence for this always seems to be overlooked".

An attempt to interpret the evidence from this western periphery of Europe should perhaps encompass at least an attempt to re-orientate the terms of the debate to the particular historical context under consideration. G. Astill (1985:229) provided a lead for the re-orientation of the debate: "One possible line of enquiry would be to start to explore how local communities functioned, how and when surplus was generated, and what was done with it, because this was the level at which the economy effectively worked".

A regional study must be regarded as an opportunity to challenge and go beyond the contemporary state of research and interpretation. It can hardly be possible to exceed the terms of the debate by ascending to even greater heights of abstraction. As argued in appendix D (below), the detailed historical and social context of the archaeology is at least as important as 'off the shelf' interpretative categories originating in research into entirely different societies. This may be characterised as a mode of research which, when wishing to add further to the economic interpretation of a particular site in north-west England, would concentrate on trying to understand what may have happened in the next parish or on the other side of

the Irish Sea, rather than in the Trobriand Islands. This is not, I hope, a plea for insular and regionally-exclusive research. Of course the world view has its place. Nevertheless, there is little doubt that there should be a re-evaluation of research priorities in this area of archaeology, seeking to establish a coherent and detailed local and regional base as a counterweight to the prevailing continental and global stance.

CHAPTER 2: HISTORICAL SURVEY

This chapter is intended as a discussion of the documentary evidence for the history of the Lower Dee/Mersey Area from the ninth to the eleventh century. It is intended not as a general framework for the archaeological material but as an assessment of the extent and the limitations of the documentary sources. The historical references to the area can furnish the beginnings of a social and political context, although it must be recognised that this context will be modified and re-orientated with reference to other forms of data. This chapter is inevitably dependent on the primary historical research of other scholars, of whom F.T. Wainwright should perhaps be identified as the most influential. The early medieval history of Cheshire has also recently been re-worked in detail (Thacker 1987).

2.1 Background: the Previous Centuries

The area is little mentioned in documentary sources before the ninth century. The clearest reference is Bede's account of the Battle of Chester in AD 616. Æthelfrith of Northumbria defeated a force of Britons including a number of priests from the Welsh monastery of Bangor-is-y-Coed (gaz 3.1; Bede, *Ecclesiastical History*, Colgrave & Mynors 1969:140). The monastery, as described by Bede, seems to have been of vast size, consisting of seven parts each with no less than three hundred monks (Colgrave & Mynors 1969:140), which would have compared in reputed size with the largest Irish monasteries of the period, such as Bangor, Clonfert and Clonard (ibid:141, cf. also Crowe 1979:2-5).

Bede referred to Chester as *civitas*, which may imply that it was occupied (Thacker, forthcoming). Any question of occupation in the city during the Middle Saxon period is hardly answered by the sources. Webster (1951:42) remarked that the city 'played no part' in the Offa's Dyke and Wat's Dyke schemes. Nevertheless, the two earthwork systems can be interpreted as demonstrations of the Mercian border (Stenton 1971: 214) and both extended to include a narrow salient of territory along the Welsh coast of the Dee Estuary (Hill 1981: 135). The inclusion of this coastal strip required up to an extra twenty-five miles of dyke construction. This seems an excessive enterprise except in that it ensured that the Dee Estuary was surrounded by Mercian territory, an important factor in the control and safety of shipping. This policy continued after the re-fortification of Chester in 907.

2.2 The Late Anglo-Saxon period AD 800-1070

An ecclesiastical presence in the City of Chester may have begun as early as 689, when the Church of St. John is said to have been founded by the Mercian King Æthelred (attested by a 'lost work' of Giraldus Cambrensis; Thacker 1982: 200). The Church of St. Werburgh cannot be dated to earlier than 874, the date given by Ranulf Higden in the fourteenth-century *Polychronicon* (Babington (ed) 1876: 126-8). Thacker (1982: 203) suggests that Æthelflæd patronised the translation of the relics of St. Werburgh from Hanbury, Staffordshire, and it is most likely that the Church was re-founded at the refortification in 907.

The Mercians were involved in campaigns in North Wales under King Coenwulf (796 - 821); a battle was fought at Rhuddlan in 796 and Coenwulf harried the land between the Clwyd and Snowdonia in 816 and 821 (Lloyd 1912: 201-2). Further Mercian action was necessary in 822/23 when Deganwy was taken and Powys invaded (ibid.). Any gains appear to have been shortlived, as the Mercian monarchy rapidly descended into confusion after Coenwulf's death. The marginal and remote status of the area in the mid-ninth century is part of a general impression of Mercian weakness. Asser, writing around 893 in his *De Rebus Gestis Alfredi* (Keynes & Lapidge (eds) 1987) described the victory over the Welsh of Burgred of Mercia (ibid., cap 7), in which the Mercians needed West Saxon assistance (Wainwright 1975: 65).

The *Anglo-Saxon Chronicle* is a major source for the events affecting Chester and the Lower Dee/ Mersey at the turn of the ninth/ tenth centuries. Of particular interest is the *Mercian Register*, a series of 'consecutive annals' in the B, C and D versions of the Chronicle. The *Register* is inserted *en bloc* in the B and C versions but is awkwardly woven into the text of the D version (Whitelock 1979: 145). Although an official history, the Chronicle does not always give a 'calculated impression' of events, although to the end of the reign of Edward the Elder (899 -924), 'the Anglo-Saxon Chronicle...was a court production, at least to the extent that it was intended to please the King' (Gransden 1974: 36). Gransden also noted that 'the very second-rateness of chronicles gives them value to the historian today...the chronicler was less selective and although a chronicle is jerky to read it is a mine of information' (ibid: 31).

It is not clear how the division of Mercia in 877, between the Danes and Ceolwulf, king of Mercia, affected the Lower Dee/ Mersey area. It is likely that the area remained, with the rest of Mercia west of Watling Street, in the authority of the king. The Danes are recorded by the Chronicle as increasingly active in England in the 880's. In 893, after their defeat at the Battle of Buttington on the Severn, the Danes reached by a roundabout route 'a deserted city on the Wirral which is called Chester' (ASC, Whitelock 1979: 204). After a seige lasting into 894 the Danes left for Wales due to depletion of cattle and corn. The 'desertion' described in the Chronicle can hardly have been complete since at least St John's is likely to have been in use at the time. It is, however, possible that the advent of the Danes caused a temporary evacuation of the few permanent residents, who would almost certainly have owed allegiance to the Mercians.

The next 'glimpse' of historical information is the story of Ingimund (Wainwright 1948:145-69). Preserved in a seventeenth-century Irish source, the *Three Fragments* (O' Donovan 1860), the legend concerns the Hiberno-Norse chieftain *Ingimundr* (OE *Hingamund*) and his followers. After losing a battle in an unsuccessful attempt to settle in North Wales, they sought Æthelflæd's permission to settle in Mercia and were granted lands near Chester. After an interval the Norse attacked the city and were repulsed with legendary heroic tactics involving boiling beer and bees (Wainwright 1948; 1975: 132). The expulsion of the Norse from Dublin is dated by the *Annals of Ulster* to 902. The story of Ingimund's defeat in Wales is corroborated by the Welsh chronicles *Annales Cambriae* and *Brut y Tywysogion* (Jones 1955), which record *Ogmundr's* defeat at *Ros Melion* in 902; the *Three Fragments* date the arrival in Wirral to 905 (Wainwright 1975: 140; Smyth 1975: 62). Thacker (1988: 120) drew attention to the reference in the *Three Fragments* to the wealth of the City of Chester - further evidence of an established presence in the city before 907.

The *Mercian Register* records the re-fortification of Chester by Æthelflæd in 907, Eddisbury in 914 and Runcorn in 915 (Wainwright 1975:306). The fortress of *Weardbyrig* (915), sometimes suggested as Warburton in the Mersey Valley, is more likely to have been located in the West Midlands (Wainwright 1975:318). These North-West Mercian burhs were added to by Edward the Elder who fortified Thelwall and Manchester in 919 and *Cledemutha*, (Rhuddlan) in 921. Burh

construction was begun by Alfred in Wessex in the 880's and went into a significant phase of expansion under his son Edward the Elder and his daughter Æthelflæd, who died in 918 after capturing Derby from the Danes. Edward the Elder and Æthelflæd consolidated significant gains in Danelaw territory by founding burhs at Hertford (911,912), Tamworth and Stafford (913), Buckingham (914), Bedford (915) and Maldon (916). Æthelflæd's conquests were quickly amalgamated into the West Saxon Kingdom in 919 when her daughter Ælfwyn was deposed by Edward (Wainwright 1975: 340). (For the topography of the burh sites, see below, cap 4.1; gaz 1.1, 4, 6.3, 7.1, 7.3).

Edward died at Farndon-on-Dee in 924 after suppressing a revolt of the Men of Chester in alliance with the Welsh (Thacker 1987: 254). The circumstances of his death give a hint as to the turbulence and rebelliousness of the area nearly two decades after the beginning of burh construction. F.T. Wainwright (1975: 341), A.T. Thacker (1987:252) and N.J. Higham (1988:194-5) have all interpreted the foundation of the burhs as a response to the Scandinavian threat, and furthermore the *location* of the burhs as creating a northern frontier for Mercian territory. There are grounds for suggesting that this view is too dependent on the Ingimund story and views the whole policy as one-dimensional. The area was populated by a mixture of Anglo-Saxon, Welsh (British) and Scandinavian elements (below, cap 3.2.2). The revolt of 924 involved not just the Welsh but the population of the burh of Chester itself (the Scandinavians were not mentioned). This indicates that the burh policy cannot be seen as a device in a simple Saxon/ Viking problem. The area was a complex border zone and the concentration of population and resources in fortified burhs was one method of establishing a chain of official control over the landscape and population. Furthermore, the argument for the line of burhs as a *frontier* does not fit easily with the acknowledged impression that the decade 910 - 920 was one of Mercian and West Saxon *expansion* rather than consolidation (Wainwright 1975: 300). Æthelflæd and Edward were occupied nationally with *eroding* the extent of neighbouring independent kingdoms and the Danelaw. The distribution of the north-west Mercian burhs at nodes of communication and guarding important watercourses (see chapter 4), seems more appropriate to *control* of the surrounding landscape than defence of a line or frontier. *Cledemutha,* Runcorn and Thelwall lie low in river valleys: their position ignores the safety of high ground in the Clwyd Hills and the Eddisbury Hills (south of the Mersey)

which form a more defensible strategic position facing west and north. Moreover, the possibility that Edward established a burh at Penwortham on the Ribble in 919-21 (Higham 1988:213) detracts from the 'frontier' theory for the Mersey Valley.

The subsequent history of landholding appears to confirm that the burhs were central to the establishment of estates held by Mercian noblemen, and around Chester itself in the possession of the central Mercian authorities. The main source for the distribution of landholding is the Domesday Survey (below, cap 2.3.1). The Halton estate, for example, from which King Edgar transferred Aston to St. Werburgh's in 958 (Tait 1920: 10-13), was linked firmly to the burh of Runcorn. In 1066 Earl Edwin of Mercia held estates along the length of the Middle and Lower Dee, concentrated particularly around Chester (see also below, cap 3.2.2). In addition the earl held Frodsham and Weaverham in Eddisbury Hundred, controlling the Weaver Valley. The lands held by Wulfric, patron of Burton Abbey (Staffordshire), at the end of the tenth century included both estates in Wirral and *inter Ripam et Mersham* (Sawyer 1979: xiv). It is interesting that Wulfric's holdings extend beyond the supposed 'frontier'. Higham (1988:218) whilst outlining the case for noblemen such as Wulfric and the Leofric family, together with the the Bishops and St Werburgh's Abbey, having acquired their estates in grants from the crown, suggested that many estates were *bought* from Scandinavians with the encouragement of the Royal authorities; a theory inspired by the purchase by Æthelstan of Amounderness *a paganis* (Wainwright 1975:194).

The period of greatest production of the Chester Mint under Æthelstan (below, cap 6.5), coincided with a brief hiatus in hostilities between the English authorities and the Welsh (Davies 1982: 114). One raid, that of Sihtric of York on east Cheshire as far as Davenport, is mentioned in the Chronicle for 920. The Battle of *Brunanburh* in 937 brought Æthelstan into a major confrontation with an alliance of Norse, Strathclyde Britons, Welsh and disaffected northern English forces. The site of the battle is not known from the sources. A case for Bromborough, Wirral was made out by J.McN. Dodgson (1957:303-16). Bromborough is the only placename in England which etymologically can derive from *Brunanburh* (ibid:303) and Dodgson supported his theory with the (admittedly circumstantial) argument that Bromborough was a possible point of confrontation on the border of Norse-held land in Wirral and Mercia proper. Any passing peace in the pre-*Brunanburh*

years was not regained by the English victory. Gwynedd under Idwal revolted against the Anglo-Saxons in 942, although Hywel Dda of Dyfed and ruler of all Wales (d.949/950) enjoyed enjoyed good relations with his eastern neighbours, to the extent of the Chester moneyer Gilles minting a coin in his honour (Blunt et al. 1989: 138). Good relations with the Welsh were the exception rather than the rule in the tenth century: the Mercians ravaged Gwynedd in 967 and 968. Chester's significance as an established Anglo-Saxon centre in what was perceived as a Celtic region may be implied in the account in the *Chronicle* of the submission of six Celtic *subreguli* to Edgar on the Dee in 970 (ASC, Whitelock 1979: 228). The authenticity of this incident is aided by a reference by Ælfric, Abbot of Cerne Abbas, in his *Life of St Swithun*, written in the early eleventh century, to the submission by eight Cumbrian and Scottish kings to Edgar on the same occasion (Whitelock 1979:853). Florence of Worcester stated that there were eight sub-kings (from Scotland, Strathclyde, Cumbria, Ireland and Wales) and that they rowed the king on the Dee from the palace to St. John's Church, the King [possibly metaphorically] steering the boat (*Chronicon ex Chronicis,* Whitelock 1979: 228).

Apart from the visit of Edgar, there is no mention of Viking raids or naval activity affecting the Lower Dee/ Mersey area from 920 until 980. The mid-tenth century was the period of greatest prosperity for the Chester Mint (below, cap 6.5) and arguably of the city's most secure dominance of Irish Sea trade. It would, however, be simplistic to assume that trade thrived in this apparent absence of violence. Events slightly further afield in Ireland and Northumbria confirm that violence continued throughout the century on both sides of the Irish Sea (Smyth 1979: 89-190). The prosperity of the city may be related to the rise of an ealdorman governing north-west Mercia from Chester[1]. Æthelmund, one of the three ealdormen created by Edgar in 940 (Hart 1975: 287-8) was given responsibilty for north-west Mercia, although his independence seems to have been eroded in the 960's by Ælfhere who was based further south in Mercia (Thacker, forthcoming).

A 'Northern naval force' ravaged Cheshire in 980 (ASC, Whitelock 1979:232). The reference is the first to the county as such, and the attack has been seized upon to explain a whole phase of the economic history of the city (below, cap 6.5). The attack may have been a symptom rather than a cause of weakness. There is no

[1] I am grateful to A.T. Thacker for pointing out this possibility to me

reference to an ealdorman of north-west Mercia between Ælfhere and his successor of the 990's, Leofwine (Hart 1975:344). A gap in the line of ealdormen (cf. Metcalf 1987b) when Chester was possibly governed only by a reeve or temporary appointee of the crown may explain both vulnerability to attack and the sudden decline of the mint in the 980's (see also below, cap 6.5).

Chester returned to the attention of the West Saxon monarchy at the end of the tenth century, when in 1000 the city was used as a naval base for a royal expedition to ravage Cumberland. The expedition was successful even if the Chester naval force did little to help, although it subsequently ravaged the Isle of Man (ASC, Whitelock 1979: 237). For 1016, the *Chronicle* records that Edmund Ironside, together with Earl Uhtred of Northumbria, ravaged north-west Mercia (ASC, Whitelock 1979: 248). The excuse offered by Florence of Worcester is that the local people 'would not go out to fight the army of the Danes' (*Chronicon ex Chronicis,* Whitelock 1979: 248n). This further suggests a lack of local loyalty to the West Saxon King, and underlines the heterogenous ethnic mix of the local population.

The mid-eleventh century saw great instability, as in the previous century, caused by disputes between the Chester authorities and the Welsh. Gruffydd ap Llywelyn, King of Gwynedd, became the ruler of all Wales in 1055. In something of a departure from previous Welsh strategy, he successfully played off English rivals against each other (Davies 1982:115). He allied with Sweyn of Hereford in 1046, and in 1055 with Ælfgar, son of Earl Leofric, who was in rebellion to win back the earldom of Mercia. Ælfgar was also supported by eighteen Viking ships from Ireland (ASC, Douglas 1981: 132). Gruffydd sacked Hereford in 1055 and raised Ælfgar to the Mercian Earldom, after which the fleet went to Chester to await payment. In 1056 Gruffydd made sure of his advances by killing the Bishop of Hereford (ASC, Douglas 1981: 134), whence he received from Edward the Confessor in the subsequent settlement 'all the land which lay beyond the River Dee' (Thacker 1987: 262-3), including the Domesday Hundreds of Exestan and unhidated Atiscros. Gruffydd was living at Rhuddlan in 1063 (Lloyd 1912: 366) which may explain why the burh was shortlived as an official English settlement (Manley 1984: 60). Gruffydd's success was evidently not tolerated for long at Westminster; Earl Harold was sent, via Chester, to deal with him. Gruffydd escaped by sea whilst the English burnt his stronghold. He was murdered in 1063 after a second

attempt by Harold and Tostig, Earl of Northumbria, arriving at Rhuddlan by sea from Bristol (Florence of Worcester, *Chronicon ex Chronicis,* Douglas 1981: 224). His gains were taken back by the English and redistributed.

A further source, the *History of Gruffydd ap Cynan* (Jones 1910), confirms the importance of Welsh affairs to Chester in the eleventh century. The *History* is from a thirteenth-century Welsh manuscript (Peniarth MS.7) but is likely to have been composed originally in Latin in the early twelfth century (Charles 1934: 53-4). Gruffydd was born in Dublin to a Hiberno-Norse woman, Ragnaillt, and Cynan, the exiled King of Gwynedd. Gruffydd, in alliance with the Norse, fought a series of campaigns against the Normans of Chester, at once allied with Robert of Rhuddlan, then turning against him. Gruffydd spent up to sixteen years in the gaol at Chester in the 1070's and 1080's. He was eventually restored to his kingdom in 1099 after the Battle of Anglesey Sound. The Welsh victory over the Norman Earls of Chester and Shrewsbury was only won through the unexpected and timely intervention of Magnus Barelegs, King of Norway, who himself slew the Earl of Shrewsbury (Charles 1934:73).

The immediate post-Conquest attempts by the Earls of Chester to subjugate North Wales were a direct continuation of the late pre-Conquest policy of Harold and Tostig. In the climate of extreme violence generated, the economic fortunes of the city, market and port of Chester must have suffered through depredation of resources and the increased danger on sea to traders. The *History of Gruffydd ap Cynan,* (Jones 1910:137) refers to the capture by Gruffydd of a Chester ship off the Skerries, Holyhead, in 1090. Nevertheless, as pointed out by Thacker (forthcoming) the continuation of war and despoliation would have given the Normans ample opportunity to raid the Welsh countryside for food, horses and slaves.

The pre-Conquest sources, whilst referring incidentally to the Irish Sea Vikings, are unequivocal in their emphasis on the political problems associated with the Welsh border. The economic life of the area is almost unrepresented in pre-Domesday sources. The only direct reference to the port is in the Domesday Survey (see below) and the history of the mint (below, cap 6.5) is only known through studies of the coinage, together with a reference to the moneyers in the Domesday Survey (for the topography and commercial contacts of the the port, see below, caps 4-7).

Whereas the historical sources can contribute to the context of the social and economic character of the area, they cannot act as an explanatory framework. The role of the area and city as a stronghold of Mercian military power influenced the role and character of the economy of the area, offering a protected market and port. In order to take advantage of the opportunities present in Chester, the incoming traders had to accept the authority of the city to tax their gains and to conduct the transactions in official currency (below, cap 6.6). The growth of trade (below, cap 7), although hardly visible in the historical sources, was fundamental to the life of the city, and the need to protect the maritime approaches can explain much of the English policy of safeguarding the north-eastern part of Wales.

2.3.1 The Norman Conquest

Most of the events which affected the Lower Dee/ Mersey area in the aftermath of the Norman Conquest are recorded in the *Ecclesiastical History* of Orderic Vitalis, an English monk writing in Normandy in the early/ mid-twelfth century (Chibnall 1969-80; Allen Brown 1984: 98). The work is described by Allen Brown (ibid.) as 'incomparable by the sheer scale and detail of his canvas...not only was he dedicated and indefatigable, but he was very well-informed indeed'.

The Norman impact on the area seems to have begun with the ill-fated rebellion in 1068 of Edwin and Morcar, sons of Ælfgar. William responded by devastating Yorkshire and Durham in 1068-69, then crossing the Pennines to Cheshire which was severely devastated in 1069-70. Further evidence of the devastation is common in the Domesday Survey, where the value of many estates in 1086 was substantially below that of 1066 and many are recorded as waste when given to the Norman followers of the Earl of Chester in the 1070's (Husain 1973: 9-12; Morgan 1978: 262-301). In Chester itself, whereas there were 508 houses in 1066, there were only 303 houses in 1086, a loss of 205 or 40%. Some would have been demolished during construction of the castle (Sawyer & Thacker 1987: 327; see chapter 4), but the large percentage of loss clearly implies devastation and desertion. The population in 1086 has been estimated at 1500 (Darby 1971: 307), and the city was described in Domesday as 'thoroughly devastated' when taken over by the Earl in 1070 (Morgan 1978:23).

Following the devastation of 1070, the lands of Edwin were partitioned. Edwin

had held most of the more important estates around Chester (see fig 3.2; Chapter 4). The city was put under the control of Gherbod, a Flemish nobleman who resigned within a year and was replaced by Hugh d'Avranches, or 'Hugh the Fat' who remained Earl until his death at the end of the century (Husain 1973: 3). Hugh d'Avranches consolidated the territory of the Earldom of Chester with the lands recently won back from Gruffydd ap Llywelyn and spent the greater part of his tenure as earl campaigning vigorously against the Welsh and most notably Gruffydd ap Cynan (above, cap 2.2).

2.3.2 The Domesday Survey

The Domesday Survey is a source of great complexity and detail. It was decided upon at the Christmas court of 1085 and finished in its present form by the death of William I in 1087 (Allen Brown 1984: 158). For the Lower Dee/ Mersey area most of the relevant information was surveyed for Cheshire, but the hundreds of West Derby, Newton and Warrington *inter Ripam et Mersham* were also surveyed (together with the eastern hundreds of Salford and Leyland). Domesday Book was compiled for two main reasons: "to discover what the King's own resources were, or should have been, and to find out what land was held by others and what it was worth" (Sawyer & Thacker 1987: 293). The Survey should be used with some caution in archaeological interpretation since there is every reason to suppose that its coverage is selective. For example it makes no mention of burh sites at Thelwall and Runcorn, nor of West Kirby and Hilbre, Wirral. The Wirral estates were held by Hugh's follower Robert de Rodelent (of Rhuddlan), part of which he granted to the Abbey of St. Evroul in Normandy in 1081, a grant confirmed by the King (Brownbill 1928:87-9). West Kirby was the centre of north-west Wirral, the site of a Church with a large assemblage of Anglo-Scandinavian stone sculpture (gaz 5.10). Domesday nevertheless includes other neighbouring townships of negligible value such as Gayton, worth only three shillings in 1086 (Morgan 1978: 264d).

The borders of the Domesday Hundreds (fig 3) are to an extent conjectural, drawn between settlements mentioned in the survey for the different hundreds. The western borders of Exestan and Atiscros have been taken as the line of Offa's/Wat's Dyke. In the Domesday Survey there were a number of anomalies in the coverage of the hundreds, with apparent enclaves of one hundred within another, such as the supposed detached areas of Dudestan (Broxton) Hundred in the two Domesday

components of Eddisbury Hundred, *Roelau* and *Risedon*. These have been argued by Sawyer & Thacker (1987:295) to be mistakes; they also pointed out a number of other, perhaps more clearly demonstrable mistakes such as the inclusion of Puddington (Wirral) in *Warmudestrou* (Nantwich) Hundred and the neighbouring Burton (Wirral) in *Risedon* (Eddisbury) Hundred. The hundredal boundaries adopted for the purposes of this thesis are a compromise between absolute adherence to the Domesday survey with its obvious inconsistencies and the amalgamated modern hundredal structure abolished in the nineteenth century. Atiscros and Exestan are taken as the land between the Dee and the Dykes. Wirral (*Wilaveston*) and Chester are as in Domesday. Broxton (*Dudestan*) includes Maelor Saesneg, its Domesday appurtenance subsequently in Flintshire. Eddisbury is taken as both *Roelau* and *Risedon* together with the putative Dudestan enclaves. Bucklow (west) consists of the Domesday Hundred of *Tunendune*, later amalgamated with its neighbour to the east, *Bochelau*. Warrington, Newton and West Derby were all subsequently altered, but a reconstruction of their Domesday borders is used, as in *VCH Lancs vol 1* (Brownbill & Farrer 1906:269).

The origin of the hundreds in unclear. Sawyer (1978:175-6) suggested that the south Lancashire hundreds *inter Ripam et Mersham*, with the exception of Newton, were 'ancient shires each associated with a royal tun'. Thacker (in Freke & Thacker 1988:31-3) suggested that Newton Hundred may have been carved out of West Derby Hundred to serve the growing prestige and centrality of the estate at Winwick (gaz 9.1). The Clwyd hundred of Atiscros was only hidated in 1086 within the line of Wat's Dyke. The unhidated portion may well only have been established officially with the foundation of Cledemutha in 921. The origins of the Cheshire hundreds were obscured by a 'considerable reorganization in the Late Saxon period' (Sawyer & Thacker 1987: 267), almost certainly associated with the establishment of the burhs (see also below, cap 3.2.1). Some documentary evidence has survived for the existence of a more localised pre-conquest political structure. The townships and parishes are likely to have originated in a version of their present form during the Late Roman period, although they seem to be conditioned by natural divisions in the landscape topography and could therefore be earlier (Sylvester 1967:24; see also below, cap 3.2.1). Dodgson (1957) argued for the pre-Conquest independence of the predominantly Norse settlements in Northern Wirral by reference to the 1182 Pipe Roll. Therein is the earliest reference

to the minor hundred of Caldy, Wirral, which survived as an observed institution until 1819 (Dodgson 1957: 310). The actual borders of the minor hundred are shadowy, but Dodgson also drew attention to the special features of the post-conquest pattern of landholding where the the 'Norse' part of northern Wirral was 'held in compact parcels by four of the most powerful Norman barons of Cheshire; by contrast the rest of Wirral Domesday holdings are dispersed' (ibid.). Hence the border, he suggested (1957:306) ran east-west, from around Neston to Tranmere, south of Birkenhead (see also below, cap 3.2.2). P.H. Sawyer (1985:84) offered indirect support to this argument, when he made the general point (based on themes in the national Domesday coverage) that 'post-Conquest lordships were largely determined by the pre-Conquest pattern of demesne and tenancies'.

Possible evidence for the survival of Scandinavian administrative structures on the Lancashire side of the Mersey was remarked upon by Brownbill & Farrer (1906:270-271). The hundreds of *inter Ripam et Mersham* were assessed both in hides and in carucates, which are more common in the areas of northern England settled by Scandinavians. There were appoximately six carucates to one hide, the values being: Warrington (58 car: 10 hid); Newton (30 car: 6 hid); West Derby (120 car: 20 hid). It is also possible, however, that because the land north of the Mersey had been at least nominally part of Northumbria until the early tenth century, these assessments may reflect a Northumbrian rather than a specifically Scandinavian influence. Moreover, all of the Hundreds *inter Ripam et Mersham* are assessed in this way, including the southern group of Warrington, Newton and Salford which have almost no Scandinavian place-names in their combined extent.

Earl Edwin's estates show a particular concentration around Chester (fig 11), giving a hint as to the extent of the directly controlled hinterland of the city (see also below, cap 3.2.2). The land under the direct control of the Earl is likely to have provided agricultural resources necessary to support the permanent population of the *burh*. The Domesday coverage of the city itself is extensive, more so than for other Mercian towns. The port is specifically mentioned: *portus civitatis* (Morgan 1978: 262c). Dues imposed on shipping are clearly stated, in addition to other legal penalties within the city. The Domesday mention of the port is also remarkable for the high degree of official control and interference in shipping. Chester's port and market within the fortified burh appear to have been very much an official

enterprise and the mint seems to have been dependent for its existence on the strong backing of the city authorities (also below, cap 6.5).

2.4 Summary

The Domesday Survey of Cheshire, north-east Wales and *inter Ripam et Mersham*, despite being the most northerly coverage west of the Pennines, provides a large reservoir of information about the eleventh-century economy and settlement of the area. This information must be interpreted recognising the very real drawbacks and pitfalls inherent in the Domesday Survey for the archaeologist. The Domesday Survey followed four centuries of intermittent historical coverage, for which the only recurrent source is the *Anglo-Saxon Chronicle* (also a complex and often confused group of documents). This systematic survey of the sources relevant to the area and period has shown the importance of a series of sources referring to border problems with Wales. When concentrating on the sources themselves and not so much on a historical narrative, it has been easier to discern how some colourful documentary accounts (such as the Ingimund legend) have been allowed to dominate the history of the area, perhaps at the expense of mundane and repetitive references to more endemic problems.

CHAPTER 3:
LANDSCAPE TOPOGRAPHY AND RURAL SETTLEMENT

3.1 The Physical Background

The Lower Dee/Mersey Area is essentially a low-lying coastal district, dominated by the flood plains and estuarial fringes of the two main river systems. The Cheshire plain is drained by the rivers Gowy and Weaver, which flow into the Mersey. The low wetlands of North Wirral are drained into Wallasey Pool by the streams Birket and Fender. The principal river draining the coastal plain of South Lancashire is the Alt, which flows into the Irish Sea north of the mouth of the Mersey.

3.1.1 Solid Geology (fig 4)

The solid geology of the area is dominated by triassic and jurassic sandstones which underlie much of the most densely settled and agriculturally productive land. On the North Wales side of the Dee, the Clwydian Uplands of carboniferous limestone are surrounded by beds of millstone grit and coal measures. Mineral resources are concentrated in the eastern carboniferous outcrops of the Clwyd Hills, and include zinc sulphide (blende), lead sulphide (galena), some silver, copper pyrites and fluorspar (Smith & George 1961:73). The lower Vale of Clwyd is underlain by bunter sandstone. The bunter or 'old red' sandstone is predominant in the Dee Valley, underlying almost all of the middle Dee and Wirral Peninsula. The bunter sandstone beds of the Wirral are marked only by small outcrops of keuper sandstone in the West Kirby/ Meols townships in the north of the peninsula. These beds are marked in a south-west to north-east line crossing the northern area of West Derby Hundred on the Lancashire side of the Mersey, to the north of which is a large area of keuper marls. Another south-west to north-east bed of keuper sandstone marks the centre of the modern county of Cheshire, forming the low uplands of the Peckforton and Eddisbury Hills. This line of keuper sandstone continues up the Mersey valley, forming the low bluffs on the south bank of the river at Runcorn and Lymm. To the east of the keuper sandstone ridge are keuper marls. The northern bank of the Mersey and its fertile coastal hinterland are dominated by bunter sandstone, with coal measures underlying the lowland mosses inland to the east.

3.1.2 Drift Geology (fig 5)

North-east Wales is predominantly an upland landscape with a high proportion of rocky and mountainous outcrops. The Clwyd Hills have pockets of boulder clay and more commonly glacial gravels, and are surrounded on the coastal fringe by boulder clays, with blown sand on the extreme northern maritime margin. Boulder clays with occasional glacial gravels dominate the Cheshire plain and the Wirral Peninsula. The floodplain of the Dee is characterised by alluvium, as are the valleys of the other rivers, Gowy, Weaver and Mersey. The north Wirral wetlands are mainly alluvium bordering on deposits of blown sand on the north Wirral coast. The third major variation is the coastal plain of South Lancashire, forming the major part of the Hundred of West Derby, which is dominated by the Shirdley Hill sand deposits, surrounding extensive mosses and peat beds.

3.1.3 Relief and Land Quality (fig 6)

The area includes a highland zone only on its western periphery in the Clwyd Hills. The range consists of high ridges running approximately north-west to south-east, the highest point of which is the summit of Moel Fammau (554m) at SJ 162 626. The Clwydian range stretches almost to the North Wales Coast, but includes a lower east-west corridor between Whitford and St Asaph, which provided the route for a Roman road (Margary 1967:348-49). Land quality in the Clwyd Hills is mainly poor, the landscape providing little opportunity for cultivation. Extensive animal farming has traditionally been predominant. Small-scale cultivation is more common in the coastal strip. The fertile Vale of Clwyd contains some of the highest quality arable land in Wales. The low-lying alluvial flood plain surrounded by boulder clay deposits resembles the Dee and Mersey valleys (cf. Hill 1981:7).

East of the Clwyd Hills, the Dee Valley acts as a wide, flat gap between the Welsh Uplands and the mid-Cheshire ridge of keuper sandstone upon which are several iron age hillforts (including Eddisbury, gaz, 6.3). There are occasional low hills in the Dee valley but the main character is one of relatively unbroken mixed arable and pastoral farming on boulder clay. The Wirral Peninsula has a similar landscape, but is less flat. Two sandstone ridges along the western and eastern coasts of the peninsula form the most significant topographical features. The land above approx 50m O.D. consists of birch scrub, light sandy soil and rock outcrops. In the south and centre of the peninsula, the land is low lying and poorly drained.

In the northern area of the peninsula, the flat coastal plain is mainly sandy and the poor-quality soil has traditionally supported small scale mixed farming.

The mid-Cheshire ridge is partly afforested (Delamere Forest), and was undoubtedly heavily afforested in the Late Saxon period (Husain 1973:54-5). In the post-Conquest period the forests of *Mara et Mondrem* covered a large percentage of Eddisbury Hundred, especially in the eastern districts (Husain 1973:56-9). This may explain the relatively sparse population and few settlements recorded for the Hundred in the Domesday Survey; it may also explain the rarity of archaeological finds and sites from the Late Saxon period.

The Mersey Valley is surrounded by low bluffs of keuper sandstone, the most significant of which are in the Runcorn/Halton district. The flood plain of the river is alluvial and poorly drained. The land rises in terraces to the north of the river. Better quality farming land is located above 20m O.D. in the St Helens and Prescott districts. The Lancashire shore of the Mersey Estuary is characterised by a sandstone ridge, upon which is now situated the City of Liverpool. North of the city, the Shirdley Hill Sand deposits support very flat farmland which has traditionally been intensively used for market gardening.

3.1.4 The Coastal Landscape

During the period AD 800-1100 sea level was at a transgression maximum of up to +5m O.D. on the coast of north-west England (*Transgression X*, Tooley 1978:109; 1980:82). Consequently areas of the present coastline and coastal hinterland significantly below +5m O.D. may well have been subject to tidal inundation in the period. This includes the substantial areas of land at the mouth of the Clwyd and in the upper Dee and Mersey estuaries which were reclaimed in the eighteenth and nineteenth centuries.

The River Clwyd drains northwards through a reclaimed area or *morfa* of alluvium and sand (Manley 1981:11-12). The area to seaward of Rhuddlan was only fully reclaimed in the nineteenth century after the construction of sea defences and the coastal railway (ibid:12). Rhuddlan, standing on boulder clay above the eastern bank of the river, was one of the lowest points on the Clwyd of sufficient height O.D. to withstand spring tides. During earlier transgressions, such as Tooley's Transgession VI (3575-2947 BC), Rhuddlan was probably coastal (Manley 1981:12). The

flat topography of the coastal plain of North Wales led to marine transgressions affecting relatively large areas of land. Major transgressions destroyed considerable land surfaces to the north of the present coastline in the mesolithic period (Whittow 1970:187) and the Roman period when the legendary coastal plain of *Morfa Rhianedd* is supposed to have disappeared (Manley 1981:14).

Alluvial land in the upper estuaries of the Dee and Mersey is likely to have been tidal. This primarily applies to (presently) reclaimed land north-west of Chester and the mouths of the rivers Gowy and Weaver on the south bank of the Mersey. The Dee was fully estuarial up to Chester, where the Roodee was an unreclaimed expanse of tidal sand and mud (Mason 1976:20), with the river skirting its western edge. The former coastlines of North Wales and Wirral have been obscured by eighteenth- and nineteenth-century reclamation, but can be followed along the line of the first natural rise in the land above the reclaimed meadows. The Dee flowed in a reversed S-bend curving westwards around the city and eastwards south of Blacon Point (SJ 380 674). Along the estuary coasts are a number of small inlets or creeks which would almost certainly have provided a small measure of shelter. On the Welsh side, Flint (SJ 245 736), Llanerch-y-Mor (SJ 117 794) and Mostyn (SJ 155 812) have all functioned as small ports in the post-medieval period. Flint came to prominence during the building of the castle in the 1270's, but may have had earlier significance as a port connected to lead mining in the district (gaz, 1.10). In the Saxon period there may well have been a small haven at Greenfield, next to Basingwerk (gaz 1.8). The stream mouth has now been culverted through industrialised reclaimed land.

On the Wirral side of the Dee, the medieval port of Shotwick (gaz, 5.1) was in existence at least as early as the late eleventh century. Dodgson (1972:207) interprets the placename suffix *-wic* as 'hamlet by a steep promontory' (OE *sceot-hoh*). Ekwall (1960:515) associates the *-wic* suffix (from latin *vicus*) with places which became important 'at an early date'. Although many port settlements, especially on the south-east coasts of England, have the *-wic* suffix, there seems to be little philological support for the direct -wic/port association. An alternative view of the '-wick' at Shotwick would have it derive from ON *-vikr,* bay, (Barnes 1950:10). The sheltered bay to the south of Burton Point (gaz 5.2) and the Denhall Creek at

Neston (SJ 292 751) would also have provided sheltered drying anchorages. Seawards down the estuary, the inshore waters off Heswall (SJ 254 813) and Caldy (SJ 22 83) may have acted as drying anchorages as they have done in later centuries.

The major deep-water anchorage in the Dee Estuary is the channel to the north of Hilbre Island (gaz 5.11) - the former Hoole or Hyle Lake. This consists of a (much silted) basin sheltered from the Irish Sea by the extensive sandbanks outside the mouth of the estuary. In the post-medieval period it was connected to the Mersey approaches through the Mockbeggar Channel or Wharf along the North Wirral coast, and to the open waters of the Irish Sea along the Hilbre Swash to the north (Hume 1963:1). The area has long acted as a temporary anchorage for ships waiting for the tide upstream and as a reliable shelter except at spring high tides (Ellison 1956:60-62). The anchorage is almost certain to have been important to the prosperity of both Hilbre and Meols in the Late Saxon period, and continued to be so throughout the medieval period.

The Mersey approaches are shallow with very strong tides, especially at the mouth of the estuary. The Lancashire coast between the Ribble and the Mersey mouth is low-lying and dominated by extensive dune formations. Tooley (1980:79) suggests that the 'Dark Ages' was a period of dune stability associated with a marine transgression (X). This would have enabled settlement on the coastal fringe. The (now lost) coastal townships of Ravensmeols and Argarmeols apparently began during the period of Norse settlement in the tenth century (Lewis 1982:27), and almost certainly disappeared under sand during Tooley's phase of dune instability associated with marine regression in the thirteenth century. The relatively high sea levels in the pre-Conquest period would probably have raised the groundwater levels in the inland mosses, and made the coastal hinterland marshier and less productive than today.

There are few havens on the South Lancashire coast; the River Alt at Little Crosby (SJ 292 033), provides the only shelter south of Formby Point. The former settlement of Altmouth (gaz 10.8) was located on the Alt Estuary. The Cheshire shore of the Mersey is indented by Wallasey Pool, formerly a shallow creek surrounded by moss and marshes (now docks). The mouths of the rivers Gowy and Weaver are now culverted to the periphery of reclaimed land associated with the Manchester

Ship Canal. In the Late Saxon period they are likely to have been wider and tidal. In the north-western corner of Eddisbury Hundred, the settlements of Thornton-le-Moors (gaz 6.1) and Ince (O Welsh *ynys*, island, SJ 450 765; Dodgson 1971:251) would have been divided from the Wirral by tidal sands reaching up to 1.5 km inland. Likewise, Frodsham and Runcorn would have stood on opposite banks of the tidal rivermouth of the Weaver. The Lancashire shore has a number of small creeks such as the former Mossdale Stream in the centre of Liverpool (SJ 343 900). The area east of Hale Point (SJ 47 80) is possibly a silted creek. A stream flows through flat ground in a deep U-shaped indentation of the 10m contour. Finds nearby of several Roman and Anglo-Saxon artefacts (gaz 10.2) suggest the site as a possible settlement and landing place in both periods, connecting to Runcorn (gaz 7.1) on the south bank.

3.1.5 Communication

The rivers provide the main features conditioning movement across the area. They also seem to have acted as the most recurrent local boundaries, the major rivers forming the hundredal borders (see above, cap 2.3). The fording points and crossing points often coincide with a network of overland communications, which are dominated by the Roman road system. The river/road convergences and road/road convergences were amongst the most significant sites in the Late Saxon topography (fig 7). The concentration of population (fig 8), the density of estate centres and the presence of Chester at the head of maritime navigation favour the Dee as the most important artery of communication. The Roman road known as Watling Street led southwards from the city across the Dee Bridge (gaz 4.13) to Wroxeter, and eventually to London. Watling Street was in use at least in part in the tenth century (Hill 1981:115,141). There is an oblique reference in the Domesday Survey to the importance of roads in the transport of raw materials. At the 'salt wiches' of Nantwich, Middlewich and Northwich (Morgan 1978:268a,b) there are a number of tolls mentioned concerning carting and packhorses.

The major significance of Watling Street and its initial course in the Dee Valley is that it led towards the 'midland gap' of lowlands between the Welsh Mountains and the Pennines (fig 1). The midland gap was of importance both in Chester's commercial relationship with central and southern England (below, cap 4.1), and in the Anglo-Saxon monarchy's geopolitical interests in the North-West - its maritime

'window' on the Irish Sea (below, cap 8.7). Other Roman roads in the area (fig 7), especially at river crossings seem to have been the favoured location for estates held by the earl or his closest followers; these estates include Farndon, Frodsham and Halton.

The Roman road leading northwards from Chester through the Wirral has only been documented conclusively far north as Raby (SJ 311 798), (Jermy 1961:1; Petch 1987:186). Nevertheless it is hardly likely to have stopped there, as the place is without significant Roman associations. A more likely destination is Meols (gaz 5.12) where the line of the road appears to be heading.

The road heading westwards from Chester to the Clwyd follows the west bank of the Dee to Whitford and passes through the Clwyd Hills, making directly for the Roman fort at Caerhun *(Canovium)* in the Conwy Valley (Margary 1967:348-9). It crosses the Clwyd at St Asaph, a short distance upstream (south) of Rhuddlan, where the ford would not have been so dependent on the tide.

East of Chester, the Roman road network splits into two, one arm heading for Northwich via Eddisbury; the other follows the Mersey Coast (Thompson 1961; Petch 1987:186). There appear to have been three major multiple convergences in the road network; Chester, the Northwich area just over the eastern border of Eddisbury Hundred and Warrington. It is also important to note that Chester and Warrington are located at the tidal head of navigation on the Dee and Mersey respectively. Their significance as transhipment points is emphasised by their nodal postions on the road networks.

The middle and upper Dee and Mersey give access to central North Wales and the Manchester/South Pennine area respectively. The Warrington logboats (gaz, 8.2-8.6) give an indication as to the character of river transport in the Late Saxon period. As McGrail's analysis of the entire assemblage shows, the boat forms hardly changed between the pre-Roman period and the medieval period (1978;1979). The lack of comparable finds on the Dee is perhaps explained by the relatively rural setting of the river in modern times and the lack of dredging and alteration, except for a short distance below Chester. The Mersey logboats are obviously unsuited to open waters, having no keel and low freeboard. Their use appears to have been restricted to the middle rivercourse with some transhipment to or from seagoing

vessels at Warrington or Runcorn. A similar situation can be suggested for the Dee with transhipment at Chester.

3.2.1 Rural Settlement Topography: the previous centuries.

The area has been settled since the neolithic period, where findspots and settlement traces are commonest on ground above approximately 20m O.D. (cf. Sylvester & Nulty 1958:11). A recent excavation of a major settlement site at Greasby, Wirral (SJ 253 867) has confirmed the importance of the area in the North-West in this early period of habitation (R. Cowell, pers comm). Iron age and Romano-British settlement outside the fortress network is extensive (Longley 1987; Petch 1987). A number of iron age hillforts on elevated ground in Clwyd and central Cheshire (Longley 1987:109-114) constitute the predominant iron age remains although there are a small number of pre-Roman coins from Meols (Hume 1863:292). Roman settlement outside *Deva* (Chester) was extensive (Petch 1987). It consisted both of outliers of the Roman defensive and communication systems and more shadowy settlements indicated by concentrations of finds. There are stray finds of the Roman period from most districts, particularly from elevated ground. In four coastal locations in the area, Hilbre (gaz 5.11), Meols (5.12), Hale (10.1) and Altmouth (10.8) there are substantial clusters of Roman finds, especially of coins, metalwork and pottery. This indicates that these four sites were experiencing some measure of external trade and production in the Roman period. Continuity into the post-Roman period is demonstrable at Hilbre and Meols, where a St Menas Flask, possibly early post-Roman penannular brooches and an annular brooch (below, cap 5.1; appendix A) suggest post-Roman imports.

The Romano-British topography was a significant, if possibly archaic, element in the distribution of Late Saxon settlement. In so far as they are historically understood (cf. Sylvester 1967:24) the origins of the parishes seem to lie in the establishment of Late or sub-Roman *ecclesiae*. The parishes of the area are large, including, on average, over two townships (ibid.). Curvilinear churchyards are present at Dodleston (gaz 1.11), Farndon (3.3), Eccleston (3.6), Christleton (3.7), [possibly] Landican (5.7), West Kirby (5.10), Overchurch (5.15), Bromborough (5.18), Barrow (6.2), Childwall (10.2), Huyton (10.4) and Prescott (10.5). Although curvilinear churchyards have traditionally been associated with Celtic Christianity (O'Sullivan 1985:32; Thacker 1987:240), it seems over-optimistic to

interpret all non-rectilinear churchyards in this way. The more complete curvilinear plans at Eccleston and Overchurch combine place-name evidence and (for Overchurch) epigraphic evidence for the existence of a Church before the Late Saxon period, and are possibly the most secure identifications.

Place-names provide the major source for the history of settlement in the post-Roman and early medieval periods. The place-names of the Lower Dee/ Mersey Area have been extensively studied for Lancashire by E. Ekwall (1922), for Cheshire by J.McN. Dodgson (1967; 1970-72) and for both counties by D. Kenyon (1984). In addition, the Scandinavian place-names of Cheshire have been analysed by G. Barnes (1950) and as part of a more general north-western study by G. Fellows-Jensen (1985). Only the Clwyd place-names have not been brought together in a comprehensive study, although the non-Celtic names have been catalogued (Charles 1938).

British survival east of the Dee, apart from possible church sites, is mainly evident in place-names (fig 12). There appears to have been an enclave of British settlers well into the Anglo-Saxon period in the Wirral, where names such as Landican and Pensby, Wirral (O Welsh *Llan Tegan*; O Welsh *Pen* (hill), ON *-by*; Dodgson 1972 266,271). Wallasey, (OE *Walea eg,* Welshman's island) appears to refer to a British settlement. British place-names are also found along the Dee Valley, where they can be seen as outliers of the more substantial Celtic communities west of the Dee (Sylvester 1963:8-10). The important Welsh monastery of Bangor-is-y-Coed (gaz 3.1), mentioned in Bede's account of the Battle of Chester in AD 616 (above, cap 2.1), may have acted as the ecclesiastical centre for the Dee Valley. Dodgson (1967:35-36) suggested that before the Anglo-Saxon settlement, the Dee Valley was attached to the Welsh Kingdom of Powys, and that the Powys/Mercia border lay much further to the east, perhaps on the line of the central Cheshire Ridge.

British survival in the estate structure was possibly more influential in moulding the Late Saxon territorial structure north of the Mersey, where eleventh-century royal hundredal centres such as West Derby and Warrington are possibly descendants of the earlier estate centres; this much is implied by the Domesday assessments of the entire population of the hundreds as attached to the central manor (cf. Higham 1979:49). On a wider scale, Kenyon (1984:762) suggested that the

estate organization of detached component settlements around a *caput* was current in Lancashire in the eighth and ninth centuries. The 'Multiple Estate' model developed by G.R.J. Jones (1965;1976) has been influential in the interpretation of early medieval settlement and landscape, particularly in Wales and northern England (Jones 1985:360-361). The model has stressed the implications of a social and tenurial system linking apparently discreet settlements and its author argued that it also encompassed 'the intricacies of tenurial differentiation within, and between, individual settlements' (ibid:352). The multiple estate model has been the subject of some criticism in recent years (eg. Gregson 1985), where the accusation has been made, amongst others, that the model is unduly 'normative' (ibid:344).

Traces of 'multiple estates', in particular the evidence for the central manor, are, Kenyon suggested, much more difficult to identify south of the Mersey since many of the estate centres mentioned in the Domesday Survey cannot be readily identified with Romano-British sites (1984:769). Nevertheless, there does seem to be some correlation between some of the larger royal estates in the Domesday Survey, such as Eastham, Wirral, and Farndon (gaz 3.3), with curvilinear churchyards (if Bromborough Church (gaz 5.18) can be associated with Eastham.)

The Area's status in the seventh and eighth centuries, as a thinly-populated periphery between Powys, Mercia and Northumbria (above, cap 2.2), allowed Anglo-Saxon encroachment from Mercia into Cheshire (Dodgson 1967:36). There was also apparently a small number of Northumbrian settlements in south Lancashire. Principal among these was Winwick (gaz 9.1), a possible royal residence to which the Southworth Hall Farm cemetery (gaz 9.2) may have been linked (Freke & Thacker 1988:34-6). Mercian settlement was densest in Broxton, Eddisbury and Wirral Hundreds (Sylvester 1963:2). A number of *bur-* prefixes in the Dee Valley (Gelling 1989:149) imply associated fortifications, but rather than contemporary, these are likely to have been iron age sites on or near the Anglo-Saxon *-tun*, as in Burton, Wirral (gaz, 5.2).

Kenyon (1984:414) stated that: 'settlement in Lancashire and Cheshire is essentially determined by purely geographical factors such as soils, drift geology, relief and climatic regime'. The physical environment was clearly very important. Anglian names in *-ham* and *-tun*, and their dependent settlements in *-ingham,*

-ingtun and *-leah* often occur on elevated ground, with these suggested early secondary names encroaching on the lower and wetter ground around (ibid:766). For example, Anglo-Saxon names in *-halh* are particularly common in south-west Lancashire and Cheshire (Saughall, Saughall Massie (Wirral); Kelsall (Eddisbury); Grappenhall (Bucklow); Hale, Halsall (West Derby). The *-halh* suffix denotes 'a small valley' or 'rise in the marsh' (Gelling 1984:106-7), giving a clear indication as to how the local variations in topography in the lowland landscape moulded Anglo-Saxon settlement patterns.

Kenyon's expressed geographical-determinist view of settlement history led her to date the development of settlement patterns in Lancashire and Cheshire by reference to an index of geographical site-values (1984). She was dismissive of continuity as a factor in settlement distribution, except for some of the Lancashire estates (ibid:765), and implied that the Anglo-Saxon settlement was a relatively unimpeded process or *landnam.* A clear warning against this approach was sounded by G. Fellows-Jensen (1985:339):'Two facts must be borne in mind. The first is that the relative dating of the sites in an area only indicates the order in which they are likely to have been occupied and cannot provide an absolute dating for their occupation. A settlement on an unfavourable site might be of considerable antiquity. The second fact to to be remembered is that a sharp distinction must be drawn between the age of a settlement and the age of its name'. For the Lower Dee/Mersey Area there is, in fact, no question of Late Saxon settlement chronology and distribution having been moulded by geographical site-value *alone,* or even predominantly. The entire area, with the possible exception of the poorest land in the Welsh hills and on the coastal fringe of West Derby Hundred, was already a complex palimpsest of Roman and post-Roman features. Further study of these, particularly by archaeologists, would contribute greatly to our understanding of the relative importance of settlements and how the landscape *worked.*

When attempting to understand the territorial structure in the Late Saxon period, it seems equally plausible *not* to minimise the survival of earlier territorial structures in Lancashire and Cheshire during the seventh to ninth centuries. A number of the churches and, by implication, their parishes survived and a number of British place-names survived (above). The implications of the survival of

churches must be accorded due importance in the wider study of settlement continuity, as G.R.J. Jones stated: 'Alike in western and eastern Britain, sacred sites, whether pagan or Christian, appear to be associated with the *ornaments*[1] of a kindred and thus with nucleal lands' (Jones 1983:167). Continuity can also be adduced from the artefactual assemblages at a small number of coastal sites, most notably Meols. Furthermore, archaeological evidence for a settlement presence between the Romano-British and early Anglo-Saxon periods is possibly offered by the 'post-Roman ploughing' observed at Quinnell's site D at Rhuddlan (gaz 1.1) and at Lower Bridge Street, Chester (gaz 4.28). All of this does not add up to a convincing case for substantial continuity, but it does cast doubt on Kenyon's position. Moreover, Kenyon appears to base the substance of her argument for non-continuity at least in Cheshire on the supposed re-ordering of the estates away from the British Multiple Estate model. It is in this instance that Kenyon's almost exclusive reliance on geographical site-value may have led her to date some of the settlements as earlier than necessary, and simultaneously to underestimate the tenth-century political impact on the Anglo-Saxon territorial structure. Small-scale Mercian and Northumbrian settlement up to the ninth century may well have been accommodated within the loose, topographically-conditioned territorial structure of the Romano-British and post-Roman periods.

The features which *override* the British territorial infrastructure are not those which can be easily related to the early Anglo-Saxon presence. The hundreds (above, cap 2.3.1) were originally a military institution. The tenth-century *County Hidage* (Sawyer 1978:248) records the value of Cheshire as 1200 hides, and the Domesday Survey recorded twelve hundreds for the full county (excluding unhidated Atiscros). The presence of Chester within the hundredal system suggests that the hundredal system recorded in the Domesday Survey (whatever its remote territorial origins) must have dated essentially to the period *after* the foundation of the burhs, but before the *County Hidage*. Furthermore, pre-tenth-century origins for the hundredal structure are further discounted by the hundredal borders having apparently overriden existing parish boundaries, such as at Great Budworth, where the parish lies in Bucklow (Tunendune), Eddisbury (Roelau) and Middlewich Hundreds (Thacker 1987:267).

[1] my italics

Such an important factor in the imposition of a new and re-ordered territorial structure is more easily related, not to a cessation of settlement *before* the earlier Anglo-Saxon arrival, but to the militarization of the area connected to the *burh* policy of the Mercian and West Saxon authorities in the early tenth century, together with the (near) contemporaneous Scandinavian settlements. The extension of settlement to the wetlands and the coastal fringes, the establishment of royal estates at strategic points (especially around Chester) and the introduction of Mercian cults into the ecclesiastical structure (cf. Thacker 1982) suggest that the territorial organization of the Late Saxon settlements and the exploitation of the landscape were determined at least as much politically as geographically. The wider pattern of royal establishment of estates, the more important of which were mostly granted to Mercian noblemen during the tenth century, reflects a conscious realignment of landholding, with its consequent impact on patterns of production and redistribution.

3.2.2 The Late Anglo-Saxon and Scandinavian Settlements

Sawyer and Thacker (1987:333) pointed out: lq No neat equation can be made between estate and settlement, and the [Domesday] Survey should not be regarded as in any way a comprehensive indicator of the latter'. Despite its omissions (above, 2.3.1) it is the only guide whatsoever to population and the only extensive guide to landholding in the pre-Conquest period.

The population of the manors (fig 8) shows a concentration in the Lower Dee Valley. This can hardly be conditioned purely by the relief and land quality since this flat boulder clay and alluvial land is found extensively and evenly across western Cheshire and southern Lancashire. This central area of density had a number of outliers such as the estates of Eastham (Wirral), Tarvin (Eddisbury) and Halton (Bucklow). For the hundreds north of the Mersey, the Survey merely records the entire population for the *caput* manor, which may indicate that aspects of the British multiple estate system was still in existence (above, cap 3.2.1), see also Higham (1979:49). A similar geographical concentration is visible in the Domesday record of ploughlands and meadowlands (fig 9), where the highest values and densest areas of cultivated land are also within easy reach of Chester (and, to a lesser extent, Rhuddlan). This pattern is probably slightly less reliable than population as a guide to the concentration of production, since ploughlands may have been used in the Domesday Survey as a fiscal device, not wholly reflecting their actual distribution (Harvey 1985:86ff). The Domesday Survey of course records (with some inconsistency) a picture of population distribution and landholding in the late eleventh century, when the political context of settlement had been relatively stable for several decades as compared with the tenth century (except in North Wales, above, cap 2.2).

The tenth century involved a considerable *intensification* of settlement and land-use, with marginal land being brought into agricultural use (Kenyon 1984:744-45). Kenyon (ibid:751) suggested increased woodland clearance as names in *-leah* reached further up slopes, and she interprets the *bordarii* or smallholders in the major Domesday estates as evidence for the colonization of marginal land around estate centres. J.B. Innes (forthcoming) has synthesised pollen diagrams for the environmental history of the post-1974 county of Merseyside. For the later first millennium AD, Innes's analysis shows evidence for the occupation of the coastal

fringes, major clearance on heavy clay soils on boulder clay and a change from arable farming to a mixture of arable and pastoralism. Norton (1978:31-3) also found, in a more limited programme of pollen research on the North Wirral coast, that the arable pollens *Salix* and *Gramineae* increased towards the end of the first millennium AD, indicating drainage and more intensive cultivation of this marginal wetland area in the hinterland of Meols. It is to be hoped that similar future programmes of palynological research might illuminate aspects of the landscape history of Cheshire and Clwyd (see also below, cap 9.2.1).

It is a reasonable hypothesis to suggest that this increasing population and expanding land-use in the tenth and eleventh centuries would have been overseen by the royal and ecclesiastical authorities, and much of the increased production channelled into the burhs. The Domesday hundreds all centre on large estates which were mostly in the possession of the king or the earl before 1066. Exestan Hundred centred on the Eyton estate, held by the Bishop (Morgan 1978:268d). The distribution of estates held by Earl Edwin before the Conquest (fig 10) shows a clear concentration around Chester. The distribution also includes a strong locational bias towards river crossings and roman roads. The record of mills, smithies and fisheries in the Domesday Survey (fig 11) also shows a locational bias towards the Dee Valley and around Chester, with further concentrations in the Weaver Valley at the earl's estates of Frodsham and Weaverham, and in the Manor of Rhuddlan.

The strategic location of the royal estates at points of communication (and around Chester) suggests an active official interest in the landscape, communication and the means of re-distribution of production. This gives further weight to the view that after 907 the interests of the royal and ecclesiastical authorities in this north-western periphery of Mercia were by no means restricted to the interiors of the fortified burhs. The royal estates show a strong correlation with the burh sites, and it appears most probable that they were taken into royal control in the early tenth century. The royal estate at Farndon was certainly in existence by 924 since it acted as the base for Edward the Elder's campaign against the rebellion of that year, and the scene of his subsequent death (above, cap 2.2).

The official presence at key points in the landscape served not only to control the neighbouring settlements and communications, but to provide a secure source

of food and raw materials for the urban population in Chester. A substantial proportion of the urban inhabitants was engaged in *secondary production* such as smithing, tanning, building, trading and minting (below, cap 4.2). The viability of the urban centre can only have been secured by the supplies from the hinterland estates where a higher proportion of the population would have been engaged in *primary production* such as cultivation, animal husbandry, forestry and hedgerow foraging. The *productive surplus* of the estates must have counted as a central factor in the whole strategy of establishing fortified centres of population (see also below, cap 8.7).

In western Cheshire, the area nearest to, and most associated with the burh of Chester, the rural settlement pattern displays a tendency towards nucleation[2]. Large villages such as Farndon, Tarvin (held by the Bishop in 1066), Christleton, Worthenbury, Malpas, Tilston, Eastham and Frodsham (held by Earl Edwin in 1066), dominate the settlement pattern. Evidence for common/ open-field agriculture (Williams 1984, see also below, cap 9.2) is also more extensive in the Dee Valley and immediately to the east than elsewhere in the area. Farndon certainly passed from the direct control of the king to the bishop between 924 and 1066, and it is a strong hypothesis that the other major nucleated settlements held by the earl were obtained from the crown in similar fashion. The creation or acquisition by the king (and subsequently the earl and bishop) of the rights to estate foci in the tenth century may represent a crucial motivating factor in settlement nucleation, whereby the resources and population of an estate gravitated towards the centre (see also below, cap 8.2). The estate foci in the later villages acquired increasing local significance as centres of legal administration, for the payment of dues and for the redistribution of production.

Further away from the influence of the burh/estate apparatus, the pattern of rural settlement is essentially dispersed. In the Welsh borderlands and north of the Mersey, it is characterised generally by individual farmsteads. The general absence of nucleated villages in south Lancashire was remarked upon by M.A. Atkin (1985:171), who traced in the distribution of place-names in *-ley/ -lea,* (for Leyland Hundred) a form of dispersed pastoralism which she argued was evidence for the

[2] cf. Hooke 1981, 1983, 1985 for areas to the south and east in Mercia.

survival of the multiple-estate structure. The dispersed settlement pattern is particularly marked in the north and west of West Derby Hundred. Dispersed, rather than nucleated, settlement is characteristic of other areas of strong Scandinavian influence in England (cf. Unwin 1988:86).

The small scatter of eighth- and ninth-century Anglo-Saxon (Mercian) settlement along the west bank of the Dee must have been consolidated in the tenth and eleventh centuries, in addition to an incoming Hiberno-Norse element. Estates held before the Conquest by Earl Edwin (Morgan 1978:268d) at Dodleston (gaz 1.11), Hawarden (SJ 315 656) and 'Radington' (circa SJ 24 72, in the vicinity of Flint), point to a concentration of earldom estates on the Roman road linking Chester and the River Clwyd. The Manor of Rhuddlan, including a number of townships to the east of the Clwyd (Morgan 1978:268, 269), seems to have acted as the immediate hinterland of the burh. It is, however, difficult to assess the changes in landholding caused by the Welsh takeover in the eleventh century, and whether the estates recorded in 1086 were taken by the Earl in the 920's after the foundation of *Cledemutha* or following the defeat of Gruffydd ap Llywelyn in the 1060's (above, cap 2.2).

Late Saxon rural settlement has left little trace in the form of farmsteads and buildings, perhaps because of a high level of settlement continuity into the medieval and modern periods. Nevertheless, recent research has expanded the archaeological record. The enclosure at Farndon (gaz 3.4) is as yet undated but may prove to be an early medieval farmstead. The recent excavation at Moreton (gaz 5.14) revealed fragments of what appears to be a tenth-century building. Some Iron-Age and Romano-British sites in the area such as Heronbridge (gaz 1.12) may have had later Anglo-Saxon occupation phases, a question which can perhaps only be answered by trial excavation. The Castle Ditch hillfort at Eddisbury (gaz 6.3) is the most intriguing of these sites due to its historical significance (above, cap 2.2). Despite excavation at the site in 1935-8 (gaz 6.3), archaeological evidence for the burh at Castle Ditch is still inconclusive. Stone sculpture at church sites (R.N. Bailey, forthcoming[3]) remains the most common evidence for a pre-Conquest presence in individual parishes. Its relevance to settlement archaeology is, however, at best limited since it does not convey any information about the contemporary

[3] British Academy, Corpus of Anglo-Saxon Stone Sculpture

local topography. Its relevance to analysis of contemporary culture, belief, social structures and ethnicity is much greater (below, cap 8.5).

The Scandinavian element in the settlement topography of the Lower Dee/ Mersey Area has traditionally been associated with the Hiberno-Norse group under Ingimund (above, cap 2.2). The distribution of parallels for many of the finds from Chester and Meols (below, cap 5) confirms the strong relationship between the Area and other Norse coastal settlements around the Irish Sea (see also below, cap 8). Commercial contacts between Chester, Meols and the Hiberno-Norse trading settlements of Ireland (below, cap 6.4; cap 7) further emphasise the importance of Irish Sea contacts to the inhabitants of the Lower Dee and Mersey coastlands.

The distribution of Scandinavian place-names (fig 12) is heavily weighted in favour of the northern half of Wirral Hundred and West Derby Hundred, with some evidence for the presence of a Scandinavian colony or district inside the burh of Chester (below, cap 4.1). There is a small number of habitative names straggling south and east of the Wirral into Eddisbury and Bucklow Hundreds, minor topographical names are recorded as far south as Tarporley (SJ 62 55) (Barnes 1950:88). From the evidence of place-names, any Scandinavian settlements west of the Dee in Atiscros Hundred appear to have been very limited indeed. Nevertheless, the three recorded (topographical) names, Axton (ON *askr*, ash + OE *-tun*); Kelston (ON *kelle/kelda + stan*); Linacre (ON or OE *lin + -akr*, acre), are all in the Llanasa and Whitford districts (Charles 1938:228-30; Richards 1975:55). Whitford, Llanasa, Holywell and Flint have a number of names in *-tun*, suggesting an established non-Welsh presence. The Maen Achwyfan[4] (gaz, 1.4) points to an Anglo-Scandinavian presence in Whitford in the eleventh century. In the vicinity of the cross are three (undated) grave mounds (gaz, 1.5;1.6;1.7). Their proximity to the Maen Achwyfan raises the possibility that the mounds may be post-Roman, and that this area (fig 43) was of wider religious significance. Pentre Ffynnon Hall, the farm immediately to the north-east of the monuments, is sited on top of a hill (fig 43) and may bear considerable interest for future investigation as an early settlement site. The 'Viking' grave at Talacre (gaz 1.3) might have provided more conclusive evidence for the Scandinavian impact on north-east Wales if it had been better recorded and the finds taken more care of. A coastal location in dune sand

[4] English: 'The Stone of Lamentation'

is, however, a common feature of Insular Viking graves. The nearest parallel for the Talacre grave is the 1945 discovery of a female inhumation (in a wooden coffin with decorated comb fragments) at Benllech, Anglesey (Edwards 1985). Isolated Viking graves have been discovered in comparable contexts at Larne, Co. Antrim (Fanning 1970) and Eyrephort, Co. Galway (Raftery 1961). Edwards (1986:40) suggested that the Benllech grave is more indicative of "casual contact" than actual settlement. The Irish examples (above) have been similarly interpreted (Graham-Campbell 1976:42). Graham-Campbell (1980a:381) warned against interpreting all grave-goods as necessarily indicating paganism. The Talacre inhumation could therefore have occured well into the tenth century and need not necessarily be thought of as ninth century.

For the areas of densest Scandinavian settlement, the most recent informed discussion of the place-names is by G. Fellows-Jensen (1985:363-374). In this and her (near contemporary) article on Scandinavian settlement in Man (1983:48-50) she expanded on a number of themes originally suggested by Dodgson, Barnes and others. Wirral Hundred contains twelve out of fifteen habitative Scandinavian names in the Area south of the Mersey, and West Derby Hundred contains all eleven habitative names north of the Mersey (fig 12). Within these two hundreds, Scandinavian names are not evenly distributed. In Wirral, ten of the twelve habitative names in *-by* are located in the north and west of the peninsula. In West Derby, there are two broad concentrations of habitative names, on the coastal fringe and Shirdley Hill sand in the north/centre of the Hundred, and around the royal manor of West Derby slightly further to the south. This pattern is echoed in the distribution of topographical names, which are more widespread, especially in the north of West Derby Hundred. The clear majority of habitative names in *-by* led Fellows-Jensen (1983:48-49) to suggest that there was a Danish element amongst the Scandinavian settlers in the Wirral. She interpreted these not as a Danelaw influence but as a secondary Danish element obtained through contact with the Isle of Man. Unlike in areas of predominantly Norwegian settlement in Ireland and Western Scotland, names in *-by* are relatively common in Man. Fellows-Jensen stopped short of advocating a clear Man-Wirral migration (ibid:49).

A possible archaeological parallel for a particular form of Scandinavian settlement in Man is represented by the promontory fort at Burton Point (gaz 5.2). This site

seems to have had two names in the early medieval period. The earlier is likely to have been the *burh* of Burton (Dodgson 1972:211). The promontory seems also to have given the [O Scand] name *Ness* to the township to the north (Dodgson 1972:220). G. Bersu's excavation at Vowlan, Ramsey, Isle of Man (Bersu 1948), and P.S Gelling's excavations at Cronk ny Merriu and Close ny Chollagh (Gelling 1952;1958) demonstrated the possibility that the Scandinavians in Man, when still militarised, took advantage of earlier coastal fortifications (Bersu 1968:86). C.D Morris (1982:83) pointed out the considerable dating problems associated with the supposed Viking-period houses in the Manx promontory forts, compounded by a lack of stratigraphical coherence and artefacts. It seems equally likely that the Manx buildings could be medieval (ibid.). Nevertheless, the topographical similarity to Burton, combined with the name *Ness* makes the comparison an intriguing one.

Further evidence for ethnic diversity amongst the 'Scandinavian' settlers is found in the minor name Arrowe, Wirral (SJ 27 86),which is possibly derived from O Celt *airige,* a shieling. This is parallelled in West Derby at *Aynesargh* (SJ 42 99, now lost). A clear western Celtic element (O Scand: 'Irish farm') is also implied by the placename Irby, Wirral (SJ 256 845). The moated site at Irby Hall (SJ 2589 8445) is likely to have been the site of the *by*, although it is now much altered and there seems no potential for any extant archaeological remains from the period. Church dedications to the Irish saints Bridget (West Kirby) and Patrick (Heswall) may be pre-Conquest (see also Chester, below, cap' 4.1).

Through geographical proximity, similarity of landscape and the relative proportions of Scandinavian habitative placenames in *-by*, the Scandinavian settlement of West Derby Hundred can be accorded a similar ethnic mix to Wirral. In fact there is every reason to suppose that the two areas of Scandinavian settlement were extremely closely linked in all respects. The ethnic complexity illustrated above, together with the strong Wirral-West Derby links, suggests that the Ingimund legend can no longer be accepted as the *only* context for Scandinavian settlement (cf. also Thacker 1987:255).

The nature of the Scandinavian settlement is connected to the overall intensification of land-use observed throughout the Lower Dee/ Mersey area in the Late

Saxon period. Kenyon (1984:730) stated that "controlled Scandinavian settlement [was] largely confined to the poorer quality land along the coast and along the edge of mossland". Indeed the blown-sand periphery of Wirral and South Lancashire does have a predominance of Scandinavian topographical names in ON *melr,* (Meols) sand-bank or dune. The occupation of the coastal fringes observed in pollen records by Innes (above) is attributed to the Scandinavians due to the high incidence of Scandinavian place-names (J.B. Innes, pers comm). However, the more general idea of Scandinavian settlement taking place on poor land seems to owe much of its inspiration to the ever-recurrent Ingimund episode. This idea was originally suggested by Wainwright (1948; 1975:85), and seems to have dominated later writers' views of the settlement. Many of the Scandinavian habitative names in *-by* such as Raby, Irby, Frankby and West Kirby (Wirral) and Great and Little Crosby (West Derby) are *not* on land of poorer quality than neighbouring English names (eg. Heswall, Brimstage, Woodchurch, Bidston, Bromborough (W); Bootle, Walton, Maghull (WD). The common location in all of these cases is a boulder clay/ sandstone-outcrop interface (figs 13 and 14).

The consequent impression that the Scandinavian settlers were not, in their own enclaves, politically less powerful than their English or Welsh neighbours is emphasised by the place-name evidence for the Scandinavian takeover of existing settlements. This is implied in the Scandinavian names in *Kirkju-byr* (Fellows-Jensen 1985:371): West Kirby, [Kirby in] Wallasey, Kirkby. At West Kirby, (gaz 5.10) the curvilinear churchyard may further indicate a pre-Viking church. 'Hybrid' names involving a Scandinavian element with an English *-tun* are common (Gayton, Larton, Storeton), and there is an example in Ruthwaite (Melling, West Derby, now lost) of an English specific *ruh* (rough) with the Scandinavian generic *-thwaite* meaning 'clearing' (Fellows-Jensen 1985:248). Furthermore there is one example of a 'Grimston' -style hybrid (a Scandinavian personal name with a *-tun*) in Thurstaston (gaz 5.9). The *-by* Greasby (SJ 258 875) was renamed after its earlier English form in *byrig, burh* (Dodgson 1972:291) implying the Scandinavian takeover of an English fortified settlement. The Wirral names Pensby (SJ 267 836) and Carnsdale (SJ 282 828) are Scandinavian/Welsh hybrids (Fellows-Jensen 1985:367), suggesting Norse takeover of formerly British land.

Hybrid habitative names occur very occasionally outside the densest areas of Scandinavian settlement, as at Wivercot, (Broxton H, now lost; Dodgson 1972:37) and Keckwick (Bucklow H, SJ 5783; Fellows-Jensen 1985:203). These isolated names can only imply small-scale takeover within a landscape indisputably under Mercian authority. For northern Wirral, however, twelfth-century documentary references to the minor Hundred of Caldy (above, cap 2.3.2) combine with some placename evidence to suggest an enclave of political autonomy or semi-autonomy containing the majority of the Scandinavian settlements. The Domesday placenames Raby (SJ 311 798, 'village at a boundary'; Dodgson 1972:229) and Hargrave (SJ 328 796, 'boundary wood; Dodgson 1972:228) are both on or near the line suggested by Dodgson (1957:306), north of which the holdings of 1086 were 'held in compact parcels by four of the most powerful Norman barons of Cheshire'. Further place-name evidence for local autonomy includes the Wirral township Thingwall, the centre of which can be identified with Cross Hill (gaz, 5.5, fig 58). The name Thingwall, ON 'field where an assembly meets' (Dodgson 1972:273), is parallelled in other areas of Norse settlement around the Irish Sea (below, cap 8.3). Cross Hill itself is an enigmatic site, partly since there has been no archaeological investigation. The mound at the summit (gaz 5.5) gives a commanding view of the mid-Wirral countryside, despite the modern construction of a large overground reservoir a short distance to the west. Other *thing* sites, most notably the Tynwald Hill at St. John's, Isle of Man, consist of a raised, man-made mound (in this case terraced). H. Swainson-Cowper (1891:2) described and illustrated a possible thing site at Fell Foot, Little Langdale, Cumbria. It consists of a man-made mound of roughly rectangular shape in four or possibly five tiers or terraces. It is compared (ibid:3) with the Tynwald mound. The Little Langdale thing mound was further remarked upon by N.J. Higham (1985:36) in his study of the Scandinavians in North Cumbria. No tiers are as yet discernible at the Wirral site. They are likely to have been ploughed out (if they existed at all) but may be possible to identify through more detailed survey and aerial photography.

Dodgson (1957:310) remarked on the apparent relationship between Thingwall and the minor place-name Hadlow (OE 'Eada's mound') in Willaston, the Hundredal Centre. W.F. Irvine suggested in 1893 that Eada's Mound could have been the meeting place for the English part of the hundred (1893:72-8). The two sites are

equidistant, on either side, from the border suggested by Raby and Hargrave and further suggested by Dodgson's study of the post-Conquest landholding (1957:306).

Despite the lack of archaeological evidence for a thing site in West Derby Hundred (gaz 10.3), the presence of the place-name Thingwall near Roby (SJ 430 905) which is etymologically identical to Raby (Fellows-Jensen 1985:38), gives reason to suppose a very similar situation to Wirral. The Manor of West Derby was held by the King in 1066 (Morgan 1978:268d). Consequently, the autonomy of the Scandinavian enclave north of the Mersey is likely to have been displaced by the royal authorities before the Wirral enclave, which was apparently only subsumed in real terms after the Conquest.

The apparent autonomous status of the Scandinavian settlements on either side of the Mersey belies the idea that the Scandinavian settlers were not masters of their own villages. The coastal trading settlement of Meols (gaz 5.12) was located well within the Hundred of Caldy and would primarily have been under the territorial control of the local landowners (cf. also below, cap 8.5), of whom Leofnoth is recorded in the Domesday Survey as holding the Meols Township (above, cap 2.3.1). Meols is part of West Kirby Parish, which seems to have been the centre of the Hundred of Caldy. St Bridget's Church at West Kirby is the mother Church of Caldy township and the site of a rich collection of tenth- and eleventh-century stone sculpture (gaz 5.10). The territorial autonomy of the Norse settlements in Wirral, their commercial contacts around the Irish Sea, and their relationship to the Mercian burh system is further discussed below, chapter 8.

3.3 Summary

The distribution of rural settlement and its changes over the second half of the first millennium AD were by no means even or predictable. A detailed study of the landscape and the potential in the topography for communication (cap 3.1) has only helped in part of the interpretation of settlement and rural production. Concentrations of population and agricultural activity (as indicated in both historical and archaeological sources) have been shown to match poorly the natural availability of land and resources, with strong concentrations across areas of comparatively little physical difference from township to township. The arguments advanced by D. Kenyon amongst others for the availability of natural resources as

the primary influence in Late Saxon settlement location are questioned in the light of the present analysis. The locations of political centres and distinctive territorial structures have been emphasised here. The larger urbanised burhs in particular, but also smaller aristocratic estate centres, were arguably a major or pre-eminent influence on the Late Saxon (and Scandinavian) settlement topography.

The settlement of the Lower Dee/ Mersey Area displays considerable variation, ranging from sparse and dispersed in the Welsh uplands, through a denser, nucleated pattern in the Cheshire lowlands and Dee Valley, to a dispersed pattern on the sandy plain of south Lancashire. Whilst an ecological explanation may be advanced for this variation (since land quality in these three zones differs), the conclusion reached here is that the nucleation observed in Cheshire is primarily due to its proximity to, and relationship with, the urban burh of Chester. Rural settlement archaeology of the ninth to eleventh centuries (in this area at least) must be interpreted in the context of rural-urban relationships; it can hardly be a viable exercise to seek the answers to the character and function of rural sites without looking beyond the confines of their immediate environs.

CHAPTER 4: THE BURHS: OCCUPATION AND PRODUCTION

4.1 Burh Topography

The burhs of north-west Mercia present a variety of function, size and longevity which can only support D. Hill's point (1978:213) that it is a failing of medieval archaeology to regard all burhs as essentially similar. The Mersey valley burhs, Runcorn (gaz 7.1) and Thelwall (gaz 7.4), have left least trace archaeologically. They both appear to have been under ten hectares in size (cf. the vague references to Runcorn, and if the possible earthwork at Grappenhall is taken as part of a square). Neither site is mentioned in the Domesday Survey, indicating that they no longer counted as significant settlements by 1066. Both of the Mersey burhs are very close to a large estate centre, Halton (for Runcorn) and Warrington (for Thelwall). Both of these estates have very similar positions to the probable burh sites on lines of communication and acted as the centres of the Domesday hundreds of *Tunendune* and Warrington (above, cap 2.3.1). The minster at Runcorn (gaz 7.2) became the mother church of Halton and was significant for the imposition of a Mercian cult on the parish. It is therefore most probable that administrative and economic functions, originally located within the burhs during the period of territorial expansion and relative danger in the early tenth century, were moved to the estate centres later in the tenth century. The burhs would consequently have retained only their function as a refuge, if even that. It is possible therefore to suggest a two-part strategy for Mercian domination of the Mersey valley. Firstly the establishment of fortified strongholds which allowed the creation of a central estate around them. Secondly, the gradual eclipse of the burh sites in favour of the estate centres, as the Mercian hold on the landscape became more secure and economic questions began to outweigh military needs.

The Castle Ditch Hillfort, Eddisbury (gaz 6.3), shows similarly little evidence for permanent settlement in the Late Saxon period. Even if Varley's phasing (see gaz 6.3) is accepted, there is no indication that there was ever a centre of population, trade and production at the site. The identification by D. Hill (1978:223-24) of 'emergency burhs' during the reign of Æthelred II suggests an earlier parallel in north-west Mercia. The temporary occupation of Old Sarum, South Cadbury and Cissbury, all iron age defended sites, enabled the West Saxon burh 'apparatus'

from Wilton, Ilchester and Chichester to survive a period of instability. The hill-forts were then apparently at least partly evacuated in favour of the established settlements (ibid.). The Æthelflædan refortification of Eddisbury is likely to have been the result of a comparable policy; the creation of a temporary fortified encampment to protect the Mercian forces over a few seasons. Military significance would have passed quickly on to Runcorn. This can be seen as part of a more longterm aim of establishing control and subsequently more permanent settlement. The burh at Chirbury, Shropshire (Rahtz 1977:114) is the nearest parallel within western Mercia. Eddisbury, although mentioned in the Domesday Survey, was not an important estate in 1066 and was held by a freeman, not the Earl (Morgan 1978:263c,d). The more important estates at Weaverham and Frodsham in the east of the hundred and at Dunham on the Hill in the west superseded the burh as centres of royal interest in the hundred.

The other burh in the north-west Mercian chain which could be characterised as (at most) a shortlived success is *Cledemutha* (gaz 1.1) which was almost certainly at Rhuddlan. Rhuddlan was taken repeatedly by the Welsh, most notably for seven years in the 1050's and 1060's (above, cap 2.2). Unlike the Mersey valley sites and Eddisbury, however, the site retained strategic importance throughout the period and was fortified by the Normans. There is no hint at Rhuddlan (as at Runcorn, Thelwall and Eddisbury) of the focus of Mercian interest moving to a nearby estate (although the surrounding Manor of Rhuddlan was a distinct hinterland in 1066/1086). The ever-present Welsh threat to the Late Saxon presence on the Clwyd would have prevented any move to de-commission the defences. Most of the evidence for a Late Saxon presence at Rhuddlan is from Quinnell's sites A and T (gaz 1.1, fig 41). Manley's excavation of the 'Town Ditch' (below, pp 214-5) presents a number of difficulties in interpretation, but does demonstrate through radiocarbon dating that at least phase 2 represents activity in the period. Phase 3 may not, however, be directly linked with phase 4. The case for direct stratigraphical continuity is not convincingly demonstrated in the published report (Manley 1987:18). Manley states that phase 4 'buried' phase 3, but does not allow that this may not have taken place for some considerable time. The fires (phase 2, Manley, ibid.) do not need to be interpreted as necessarily related to the construction of the main defences, casting considerable doubt on the dating of the ramparts. If the dates from the fires are disassociated from phase 4, the

dating of phase 4 then becomes dependent on only one radiocarbon sample (HAR-5169). The morphological similarity between the town ditch and the medieval defences at Flint Castle (see gaz 1.1) adds to doubt as to whether the substance of this defensive system may not be related to the medieval borough at Rhuddlan rather than Cledemutha. Manley's calculation of the interior area of Cledemutha as thirty hectares (1987:41) is based upon his interpretation of the line of the Town Ditch. This is compared (ibid.) to burhs in the West Saxon heartland at Wareham, Wallingford and Cricklade. When compared to other burhs in north-west Mercia, however, thirty hectares seems very large indeed. Only Chester was of this order of size. Moreover, the lines of the Norman defences as picked up in Quinnell's site A, enclose approximately eight hectares, a figure far more comparable to Runcorn, Eddisbury and [possibly] Thelwall. That the Saxon defences should be *so much* larger than the Norman enclosure casts further doubt on Manley's theory. If the line of Norman defences are taken as an alternative indication of the extent of Cledemutha, Manley's phase 2 can be interpreted as extra-mural actvity in the Late Saxon period.

The Domesday Survey records eighteen burgesses, a mint, iron mines, fisheries and mills at Rhuddlan in 1086 (Morgan 1978:269a), indicating a diversified economic base. With defences, a [probable] market, its role as the centre of the Lower Vale of Clwyd and its special legal status with burh laws based on those at Hereford (Morgan 1978:269b), Rhuddlan in 1086 conforms to at least five of the twelve characteristics of an early medieval town suggested by Heighway (1972:3.8-10) and Biddle (1976:100). Archaeological excavation within the centre of Late Saxon and Norman Rhuddlan has not been extensive enough to show any evidence for a planned street-system or plots and houses of 'urban type' although the buildings excavated at Quinnell's sites A and T are common in other urban contexts. There is no numismatic evidence for a pre-Conquest mint signature for Rhuddlan, although any production may have been signed as Chester. The possibility of a mint in the pre-Conquest period suggests that the substantial apparatus present at Chester for the administration of the port (above, cap 2.3.1) may have been present to some degree at Rhuddlan. Rhuddlan's proximity to Gwynedd may have enabled the authorities to tax Anglo-Welsh trade, probably in minerals and livestock.

The domestic structures excavated at Quinnell's sites A and T are restricted to 'sunken-featured structures' or *Grubenhäuser*. These are not more closely dated than to the tenth century. They are similar in their suggested form and dimensions to the structures excavated at Hamilton Place (gaz 4.22), Hunter Street School (4.25) and Lower Bridge Street, phase III (4.28), Chester, see also below. It is difficult to establish a strict comparison due to the very vagueness and amorphousness of the structures in the archaeological record; nevertheless these huts are the only form of domestic structure which has been determined for more than one of the north-west Mercian burhs. The environmental evidence from both Quinnell's and Manley's excavations, whilst disappointing in scale, indicates both cultivation and foraging, together with some animal husbandry. Whilst Cledemutha must have depended to an extent upon the rich countryside of the Vale of Clwyd, the burh must also have been supplied from Chester. The sea route is almost certain to have been essential to the security of Cledemutha, allowing the burh to be supplied from Chester, (and possibly other Irish Sea ports) when the land route through the Clwyd Hills was under threat from either Gwynedd or a local insurgency, as in 924 (above, cap 2.2).

Chester represents in all respects the English capital of the North-West, and as recorded in the Domesday Survey conforms to all twelve of the criteria listed by Biddle (1976:100) for an early medieval town. Chester's fortification in 907 (above, cap 2.2) followed its re-capture from the Danes after 893-4. The former Roman fortress of *Deva Victrix* commands a high eminence above the Dee at the head of maritime navigation (fig 15), with visibility extending up and down the river and westwards to the Clwyd uplands. Archaeologically, the burh defences have not been convincingly documented. The palisade trench and the masonry structure on the site of the former Roman watergate at Linenhall Street (gaz 4.27) is the only indication of defensive structures after the Roman wall and before the post-Conquest/Medieval renovation of the entire circuit. The dating problems at the Linenhall Street site (cf gaz, 4.27) cast doubt on any identification of Æthelflædan defences. Whether defensive banks and ditches such as those found at Victoria Street, Berrington Street and Cantilupe Street, Hereford (Shoesmith 1982) and at sites in Tamworth (Rahtz 1977:14-15) existed at Chester is a matter for future research on the detailed sequence of the Roman and medieval walls.

There is, however, more evidence that the burh enclosure did not derive wholly from the Roman walls. D. Hill (1969:92), having analysed the early tenth-century document, the *Burghal Hidage*, argued for a close connection between the length of defences and the formula that every hide in a county supported one man to maintain the defences, and every *pole* required four men to defend it. Although the *Burghal Hidage* only refers to Wessex, the right of the King's reeve to call up one man from every hide in Cheshire for the maintenance of the city walls is mentioned in the Domesday Survey of Chester (Morgan 1978:262c,d). Cheshire was assessed in the [probably] pre-Conquest *County Hidage* at 1200 hides (Sawyer 1978:229; Mason 1985:37). Hill (ibid) argued that because Worcester's assessment in the *County Hidage* is the same as its assessment in the *Burghal Hidage*, the formula may stand for western Mercia in addition to Wessex. When the Burghal Hidage formula (approx. one man/ 4.125 feet of wall) is applied to 1200 hides, the wall length comes to 4950 feet (Hill 1969:92), or 1508 metres. An L-shaped defensive system, using the north and east walls of the Roman fortress and extending them to the Dee (cf. fig 16), would have been approximately 1500m long. At Gloucester, the Æthelflædan burh seems to have adopted a comparable scheme, using the east, south and north walls of the Roman fortress but apparently not the west (Heighway 1984:42). The western edge of Gloucester stands on the banks of the river [Severn], as does this apparent tenth-century extension to the legionary walls at Chester. Moreover, despite the very different pre-burh topography at Hereford (Shoesmith 1982:14-15;27), Tamworth (Rahtz 1977, fig 22) and Worcester (Carver 1980), these burhs effectively formed a C-shape along the rivers, including a substantial stretch of river frontage inside the defended area. This implies that the rivers were included in the defensive system to save resources (cf. Biddle 1976:135). The rivers, however, represented more to the organization of the burhs than merely a defensive barrier.

The ports and markets associated particularly with coastal or semi-coastal burhs such as Chester and Gloucester were central to the economic life of the towns and under considerable official control, as demonstrated in the Domesday Survey of Chester (above, cap 2.3.1). Maritime trade increased from the first years of the burh at Chester (below, cap 6.5. cap 7.1), and the Lower Bridge Street excavation (gaz, 4.28) demonstrates considerable habitation in the area between the Roman fortress and the river. The inclusion of the river banks and bridgehead *within* the

burh is not likely to have been merely the by-product of defensive expediency. It appears rather as the specific inclusion by the authorites of this potentially vital economic zone within their stronghold. At Worcester (another Æthelflædan burh founded on a Roman fortress site), the clear official link between the burh fortifications and the markets is demonstrated in a charter of 889-899, where the royal authorities granted half of their rights to the bishop (Whitelock 1979:498). At Bristol, the topographical potential for a port was suggested by Walker (1971:4) as the primary reason for the growth of the Late Saxon town.

The Late Saxon port of Chester (Griffiths, in Ward, forthcoming; also cap 7, below) is known chiefly through the archaeological and historical evidence for overseas trade. The geographical limits of the port in the Late Saxon period are not clear. A number of post-Conquest documents indicate that the authority of the port extended to the outermost point of the river navigation. A charter of the Black Prince in the fourteenth century confirmed the right of the Mayor to tax shipping as far as *Arnald's Eye* (Hilbre Island, gaz 5.11), which was reiterated in Robert de Eton's claim to the Port Sergeanty and a charter of Henry VII (Morris 1894:458,500,524). If the port's area did stop at Hilbre, this places the limit in interesting proximity to Meols (gaz 5.12) which is thus the first anchorage and port *outside* Chester's suggested limit.

The physical evidence for the port in the form of a contemporary waterfront has so far proved completely elusive (Strickland 1981). There are, however, a number of possible locations for waterfront activity. The original date of the weir separating maritime and riverine navigation is unknown, but may be in the Roman period. This separation is likely to have meant that there were at least two waterfronts, above and below the weir. Mason (1976), in a study of the Roman and post-Roman landscape of the city, suggested that the arm of the river following the western wall of the fortress had silted up by the Late Saxon period (ibid:20), making the 'Roman Quay' outside the western wall obsolete. The centre of waterfront activity is likely therefore to have been along the southern edge of the burh above and below the bridge (fig 16). The Nun's Field's Creek may have still been in use as a drying anchorage, and the Souter's Lane Creek upstream of the bridge is also a possible site. Confirmation of the importance of the southern area of the city and river banks in the twelfth century is contained in the *Liber Luciāni de Laude Cestrae,*

(Taylor 1912), written in Chester at the turn of the twelfth/ thirteenth century (see also cap 7.1, below). Lucian wrote:
Chester also has beneath its walls a beautiful river abounding in fish, with a harbour on its south side where ships from Aquitaine, Spain, Ireland and Germany unload their cargoes of wine and other merchandise. (trans, M.V. Taylor, 1912:46).

The evidence for pre-burh occupation in Chester is very slight, consisting of phases I and II at Lower Bridge Street (gaz 4.28), a possible ninth-century corn-drying oven at Abbey Green (gaz 4.1) and the historical evidence for the minsters of St. John and St. Werburgh (above, cap 2.1). A comparable fifth to ninth-century lack of continuity is also present at Gloucester (Heighway 1984:39), where Heighway (ibid:40) suggested that the population was slight.

Despite the probable inclusion of large areas of land which were extra-mural to the Roman fortress, the surviving elements of the Roman topography were influential in moulding the layout of the burh. The details of Roman survival into the medieval period have been discussed by T.J. Strickland (1984,1988). The four axial Roman streets remained essentially in use, although there were some encroachments on the northern sides of Watergate and Eastgate Street by the medieval period (1984:20). The most radical readjustment appears to be the forcing of the northern line of Northgate Street through the former Principia building at the centre of the fortress. It had formerly split into two arms on either side of the Roman principal building. St. Peter's Church (gaz 4.36), a Late Saxon foundation, stands on the present Northgate/Eastgate Street corner, within the area of the Roman Principia. Like Watergate Street and Eastgate Street, Bridge Street had narrowed considerably by the medieval period with encroachment from its western edge onto the Roman street; it is not clear whether this occurred before or after the Norman Conquest. The siting of two churches, St. Bridget's and St. Michael's (gaz 4.3; 4.29), erected directly upon either side of the former Roman Bridgegate, indicates that the southern wall of the fortress had lost any defensive meaning by the twelfth century. This adds to the indications that the defences of early medieval Chester included extra-mural land to the south and west. The other three gateways are likely to have remained in use (Strickland 1988:111) since their positions are consonant with the medieval street plan. The Eastgate survived as a Roman structure until the eighteenth century (Strickland 1984:19), whereas the masonry

structure recorded by Thompson at Linenhall Street (gaz 4.27) seems to represent a re-fortification of the ruinous Roman Watergate at an indeterminate date during the post-Roman/medieval period. Strickland (1988:112) further suggests that the line of streets around the outside of the wall of the Roman fortress, namely Pepper Street and Cuppin Street in the south and Nicholas Street in the west are derived from a Roman extra-mural circuit. The tenth/eleventh century intra-mural road excavated at Abbey Green (gaz 4.1) suggests that the burh defences may have had such a road along much of their length. Stratigraphically, the Abbey Green road seems to have been laid down with no reference to the Roman intra-mural road, and represents a Late Saxon innovation. It need not, however, have been extended around the entire inner length of the Roman walls; the intra-mural road at Gloucester (Heighway 1984:42) did not extend along the river (western) side of the burh. The interior of *Deva* was densely built-up, with rectangular barrack buildings dominating the area outside the centre. Few of these are likely to have been anything but ruinous in the tenth century, but some of the larger Roman buildings were still upstanding. Principal among these were the massive baths complex on the eastern side of Bridge Street and the 'Elliptical Building', on the south side of Princess Street (Strickland 1988:115). The *Principia* seems to have been in ruins. Apart from the readjustment to Northgate Street and the construction of St. Peter's Church, there is a small amount of evidence that stone was robbed from the foundations after a period of abandonment marked by a sterile soil accumulation over the latest Roman phase (ibid.).

Surviving Roman features were used pragmatically by the Mercians. In the north-west quadrant of the Roman fortress, the ruins of Roman barracks provided the foundation platforms for Late Saxon houses at Crook Street (gaz 4.10), and the gap between the Roman rubble accumulations provided the opportunity for a deep pit. At Hunter Street School (gaz 4.25), a Roman enclosure wall was re-used as an animal pen in the tenth and eleventh centuries. In other instances, Roman features were exploited for uses incompatible with their original function. The most obvious instance of this is the widespread robbing of stone (Strickland, in Ward, forthcoming). The Roman street plan was by no means fully retained; road surfaces were robbed or (as at Hunter Street School trench V, gaz 4.25) used as convenient flat surfaces for building. Pragmatism in using Roman features, whilst not adhering to the details of the Roman plans and organizational layout, is a

common feature of Late Saxon burhs both in Wessex and Mercia (cf. Biddle & Hill 1971:78-82). The re-ordering of the street plan at Chester seems not to have been as extensive as at Winchester (cf. Biddle 1983) or Exeter (cf Biddle & Hill 1971:79; Allan et al. 1984:401), since it still depended on the essential division of the Roman fortress into quadrants. Once more, the closest parallel in terms of the selective preservation of the central axial Roman street plan and the removal of most other Roman precedents is Gloucester (Heighway 1984:39). Mason (1985:22-23) suggested that the standard size and orientation of the phase IV buildings at Lower Bridge Street (gaz 4.28) implied planning. Whilst it is possible that the majority of streets in the burh were laid out with the fortifications, this cannot at the moment be proven. Two axial main streets are a characteristic of some West Saxon burhs which are not founded on former Roman sites, such as Wareham, Cricklade and Wallingford (Biddle & Hill 1971:80). By contrast, the Danelaw burhs (Hall 1989) lack this feature. Roman antecedents, as at Lincoln (ibid:171) and Leicester (ibid:164), seem to have exerted very little influence on the early medieval street plans.

Biddle (1976:122) warned against interpreting rectilinear and sub-rectilinear street plans as evidence for more than ordinary pragmatic use of land. It is more certain that the burh authorities oversaw the growth of the street plan, deciding boundary disputes and allocating land to new settlers. A high level of official control over land in the city is indicated in the Domesday Survey (Morgan 1978:262c) where the king is clearly stated as taxing transfers of land, arbitrating ownership and fining wrongful transfers.

Toponymic and historical evidence for the topography of early medieval Chester was assessed by J.McN. Dodgson (1968b). Most of the names identified by Dodgson as possibly eleventh century or earlier relate to a Scandinavian presence in the city. Occasional reflections of a Scandinavian presence are found in the west of the Roman fortress area in Commonhall Street (*Normans Lane,* 1295) and the former Crook Lane (from ON *krokr,* c1220-50 (Dodgson 1968b:39-40). In the extra-mural area to the south of the Roman fortress, the present Newgate was recorded as 'Woolfield Gate' (from the ON personal name *Ulfaldi*) in c1258. The possibility that the Newgate (in the extension of the medieval wall south from the fortress to the Dee) existed early enough for it to receive a clear Old Norse appellative adds

further support to the theory that the walls of Late Saxon Chester extended to the river in this position. Another gate name, Clippegate (*Porta Clippe,* 1121-9), is probably derived from the ON byname *Klippr* (ibid:50), although it is now unclear to which gate this refers. Quoting numismatic evidence for Scandinavians among the moneyers of the Chester Mint (Pirie 1964) and Scandinavian personal names among the tenantry of the city in the Domesday Survey, Dodgson suggested a substantial community of Scandinavians in the Late Saxon burh. The parish of St Olave, close by the present Bridgegate in the south of the city, has been accepted as the most probable concentration of Norse inhabitants (Dodgson 1968b:53; Bu'Lock 1972:63; Thacker 1987:257). Further evidence of a Scandinavian influence in the City was quoted by F.T. Wainwright (1975:97-9). He drew attention to the Domesday assessment of the suburb of Handbridge (directly opposite the Bridgegate to the south of the river) in geldable carucates - which were more common in Northumbria and the Danelaw - rather than hides. Moreover, Wainwright suggested that the twelve judges of the City, the *XII iudices civitate* of 1086 (Morgan 1978:262c,d), are another echo of a Danelaw system (cf. also Thacker 1987:257).

The church dedications, together with the idea that the churches served a number of distinct communities of merchants and artisans, are among the most striking topographical parallels between Chester and other commercial centres in the Irish Sea region. St. Werburgh, the diocesan saint of Chester, St. Bridget and St. Olave are dedications also common to Dublin (Howarth 1988); Olave and Bridget are also known in Waterford, Olave in Wexford (Howarth, ibid.) and Werburgh in Bristol (Gwynn 1947:278). The actual layout of the parishes of the Late Saxon period within the Hundred of Chester is difficult to define. The pre-Conquest Churches consisted of St. John's (gaz 4.26), St. Werburgh's (gaz 4.44) and St. Peter's (gaz 4.36). It is a safe hypothesis that their parishes should occupy, respectively, the eastern extra-mural area, the northern area and the western area of the burh. Nevertheless, their actual boundaries remain obscure and the detailed map published by Alldridge (1981:8) seems to be based on little other than guesswork. There is only slightly more evidence for the juxtaposition of parishes in 1086, where the Domesday Survey records that St. John's owned eight houses 'in the city' (Morgan 1978:263a), which were probably in Fleshmonger's lane, the only intra-mural part of the parish in the medieval period (Alldridge 1981:12). It is less than certain

that St. Olave's (gaz 4.33), St. Bridget's (gaz 4.3) and St. Michael's (gaz 4.29) existed before the conquest. Dodgson was undoubtedly correct in assuming that St. Michael's parish pre-dates the foundation of St. Olave's (1968b:52) since the latter appears as an enclave in the former. Nevertheless, this relationship cannot provide an absolute date for either foundation.

The pre-Conquest property boundaries have left very little trace in documentary sources, although the mainly rectilinear street plan suggests that plots were rectilinear, and almost certainly narrow on the street frontage side as are the post-Conquest boundaries. The dangers of referring the details of documented medieval boundaries in Chester back to the pre-Conquest period are often under-stressed. An example is Alldridge's assumption that because burgage plots in the north-west quadrant of the fortress area appear to cross Commonhall Street (formerly Normans Lane), they are pre-Conquest (1981:20-21). They may indeed have been laid out before Normans Lane came into existence; however, Normans Lane itself need not have appeared before 1295 (Dodgson 1968b:39). It must be accorded as significant that none of the buildings excavated since 1973 appears to span the Conquest. Chester lost 41% of its houses between 1066 and 1086 (above, cap 2.3.1). The imposition of the castle on the burh topography, together with the consequent re-ordering of the street plan around the castle (and the foundation of the Norman church of St. Mary the Virgin), suggest considerable change at least in the south-western area of the town. Evidence for discontinuity in the aftermath of the Norman Conquest was also observed in the excavation of a series of tenth and eleventh-century structures at Saddler Street, Durham (Carver 1979:71) where historical evidence for re-planning appeared to receive archaeological corroboration. The immediate post-Conquest political situation in Durham, another Anglo-Saxon border stronghold which was taken over by a powerful follower of William (Waltheof) after the harrying of 1068-9, bears considerable resemblance to Chester. A comprehensive realignment of burgage plots was also observed in the excavation at Bride Street, Wexford (E. Bourke, pers comm); the realignment is provisionally dated to the late twelfth century, coinciding with the Anglo-Norman takeover of south-eastern Ireland.

The evidence for domestic structures in Late Saxon Chester (fig 17) is dealt with in detail in the individual site entries in the gazetteer (below), including a struc-

tural re-interpretation for the only published group (4.28). The evidence may be summarised as follows: sunken-featured simple post structures or *Grubenhäuser* at Hamilton Place (4.22), Hunter Street School Trench IV (4.25) and Lower Bridge Street Phase III (4.28); rectilinear hall-type structures at Crook Street (4.10), and in a larger form at Hunter Street School (4.24); a large open-sided timber framed structure at Abbey Green (4.1); rectangular rock-cut post/plank-constructed cellared buildings at Lower Bridge Street Phases IV and V (4.28) and a possible fence arrangement at Goss Street (4.19). Detailed structural reconstruction will be dealt with by S.W. Ward (forthcoming), as the Lower Bridge Street structures were by D.J.P. Mason (1985).

The dating of the structures, due to the extensive soil redistribution on street frontages and the well-drained sandstone bedrock (cf. gaz 4, introduction), is substantially dependent on the dating of Chester ware pottery (below, cap 5.3; Rutter 1985:40-57). The very limited opportunities for sampling stratified occupation or destruction deposits have prevented the widespread use of radiocarbon and dendrochronological dating techniques. The *Grubenhäuser* appear from their position in the phasing of the Lower Bridge Street Excavation to have been among the earliest structures of Late Saxon Chester. Mason (1985:33) suggests that the Lower Bridge Street hut could have been built as early as the late ninth century; this view appears, however, to be based on negative evidence: phase III lacks Chester ware, which is likely to have begun in the second or third decade of the tenth century (below, cap 5.3). Phase IV has Chester ware, leading the excavator to date the structures to between 910 and 940. The phase III structure was, Mason suggested, demolished immediately before the phase IV structures were built. Occupation deposits in phase III were extremely limited, and the suggestion that the hut could have been 'occupied for up to three decades' (ibid:34) seems difficult to support. The comparable structures at Hamilton Place and Hunter Street School are dated to the tenth/eleventh century by a small quantity of stratified Chester ware in the occupation deposits. This can only provide a *terminus ante quem* for construction, which is therefore more readily acceptable as tenth century. The dating of the comparable structures from Quinnell's sites A and T at Rhuddlan (gaz 1.1), whilst dependent upon only one find, a prick-spur (3:RH/Misc 2), is also interpreted as tenth century. In none of the structures, either in Chester or Rhuddlan, is a clear function evident. There are no hearths, suggesting that these

buildings were not residences, and there are very few stratified artefacts except Chester ware sherds. An industrial function for this type of Anglo-Saxon structure was suggested by Rahtz (1976:76) who emphasised weaving, on the basis of a number of associated finds of loom weights at West Stow, Suffolk Bourton on the Water, Gloucestershire and Upton, Northamptonshire. A tenth-century date is quite possible within the chronology of *Grubenhäuser*, which in England range from the fifth to the thirteenth century (ibid:73), although declining in frequency throughout the Saxon period. Sunken-featured huts excavated at Pudding Lane, London, in 1981 (Horsman et al:16-17) demonstrated that the structures were replaced several times, only giving way to other building types after the Norman Conquest. Their presence both in Chester and in Rhuddlan suggests that they were the first structures to be built in the burhs; the short life of the Lower Bridge Street hut before the construction of far more substantial buildings implies a temporary purpose. Four comparable sunken-floored huts were excavated outside the northern defences of the Roman fort at Manchester in 1981 (Holdsworth, in Morris 1983:6). Their dating (ibid.) was suggested as sub-Roman, but their presence in the last of the north-west Mercian burhs raises the possibility that they might be tenth-century. It is not without significance that many of the Late Saxon structures in Chester were only interpreted as of tenth- or eleventh-century date when their pottery associations and position in the sequences had been fully established at the post-excavation stage. Many interim interpretations, such as at Abbey Green (McPeake et al. 1980), dated the Late Saxon phases to the sub-Roman period due to an inaccurate perception of direct Roman - post-Roman stratigraphical continuity[1].

The post-built hall-type houses at Crook Street and Hunter's Walk represent more substantial structures than the sunken-featured huts. The surviving stratigraphy at Crook Street was very limited, but a hearth survived at Hunter's Walk suggesting that this, apparently the largest of the buildings, was a dwelling-house. Hall-type structures defined by parallel lines of postholes are among the most common buildings excavated in Anglo-Saxon towns (Rahtz 1976:81). The two examples in period 2 at Victoria Street, Hereford (Shoesmith 1982: 31-2), similar

[1] Late Saxon phases are often not physically separated from Roman levels, the intervening soil build-up having been removed by robbing and soil redistribution; the character of the Late Saxon phases is more often determined by finds.

in form to the Crook Street buildings, were dated to the ninth century, but it is most unlikely that the Chester buildings are so early. Indeed, the series of post-built buildings exacavated in the Danelaw burh of Lincoln at Flaxengate (Perring 1981:36-45) show that the buildings span thirteen phases from c870 to 1200. A more significant level of framing and the use of trenches for possible sill-beams was adopted around the mid-eleventh century (c1040, ibid:38). The more advanced sill-beam constructed variant observed at Hunter Street School is parallelled at Tamworth (Rahtz 1976:85) and at 1, Westgate Street, Gloucester (Heighway et al. 1979:167-9) where the remains of a cellared building constructed in this fashion were dated to the tenth century.

The other main form of Late Saxon building, the Phase IV and V structures at Lower Bridge Street, is the most complete and closely-dated group of buildings in the City from this period (gaz 4.28; Mason 1985). Mason (1985:18) drew attention to a number of parallels in Late Saxon contexts at Thetford (Davison 1967:191-2), Cannon Street and Addle Street, London (Grimes 1968, pls 67-70) and Canterbury (Youngs & Clark 1981:171-2). Unlike the hall-type buildings, the cellared houses at the Lower Bridge Street site show considerable affinities in form with buildings excavated in centres *outside* the English Kingdoms of Wessex and Mercia (including the southern Danelaw). The sunken-featured buildings excavated at 16-22 Coppergate, York (Hall 1982, 1984), were remarked upon by Mason (ibid.) as parallels. In Dublin, three sunken-floored cellar buildings were excavated by A.B. Ó Riordáin (Murray 1983:169-175) at Winetavern Street (WT44/2) and Christchurch Place (CP/356/1; CP/380/1). The first two bear greatest resemblance to the Lower Bridge Street structures. The Winetavern Street example consisted of a sub-rectangular 'room' 4.4m by 1.6-1.9m in a pit lined with oak planks. The entrance passage, unlike the Chester structures, was located on one of the short sides of the rectangular plan, which was slightly more elongated than in Chester. Murray (ibid:171) gave the date for this structure as mid-tenth century on stratigraphic grounds. Perhaps more like the Chester houses, CP356/1 was squarer in plan with a stone-lined entrance passage. The pit (3.4 by 2.75m) was lined with horizontal halved logs supported by corner posts, and also dated to the mid-tenth century (ibid:173). These buildings represent a very small proportion of the total corpus of Viking-period buildings from Dublin, and are heavily outnumbered by post-and-wattle types with internal roof supports (Murray 1983;

Wallace 1985). Given this, it might have been thought that they represent an anomaly in contemporary Irish architecture and their significance as trans-Irish Sea parallels for the Chester buildings played down. However, the importance of sub-rectangular cellared buildings (with entrance passages) in the Viking towns of Ireland has been clearly demonstrated in the (as yet unpublished) 1986-88 excavation at Peter Street, Waterford (C. Walsh, pers comm and forthcoming[2]). Four structures were excavated on the Peter Street frontage in the historic centre of Waterford, two of which were complete groundplans. They were cut up to 1.5 metres into the gravel subsoil, forming rectilinear pits with sloping entrance passages flanked by drystone revetments. The passages and interiors were lined with staves set vertically in floor trenches, which survived in Structure 1 (radially-split ash). The corner posts were square-cut oak, set up to 70cm below the floor levels. Structure 2, extending underneath the present Olaf Street, was approached through an entrance passage with a flight of stone steps. Walsh (forthcoming) argues that the structures show a high level of uniformity and all are similarly orientated with their long sides towards Peter Street. They are still undergoing post-excavation analysis, and their date has not yet been finally determined. There is so far one radiocarbon date from a timber upright in Structure 1, (cal. Q.U.B AD 1083 $\pm$ 50). This, of course, is later than the tenth-century dates accorded to the Lower Bridge Street structures and comparable buildings in Dublin. Whilst the dating is still provisional, the pottery sequence suggests that it is unlikely that the sunken-featured structures will be dated to earlier than the mid-eleventh century (C. Walsh, pers comm). It is possible, however, that the Lower Bridge Street houses have a further phase, effectively a sub-phase of Phase V, which would allow for a renovation involving the construction of stone-lined entrance passages during the first half of the eleventh century. This would allow a more direct comparison with the Waterford Structures (see gaz 4.28).

Other structures of eleventh-century date excavated at Olaf Street, Waterford (A. Hayden, pers comm) echo the more familiar Dublin model of single wattle walls with slightly rounded corners. The sequence of tenth to twelfth-century buildings excavated in 1988-89 at Bride Street, Wexford (E. Bourke, pers comm and forthcoming) are entirely wattle constructed, ten of which were identical to Type 1

[2] Supplementary paper, Proceedings 1988 Domestic Architecture Conference, Dublin

houses excavated by P.F. Wallace at Fishamble Street, Dublin (Wallace 1985:122-5). From the existing corpus of tenth- and eleventh-century Irish buildings, therefore, the cellared type with entrance passage appears to be an important component although outnumbered by the single wattle types. From the distribution of parallels, the cellared buildings seem to represent an Anglo-Saxon urban innovation of the early/mid tenth century. The type is not common in Scandinavia. Comparable sunken-featured houses with sloping entrance passages were excavated at Folkebibliotekstomten, Trondheim (Christophersen et al. 1988:156-7), but are dated very much later than the Insular structures (to after 1600). Earlier, but less well-preserved sunken buildings were excavated at Handelstorget, Skien, Norway (Myrvoll 1984:45). These are dated to the tenth and eleventh centuries (phases 9 and 7, ibid. 46 ff). Mason (1985:21) suggested that because the Lower Bridge street buildings are very slightly bow-sided in plan, they resemble the 'hog-backed' form of building known through representations in stone sculpture and occasionally found in insular Scandinavian settlements, implying that the structures are associated with the Norse community within the southern extra-mural area of Chester. The degree of bow-sidedness is, however, very slight indeed compared to more classical 'Viking houses' such as those at Birsay, Orkney (Cruden 1965) or at Trelleborg and Fyrkat, Denmark (Roesdahl 1982:147ff). The occurence of the cellared type in the two largest 'Viking' towns of Ireland seems more a testimony to an Anglo-Saxon presence and influence there (as generally recognised by P.F. Wallace, 1986) than a Scandinavian presence on the Lower Bridge Street site. This is not to discount, however, the other evidence for Hiberno-Norse occupants in the vicinity of Lower Bridge Street.

4.2 Industry

Studies of industrial production in Anglo-Saxon towns have become an important aspect of urban archaeology (Vince 1989). Chester (ibid:148) exhibits many of the industrial characteristics of other Mercian towns noted by Vince, although detailed comparisons are, as Vince pointed out (1989:56), difficult since the data from the various sites in Mercia is so disparate and suffers from doubts and problems associated with dating.

The excavations at Abbey Green (gaz 4.1), Hunter's Walk and Hunter Street School (4.24,4.25) revealed some structural and artefactual evidence for industry and agri-

culture inside the burh of Chester. This should be considered with the evidence for metal-working implied by the finds of ingot moulds at Lower Bridge Street (38:CHE/IM 1) and more recently at Cuppin Street (39:CHE/IM 2). At Abbey Green, among the earliest features dated to the Late Saxon period was a corn-drying oven or kiln. This has so far been dated only through the presence of a Chester ware sherd in the upper fill, and hence may originally have been earlier than 907. The two apparently eighth-century grain-drying ovens excavated in 1968 at Victoria Street, Hereford (Shoesmith 1982:28-30), appear to confirm the possibility of an early date for these structures in West Mercian centres.

The more substantial evidence at Abbey Green for bone and antler working includes not only the sluice pit and channel (gaz 4.1) but the 87 antler cores, pedicles, beam sections, tine endings, plaques and cylinders (56:CHE/ATL 1) which strongly suggest comb manufacture. The finds, if not the structural evidence, resemble a similar assemblage from Quinnell's sites A and T at Rhuddlan (7:RH/ATL 1). The range of material is present at many urban sites of the tenth and eleventh centuries (Christopherson 1980; Ambrosiani 1981:38-9; MacGregor 1985). Comb making seems to have been particularly important in the Scandinavian-influenced towns and market centres, such as York (Waterman 1959:80-93; MacGregor 1976:46-8), Lincoln (Mann 1982:38-9), Dublin (Ó Riordáin 1976:137-8), Waterford (M. Hurley, pers comm) and Whithorn (Hill 1988:17), although structural evidence for processing is much rarer. The forests of Cheshire (above, cap 3.1) are the likely source for the antler, most of which (gaz 4.1) was gathered rather than cut from live or dead animals. Some of the comb fragments (31-4:CHE/CF 1-4 and below, cap 5) may have originated in the city; unfortunately the undiagnostic nature of the manufacturing evidence prevents the identification of a Chester 'style' in combs.

J.E. Mann (1982:43-4) noted the presence of textile-working at Flaxengate, Lincoln, quoting spindle whorls and linen-smoothers as evidence. These objects are not as common in Late Saxon Chester as in Lincoln. There is an important group from Hunter's Walk (gaz 4.24), where three stratified spindle whorls (35-37:CHE/SW 1-3) and a fragment of a glass linen smoother (53:CHE/Misc 12) were found in recent excavations. Another linen smoother is recorded by H. Shetelig as coming from Chester (54:CHE/Misc 13). The three possible heckle-teeth from Abbey Green (47-9:CHE/Misc 6-8) provide an indication of fleece processing.

The most detailed evidence for smithing in Chester was also excavated at Abbey Green and was concentrated in area IV (gaz 4.1). The large rather ill-defined open-sided building in area IV appears to have been associated with the industrial processes. The bowl-shaped hearths are known in Roman contexts and only seem to have been replaced in England in the fourteenth century by waist-level hearths (Tylecote 1981:42-3). The predominance of smithing slag and the low proportion of tap slag suggest that this smith's workshop was not engaged in substantial blooming (ibid:43). The most likely product at the site is iron tools (cf. Goodall 1981:51). A number of tools have been found at Abbey Green (47-49:CHE/Misc 6-8); however, it is conjectural to assume that these objects had been manufactured at the site. It is less likely to be coincidental that the number of iron finds from this site is much greater than for any of the other Late Saxon sites in the city. The raw material, which may have been bloomed or smelted at its source or elsewhere in Chester, was probably a combination of long-distance imports, locally quarried ore and re-used scrap. The Domesday Survey records 'iron mines' in the vicinity of Rhuddlan (Morgan 1978:269a,269b). These may have been related to the known Roman and possible post-Roman lead mining at Halkyn Mountain (gaz 1.10), which may also have been a local source of silver (below, cap 6.3). The geography of iron production in the tenth and eleventh centuries in western Britain has not been extensively studied; the potential of relating mining and blooming to smithing activities in towns and other settlements is yet to be realised. This is in contrast to the economics of iron production in Norway (Martens 1982; 1988; Sognnes 1979). Martens (1985:73) showed a rapid expansion in iron extraction and processing in the later tenth century, and interpreted the iron industry as a central factor in the intensification of inter-regional trade in Norway.

An apparently unfinished or partly-processed silver ring (42:CHE/Misc 1), the ingot moulds (38-9:CHE/IM 1,2), together with the four tenth-century silver hoards from the city (below, appendix C), would suggest silver working in the burh even if the history and importance of the Late Saxon mint were unknown. The location of the Castle Esplanade hoard which contained 'scrap' silver in addition to coins and whole objects (gaz, 4.4) is within 50 metres of the Cuppin Street discovery of an ingot mould (gaz 4.11). Consequently, the site of [at least part of] the mint may be suggested as within this south-western area of the burh, outside the Roman walls

and very near the waterfront. (The economic significance of the hoards, and the mint are discussed below, cap 6.3, 6.5).

The large quantity of Late Saxon pottery from Chester is dominated almost exclusively by 'Chester Ware' (see below, cap 5.3 for discussion), although there are a few sherds of Stamford ware at Abbey Green (57:CHE/POT 1) and Hunter Street School (70:CHE/POT 14); also below, cap 5.3. Although the petrology of the pottery from Lower Bridge Street, Abbey Green, Hunter Street School, Crook Street and Goss Street (Williams 1985:55-6) clearly indicates that the clay came from an area of underlying triassic sandstone (as Cheshire), the possibility that it came from other areas of western Mercia cannot be discounted. A sherd-refiring experiment on Chester ware (Coleman-Smith 1985:56) provided a clearer indication that Chester ware was locally produced, since it resembled under refiring the orange-red colour of medieval wares produced at Ashton, Audlem and Norton Priory (Runcorn), which are known to have been made from Cheshire clays. To date, no Chester ware-producing kiln (or Late Saxon kiln of any sort) has been found in Chester. Nevertheless, the rim sherd of Chester ware from 12, Watergate Street (gaz 4.39, Rutter 1988:31) and two sherds from Hunter Street School (gaz 4.25, Rutter ibid), being "unusually fired and hard" were interpreted by Rutter (ibid) as usable seconds dispersed from a nearby manufacturing site (1988:31). The kiln found at Tipping Street, Stafford, in 1977 (Rutter 1985:53), together with finds of wasters at Clarke Street, Stafford (ibid.), show that Chester-type wares were made in other centres in Western Mercia, more detailed study of petrology and experimental work such as sherd-refiring is likely to define the differences between true Chester ware and comparable wares from Stafford, together with other [possible] centres of production such as Shrewsbury, Worcester and Hereford (fig 19).

The re-used Roman enclosure excavated at Hunter Street School and its characteristic 'dark earth' deposit (gaz 4.25) indicate that animals were herded in large numbers inside the former Roman enclosure. The 'Dark Earth' deposit (cf. Charles 1982) is parallelled at 1, Westgate Street, Gloucester (Heighway et al. 1979:188-90) from which the botanical remains (ibid) indicate a range of cereal cultivation including spelt, barley, rye, and flax, together with fruit such as apple, blackberry, sloe and strawberry. The environmental evidence from Lower Bridge Street (gaz 4.28) and Abbey Green (4.1) shows a wide range of mixed farming, hunting and

hedgerow foraging in the Chester district. There is no historical mention of sheep herding in the city, although sheep bones were among the assemblage excavated at Lower Bridge Street (gaz 4.28). The proportion of sheep to cattle bones at the site is low, although the tanning industry of phase V had probably altered the proportion in favour of cattle for this particular site. The extensive poor-quality land associated with sheep farming is found at a greater distance from Chester than cattle-farming areas, and is particularly widespread in the Clwyd Hills. It is likely that fleeces rather than livestock were imported into the burh, except for a proportion of sheep brought in for their mutton value.

The tanning industry observed in phase V at Lower Bridge Street (gaz 4.28) indicates the importance of cattle in the Late Saxon city. Pastoral farming is traditionally the largest farming practice on the boulder clay land of the Dee and Mersey valleys, and the Hunter Street School enclosure is likely to have been only one of a number of central herding-points in the city. The twelfth-century *Liber Luciani de Laude Cestrae* (Taylor 1912:44) contains an indication that cattle and horses were imported from Wales, most probably a combination of traded animals and livestock won on raids into Welsh territory. The same source (Taylor 1912:44, Griffiths, in Ward, forthcoming) indicates the import of fish from Ireland (see also below, cap 7.1) The import of fish is interesting given Lucian's own references to the fishing trade in and around the city, and the extensive fisheries on the Dee listed in the Domesday Survey (fig 11). Why did fish need to be imported in addition to being caught locally?

It is a strong hypothesis that the local fisheries and bulk import of fish from settlements around the Irish Sea existed not just for the household needs of the local inhabitants but were supplying a considerable fish-processing industry connected to the easily available salt deposits in brine springs and rock salt outcrops to the south-east of Chester. Just outside the specific area of reference of this study lie the salt wiches of central Cheshire: Nantwich, Middlewich and Northwich. They were in production by the later eleventh century, since they are recorded in the Domesday Survey (Morgan 1978:268a,b). J.E. Oxley (1983:8) argued that Nantwich fulfilled at least half of the criteria for an early medieval town suggested by Heighway (1972:3.8-10) and Biddle (1976:100). Oxley (ibid:14) argued that salt panning at Nantwich began in the tenth century; at Middlewich there was a

revival around the same time of the extensive Roman salt working. In both cases, this view owes more to historical inference from the Domesday account rather than archaeological evidence. The two wich houses excavated in 1979-80 at Wood Street, Nantwich (McNeil 1983) do not date to any earlier than the mid-twelfth century (ibid:67-8). Nevertheless, Oxley (1983:2.5) interpreted the Domesday account of tolls paid on salt at the wiches to show differing demand in salt over the year. In the summer months, only *sold* salt was taxed. This was taken to indicate that commercial demand for salt was at its highest in the summer, coinciding with the herring fishing season (ibid:3). The evidence for extensive carting of salt in the Domesday Survey indicates that the local roads were in use for the transport of bulk raw materials (see also above, cap 3.1.5) and it is a reasonable assumption that the rivers, particularly the Dee and the Weaver, were important to the salt industry both for their fish and their transport opportunities. Salt, traded at the market in Chester, may have been exported in its raw state in addition to its role as a preservative for meat and fish. Unfortunately, fish remains are almost completely absent from the environmental record at excavations in the area and the sites of fish-processing, as opposed to salt extraction, are as yet unknown. The most likely destination for a surplus in production in the fish-processing industry is export overland to the midlands of England.

The tenth-century origins of industrial specialisation and production in the salt towns, Chester and possibly Rhuddlan should be considered within the context of the intensification of settlement and agriculture also related to the tenth century (above, cap 3.2.2). The establishment of royal and ecclesiastical estates in the Dee Valley, the surrounding hinterland of Chester and the Manor of Rhuddlan have already been argued to be essential components of the official policy of fostering a concentration of trade and industrial production in the burhs (above, cap 3.2.2). A productive surplus in the countryside was essential to generate exchange within the area dominated by Chester, allowing a significant proportion of the inhabitants of the burh to engage in specialised industrial production and trade. There is also substantial reason (below, caps 5,6,7) to suggest that inter-regional trade within Mercia and external trade in the Irish Sea region experienced a dramatic increase during and after the foundation of the burh system, creating a major centre of trade at Chester with its implications for increased taxation and Mercian predominance in the North-West.

4.3 Summary

The economy and settlement of the North-West at the end of the first millennium AD was dominated by the concentrations of power, population and production in the burhs and their associated estates. The topography of the burhs exhibits few systematic trends; the majority of archaeological evidence points towards pragmatic use of the existing landscape and infrastructure of the sites. The earliest temporary structures were sunken-featured huts, or *Grubenhäuser,* which were followed in Chester by a variety of more substantial buildings, parallelled on both sides of the Irish Sea. A divergence occurred in the tenth century between the two burhs (Chester and Rhuddlan) which became urbanised, and the eastern group which, after fulfilling a military function in the early era of Mercian conquest, were eclipsed by neighbouring estate foci. Chester and Rhuddlan rapidly became as important economically as militarily, and the archaeological record is marked by evidence for a range of specialised production in the tenth and eleventh centuries.

CHAPTER 5: A DISCUSSION OF THE ARTEFACTS

The early medieval finds from sites bordering on the Lower Dee and Mersey (below, appendix A, B) represent one of the most extensive groups in the North-West. Since Hume's *magnum opus* (1863), the finds from Meols (which constitute the majority) received detailed consideration by J.D. Bu'Lock (1960), although a number were missed (a discussion of the discovery and retrieval of the Meols finds is included in the assessment of the history and topography of the site in gaz 5.12). Other finds from the the area, principally from Chester, have yet to be fully synthesised and their regional context considered. Since Bu'Lock's study of the Meols objects, conceptions of date, type and cultural provenance in early medieval artefact studies have advanced, aided particularly by the increase in urban excavation. The development and publication of detailed stratified sequences of finds from Dublin, York, Winchester, Lincoln and other towns has cast considerable new light on the subject.

The following discussion of the artefactual assemblage is intended to inform a wider consideration of settlement and economy, and in particular to illuminate changing external contacts in the ninth, tenth and eleventh centuries. Some consideration of the earlier post-Roman picture is required to illustrate the significance of the increase in quantity and diversity of finds in the last two decades of the first millennium AD. The discussion is not intended either as a comprehensive study of all artefact types represented in the assemblage, or as an exhaustive survey of all possible parallels (although it is hoped that the most pertinent parallels are included).

5.1 Metalwork, bonework and glass

In the artefactual assemblage, substantial continuity from the Roman period is only demonstrable at Meols (gaz 5.12). Chester, Hale (gaz 10.1) and Altmouth (gaz 10.8) saw activity both in the Roman period and in the Late Saxon period. There is a small amount of possibly post-Roman metalwork from Chester (appendix A), although this is arguably related to the latest Roman or sub-Roman occupation of the fortress in the fourth/fifth centuries. Hilbre and Altmouth lack a post-Roman phase. The annular 'quoit' brooch from Meols and the three lost penannular brooches (appendix A) all suggest fourth- to sixth-century importa-

tion. The annular brooch conforms to Ager's type E (Ager 1985:33), which had a long period of usage from the mid-fourth century to the seventh (ibid:47). The quoit brooches were interpreted by Ager as derived from North Germanic types which he described as "predominantly Scandinavian" (ibid:17). Nevertheless, the closest parallels in England for the Meols brooch are distributed in the south and east, primarily in female graves; the punched circle-and-dot motifs also occur on examples from Little Eriswell, Suffolk, and Walton, Bucks (ibid:51,54). The Meols brooch is unusual in that it has multiple holes for the pin, rather than one hole and a groove or indentation. This is also found on an annular brooch from Rønvik, Bodø, Norway (Sjøvold 1962), in a locality known for its Late Iron Age connections[1], being the site of a major tenth-century silver hoard with coins of the Chester mint signature (Dolley & Skaare 1960). The three lost brooches recorded by Hume (1863:2,3 and 4) conform to Fowler's penannular types G and H (Fowler 1963:140, 143), although Dickinson (1982:50) suggests that No.4 which Fowler put in type H2 should be re-classified as type G. Dickinson (1982:48-50), following Graham-Campbell's re-working of Fowler's typology (1976c:279) classified the Meols brooches within type G to sub-types G1.5 (3; ribbed hoop/single dot), G1.7 (2; plain hoop/single dot) and G1.8 (4; plain hoops/terminals). Dickinson dated the three types to the fifth/sixth centuries (ibid:53). The majority of parallels for these sub-types are from a wide arc running through England from East Yorkshire to Cornwall, echoing the midland and southern distribution of parallels for the quoit brooch. Other sub-types in type G1, such as G1.1 and G1.2 (partially ribbed) are found more widely in the 'Celtic West', extending into Ireland and Western Scotland (Dickinson 1982:51). Despite their membership of a different sub-type, these perhaps need not be excluded from consideration of the affinities of the Meols brooches; they differ in the most trifling aspects and, in considering them to an extent separately, Dickinson may have over-emphasised small variations in decoration. The more general distribution of the G1 type (cf. Dickinson 1982:60) confirms the importance of coastal sites in the 'Celtic West', including Padstow, Cornwall, Twlc Point, Glamorgan and Luce Sands, Galloway. A further example was recently excavated at Carlisle Cathedral (C.E. Batey, pers comm and forthcoming), whereas graves 138, 523, 707, 983 and 1159 at Birka, Uppland, Sweden contain G1 variants (Arbman 1940:pl 50).

[1] The Scandinavian Late or Younger Iron Age, up to c.AD 1000

The *St Menas Flask* (appendix A) is the most distinctive suggestion of post-Roman importation. The Meols flask and the more recent find from Preston-on-the-Hill (gaz 7.2) parallel the 1949 find of a St Menas flask at Nun's Street, Derby (O' Ferrall 1951) but are otherwise extremely uncommon in the British Isles. The shrine of St Menas near El Alamein, Egypt, was a major centre of pilgrimage in the fourth century and was destroyed in the seventh (O' Ferrall 1951:78). The flasks are more common in France and it is by no means clear how long the two flasks took to reach north-west England. The context of the Meols find (see appendix A) is comparable in description to the contexts of the Roman finds described by Hume and others (see gaz 5.12). Nevertheless, it must remain possible that the Meols flask was brought in amongst other devotional relics as part of the pilgrimage traffic to the later monastic site on Hilbre Island (gaz 5.11). Preston on the Hill is close to the medieval priory at Norton, Runcorn, and may also have arrived in the area in the later pre-Conquest or post-Conquest period.

A possible link between the Roman and Late Saxon periods is suggested by the group of *zoomorphic buckles* (appendix B) from Meols (78-82:M/BL 1-5). Bu'Lock (1960: 21) divided them into two groups; those with animal heads biting the bar (78-81:M/BL 1-4) and with heads confronted at the apex of the loop (82:M/BL 5). The first group apparently owe their origins to fourth and fifth-century buckles from Late Roman and Early Saxon graves in the South-East of England (cf. Hawkes & Dunning 1961). 78:M/BL 1 bears similarity in form to Hawkes's Type IIIa (ibid:59), especially the examples from Bradwell, Essex (ibid. fig 20 a) and Richborough, Kent (ibid, fig 20 e), together with an unprovenanced find now in the Ashmolean Museum (ibid fig 20 f). The heads of the Meols brooch are, however, more stylised than the above examples. The discovery of a comparable piece at Middle Brook Street, Winchester (1110: Hinton 1990:513-4) in an eleventh-century context suggests that 78:M/BH 1 should be interpreted as Late Saxon at the earliest. Bu'Lock (1960: 23) quoted ninth-century parallels for 78-80:M/BL 1-3 at Royston, Cambridgeshire, and Whitby (Peers & Radford 1943: no 119), although comparison with the Whitby [bone] piece is a little optimistic.

Stylised zoomorphic buckles continued in use in the Irish Sea region in the eleventh century, as demonstrated by the find of a copper-alloy example in a eleventh-century mud bank (bank 5) at Fishamble Street I, Dublin (NMI E141:2608).

81:M/BL 4 has elements in its cast design reminiscent of the Ringerike Style of eleventh-century Viking Art (cf. Fuglesang 1980). The fronds backing the heads and the *fleur-de-lys* motif at the apex also occur a buckle found in the River Thames at Barnes (Wilson 1964: No 34; Fuglesang 1980, no 49). Comparable to the Barnes piece is a buckle found in a grave at Stenvik, Nord Trøndelag, Norway (T4621) and a buckle from Sonderholm, Ålborg, Denmark (D4929; Fuglesang 1980: pl 80a), which is a simpler casting with carved decorative details. Metalwork displaying details characteristic of the Ringerike Style was in production in England in the eleventh century (ibid: 50-51); there is also a substantial corpus of contemporary wooden artefacts in the same style from excavations in Dublin (Lang 1988). Although it is not possible to discount a Scandinavian origin for 78:M/BL 4, it seems more likely that the piece originated in the insular Scandinavian milieu of the eleventh century (cf. also 88:M/MT 2).

Buckles with the head at the apex of the loop are less well represented at Meols, with only one certain example (82:M/BL 5). The simpler buckles with projecting lugs possibly representing ears (83-4:M/BL 7-8) are more convincingly interpreted as post-Conquest since they resemble a number of buckles from Winchester found in fourteenth and fifteenth-century century contexts, eg 1161, 1166, 1170, 1171, 1208 (Hinton 1990: 517-21). 82:M/BL 5 represents a Late Saxon type. Wilson (1964:154, no 49) dated a buckle with a single head forming the apex of the loop as ninth-eleventh century. A relevant example from Old Sarum, Wiltshire, was dated by Hinton (1974:60, no 32) to the Late Saxon period. Two examples, retaining their plates but of a debased zoomorphic form, were excavated at Assize Courts South and Brooke Street, Winchester, in contexts dated respectively to the mid-tenth/early eleventh century and the eleventh century (1100, 1106, Hinton 1990: 512-4). A recent metal-detector find of a whole buckle at Maltby, Lincolnshire (acc. Scunthorpe Museum), which is very similar to the Meols piece, further suggests that the Meols piece originated in southern or eastern England. 83:M/BL 6, by contrast, is most closely associated with a number of pieces from the Irish Sea Region. Although lacking the loop and pin, its triangular shape expanding around a circular motif with a central rivet and a terminal representing an animal head seen from above is a common feature of Irish-Sea Scandinavian metalwork. The circular motif is present on ninth-century bridle mounts from the Viking grave at Balladoole, Isle of Man (Bersu & Wilson 1966: pl VI), Knock-y-Doonee, Isle of Man

(Manx Museum) and on a strap terminal from Cronk Mooar, Isle of Man (Wilson 1966: pl XVI). A copper-alloy terminal from Christchurch Place, Dublin (NMI E122:17157), a broken example from Fishamble Street III, Dublin (NMI E190:7045) and a bridle mount from Christchurch Place (NMI E122:14689; eleventh century context) all display the motif and confirm its Irish-Sea significance. A buckle exavated at Whithorn, Galloway (WH 84, 252) combines the circle/rivet device with a panel of interlace. On 83:M/BL 6, the apex of the triangle and the circular motif clearly pointed *away* from the buckle and the end of the belt. Where a pierced triangular point/ animal head has been taken as the *unattached end* of a strap terminal, as on the example from the Udal, North Uist, (Graham-Campbell 1973:128-9), there seems in view of 83:M/BL 6 as much reason to interpret the piece as a fragment of a buckle-plate with the apex at the *attached* end. This group of metalwork is commonest in Viking graves in the Isle of Man and western Scotland (cf Grieg 1940:53) and occasionally occurs in Norway, such as in a ninth/tenth century male grave at Kolset, Mære, Nord Trøndelag (Petersen 1940:68). One strap terminal related to this group was found in metal-detecting activity at Thorpe Salvin, South Yorkshire (Hart 1989:189) but examples are otherwise uncommon in England. The group appears to date in the main from the ninth century but continued in use and possibly production into the tenth century, as demonstrated by the stratified pieces from Dublin and Whithorn.

Further evidence for the importance of early contacts at Meols with the Irish Sea Viking milieu is provided by a copper-alloy mount (87:M/MT 1) apparently of Irish manufacture. The mount has been corroded by sea water, but was almost certainly gilded. The interlace in the border closely resembles that of the down-stroke of the monogram of the opening of the Gospel of Mark in the Book of Durrow (late seventh-century; cf. Henry 1965: pl 61; Kenyon 1984:74). It is, of course, possible that 87:M/MT 1 reached North Wirral before the Viking impact in the Irish Sea region (cf. Kenyon, ibid). Nevertheless, the possession of small gilded ornaments, detached from larger liturgical articles such as books or bowls and originating in the Irish or Northumbrian Church, is a phenomenon particularly associated with insular Viking activity. Many comparable objects have been found in pagan graves in Scandinavia (cf. Rygh 1885:618-27); a rectangular book clasp with a central panel and sunken border from a woman's grave at Noriem, Rogaland, Norway (Petersen 1940:36) provides a parallel to 87:M/MT1. 88:M/MT 2 is

considerably later than M/MT 1, and in design is closely related to the Ringerike-style cast buckle (81:M/BL 4). It is difficult to ascribe a clear function to the second Meols mount. Decorative plates of comparable shape (with leather traces attached) were discovered with iron stirrups in a grave at Velds, Jutland, Denmark (Roesdahl et al 1981:177). They were suggested (ibid.) as decorative mounts for the leather suspension to the loop of the stirrups. Such objects were not noted in association with finds of Viking-period stirrups in England (Seaby & Woodfield 1980:109-15). The *fleur-de-lys* motif at its apex is similar to that on an eleventh-century plaque from the River Thames at Hammersmith (Wilson 1964: no 42; Fuglesang 1980: no 47). The incised design, consisting of a ribbon-shaped beast surrounded by hooked tendrils is similar to the beast on a disc-brooch from Sutton, Cambridgeshire, which Wilson (1964: no 83) dated to the eleventh century. There are also Irish parallels for the beast, on a whetstone from Garryduff, Co. Cork (O' Meadhra 1979) and a stone trial piece from Dublin (Graham-Campbell 1980b: no 477). Nevertheless, given the strong Anglo-Scandinavian Ringerike affinities and (perhaps) the rough nature of the design, it seems most appropriate to interpret the Meols piece as having originated in one of the Anglo-Scandinavian towns of eastern England during the reign of Cnut or his sons. A mount of similar size and shape from Sonderholm, Ålborg, Denmark (D4930; Fuglesang 1980, pl 79 D) is an even more debased Ringerike piece, and may have been imported from England.

The (lost) drinking-horn terminal from Meols (163:M/Misc 2), in common with 87:M/MT 1 and 83:M/BL 6 suggests ninth or early tenth-century Viking contacts at the site. Although drinking-horn terminals are known from contexts outside the main areas of Viking settlement in the British Isles, such as at Ballinderry Crannog, Co. Meath (Hencken 1942: 43,45 no. 344) and Carraig Aille, Co. Limerick (Ó Riordáin 1950: 64-7), the closest parallels for the Meols piece are from Norwegian graves of the ninth and tenth centuries. The terminal from a female grave at Gjønnes, Hedrum, Vestfold (Petersen 1940:169-70) is a particularly close parallel, found together with its complementary mouth-mounting. The terminal from Huseby, Børsa, Sør Trøndelag (ibid:171; T8533) is comparable both to the Meols and the Gjønnes examples; the terminal from a double burial at Hyrt, Vossestrand, Hordaland (ibid:171) is shorter but has a large spherical end.

The zoomorphic swivel (162:M/Misc 1) is difficult to assign to a particular style, since it is extremely simple in form. This type of object, apparently a small piece of horse gear, has a limited distribution in the north of the Irish Sea region. Two examples from Luce Bay, Galloway (Royal Museum of Scotland), are only one of a number of topographical and artefactual parallels between Meols and this beach settlement in south-west Scotland (see also cap 7.3). Similar examples are known from A Chrois, Tiree (Royal Mus. Scotland FC266), and Vallay, North Uist (FC267). This meagre geographical spread bears a suggestion that the objects should be seen in the context of ninth- or tenth-century Viking activity, perhaps the most significant historical link between north-west England and the west coast of Scotland.

The shield boss and axe (166,167:M/Misc 5 and 6) are further indications of a strong Norse influence at Meols. The axe is amongst the simplest of ninth- and tenth-century axe types, classified as type A by J. Petersen (1919:37). Petersen put type A among the earlier axe types in his corpus, dating the type in general to the ninth century. Parallels in Norwegian graves suggest that it was a weapon rather than a hunting or woodman's axe-type (in contrast to the axe from a tenth-century context at Quinnell's site A at Rhuddlan (4:RH/Misc 3), interpreted by I.H. Goodall as a woodman's axe (Quinnell, forthcoming). The Meols axe is comparable in form to axes from Vjastad, Gjerstad, Hordaland, Norway (B7667); Lofthus, Vågen, Hordaland (B6927); Li, Voss, Hordaland (B6282);, Viken, Vik, Sogn og Fjordane (B6189) and Eide, Innvik, Sogn og Fjordane (B8653). The majority of these are from tenth-century graves. The shield boss is similar to the shield boss from a Viking grave at Ballateare, Jurby, Isle of Man (Bersu & Wilson 1966:59). (166:M/Misc 5) is also closely parallelled in Norway (cf Rygh 1885:563, Midbø, Vinje, Telemark). Elsewhere in Norway, examples from graves occur at Røstad, Ørland, Sør Trøndelag (T 12313), Stimle, Voss, Hordaland (B7080), and Eid, Gloppen, Sogn og Fjordane (B4611d). It is likely that the plain hemispherical type of shield boss is tenth century since the majority of grave contexts are classified as tenth or eleventh century (registers, Vitenskapsmus., Trondheim; Hist. Mus. Bergen). Similar shield bosses are also known from graves 644, 944 and 985 at Birka, Uppland, Sweden (Arbman 1940:pl 17). Given that so many parallels for these Meols objects come from grave contexts, it is a reasonable hypothesis that some Viking graves (possibly of the early tenth century) were among the features

eroded at Meols in the nineteenth century. Cox and Potter (cf. gaz 5.12) described "British grave mounds" at the site in the 1880's and the 1890's. The presence of possible Viking inhumations across the Dee at Talacre (gaz 1.3) and near the Maen Achwyfan at Whitford (gaz 1.5-8, also above, cap 3) contribute to this hypothesis.

The iron *seax* from Abbey Green, Chester (45:CHE/Misc 4), is from an early context in the Late Saxon phase, but clearly related to settlement debris rather than any possible grave context. D.A. Gale (1989:71) defined a seax as "a heavy single-edged knife or short sword" and suggested its origins lay in Late Roman and Merovingian Gaul, although the angle-backed type represented in Chester may have been an Anglo-Saxon development from knives in seventh and eighth-century graves, such as at Shudy Camps, Cambridgeshire (ibid.). The Chester seax falls into Gale's common seax type, although at 27cm the blade is longer than the majority of common seaxes (at circa 24 cm, ibid:72). The Chester seax also approximates to Gale's (i) variation with the blade angle occuring approximately half way along its back. This variation is among the earlier types of seax, possibly eighth/ninth century, and Gale (ibid:75) illustrates a close parallel for the Chester seax from Mindelheim, Germany (Gale 1989:fig 5.1) and a larger version, similar in form, from the River Thames at Brentford (ibid). Gale (ibid:79-80) suggested that the common seax was not primarily a weapon, but a high-status object used perhaps most commonly as a hunting-knife. The Abbey Green seax lacks the silver inlaid decoration on the blade common in other examples, but the quality of the pattern-welding construction indicates that this was a valuable blade (Q. Mould, in Ward, forthcoming).

The prick-spur, also found at Abbey Green, (46:CHE/Misc 5), despite being found in a late context, is also a high-status object. A comparable spur was found at John's Lane, Dublin (NMI E173:145), although there is no clear stratified context for this piece. The terminals conform to type C of the London Museum typology (Lond. Mus. 1954:95), which were argued (ibid) to date to the pre-Conquest period. The point (ibid, type 3) is also a pre-Conquest type. The spur from Rhuddlan (3:RH/Misc 2) has an early point type (type 1), and the simple, rounded terminals suggest that H. Quinnell (forthcoming) has correctly dated the object to the tenth century.

Recent excavations at Hunter's Walk, Chester (gaz 4.24), have revealed a fragment of a glass linen smoother (53:CHE/Misc 12). Another glass linen smoother, supposedly from Chester (54:CHE/Misc 13) is only a tentative addition to the catalogue. Nevertheless such items were current in the material culture of the Norse settlements around the Irish Sea in the tenth and eleventh centuries, and it would hardly be surprising if 54:CHE/Misc 13 is indeed accurately provenanced. Parallels are known from the female inhumation at Ballinaby, Islay (Grieg 1940: 40. fig 20) and as a stray find from a peat bed at Dalvadie, Islay (ibid:166, fig 8). A similar linen smoother was found in the ninth-century cemetery at Islandbridge/ Kilmainham, Dublin (Bøe 1940:49); they also occur in ninth- and tenth-century graves in Norway, such as at Trå, Granvin, Hordaland (B6657) and at Fjaler, Dale, Hordaland (B59105). A more securely-provenanced object, the gold ring from St. Werburgh Street, Chester (43:CHE/Misc 2) is indicative of a more affluent Scandinavian element in the tenth/eleventh century material culture of the inhabitants of Chester. Bjørn and Shetelig (1940:29) recorded a number of parallels for the double-twisted gold ring type, from Hamsay Churchyard, Sussex, Aldgate Street, Oxford and Soberton, Hampshire, which was found with a number of eleventh-century coins. Twisted gold arm and finger rings are common in Scandinavia (cf. Rygh 1885:714) and in Scotland (Graham-Campbell 1976b: 127-131). A comparable double-plaited example was found in a hoard at Plan Farm, Bute (Pollexfen & Sim 1864, quoted by Graham-Campbell 1982a:569), although most of the Scottish examples are triple or multiple, rather than double-plait.

The two *bells* (92,93:M/B1, M/B2) represent examples of ninth and tenth-century metalwork occuring in the British Isles and Iceland. 92:M/B1 conforms to C. Bourke's class 1 of handbell (Bourke 1980:52-3), although it is a small example within the class corpus. Bourke dated the period of production to AD 700-900 (ibid:60), although he attributed the origins of the type to rectangular bells of the Roman period. The class 1 bell has been discovered at a variety of monastic and non-monastic sites in east/central Ireland (ibid:60), and in smaller numbers in central and eastern Scotland, with three finds in Orkney (Bourke 1983:465). There has not yet been a synthesis of this type of early medieval bell in England, although a close parallel to the Meols example was excavated at the upland farmstead at Ribblehead, Yorks (Yorks Mus 1985.29), together with ninth-century stycas (King 1978). There is no clear function for class 1 bells, other than the

larger decorated variety whose findspots suggest a liturgical purpose. Smaller semi-rectangular iron bells, often found at secular settlement sites, may simply have been cow or goat-bells. The proximity of the Hilbre shrine to Meols (cf. gaz 5.11) allows for the possibility that the bell may have reached North Wirral in a monastic context. The other, hexagonal pyramidal bell is part of a recognised type (Batey 1988). Their distribution extends from England through Scotland and the Irish Sea to Iceland. Batey, in discussing an example decorated with circle and dot motifs from Freswick, Caithness, quoted parallels from Keoldale, Sutherland, Little Dunagoil, Bute, Holmes Grain Warehouse, Lincoln (eleventh-century context), Goltho, Lincs (tenth-century context). The Danelaw distribution also includes a bell from Northampton (Graham-Campbell, in Freke et al., forthcoming), and a recent metal-detector find (together with a number of other finds closely parallelled at Chester, Meols and Hale, at Cottam, North Humberside (Haldenby 1990:59). Elsewhere in the western 'Viking World', bells have been discovered at a grave at Bru and two graves at Vatnsdal, Iceland (ibid:214). The Isle of Man has the largest concentration. Three have been excavated at Peel Castle (Graham-Campbell, in Freke et al, forthcoming). These include an undecorated bell, very similar to the Meols piece from a child's grave (VII), dated to the tenth century, and an identical example (84.16 L EN 154) from cemetery earth. A further undecorated parallel for 95:M/B2 was discovered on the Isle of Man, together with a polyhedral-headed ringed pin in plough-disturbance over a possible early Christian gravefield at West Nappin, Jurby (Manx Museum, L. Garrad, pers comm). Batey argued (1988:215) that the hexagonal bell represents cultural contact at Freswick with "the rest of the Viking World". However, the distribution inclines in favour of the Irish Sea region as the source of these objects, with the main candidate for the location of production being the Isle of Man (cf. also Graham-Campbell, in Freke et al., forthcoming). They possibly represent, along with polyhedral-headed ringed pins (below), certain types of comb common in Dublin and some variations of club-headed stick pin (below), types of artefact which are identifiable with the tenth-century material culture of the Scandinavian settlers in the coastlands of the Irish Sea, which was increasingly departing from strict adherence to Norwegian style. It is possible to debate various functions for the hexagonal bells; the consensus in recent published and unpublished discussions favours personal jewellery/ornament, possibly worn around the neck with beads.

The small number of *brooches* from Chester and Meols represents some of the most complex artistic statements in the artefact assemblage. The silver brooch from Lower Bridge Street, Chester (11:CHE/BH 1; gaz 4.28), has recently been discussed by D.M. Wilson (1985b:61). Wilson placed the brooch, on the basis of its high silver content and its openwork design, in a series of ninth-century Anglo-Saxon silver brooches, also including examples from Beeston Tor, Staffordshire (cf. Wilson 1964: no 2), Ixworth, Suffolk (ibid. 36) and Pentney. A ninth/tenth century date is further suggested by the two sherds of Carolingian red burnished ware (72:CHE/POT 16) found in the same pit context (F 154, Area II) as the brooch (Mason 1985:34). This does not, of course, mean that the brooch and the Frankish pottery indicate pre-burh occupation on the site since both types of object had been redeposited in the pit. They may also have arrived in Chester after 907, when neither need necessarily have been in use for more than twenty or thirty years. The composite copper-alloy disc brooch from Hunter Street School (12:CHE/BH 2) has also recently received a published discussion (Graham-Campbell 1985). Graham-Campbell dated the brooch to the early tenth century on the grounds of the stylistic overlap between features characteristic of the Borre style of Viking Art (Richardson, forthcoming) such as the triangular layout of the animal, and features more characteristic of the tenth-century Jellinge style, such as the billeted body of the ribbon-shaped animal with head lappets and tails. Its context (gaz 4.25) is within a general Late Saxon phase which, as rough paving within an area of disturbed earth associated with the animal pen, cannot be described as stratigraphically sealed. Graham-Campbell quoted two parallels in the British Isles, from High Street, Dublin, and a metal-detector find (without billeting) from the vicinity of the Wash (ibid:448). The Dublin find (NMI E43:2086), whilst identical to the Chester brooch in detail, has been altered to take a large pin shank, converting it from a brooch to a disc-headed pin. Its context, mentioned by Graham-Campbell (ibid:449) as tenth-century, has now been revised to the later eleventh century (D. Caulfield, pers comm), which would allow for the long period of use indicated by its conversion to a pin and its comparatively greater evidence of wear. A further example was recently discovered in metal-detecting activity at Cottam, North Humberside (Haldenby 1990:58). There are three direct parallels for these brooches at Birka, Uppland, Sweden (Jansson 1984, quoted by Graham-Campbell ibid:449; Arbman 1940:pl 70, 17,18,19), two simpler single-piece examples from

Birka, and three from Viking-period Denmark (ibid). As an East Scandinavian type and given the recent east-coast finds, it is most likely that the Chester and Dublin brooches reached the Irish Sea region by way of the North Sea and Danelaw rather than the Atlantic/ west coast route. Together with the 'Ringerike' buckle and mount from Meols, and coins from Danelaw and eastern English mints in the St John's Church, Pemberton's Parlour and Harkirke hoards (below, appendix C), they indicate continuing contact between the Lower Dee and the Danelaw in the tenth and eleventh centuries.

The simple annular brooch from Meols (94:M/BH1) is part of an extremely long-lived series of small, thin copper-alloy annular examples. A smaller parallel brooch was illustrated by Peers and Radford (1943:59, no. 55) from the Anglo-Saxon monastery at Whitby. It is only possible to date this within the general Whitby finds assemblage, the actual context not having been recorded. It is published alongside apparently ninth-century disc pins and a hooked tag, and can therefore be suggested as belonging to the ninth century pre-destruction phase at the site. Peers and Radford (ibid.) described the Whitby brooch as representing a type found in pagan Saxon graves, although a very similar brooch was excavated at Brooke Street, Winchester in a thirteenth-century context (2018, Hinton 1990:641-42), in addition to one decorated with a dense punched-dot pattern, also from a thirteenth-century context at Assize Courts North (2023,ibid).

The small *discs* from Meols (97-100:M/D1-4) are also difficult to interpret. They would perhaps have been easier to examine had they not been embedded in perspex for a [long-dismantled] exhibition at the Grosvenor Museum. There must remain, despite their inclusion in the catalogue (below), some doubt as to whether they are pre-Conquest or date to the thirteenth/fourteenth century phase at Meols, which although represented by literally thousands of artefacts, has never been studied in depth. D.M. Wilson (1964:178, no 88) dated a lead-alloy disc brooch from the River Thames to the ninth/tenth century: this brooch bears a resemblance, despite its greater size, to 98:M/D2 with the field divided into four quadrants by lentoid bosses with a round boss at the centre. The circular, cruciform design of 98:M/D2 is not dissimilar to several of the cross-heads in the district, notably the Hilbre cross head (gaz 5.11) and the two examples from West Kirby (gaz 5.10). The possibility of lead mining in the Clwyd Hills (gaz 1.10) leads to conjecture that there was

production of lead objects in the Lower Dee district; circle-headed expanded-arm cross type, clearly of local cultural importance, is possibly represented in this piece of metalwork. Apart from the River Thames brooch, parallels with similar decorative motifs are difficult to find. 99:M/D3, with its equal, expanded armed cross, is similar to an example excavated from 16-22 Coppergate, York (YD16, Roesdahl et al 1981:106). The cross on 99:M/D3 is also, however, a direct parallel for decorative motifs on a number of lead tavern-tokens excavated from a thirteenth-century context at Wood Quay, Dublin (NMI:E81:6198), suggesting that 99:M/D3 may be a post-conquest coin-substitute. Small lead disc brooches have been particularly common finds in York (cf Roesdahl et al 1981:105-6), where most are dated by context to the tenth and eleventh centuries (D. Tweddle, pers comm).

The *strap terminals* from Chester, Meols and Hale represent one of the largest groups of personal ornaments in the artefact assemblage. There are three 'foliate' strap terminals, two from Meols (101,102:M/ST1, 2) and one in bone from the South-West Angle Tower of the Roman fortress at Chester (13:CHE/ST 1). 101:M/ST 1 is the better preserved of the two from Meols. Its bifurcating vegetal form is reminiscent of strap terminals of ninth/tenth century Frankish manufacture, such as examples from Muysen, Belgium and Rijs, Netherlands (Fraenkel-Schoorl 1978:350,371). Cast openwork examples, although more complex than 101:M/ST 1, were excavated in tenth and eleventh-century contexts at Brook Street (1056, 1060) and the Old Minster, Winchester (1057, Hinton 1990:497-500). Hinton (ibid:496) compared 1060 to the Meols strap terminal (although the Winchester example has a containing border). By further comparison of the plant-stem with the eleventh-century *Winchcombe Psalter*, Hinton (ibid) suggested an eleventh-century date. A further (rather corroded) copper-alloy strap terminal was excavated from Lloyd's Bank, Pavement, York (MacGregor 1982:87, no 451). The iron strap terminal from Meols (102:M/ST 2) appears to be a much-corroded variant of the tongue-shaped foliate type. An identical example was discovered by metal-detecting activity at Ravendale, Lincolnshire (Scunthorpe Museum; K. Leahy pers comm). The bone example from Chester is distinguished in that the plant-stem is inhabited by two zoomorphic creatures. This variant is not common in the Dutch, Belgian and Scandinavian material (Fraenkel-Schoorl 1978) but is parallelled in southern and eastern England. The Chester strap terminal is resembles most closely in motif the copper-alloy openwork example from Ixworth, Suffolk

(Hinton 1976:23, no 17), although Winchester 1056 and 1057 are also inhabited by birds (Hinton 1990:498-9). A further non-provenanced strap terminal of this type, possibly from London, was dated by D.M Wilson (1964:207 no 148) to the tenth century. Kendrick (1938:378-9) dated Anglo-Saxon inhabited scroll including that of the Ixworth and (?)London strap terminals, to the tenth century by reference to a number of Anglo-Saxon and Ottonian manuscripts. Whilst the inspiration for these tongue-shaped strap terminals seems to be continental, the closest parallels for the Chester/Meols group suggest that they are of Anglo-Saxon manufacture ranging in date from the late ninth to the eleventh century.

The second bone tag from Chester (Abbey Green, 14:CHE/ST 2) is more simply decorated with a double-bordered, incised panel of interlace. Since it lacks the usual attachment holes found on strap terminals, there is some doubt as to its function. Since the back bears a double-bordered plain panel, it is unlikely that it represents one half of a composite knife handle or similar, such as the ornamented knife from Castle Street, Canterbury (Graham-Campbell 1978). Its long narrow shape suggests that it was used or intended for use as a small weaving or sewing batten. The interlace resembles that on the Canterbury piece (dated to the tenth century, ibid:130, 131, fig 3d), in that it has a medial incised groove. This is also present on a bone plaque from York (Waterman 1959:pl XX; Roesdahl et al 1981:117). The form of the interlace is, however, not related to either of the above examples. It consists of an unrelated series of figure-8 knots in a 'closed-circuit'-type pattern (cf Cramp 1984:xlii). Graham-Campbell (1978:132), quoting J.T Lang, stated [in relation to the Canterbury knife] that "The presence of free rings within the simple twist is *very* typical of northern English work of the tenth century, especially in slim linear panels". Bulmer (in McPeake et al. 1980:31) suggested that the Chester tag was unfinished; its discovery at one of the best-understood industrial sites in Late Saxon Chester close to a substantial range of structural and artefactual evidence for bone and antler working (gaz 4.1) may indicate that the tag was discarded at its place of manufacture.

The interlace on both sides of 103:M/ST 3 is less well executed, and is bungled on side A at several points. The interlace is set within a narrow rectilinear panel, and resembles a number of buckles and strap terminals in the Irish Sea Region. There is in fact as much justification for interpreting this piece as a buckle-plate since the

terminal is missing. The closest parallel is a buckle from a tenth-century Viking grave at Peel Castle, Isle of Man (Graham-Campbell, in Freke et al, forthcoming). The Peel buckle plate (MW) has a similar narrow, slightly tapering shape with a panel of rather angular four-strand interlace. Graham-Campbell (op. cit.) compared the Peel example to buckles from Whithorn and from a ninth-century female grave at Kaupang, Vestfold, Norway (Blindheim 1976:fig 23). The interlace panel on 103:M/ST 3 can further be compared to a zoomorphic strap terminal excavated at Christchurch Place, Dublin (NMI E122:9537). This places the Meols piece, despite its rather poor quality, within the group of Irish-Sea metalwork, mainly of ninth and tenth century date, which has already been discussed in relation to 83:M/BL 6 (above).

The remaining strap terminals from Meols (104-9:M/ST 4-9) and the strap terminal from Hale (173:H/ST 1) are all zoomorphic, with stylised animal heads forming the points. The only possible exception to this is 104:M/ST 4, whose point is missing. There seems little doubt, however, that the point was zoomorphic since the most direct parallels are of this form. A recent find from rescue excavation associated with the construction of a gas pipeline at Mayfield, Portlaw, Co. Waterford (Gowen 1988) was discussed by J.A. Graham-Campbell (in Gowen 1988:166-68). The Portlaw example is also decorated with punched circle-and-dot motifs and is (so far) apparently unique in Ireland. Graham-Campbell made a direct comparison between the Portlaw piece and 104:M/ST 4, also quoting a parallel from midden 817 (ninth-century) at Whithorn, Galloway. The circle-and-dot motif is also found on tenth- and eleventh-century hooked tags (cf. Griffiths 1988, and below), but not on strap terminals from 'purely English' contexts. The excavation of a group of forty-one graves at the Cathedral Green, Carlisle, in 1988 (Keevill 1989), produced a substantial group of ninth and tenth-century metalwork (Tweddle, forthcoming and pers comm). Many of the objects are strap terminals and buckles, and most are decorated with punched circle-and-dot ornament. The recent metal-detector finds at Cottam, North Humberside (Haldenby 1990), include a zoomorphic strap terminal decorated with circle-and-dot motifs (ibid:57, no 13), further emphasising the northern distribution of the type. This may be taken to imply that such strap terminals are an Irish Sea/ Northumbrian variant of the southern English zoomorphic strap ends, which are more commonly decorated with 'Trewhiddle Style' motifs (cf 106: M/ST 6; 173:H/ST 1).

105:M/ST 5, despite its worn condition, shows a closer affinity with ninth/tenth century Anglo-Saxon types of zoomorphic strap terminal. Similarly narrow examples, dated by D.M. Wilson to the ninth century, have been noted from Icklingham, Suffolk (Wilson 1964:136-7, no 24), and Lakenheath, Suffolk (ibid:140, no 29). An eastern English provenance is further suggested by parallels at Wharram Percy, North Yorkshire (Wharram 3:173, no 9); metal-detector finds from Cottam, North Humberside (Haldenby 1990:57,no.s 2,5,6 and 9); Sancton, Humberside (Scunthorpe Museum ER14); Bardney, Lincolnshire (Scunthorpe Museum 160) and West Ravendale, Lincolnshire (Scunthorpe Museum 165). Slightly wider examples are more common, such as the group from the ninth-century pre-destruction phase at Whitby Abbey (Peers & Radford 1943:57), a small group from York (Waterman 1959:77), Cottam (Haldenby 1990:57) and Sancton, Humberside (Scunthorpe Museum ER17). The panel of decoration on 105:M/ST 5 represents a zoomorphic motif positioned vertically in a rectangular border. The strap terminal from Hale (173:H/ST 1) and the [lost] terminal from Meols (106:M/ST 6) both have clearer representations of such beasts. The Trewhiddle Style of ninth-century Anglo-Saxon art (so named after the Trewhiddle (Cornwall), silver hoard (Wilson 1964:181) is distinguished for the use of such stylised zoomorphic motifs with backward-turned heads, V-shaped mouths and lentoid eyes. The heads often have lappets (cf. Wilson 1964, no 95,96,97) and the tails develop into simple, angular interlace. Two silver strap terminals formed part of the hoard (Wilson 1964, nos. 97,98), but the zoomorphic ornament extended to a range of silver objects. The Hale strap terminal, having only a single panel of zoomorphic decoration, is closer to the Trewhiddle examples in style. 106:M/ST 6 may have had Trewhiddle-style animals in the three panels of decoration. The details, however, are difficult to pick out in Hume's plate. A division of decoration into three panels is much less common than a single panel on these pieces, although there are no grounds for suggesting any difference in date. A further lost example (107:M/ST 7) appears to have had a pointed snout, although it is not clear whether it was further decorated. Since the majority of parallels come from eastern and south-eastern England and are commonly dated to the late ninth century, there seems every reason to suppose that the Meols and Hale examples have a similar provenance and date.

The further two [lost] strap terminals from Meols (108,9:M/ST 8 and 9) are also zoomorphic, but their style lies more in their form than their decoration since

neither has a carved panel. These cast pieces retain some of the features of the 'Trewhiddle' examples, but are later in date and mass-produced in that they lack the individualism of the decorative features in the 'Trewhiddle' group. 108:M/ST 8 is a stylised and simplified version of the basic form of Anglo-Saxon zoomorphic strap-terminal, with a snout forming the unattached end and two attachment holes. The attachment end is indented with two grooves, giving the effect of two lugs and a small central pojection. This is identical to the attachment end of hooked tag 110:M/HT 1, and comparable hooked tags from York (see below, discussion of hooked tags). A curved device (cf also 105:M/ST 5) is carved under the attachment holes; this is a standard feature on ninth century Anglo-Saxon strap terminals (cf. Wilson 1964: no 71; Peers & Radford 1943: 57, fig 11, 1,4,7,9 and 10). These motifs, approximately a 140-degree segment with indented sides and often, as on 108:M/ST 8, divided into three fields, resemble a motif more commonly associated with Pictish art. The 'crescent' motif known from stones on South Ronaldsay (Orkney), Golspie (Sutherland), Aberlemno (Angus) and Hilton of Cadboll (Ross) (Henderson 1967: nos. 29,31,59,60) is an important feature of sixth to ninth-century public art in Scotland (ibid: 113ff) and may possibly have influenced these [inverted] motifs on the strap terminal. A copper-alloy split-end terminal with horizontal hatching or grooves was recently discovered by metal-detecting activity at Withcall, Lincolnshire (Scunthorpe Museum acc 173). The simpler, rectilinear strap terminal variation (109:M/ST 9) is more common in urban contexts of the tenth and eleventh centuries. The square attachment plate and chamfered profile also occur on a strap terminal excavated from Fishamble Street II, Dublin (NMI E172:11925) the context of which (plot 3, level 8) is dated to the second half of the tenth century (D. Caulfield, pers comm). The large number of zoomorphic strap terminals from the Dublin excavtions span the tenth, eleventh and early twelfth centuries in date of context, but become more stylised in the eleventh century with composite split-end examples progessively outnumbering the single cast pieces. This development is also notable within the assemblage from the Winchester excavations. Simple terminals bearing horizontal grooving and with indented attachment ends (cf. 108:M/ST 8) include 1065 and 1066, both from eleventh-century contexts (Hinton 1990:501-2). The plain, derived zoomorphic type continues in contexts of the medieval and post-medieval periods. An exception to this suggested chronology is 1062, a very plain split-end terminal which is from



a context dated to the ninth century (ibid:501). Nevertheless, the majority of the comparative material suggests that the 'Trewhiddle' strap terminals from Meols and Hale are ninth-century and southern or eastern English in provenance. 103-4:M/ST 3 and 4 are more closely related to Irish Sea/Northumbrian parallels, whilst the two simpler forms (108-9:M/ST 8 and 9) are part of a more mass-produced feature of urban material culture of the tenth and eleventh centuries with a distribution both in England and Ireland.

The thirteen *hooked tags* from the Lower Dee/ Mersey area (110-18:M/HT 1-8; 15-19:CHE/HT 1-5) have recently been the subject of a published discussion (Griffiths 1988). These (mainly copper-alloy) artefacts are common finds in Late Saxon contexts, especially in the central areas of Wessex and Mercia. These include Whittington Court, Gloucestershire, (Dunning 1952:79), Silchester, Hampshire (Boon 1959:83), Shakenoak, Oxfordshire, Burwell and Shudy Camps, Cambridgeshire (Dickinson 1973:116-7), Cirencester, Gloucestershire (Brown, in McWhirr (ed) 1976:26-8) and Portchester Castle, Hampshire (Hinton & Welch, in Cunliffe (ed) 1976: 214-6). Hooked tags were also common items of dress in the Northumbrian monastic communities of the ninth century, as demonstrated by the finds from Whitby Abbey (Peers & Radford 1943:60, no 62) and St Paul's, Jarrow (Cramp 1976:17). Metal-detecting activity has led to the finds of several hooked tags of both copper-alloy and silver (cf. Scunthorpe Museum Collections; Haldenby 1990:55). Urban excavation has produced many examples, including an extensive collection from Winchester (Hinton 1990:548-52) together with smaller groups from York (D. Tweddle, pers comm), Hereford (Shoesmith 1985:11), Thetford, Norfolk (Goodall, in Rogerson & Dallas 1984:72), Lincoln (J. Mann, pers comm) and two examples from Dublin (NMI E190:7411, later tenth-century context and E122:12639, late eleventh-century context: D. Caulfield, pers comm). In addition to copper-alloy examples, silver hooked tags with fine engraved and inlaid decoration have been found at Whitby Abbey (Peers & Radford 1943: 10, fig 2), the Cathedral Green, Carlisle (grave 001, Tweddle, forthcoming), Tetney, Lincolnshire (Wilson 1964: 262-4), the Cathedral Green, Winchester (1407, Hinton 1990: 550), 'east Kent' and Canterbury (Graham-Campbell 1982b: 144-8). The silver tags can be dated by association with associated hoard finds and also from an art-historical perspective to the ninth/tenth centuries (Griffiths 1988:45). The copper-alloy version has a longer period of use, with stratified contexts dating to between the

seventh century (in Anglo-Saxon cemeteries) and the twelfth/thirteenth century (ibid). The majority of stratified tags date, however, to the tenth and eleventh centuries. The only substantial evidence for manufacturing comes from Lincoln, principally from mid/late eleventh-century contexts (Roesdahl et al 1981: 101, G3 & G4; J. Mann, pers comm). At Flaxengate, fragments of thin sheet copper-alloy of a similar size to complete tags from Flaxengate, Broadgate East, Danes Terrace and St Paul-in-the-Bail appear to be unfinished examples of both triangular and circular hooked tags. There are at least thirty triangular and five circular plates in an unfinished state from Flaxengate and one from West Parade (J. Mann, pers comm).

The Chester and Meols examples fall into the two categories of circular-plated and triangular-plated (these two categories are common to the entire range of hooked tags). In some cases there are projecting lugs for the attachment holes, and some of the attachment holes seem to be secondary features. Decoration is of simple form, punched or tracer-punched, except for 117:M/HT 8 which has an inlaid design. 110:M/HT 1 is among the more elaborate hooked tags. It is similar in shape and size to 17:CHE/HT3; both have indented upper edges. A hooked tag from 16-22 Coppergate, York (Hall 1981, fig 121b), is of similar shape and size and is decorated with circle-and-dot motifs. Winchester 1416 (Hinton 1990:550-51) is comparable, having random punched-dot decoration, and was found in a late eleventh/ early twelfth-century context. 16:CHE/HT 2 and 19:CHE/HT 5 are examples of the more elongated triangular hooked tag which is a common variant. Recently excavated parallels include Winchester 1408-11, 1413-5 and 1417 (Hinton, ibid). Their contexts are dated to between the mid-tenth century and the early twelfth century. The closest parallel to 16:CHE/HT 2 is Winchester 1411 which is from a late tenth-century reconstruction of the Old Minster (Hinton, ibid:551).

Of less elongated triangular hooked tags, two copper alloy examples from Cirencester, nos. 18 and 20 (Brown in McWhirr (ed) 1976: 26-7) are decorated with a tracer-punched pattern around the edge of the plate providing a close parallel for 111:M/HT 2. Amongst the circular-plated hooked tags in the Chester/Meols group, two (115,6:M/HT 6 and 7) are deocorated with a cast concentric circular design. They are very similar to an example from Bardney, Lincolnshire (acc

Scunthorpe Museum; K. Leahy pers comm). The St Albans tag (Biddle & Kjølbye-Biddle 1981: 23, fig 8), a tag from Wharram Percy, Yorkshire[2] and Winchester 1424 (Hinton 1990:551) differ only in that they have projecting lugs for the attachment holes. There are two plain examples from the Cathedral Green, Winchester (1426 and 1427, Hinton op. cit: 551-2) which are comparable to 112:M/HT 3 and 113:HE/HT 4, and are from contexts of, respectively, AD 1110 and the late eleventh century. 113:M/HT 4 and 8 have projecting lugs for the attachment holes. 113:M/HT 4 is the largest hooked tag from Meols. What remains of the decoration on the plate can be discerned as a division of the surface into three fields, in a similar fashion to the designs on the silver hooked tags from east Kent and Canterbury (Graham-Campbell 1982b:145). A tag very similar in form but decorated with a *triquetra* was discovered in York (Waterman 1959:77, no 11). 117:M/HT 8 has the most elaborate decoration of the Meols tags. The shape of the tag is almost exactly similar to Winchester 1425 (Hinton 1990:551) which is from a context dated to the mid-eleventh century.

The function of hooked tags has been discussed by D.M Wilson (1964:64), T.M Dickinson (1973:116-7), J.A. Graham-Campbell (1982b:145-8), a debate which was recently summarised in relation to the Chester/Meols examples (Griffiths 1988:45-6). The main theories as to their use include garter hooks (prompted by the discovery of two silver tags below the knees of a skeleton in a ninth-century grave (no 67) at the Cathedral Green, Winchester (Hinton 1990:549). More general use in contemporary apparel is suggested by the positions of hooked tags in graves under the skull of the inhumation (at Burwell, Cambridgeshire, Dickinson 1973:117), by the left hip (at Shudy Camps, Cambridgeshire, ibid) and in the pelvic region (at St Albans Abbey, Hertfordshire, Biddle & Kjølbye-Biddle 1981:23 fig 8). J.A. Graham-Campbell (forthcoming, a), using the evidence of silver hooked tags in hoards from Tetney, Lincolnshire, and the Forum, Rome, argues for an additional function as purse-fasteners.

The comparative material briefly surveyed above suggests that the Chester/Meols group is Anglo-Saxon in provenance, dating from between the early tenth century and the late eleventh/early twelfth century. The variation in form appears to exclude common manufacturing origins: rather it suggests importation from a

[2] I am grateful to Dr J.A Graham-Campbell for this information.

number of diverse locations. There is no evidence for manufacture at Chester or Meols in the form of unfinished plates.

There are in total forty-six *pins* (including fragments) from the Lower Dee/Mersey Area which can be associated with the period AD 800-1100, including thirty-four from Meols (five lost), ten from Chester and two from Hale. All of the pins are copper-alloy with the exception of silver disc pins from Meols (118:M/DP 1) and Hale (174:H/DP 1), and an iron disc or spatulate pin from Meols (119:M/DP 2). Pins, as relatively simple artefacts, exhibit minor variation in form up to the thirteenth century when most were cast (C. Caple, pers comm). Nearly all retain the basic form of head and pointed shank. Typological studies which break down pin-types into very restricted groups may be in danger of over-emphasising very small divergences in style. Clear chronologies based on excavation sequences from as little as one site, or a small number of related sites (eg. O'Rahilly 1975) need to be used with some caution in the wider field of comparative study. For the purposes of this thesis, the three main variations: disc-headed pins, ringed pins and stick pins have been used as the basis of the catalogue and discussion.

There are up to six disc pins recorded from Meols and Hale. Of these, 119:M/DP 2 and 175:H/DP 2 are possibly *styli*, and are more likely to have been used as writing-instruments rather than dress-fasteners. Silver disc pins such as 118:M/DP1 and 175:H/DP1 are highly conspicuous, finely-ornamented pieces of personal equipment. The group is typified by the Witham Pins (Lincolnshire), dated by D.M. Wilson (1964:134) to the eighth century. Wilson (ibid:57) discussed the Meols example among a number of (bronze or gilt-bronze) parallels, including examples from South Ferriby, Lincolnshire (cf. 118:M/DP1; Kitson-Clark, 1941) and Hitchin, Hertfordshire (Wilson 1964:58), suggesting that the Meols example was originally part of a linked set. The lost disc pin from Meols (121:M/DP 4) was apparently decorated with a cross similar to that on the silver disc pin from Pontefract, South Yorkshire (Bailey 1970). Other pins with expanded-arm crosses are known from Kegworth, Leicestershire (Wilson 1964:ibid), Roos, East Yorkshire (Kitson-Clark 1941) and Birdoswald, Cumbria (Cramp 1964:90, pl 1). Wilson argued (ibid) that such disc pins should be dated to the eighth century. The example from Whitby (Peers & Radford 1943:60, no 60), and three more recent discoveries at Cottam, North Humberside (Haldenby 1990:52) were discovered with mainly

ninth-century material and suggest that the date range of these objects should be revised forwards. The small Hale pin head is decorated with a 'Trewhiddle Style' zoomorphic motif and lacks the central boss of the above examples. The small circular-headed disc pin from Meols (120:M/DP 3) has closer affinities with a range of disc-headed pins in Northumbria and the Irish Sea region, and is probably to be dated to the ninth/tenth centuries. The silver Talnotrie pins (deposited c AD 875, cf. Wilson 1964: pl IV), although decorated, have perforations near the edges of the heads. Comparable examples, although unperforated, include a bronze pin from the ninth/early tenth century Viking burial at Knock-y-Doonee, Isle of Man (Manx Museum) and a pin excavated from High Street, Dublin (decorated with an expanded-armed cross; NMI E71:10757). Simple disc-headed pins decorated with circle-and-dot motifs are known from Whitby (Peers & Radford 1943:61) and York (Waterman 1959:78, fig 11), perhaps further emphasising the northerly distribution of Late Saxon-period metalwork with this form of decoration.

119:M/DP 2 and 175:H/DP 2 both have a wide, flat head and an expanded shank, which has two baluster mouldings in the case of the Meols pin. M/DP 2 conforms to C. Caple's characterization of a *stylus* as "having a point at the end of the shaft, a flat wide blade at the opposite end and a minimum of two bars at intervals down the shaft, to enable to shaft to be gripped" (Caple 1986:13). Despite the lack of such bars, the Hale pin could also be a stylus. The two silver spatulae from the Sevington Hoard, Wiltshire, dated by Wilson (1964:168-9) to before 850, bear some resemblance to 119:M/DP 2. A very close parallel to the Sevington spatulae (although in copper-alloy) was excavated from Fishamble Street III, Dublin (NMI E190:7617). Small bronze and iron styli such as those from Whitby (Peers & Radford 1943:65), Canterbury (Radford 1940:507) and Abingdon (Hinton 1974:8, no 2), commonly have triangular heads. This distribution suggests a ninth/tenth century Anglo-Saxon provenance.

Ringed pins form one of the most conspicous groups in the finds assemblage. They were defined by T. Fanning (1975:211) as consisting "essentially of a pin with a swivel-ring attached to a looped or preforated head". E.C.R. Armstrong (1922) noted several types of ringed pin amongst Irish finds, suggesting a range of types later expanded upon by Fanning. Fanning (1975:213-5; 1983:33; 1988: 164-5). The

the most significant variations in the assemblage from Chester and Meols can be described (after Fanning), as follows: *Rings:* spiral, plain, kidney and stirrup; *Heads:* loop, baluster, polyhedral and crutch. The following combinations are present: *spiral ring:* 122:M/RP 1; *plain ringed, loop headed:* 123-6:M/RP 2-6; *plain-ringed, baluster-headed:* 128: M/RP 7; 20:CHE/RP 1; *plain-ringed, polyhedral-headed:* 129-31:M/RP 8,9,10; 21,2:CHE/RP 2, 3; *kidney-ringed, polyhedral-headed:* 132:M/RP 11; and *stirrup-ringed, crutch-headed:* 23:CHE/RP 4.

Although ringed pins have long been recognised as a characteristic Early Christian artefact (Armstrong 1922), more recent research by Fanning and others has led to their recognition as an important aspect of insular Norse material culture. Fanning (1983a:34) associated certain types with the "western sea-routes of the Vikings", with a distribution extending from Norway, Scotland and the Irish Sea to Iceland and North America (the single example from L'Anse aux Meadows, Newfoundland (Ingstad 1977:32. fig 3), itself something of a *cause celèbre*, raises more questions than answers about the significance of isolated individual finds and the transmission of material culture). Studies of the date of ringed pins have concentrated both on their morphology, perceiving evolutionary developments in style (Armstrong 1922) and on relating the pins to other datable aspects of their archaeological contexts (Fanning 1988). For this type of object, the Dublin excavations by A.B. Ó Riordáin and P.F. Wallace have been particularly instructive, yielding over two hundred examples and "forming approximately one third of the known total of such pins from Irish and Viking Contexts in Europe" (Fanning 1988:161).

The earliest variation of ringed pin represented at Meols is the spiral ringed type (of which one spiral ring, now lost, was recorded by Hume (122:M/RP 1). Fanning stated (1983b:325) that the spiral-ringed type is "probably the earliest class of ringed pin". Finds from fifth and sixth-century ringforts at Ardagh, Co. Longford and Killealy, Co. Antrim are indications of the *floruit* of this form and their decline has been dated by Fanning (ibid.) to the earlier Viking period. A find of a spiral-ringed pin in a mid tenth-century context "from the lowest boulder clay levels" at High Street, Dublin, and their general absence in other tenth- and eleventh-century contexts (Fanning 1988:165) indicate that spiral rings were obsolete by the tenth century.

The plain-ringed, loop-headed type (123-7:M/RP 2-6) is more widespread and continued in use into the tenth century. Pre-Viking Irish origins are demonstrated by the finds of examples in late a seventh-century context at Garryduff Ringfort, Co. Cork (O'Kelly 1963:85, fig 8) and a ninth/tenth- century context at Ballinderry Crannog No 2, Co. Meath (Hencken 1942: fig 18, no 73). The plain-ringed, loop-headed type continued in use outside the Norse-dominated settlements in Ireland, where stray finds represent the majority of examples (cf. Fanning 1969:7; Kelly 1986a:181; 1986b:61). Unlike the spiral-ringed type, however, the loop-headed type is found over a much wider area outside Ireland. Examples may have found their way across the Irish Sea to Meols in the context of pre-Viking monastic activity. Nevertheless the majority of plain-ringed loop-headed pins outside Ireland are associated with Viking contexts of the ninth and tenth centuries. Around fifteen are known from Viking graves in Scotland (Fanning 1983b:325). Most are from coastal areas in the North and West of Scotland (ibid:333-36). These parallel the grave finds from Larne, Co. Antrim (Fanning 1970:77) and Islandbridge/Kilmainham, Dublin (Bøe 1940:42, fig 20; also D. Caulfield, pers comm). The loop-headed pins from the Dublin excavations are outnumbered by polyhedral and crutch-headed pins, but individual examples (eg E172:11242, Fishamble Street II) continued in use until the end of the tenth century (dated by association in building level 10 with a coin of Æthelred, c AD 1005; D. Caulfield, pers comm). A loop-headed ringed pin was also excavated from a Norse grave (IV) at Peel Castle, Isle of Man (Graham-Campbell, in Freke et al., forthcoming), which Graham-Campbell (ibid.) compares to an example from Dalkey Island, Co. Dublin (Liversage 1967:230-31). The plain-ringed loop-headed type also made the transition to Scandinavia; examples have been found at Kaupang, Vestfold, Norway (Blindheim 1976: fig 16), Tranås, Jøa, Nord Trøndelag (T18791), Låen, Sogn og Fjordane (B6665), Ytre Onøy, Lurøy, Nordland (TS4282b) and as far north as Lille Tamsøy, Nordkapp, Finnmark (TS1068). Amongst upwards of fifteen finds from Birka, Uppland, Sweden (Arbman 1940:pl 44-6), are several pins with a wide, flattened shank, comparable to 125:M/RP 4. Pins from graves 1007 (ibid: pl 44,1), grave 832 (ibid: pl 44,2) and grave 750 (ibid: pl 46,1) are most closely comparable, the latter also having a penannular loop. Other examples, a silver pin from Nordland, Norway (B5886), and a copper-alloy pin from Nordby, Hof, Vestfold, Norway (C 17189),

stress the Scandinavian distribution of this variant (which is little known in insular contexts). This leads to the suggestion that 125:M/RP 4 is a direct import from Scandinavia, probably from the Baltic (cf. also Bu'Lock 1960:19). Fanning (1983a:33) suggested that the Norse adopted the loop-headed form in the ninth century. Consequently, its *floruit* of the ninth and tenth centuries coincided with the period of early Viking settlement in the Irish Sea region and therefore with the period of relatively close cultural affinity with the Scandinavian homelands.

Plain-ringed baluster and polyhedral-headed pins (128-31:M/RP 7-10; 134-6:13-15; 20-2:CHE/RP 1-3) are, by contrast, hardly known in Norway and Sweden, although they represent the majority type in Iceland (Fanning 1983a:33). Fanning dated this type to the tenth/eleventh centuries (in litt). Their distribution in Ireland is similar to the loop-headed variety with the largest groups from Viking Dublin (circa 90) and royal sites in the midlands such as the Stokestown Crannogs, Co. Roscommon (Ardakillan, Cloonfilhough) and Balinderry Crannog, Meath (T. Fanning, pers comm). In England and the western isles of Scotland their numbers are greater than the loop-headed variety. Examples from Scotland (Fanning 1983b:333-36), the Isle of Man (Fanning 1983a; Graham-Campbell, in Freke et al., forthcoming) and Wales (Davies et al. 1971: 106-8, pl XI), maintain the earlier picture of coastal and insular distribution. In England, however, the baluster and polyhedral-headed types are mainly found in urban contexts, of which the two most significant are York (Caple forthcoming) and Chester. Despite doubt as to whether the loop-headed type died out in the tenth century, there do appear to be a number of differences between the distributions of the loop and baluster/polyhedral head types. The former, non-urban, little known in England and relatively common in Scandinavia, can be contrasted with the latter with its more westerly distribution and slightly later contexts. This might indicate a divergence in material culture patterning between the Insular Scandinavian settlements and Scandinavia itself, with Iceland continuing to receive strong Insular influence.

The ringed pins from Meols decorated with a lozenge motif on the baluster or polyhedral head (129-31:M/RP 8, 9, 10) are closely comparable to a range of pins from Dublin, indeed this seems to have been one of the most popular types. A pin excavated from Fishamble Street I, whose context is dated to the late tenth century (NMI E141:3666; D. Caulfield, pers comm) is parallelled by E172:10879 (Fishamble

Street II, dated by coin association to the second half of the tenth century. Further examples of the lozenge-decorated form include E141:6035, E141:4616 (Fishamble Street I, both from tenth-century contexts). The overall range of Dublin contexts suggest strongly that these are later tenth-century in date. The rather corroded polyhedral-headed pin from Meols (131:M/RP 10) is decorated on one side with a small incised cross and on the other with a lozenge-shaped quatrefoil interlace motif. This is also paralleled in Dublin on a large gilt pin from Fishamble Street II (NMI E172:14237) which is dated by association with a coin of Edred to AD 946-55. Other pins with this motif from Dublin include E172:3589 (late tenth-century context) and E172:10737. The quatrefoil motif occurs on polyhedral-headed pins from Cronk Mooar, Isle of Man (Fanning 1983a:28), Lochlee Crannog, Ayrshire (Fanning 1983b:328), Buckquoy, Orkney (Tankerness House Museum, Kirkwall) and Arnesyssla, Iceland (Graham-Campbell 1980b:57, no 201), emphasising a western Norse distribution. The cross is similar to one on a ringed pin excavated from a tenth-century grave (grave II) at Peel Castle, Isle of Man (Graham-Campbell, in Freke et al, forthcoming). The simple polyhedral head decorated with punched dots, (135:M/RP 14, 136:M/RP 16; 21:CHE/RP 2), is also common in tenth and eleventh-century contexts in Dublin (eg. E172:7817, late tenth century, Fishamble Street II; E81:1207 and E81:1308, Winetavern Street), in addition to other contemporary urban centres (eg. Waterman 1959:103, fig 25, 1).

The kidney-ringed type (132:M/RP 11) has been shown by Fanning to be a slightly later development within the polyhedral-headed class, where "the ring, though still cast separately, is more like a cap with the tiny projecting tenons which attach it to the pin head allowing just a minimum of movement" (1988:168). Of twenty-nine excavated to date from sites in Dublin, the majority are from tenth- and eleventh- century contexts, with the emphasis on the eleventh century. The class is known from sites in the Irish midlands (Lagore and Ballinderry Crannog No 1), monasteries at Derry, Co. Down and Clondalkin, Co. Dublin, together with a few from the Hebrides and one from Iceland (Fanning 1988:168-9). The weight of stratified dates in Dublin favours the eleventh century (D. Caulfield, pers comm). The class has an even more restricted westerly distribution (not even extending to the Earldom of Orkney) and the kidney-ringed pins can be seen as a type current only in the Irish Sea region, perhaps suggesting a much lower manufacturing output

than for previous types. It may be the case that kidney ringed pins were only produced in Dublin as opposed to a range of sites for the plain-ringed types.

The stirrup-ringed, crutch-headed class (23:CHE/RP 4) is also restricted in distribution. This variant is uncommon outside Ireland. An example was excavated from context F3194 at Whithorn, Galloway (+87/3452; P. Hill, pers comm), which adds to the seven recorded by Fanning (1983b:340-42) from coastal contexts in western and northern Scotland. A closely -related stick pin type was observed at Jarlshof, Shetland (Hamilton 1956:127, fig 60, 1). One example is recorded from St Augustine's Abbey, Canterbury (Radford 1940:507). The majority of stratified dates from Dublin (D. Caulfield, pers comm) and Ballinderry Crannog No 1 (Hencken 1936:152,157,221) are eleventh and twelfth century (cf. Fanning 1969:10) which put this type of ringed pin among the latest and least popular of ringed pin forms.

Evidence for casting ringed pins in the form of moulds is very sparse in proportion to the number of pins in the Irish Sea region and beyond. Excavations at Garranes, Co. Cork (O Riordain 1942:fig 16) and Ballinderry Crannog No 2 (Hencken 1942:49) have produced clay moulds. The Garranes moulds include evidence for the production of rings (nos. 109, 291a and 400) and shanks (292e, 405b, 405c). The only ringed-pin mould in a tenth-century Norse context was excavated from Christchurch Place, Dublin (NMI:E122:16170). Moulds found at the Mote of Mark, Traprain Law and Helgö (below) show ample evidence for the production of stick pins but no ringed-pin matrices have been identified from these sites. The Chester and Meols pins have all been cast, with the exception of 123:M/RP 2, which was wrought by rolling a copper-alloy sheet into a rod for the shank (the seam from the manufacturing process is clearly visible in the photograph (plate 11), taken before the pin was stolen in the 1970's). All of the examples were finished with filing, which has left visible file marks on the undersides of the heads of 123:CHE/RP 2 and 132:M/RP 11. The loop heads were formed by having the upper end of the shank hammered or cast flat and then looped over and forged with itself, a process illustrated by Kelly (1986:182) for pins from Cortial, Stabannen and Roche, Co. Louth. The ring of 128:M/RP 7 and rings 137,8,140:M/RP 16, 17 and 19 were cast as a straight square rod and then twisted into shape.

The *stick pins* from Chester and Meols can readily be divided into two groups;

box headed, ball-headed and polyhedral-headed pins (with mainly English and Scottish parallels) and lobe-headed pins (which have mainly Irish/Irish Sea parallels). The polyhedral-headed class of stick pin (26-8:CHE/SP 3,4,5; 141-6:M/SP 1-6) is a common type from the Roman period through to the Late Saxon period (Caple forthcoming). Silver examples with plain undecorated pin heads are most closely associated with Late Roman contexts (Caple, op. cit.), although decorated silver examples are known from the Late Saxon period (eg. from the ninth-century Trewhiddle hoard, Cornwall; Wilson 1964:182, no 92). Copper-alloy pins decorated with incised circle-and-dot motifs (comparable to a number of the Meols pins) are known from Late Saxon and Anglo-Scandinavian contexts including Southampton (Addyman & Hill 1970:67, nos. 5-8), Winchester (1432,1433, tenth and eleventh-century contexts; Hinton 1990:557-58), Maxey, Northamptonshire (Addyman 1964:63, fig 17), Whitby Abbey (Peers & Radford 1943:61, fig 13, nos. 2-4) and York (Waterman 1959:78, fig 11, nos. 5,6,7,12). Four examples have been excavated from stratified contexts at 16-22 Coppergate, York (nos. 10103, 8815, 5197 and 7177). All are dated by context to the tenth century (Caple forthcoming). Stray finds have been common around the Humber, with examples from Sancton, Bardney and Horncastle (acc. Scunthorpe Museum, K. Leahy, pers comm). One example was excavated from Fishamble Street II, Dublin (NMI E172:1600) although there were not enough examples of this type to enable C. O'Rahilly to include them in her chronological table of Dublin stick pins (O'Rahilly 1975:fig E).

Biconical pins with a slightly flattened edge (29:CHE/SP6; 155,6:M/SP 15,16) are known mainly from Anglo-Saxon contexts. They are known in Roman contexts in bone (Caple 1986:31), but copper-alloy examples are more common in Late Saxon contexts or groups of finds. An example from Whitby (Peers & Radford 1943:61, no 3), one from Barking Abbey, Essex (S. Girardon, pers comm) and one from St Albans Abbey, Hertfordshire (cf. Caple 1986:32), give them a peculiarly ecclesiastical distribution. Other finds of this type from York (Waterman 1959:78) and of course, the Chester and Meols examples may be related to ecclesiastical activity since they are all found in the vicinity of churches or monastic sites.

Ball-headed and globular-headed stick pins (147-50:M/SP 7-10), occasionally decorated with punched circle-and-dot motifs, seem to be more closely related to

Irish Sea and Northumbrian parallels than the polyhedral and biconical examples. Although a number of parallels exist, including those from Whitby (Peers & Radford 1943:61, no 2), York (Waterman 1959:78, fig 11, nos. 9,10), Cottam (Haldenby 1990:55) Sancton, Newbold and South Ferriby (K. Leahy, pers comm), and Winchester (1430, Hinton 1990:555). A direct parallel for 150:M/SP 10, a ball-headed pin decorated with a horizontal incised line, was excavated in 1988 from a tenth-century grave (17) at the Cathedral Green, Carlisle (Tweddle, forthcoming). There is also some evidence for manufacturing of ball-headed pins. Moulds have been excavated from the Mote of Mark, Kirkudbright (Caple 1986:114), Dunadd, Argyll (ibid: fig 4.2) and Garranes, Co. Cork (Ó Riordáin 1942:122, nos. 291b, 292e, 460) all show possible ball-headed pin matrices. Moulds excavated at Helgö, Sweden (Holmqvist 1972:45) show that a single manufacturing site could produce several variants of a single pin type seemingly at the same time, perhaps casting some healthy doubt on the fine chronological distinctions occasionally argued between typological variations of these simple and functional artefacts.

Two lobe-headed pins from Chester (24,25:CHE/SP 1 and 2) are part of a distinctive group of objects which have become increasingly characteristic of the Irish Sea trading ports of the eleventh century. These are characterised by an expanded shank, with a small head decorated with carved, incised or cast ornament in relief and commonly also decorated with incised and inlaid motifs at the upper end of the shank below the head. Armstrong (1922:72-3) suggested that the *triscele* ornament on a pin from Stokestown Crannog, Co. Roscommon, a close parallel for 24:CHE/SP 1, dated from the pre-Christian La Tene period. The incised cross on the shank of the Chester example suggests that the pin is not pre-Christian. Crosses are a common motif in this position, also noted on pins from Dublin (Christchurch Place E122:14622) and Waterford (E435:324:1). The triscele motif is also present on pins from St. John's lane (E173:3572) and Fishamble Street III (E190:660), in addition to three finds from Whithorn, Galloway (+86/715/1; +86/640/1; +87/2172, eleventh-century contexts, P. Hill, J. Comrie, pers comm). Other examples of the lobe-headed and club-headed stick pin types are common in Dublin and Waterford, although the recent excavation in Wexford (E, Bourke, pers comm) did not produce any examples. The majority of stratified contexts at Waterford favour the eleventh and twelfth centuries (A. Hayden, pers comm); this is also the case in Dublin where the majority of examples date to after AD 1025 (D.

Caulfield, pers comm; eg. E172:529; E172:558; E172:2234; E190:612; E190:660; E190:570). This partly confirms the dating suggested by O'Rahilly (1975:67) for the assemblage from High Street and Winetavern Street, where she dated the type to 1100-1280. Nevertheless, the Fishamble Street chronology leads to doubt as to whether the class continues quite so long into the twelfth century.

The lead *spindle whorls* from Meols (157-8:M/SW 1,2) are parallelled in tenth to twelfth century contexts in Dublin, with a large number from Christchurch Place and Winetavern Street (D. Caulfield, pers comm). Such simple artefacts are rather undiagnostic in respect of culture and geographical provenance, but remain evidence for domestic production of textiles in the Meols settlement. The sandstone spindle whorl (159:M/SW 3) is likely to be a local product. The lead industries on Halkyn Mountain (gaz 1.10) may have furnished the raw material for the production of simple lead artefacts at Meols. A further lead object, the anchor-shaped artefact from Lower Bridge Street, Chester (44:CHE/Misc 3) may be a fragment of a weight. A similar [whole] object, excavated from 16-22 Coppergate, York (Yorkshire Museum 1980.7.7606) has been interpreted as a weight (D. Tweddle, pers comm).

The miscellaneous small iron objects from Chester, mainly from Abbey Green (47-9:CHE/Misc 6-8) and the knives from Meols (160,61:M/K 1 and 2) are only tentative additions to the catalogue since their contexts do not permit more than a possible Late Saxon date. Most of the objects are severely corroded, making any conclusions as to type and provenance very difficult. They indicate the use of iron in domestic contexts, and in particular the domestic processing of wool.

The comb fragments from Chester are more easy to interpret, especially in the light of the substantial evidence for bone and antler-working industries at Abbey Green (above, cap 4.1, also gaz 4.1). 31:CHE/CF 1, a fragment of a composite double-sided comb, is part of a range of double-sided early medieval combs discussed by A. MacGregor (1985:93-6). Double-sided combs are far less common in Western British and Irish contexts in the Viking period than single-sided composite examples. Many of the examples quoted by MacGregor (ibid), such as those from Jarlshof, Oslo and Bergen, are from later medieval contexts. A near parallel for 31:CHE/CF 1 was discovered in the Saxon phase at the multi-period settlement of

Sutton Courtenay, Berkshire (Leeds 1947:85, pl XXII,a). An example from York (YAB 11, Roesdahl et al 1981:100) adds a further parallel in a Late Saxon context. A fragment of side-plate, also from Sutton Courtenay (Leeds, ibid), is decorated with the characteristic cross-hatching seen on the Chester comb. Such cross hatching is one of the most common motifs on the side plates of single and double-sided combs from many Viking-period and later medieval contexts. In Dublin, where there is very substantial evidence (particularly at High Street and Christchurch Place) for comb production in the tenth and eleventh centuries (above, cap 4.2), a number of combs have this motif. These examples include E172:13216 (Fishamble Street II), dated to the mid-tenth century and E172:5509, dated to the early eleventh century (D. Caulfield, pers comm).

The most common type of comb in Dublin is the form identified by K. Ambrosiani (quoted by MacGregor 1985:88) as the "comb with deep, thin side plates" (elongated side plates with a straight lower edge and a gently curved upper edge). End plates commonly project from the side plates and are trapeziodal or rectangular in shape. This type of comb is common across the 'Viking world', also being found in York (Roesdahl et al 1981:100), Birka (Ambrosiani 1981) and Hedeby (MacGregor 1985:89-90). A well-preserved example of a comb of this type was excavated from a grave at St. Patrick's Chapel, Heysham (Lancaster Museum 87.52). Fragments are also known from Whithorn, Galloway (P/WH/22) and the Viking grave at Larne, Co. Antrim (Fanning 1970:75). This seems to have been a type common to the northern Irish Sea Region. No examples of this type are known amongst the considerable corpus of early medieval combs from eleventh-century Waterford and twelfth and thirteenth-century Cork (M. Hurley, pers comm). The common type in the *Ostman* trading towns of southern Ireland is the 'shallow, thick-side plate' variation. This is parallelled in London (MacGregor 1985:89 k), reflecting the close trading relationship between the Irish south and the English south. This is further indication of some divergence (also noticed in domestic architecture and the distribution of coin hoards, see above, cap 4.1, below cap 6.6 and Kenny 1987) between Dublin and the northern Irish Sea, and the sphere of influence of Waterford. The end-plate from Greyfriars Court, Chester (32:CHE/CF 2) could conceivably be from either of the above types of comb. The complete side-plate of a comb case from an unstratified context at 12, Watergate Street (34:CHE/CF 4) is clearly rep-

resentative of the deep thin side-plate group and therefore has northern affinities within the Irish Sea region.

5.2 Stone and Jet

A sandstone spindle-whorl (159:M/SW 3) has already been mentioned in the discussion of other (lead) spindle whorls (above). The *ingot moulds* (38,39:CHE/IM 1,2) are among the most important stone finds. The reservoirs on both moulds are 'cigar-shaped', suggesting that they were primarily for the casting of ingots such as those in the 1950 Castle Esplanade Hoard (appendix C), although none of the Chester ingots fits precisely any of the matrices on the two moulds. Rutter (1985:64) quoted parallels for the Lower Bridge Street mould from Bute (St Blanes, Anderson 1900:311), and Dun Beag Broch, Skye (Callender 1921:122-3). S. Kruse (1988b:46ff), in a general study of Viking-Age ingot moulds, located the major concentrations of finds in England in the Anglo-Scandinavian towns of York (eg. Coppergate, 116, YM W 7), and Lincoln (eg. Flaxengate 101, G.5), (Roesdahl et al. 1981:101). Small ingot moulds are found widely in the Irish Sea region, at Kiondroghad, Isle of Man (Kruse 1988b:48), Wood Quay, Dublin (Wallace 1987:218), Balinderry Crannog No.2, Meath (Hencken 1942:65), Garranes, Co. Cork (O' Riordain 1942:108-10), and in western and northern Scotland (above, and Earl's Bu, Orphir, Orkney (Unpub, found 1989 by author). The Chester ingot moulds, particularly the Cuppin Street mould (39:CHE/IM2), may be associated with silverworking at the Chester mint (see also above, cap 4.2).

Further recent finds of small pieces of industrial and personal equipment include the *whetstones* (40,41:CHE WH 1,2). Small fine-grained whetstones such as these were used for a variety of purposes. Comparable examples are common both in the 'Viking World', such as examples from Birka (Arbman 1940: pl 103, no 3 (grave 776); pl 188 nos. 7 (grave 605b) and 12 (grave 448), Dublin (D. Caulfield, pers comm), the Cathedral Green, Carlisle (grave 251, Tweddle, forthcoming), Lincoln (Mann 1982:29) and in more southerly Anglo-Saxon contexts, such as Winchester 2955 (eleventh-century context, Ellis & Moore, in Biddle 1990:872) and 2962 (late eleventh-century context, ibid:873). The location of the small Cuppin Street whetstone is interesting given the crucibles (see gaz 4.11), ingot mould (39:CHE/IM2) and close proximity of the 1950 Castle Esplanade hoard (cf. above, cap 4.1 for discussion of industrial evidence). Small *touchstones* are often associated with gold

working, as at Winchester: 'A gold object of unknown composition is rubbed on a piece of fine-textured abrasive stone usually of an even, dark colour. The colour of the streak obtained is compared with streaks made with standards of known composition' (Oddy & Tylecote, in Biddle 1990:76). Although the Cuppin Street whetstone apparently shows no trace of metal, it may have been related to fine metal-working in the vicinity.

The two jet *gaming pieces* from Warrington have been discussed by MacGregor (1985:137-8). MacGregor suggests that they are chess pieces, rather than *hnefetafl* pieces (Bu'Lock 1972:62), and are part of a series in England. Cylindrical bone pawns (cf 172:W/Misc 2) are known from Ludgershall Castle, Wiltshire, Steigerwald, Bavaria, and an unprovenanced example in the British Museum (ibid:137). The knight (171:W/Misc 1) is parallelled in antler at Helpstone, Northamptonshire, Steigerwald and Tübingen (Germany) and in in wood from Colltiere, France (ibid:138). The linked circle-and-dot motifs were suggested by MacGregor (1985:139) as an echo of the Islamic background of the game. Jet chess pieces are uncommon, but have been recorded from York (Waterman 1959:94, fig 21). The jet is most likely to have come from Whitby and worked in an urban manufacturing centre, such as Lincoln where there was evidence of Anglo-Scandinavian jet-working at the Flaxengate site (Mann 1982:42-6).

5.3 Pottery

The *pottery*, mainly from Chester, is the most common Late Saxon find in the area, and is found in all parts of the burh. The majority of the pottery assemblage consists of *Chester Ware* or Chester-type ware. This is occasionally referred to as 'Stafford ware' (eg. Vince 1989:148), stemming from the discovery of a kiln at Stafford (see below). The general type-ware (whose major concentration of finds is in Chester) may continue to be referred to as Chester ware, whilst acknowledging that not all of it originated in Chester.

Chester ware has recently been discussed in detail by J.A Rutter (1985; 1988) who has been responsible for most detailed research on the ware since the mid-1970's. The pottery was first recognised as characteristic of Chester with the discovery of an intact vessel at the Queen's Hotel, Foregate Street, in 1938 (64:CHE/POT 8). An absolute date was achieved with the discovery of the Castle Esplanade hoard

in 1950 (deposition dated to c965) which was contained in a Chester ware pot. The fabric has been described as "a distinctive unglazed sandy fabric, fired at c 1000 degrees and commonly red-brown in colour, although greying does occur" (Rutter 1988:29). Forms of vessel have been refined by Rutter (1985) after initial suggestions by P. Carrington (1975; 1977). Most forms are jars/cooking pots, although there are also examples of pitchers, bowls and a lamp (Rutter 1988:29). Lattice-like stamped decoration on the shoulder of vessels is the most common form of decoration, although some examples are decorated with stamped square dots (possible evidence for manufacture in Chester is discussed in cap 4.1, above).

The chronology of Chester ware is essential to the interpretation of most excavated Late Saxon sites in Chester, where it provides the only means of dating stratified contexts (see also gaz 4). Rutter (1985:53) discussed the range of contexts in which Chester ware has been found. The sherds from Linenhall Street (gaz 4.27) and the City Wall, Northgate Street (gaz 4.6), are only tentatively associated with the construction of the defences (after 907) since in both cases, the sherds can be interpreted as intrusive. The sequence documented at Victoria Street and Berrington Street, Hereford, ranges from the early tenth century to the mid-eleventh century, falling to only about 12% of all sherds in late eleventh-century contexts (Vince 1985:62-3). Chester ware is absent in twelfth-century contexts at Hereford. Vince argued (1983, quoted by Rutter 1985:53) that Chester ware began circulating in Hereford in the second quarter of the tenth century and had all but ceased by the mid-eleventh century. One sherd from Westgate Street, Gloucester, is dated to the early tenth century; two sherds from Worcester have been dated to the tenth and eleventh century respectively, whereas the one find from Tamworth (in silt from the Saxon mill) is dated to the tenth century (ibid). A total of 41 sherds have been excavated from Fishamble Street I and II, Dublin (D. Caulfield, pers comm). The earliest context is dated by a coin of Æthelstan to the second quarter of the tenth century (Wallace 1986:213), and the sequence continues into the early eleventh century, tailing off thereafter (D. Caulfield, pers comm). The Dublin date-range appears to confirm Vince's framework for the Hereford range and suggests that the entire type should be dated to between circa 920 and 1150.

The distribution of finds of Chester-type wares (fig 19) shows a strong urban bias in the west midlands of England. The urban aspect is probably strengthened by

the frequency of excavation, but the broad geographical range is almost certainly unaffected. Outside western Mercia, Chester ware is only common in Dublin. Although the pottery from Waterford is yet to be fully identified and analysed, there has not so far been any indication of Chester ware (M. Hurley, pers comm). The one possible find from Trondheim, Norway, is hardly enough to indicate direct trading connections. although there are indications in Trondheim's earliest coin hoard of connections with Chester (below, cap 6.5).

The Stamford ware excavated at Rhuddlan (gaz 1.1) and Abbey Green (gaz 4.1), Hunter Street School (gaz 4.25) and Lower Bridge Street (gaz 4.28) is a very small proportion of the total pottery assemblage. The Abbey Green sherds have been identified by K. Kilmurry as undeveloped ware A5 of late tenth and eleventh-century date, which helps to date the Chester ware found in the same context (a robber trench on a Roman wall; Rutter 1985:53). The small amount of Stamford ware reaching the burhs of north-west Mercia indicates long-distance trade with eastern England. Rutter (1985:53) suggested that Chester-type wares mainly circulated in western/central England as Stamford, Thetford and Torksey wares circulated in eastern/central England. The respective distributions of Stamford ware (Kilmurry 1980:161) and Chester ware show that Stamford ware made more of an impact in the west than did Chester-type wares in the east. The import of Danelaw and eastern English pottery combines with many copper-alloy and silver objects (above), and the Harkirke, St John's Church and Pemberton's Parlour hoards (below, cap 6) to show a continuing level of exchange between the Lower Dee/Mersey Area and the Danelaw area of eastern England in the tenth and eleventh centuries.

5.4 Summary

The distribution of Chester-type wares shows that close links with other urban centres in western Mercia, together with Dublin, formed the foundation of Chester's commercial prosperity. The north-west - south-east route from the Irish Sea, through the Dee watercourse and 'midland gap' to central Mercia and the South (fig 1), is therefore demonstrated as the most important route converging on Chester. This is also indicated both in the coin hoards from Chester (below, appendix C) and in the distribution of coins of the Chester mint (figs 30-32). Copper-alloy objects from Chester and Meols in particular show a range of types (such as the ringed

pins, weapons and bells) which can be interpreted as imports from the Celtic and Viking Irish Sea region. These are complemented by elements of the 1950 Castle Esplanade silver hoard (below, cap 6.3). The finds also include a [greater] number of objects (such as the foliate and most of the zoomorphic strap terminals, the hooked tags, the polyhedral-headed stick pins and many of the brooches and buckles) which show strong affinities with eastern and southern England. The quantity of imports (especially into Meols but also into Hale and Chester) rose significantly in the ninth century after a small amount of importation in the eighth century represented by the sceattas (below, cap 6.4) and [possibly] by objects such as some of the disc pins. Some stick pins, the Lower Bridge Street brooch (11:CHE/B1) and the Frankish pottery, also from Lower Bridge Street, Chester (72:CHE/POT 16), the carved book-mount from Meols (87:M/MT1) and zoomorphic strap terminals of the 'Trewhiddle' type show an increasing level of importation in the ninth century. This is also indicated by the finds of Northumbrian stycas from the area (below, cap 6.4). It was not until the tenth century, however, that the bulk of finds in the assemblage reached the Lower Dee/Mersey Area. The Chester ware pottery (above) and the export of coins from the Chester Mint (below, cap 6.5) coincide remarkably to indicate a great upsurge in trade at Chester in the 920's (cf. Dublin, below cap 7.4), which continued almost unabated until the 970's (below, cap 6.4). The only well-stratified and closely dated occupation sequence in Chester (at Lower Bridge Street, phase IV, see gaz 4.28 and above, cap 4.1) also indicates a considerable intensification of activity in the 920's. This suggests that the economic and commercial activity in the burh did not get substantially off the ground until the second decade of its existence. Increased official confidence and control following the defeat of the rebellion of 924 (above, cap 2.2) may have provided the conditions for expansion in exchange and production.

CHAPTER 6: HOARDS, SILVER AND COINAGE

6.1 Background

The focus of this chapter is a detailed study of the use of silver in the Lower Dee/Mersey Area, as represented in hoards, single finds and the history of the Chester mint. The material represents an essential source in the consideration, not only of the monetary history of the area itself, but more general aspects of the economic relationship between England and the settlements of the Irish Sea region (see Metcalf, in Graham-Campbell (ed), forthcoming (b). The types of silver and coin present in the Lower Dee/Mersey Area (coins, hacksilver, ingots, 'ring money', and possible fragments of 'Hiberno-Viking' arm rings) are parallelled throughout the Irish Sea region. In Anglo-Saxon England, hoards with a varied collection of forms of silver (mixed hoards) are less common than in Ireland, Scotland and the Isle of Man. The mixed English hoards (Croydon, c875, Cuerdale c905, Goldsborough, Yorkshire c920, Bossall/Flaxton, Yorkshire, c925, Scotby, Cumbria c935, Chester 1950 c965 and Halton Moor, Lancashire c1025) were found mostly in the North and West. Apart from these and a very small number of (mainly northern) coinless hoards such as Lilla Howe, North Yorkshire and Newbiggin Moor, Cumbria, hoards found in England of the tenth and eleventh centuries are exclusively of coin.

The trend toward homogeneity in tenth- and eleventh-century English hoards is also marked by the decrease in the presence of non-official English coinage, such as Viking issues (the latest appeared in the Kirtling, Cambridgeshire, hoard of c955, the Tetney, Lincolnshire hoard of c965 and the Chester, Castle Esplanade hoard of c965; Blackburn and Pagan 1986:296). Continental issues do not disappear altogether from English hoards of the period but the frequency is much diminished after the early tenth century. The policy of exclusion of foreign coinage is demonstrated by the rarity of eleventh-century Hiberno-Norse coins in England. In terms of single finds, only one example (Meols No. 21) has been found so far. In contrast, the Irish Sea appears to lack any overall trends, other than the steady increase in the proportion of coins in hoards. Ireland, Scotland and the Isle of Man all display different characteristics of silver usage and there are considerable disparities in the frequency and contents of hoards. The types of silver object in the catalogue (above) have an uneven distribution of parallels. (see below).

6.2 Analysis: Introduction

The hoards and coins from the Lower Dee/ Mersey Area represent one of the most significant local concentrations on the eastern shores of the Irish Sea. The Area was therefore of importance as a location for the *deposition* of wealth, both deliberately through hoarding and accidentally through casual loss. It was also the location for the *production* of wealth through the presence of a major Anglo-Saxon mint at Chester and the possible mining of silver (below, cap 6.5).

The import of silver (measured through archaeological deposits) is documented in the catalogue; the production of coinage can be investigated through a study of the Chester mint. The actual outflow from the area is more difficult to guage since silver and coins of other mintages will have circulated in the specific area of reference and been exported subsequently without any consequent physical indication.

Metcalf (1986:136) outlined a methodology for research on tenth-century monetary history. This was designed for a programme of national research but can be amended to provide the basis for the assessment of a regional group of data. Since the majority of the evidence from the specific area of reference is tenth-century in date, the analysis will follow some of the suggestions made by Metcalf[1]. The analysis has been approached here as follows:

1. *Sections 6.3 and 6.4:* Discussion of the hoards and single finds, the circumstances of their deposition and comparisons with examples elsewhere (cf. Metcalf's point 4).

2. *Section 6.5:* An attempt to measure economic activity and trading contacts in Chester through a study of the early history of the Chester mint and topographical analysis of deposits of Chester-minted coins (cf. Metcalf's point 2).

The 'age structure' of a hoard is important in measuring the hoard's currency (or otherwise) at the time of deposition, ie. that hoards with a short age structure reflect the proportion of different types of silver in the local economy at the time of deposition more accurately than hoards with a longer age structure which may have substantially accumulated long before their final deposition (cf. Metcalf 1986:149).

[1] I am grateful to Dr.D.M. Metcalf for advice about methodology

The distributions of mint-signatures in the hoards and amongst the single finds of coinage show the relative importance of other mints (in other economic centres), although it is not always clear how many diversions any particular coin has taken on its route from production at a mint to its deposition. The case for a direct journey from mint to deposit can be stated with more confidence with decreasing time between mintage and deposit and decreasing distance between source and deposit.

The *hacksilver* from the Chester 1950 hoard represents a special sub-group within the silver catalogue since its provenance can only be sought by comparative analysis with other hacksilver. Ornaments and fragments of ornaments can be compared directly with parallels, the contexts of which may help to illuminate the date and source of the material. The ingots from the Cuerdale and Chester 1950 hoards have been subjected to a metallurgical and metrological analysis by S.E. Kruse (1988a, 1988b) and the discussion in chapter 6.3 (below) owes much to Kruse's work.[2]

6.3 The Hoards (Appendix C)

Otterspool, Liverpool, 1863.

The vague account of this hoard indicates that it probably contained pre-Alfredian Anglo-Saxon coins. The only other finds of such coins in the Lower Dee/Mersey Area are single finds nos. 3,4 and 5 from Meols. Finds of eighth- and ninth-century Anglo-Saxon coinage are rare in the North-West and Irish Sea region, the few examples being from Talnotrie, Galloway, Carlisle and Kirkoswald, Cumbria, Lancaster and the more northerly Paisley and Colonsay (Pirie 1986a:82-83). The 'hoards' from Castle Point and Merlewood Cave, near Cartmel, Cumbria, have recently been re-interpreted as finds from settlement debris (Metcalf 1987a:378). Such few and far-between deposits can hardly be accorded local economic significance, particularly as the hoards seem to be even less well-related to ninth-century ecclesiastical settlements than the single finds. Their distribution, which is universally riverine or coastal, can most often be explained as concealment in transit. The relatively small numbers of ninth-century Northumbrian coins found in the North-West (as opposed, for example to east Yorkshire or East Anglia), together

[2] I am grateful to Dr. Susan Kruse for allowing me access to her unpublished doctoral thesis (1988b)

with the distance from their possible source at York (cf. Metcalf, ibid), suggests that they may have circulated at face value only within very restricted geographical zones (such as within ecclesiastical settlements at Whithorn and Cartmel).

(Finds of stycas from North Wales and North-West England)

1: Hoards
Otterspool (above, appendix C)

? Lancashire (Uncertain), 19th-century find: 56 coins of Eanred (6), Aethelred II (21), Redwulf (2), Osbehrt (2), Wigmund (4), Wulfhere (2), Irregular (20).

Lancaster 1914, 20 coins.

Grange, Cumbria, 1765, 65 coins.

Kirkoswald, Cumbria, 1808, 542 coins of Eanred (99), Aethelred II (350), Redwulf (14), Osbehrt (15), Eanbald (1), Wigmund (58), Wulfhere (5).

2: Single Finds
Caernarfon, Segontium, 1922, Eanred (1).

Meols (below, 6.3; appendix C).

Ribchester, Lancashire, pre-1897, Eanred (1).

Ribblehead, North Yorkshire, 1974-5, 4 coins, Wulfhere (1) Aethelred II (2), Illegible (1).

Lancaster, 1978, Wigmund (1).

Grange, Merlewood Cave, Cumbria, 1892, 7 coins, Eanred (1), Aethelred II (3), Wigmund (1), Uncertain (2).

Dacre, Cumbria, 1983, Unpublished.

Carlisle, Cumbria, 1876, 2 coins, Eanred (1), Aethelred II (1), found in a tumulus.

Carlisle, Cumbria, Annetwell Street 1981, 4 coins, Eanred (1), Wigmund (1), Irregular Eanred (2).

Carlisle, Cumbria, Castle Street, 1981, 6 coins, Wigmund (1), Hunlaf (1), Aethelred II (1), Unidentifiable (3).

from Pirie 1986a.

Harkirke, Little Crosby, 1611

The Harkirke hoard (fig 20) presents considerable difficulties of interpretation since the number of coins recorded in any detail comprises only just over 10% of the likely actual contents of the hoard, which were dispersed in the Civil War Period (Churchill 1887:219). The only surviving record of the hoard is an engraving of some of the coins on a copper plate. The provenance of the coins recorded on the copper plate is widespread. The majority of the contents are southern English or Viking issues of the East Anglian and York mints. The strong York representation suggests that the hoard had partially accumulated east of the Pennines (fig 21). The St. Peters Pennies are known from the Dean hoard, Cumbria of c925 (Blunt et al 1989: 104), and the St. John's Church, Chester hoard (below, appendix C) Both the St. Peter of York issue and the St. Edmund Memorial coinage (see St. John's Church, Chester 1862) are represented in some Irish hoards of the early tenth century. The Geashill, Offaly, hoard of c920, the Dunmore Cave, Kilkenny, hoard of c928 and the Co. Dublin hoard of c935 all contained the York issue (Hall 1973-4: 73). The East Anglian issue is represented in the Leggagh, Co. Meath, hoard of c924 (ibid) Both are represented in the Cuerdale hoard. Coins of Alfred are, however, unknown in Ireland (M. Kenny, pers comm).

The Harkirke hoard was found in an area of relatively dense Norse settlement (above, cap 3.2.2). The hoard appears to have much in common with the Cuerdale hoard, being a large mixed hoard with English, Viking and foreign coins. Kruse (1988b:19) speculates that the Harkirke hoard may have contained hacksilver, and a local tradition has it that the silver pyx (now stolen) in Crosby Parish Church is derived from the hoard (Merseyside SMR:3102/5). If the hoard was in transit, it can hardly be interpreted on the available evidence as *coming from* Ireland with its strong Danelaw element. It may have been moving westwards; it is an interesting but insoluble speculative point that it could have been on its way to Chester or Meols having come down the Ribble Valley, or about to cross the Irish Sea. Its very close proximity to Meols must be noted, as they are situated on opposite sides of the approaches to the Mersey Estuary. Excavations in the area of the hoard's location at Little Crosby (gaz 10.7) failed to find any further coins or to shed any topographical information on the findspot (gaz 10.7).

St. John's Church, Chester 1862

It must be emphasised that the surviving group of coins from this hoard represent under 40% of the original number, the rest having been dispersed at the time of disovery (Mack 1967: 36). The surviving coins have a predominantly northern-minted content. The hoard appears to consist of two main groups, the York and East Anglian issues and the north-west Mercian issues (fig 22). The Mercian coins were apparently added to the group in Chester. The presence of York coins, both the St. Peter's Pennies and the possible Edward the Elder BMC type II examples, are a rare and early appearance in Chester itself (see also Harkirke). The age structure is difficult to interpret since the BMC type II issue of Edward the Elder and the St. Peter of York phase 1 issue had long periods of production. Although it is possible that the hoard was deposited as late as 925 (the last date of production for both of these issues), Mack (1967:37) considers that 920 is a more acceptable date, whilst a deposition as early as 917 is possible (Blackburn and Pagan 1986:295).

Castle Esplanade, Chester 1950: coins

The 1950 hoard is the only certain mixed hoard among the hoards from the Lower Dee and Mersey. It differs also in having an extremely long and multi-peaked age structure (fig 23), indicating that it accumulated over a very long period. The date of deposition has recently been re-assessed (Metcalf 1986: 147; Jonsson 1987:39-40) when the percentage of the coins in the hoard was calculated in relation to the length of the reign, and therefore the speed of accumulation of a particular issue. Together with a re-interpretation of the Edgar coins putting them at an early point in the reign (Metcalf 1986: 147), this suggests a date in the mid 960's, earlier than the 970 date previously accepted (Blunt & Dolley 1954).

Jonsson (1987:41) sounded a clear warning: 'The whole composition of the hoard seems so different from what might be expected that, although its composition is fascinating, care must be advised when trying to interpret it'. Blunt and Dolley (1954:137) dismissed the continental coins as of 'no special significance', since they were all minted long before the date of the deposit. The two *deniers* have since been noted as parallels for a pair in the 1894 Ballaquayle hoard in the Isle of Man, deposited in c975 (Graham-Campbell 1983a:70).

The 1950 hoard is one of the latest deposited on English territory to include Viking imitations of English coinage - a further indication of its long accumulation. It is perhaps not surprising that, given Chester's position on the very edge of English territory, that practices such as the possession of obsolete and unrecognised issues should persist, as it persisted in the Irish Sea region. The long age structure of the 1950 hoard is better paralleled in the Irish Sea region than amongst contemporary hoards in England. The Killyon Manor hoard, Meath (c958), the Ballitore, Kildare hoard (c965), the Ireland/?Leinster hoard (c965), the Smarmore hoard, Louth (c970) and the Dalkey, Co. Dublin, hoard (c975) all have coins of Edward the Elder (Hall 1974: 76-77), giving them age structures dating back to the first decades of the tenth century. The similarities in the hacksilver content between the 1950 hoard and two hoards from the Isle of Man, Ballaqueeney (c965) and Ballaquayle (c975) have been noted by Graham-Campbell (1983:69-70). The parallels outlined above and the hacksilver affinities (below), which Jonsson and Metcalf in their assessments of the 1950 hoard (1986; 1987) seem not to have considered[3], mean that the 1950 hoard can be re-interpreted as less anomalous than Jonsson and Metcalf have suggested. By a comparative study of hoards in the Irish Sea region including assessment of all elements of mixed hoards, and not just the coin element, substantial similarities are evident between the Chester 1950 hoard and others in the Irish Sea region (also 1950 hoard, hacksilver, below).

The most widely-accepted explanation for such an accumulation is as a savings hoard (Metcalf 1986:149; Jonsson 1987:41). The presence of 148 coins of Edgar in a deposit made perhaps as little as six years into his reign surely invalidates the suggestion made by Thacker (1987:262) that the hoard was a demonetised reserve stock. Despite the clear problems of interpretation, the hoard's accumulation characteristics are important in determining its status as a savings hoard. The large number of coins with no mint signature make it difficult to assess the relative proportions of the hoard from different areas of the country. In the reign of Æthelstan, Canterbury, Norwich, Winchester and Shaftesbury are represented. The Wessex mints are accompanied by an eastern group including York and possibly Northampton, whilst the only remaining significant group is locally struck. Edmund's reign has a sparse number of mint-signed coins, most of them local.

[3] no reference to Graham-Campbell's 1983a article appears in their bibliographies

Edred's reign has only one: Derby (no.127). There is strong representation for the south-east midlands in the reign of Edwig, this group may be associated with the earlier east midlands coins from the reign of Æthelstan. Bedford, a relatively minor mint (Jonsson 1987:40) and Newark, together with Northampton/Southampton dominate the non-local series of mint-signed coins. The two Devon-minted coins (383 and 384) must be accorded more than passing significance in the light of the Moreton find (appendix C, single finds). The south-east midlands mints are again well represented in the reign of Edgar, which led Jonsson (ibid) to doubt that the most recent coins in the hoard were collected locally.

1950 Hoard: hacksilver (Appendix C)

The 'hacksilver' in the 1950 hoard is defined here as any piece of silver which is neither a coin nor an ingot[4]. Most of the hacksilver in the 1950 hoard consists of fragments of larger objects which have been cut. None of the pieces (except perhaps the pieces of wire, Nos. 146 and 147) appears to have been intended for any use in its present form except that of storing the metal and making it available for re-use. The hacksilver (with the ingots) can be divided in to four categories:

1. Ornamented metalwork
2. Possible fragments of "Hiberno-Viking" arm rings
3. "Ring Money" fragments
4. Ingots

1: Ornamented Metalwork

Fragments of brooches represent the majority in this category. No.1 appears to be a fragment of the pin of a brooch. The incised step pattern is parallelled on ringed pins from Cronk Mooar, Isle of Man (Fanning 1983:28) and the Cathedral Green, Carlisle (grave 244, Tweddle, forthcoming). Nos. 3 and 4 are mutilated fragments of hollow-cast terminals of ball-type brooches. The ball-type brooches with "brambling" is a major sub-group in the type. The brambling effect is achieved by "diagonal criss-cross filing, followed by punching to produce conical projections"

[4] defined by Kruse 1988b:13

(Graham-Campbell 1980b:55). In the case of Nos. 3 and 4, the conical projections have been flattened. Bramble-terminal ball-type brooches have been found as far afield as Laitila, Finland (Graham-Campbell, ibid.) but are commonest in the Norse-influenced areas of the British Isles. Hollow-cast ball-type brooches do not appear in hoards until the mid-tenth century; the Skaill, Orkney, hoard of c950 being the earliest (Graham-Campbell 1983b:311). Graham-Campbell (1983b) charted their development from solid-cast terminal or 'thistle' brooches, suggesting that they originated in Ireland during the second half of the ninth century. Such solid-terminal brooches formed part of the Cuerdale hoard of c905 and the Goldsborough, Yorkshire, hoard of c920 (ibid:315). Brambled ball-type brooches are less common but their presence in north-west England is demonstrated by the Newbiggin Moor/ Fluskew Pike find, Cumbria (Graham-Campbell 1980b:55). Rather further afield, a plain terminal ball-type brooch was found in association with coins of the Chester mint dated to c978 in a hoard from Rønvik, Bodø, Nordland, Norway (Dolley & Skaare 1960).

The fragments of bracelet (2 and 7) have apparently both been cut rather than broken accidentally. Their weights (0.62 and 6.98 g respectively) are perhaps to small for them to be related to any of the current weight standards, although 6.98 is 4.3 times the 1.6 g calculated by Kruse (1988b:198) as the theoretical weight for early tenth-century Anglo-Saxon pennies. The method of manufacture of No.7, by twisting rods together, is similar to the gold ring from Werburgh Street (43:CH/Misc 2).

2: Possible fragments of Hiberno-Viking Arm Rings

Nos. 5 and 6 suggest themselves as having been cut from a type of arm ring made from a flat strip of silver bent into a penannular ring, usually with stamped decoration, although the Chester examples are unusually thin. There are over sixty examples of the type found in Ireland (Graham-Campbell 1976a:51) and the type is represented in the Croydon, Cuerdale and Goldsborough hoards of c875, 905 and 920 respectively. Four have been found in Scotland, two unprovenanced and two from the Gordon, Berwickshire hoard. Fifteen are known from Norway, five from Denmark and a possible fragment from Gotland (ibid.). Graham-Campbell, on the basis of their presence in the Croydon and Cuerdale hoards, dates them to to the late ninth century/early tenth century (1983a:95). This is apparently

confirmed by their presence in the Grimestad hoard, Vestfold, Norway, coin-dated to c930. The decoration of 5 and 6, stamped triangular motifs with two or three raised dots is less common in the type than vertical grooves, but is present in an unprovenanced ring from Ireland (Graham-Campbell 1980b:64) and on fragments from the Cuerdale hoard (Thompson 1956, pl XII).

The hoard of five silver Hiberno-Viking arm rings from Dinorben, Red Wharf Bay, Anglesey (Boon 1986:99-100) is particularly significant in this context. They are the nearest examples to Chester geographically (apparently deposited whilst in transit along the North Wales Coast). Nos. 2 and 4 of the Dinorben Hoard are decorated with the triangular punch/dot motif, as are two fragments from the Cuerdale hoard (NMGM, *Silver Saga* Exhibition, 1990).

J. Sheehan (quoted by Kruse 1988b:172) has studied the type and calculated five weight clusters for 73% of the examples, between 24.95 and 109.6 g. Due to their extreme fragmentary condition, the weights of Nos. 5 and 6 are too small to permit convincing correlation.

3: The "Ring Money" fragments

Nos. 10-39 are all fragments of curved bars. With the exception of Nos. 10, 11, 14, 24, 25, 34 and 38, all have an circular or oval cross section. All have been cut, indicating that they were originally part of a substantially larger bar. Most of the examples in the 1950 hoard taper. Such bars are commonly referred to as 'ring money' (Warner 1976:136). Graham-Campbell (1983a:63) described ring money as a "Scoto-Viking phenomenon". Exactly what is meant by this is not clear, it can hardly be that this particular form of silver object can be identified on ethnic grounds both with Scots and Scandinavians. All indications, most notably the distribution of deposits in Norse-dominated areas, indicate that 'ring money' is part of Norse material culture, particularly among Norse settlers in the Western and Northern Isles of Scotland.

Most finds of ring money have occurred in (coastal) Scotland and the Isle of Man (Graham-Campbell 1983a). Its presence in the Ballaquayle hoard, Isle of Man dated to c975 formed part of Graham-Campbell's detailed comparison between that hoard and the Chester 1950 hoard (ibid:70). The Chester hoard has, however, characteristics not present in the Manx hoard such as a large number of ingots

and fragments of 'Hiberno-Viking' arm rings. Both of these examples have more parallels in Ireland and England than in the Isle of Man or Scotland. It seems optimistic to attribute the Chester hoard to a Manx or Scottish *owner* (Graham-Campbell, ibid) because partially similar and equally portable hoards have turned up on the Isle of Man.

R.B. Warner (1976), through statistical analysis, was able to state that "We are justified in concluding that the manufacturers of these arm-rings were aiming at this target (24.0±0.8g) although the standard deviation of the production, 5 gm, suggests that they were not too careful about their accuracy." (ibid:141). Nevertheless, the 24 gram unit appears to be significant in the context of the weight standards prevalent in north-west Europe in the Viking period, where it occurs mainly in Scandinavian contexts (cap 6.6, below).

4: Ingots, Metrology and Alloys.

As the Chester 1950 hoard is dated by coins to around 965 (Blackburn & Pagan 1986:296), this date must represent a *teminus ante quem* for the date of the silver ingots. The metrological significance of the ingots is difficult to assess due to their fragmentation. Kruse (1988b:224) also remarked on their advanced state of corrosion (some of them are now completely green). This, it was suggested, may have affected their weights. However, among the fragments less than 15g (23% of the ingots) there is perhaps a suggestion of clustering at 12, 16, 20 and 24 grams, which related more closely to the Scandinavian unit of 24 grams than the Irish unit of 26 grams (ibid.). The weights of coin at the period of deposition of the hoard in the 960's vary considerably, but the theoretical 1.6 gram unit was used during the reigns of Edward the Elder and Æthelstan as the national standard for coinage (ibid, 198). The presence of light-weight ingots is most common in Scottish hoards (Graham-Campbell 1983:70; Kruse 1988b:225), but is not considered by the latter a diagnostically Scottish phenomenon. The alloys range from very pure (over 97% silver) to very debased (less than 75% silver) (Kruse 1988b:60). Kruse (ibid.) did not provide precise figures, but drew a comparison between the purity of the ingots and the purity of contemporary Anglo-Saxon coins in the reigns of Æthelstan, Edmund, Edred and Edwig. The mould duplicates (A-D of the 1976 parcel) show similar results, but the fifth mould duplicate (no. 57) is different.

Kruse (1988b:38) drew attention to the practice of 'nicking' where the silver content of ingots was tested, presumably each time the ingot changed hands. The ingots are heavily nicked (for example no. 57, 38 nicks; no. 74, 19 nicks; 13 examples with 10-14 nicks, 23 examples with 5-9 nicks, 49 examples with 1-4 nicks and 9 examples with no nicks)[5]. The preponderance of nicked ingots, together with the age structure of the coin element in the hoard indicates that the bullion element was built up over a long period, and that the ingots in some cases had been in circulation for several decades before their inclusion in the hoard. Nicking occurs more frequently in Scandinavian hoards than in insular hoards (in Ireland, for example, 69% of ingots are without nicks). Kruse (ibid:40) also remarked that transverse grooves produced by heavy hammer blows across the width of an ingot (eg. Chester 1950; 121,122,139) are characteristic of Swedish and Gotlandic ingots but not Scottish, Irish or Norwegian ingots. She did not, however, go so far as to imply that the grooved ingots derived from Scandinavia.

The Chester, 97 Eastgate Row Hoard, 1857

Deposited in c970, just before Edgar's reform of the English coinage, this hoard has been taken to represent the contemporary circulation of coinage more accurately than the Castle Esplanade hoard (Metcalf 1986:149). The age structure of this hoard is very short: 88% of the coins are from one reign (Edgar) and none is older than Edred. Moreover the hoard is dominated to an even greater proportion (96%) by coins of the Chester mint signature. Jonsson (1987:41) compared the hoard to the 1945 Tetney, Lincolnshire, hoard, taking the predominance of the local mint in each hoard to represent restricted regional circulation. Metcalf (ibid.) compared the steep profile of the age structure not only to Tetney but to Bath (c955) and Kintbury, Berkshire (c960), drawing the same conclusion.

The Chester, Pemberton's Parlour Hoard, 1914

This hoard is something of a contrast to the 1857 Eastgate Row hoard since it contained fairly even numbers of coins from a wide variety of mints (fig 24). The distribution of mints favours the Danelaw, but there is no dominant region (fig 25). The hoard (age structure, fig 26) has been taken as evidence of rapid and widespread circulation (Metcalf 1978:168-9). This contradicts Metcalf's own assertion (1986:156) that tenth-century coinage circulated on a regional basis. The

[5] Information from Kruse 1988b

date of the deposition of the 1914 hoard is of course post-reform. Whilst not taking the evidence of a single hoard too far, the immediate objectives of the reform: to increase monetary circulation and therefore national control, could explain the heterogeneity of provenance. The findspot (gaz 4.42) is remote from other finds dated to the period AD 850-1100. This area was evidently an under-used periphery within the burh, although there has been relatively little excavation in the area, the nearest group of sites being the Princess Street/Hunters Walk excavation of 1981 (gaz 4.24, 4.25).

The 1914 hoard was discussed by Dolley and Pirie (1964), and its deposition was taken as an indication of political upheaval (ibid: 44). They rather conveniently associated it with the Viking raid from the north on Cheshire recorded in the Anglo-Saxon Chronicle for 980 (above, cap 2.2). They did not, however, advance a similar explanation for the deposition of the 1857 and 1950 hoards, possibly because the sparse historical record makes no mention of invasion or attack on the area in the relevant years. Instead Dolley and Pirie appeared to regard the deposition of the other hoards as peaceful. The argument that the decline of the Chester mint in the last quarter of the tenth century is also a result of this one recorded attack is also now in considerable doubt (cap 6.5, below). Dolley and Pirie's lasting contribution in this instance is to provoke general reconsideration of the motives for hoarding, and in particular the alternative explanations to political upheaval.

6.4 The Single Finds

Single finds of coinage are at least as important as hoards in topographical analysis of settlement and trade. The findspot of a particular coin or hoard (which must be treated as *one* find) becomes more important in the consideration of economic activity with greater numbers of finds from the same place. Casual loss over a period of time is arguably more meaningful as a spatial indication of economic activity than the same number of coins concealed or lost in one event.

The number of single finds of coinage in the Lower Dee/ Mersey area from the period AD 850-1100 is not extensive (circa twenty-six from Meols, seven from Chester and one from Moreton). Nevertheless, the total of Anglo-Saxon silver pennies is at least as great as the assemblage of single finds from other areas in the

Irish Sea region. The excavations in Dublin have produced twenty coins (Wallace 1986:210-211), Waterford: one continental coin (C. Walsh, pers comm) and there were no coin discoveries at the excavation of Bride Street, Wexford (E. Bourke, pers comm). The excavations at Whithorn produced thirteen Northumbrian coins but only one coin from the Hiberno-Norse phase, a Hiberno-Norse coin of Sihtric of Dublin. This is one of the very few finds of Hiberno-Norse coins on the British mainland. It is parallelled by an earlier Whithorn find of a Hiberno-Norse imitation of an Æthelred penny (Dolley & Cormack 1967). Single finds of Anglo-Saxon coins are more plentiful in England (Metcalf 1980:36-46), although they are rare in the North-West. There are only a few finds along the North Wales Coast (Dykes 1976:27-8) at Caernarfon (Cnut Quatrefoil, Chester), Caer Gybi (Æthelred, Crux, Lincoln) and Rhuddlan (Edward the Confessor, Sovereign, Chester). Otherwise, outside the Lower Dee/ Mersey Area, the nearest is a *crux* of Æthelred (cut farthing) from Stafford (Metcalf 1980:45). This dearth is indicative of the relative sparseness of coin-use in the North-West in the period. It also shows the dominance of the Lower Dee/Mersey Area within this region.

The two early eighth-century *sceattas* and the three ninth-century *stycas* at Meols, despite their small number, represent one of the most significant concentrations of pre-Alfredian coinage in the Irish Sea region and England west of the Pennines (Metcalf 1987a: fig 1). The *stycas* (all of which were found before 1863 since they are included by Hume (1863:292) were suggested as 'associated' by Metcalf (1960:114) since no further coins of the series came to light subsequently. Whilst possibly 'associated', they do not need actually to have comprised a hoard. The excavation at Whithorn has shown that a limited group of ninth-century *stycas* (nine of Eanred) can be found in association (context 817 - a midden) whilst still representing loss rather than hoarding.

Metcalf (1987a:365) stated "Until the dramatic rise to importance of the mint of Chester, beginning very early in the tenth century, the north-west was the back of beyond in terms of commercial and monetary matters". There was no mint at all west of the Pennines until Chester began production in the late ninth century (Dolley 1955:3). The influence of the Northumbrian Church was far weaker west of the Pennines, yet eighth- and ninth-century coinage seems to have penetrated

along the most longstanding and important routeways over the Pennines and along the eastern seaboard of the Irish Sea.

Sceattas are rare finds in the Irish Sea region. Three of the findspots in the northern part of the region are on or near sites with eighth-century ecclesiastical connexions. Luce Bay, Galloway (Cormack 1965) lies at a portage point between the Anglian monasteries of Glenluce, Whithorn and Kirkmadrine. There has been a more recent find in the excavations at Whithorn itself of a primary sceatta (series B), minted between 685 and 710 (P. Hill, pers comm). The find from Carlisle (Metcalf 1984:29) can perhaps be related to the Galloway sites by its proximity to the Solway. Finds from Settle and Malham, Yorkshire (Metcalf, ibid), can perhaps be related to the trans-Pennine routeway from York directly west down the Ribble Valley to the Irish Sea.

Single finds of *stycas*, whilst more numerous, are similarly dominated by ecclesiastical sites: Whithorn, Carlisle, Dacre and the vicinity of Cartmel, Cumbria, have all produced *stycas* (Metcalf 1987:362, see also cap 6.3, above). Nevertheless the finds from Ribblehead, Yorks (King 1976:21-6), Attermire Cave, Ribblesdale (Metcalf 1987a:377) and Segontium, Caernarfon (Dykes 1976:27), contradict the idea of an exclusively ecclesiastical circulation in the Irish Sea region. There remains the strong possibility that both the *sceattas* and the *stycas* came to the North Wirral Coast due to the proximity of Hilbre Island. There is some evidence (gaz 5.11) of an ecclesistical presence on the island in the pre-conquest period, which may have been early enough to have attracted pilgrims and traders in the eighth and ninth centuries. This may also explain the limited importation of metalwork into Meols in the same period.

The single finds of tenth- and eleventh-century coins from Meols represent the largest group from any site in the Irish Sea region except Dublin (provenance, fig 27). If the two uncertain Cnut halfpennies (appendix C) are accepted, then the total from Meols comes to twenty-two, only three less than the overall total in Dublin from excavations and older stray finds (Wallace 1986:210-211: M. Kenny, pers comm). Furthermore, the coins from Meols are likely only to be a proportion of the coins originally found, since they have had to negotiate the complicated journey from the sands to relative safety in museums. Some of the lost examples

may have disappeared in the 1941 fire at Liverpool Museum. M. Dolley (1961:197) divided the Meols series into four groups, the *sceatta* series of the eighth century, the *styca* series of the ninth century, the last quarter of the tenth century and the middle of the eleventh century. Attention has been drawn to the gap between the ninth-century stycas and the last quarter of the tenth century, the gap coinciding with the period of greatest production in the Chester mint (also, cap 6.5 below). Coinage was present in the immediate area of Meols before the 973 reform, as demonstrated by the mid tenth-century Moreton find (appendix C), which was minted in the south-west of England (found in the second fill of a construction trench, gaz 5.14). Attention has been drawn to the large number of cut coins at Meols (Longbottom 1908:12-13). This was taken by Longbottom as an indication of poverty, and is in direct contrast to the state of the single finds from Chester, none of which have been deliberately fragmented.

Of the seven finds from the City of Chester, two (1 and 2) are not provenanced to a site or limited area. The others consist of two (5 and 7) which are from recent excavations and three (3,4,6) in the Willoughby-Gardner collection in the Grosvenor Museum, Chester, with rudimentary locations (appendix C). It is perhaps surprising that Anglo-Saxon coins have rarely been found on excavations in Chester. This situation is parallelled in Waterford, a site with several similarities to Chester (pers comm, M. Hurley, above, cap 4.1). There is one pre-Conquest find from Rhuddlan, a coin of Edward the Confessor from machine excavated topsoil at Quinnell's site A (appendix C). During the reign of Edward the Confessor, Rhuddlan fell repeatedly to the Welsh (above, cap 2.2).

6.5 The Chester Mint

Having assessed the hoard and single-find presence in the Lower Dee/Mersey Area, it is necessary to examine the evidence for production and output of wealth in the area, the *export* of silver (above, cap 6.2). The early history of the Chester Mint, which probably began production in the late ninth century during the reign of Alfred, has recently been re-stated in the light of analysis of the *two line* issues of Alfred and Edward the Elder (Metcalf 1986:143). A north-west Mercian mint seems to have been in production before the formal foundation of the burh in 907 (Dolley 1976:356). This does not readily agree with the entry in the 'Anglo-Saxon Chronicle' for 893 stating that the retreating Danes occupied "waste Chester"

(above, cap 2.2). If, as presently accepted, the Chester Mint was in production under Alfred (Dolley 1955), its foundation would have had to take place at around the same time or just after the events recorded in the Chronicle. One explanation for this apparent unlikelihood could be that the north-west Mercian mint actually *moved* from another centre, possibly Tamworth, early in the tenth century, when royal policies had extended the authority of the Mercian kingdom right up to the shores of the Irish Sea. Evidence of a pre-burh ecclesiastical presence is outlined above (cap 4.1).

Chester was the earliest mint in north-west Mercia, although there is a possibility that a short-lived mint operated at Thelwall, stated by the *Mercian Register* to have been founded in 919 (above, cap 2.2). Blunt (1974:103) attributed one coin, a *two line* of Edward the Elder, to Thelwall, whilst stating that: "There can obviously be no certainty in the matter". A mint was recorded by the Domesday Survey as operating at Rhuddlan (Morgan 1978:269a), although no mint signature has survived. It is possible that coins minted at Rhuddlan received the Chester signature.

It has been suggested that the growth of the Chester mint in the early decades of the tenth century was partly a result of Æthelflæd's conquests in Wales and the Midlands (Thacker 1987:260). In addition there may have been a local source of silver at the lead mine on Halkyn Mountain (gaz 1.10), although no convincing archaeological evidence in the form of trace-element analysis linking Chester-minted coins to North Welsh silver or archaeological evidence for silver production at Halkyn Mountain has yet appeared. Analyses of the alloys in coins minted at Chester included in McKerrell and Stevenson (1972:208) show a wide range in purity, even between two coins of the same type and moneyer (Eoroth, Edgar BMC ii) which are 34% and 92% silver respectively. This would suggest that the mint was drawing on a wide range of sources of silver. The presence in the burh of coins from most of the other mints in Anglo-Saxon England, together with silver bullion characteristic of hoards from Ireland, Wales, Scotland and Man (above, cap 6.3) suggests that the majority of silver which went into production at the Chester mint was imported from all over Anglo-Saxon England and the Irish Sea region. The alloy of the ingots analysed by Kruse (1988b:60) shows a wide range of purity (cap

6.3). Heterogeneity of provenance in the local *corpus* is underlined by the presence of Carolingian and Viking coins in the Harkirke and Chester 1950 hoards.

During the reign of Æthelstan (924-39) the mint of Chester (fig 28) was the most productive in England (Blunt 1974:98) and it continued to produce coins on a scale rivalling London until the 970's (Metcalf 1986: 144). In this period of high production, large quantities of silver coin minted at Chester occur in hoards across the Irish Sea region (fig 29); this flow led Metcalf to point out that, wherever the silver came from, the flow westwards "points strongly towards trading activity via Chester". It has been noted that Chester coins are the most numerous English issues in Irish tenth-century coin hoards (Graham-Campbell 1976a:48), although coins as a whole only comprise a small proportion of the total silver in Ireland in the tenth century (Kenny 1987:514). The histogram (fig 29) shows a build-up of Chester exports to Ireland from the 920's, with most of the finds coming from the period 940-980. There is a surge in the mid-970's. It is likely that most of the tenth-century Irish hoards were deposited by the Irish rather than the 'Vikings' (Kenny 1987:514). Nevertheless, their distribution in Leinster (fig 30), particularly eastern Leinster, suggests Dublin or at least Dublin Bay as the point of entry. This suggestion is supported by the high proportion if Chester coins amongst the tenth-century coin finds in the excavations at Fishamble Street/ Wood Quay, leading Wallace (1986:213) to accord pre-eminence to Chester "The importance of Chester as the great English port for Ireland in the 930's-980's is borne out by the relative frequency of the Mercian coins both in Dublin and its hinterland". The statistics must, of course, be influenced by chance recovery of deposits, but it is interesting that no Chester-minted coins have appeared in Irish hoards of the eleventh century (figs 31,32), despite a period of lesser but nonetheless important prosperity in the fortunes of the mint under Cnut. The introduction of Irish-minted 'Hiberno-Norse' coinage at the turn of the tenth/eleventh centuries may explain this to a certain extent, but coins from other English mints were stll present in Ireland in the eleventh century (Hall 1974:77). Further evidence of Chester's importance in the Irish Sea region in the mid tenth century is provided by the hoards from Scotby, Cumbria of c935, and later the Bangor (Vicar's Garden) hoard of c965 and the Islay (Machrie) hoard of c970, all of which contain coins of the Chester mint signature. The Ballaquayle hoard, Isle of Man, has numerous parallels with the Chester 1950 hoard (above, cap 6.3), including coins of the Chester mint signature, which are also

present in the Iona hoard of c986 (all dates from Blackburn & Pagan 1986:296-8). The Chester mint did not strike 'portrait head' issues during this period, and the relative lack of portrait head coins in hoards in the Irish Sea region is a reflection of Chester's predominance. Indeed the post-973 reform type Ii is only found in hoards to the north and west of Chester. Nevertheless the flow of Chester-minted coin was not exclusively towards the Irish Sea as the Chester-dominated hoard from Welwyn, Hertfordshire (c978), demonstrates (Blackburn & Pagan 1986:298).

An anomaly in the otherwise clear series of Anglo-Saxon royal coin types is one find, in the British Museum, of a horizontal type of Hywel Dda, the Welsh King who died in 949/50. It was minted by the moneyer Gillys, who is not recorded except at Chester. Blunt et al. (1989:138) stated that the coin must have been produced late in Edmund's reign or early in Edred's, and suggested: "It can hardly be the sole survivor of a coinage for Wales; it is more likely to have been struck as an honorific gesture from the English to the Welsh King".

Among the very large quantity of Anglo-Saxon coins found in Scandinavia are a substantial number of Chester-minted examples. Exactly how many is not yet clear, but they have a wide distribution in Sweden, Denmark and Norway (Pirie 1964), including a hoard found as far north as Rønvik, Bodø, Nordland, Norway (Dolley & Skaare 1960) dated to c978. It is clear that not all English coins in Scandinavia can be explained by *Danegeld* and *Heregeld* (Jonsson 1986, 12). Chester coins were among the hoard found at Dronningens Gt. 10, Trondheim in 1950, the deposition of which is dated to around 1035 (Univ. Oslo Coin Cabinet Archive; Skaare 1976:166). Their presence in one of Norway's most important towns of the period, together with the find of Chester ware pottery (Rutter 1988:31) is possibly indicative of direct trading connections. Chester coins were also present in hoards from Fuglevik, Sogn og Fjordane (c991), Foldøy, Rogaland (c1051) and Helgelandsmoen, Nordland (c1065), although outnumbered by south-eastern mintages such as London and Stamford (Univ. Oslo, Coin Cabinet Archive).

Chester was also important as a regional centre of die production (Blackburn & Lyon 1986:223). Apart from supplying their own mint with dies, the Chester authorities may also have supplied Tamworth and Derby (Jonsson 1987:65). The reform of 973 was intended to centralise die-production. After a pause lasting as far

as we can tell until the end of the tenth century, die production again started in the north west. Chester was probably supplied with dies from Gloucester for the last issue of Æthelred II's reign *(last small cross)* (BMC i), and seems to have begun producing its own dies again for subsequent issues (Blackburn & Lyon 1986:224-5). The dearth of locally-produced dies at the end of the tenth century coincides with the mint's *nadir* of production following the reform and, possibly, the seaborne attack on Cheshire recorded in the Anglo-Saxon Chronicle for 980. A lead plate with two die impressions found at Coppergate, York, has been associated with Chester (Pirie 1986b:39). Whilst the presence of a Chester die-impression in an archaeological context at York may mean that the die was produced there; it can also be explained as an official record of the the die-impression, brought to York from Chester (or elsewhere) for the royal archive (Pirie 1986b:40).

The Viking attack of 980 (above, cap 2.2, cap 6.3) has long been used to explain the sudden end of Chester's period as one of the premier mints in England. The collapse in the output of the mint in fact goes back at least to Edgar's reform of 973, intended to strengthen royal control over the currency. Elsewhere, after his death, this policy was soon eroded, but in this period the fortunes of a mint may well have depended on the interest of a local magnate, and this seems to have been lacking at Chester in the later tenth century (above, cap 2.2). Indeed, the whole economic fortunes of the city are not readily identifiable with purely economic factors, the city was dependent for its livelihood to a great extent on the positive assistance of official policy (see Metcalf 1987b, and below, cap 8.7). A political loss of confidence is therefore much more acceptable as an explanation than any of the shifting patterns of trade in the Irish Sea region. The events of 980 do not, however, offer a convincing reason. A sudden drop in Chester's importance in Dublin around 980 does not receive corroboration in Dublin, where Chester ware continued to be imported (Wallace 1987:231). Nevertheless a general decline in Chester's importance in Dublin did occur during the early decades of the eleventh century (ibid), while Dublin's trade with Bristol increased as part of general "tilt southwards". This slow trend is better explained by the decline in Chester's political fortunes and the growth of better trading opportunities in south-west England than by according the events of 980 undue destructive importance.

It is possible to exaggerate the economic decline of Chester in the eleventh century: although it never produced more than 2 - 3% of the national output (Metcalf 1986:72-9), the mint was the fifth most important in England during the reign of Cnut, having begun the century as the sixth mint of the country (Dolley 1955:4), although it dropped to ninth at the end of the reign of Æthelred II, shortly before the punitive actions of his successor against the inhabitants of north- western Mercia in 1016. The westward flow of silver continued, although the main concentration moved from Ireland to the seaboard of North Wales (figs 31,32). A single find of a Chester Cnut *Quatrefoil* from Segontium, Caernarfon (Metcalf 1980:46) is paralleled by two hoards, Bryn Maelgwyn (fig 33) and Pant-yr-Eglwys. (Boon 1986:14) suggested that these hoards represent the export of obsolete coin for reuse, either to Gwynedd or Dublin. Coins of the Chester mint dominate both of the hoards, comprising 88% and 50% respectively. The continued local dominance of Chester coins is underlined by the single finds from Crook Street (see catalogue), Greyfriars Court, Chester and Meols, where half of all coin finds minted between 973 and 1066 have the Chester mint signature. There is only a very small total of post-Conquest finds (two from Meols, two from Rhuddlan, see catalogue).

6.6 Regional differences in the North-West and the Irish Sea region

The Lower Dee/Mersey Area stands almost alone in north-west England as the location of a significant series of deposits of silver in the form of hoards and single finds. Other notable deposits such as the Cuerdale hoard and the Halton Moor hoard, Lancashire, whilst impressive in themselves, do not necessarily qualify their findspots as having any economic significance. The only other area of the eastern seaboard of the Irish Sea to have a recognisable series of deposits is the Carlisle/Eden Valley area of Cumbria. This was another transhipment point and concentration of Norse settlements on a major routeway between the Irish Sea and Northumbia east of the Pennines.

In the Lower Dee/ Mersey area, the local circulation of silver and coins seems to have reflected the area's border position; a number of differences can be observed even within the area. From the evidence of the single finds, the use of 'petty' coinage (cf. Metcalf 1960:114) seems to have been most prevalent in the North Wirral Coastal zone (Meols and Moreton), and in the burh of Chester. The circumstances of discovery through erosion and excavation may have created a false

concentration in these two places. Nevertheless, the vigilance of antiquarians since the mid-nineteenth century, fieldwalking by local archaeological groups and metal-detecting activity have failed to add any further coins of the period outside the two main areas of concentration. As these areas are also the main locations of finds of other imported objects, and in the case of Chester a historically documented port and market, it is reasonable to associate the finds of coins with the presence of exchange and trade. The two locations lie in different political territory, North Wirral being in the Hundred of Caldy, Chester being an integral part of north-west Mercia (above, cap 3.2.2).

Another difference to note between the single finds from North Wirral and those from Chester is the number of cut coins in the North Wirral group, whereas none of the Chester single finds and only four coins in the Chester hoard assemblage (three from 1950, one from 1914) have been deliberately cut. This may indicate that the silver content of the coins was more important to their value at Meols since they seem so readily to have been cut. It is also likely that any value conveyed by their mintage will have been stronger in the burh, nearer to the authorities which guaranteed the fixed value of the coin as minted.

The distribution of the hoards is weighted heavily in favour of the City of Chester, giving a strong indication of the city's importance as a centre of wealth and exchange. The outlying hoards on the Lancashire coast of the Mersey serve to show that movement of silver and coins the area was not confined to the Dee watercourse.

The balance of payments in Chester is evidenced by the import of silver and coinage (the finds) and by the outflow of coinage from the Chester mint (above, cap 6.5). The *imported* coinage shows that the Danelaw is well-represented in the earlier finds (Harkirke and St. John's Church 1863). Later, the south-east of England becomes better represented with London, Winchester and Bedford contributing much to the Chester, Castle Esplanade 1950 and Pemberton's Parlour 1914 hoards. The south west of England is relatively marginally represented (by the Moreton find and the small number of Devon and Somerset mintages in the Chester 1950 and 1914 hoards). There has only been one recorded find of a Chester coin in the south-west region, a Harthacnut *arm and sceptre* (BMC ii) found at Caerwent, Gwent (Dykes 1976:31).

The changing distribution of Chester-minted coins in the British Isles (see figs 30 - 32) shows a gradual swing away from Ireland (the most significant group of deposits in the earlier period) towards a more restricted distribution in the north-west Mercia/ north-east Wales area. Eleventh-century Chester coins are apparently completely absent in Ireland, although they have a more widespread distribution in southern England than in the tenth century. The decrease in Chester coins found in Ireland over the period 973-1016 is parallelled by a disappearance in the Isle of Man and a decrease in the Solway area and the west coast of Scotland. The disappearance from Ireland and the Isle of Man may be related to the establishment in both areas of Hiberno-Norse mints around the turn of the tenth/eleventh centuries, removing Chester's virtual monopoly on coin production within the Irish Sea region.

The hacksilver content of the Chester, Castle Esplanade 1950 hoard (caps 6.3.4 and 6.3.5) is strongly reminiscent of hoards spread in distribution to the north and west of Chester such as Ballaquayle (Isle of Man), Scotby (Cumbria) and Skaill (Orkney). This coincides geographically with the distribution of Chester coins from the mid-tenth century (fig 30) which is exclusively to the north and west of the city.

The assemblage of coins and silver from the Lower Dee/Mersey Area includes both coins and objects (hacksilver, ingots) which might have been exchanged as a form of money, their value being related to their silver content. The coins in the earlier hoards (Harkirke, St. John's Church, Chester) are of mixed type and national origin, and there is some evidence that the Harkirke hoard may have contained hacksilver (see above, section 6.3). The Chester, Castle Esplanade hoard is more dominated by English issues, although not exclusively. The two subsequent hoards (Chester; 97, Eastgate Row and Pemberton's Parlour 1914) contain only English coins. The tenth-century and later single finds, with the exception of Meols No. 21, are all English silver pennies. There is a clear chronological trend away from hacksilver and foreign coinage and towards English coinage only.

This trend is evident in hoards from more central areas of the English Kingdoms of Wessex and Mercia, where hacksilver and foreign issues, apart from the occasional continental coin, had all but disappeared by the mid-tenth century (see Blackburn

& Pagan 1986). Northumbrian hoards such as Goldsborough, Yorkshire (c920), Bossall/ Flaxton, Yorkshire (c925) and Scotby, Cumbria (c935) were mixed, but later in the tenth century, such mixed hoards died out.

The Irish Sea region presents a more confused picture. Mixed hoards with a high hacksilver content continued to be deposited in Ireland, the Isle of Man and western Scotland through to the later eleventh century. Ireland experienced a gradual increase in the presence of coin in hoards, although the proportion of coins to other silver was relatively small for much of the period (Kenny 1987:517-8). Kenny, in his study of geographical distribution, elaborated Graham-Campbell's point (1976:42) that there are two general types of hoards: those with coins (and/or ingots) and those with other objects and hacksilver. Their geographical distribution is shown to be to an extent mutually exclusive: the former concentrated in Meath, Brega and northern Leinster, the latter in Ulster, Munster and South Leinster (Kenny 1987:518). Furthermore, the incidence of coins has been shown to decline radially with distance from Dublin (pers comm. E. Bourke; Bourke, forthcoming). This pattern seems to have been little affected by the other 'Viking' towns of Waterford, Wexford, Cork and Limerick. This distribution pattern indicates that the tenth and eleventh century history of coinage in Ireland is thoroughly dominated by Dublin's role as port of entry and a centre of exchange. The dearth of coins from excavations in Waterford and Wexford (pers comm M. Hurley; E. Bourke) underlies the point that coin use in Ireland cannot be restricted to the 'Vikings' or urban inhabitants.

There was, however, a marked increase in coin-only hoards in Ireland and the Isle of Man following the introduction of Hiberno-Norse coinages around the turn of the tenth /eleventh centuries (information from Blackburn & Pagan 1986). Scotland, including the Northern Isles has a noticeably lower frequency of hoards than either England or Ireland throughout the tenth and eleventh centuries, and 'ring money' continued to be found in hoards into the eleventh century. The evidence from Wales is very difficult to interpret since the tenth- and eleventh-century hoards and coin finds in areas outside English authority are all extremely coastal and cannot readily be identified with the Welsh.

Further evidence of diversity in the Irish Sea region is provided by studies of metrol-

ogy in hacksilver and ingots, together with the weights excavated from Viking Dublin (Warner 1976; Wallace 1987; Kruse 1988a, 1988b; Sheehan 1984, quoted in Kruse 1988b:173). From these studies, it would appear that there were at least two weight standards in use in the Irish Sea region. Warner, in his study of Scottish and Manx ring money, concluded that the manufacturers were aiming at a target of around 24g (above, cap 6.3). This is similar to a standard observed in material found in Scandinavia (see Kruse 1988a:295 for table). P.F. Wallace's research on the Dublin weights and that by Sheehan on Hiberno-Viking arm rings point to a standard around 26g, similar to the former Roman or Carolingian ounce (Wallace 1987:206,212). Sheehan's unit of 25.9-27.3 was confirmed by Warner, who analysed the same material as a control (Wallace 1987:206). Kruse, in her study of silver ingots from England and Wales (1988b), was able to suggest that the Cuerdale and Chester, Castle Esplanade 1950 ingots are more likely to have corresponded to the 26g unit, although that the 24/24.5g unit could not be ruled out entirely (1988a:294). Wallace suggested from a preliminary survey that the weights from tenth- and eleventh- century contexts in York corresponded to the 26g unit and could be associated on typological grounds with the Dublin weights (1987:212). In every case, apparent imprecision in manufacture is exacerbated by the differing conditions under which the objects have been preserved; this prevents analyses from reaching a high degree of acceptable correlation (Kruse 1988a:294-5).

The border position of the Lower Dee/Mersey Area is clearly demonstrated in the variety of finds, parallelled in different areas of England and the Irish Sea Region. The consequent question must be to what extent the area was bordering on a number of different economic systems, and what function the silver had in different areas of the Irish Sea region.

There has been much discussion in recent years about the function of silver and coinage in Northern Europe during the Viking Age, mainly concerned with markets and early currency (Hårdh 1978; Randsborg 1980:137-67; Hodges 1982:178-82; Sawyer 1982:123ff; Hodges 1988:96-124; Thurborg 1988). A great deal of inspiration has been sought in economic anthropology, particularly ethnological studies of markets and 'primitive' currency (eg. Malinowski 1922; Polanyi 1957; Bohannan & Dalton 1962; Dalton 1965).

In the 1970's, enough of a consensus had been established between specialists for Hårdh (1978) to list the variations on a common theme, in the form of predictive stages for the development of a monetary economy. The framework is couched in specifically evolutionary terms, taking subsistence and marketless economies as the first 'type', economies with peripheral markets as the second, and the full scale market economy with all-purpose cash as the third (see Hårdh 1978: table 1 for listing). Within the wider developmental theory on economics, the objects have been classified as different kinds of money (Dalton 1977), ranging from "primitive money" - a uniform medium of any valuable substance, through "early cash" - a controlled medium of payment, to all-purpose cash (Thurborg 1988:303). Thurborg (ibid) also denotes a third category, "primitive valuables", which are described as artefacts used in ceremonial exchange and in political, social and judicial transactions.

Using the developmental model outlined by Hårdh, the evidence from the Irish Sea and northern England can be taken to indicate that the various component areas, Ireland, Scotland, the Isle of Man, Wales, Northumbria and Mercia were all developing at different rates through the general transition from a primitive marketless economy to a fully market economy with a universal form of currency. Where the model is not readily acceptable is in its implication that the adoption of coinage is a movement away from 'primitive' means of economic transaction to a more efficient transference of wealth. If the value of a coined economy is general economic efficiency, then it would stand to reason as a desirable objective for any group of economic agents. Why, therefore, did the rulers of Dublin not establish their own mint until over a century after the English established a mint only on the other side of the Irish Sea?. Coin-use hardly penetrated into Scotland or southern Ireland during the period, despite the presence (in the latter area) of considerable urban settlement and markets (below, cap 7.4).

There are reasons for objecting to the view that a coined economy is necessarily higher up an evolutionary scale than a weight/money economy. A coined economy is more easily manipulated by rulers for their own ends since the coin carries a value, conferred upon it by its mintage, different to its value in silver. The coinage can be debased, and such analyses as have been performed (above, cap 6.5) indicate that the silver content of Chester coins is varied even within the

same issue by the same moneyer (Eoroth, Edgar BMC ii). In a situation such as the tenth-century Irish Sea region where there was a choice of currency, coinage held all the disadvantages for the trader of inflation, unpredictable silver content and non-universal acceptability. This is especially relevant to trade taking place outside the area of English political authority. That coinage may well have been unpopular outside England is indicated by its small proportion of total silver in circulation in Ireland (Kenny 1987:517).

The establishment of a mint required the resources of protection, and was exclusive in England to the burhs. The rise of coinage in the English economy appears to be related to the will and ability of the English rulers to control the currency by repeatedly re-issuing the coinage and to make a profit each time through taxing the mintage. It does, however, seem likely that Anglo-Saxon coins found in Irish Sea contexts outside England reflect trade, since the markets of the burhs would increasingly have been infused with coinage. A market so positioned is hardly likely to have been allowed to function in any way other than that which facilitated official manipulation and profit. Merchants of any background wishing to take advantage of trading opportunities in English 'official' markets such as Chester or Bristol would by the later tenth century have received remuneration only in English coin, and would have had to return a proportion as tax.

Outside England, however, Anglo-Saxon coins were more dependent on their silver content for their value. The question of other, non-English mints in the Irish Sea region is dependent on the same factors as the English mints: the will and ability of rulers to establish a coinage, perhaps in opposition to the interests of people trading with 'coinless' areas such as inland kingdoms in Munster and Connacht. The earliest West Saxon and Anglo-Scandinavian coinages in the North were established in burhs or boroughs, notably York. Their establishment could easily reflect the strong position of local rulers, or the representatives of distant ones, rather than any special readiness to evolve into a further stage on the road to modern capitalism. A change in the political balance between traders and the king, together with increased royal pretentions on the Saxon model could provide the conditions for the imposition of minting. These conditions evidently did not arise in Waterford, Wexford, Cork or Limerick, where the inhabitants arguably managed to avoid the inflationary concept of coinage and to have continued to

trade on a more stable basis. Furthermore, the southern urban settlements in Ireland were bordering 'Irish' areas which had no history of significant penetration by foreign coinage (Kenny 1987:518). There seems very little difference in any state of backwardness or 'primitiveness' between some coin-using and non-coin using areas in the tenth century, for instance between north and south Leinster; and between the Isle of Man and south-west Scotland. It seems more likely that in the latter areas coinage remained peripheral because it was not in the interest of local leaders and the general population to manufacture it, and any incoming coinage tended to gravitate towards the melting-pot.

6.7 Summary

The hoards and single finds of coinage represent a large and varied store of data for the pre-Conquest economic history of the North-West. The number of finds from the ninth and early tenth century is small, but the content is wide-ranging. The majority of the evidence dates to after the 920's, when the history of the Chester mint indicates a dramatic upsurge in exchange. This intensification of activity is also marked in the archaeology of Chester, particularly in the Lower Bridge Street excavations (phase IV, gaz 4.28). By the death of Æthelstan, the Lower Dee/ Mersey Area had succumbed to the control of the West Saxon kingdom. There is some evidence that coinage was used more freely in the North Wirral area: more of the coins are cut and there is the only recorded find of a Hiberno-Norse coin on the English mainland. This accords with a picture of some political autonomy in the North Wirral settlements (above, cap 3.2.2). Chester itself acted as the major local market, and was responsible for the distribution of coinage throughout the Northern Irish Sea region during the tenth century. As long as official authority in the *burh* remained strong (which may not have been the case for a short period after the reform of 973), the mint was in business taxing, and facilitating the taxation of, local inhabitants and traders.

CHAPTER 7: THE CONTEXT OF EXTERNAL TRADE: THE COASTAL SITES OF THE IRISH SEA

7.1 The Lower Dee and Mersey as locations of exchange

Through detailed study of the artefactual assemblage in the area (above, cap 5) and the hoards and coinage (above, cap 6), a distinctive picture of the chronology and nature of external contact has begun to emerge. The finds indicate that there were several phases of prosperity before and during the period AD 800-1100. The post-Roman period saw some importation to Meols but very little to other sites in the area. The sixth and seventh centuries are very poorly represented. *Sceattas* at Meols (above, cap 6.4) imply a modest resurgence in activity during the eighth century, and a small group of finds (118:M/DP 1, 119:M/DP 2, 122:M/RP 1) may confirm this. The first indications of substantial activity at Meols, with some importation to Hale, are ninth-century in date. The ninth-century finds from Meols, including the *stycas* (above, cap 6.4), display considerable variation in style, quality and provenance. This exceeds by a considerable margin the occasional acquisition of luxury items, which might have been expected at a predominantly agricultural settlement on poor land in the North-West (such as Ribblehead). A significant aspect of the ninth and early tenth-century artefacts from Meols is contact with the Irish Sea Viking milieu, as implied by a range of parallels for the Meols material in the Isle of Man, Ireland and northwards around the west coast of Scotland to Norway (above, cap 5.1). However the coin series unaccountably stops during the late ninth century (above, cap 6.4). No early tenth century coins are known from Meols, either of Northumbrian Viking or English issue.

Finds from sites in Chester imply a major upsurge in importation in the early tenth century with very little during the ninth (above, cap 5.1, cap 6.3). Both at Chester and Meols, objects characteristic of permanent urban settlement became important. Of the Irish Sea material, polyhedral-headed ringed pins, lobe-headed pins and brooches are most frequently parallelled in urban contexts rather than in rural graves and stray finds (which is the case for much of the ninth-century material).

It has already been noted (above, cap 6.5) that the prosperity of the mint of Chester (as measured in exported coins) increased dramatically in the 920's and continued

at a high level until the 970's. A further resurgence in the reign of Cnut did not achieve such a widespread distribution (figs 30-32), with exported coins of this period mainly going to North Wales and other areas of England. Further exports perceptible in the archaeological record elsewhere, which can be directly associated with Chester, include Chester ware pottery (dated to between the 920's and the mid-eleventh century; above, cap 5.3, fig 19). Within the range of Anglo-Saxon material present in the excavations of Viking Dublin (Wallace 1986), it is difficult to gauge accurately the proportions coming from different English ports. The *terra sigillata* found at Fishamble Street and Wood Quay (Belier 1982), together with a Roman coin (Trier, *follis*), were suggested by Dolley as evidence of ballast quarried in Chester (quoted by Wallace 1986:209). Futhermore, the particular importance of Cheshire as a centre of salt production (above, cap 4.2) may explain the reference in the Irish source *Aislinge Meic Conglinne* to *salann Saxannach* (Meyer 1892:60-1).

The continuing vitality of the port of Chester at the time of the Norman Conquest is clearly implied in the Domesday assessment. The port is quite specifically mentioned as *portus civitatis* (Morgan 1978:262c). The Domesday Survey contains a record of the regulations affecting shipping in the port. The Domesday Survey mentions only one imported item: marten skins (probably from Ireland, see Wallace 1987:209). These were clearly highly-prized items since the king's reeve had first refusal on their purchase (Morgan, ibid.). For further historical references to items of trade, there is no choice but to turn to twelfth-century sources.

The Norman takeover at Chester in 1069 apparently did not cause a major discontinuity in trading contacts (Griffiths, in Ward, forthcoming). Conditions of trade in the Irish Sea changed only gradually, and the Hiberno-Norse towns of Ireland did not lose their commercial independence until after the Norman Conquest of Ireland in the 1170's. Consequently, twelfth-century sources hold considerable interest for Chester's trading relationships with the Hiberno-Norse settlements around the Irish Sea. Two sources in particular refer to the port and trading activity at at Chester. William of Malmesbury, writing in the second quarter of the twelfth century, noted a deficit in the production of corn in the Chester area. Although there was no lack of beasts and fish, grain had to be imported from Ireland (*Gesta Pont.*, Hamilton 1870:308). The Cestrian monk Lucian, writing at the end of the twelfth

century (*Liber Luciani*, Taylor 1912) mentioned the advantages of Chester's hinterland as forests, meadows/pastures, 'meat' (*carne*, presumably horses, cattle and sheep) and fish (ibid:65). Lucian echoed Malmesbury's assertion that there was trade in considerable bulk commodities with Ireland, Wales and England (meaning central and southern England). Meat (cattle and horses) and sheep were obtained *ex Britonum* (Wales), fish *ex insula Hibernorum* and corn *ex provincia Anglorum* (ibid:44). Wine was obtained, according to Lucian, from ships which tied up at the harbour on the south side of the city, having sailed from Aquitaine, Spain and Germany (ibid:46)[1]. Chester's apparent dependence on imported foodstuffs is also implied by arrangements for Cestrians to grow and trade in corn actually in Ireland which were already in place by the early thirteenth century when Walter de Lacy removed the dues for Chester citizens' harvest in Ireland and granted further trading privileges (Morris 1994:484-5)[2].

The sources indicate that the port and market of Chester were not just engaged in market-orientated trade in bulk goods, but that this trade was necessary to the very life of the city. By the late eleventh century at least, trade at Chester had progressed far beyond exchange in occasional luxuries. However, trade before the Domesday Survey at Chester, and throughout the entire period at Meols, Rhuddlan, Hale and elsewhere, is a historical blank. The archaeological evidence is in need of an interpretative background which can reconcile the vivid picture of trade conveyed by the Domesday Survey, William of Malmesbury and Lucian with the previous centuries of importation and exchange in the area. The changes evident in the ebb and flow of prosperity are in need of further explanation.

[1] Chester's imports and exports are summarised in the following table.

[2] I am grateful to A.T. Thacker for helpful discussion of these points

Place	Imported From	Exported To
Local/ NW Mercia	grain, fish *(Lucian)*, fruit, animals, horn, antler, timber, iron, lead, milled flour, salt, wool	coins, leather, combs, pottery, ?tools
Wales	animals *(Lucian)*, iron, silver, ?gold, wool, ?slaves	coins
Mercia	pottery, coins, metalwork, coin dies, ?grain	salt, skins, ?slaves
Ireland	grain *(Malmesbury)*, fish, skins *(Domesday)*, ?slaves, metalwork	salt, coins, pottery, metalwork
Isle of Man/ Scotland	metalwork	coins
Danelaw/North'bria	coins, coin dies, pottery, metalwork	coins
S. England	metalwork, coins, coin dies	skins, ?slaves
Continent	wine (Aquit., Spain, Germany) *(Lucian)*,	
Scandinavia	metalwork	coins, pottery

Chester: Imports and Exports, AD 900 - 1200

7.2 Approaches to the Interpretation of Exchange and Trade.

The majority of the finds (excluding pottery, above, cap 5.3) are items of personal equipment, often connected with dress. Despite the emergence of a clearer picture of their possible origin, cultural background and date, the mechanism by which they arrived in the area is still unclear (except for those argued above, cap 5, to have been manufactured locally). The presence of an increased population after the foundation of the burhs and the Scandinavian settlement of Wirral and West Derby is evident in the increase in the quantity and range of finds of the tenth century and eleventh century. Trade with other centres of production in England and the Irish Sea may only be *inferred* from the finds. There is in the Irish Sea (as yet) no case where archaeology has apprehended trade *in modus operandi*, such as in a tenth-century shipwreck loaded with timber, Chester ware pottery, Anglo-Saxon coins, and perhaps a few slaves. Other explanations may be advanced for how such a diverse range of finds, indicating several periods of prosperity, came to rest in the sand of the North Wirral coastal margin and the buried pits and trenches of Saxon Chester.

This interpretative problem is encapsulated in P. Grierson's 1959 paper "Commerce in the Dark Ages: A Critique of the evidence". Grierson sought to emphasise the social motivation for exchange, as opposed to the purely economic motivation implied by market trade. Grierson offered a range of explanations for the distribution of material culture in Dark-Age Europe, including theft, tribute and gift-exchange. These may result in importation but do not imply the presence of markets. Dependent on ethnographic studies of so-called 'primitive societies' by B. Malinowski (1922) and M. Mauss (1925), the concept of gift exchange and *reciprocity* sought the motor for exchange in the social obligations inherent in a particular society where redistribution of goods "circulated according to the relative status of the parties involved" (Doherty 1980:73-5). C. Doherty and M. Gerriets (1985, 1987) have illustrated the value of early Irish sources, and in particular law tracts for the study of trade. Institutionalised reciprocity was evident in the traditions of early Irish kingship and in the practices of the church (Doherty 1980:73-5). There is nevertheless a considerable difference, as Doherty implicity distinguished, between ritualised exchange of gifts *within* a particular social or religious context, and the acquisition of imports from outside this context. External trade involved dealing

with foreign merchants and adventurers who were not subject to the reciprocal responsibilities of membership of the internal elites.

It is necessary to accept that a range of mechanisms may have resulted in the presence of individual objects at Chester and Meols. The finds accumulated over a long period involving an unknown number of events (above, cap 1). It can hardly be possible to distinguish one or another mechanism as the reason why a particular object entered the assemblage. A discussion of parallels for the objects (above, cap 5) is perhaps as far as one may go with very detailed artefactual analysis. In order to understand the role of the sites as the location of imports and exchange, their political context becomes important. The development of maritime trade in the Irish Sea is an essential background to understanding the role of Meols and Chester as trading outlets. By studying the morphology of related trading sites and the changes in the character and intensity of exchange in the Irish Sea region, it may become easier to understand the distribution of archaeological evidence discussed above in chapters 5 and 6.

7.3 Exchange at coastal sites in the Irish Sea region to the early tenth century

The chief archaeological manifestation of trade is at a range of sites around the Irish Sea (fig 34). Not only do such sites suggest themselves as havens or harbours, the range of archaeological finds (as at Meols and Chester) indicates significant levels of importation from within the British Isles and beyond. Several of the sites became urbanised during the tenth and eleventh centuries. Rich assemblages of finds are not restricted to coastal sites. Inland royal and chiefdom sites, such as Garranes, Co. Cork (O'Riordain 1942) or Clogher, Co. Tyrone (Warner 1988:62ff) also maintained considerable long-distance contact. However, as a detailed background to Meols, Chester and other sites in the Lower Dee/ Mersey Area, the primary interest lies in sites which appear to have had a primary and direct relationship with maritime routeways and traffic.

The chronology and significance of post-Roman exchange in the Irish Sea was already becoming clear when C.A.R. Radford published his discussion of the pottery from Tintagel, Cornwall (1956, followed by Thomas 1959). Within the more central area of the Irish Sea (Mackinder's *British Mediterranean,* 1902:20), early

post-Roman Bii and Biii ware is known from Dalkey Island, Co. Dublin (Liversage 1967:66-8) and [possibly] Ronaldsway, Isle of Man (Thomas 1959:108). There are further indications of post-Roman trade at Ronaldsway, which was situated beside Derbyhaven, one of the Isle of Man's best natural harbours. A range of imported metalwork was excavated (Neely 1940:84, pl XIII) including the fragmentary remains of a bronze weighing balance of Romano-British type and a lead weight (ibid:77; Skinner & Bruce-Mitford 1940). L.R. Laing (1987:391) demonstrated that the settlement at Ronaldsway continued for the majority of the 'Early Christian' era, up to the Viking period. Further early post-Roman pottery is known from Dinas Powys, Glamorgan (Alcock 1963:123ff), Deganwy, Gwynedd (Edwards & Lane 1988:51), Whithorn (Hill 1989:9) and at more inland secular settlements such as Garranes, Co. Cork (Ó Riordáin 1942:125ff) and Dinas Emrys, Gwynedd (Savory 1960:60-62).

Dalkey Island was interpreted by R. Hodges (1982:51) as a seasonal beach market at a neutral, offshore site, presumably giving the Leinster Kingdoms access to trade with the continent. Finds of E ware, a late sixth/seventh-century Gaulish pottery type (Peacock & Thomas 1967) suggest that Dalkey Island kept its importance as a trading site until at least the late seventh century (it has been suggested by A.P. Smyth that the island was a slave prison during the Viking period; Smyth 1987:240). The distribution of E ware is one of the most widespread indications of trade in the 'Celtic West' during the seventh century although the pottery itself is likely to have been incidental to trade in more valuable items such as wine (Thomas 1990:14). The incidence of E ware at major ecclesiastical and secular settlements such as Nendrum, Co. Down, (Jope 1966:133), Clogher, Co. Tyrone (Thomas 1990:14), Dunadd, Argyll (Thomas 1959:109), Alt Clut, Dumbarton (Alcock 1976:110-111), Whithorn (Hill 1989:13) and the Mote of Mark, Dumfries and Galloway (Laing 1975:105) leaves little doubt as to the ultimate destinations of the imports, which are occasionally accompanied in the archaeological record by metalwork and glassware. The major 'citadels' such as Dunadd and the Mote of Mark are also distinguished by a range of fine metalworking evidence (Nieke & Duncan 1988:13-18; Caple 1986:114; Laing 1975b). Many of the sites, particularly around the northern shores of the Irish Sea which received E ware can be characterised as political centres (Thomas 1990:21; Nieke & Duncan 1988:13). Long-distance trade with the continent has been seen (Nieke & Duncan, ibid) as an aspect of

the function of secular citadels as centres of royal power. They argued that at Dunadd, trade "with the continent" was "deliberately instigated and controlled by the kings". However, the primary regional role of Dunadd was to act as a centre of tribute (Nieke & Duncan 1988:12-13) and therefore, presumably, as the node of a network of internal communications within Dalriada.

The Dunadd model may be useful in the interpretation of many of the royal and chiefdom sites in the Celtic West during the middle of the first millennium. C. Thomas (1988:11) suggested that period II at Tintagel could be explained in the same terms, where a population of craftsmen and royal retainers could have been supported by the surplus generated from within the surrounding area. Thomas argued, following Nieke and Duncan's Dunadd hypothesis, that external trade in luxury items provided a means by which the kings maintained their elevated status. The possession of, and ability to distribute *exotica* distinguished the king's position at the apex of the society.

This emerging consensus for the interpretation of trade and economy in the post-Roman Celtic West is an important development. The model departs from Hodges' evolutionary scheme (1982:197). Nieke and Duncan stated that they do not regard Dunadd as a port of trade or emporium in Hodges's terminology (Nieke & Duncan 1988:13-14). It is important to note that their model is actually incompatible with Hodges's scheme since Hodges consistently interprets external trade as the motor for diversification and progression from his type A gateway community to type B. At Dunadd, Tintagel and other sites (the situation in Ireland must contain very rich opportunities for social and economic research in this context), a hint has emerged that the *existing* political role of a settlement may be the reason for its participation in external exchange and trade, and that such trade should be seen alongside another essential economic mechanism, namely *tribute*, conditioned by the productive capacity of the hinterland of the site (eg, Dalriada).

A note of caution should be sounded here regarding the character of long-distance trade with the continent. Nieke and Duncan, and Thomas, all interpret continental parallels for the finds from their sites, not just as evidence for contact with the continent, but leave the implication that this was *direct* contact. Although there is possibly more reason (on purely geographical grounds) to assume this in the case of

Cornwall than for Argyll, the idea of independent royally-instigated and controlled trade with far distant continental regions is unconvincing. The possibility of a two or three- stage trading network in the Celtic West is more acceptable. This would involve a means of redistribution located at accessible trading locations far closer to home. Hodges's model (at least his definition of type A gateway communities) may have some relevance here. Marginal coastal locations are perhaps more relevant to prestige-goods trade than has hitherto been admitted. Thomas (1990:21), referring to one of the most obvious potential examples of a central market/redistribution point, Dalkey Island, states that "its mercantile status...remains unclear". It is a strong hypothesis that seasonal fairs and markets in coastal locations (perhaps only for a few days each year) provided enough incentive to attract mercantile shipping over the ardously long distances in question. This more *dendritic* characterisation of long-distance trade in the Irish Sea echoes G. Astill's criticism of Hodges' neglect of undocumented sites in the North Sea basin such as Domburg, Westschouen and Medemblik (Astill 1985:229).

The relationship between the Celtic West and more central areas of Anglo-Saxon England (which was later so important to the prosperity of the Dee and Mersey) is very difficult to outline for the seventh century. C. Thomas (1990:20-21) suggested several major river systems and coastal inlets as points of access to the interior of Ireland and the west of Scotland during the seventh century, including the Shannon, Cork Harbour, Strangford Lough, Lough Foyle and the Clyde. In Thomas's model, the north-west coast of England and the coast of North Wales are a notable blank in an Irish Sea peppered with E ware and postulated redistribution zones.

The pattern of importation to very marginal coastal sites was reinforced during the period characterised by E ware. E ware is relatively common at beach sites in the South-West, such as Bantham, Devon (Fox 1955), Gwithian (Thomas 1990) and a number of sites in Scilly (Thomas 1990:15). This indicates that the pottery was reaching the Celtic West directly from France, effectively by-passing the main English landmass. Marginal locations receiving E ware include Longbury Bank, Dyfed (Edwards & Lane 1988:88-90), Dalkey Island (above) and a number of sites on the shores of Strangford Lough (cf. Waterman 1958:46-7). Thomas (1990:21) argued that the particularly concentrated distribution of E ware around Strangford Lough (whilst in part stemming from the density of fieldwork and excavation in

the area) was related to the central presence of the *Rath Chealtair*, the fortress of the Cathedral Hill, Downpatrick.

The lack of E ware or any post-Roman Mediterranean wares at Meols is perhaps surprising in view of the widespread distribution to the west and north. This is possibly explained by the unusual methods of collection employed by Hume, Ecroyd Smith, Potter and their assistants (for full history of the site and collections, see gaz 5.12). The comparatively dull appearance of B, D and E ware may have led to it being overlooked in favour of metalwork and brightly-glazed medieval pottery (although this can hardly explain the absence of A ware). This problem, along with many others affecting the Meols assemblage, will possibly be resolved by archaeological investigation of the series of buried landscapes behind the sea wall (gaz 5.12).

The small amount of eighth-century material at Meols is best interpreted within the context of a number of other coastal sites around the Irish Sea which show evidence for the importation of metalwork. The recent excavations at Whithorn have shown continuity from the E ware period of the seventh century (also marked by imports of 'Merovingian' glass (Hill 1989:9). The eighth century is marked, as at Meols, by sceattas and the coin series continues into the ninth century with a substantial group of Northumbrian stycas (see also above, cap 6.4). Two other sites in the south-west of Scotland also show evidence for importation during the eighth and ninth centuries. The Stevenston Sands, Strathclyde (Ayrshire), have produced a collection of fine metalwork objects and pottery during a long-term erosion cycle similar to Meols (Callander 1932-3). The objects, which include an enamelled mount and a copper-alloy strap terminal of the 'Trewhiddle' group (cf. 106:M/ST 6; 173:H/ST 1), are part of an assemblage dating to between the neolithic and medieval periods. The finds were compared by Callander (ibid:31) to the assemblage from Luce Bay, Galloway. This site (cf. also above, cap 6.4) is also located in sand, on the southern coastal margin of the isthmus connecting the Machars Peninsula to the Rhinns of Galloway.

The Luce Sands assemblage contains, apart from the series of *sceattas* and *stycas* (above, cap 6.4), an E-ware sherd (Peacock & Thomas 1967:45), copper-alloy penannular brooches of Fowler's type G (Rynne 1965; Dickinson 1982:61) and

copper-alloy zoomorphic strap terminals (Callander 1932-3:31). Further material from the site also indicates neolithic origins and a number of post-medieval English and Scottish coins suggest further phases of activity (Cormack 1962). Nieke and Duncan (1988:15) argued for the high social status of penannular brooches within a system of redistribution. The coins, which are numerous at Luce Sands, show that there is more to this marginal settlement than fishing and subsistence agriculture. The topography of the former settlement remains mysterious, despite a recent campaign of fieldwork by the Royal Museum of Scotland (T.G Cowie, pers comm). J.M. Davidson (1952:43-5) divided the area into five zones along the beach and at the entrance to the Piltanton Burn (ibid:fig 1). Several cremations including bronze age urns were recorded, although Davidson made no reference to later periods.

The motivation for the early medieval imports to Luce Sands is also difficult to define. The site lies in an area known for a number of important Early Christian sites, at Kirkmadrine, to the west, and Glenluce and Whithorn to the east. However, the specific function of a possible transhipment point and market at the site is probably related to portage across the Galloway Isthmus. To the north, (on the north-east coast of the Rhinns) the inlet known as Wigg Bay (possibly from OE *wic* or ON *vikr* (D. Brooke, pers comm) may represent a counterpart harbour in the early medieval period. Further investigation of Wigg Bay may substantiate this hypothesis.

Another multi-period beach settlement was excavated in 1950-51 at the Dundrum Sandhills, Dundrum Bay, Co. Down (Collins 1952, 1959). Although the majority of the settlement debris was interpreted by the excavator as neolithic, there were a number of finds of early Christian-period metalwork including a carved roundel and a zoomorphic strap terminal (Jope 1966:96-7, 139). This pattern of site topography and finds is also echoed at Kenfig Sands, Glamorgan (Edwards & Lane 1988:85) where fragments of Roman pottery, half of a copper-alloy penannular brooch (Fowler type H1) and various medieval finds were discovered in sandhills associated with debris from medieval buildings.

The problems of continuity from the mid-ninth century at Meols (see above) are not unique. At none of the coastal sites above can any significant continuity with

the tenth century be demonstrated. Items such as Northumbrian *stycas* did not continue in production, so their disappearance is hardly a problem to explain. The metalwork assemblages are more of a problem. Ninth-century material is present at Meols, Stevenston, and Luce Sands. Tenth-century material is present at Meols (above, cap 5). However, there are no late ninth or early tenth-century coins at the sites. Common hoard finds of the early tenth century around the Irish Sea include the Viking coinages of York and early tenth-century Anglo-Saxon pennies (eg Harkirke, St John's Chester (below, appendix C), Cuerdale and Scotby).

The excavations at Whithorn provide some interpretative leads. Although the 'hiatus' in activity during the late ninth century (Hill 1989:13) has now been revised to allow for some continuation in activity at the site (Hill 1990a:22-3), there does seem to have been a material decline in the settlement (ibid.), which went historically unrecorded between the mid-ninth and the early twelfth centuries. At the moment, the changes in trade and the morphology of trading sites in the Irish Sea region during the late ninth century remain largely the province of future research.

The beach sites outlined above (including Meols), together with sites on islands and promontories, such as Dalkey Island, are distinguished by the total lack of historical information relating to them. Many may not have been important politically, but the regional significance of their archaeology does not lie easily with a dismissive and minimalist interpretation. Recalling Astill's point about the *wics* of the English Channel and North Sea (1985:229), a limited comparison may be made here. The Dutch beach sites of Domburg (Capelle 1976) and Westschouen (Capelle 1978) are also distinguished by a lack of historical identity and by an apparent end to trading activity in the mid-ninth century. This has also been observed at the historically-known site of Medemblik (Bestemann 1974). They differ from larger, urbanised sites in the Rhine Delta, such as Dorestad, in that they are located nearer the maritime periphery of the landscape and further away from easy control by the Carolingian Court.

The situation on the Rhine may provide a clue towards interpreting the apparent structural change in trade in the Irish Sea during the late ninth and early tenth century. The decline of trading locations on the outermost periphery of the landscape (fig 34) can hardly be attributed merely to the Viking threat which had affected

the Irish Sea (like the North Sea) since the eighth century. If the historical picture of Viking-initiated violence is to be accepted as a cause of commercial decline, it did not prevent sites such as Meols, Luce Sands and Whithorn enjoying a noticeable *upturn* in trade during the earlier ninth century. As A.T. Lucas demonstrated (1966), Ireland (and by implication, the Irish Sea as well) were permeated with a climate of violence long before the Vikings left their *heimgårder.*

The evidence for trade and exchange during the phase of Viking settlement in the later ninth and tenth centuries suggests that a structural change in the trading economy of the Irish Sea region is more closely related to the time when the settlements had become established, and they had begun to build up commercial relationships with each other and, very importantly, with the burgeoning urban culture in England.

7.4 Trade and the Early Towns of the Irish Sea.

The historical picture of Viking activity in the Irish Sea during the ninth century is conditioned by a series of raids and political adventures. The raids on Lambay Island, Co. Dublin, and Iona, together with monastic sites in the Irish Midlands during the 790's are followed in the *Annals of Ulster* by raids and depredations in the following years leading into the ninth century (MacAirt 1983). Naval activity continued throughout the ninth century but merchant shipping is not mentioned. Later sources such as the *Cogadh Gaedhel re Gaillibh* (Todd 1867), a twelfth-century monastic source intended to glorify the exploits of King Brian Boru, also stressed the pagan violence of the attacks and the affront to Irish civilisation. The sources, whilst acknowledging the emergence in the mid-ninth century of the *Gall-Gaedhil*, or Hiberno-Scandinavians and the political ambitions of legendary Hiberno-Norse leaders such as Turgeis (Smyth 1980:180) and Ketil Flatnefr (Smyth 1977:17), are not generous in their treatment of settlement. The mid-ninth century appears, on documentary grounds, to be the first distinct phase of Scandinavian settlement in the Irish Sea region. The Vikings established *longphorts* (ship fortresses) at Dublin in 841 and *Linn Duachail* (Annagassan, Co. Louth) around the same time (De Paor 1976:30; Wallace 1982:138). Turgeis operated for a short time from a base on the Shannon (De Paor 1976:31) which may have been on Lough Ree.

The character of these early Viking settlements in Ireland is still virtually unknown. The site of the *longphort* at Dublin has never been identified other than the general consensus that it was located somewhere on the south bank of the Liffey (Wallace 1982:138). J.A Graham-Campbell suggested that the site of the *longphort* may have been further up the Liffey to the west of the main centre of medieval Dublin, in the vicinity of the large Scandinavian cemetery at Islandbridge/Kilmainham (1976a:40). Wallace (1982:129) disputed that medieval Dublin had evolved from the longphort or from a pre-Viking clachan (eg. Clarke 1977:42-4), leaving the site of the longphort still a mystery. The earliest defences of the Fishamble Street/Wood Quay site have been dated to the early tenth century (Wallace 1985b:107-8). Longphorts are only very vaguely understood as a genre, and the character of the Dublin longphort has attracted many descriptions, including *emporium* or trading station (Clarke 1977:44).

The *longphort* at Dublin may yet be found by chance through rescue excavation in the west/central area of the city. The fort at Annagassan, Co. Louth, is a more tangible archaeological problem. The village of Annagassan is located on the eastern side of the stream connecting with Dundalk Bay. Above the village on the western bank, surveying the confluence of two streams is a D-shaped ringfort measuring 73 metres east-west by 34 metres north-south, and surrounded by a foss up to three metres deep[1]. Due to its position on a scarp, the ramparts of the ring fort have an actual height of eight to ten metres above the stream. The ring-fort is the only noticeable defensive position in the area and can be suggested as the most likely site of the Viking fort. Although the Office of Public Works have marked the monument (Louth 259), it stands otherwise untouched by detailed survey and excavation. J. Bradley (1988:66) argued for some dispersed rural settlement in eastern Louth on the basis of a runic inscribed mount from Greenmount and a reference in the *Annals of the Four Masters* for 970 to the murder of Scandinavians during a raid by Domnall ua Neill on Monasterboice, Louth and Dromiskin.

Ninth-century Viking settlement on the Irish coast is further indicated by a range of intriguing but poorly-understood evidence. Pagan Scandinavian graves, apart from the Islandbridge Cemetery in Dublin have also been found in coastal locations at Arklow, Co. Wicklow (Graham-Campbell 1976a:60), Larne, Co. Antrim (Fanning

[1] survey by author, 27th November 1989

1970) and Eyrephort, Co. Galway (Raftery 1961). Although the Larne grave is on the edge of the inlet referred to in saga literature as *Ulfreksfjordr* (Bradley 1988:66), it need not imply Scandinavian settlement any more than does the Talacre grave (gaz 1.3). The Eyrephort grave was possibly associated with stray finds of stick pins and a strap terminal at Truska (Bradley 1988:67) but evidence of established landholding is lacking. The possible 'Viking house' at Beginish, Co. Kerry (O'Kelly 1956) is similarly isolated on the outermost periphery of the landscape.

The *Annals of Ulster* record Viking activity at a number of places in the ninth century. In 839 the 'foreigners' were raiding on Lough Neagh *(Loch nEhach)*, in 842 they had a naval force at Lough Swilly *(Linn Sailech)*, and in 877 they were present on Strangford Lough *(Lough Cuan)* (MacAirt 1983: 297, 301, 333). Further evidence of Scandinavian settlement may include the shoreline ring-work near the monastic site at Grey Abbey, Co. Down, on the north-east shore of Strangford Lough. A small island in Strangford Lough, Dunnyneill, also has evidence of an early fortification but its date is so far difficult to determine (R. Warner. pers comm). Other possibilities for limited ninth-century coastal Viking settlement include a group of stone cairns and cist graves on a small sandy headland at Kinnegar Strand, Inishowen, Co. Donegal, on the banks of Lough Swilly. A ringed pin was found in the vicinity but the site has not yet been further investigated (R. Warner, pers comm).

The historical evidence for ninth-century Viking settlement in Galloway has recently been subjected to a critical review (Cowan 1990:69 ff). Cowan found little to support popular legends that the Scandinavians in Galloway were either an early or important part of the landscape, although P. Hill (1990b:37-8) suggested that they were important in restricted coastal localities (see also below, cap 8). Nevertheless, it is very difficult at this stage to distinguish ninth- from tenth-century settlement by philological argument alone. The economic basis of coastal settlement in the ninth century is even more difficult to discuss in the absence of any detailed research into the particular character of ninth-century Scandinavian settlement in the Irish Sea region (see also cap 8.3, below). The ninth-century settlements must have been involved in some trade; however its character is extremely opaque. Ninth-century objects have been found at coastal locations (eg. the silver

wire balls from grave II at Peel Castle, Isle of Man, see Graham-Campbell, in Freke et al., forthcoming) but they are generally within wider tenth-century contexts.

Of particular interest in the context of ninth-century Viking settlement in the Irish Sea region is the question of urbanism. C. Doherty (1985:68) argued that the great Irish monasteries, such as Armagh, Kells, Clonmacnoise, Derry, Clonard, Downpatrick and Kildare, had a number of urban attributes such as an elite, street, districts and markets. The main function of the monasteries remained religious, and Doherty suggested that they should only be regarded as 'urban' from the tenth century onwards. H.A Jeffries (1985:15) suggested on historical grounds that the first Viking settlement at Cork was established in around 846. There is so far no archaeological evidence for this phase of occupation, or even for the well-attested eleventh and twelfth-century Ostman town (M. Hurley, pers comm). Evidence for ninth-century occupation is similarly lacking at Limerick, Waterford and Wexford despite recent campaigns of excavation in all three towns[2]. The *longphorts* were discussed in the context of pre- and proto-urban centres elsewhere in Europe by P.F Wallace (1982:130-133). Wallace was critical of the view that the Irish towns of the tenth and eleventh centuries may have had a direct evolutionary origin in the ninth-century *longphorts*. However, the absence of any detailed evidence from the ninth-century Viking settlements (even those which may hold some potential for future research such as Annagassan, the Strangford sites and Kinnegar) infects the whole debate about ninth-century urban origins in Ireland with widespread uncertainty.

The inhabitants of the coastal settlements in Ireland suffered a series of setbacks from the 860's (Jeffries 1985:15; Bradley 1988:66). The settlements in Ulster were wiped out by Aed Finnliath, King of the Ui Neill, in 866 (O Corrain 1972:94). The *longphort* at Youghal, Co. Cork was also overwhelmed in 866 and the Cork Vikings were defeated in 867. By 892 the Vikings of Waterford, Wexford and St. Mullins had all suffered defeat. Dublin lasted until 902 when it succumbed to Irish hegemony and the Vikings departed (Wallace 1982:134-6). (These reverses occured during the period known in the Irish Sources as the 'forty years rest'). The ejected Norsemen traditionally transferred their attentions to northern England (Wainwright 1975:311), and their movements in search of territory and security

[2] Inf. from O.I.A Conference 'Urban Archaeology in Ireland', Dublin, 1989.

have provided the context both for the settlement of Cumbria, Lancashire and Cheshire, and for the deposition of the Cuerdale hoard. It has been argued here (above, cap 2.2, below, cap 8.6) that the Anglo-Saxon reaction in the North-West was more complex than many scholars have admitted. The burhs of north-west Mercia were not just a defence against the Vikings; they were also a means of controlling the local population and resources (including the routes of communication) and had a strong role to play in Anglo-Welsh relations. Nevertheless, it is possible that the nascent urban centres of England, and perhaps particularly Chester, gave a cultural stimulus to the Hiberno-Norse, convincing their leaders of the value of towns as instruments of enhanced wealth and control (cf. Wallace 1982:140). J. Bradley, in a study of the town plans of Waterford, Limerick and Wexford, considered that their topography was of English inspiration (1990:53-6), thereby supporting Wallace's view.

P.F. Wallace suggested (1982:129) that the Hiberno-Norse *towns* did not originate any earlier than the historical return of the Norse in the second decade of the tenth century. This is marked at Dublin by the foundation of the *dun* in or around 917 (Wallace 1981:110) and the subsequent development of a defended settlement consisting of a complex system of plots and land rights which were not transgressed after the tenth century (Wallace 1985b:280-81). The houses excavated at High Street, Winetavern Street and Christchurch Place (Murray 1983) and Fishamble Street/Wood Quay (Wallace 1985a) were, for the most part, consistently replicated within the boundaries of their particular plot. The growing population was defended both from attack and inundation by a series of embankments and waterfront defences (Wallace 1981:110 ff) which gradually acquired the character of a complex dock/waterfront system. Wallace (1987) has outlined the archaeological evidence from the excavations of Viking Dublin for the economy and trade of the tenth- and eleventh-century town. Considerable specialised production was present within Dublin, with the import of raw materials from overseas, including amber and jet (ibid:216). Considerable quantities of silver were present in Ireland during the tenth century (above, cap 6.5, 6.6) and Wallace suggested that imports of silver were accompanied into Dublin by tin and gold (ibid:217). The suggestion made above (cap 5) that metalwork from Chester and Meols may have been manufactured in the tenth/eleventh century Hiberno-Norse milieu is borne

out by the evidence for metalworking in Dublin (Wallace 1987:219). Wallace suggested (1985a:135) that glass was imported and worked in the town, as was soapstone and walrus ivory (ibid.). Indications of specialised production centres within Dublin includes the particularly extensive evidence for bone and antler-working at Christchurch Place (Ó Riordáin 1976:140), implying that further specialised zones of production may be sought in the evidence from the southern area of the town, away from the crush of activity at the waterfront.

Considerable long-distance imports of finished products were present in Dublin, indicating its extensive connections with Britain, Scandinavia and the Continent (Wallace 1987:209). The Chester ware pottery imported into the town (above, cap 5.3) was also accompanied by East Anglian wares and (in slightly later contexts) pottery from France and the south-west of England. Doherty (1980:84) suggested that salt was imported from England (see also above, cap 7.1). Anglo-Saxon metalwork is present, including a range of disc brooches suggested by Wallace to have been manufactured in London (ibid:209). Trade with the continent included wine (France and possibly Italy), prestige souvenirs and weapons and glass (Wallace 1987:228). The town retained considerable Scandinavian connections bringing in (apart from walrus ivory), furs, hones and possibly iron from Norway (ibid.).

Dublin's role as an *entrepot* between the interior of Ireland and the Irish Sea is emphasised by evidence for external exchange with the populations inland to the west. Archaeologically, this is marked by 'souterrain pottery' and possibly by bossed penannular brooches (Wallace 1987:207). There is more historical evidence for tribute and trade in animals (Wallace 1985:131) and slaves (Smyth 1979:240-42). The slave trade with Bristol is attested by Bishop Wulfstan's attempt to prevent it during the eleventh century (Sherborne 1965:1-2), and earlier slave trade with Chester was suggested by Doherty (1980:84). The slave trade may have received unexpected archaeological confirmation in the find of an iron manacle at Fishamble Street (D. Caulfield, pers comm), although this may be of course simply a punitive device for miscreants in the free population.

Excavations at Wexford and Waterford have also revealed evidence of an increasing urban environment in the late tenth and eleventh centuries. The excavation by E. Bourke at Bride Street, Wexford, showed an occupation sequence dating at least

to the early eleventh century (Bourke, forthcoming). Very strong architectural parallels with Dublin were recorded, with levels 1-3 all showing evidence for houses of Wallace's Dublin type 1 (cf. Wallace 1985:125). The small area of the excavation underwent eight rebuilding phases between circa 1000 and 1250 (E. Bourke, pers comm). The finds are not extensive but indicate the use of combs, pins and tablet-weaving. No coins were recorded during the excavation (see also above, cap 6.6).

The Waterford excavations have been more extensive in area and have shown considerable differences in material culture between Waterford and its east-coast neighbours Wexford and Dublin. Although so far unpublished in detail (see Hurley 1988), the Waterford excavations have revealed at least sixteen houses of the pre-Norman period and extensive pre-Norman defences. The row of three sunken-featured houses on the Peter Street frontage (dated to the eleventh century, above, cap 4.1, below, gaz 4.28) are directly comparable with the phase IV houses excavated at Lower Bridge Street, Chester. The wattle-walled houses excavated by A. Hayden at Olaf Street are more comparable to the general architectural fashion prevalent in Dublin and Wexford, but are dated to the mid-twelfth century. The finds show a particularly close external relationship with south-west England and France. The pottery is dominated by Severn Valley wares (which are now undergoing post-excavation analysis) and eleventh- and twelfth-century French wares. Metalworking is attested by widespread slag and a stone ring mould; antler working and woodworking were also common in the town. As at Bride Street, Wexford, there is no sign of a Dublin-style coin series, which may have considerable implications for the nature of commerce in south-eastern Ireland (see also above, cap 6.6).

The archaeological material from Wexford and Waterford implies that substantial urban occupation did not occur before the end of the tenth century. This is in contrast to Dublin and Chester. The main English port in the south-west by the eleventh century was almost certainly Bristol. Archaeological evidence for Late Saxon activity at Bristol is not extensive. The Bristol Mint has its origins in the later tenth century (Grinsell 1986). Finds of Anglo-Saxon pottery have occurred near the church of St Mary-le-Port together with a coin of Harald Godwinson (Walker 1971:6), but there have been very few glimpses of the pre-Conquest topography. Walker (op. cit:3) suggested that the later tenth and eleventh-century

earls at Bristol built up a series of estate networks in the surrounding area, suggesting a possible parallel development in landholding to the Chester area. The meagre historical and archaeological evidence for the rise of Bristol[3] suggests that the late tenth century was a crucial period of expansion in the south-west. Any earlier tenth-century trade between the south-west and Ireland may have gone through Gloucester, although the coins from Dublin (Wallace 1986:211) suggest that trade with the south-west did not make a great impact before the rise of Bristol (see also above, cap 6.5).

The eleventh century is also marked by some commercial expansion in the north of the Irish Sea region. This is principally indicated by the evidence from the Hiberno-Norse period 4 in the excavations at Whithorn (Hill 1989:13-21, 1990a:22-23). The group of six post and wattle buildings excavated are closely related to Wallace's type 2 at Dublin (cf. 1985:125). The Whithorn houses were arranged along a street or road, and have been interpreted by the excavator as a settlement of Hiberno-Norse traders and artisans, connected to Dublin and York (1989:19). This example of a Hiberno-Norse artisan community continuing its characteristic material culture (and, by implication, its language and traditions) provides a possible parallel for the Scandinavian community in the parishes of St Olave and St Bridget at Chester (above, cap 4.1). A diversified economic base at Whithorn is suggested by iron, antler, leather and possibly bronze and lead working, together with substantial evidence for bone and antler working (Hill 1989:19). A Hiberno-Norse coin from the excavations and an earlier find (Dolley & Cormack 1967) suggest contact with Dublin, as do a range of lobe-headed stick pins and a crutch-headed ringed pin (see above, cap 5.1).

The other monasteries of the northern Irish Sea region have not revealed such clear evidence of eleventh-century Hiberno-Norse activity. Nevertheless, there are historical indications of a comparable situation at Iona. The thirteenth century Icelandic *Fagrskinna* records the arrival of Magnus Barelegs in 1098 at the *Kaupstad* of Iona, translated by A.O. Anderson (1922,2:109) as 'market town'. This is also mentioned in *Frisbok* (270) and *Morkinskinna* (143-44): "Then he came to the holy island and went there ashore, in the market town and gave there peace to Columba" (Anderson, ibid.).

[3] Further archaeological research into Late Saxon Bristol is to be hoped for.

The historical and archaeological impression of exchange at Chester and Meols (above, cap 7.1) is replicated at other sites in the Irish Sea region. The takeoff in importation and production witnessed in Chester during the early tenth century, and indicated by the artefactual evidence from the later tenth century at Meols, is not inexplicable in the context of related sites. The close relationship between the development of urban settlement in the burh of Chester and the establishment of a network of important royal and episcopal estates in the Dee Valley and the manors of Rhuddlan, West Derby and Warrington (above, cap 3.2.1) is also significant in the context of the social and territorial changes discernible in the character of Hiberno-Norse settlement in Ireland.

The material from Dublin clearly implies an upsurge in an urban-style economy with secondary production around a market. Whereas Dublin is distinguished as a centre of trade from the 930's (Wallace 1987:109ff), Waterford, Wexford and Whithorn did not experience a significant upsurge in activity until the end of the tenth century and into the eleventh century. The former picture of exchange (above, cap 7.3) was characterised by a lack of evidence for trade in bulk materials and conditioned by interpretative models of tribute and gift exchange. Most of the pre-Viking trading sites in the Irish Sea region (fig 34) were not substantial or urbanised settlements, although some of the Irish monasteries may be an exception (Doherty 1985). The dendritic characterisation of pre-Viking trade outlined above has political centres such as Dunadd and Dinas Powys making sporadic contact with their trading partners at distribution points such as Dalkey Island, rather than maintaining independent links with the continent. Most of the coastal sites with pre-tenth century imported finds are located on the very edge of the landscape, in beaches, headlands and islands.

By contrast, the tenth- and eleventh-century trading ports (fig 35) are located further up rivers, in the centre of the surrounding landscape. Their locations refer more distinctly to a need to maintain access and control over the neighbouring landscape. P.F Wallace (1987:201-5) outlined the evidence from the Dublin excavations for the dependence of the town on its *hinterland* (see also Bradley 1988:51-6). Wallace noted the scarcity of calf bones in the bone assemblage and that a majority of the cattle (which were overwhelmingly the predominant stock animal) were over four years of age (ibid:203). This implies that the cattle were driven into the

town from rural farms and not reared in Dublin. Wallace also suggested that the hinterland supplied timber, fruit, milk, and antlers. The scarcity of quernstones or grain in the archaeological record (as at Chester) was taken to suggest that corn was cultivated and milled outside the town. This also strikes a parallel with Chester (fig 11) where all of the Domesday mills were located outside the burh.

J. Bradley emphasised the inadequacy of gift exchange and tribute as an explanatory model for the economy of tenth- and eleventh-century Dublin: "Tribute is an unrealistic explanation of the economics of everyday life, and could not have been sufficient to support the population of a town all the year round" (1988:53). Implicit within this is a considerable departure in the *scale* of tenth and eleventh-century settlement. What may have sufficed to keep the royal households of Tintagel and Dunadd in supply of Gaulish wine and other luxury items would not service the diverse needs of a densely-populated and prosperous town. Moreover, as Bradley pointed out, much of the archaeological evidence for urban-rural dependence consists of low-value bulk items such as stones, wattles, turf, moss and dung (ibid). In short, despite the alternatives offered against the interpretation of market exchange in the archaeological record by P. Grierson (1959), the only possible explanation for the viability of urban settlement in Dublin is a combination of local, inter-regional and overseas trade in bulk commodities.

By implication, this should furnish a hypothesis for the economies of the other Hiberno-Norse towns in Ireland, although the existing material from the recent excavations in Wexford and Waterford has not yet been extensively sorted and analysed. Smaller settlements such as Whithorn may have depended *economically* on the produce of their hinterland, although they may have obtained this security through agreement with the local landholders rather than through their own control (cf. Hill 1989:19).

The archaeological evidence for the dependence of Dublin on its rural hinterland led Bradley to examine the historical evidence for Dublin's control over the surrounding landscape. The *Dyflinarskiri*, or the extent of the kingdom of Dublin prior to the Norman invasion in 1169, included the present-day area of County Dublin together with extensions to the south along the Wicklow Coast and to the east up the Liffey to the Wicklow Hills. The Hiberno-Norse character of some of

the settlements is discernible in a number of place-names (op. cit.:56-60) and the area to the north of Dublin was known as the *Finn Gall* (territory of the foreigners). Further territories existed around Wexford, Waterford, Cork and Limerick. The evidence for the ostman *cantred* around Wexford is the weakest, although Bradley suggested that it included the manor of Rosslare. Waterford and Limerick were historically more important towns than Wexford, and Bradley outlined in each case a close hinterland (Offath, Gaultier for Waterford and the eastern part of the Limerick rural deanery) which is historically well-documented. Cork held the barony of Kerrycurrihy and parts of Kinalea (ibid:65). Beside these home territories, the Ostman towns apparently held wider, less certain areas such as the Honour of Dungarvan in Co. Waterford and Tradree in Co. Clare (for Limerick).

The origins of the Ostman territories are in need of further research, as is their rural economy. Intensive field and documentary research in the *Dyflinarskiri* may reveal the sites of mills, farmsteads and enclosures which derived their livelihood from supplying Dublin. As a research hypothesis, the rural territories were integral to the existence of urban settlement in the tenth century. The date of their creation and subsequent development should be compared closely to the phases of prosperity and expansion in the urban archaeological record.

7.5 Summary

The evidence within the case-study of the Lower Dee/Mersey Area suggests a major economic change beginning around 920, when the existing military functions of the burhs were accompanied by an increasing role (at Chester and Rhuddlan) as a centre for local, regional and overseas redistribution and exchange. It has been suggested (cap 7.2) that trade was a central factor in the *accumulation* of the artefactual and numismatic material in the Lower Dee/Mersey Area, and the nature of this trade was then assessed. Exchange in the Irish Sea region up to the early tenth century was intermittent and located at sites which, for the most part, did not continue as important markets into the tenth century and beyond. The changes in the nature and intensity of trade have been argued, not as a reponse to Viking-initiated violence, but, as a result of a wholly different settlement pattern which is fundamentally tenth-century in origin. The evidence for increasing trade in everyday bulk materials, located within permanent urban markets, is parallelled by historical and archaeological evidence for the creation of agricultural *hinterlands*,

both in England (Chester, Rhuddlan and Bristol) and in the Hiberno-Norse territories in Ireland. In order to re-evaluate the context of the archaeological evidence, it is necessary to look in greater detail at the social and economic transformation of the tenth century, both in the North-West of Anglo-Saxon England and in the Scandinavian-dominated settlements of the Irish Sea coastlands.

CHAPTER 8: STABILITY AND CHANGE, AD 800 - 1100

8.1 The Lower Dee and Mersey: Tenth-Century Innovation

The growth of urban occupation and production outlined in chapter 4 (above) should be seen in the context of the evidence for territorial change (cap 3.2.1), the establishment of royal, episcopal and aristocratic estates, and landscape intensification (above, cap 3.2.2). This was the first instance in the Irish Sea region of an estuarial border area acquiring a momentum towards urbanism. The imposition of the burh system radically altered the economic significance of the Lower Dee and Mersey, which became outlets for exchange both in high-value goods such as coins and fine metalwork, and also low-value bulk commodities (above, cap 7.1). The distribution of parallels for the artefactual assemblage both from Chester and Meols (above, cap 5) and the content of the hoards and coin finds (above, cap 6) indicate that the Lower Dee and Mersey derived their regional economic significance during the tenth and eleventh centuries from their role as points of access between the Anglo-Saxon kingdoms and the Norse-dominated settlements of the Irish Sea.

The absence of ninth/tenth-century continuity in Dublin, Waterford and Wexford is marked (above, cap 7.4), despite the almost automatic search for continuity in urban research (Hodges & Hobley 1988:9). This underlines the interpretation, generated by the urban takeoff at Chester, the establishment of the Norse settlements in Wirral and West Derby (above, cap 3.2.2) and the rapid growth of the Chester mint during the period 920-940, that the tenth century was a period of *revolutionary* rather than evolutionary change in the north-west and the Irish Sea region.

The growth of trade and the relocation of markets (above, cap 7.4) are part of a significant change in the character of settlement around the Irish Sea. Rather than re-classifying the tenth and eleventh-century trade visible in the archaeological record at Chester, Meols and other sites in a normative and universal typology of exchange, its origin should be sought in the social processes engendered in the tenth century which made possible the move towards urbanism and exchange in bulk commodities. The relationship between economy and settlement is central to the changes observed in the archaeological record. It has been argued, there-

fore, that the creation in the tenth century of a series of urban-based markets was only possible due to the establishment of a *permanent* Norse presence. It is argued below that the Norse settlers were few in number and did not include a substantial element of lower-status artisans and farmers. In the tenth century, the establishment of permanent, territorially defined settlements allowed the small Scandinavian elite to *create* a new, enlarged society of retainers, dependents and followers.

The Lower Dee/ Mersey Area is a central case-study in understanding tenth-century economic and social change. An assessment of the background to the changes in economy and settlement in the area during the tenth century must begin with *locating* the changes in their particular social and political context. The speed and revolutionary character of the economic and social realignment counts against an evolutionary interpretation: it can hardly be a productive exercise to search for the origins of the Anglo-Saxon urban expansion at Chester and *Clede-mutha*, or for the background to the Scandinavian settlements in the pre-existing local situation. The area should instead be viewed as a zone of tenth-century social and economic convergence between two new forces: the Anglo-Saxon burh system and its mechanisms of social and economic control, and the arrival (at the same time but for different reasons) of a Norse grouping which was aristocratic in character, although temporarily dispossessed.

8.2 The Anglo-Saxon Estates

It has been argued (above, cap 3.2.1, cap 4) that the establishment of estates in north-west Mercia was closely linked to the burh system, and that notions of Mercian control must include control over the landscape, production and communication from an early date in the development of the burh strategy. Royal, episcopal and aristocratic estates are closely related to the hundredal system recorded in the Domesday Survey. The hundreds tended to override the former British estate infrastructure, except in the more remote hundreds north of the Mersey where the central *caput mansio* remained (although, in the case of Warrington and West Derby, under the direct control of the monarchy). The coincidence between the siting of the Domesday estate centres and the burhs is so strong that, as argued above (cap 4.1), the estates in some cases took over the central functions originally designated to the burhs. It has also been argued (above, cap 2.2) that the

traditional interpretation of the north-west Mercian burhs as a cultural *frontier* - a line to define Mercian territory and to exclude the Norse, is misconceived. By stressing the positions of the burhs and central estates on lines of communication, their function can more convincingly be characterised as one of imposed control rather than territorial delineation.

It need hardly be repeated that some of the most important pre-Conquest royal estates, such as Eastham, Wirral, Warrington and West Derby, were located north of the supposed defensive line of burhs, and cheek-by-jowl with Scandinavian areas. The redundancy of the 'frontier' theory is further emphasised by the mechanisms of Anglo-Saxon control which extended on either side of the supposed line of the frontier at the Mersey. Thacker (1987:268) remarked on the absence in the area of the 'tithing' system, "a local grouping of ten or twelve men mutually responsible for one another's good behaviour", which was common in more southerly English counties. Instead, the population was policed by serjeants of the peace, who had wide powers of indictment and were entitled to free maintenance (as recorded post-conquest). The serjeants were certainly associated with the royal hundredal centres north of the Mersey (Stewart-Brown 1936) and their presence is associated with peripheral areas of English control in Wales, Shropshire, Cumbria and even as far north as Galloway (op. cit.). Much debate has centred on their origins, which were apparently in the pre-Saxon, Celtic period. However, in this case, Thacker may have missed the central point of their presence in the Late Saxon and Early Norman administration of north-west Mercia. They were apparently used by the Anglo-Saxon and Norman monarchy (and earldoms) in areas where the local population could not be expected to police their own districts. They were a means by which rulers could exercise more direct control over the population, depending on the threat of official punitive violence rather than the internal mechanism of social sanctions implied by the tithing system. As the larger estates were *alienated* from direct royal possession to Mercian and West Saxon earls during the tenth century, the estate foci remained centres of local power, continuing to draw the resources and population of the estate towards the focus. This tenth and eleventh-century pattern has considerable implications for the distribution of settlement, and in particular, settlement nucleation in Cheshire (see also above, cap 3.2.2).

The production of the largest estates, the waterways and roads, and the market and mint at Chester were all within the direct compass of the king, the ealdormen and their reeves. In chapter 4.1 (above), the evidence for the inclusion of the harbour at Chester within the burh defences was outlined, alongside the evidence in the Domesday Survey and in later sources for the high level of official control of the port and estuary. The period in the 970's and 980's when the Chester mint suffered a substantial downturn in production has been attributed not to the Viking attack of 980 (cf. Dolley & Pirie 1964) but to the temporary absence of an ealdorman governing the province from Chester. When the authority of the monarchy was restored in the 990's, the prosperity of the port and city began to increase again (above, caps 2.2, 6.5).

8.3 The Norse Settlements

In chapter 3.2.2, the evidence for the local autonomy of the Norse-dominated settlements in Wirral and West Derby was set out. The settlements consisted of unified blocks of estates, which in the case of Wirral, retained their status as a minor hundred long after the Norman Conquest. The presence of a *thing* site and the evidence for boundaries contained in place-names suggest that the settlements were marked culturally and politically from the neighbouring areas controlled directly by Mercia. It has furthermore been argued (above, cap 3.2.2) that the Norse settlers in Wirral and West Derby were not, as maintained by D. Kenyon, forced to settle on poor land, but were the masters of their estates and in many cases took over existing estates.

This situation is parallelled elsewhere in the Irish Sea region. The distribution of habitative place-names (fig 36) suggests that the greatest density of Scandinavian settlements was predominantly coastal. The distribution of Scandinavian parish names in north-west England (fig 37; Cameron 1977:130) shows the marked concentration in western Wirral and northern West Derby Hundreds, and reveals three other areas of similar concentration: the South Fylde in Amounderness Hundred, the north of Morecambe Bay and Furness, and thirdly, the coastal strip of the Solway Plain in North Cumbria.

North-west Cumbria has been the subject of a recent study by A.J. Winchester (1985). Winchester argued that the North-West Cumbrian lowlands were the ar-

eas in Cumbria first settled by the Vikings, and characterised the settlement as an aristocratic takeover (ibid:99). The lowland estates held tenurially by the dues of cornage and seawake represent the foci of the earliest Scandinavian settlements, and are characterised by a mixture of Celtic, English and Norse place-names. Winchester suggested therefore that the Norse takeover involved the conquest or purchase by the Norse of existing multiple estates. Other estate foci in Cumbria held by cornage alone tend to be further inland and on poorer land, with a predominance of Norse names. These were interpreted (ibid:95) as secondary colonisation of vacant land by the Norse-dominated settlements centred on the coastal estates. Consequently, Winchester's model can be summarised as a two-phase settlement; firstly an aristocratic takeover of a limited number of estates on the coastal strip, followed by a Norse-dominated movement into the interior and expansion of landuse and agriculture on poorer land. Winchester pointed out that the concentration of Scandinavian graves in Cumbria and the distribution of stone sculpture favours the coastal area as the continuing location of the aristocratic estate foci. N.J. Higham (1985:48-9) suggested that the settlement of Cumbria was three-phased, the other [intermediate] phase consisting of "less successful" secondary settlement on the lowlands. Higham furthermore suggested that the "majority of primary settlements should...be placed within the period 900-950", arguing that the Cumbrian/Dublin alliance of the 920's and 930's can explain some of the later settlement (the process having begun with the settlement of the dispossessed Dublin Vikings earlier in the tenth century). Further south on the north-west coast of England, an enclave of primary settlement west of Preston, in Amounderness Hundred (Lancashire), is indicated by a dense distribution of Norse habitative, topographical and field names (Wainwright 1975:229-79), and the presence in Domesday of the duodecimal system of land assessment (Cunliffe Shaw 1949:40). This is also present in West Derby Hundred (above, cap 3.2.2). Cunliffe-Shaw (ibid:43-4) dated the Norse impact on the territorial structure of Amounderness to the tenth century, arguing for a Norse takeover of the existing estate focus at Kirkham and the apparatus of the entire estate in the very early tenth century, with titular authority later passing to the West Saxon Monarchy in the 930's.

The character of Scandinavian settlement in the Isle of Man can be closely compared in many aspects to the Cumbrian model. The distribution of Scandinavian

names in *-by* is predominantly coastal and densest in the low coastal plain of the north of the island, particularly in the parishes of Bride and Jurby. The distribution of grave monuments and Scandinavian stone sculpture is also predominantly coastal. P. Reilly (1988:129) stated that there was no statistical basis to support the theory advanced by B.R.S. Megaw (1978:283) that the distribution of grave monuments on the coastal strip of Jurby predated the arrangement of the quarterland boundaries (cf. also Marstrander 1937). The consequent conclusion was that the Scandinavian settlers took over existing territorial units (Reilly, ibid). Reilly was sceptical about a large-scale Norse invasion in the ninth century, pointing out that the absence of ninth and early tenth-century hoards and settlement evidence argues for "a relatively weak Norse presence on the island" in the first century of Viking settlement (1988:110). The graves excavated at Peel Castle (Graham-Campbell, forthcoming, in Freke et al), despite having grave goods and having been consistently interpreted as "pagan" (Freke 1985:14-15), are dated by their contents to the mid-tenth century. This may cast some doubt on the traditionally early dates given to the grave mounds (Cubbon 1983:16), which are, as Reilly pointed out (1988:110), the only significant indicators of early Viking activity. Moreover, grave goods such as the bridle mounts from Ballateare have considerable common features with groups of tenth-century metalwork from Dublin (above, cap 5.1, discussion of 83:M/BL6). G. Fellows-Jensen, in her study of Manx placenames (1983:40) found only one place-name on the island which she described as 'heathen' (Aust), casting further doubt on an early date for Viking settlement on the island.

The Manx situation is therefore comparable to Winchester's model of Scandinavian settlement in Cumbria in that it consisted primarily of a small coastal group of estates, followed by later expansion into the interior and onto poorer land. The majority of the archaeological evidence from Man suggests that the Vikings achieved their greatest impact on the landscape and existing territorial infrastructure in the tenth, rather than the ninth century. Whilst there is some debate about the possible presence of larger numbers of lower-status Norse settlers (Fellows-Jensen 1983:43), there is general agreement amongst scholars that the principal Scandinavian settlers were drawn from an aristocratic elite.

If the Irish annalistic evidence for the presence of organised leadership amongst the *Gall-Gaedhil* (above, cap 7.4) is not enough to suggest that the Norse settlers on the eastern seaboard of the Irish Sea were similarly composed of a Scandinavian elite with an ethnically diverse following, there is other evidence that they were organised to the extent that their leaders could determine politically the extent and character of settlement. A.J. Winchester suggested (1985:99) that the Scandinavian settlement of Copeland (ON *Kaupa-land*) was settled after a peaceful purchase by the Norse. Similarly, the purchase by Æthelstan of Amounderness (Wainwright 1975:194) from the 'pagans' (see also above, cap 2.2), hints at a peaceful exchange of land and political rights between the Scandinavians and the rulers of neighbouring territories and polities in the North-West.

8.4 A Social Model for Tenth-Century Norse Settlement

Despite the inclusion amongst the Scandinavian settlers of groups of Danes, as implied principally by the prevalence of habitative names in *-by* (Fellows-Jensen 1983), the burial customs implied by the grave monuments in Man, Cumbria and Lancashire and parallels in material culture and territorial organisation suggest a closer relationship with the western, or Norwegian sphere of Scandinavian influence in the Northern and Western Isles and Norway. The *Gall-Gaedhil* have traditionally been interpreted as dominated by the Norwegian *finn gall* of the Irish annals rather than the *dubh gall*. The Kingdom of Man and the Isles which rose to prominence in the eleventh and twelfth centuries was avowedly Norse in its traditions and its ecclesiastical and political connections (eg. Cubbon 1983:22-3).

H. Marwick's suggestion that the Norse system of coastal defence or *leidang* was present in the Northern Isles and the Irish Sea (Marwick 1935, 1949) was an early attempt to relate the character and territorial structure of the Norse settlements in the West to their cultural homeland. A closer study of the contemporary social, economic and territorial developments in Norway indicates a number of avenues of research which might be pursued in the context of the Irish Sea. The geographical parallels are strong: a coastal distribution of territorial foci (in the case of the Irish Sea, the coastal estates) which are marked by a number of recognised topographical features. B. Myhre (1987) outlined the case for the development of chiefdom territories in southern Norway during the migration or pre-Viking period. The territories, Myhre suggested, were marked principally by chieftains' graves and

the presence of prestigious objects in archaeological contexts (ibid:186). Myhre suggested that *Huseby* or *Husebø* farm names represented the central farmsteads of the chiefdom territories, with a strong correlation to rich graves on their land.

Chiefdom territories (*høvdingedømmer*) have been suggested as the central feature of Norwegian economic and social development in the later iron age (to AD 1000), (Johansen 1988; Storli 1985). The northern chiefdom centres have been mapped (fig 38) following concentrations of graves, central positioning for resource catchment (cf Sognnes 1979a); the presence of structures denoting visible social status such as longhouses and large boat nausts (Munch & Johansen 1988), and structures arguably denoting social heirarchy and military organisation - the *tunanlegg*, or court sites (Møllerop 1971; Johansen & Sobstad 1977). The economic basis of the chiefdoms has been characterised as the exploitation of both marine and agricultural resources (the *kombinasjons-økonomi;* Storli 1985:8-10), together with long-distance trade in prestige objects which added to the status and ritual importance of the chieftain.

Recent research in northern Norway has concentrated on the extension of economic activity into the interior of the landscape (Sognnes 1979b), which involved the interaction with Norse society of non-Norse peoples, principally the Lapps or Sami (Schanche 1986:130-35; Zachrisson 1988:90-91). K. Odner (1983) had discussed the expansion of Norse settlement and territorial control in Norway by emphasising ethnic stress and gradual conquest by the Norse of greater and greater access to resources. In contrast, Schanche outlined a model for the ethnic relations which characterised the exploitation of resources as largely peaceful and non-competitive, with the recognition of territorial differences (Schanche 1989:173ff). Within the chiefdom territories, a process of *acculturation* took place, involving the acceptance by the inhabitants of the authority of the chieftain. This is characterised by a spread of Norse material culture from the centre into peripheral areas of the territory. Hence ethnic differences could be accomodated within primarily economic territorial zones by a process of deliberate breaking down of cultural differences (cf. also Zachrisson 1988:90-93).

Whilst the historical connections between the Norwegian homeland and the Norse settlements in the Irish Sea region are admittedly tenuous, the results of recent

Scandinavian research into the consolidation of chiefdoms in ethnically diverse regions such as northern Norway and central/northern Sweden can act as a helpful model for understanding the tenth-century changes in the Norse settlements around the Irish Sea. In appendix D (below), it is argued that the particular historical context of an archaeological problem should mediate interpretation. Whilst preserving a strong feeling of scepticism towards cross-cultural analogy directed at creating universal and normative explanation (as associated with 'New Archaeology'), it must be remembered that many of the Norse settlers in the Irish Sea region had historically originated in the Norwegian chiefdom-dominated culture of the Scandinavian younger iron age[1]. Consequently, the use of some aspects of contemporary Scandinavian society as an explanatory model for the western settlements can hardly be described as a significant departure from their historical context.

The suggestion made here is that the Norwegian chiefdom provided a social structure which the tenth-century Norse elites in the Irish Sea region attempted to re-create. The characteristics common to the enclaves of Norse-dominated settlements in the Irish Sea region, most notably their concentration on central estate foci and their tradition of local territorial independence, are all arguably derived from the Norwegian model. Significantly for the development of external commercial contacts in the Irish Sea during the tenth century, the Norse chieftains of the homeland maintained and strengthened their access to imported luxury goods during the eighth, ninth and tenth centuries (Johansen 1988:26). Although in many cases the trade was conducted directly from the chiefdom centres (such as Borg in Lofoten), there are indications that this trade acquired a more dendritic character in some parts of Norway. The trading port of Kaupang, Vestfold (Blindheim 1976, 1981) has been interpreted both by the excavator and by other writers (Hodges 1982:81) as a ninth-century *emporium* serving the region of Vestfold (one of the richest counties in south-eastern Norway). More often overlooked, however, is evidence that smaller and less built-up market places existed, apparently serving the needs of lesser groupings of chiefdom territories (Larsen 1980, 1985). These were located at nodal points where overland routes converged on the coastline. K. Sognnes (1979a) took the hypothesis of market places located at nodes of

[1] circa AD 600 - 1000

communication and serving groups of cheiftains, producing a statistical study of the likelihood that central locations in the Trøndelag landscape and fjord system could have functioned as market places. Other possible locations for trade related to the economic needs and social aspirations of chiefdom territories include the two other instances of the place-name *kaupang*, at Kaupanger, Indre Sogn (I. Øye, pers comm), Borgund in Sunnmøre (Herteig 1973) and Kaupang, Veøy, Romsdal (Herteig 1954). An external trading outlet, or access to external trade, has been seen by many Norwegian writers as an essential part of the chieftain's ability to maintain the elite distinction of his household.

A number of other coastal trading sites in Scandinavia dating from the Roman iron-age, the migration period and the younger iron age have also been characterised as trading outlets related to a local chiefdom centre. Particularly instructive as a parallel for the Irish Sea situation is the Gudme-Lundeborg complex on Fyn (Fünen), Denmark (Thomsen 1986:51ff, 1987). Although work is still in progress (Thrane 1988; K. Randsborg, pers comm), the excavations have centred on two groups of sites. The first, and with the earliest origins, is centred on Gudme, which the excavators have suggested was a major political and ritual centre on Fyn. The second is the nearby coastal site of Lundeborg. Thomsen argued (1986, ibid.) that Lundeborg derived its role and prosperity from the chiefdom centre at Gudme, providing a harbour and trading outlet based on southward connections with Late Roman and post-Roman Europe. M. Rasch, in her study of Migration and Viking-Period coastal trading centres on Öland, Sweden, also concluded that beach sites exhibiting evidence of long-distance trade, principally Köpingsvik, were related to the nearby presence of political centres characterised by rich grave assemblages and fortified settlements (Rasch 1988:284-5). Consequently, the presence of a trading outlet in the vicinity of a traditional Scandinavian chiefdom centre, which in some cases (such as Helgö, Sweden) acquired far more than local or regional significance, is one of the central tenets of the chiefdom model. Furthermore, although many of the archaeologically-known trading sites in Scandinavia were later abandoned or remained as villages, several sites identified as Viking-period trading centres were sited in such central locations that they became urbanised. These include Tønsberg, Vestfold, Norway (J. Lindh, pers comm), Ribe, Denmark, and possibly

Stavanger, Rogaland, and Skien, Telemark, Norway (cf Myrvoll 1984)[2].

8.5 The Chiefdom Model in the West

There are strong indications in the Irish-Sea settlements of a range of features or 'cultural signals' comparable to those taken in Norway to denote chiefdom centres. N.J. Higham drew attention to the presence at the estate foci of the North Cumbrian coastal areas and Eden Valley estates (determined by Winchester as the location of early Scandinavian settlement) of grave mounds and public art forms such as recumbent hogback tombstones (characterised by Higham as evidence for a "warrior aristocracy") and standing crosses (Higham 1985:44-45). The distribution of sculpture and 'Scandinavian-style' artefacts in Wirral (fig 39) likewise favours the Norse Hundred of Caldy. There are outliers of sculpture outside the areas of primary Norse settlement in Wirral, including the group in St John's Church, Chester. However, this group is atypical since it was probably the location of a school of masons (Bu'Lock 1958). The St. John's group, although found in Chester, was not necessarily commissioned for display in the city.

The territorial structure of Scandinavian settlement around the Irish Sea contains a number of features comparable to the Norwegian situation (cf. Mikkelsen 1988:32ff). The Irish Sea settlements were territorially bounded (in most cases taking over pre-existing territorial divisions; Winchester 1985:99, Reilly 1988:131). The evidence from Wirral and West Derby suggests that the Scandinavian settlements were accomodated within the earlier parish and township structure, since early church sites are present at the centres of a number of Scandinavian-named parishes (above, cap 3.2.2). The Norse estate foci are small in number but distributed throughout the area of Norse settlement, suggesting a small group of aristocratic households who may have sought, as a group, to emulate the chiefdom model.

In the Isle of Man and Cumbria, as in Wirral and West Derby, the large-scale territories held by the central Norse estates included a substantial mixture of

[2] After developing this argument, I became aware of the analogy drawn by David Hill (1988a) between the role of Norwegian law-centres as meeting places in the medieval period and the possible origins of Anglo-Saxon burhs. This differs from my argument about western Norse trading sites in several crucial respects. Furthermore, the spatial distribution of medieval 'ting' locations in Norway (see Andersen 1974) is radically different to that of 'kaupanger' and archaeologically-documented trading sites (a serious criticism of Hill's argument).

Norse, Celtic and Saxon inhabitants. At the central estates (as in the Norwegian *høvdingesenter*), it can be argued that a process of acculturation is visible in the assemblage of conspicuous cultural monuments. The combination of Norse and Celtic iconographical details on the Manx crosses was remarked upon by S. Margeson as "a response to the mingling of peoples and traditions" (1983:104). If the passive role of material culture is accepted, then these crosses are simply a repository of accepted cultural norms. However, as argued below (appendix D), such public art forms can act as the conveyors of a new cultural message determined by the artistic patron. The location of sculpture at Norse estate foci in Cumbria (Higham 1985:44) can be parallelled in Wirral and West Derby (fig 39). The combination of Celtic, English and Viking elements in the iconography of stone sculpture (Bailey 1985:54-5), together with the arguably Irish origin of the circle-headed crosses common in the Norse settlements of the eastern seaboard of the Irish Sea, indicates that the blending of cultural and religious signals was being actively promoted by aristocratic patronage. The cultural adaption implied by the emergence of the *Gael-Gaedhil* was apparently extended and diversified in the context of permanent settlement in the tenth century.

Wallace (1986) and Reilly (1988:97) both saw a coalesence of Norse and Celtic features in tenth-century material culture from Dublin and Peel Castle as evidence of an emergent hybrid Norse culture. This is also marked in the tenth and eleventh-century material from Meols and Chester. The evidence from Norway suggests, however, that the strategy of cultural modification within the chiefdom territories was only a means to an end, the end thereby being the reproduction of aristocratic power (Storli 1985:21-22). By leading the process of cultural change, the elite ensured that its authority extended to newer ethnic groups within the chiefdom territory (which in northern Norway consisted of the population of the inner fjords and the interior, and in the Irish Sea region could be suggested as the Celtic and Anglian inhabitants of the areas taken over by the Norse in the tenth century).

The location of tenth-century trading 'ports' (fig 35) is closely associated with areas of primary tenth-century Scandinavian settlement. The sites which can be argued to be trading outlets in the tenth century include Meols, Dublin and Peel Castle. By the late tenth century, trade at Waterford and Wexford was undergoing

a substantial upsurge, and it is likely that a similar change occurred at Cork and Limerick (although there is little archaeological evidence as yet).

It has already been established that the Wirral Norse settlements were amongst the primary Norse areas on the eastern seaboard of the Irish Sea. Their limited territorial independence (above, cap 3.2.2) is associated with a number of indications of a Norse aristocratic predominance. Furthermore, using post-conquest documentary sources (above, cap 4.1), it has been argued that the authority of the port of Chester did not extend to include Meols. The distinctive role of the market and anchorage at Meols from the tenth century is arguably related to the territorial autonomy of the Norse settlements in Wirral. The needs of the local landed households to maintain access to other areas of Norse settlement and sources of prestige goods may have provided the crucial early stimulus to market exchange at the site. Other tenth-century trading ports in the Irish Sea region arguably had similar origins in the traditional need for the leaders of the Norse settlements to maintain access to the outside world for their material status. The close parallels between the artefactual assemblage at Meols and in the western coastal areas of the Isle of Man have already been noted (above, cap 5.1). Consequently, a trading relationship with Peel can be suggested as one of the earliest components of the tenth-century restoration of exchange at Meols. The former beach market was apparently taken over and revitalised by the Norse community. Part of its continuing prosperity may be related to its relative independence of the Mercians; the heavy duties demanded at the port of Chester are not likely to have applied to exchange at Meols. Environmental evidence and antiquarian descriptions of structures and graves at the site (gaz 5.12) suggest that there was a settlement at Meols during the early medieval period, although finer dating is difficult in advance of more archaeological investigation at the site.

The Scandinavian settlements in the north of West Derby Hundred may also have had a coastal trading outlet which is most likely to have been located at Altmouth (gaz 10.8). The Altmouth site, although it produced some vestigial evidence of eleventh-century activity (in the form of a coin of William I), is little understood archaeologically and the destruction of the artefactual collection in 1941 has prevented the site attaining a published profile. It should be remarked that the early tenth-century Harkirke hoard (above, cap 6.3) was found in the immediate vicinity

of the high-status Norse settlement of Crosby, only a short distance inland from Altmouth.

Other areas of primary Scandinavian settlement on the eastern seaboard of the Irish Sea, most notably Amounderness and the north Cumbrian settlements, are not so far associated with a coastal trading outlet. This has perhaps more to do with the lack of systematic coastal fieldwork in the two areas (both of which are located on or beside major inter-regional routeways), rather than a definite absence. The north Cumbrian coastal area is only slowly revealing archaeological traces of the Norse settlements, such as the chance discovery in the excavation of a neolithic settlement at Ewanrigg, Maryport, of a possible pre-Conquest corn-drying kiln (R. Bewley, pers comm). It should be emphasised that considerable research potential still attaches to the study of Scandinavian settlement on the Solway Coast of Cumbria.

The distinguishing feature of the tenth-century Norse settlements in the Irish Sea region is *permanency*. Whereas historical evidence for ninth-century landholding is virtually non-existent, the tenth-century settlements have mainly been recognised as such by their territorial distinctiveness. This move towards permanency is possibly the root of the commercial revolution in the Norse settlements during the tenth century. The character of ninth-century settlement is still very opaque. Apart from cemetery evidence on the east coast of Ireland, there are virtually no conclusive archaeological indications of settlement. This problem may have been exacerbated by the search for evolutionary origins for tenth-century settlement; where one suspects a settlement might exist, there is an almost automatic search for its earliest possible origins. The character of ninth-century settlement may well have been very different to the estate-oriented society of the tenth century and later. The sites outlined above in the areas of historically 'failed' Norse settlement in the North of Ireland may well provide a productive focus for future research on ninth-century settlement. An initial hypothesis could characterise ninth-century Viking activity in the Irish Sea region as more mobile and dependent on military strength (as comparable to contemporary Danish activity in England).

C. Haliday (1969:190-98) outlined evidence for the presence of conspicuous grave monuments a short distance east of the Wood Quay group of sites in the centre

of Dublin, at what is now College Green. Haliday quoted antiquarian accounts of the discovery of Viking burial mounds in the area in the nineteenth century. Furthermore, the earlier name for College Green, *Hoggins Green* contains the Old Norse element *haugr*, (mound). A long-disappeared nunnery overlooking the Green is known historically as St Mary *del Hogges*, and the College Green area is the traditional location of the Norse thingmount, referred to as *Thengmotha* in the medieval period (Haliday 1969:166; Wallace 1985b:280). Although the Dublin evidence is less than certain, it indicates that some of the salient symbols of Norse lordship in the early tenth-century settlement of north-west England and the Isle of Man were also present in Dublin. Their location immediately to the east of the *dun*, whose early tenth-century origins have recently been restated (Wallace 1988:130-31), suggests that the symbolic centre of early tenth-century Dublin was located in close proximity to the nascent trading port. The other Irish towns refounded in the second decade of the tenth century (Bradley 1988:68) may have also reveal evidence of an early aristocratic focus in close proximity to the early core of the trading port; they are, however, less well-understood archaeologically than Dublin so far.

P.F. Wallace (1982:138-39, 1988:128-29) and J. Bradley (1988:70-71) argued that the 'Scandinavians' transplanted an English cultural model of urbanism into Ireland in the tenth century. The evidence from the eastern seaboard of the Irish Sea and the Isle of Man for the establishment of 'primary' coastal areas of Norse settlement in the first and second decades of the tenth century may provide an alternative model for the re-establishment of a Norse presence on riverine and coastal territories in Ireland shortly afterwards. It has already been suggested that the fostering of external trading contacts at the tenth-century settlements elsewhere in the Irish Sea region (as evidenced at coastal outlets such as Peel and Meols) was undertaken to enhance aristocratic access to maritime trade, at least initially following the Norwegian chiefdom model.

The creation, by the Norse leaders of Dublin, of a coastal trading outlet following the establishment of a small primary enclave of Norse settlements on the Liffey in 915-17 provides an alternative for the interpretation of the early phases of Viking Dublin. The archaeological evidence in Dublin suggests that large-scale market

trade and the consolidation of the urban environment did not take place *immediately* after the Norse return; the fortifications of the *dun* did not achieve anything like the dimensions of contemporary urban fortifications in England until much later in the tenth century (cf. Wallace 1981:110; 1988:130-31). The topographical evidence for the development of the town (Wallace 1985a:108-9) also suggests that the majority of 'urban' features, such as the streets, boundaries and areas of specialised production, did not crystallise until the mid-tenth century rather than directly after the return of the Norse settlers[3]. The interval between the historical return of the Norse to Wexford and Waterford and the archaeological beginnings of an urban environment is even greater than at Dublin. Consequently, the theory of *instant urbanism*, or the transplantation of urban culture into Dublin in the early tenth century, may conceal an intermediate phase of primary settlement along the south bank of the Liffey and the establishment, in the first instance, of a non-urban coastal trading outlet.

In this alternative characterisation, urbanism and the associated rural hinterlands in Ireland developed initially over the course of the tenth century (which seems more appropriate to the expansion of the archaeological record in Dublin), rather than by rapid conquest and imposition in the second decade of the tenth century. This is more readily acceptable in the context of Bradley's argument (1988:71) that the Scandinavian colonisation was generally peaceful. The process of creation of a new Hiberno-Norse culture within the territory of the hinterlands may arguably be visible in the linguistic overlap, the mixture of Norse and Irish place-names and the presence at some distance inland of occasional examples of Norse-style sculpture such as the 'Rathdown slabs' (Ó hEailidhe 1957). The initial presence of a small, non-urban trading outlet at Dublin may have provided the initial stimulus to a revolutionary upsurge in trade with the newly-established markets of western and northern England. It is perhaps within this context that the encouragement and even planning of an urban economy (cf. Bradley 1990:49-50), by the newly self-styled Kings of Dublin, should be seen.

8.6 The Anglo-Norse Relationship

The archaeological evidence from the tenth- and eleventh-century trading ports is consistent in indicating that the trading axis between England and Ireland, and to

[3] see Lang 1988:40-43 for the preliminary chronology of the Dublin excavations in tabular form.

a lesser extent the Isle of Man, dominated commercial activity in the Irish Sea. English influence has been noted in the topography of the Irish towns (Wallace 1986), and conversely, Hiberno-Norse influence was powerful both in Anglo-Scandinavian centres such as York and in Anglo-Saxon towns, most notably Chester (above, cap 4.1). As stated above (cap 1),The Lower Dee and Mersey area is a central case-study in the relationship between Anglo-Saxon England and the Norse settlements to the north and west. It has been argued in chapter 2 (above) that the burhs of north-west Mercia were not a response to a *confrontational* situation between the Vikings and the Mercians, but part of a more complex strategy focused on the Welsh frontier and involving a Mercian ambition to lay down territorial control over access to the Irish Sea. The earlier historical interpretation of the burhs as there to *resist* the Vikings does not square with the clear impression of the neighbouring Norse-dominated settlements in Wirral and West Derby as independent and even relatively prosperous. If the Mercians troubled to build the burhs and create a network of associated estates in order to resist the Vikings, why did they permit Norse settlement in close proximity?. If the Mercians were in confrontation with the Norse during the tenth century, why did they engage in trade with them and allow them to settle and work within the very walls of Chester?.

The former view of the Anglo-Viking interface in the north-west as one of confrontation is possibly based on an over-literal interpretation of the Ingimund legend (above, cap 2.2). It must be remembered that the substance and detail of the legend is phrased within the *Irish* annalistic tradition. It is possible that the treachery of the "fifth column" of Scandinavians in Chester and the violent confrontation between Æthelflæd and Ingimund have been coloured by the traditional ecclesiastical Irish attitude to the Vikings. The episode may have counted in Ireland simply as yet another example of the supreme barbarity of the 'foreigners'. This contrasts with the tendency in the contemporary English sources to stress the Welsh problem above all, and to go on doing so throughout the tenth and eleventh centuries (above, cap 2). In the context of the English sources, Æthelflæd's grant of land to Ingimund near Chester seems therefore more as appeasement of a temporary threat, rather as Gwyn Jones characterised the geld paid by Charles the Bald to the Danes - dealing with an irritating 'wasp' rather than the wolf (Jones 1984:213). Notwithstanding the romantic possibility of *Brunanburh* having taken

place locally (Dodgson 1957), there is in fact far more evidence for Anglo-Norse co-existence than for violent confrontation.

The border between Mercia and the Norse settlements can be characterised far more as *grey* than the black/white analogy more appropriate to the Anglo-Welsh frontier. Events conspired, probably accidentally, to cause the Mercians to renew their interest in the Dee and Mersey at around the same time in the early tenth century as the Irish-Sea Norse arrived. Two separate groups moved into the area and therefore radically altered its political and social geography. The convergence of these two groups opened up to each other a range of cultural and economic contacts which could only fully thrive in a non-confrontational political situation. It is possible that the Anglo-Saxon monarchy considered dealings with a Norse elite to be hardly a problem in comparison to the management and containment of the double threat to their authority posed by the Welsh and their own obtuse population. The negotiation or purchase by the Norse of settlement rights in a non-confrontational political context has also been suggested for Cumbria (Higham 1985:49, Winchester 1985:99), the Isle of Man (Reilly 1988:129) and Scandinavian enclaves on the Solway Coast of Galloway (Hill 1990b). Secondary colonisation by the Hiberno-Norse towns in strategic locations along sea routes and in the vicinity of markets may also provide the context for the Scandinavian place-names on the Pembrokeshire Coast and further eastwards towards Bristol, and also the Norse period 4 settlement at Whithorn (Hill 1989:21).

8.7 Chester: Towards a New Model of Urban Origins

The historical and social context of Late Saxon Chester and its relationship with the Norse settlements of the Irish Sea must lead to a questioning of the common mono-causal interpretation of urban origins (cf. Hodges 1988:6-7, Hill 1988b:14-15). In particular, the reductionist view that 'trade' begets towns is particularly inappropriate as an interpretative tool. It has been argued above that the Norse trading settlements of the Irish Sea were fundamentally part of a settlement pattern which was imposed (mainly peacefully) on restricted coastal districts in the early tenth century. The subsequent rise of urbanism in Ireland was governed by the increasing aspirations of the Norse leaders to commercial and political power, which oversaw the increasing concentration of people and resources and the broadening economic function of the original *dun* as a point of re-distribution for the

settlement hinterland and beyond. There are signs in the most recent considerations of the Irish archaeological and historical evidence (Wallace 1986, Bradley 1990) of greater weight given to the role of the English in establishing the Irish towns. The movement towards urbanism in Ireland, which was perhaps a more drawn-out process than has previously been admitted, can therefore be characterised as *made possible* by the social power of the Norse leaders, but finding its actual physical form (as demonstrated by excavation and topographical research) in a synthesis of Irish, Norse and English influences.

Chester represents the *extension* of an alien territorial and military system into a periphery, rather than the evolution of the existing settlement and social structure. It has been argued above (cap 4.1) that Chester derived the initial impetus for its economic development as the military and service centre of the north-west Mercian burhs. Consequently the imposition of a stronghold-cum-town in the early tenth century has a complex geopolitical explanation. The Lower Dee and Mersey were, in effect, a geographical 'window' both on North Wales and the Irish Sea. The burhs were created, arguably, to secure this window in Mercian control, to reverse the defeats suffered by the successors of Offa at the hands of the Welsh, to contain social instability caused by the proximity of the Welsh frontier and to capitalise on the growing opportunities for revenue created by trade through the river systems to the Irish Sea. An indication of the area's significance as a territorial salient is the near-convergence of the Anglo-Welsh border and the Anglo-Danelaw border, apparently leaving only the Dee and Mersey in English hands at the end of the ninth century. The development of the port and mint in relation to tenth-century Irish Sea trade is one aspect of official control, is part, therefore, of a wider set of military and strategic relationships. Furthermore, it is closely related to the increased exploitation of the surrounding landscape (above, cap 3), which is likely to have been even more important in sustaining the growing town than the officially-controlled port and mint.

Chester may stand as an alternative to the view of urban genesis which sees the creation of towns as *primarily* a response to evolving trade patterns. There has been relatively little stress in the 'medieval cities' debate laid upon the role of early medieval towns as instruments of social and territorial control in peripheral areas. This particularly affects those towns which were not indigenous developments near

the centre, but the later creation of urban centres in the context of territorial expansion. It need hardly be stressed that the dense, over-populated and wasteful character of early medieval towns can hardly be characterised as a step towards the maximization of resources for the whole population. Some considerable official sanction was required to balance the negative aspects of town growth (a primary production deficit, dirt, and disease) against the geopolitical and commercial gains. A possible parallel within the model of town/stronghold imposition in strategic areas outside the social and political centre is Trondheim (Christopherson 1988:26ff), which has been characterised as a royal stronghold (founded around AD 1000) at a central point in a significant but rebellious region of Norway. The sources are clear that Olav Trygvasson did not wait for the course of events to provide him with a regional trading centre at Trondheim: "...og [Olav] ordnet det slik at der skulle være kaupstad" (Christopherson 1988)[4].

In relation to his scheme of trade and state development in early medieval Europe, R. Hodges stated: "Much more systematic research, devised on a regional level, is required to test the predictions [sic] and to equip these models with an historical accuracy which will enlarge our understanding of cultural phenomena generally" (1982:196). The experience of detailed regional research has shown that seeking macro-scale normative typologies is an interesting but less-than productive exercise. Wherever this is attempted, writers exhort other researchers to concentrate on regional research. When such regional research is undertaken, however, as the richness of historical and archaeologial detail is explored, the macro-typologies become more and more irrelevant. Perhaps the future of European research should change its emphasis from *too* large a view, requiring too much reduction of the evidence, to a deeper synthesis, acknowledging more clearly the specific historical context of the problem and advancing into the consideration of detailed social and political contexts.

8.8 Summary

The economic and territorial changes perceived during the tenth century, both in the specific case-study of the Lower Dee/ Mersey area and on the regional scale of the Irish Sea, are seen in the context of contemporary social change. The Scandinavian or Norse settlements of the Irish Sea are seen not as mass-migrations but

[4] "and Olav saw to it that there was a market/port".

the arrival of small, aristocratically dominated groups which established distinct areas of settlement. Many of the territorial and cultural characteristics of these settlements echoed the contemporary settlement pattern in Norway, regarded as the main homeland of the settlers. The salient contemporary social formation in Norway, the *høvdingedom* or chiefdom, is used as a social model for the Irish Sea settlements. The hypothesis of 'instant urbanism' in the Norse settlements of the Irish Sea is questioned, in the context of a detailed analysis of the extent and chronology of tenth-century Norse settlement around the Irish Sea. The role of the Lower Dee and Mersey as a border between the Irish Sea region and Anglo-Saxon England is argued to be a source of important economic and cultural interaction. The extension of the Anglo-Saxon burh system into the coastlands of the Irish Sea was arguably one of the most important events in the history of the Celtic West. The complex relations between the English, the Welsh and the Scandinavians (if indeed such simplistic 'national' terms can be used) are shown to have mediated social change, economic development and urbanism. This has entailed consciously going beyond any attempt to explain these merely with non-specific models drawn from outside the relevant historical context.

CHAPTER 9: CONCLUSIONS AND SUGGESTIONS FOR FUTURE WORK

9.1 Conclusions

The impact of the above analysis (especially caps 7 and 8) is that the changes in production and the trading economy, with the consequent reflection in urban and rural archaeology and the artefactual assemblage, were primarily brought about and fostered by the political and economic interests and conflicts of neighbouring regions. The active role taken by the Mercian and West Saxon monarchy in creating the burh and estate infrastructure during the tenth century was the most important development during the period AD 800-1100. The burhs of Chester and Rhuddlan rapidly acquired economic significance as markets and redistribution points for local produce, and a link to external trade. This change of political status within the context of Anglo-Saxon England was effectively an annexation; a demonstrable inclusion of the territory around the two rivers within the *actual* (as opposed to the claimed or nominal) extent of the monarchy.

The change of status, from a Mercian periphery to a province of Anglo-Saxon England, completed the line of Anglo-Saxon resistance to Wales demonstrated by the line of burhs; Gloucester, Hereford, Shrewsbury and Chester; stretching from the Severn to the Dee Estuaries. The arrival of the military, naval and administrative apparatus of the West Saxon monarchy on the shores of the Irish Sea coincided with the establishment of Scandinavian settlement in the coastlands of north-west England, the Isle of Man and the eastern seaboard of Ireland. Far from coming into immediate and predictable polarised conflict, the Anglo-Saxon/Norse relationship grew into a complex and often lucrative combination of co-existence, exchange, cultural assimilation and only occasionally violence. This was mediated by relations at various social levels; the political negotiations between leaders for land rights implied by grants and purchase of territory (above, cap 8.3) and military co-operation such as the participation of a Hiberno-Norse fleet in Ælfric's campaigns against the Welsh (above, cap 2.2); commercial relations concentrated in the port and port district of Chester, and the apparent lack of hostility amongst the mass of the local population towards the presence in their midst of Danish and Norse settlers (above, cap 2.2).

Such a broad thematic conclusion is dependent on the detailed reassessment of both the archaeological and historical sources (above, caps 2, 3, 4, 5 and 6, below gazetteer, appendix A, B, C). The compilation of data, particularly the description and cataloguing of the archaeological data has been essential to the construction of a new detailed context. It has been claimed throughout this study (cf. above, cap 1), that whilst contributing to a wide regional and international research problem, this research remains founded on *engagement* with the primary data. The assemblage of information on the topography and spatial character of the archaeological evidence in the gazetteer has been the clearest means of substantiating this claim. This gazetteer is the first detailed attempt at assessing the archaeology of the area. It is immediately obvious that the coverage of the gazetteer includes areas of greater and lesser emphasis, with the largest coverage devoted to Chester. This is, of course, a reflection of the state of present knowledge. The agenda for future work (below, cap 9.2) includes some suggestions for identifying research potential within areas of sparser coverage at present.

The compilation of evidence into the gazetteer and the artefacts catalogues (A, B and C) has led to the identification of new potential and the outlining of new approaches at a number of locations. Some sites included in the gazetteer (such as the burh sites, or Meols, for instance) have importance far beyond the local settlement pattern.

The single site to which most attention has been devoted is Meols (gaz 5.12, appendix E). Unique amongst the sites in the gazetteer, Meols remains an important element in the archaeology of the area from long before, to long after the period covered in this research. The reappraisal of the artefactual evidence from the site (above, cap 5, below, appendix A, B) has led to the clarification of phases of activity at the site which have been discussed in the context of contemporary changes in the surrounding area and regions (above, cap 3.2.2, cap 6.4, cap 7.3). The character of exchange in the Irish Sea region before the coming of the Vikings and the urban burhs has been discussed in the light of the Meols artefacts (above, cap 7.3). Apart from identifying broad themes and changes in trans-maritime contact in the Irish Sea region as evidenced at related coastal trading and settlement sites, this analysis has served to show the element of continuity in tenth and eleventh-century activity at Meols. Together with the analysis of pre-tenth century settlement across the

Lower Dee/ Mersey Area (above, cap 3.2.1), this has emphasised that the economy and topography of the tenth century and later was partially influenced by the continuity of earlier institutions and traditions, although settlement and economy had been subjected to revolutionary changes in scale. One notable result of studying Meols, its hinterland and surrounding regions through more than three centuries, is the appreciation that *continuity* in archaeology (the continued or re-use of a site, the survival of boundaries or echoes of an obsolete estate heirarchy in the landscape) is entirely compatible with radical changes in political authority, population structure and density, the wider economy and the ebb and flow of overseas trade.

Other sites have offered tentative information as to the pre-burh, pre-Viking character of the area. The range of evidence for post-Roman settlement patterns (above, cap 3.2.1) is supplemented by individual sites such as Basingwerk (gaz 1.8), Heronbridge (gaz 1.12), Bangor-is-y-Coed (gaz 3.1), Hilbre (gaz 5.11), Overchurch (gaz 5.15) and Hale (gaz 10.1) where topographical or artefactual evidence suggests that further investigation, both documentary and archaeological, may be repaid.

The research for and compilation of the gazetteer has revealed a further group of sites which indicate that future fieldwork will considerably expand the present state of knowledge and re-orientate present conclusions. The excavations at Rhuddlan (gaz 1.1) by H. Quinnell and J. Manley have raised many questions about the site and character of *Cledemutha*, whilst only excavating a fraction of the potential area of the site. The topography of Late Saxon Chester is better known (gaz 4), yet the excavated areas revealing Saxon features (fig 17) have been most common inside the walls of the legionary fortress; the amount of excavated area in the important area between the south wall of the fortress and the river is still small, although the only extensive modern excavations in the area (27-42 Lower Bridge Street, gaz 4.28) revealed much relevant information. An excavation currently under way (spring/ summer 1991) opposite St. Olave's Church in St. Olave Lane (SJ 406 658) is to be regarded with more than usual interest for the Anglo-Saxon period.

The topography of the burh sites at Eddisbury, Runcorn and Thelwall remains difficult to define. In all likelihood the Runcorn site is lost to archaeology (gaz 7.1). It is to be hoped that N.J. Higham's attempts to locate the site of Thelwall (Higham

1988:209) will continue to a successful conclusion, although a significant potential lead is provided by the enigmatic sub-rectilinear earthwork at Grappenhall (gaz 7.4). The Castle Ditch, Eddisbury, despite major excavations in the 1930's (gaz 6.3) is still not to be identified conclusively as the Æthelflædan burh, although re-examination stands a significant chance of solving this problem (see also below, 9.2.1).

The research for, and compilation of the gazetteer has confirmed the state of present knowledge about archaeological evidence for the mass of rural settlements of the period. The amount of archaeological data is small and often circumstantial, although a number of sites investigated in recent years suggests that there is considerable research potential in this problem (see also below, 9.2.2). The (rather unexpected) discovery of a Late Saxon phase at Moreton (gaz 5.14), possible pre-Conquest occupation at Grange Cow Worth (gaz 5.19), Farndon (gaz 3.4) and Altmouth (gaz 10.8), and definite sites rather lacking a local context such as the Southworth Hall Farm cemetery (gaz 9.2), all suggest that direct identification of pre-Conquest settlements is an unlikely possibility. Rather, the build-up of information will continue through investigation of multi-period sites, particularly medieval settlements which may conceal a pre-Conquest phase (above cap 3.2.2), and careful examination of the dating and continuity of Late Roman sites (some detailed research proposals are offered below, cap 9.2).

Occasionally a site or group of sites has prompted more than usual interest during this research. Apart from the exceptional importance of Meols (which has been discussed in detail elsewhere; above caps 3.2.2, 7.3, gaz 5.12, appendix E), two other locations have been identified as of particular potential importance to the pre-Conquest period. The group of monuments around the Maen Achwyfan, at Whitford (gaz 1.4, 1.5, 1.6, 1.7), presents a concentration of potential monuments hitherto unremarked upon. Together with the eminence upon which Pentre Ffynnon Hall now stands, the Whitford grouping suggests that further investigation may reveal a rare opportunity to examine the development of pre-Christian and Christian religious monuments in association with a multi-period settlement site.

The univallate coastal promontory fort at Burton, Wirral (gaz 5.2), has been discussed in relation to coastal promontory forts in the Isle of Man with certain or

near-certain medieval occupation (above, cap 3.2.2). Also in chapter 3.2.2, the toponymic and historical links between the Wirral Scandinavian settlements and the Isle of Man were remarked upon, as, in chapter 5.1, were artefactual parallels. The archaeological similarity between this single coastal promontory fort and the Manx sites may represent an uncommon opportunity to explore the Man - Wirral relationship within the context of archaeological settlement topography. The Burton site, whose similarity to the Manx sites has only been realised here, is neglected and deteriorating despite being scheduled as an ancient monument. In order to prevent the gradual destruction by erosion of the archaeological potential at this site, some detailed suggestions for work at the site are offered below (cap 9.2).

A further bias in the coverage of the gazetteer is in its coverage of *maritime archaeology*. The area of case-study in this thesis is riverine and coastal. Only a few parishes in Eddisbury and Newton Hundreds are more than a few kilometres from a navigable river or the coast. In chapter 3.1 (above) the effects of the rivers and coastline on the habitation and use of the landscape was explored. It was suggested that havens and harbours represent conditioning features on the layout of settlements. Crossings, road/river intersections and heads of tidal navigation in estuaries were identified as locations of particular archaeological interest. However, underwater and waterside fieldwork has not yet made a significant impact on the archaeology of the area. "Waterfront Archaeology" of the Anglo-Saxon period is an almost unexplored problem in the Lower Dee/ Mersey Area (cf. also cap 4.1). The archaeology of boats and ships has so far been limited to the major concentration of log boats in the middle reaches of the Mersey around Warrington (gaz 8.2 - 8.6). There is substantial reason for assuming that this bias can be questioned. Underwater fieldwork on the more rural and less industrialised Dee and Clwyd may reveal evidence which on the Mersey has been brought to light as a result of over a century of dredging and revetment. The lower course of the Dee presents a special research problem as a result of canalisation in the late eighteenth century. The river course formerly occupied the entire floodplain, and several former courses of the river now lie under reclaimed meadowland on either side of the present course. A report of a "Viking-style" wreck somewhere (as yet poorly identified) in the lower course of the Dee was mentioned to the author in summer 1991.[1]

[1] Information from Miss A. Bowman of the Nautical Archaeology Society.

The research for this thesis has revealed considerable problems in the interpretation of both archaeological and historical evidence, which have been tackled using a general methodology set out in appendix D (below). The reassessment of the historical sources in chapter 2 (above) has influenced most other aspects of the work, particularly chapter 8 (above). Early in this research, a divergence occurred between the picture of events conveyed by the historical sources and the manifest importance of historically undocumented or mostly undocumented economic activity. The analysis of the role of Chester, Meols and other important settlements as trading ports with wide links across the Irish Sea (above, cap 7) has been mainly dependent on the assessment of artefactual links and numismatic evidence in chapters 5 and 6. The realisation that commercial activity will make its primary impact on the material rather than the documentary record is hardly new. Nevertheless, the strategic concerns with the Welsh border and the mechanism of Mercian and West Saxon territorial annexation (which are constant themes in the historical sources; above cap 2) have prompted a re-evaluation of the Anglo-Norse relationship, both on a detailed local scale and extending more generally within north-west England and the Irish Sea region (above, caps 3.2.2, 8.6). This, it may be claimed, has moved a stage onwards from the more confrontational model of Anglo-Norse relations which found its most eloquent exposition in the historical research of F.T. Wainwright (1975).

The model of urban genesis outlined above (cap 8.7) owes much to the detailed historical and archaeological context of the area case-study in this thesis, although a number of analogous situations elsewhere have been suggested. In particular, it has become clear during the course of this research that any consideration of the topography and role of towns in the area (above cap 4) must follow and encompass a detailed parallel study of the surrounding settlements, estates, agriculture, communication and natural resources (above, cap 3). It is only within the context of the *hinterland* that the economy of a large complex settlement may be further understood. From the point-of-view of the settlement and landscape historian, the same urban-rural interdependency holds sway. Only this may furnish a competent explanation for a locational bias in the pattern of the most important, populated and productive estates. In this case-study, the density of agricultural resources (above cap 3.2.2) clusters around the hinterlands of the two urbanised burhs in

such a way as to defy the logic of a geographical-determinist argument. The availability of natural resources appears to have played a subsidiary role in determining the settlement pattern, the primary pressures having come from the centralisation of local power, production and exchange in the burhs (whose *location* was dictated originally by military considerations; above, cap 2.2). The expansion of the local economy and the changing settlement pattern can best be characterised, not as a glibly-explicable *process* but as a series of uneven responses to particular situations, such as the military and economic needs of the burhs reflected in the population, production and location of the estates (above cap 4.2), the dependency of the estates on the administrative and military resources concentrated in the burhs (above, caps 2.2, 3.2.2, 7.1), and the apparent recognition of the separateness of some Norse-dominated districts (above, caps 2.2, 3.2.2).

The further realisation of the complexity of pressures affecting events in the area (as of course reflected in the historical and archaeological evidence) is a significant result, and a sought-after objective, of this detailed case-study. Whereas the actual character of the contemporary influences on the economy, settlement and landscape of the Lower Dee/ Mersey Area is dependent on its unique historical and archaeological context, the wider implications of this realisation should not be lost on the wider research problems affecting the study of contemporary history and archaeology in the North-West and the Irish Sea region. In chapter 7 (above), it was argued that the origins of urban settlement and trade in the Irish Sea region should be examined more closely in relation to the rural settlement pattern and the social character of the Norse settlements in particular, for which some detailed suggestions were subsequently offered (above, cap 8). The debate about early towns in the west (cf. above, cap 7.4) has hitherto stressed the common features between urban genesis here, on the continent and in Scandinavia (De Paor 1976; Wallace 1982). Whilst not wishing to deny the validity of this approach, a plea must be entered for the future development of an approach registering the spatial and chronological detail of the particular contexts of the Irish Sea towns. The historical evidence for rural landholding around the Hiberno-Norse towns (Bradley 1988) is a major case in point. As excavation continues to reveal aspects of the early topography and economy of Dublin, Waterford and Wexford, and may yet begin to reveal similar aspects of Cork and Limerick, detailed archaeological research into the rural hinterlands of the towns may be expected to yield results,

ideas and leads comparable to those revealed in this study of the Lower Dee and Mersey. From the point-of-view of archaeology on the eastern side of the Irish Sea, the case of Bristol (above, cap 7.4) offers particular interest. Although the Late Saxon archaeology of the city is as yet less well defined than at Chester, there is no doubt as to the contemporary importance of Bristol as a political and commercial centre in the Irish Sea region (above, cap 6.5; cap 7.4). A detailed case-study of the Lower Severn and Bristol would benefit from all of the practical advantages available in the Lower Dee/ Mersey area. The local pottery types are well-defined (Vince 1983), and the Domesday coverage would certainly represent as rich a source of spatial information as its counterpart at the other end of the Welsh border.

The experience of case-study within the framework of a detailed regional consideration has shown the value of a new synthesis of information. The discussion of the nature of trade in the Irish Sea region in chapters 6 and 7 (above), together with the reappraisal of Scandinavian settlement and the growth of towns in chapter 8, were made possible by combining the specific empirical questions raised in the local case-study with themes of exchange and settlement affecting other areas of the North-West, Ireland and the Isle of Man. The examination of the relationship of the Scandinavians to the 'indigenous' population, and of their settlements to trading routes, urbanism and the pattern of landholding in the Lower Dee/ Mersey Area has raised questions pertinent to the wider region. The re-evaluation of the character of the earliest permanent Norse settlements of the early tenth century has involved a suggested social model for the Irish Sea inspired by recent research into the contemporary character of economy and society in Scandinavia (above, caps 8.3, 8.4, 8.5). From this has emerged the makings of an alternative view of the origins of Norse-dominated trading settlements in the Irish Sea region. The widely-accepted view that the Viking towns of Ireland were created as such in the early tenth century has been challenged (above, cap 8.5), and the alternative thesis advanced that the eleventh and twelfth century towns originated in non-urban trading areas within Norse-held coastal and riverine districts. It was argued (ibid.) that these wider settlement patterns were a variation of the Norwegian chiefdom, and that they were focussed politically on a high-status settlement near the *dun* or trading area.

A further result of analysis of social structures, exchange and the growth of trading settlements has been to show that the relationship between trade and towns in the North-West and the Irish Sea region was complex, involving strategic considerations, the productivity of hinterlands and the ability of rulers to maintain the apparatus (such as mints) of official markets and taxation. In some cases (as in Chester during the early years of the burh), external trade was probably incidental to the military and strategic role of the city as a centre in new, unstable West Saxon territory. However, as the port and mint grew in the subsequent decades (particularly the 920's, cf above, cap 6.5), they appear to have become more central to the strategic value of the burh and surrounding districts. Throughout this thesis (eg. above, cap 1, cap 6.6, cap 8.7), reference has been made to the general debate in European archaeology on trade and urban origins. It has been argued that, in this wider debate, there has been great emphasis placed on Europe-wide comparison of urban centres: street plans, architecture and artefactual assemblages, but very little on detailed regional contexts and urban-rural relationships. The former approach is rewarding and necessary, but it can be assisted and re-oriented with the latter. In the context of the North-West and the Irish Sea, some of the 'normative' assumptions of economic interaction and social change inspired by historical and archaeological evidence elsewhere have been found wanting as interpretative tools (above, cap 8.7). It would perhaps be of benefit to the progress of the European towns debate if the lessons learnt and ideas generated through researching the far western regions of Europe were to be made more widely known (see also below, cap 9.2.3).

9.2 An agenda for future research

This section is intended as a clear and concise statement of future research objectives, following on from the conclusions of the present research (above, 9.1). The present agenda is put forward at three levels of research:

9.2.1 Site-specific data collection

In order to broaden and deepen the information presently available about the period AD 800-1100 in the Lower Dee/ Mersey Area, as also in the North-West in general, both site-specific fieldwork and data collection on a wider, problem-oriented scale are required. Site-specific work affects many of the sites already discussed above in 9.1. Where possible, if a site is not under threat, it is desirable

to avoid too strong an emphasis on excavation in line with modern archaeological practice. Survey, both topographical and geophysical is suggested as the starting-point of any detailed site assessment. In many (but not all) cases, a site will already have been surveyed topographically (see below, gazetteer), but the potential for geophysical, geochemical or palynological research may not have yet been realised. It is very important to stress that the experience of this research indicates strongly that investigations into the early medieval character of a site must be undertaken within the context of *all* phases of the site's archaeological past. Only then will some past mistakes (such as the omission to record post-Roman levels on certain old excavations in Chester) not be repeated. It is therefore desirable that any future fieldwork, particularly any excavation, should proceed with the knowledge and advice, or even participation, of local specialists within the museum and planning structures.

Chester represents a special case and an anomaly within an agenda for future research due to the constraints upon archaeological investigation within an historic city. The future of excavation lies with the continued rescue functions of the City's Archaeological Service (formerly the Excavations Section of the Grosvenor Museum). Future results can confidently be expected, although they are most likely to be arrived at piecemeal, with the pace and direction of new developments. Plans to excavate the southern half of the Roman ampitheatre in advance of the creation of the 'Deva Roman Centre' seem, in the summer of 1991, unlikely to go ahead. However, plans to redevelop the former canal and dockside district immediately to the north-west of the city walls may provide a new opportunity to examine waterfronts dating to the medieval period and before. The lack of substantial environmental information about the Late Saxon city on the scale of that available in other English towns has been remarked upon (cap 4.1). Although a great increase in data retrieval is hardly to be expected given the topography of the city, the further deployment of techniques of total context sampling (of selected contexts) may bring about an increase in the available data.

Meols is a site of more than local or regional significance. The archaeological potential for the continued preservation of settlement levels at the site is described elsewhere (gaz 5.12, appendix E). Future fieldwork should aim to identify any, or all, phases of the site in the dune-covered wetland to the immediate rear of the sea

wall between modern Meols and Leasowe (see fig 62). The discovery of occasional Roman artefacts along the coast of North Wirral has been reported as recently as summer 1991 (R. Philpott, pers comm). An urgent priority is to collate the sources of information relating to the site, and in particular to catalogue and publish the full assemblage of finds, the true extent of which is hardly known at present.

Many questions raised during the course of this research have been prompted by less than conclusive results from past campaigns of fieldwork at certain sites. Rhuddlan is a case in point. The area of the medieval town is large, but the concentration of evidence relating to the Late Saxon and early post-Conquest periods is concentrated to the south of the present town centre and castle in the environs of Twt Hill. Quinnell's identification of the Norman defences (gaz 1.1) is dependent on loosely-dated stratified artefacts which may conceivably be pre-Conquest. The area of the Norman enclosure is much smaller than the area postulated by Manley (see also gaz 1.1) for the area of *Cledemutha*. Manley's dating of the 'Town Ditch' is also open to debate (above, cap 4.1), and an alternative thirteenth- century date can be advanced for the substance of the earthwork. In order to define the topography of *Cledemutha* more closely, future research should concentrate on identifying further the densest Norman and pre-Norman settlement clusters (whose general location has already been determined by Quinnell). Given the likely character of any dwellings and structures (following those excavated by Quinnell) as light and insubstantial, detailed aerial examination of areas under pasture and a programme of magnetic susceptibility survey may identify soil anomalies (eg. burning) associated with settlement. Areas of particular interest would then benefit from a programme of geochemical sampling aimed at identifying parallel anomalies in the concentration of phosphates in the soil, thus possibly indicating the presence of middens and other settlement debris. In order to resolve the question of the location and date of both the Late Saxon and Norman defences, a limited programme of trial trenching across the suggested line of the Norman defences would provide an opportunity for samples to add to the corpus of radiocarbon dates from the site, and a different means by which to confirm or challenge Quinnell's date for the structure.

Geophysical survey, particularly resistivity and magnetic- susceptibility survey has potential application across a range of sites included in the gazetteer. Where a site

has a closely-bounded topography, such as a hillfort (Burton, gaz 5.2), Eddisbury (gaz 6.3), or a rural site where archaeological potential is concentrated in a known area (Basingwerk (gaz 1.8), Heronbridge (gaz 1.12), Farndon (gaz 3.4), Landican (gaz 5.7), Overchurch (gaz 5.15), these very intensive survey techniques represent the most practical non-excavation alternatives. These may take place in advance of trial excavation at selected sites, such as Eddisbury (gaz 6.3), where Varley's phasing and identification of tenth-century improvements to the pre-Roman defences has long needed re-evaluation. A site where intensive survey techniques are the only possible options in a future fieldwork campaign is the Hilbre archipelago (gaz 5.11). A magnetic susceptibility survey of middle Hilbre in 1977 (gaz 5.11) did not show conclusive results; resistivity or geochemical techniques might be tried on the same location. Apart from monitoring the eroding cliff sections around the islands, little else can be contemplated since the small area and fragile soil matrix of the islands precludes anything but the most limited excavation.

More extensive techniques, such as topographical survey over several hectares or aerial photography are of greater relevance to finding new sites (see below, 9.2.2). Nevertheless, detailed topographical survey studies of important possible sites represent a significant option in future data collection. Perhaps the most obvious example is the village of Bangor-is-y-Coed (gaz 3.1), the site of the great seventh-century Welsh monastery. Other early settlements such as Eccleston (gaz 3.6) and Whitford (gaz 1.4) would benefit from closer definition of their topography through detailed contour survey and further aerial reconnaisance. Fieldwalking is particularly relevant to arable sites, which are concentrated in the lowlands in the Dee and Mersey basins. This may be used to attempt to compile further information on partly-known sites (such as Hale, gaz 10.1), through the identification of settlement debris and contemporary pottery, or may be suggested on a wider scale as part of a campaign of landscape research.

Many sites in the Lower Dee/ Mersey area are known chiefly through artefact scatters. It has already been shown in the case of Meols that substantial topographial information may be added to the artefactual assemblage by close and careful study of all sources of information about the site. Monitoring of erosion at coastal margins, together with further definition of the character of the site topography may be expected to yield results at the parallel coastal sites of Hale (gaz

10.1) and Altmouth (gaz 10.8). In these cases, as with many other sites, metal-detecting activity has provided most of the recent data, and the maintenance of good relations between the archaeological and metal-detecting communities must be accorded a priority, especially where archaeologists are in a position to influence metal-detector enthusiasts to maintain attitudes of responsibility towards sites of archaeological importance.

9.2.2 Fieldwork: settlement study

The Lower Dee and Mersey area has seen very little structured research into long-term themes in settlement history, which has become an innovative and comprehensive research strategy elsewhere in the United Kingdom (eg. Hall 1988; Williamson 1988). The main reason why this could not be attempted within the research for this thesis is its multi-period and interdisciplinary stance, together with the required volume of background research into documentary sources (such as the Tithe Award Schedules and Estate Maps) which essentially reflect the post-medieval, pre-industrial character of the landscape. The experience of large-scale comprehensive (or 'landscape') research in other parts of the country is the generation of large amounts of information relating to the more recent past (such as post-medieval pottery and the mapping of medieval open field systems), from which a much smaller content relevant to the pre-Conquest period is carefully sifted. With the proviso that quick and decisive results may be elusive, there is no reason to doubt that extensive, detailed landscape research into the settlement history of the area of case-study in this thesis (and elsewhere in the North-West) would yield substantial new information and new perspectives upon the pre-Conquest period.

At the documentary stage, the lead given, partly in this thesis, of mapping the features of the Domesday landscape should be followed up by a series of mapping projects using local estate maps (which date in this area to the seventeenth century and later), enclosure maps, the Tithe Award Schedules of the 1840's and the earlier, mid-nineteenth century Ordnance Survey. By building up a corpus of information using archived map sources, a record of boundary reproduction and settlement continuity can be established parish by parish and township by township. Coastal sites may also have been mapped as land features on charts. The research here into the landscape history of Meols has shown the value of this approach (gaz 5.12). By mapping the topography of the Meols district from the early eighteenth century

through to the present (figs 60-62), both the rate of erosion and the location of a clearer archaeological context has been more clearly identified, with the consequent implications for future work.

Research into the rural settlement pattern should be aimed at the identification of *historic centres* in the landscape, so that fieldwork may proceed with reasonably clear, localised objectives. The more important estate centres as recorded in charters and the Domesday Survey are a ready provisional guide to the distribution of the most productive and populated centres of the Late Saxon and Medieval periods. Managed watercourses, mills, trackways and pre-enclosure field boundaries should be high on the list of identifiable features.

The pattern of settlement nucleation is clearer in Cheshire than in either Clwyd or north of the Mersey, which has already been discussed in the light of settlement reorganisation in the Late Saxon period (above, cap 3.2.2). Mapping of settlement centres in relation to early church sites and historic common land is likely to reveal strong locational pressures in the early medieval settlement pattern. It has already been noted (above, cap 3.2.2) that the distribution of Scandinavian settlements in *-by* strongly favours the *common edge,* or the clay/ sandstone outcrop interface in Wirral and West Derby Hundreds. Such a hypothetical location is a useful model from which to assess the distribution of the more important farm sites elsewhere in the area and beyond. A factor of great importance in Eddisbury Hundred is proximity to areas of ancient royal forest, where concentrations in the medieval settlement pattern may reveal evidence for clearances and the role of the forest edge in the working of the landscape.

Palynological (pollen) research has been more common in Merseyside and east Cheshire than in west Cheshire or Clwyd, partly as a result of the incidence of wetland peat areas which have been covered by the work of the [English Heritage] North West Wetlands Survey (Howard Davis et al. 1988). This imbalance may be rectified by increased sampling at settlement foci in the areas of sparser coverage. With its particular relevance to the past character of agriculture, palynological research would be most productively combined with topographical research, such as aerial photography of open field evidence (cf. Williams 1984). Williams's identification of a number of deserted settlements in the Dee Valley (Bruerton, Overton,

Huntington, Shocklach; see also above, cap 3.2.2) provides a group of sites with some considerable research potential for a study of medieval settlement and agriculture, which can be expected eventually to shed some light on the pre-Conquest period.

9.2.3 Wider research objectives

The importance of *context* has been defined (appendix D) and stressed as an epistemological foundation of medieval archaeology. In chapter 9.1 (above), the detailed geographical, social and political context built up in this research around the economy and settlement of the early medieval North-West and Irish Sea region was summarised. This new context was arrived at by attempting to combine and reflect ideas and information from a variety of empirical sources (see also appendix D), and to derive from the database a multi-disciplinary interpretation. The various facets of this interpretation (see esp. caps 7 and 8) led to a series of re-evaluations of individual objects, sites, groups of artefacts, settlements and regional themes. In chapters 1 and 8, particular models and research frameworks of Europe-wide applications were partially re-examined in the light of this research and their theoretical basis challenged.

The content of *primary* research in this thesis is primarily archaeological, but detailed reference has been made to historical and philological sources. At the end of the project, it can be said with emphasis that the interdisciplinary transference of ideas, information and criticism is the only framework in which medieval archaeology can proceed. This research set out to achieve comprehensive coverage of archaeological data within the area of case-study. Of equal importance was the need to escape from the narrow focus of locally-specific research and to conduct the data collection, analysis and interpretation within a framework of reference to regional and international research issues. The present level of achievement is perhaps best seen as an encouragement to move further down this path.

GAZETTEER

This gazetteer is intended as a statement of the available archaeological data for the settlement of the Lower Dee/ Mersey Area in the period AD 800 - 1100. Background information, such as geology and evidence for landscape change, has been included in the discussion of settlement topography in Chapter 3. The gazetteer is essential to the purpose of this thesis; economy and settlement can be most constructively discussed and interpreted without the encumbrance of detailed primary data within the text. This systematic gazetteer acts as a principal reference for the text, abbreviated where necessary for ease of cross-reference. The gazetteer is also a complete document in itself.

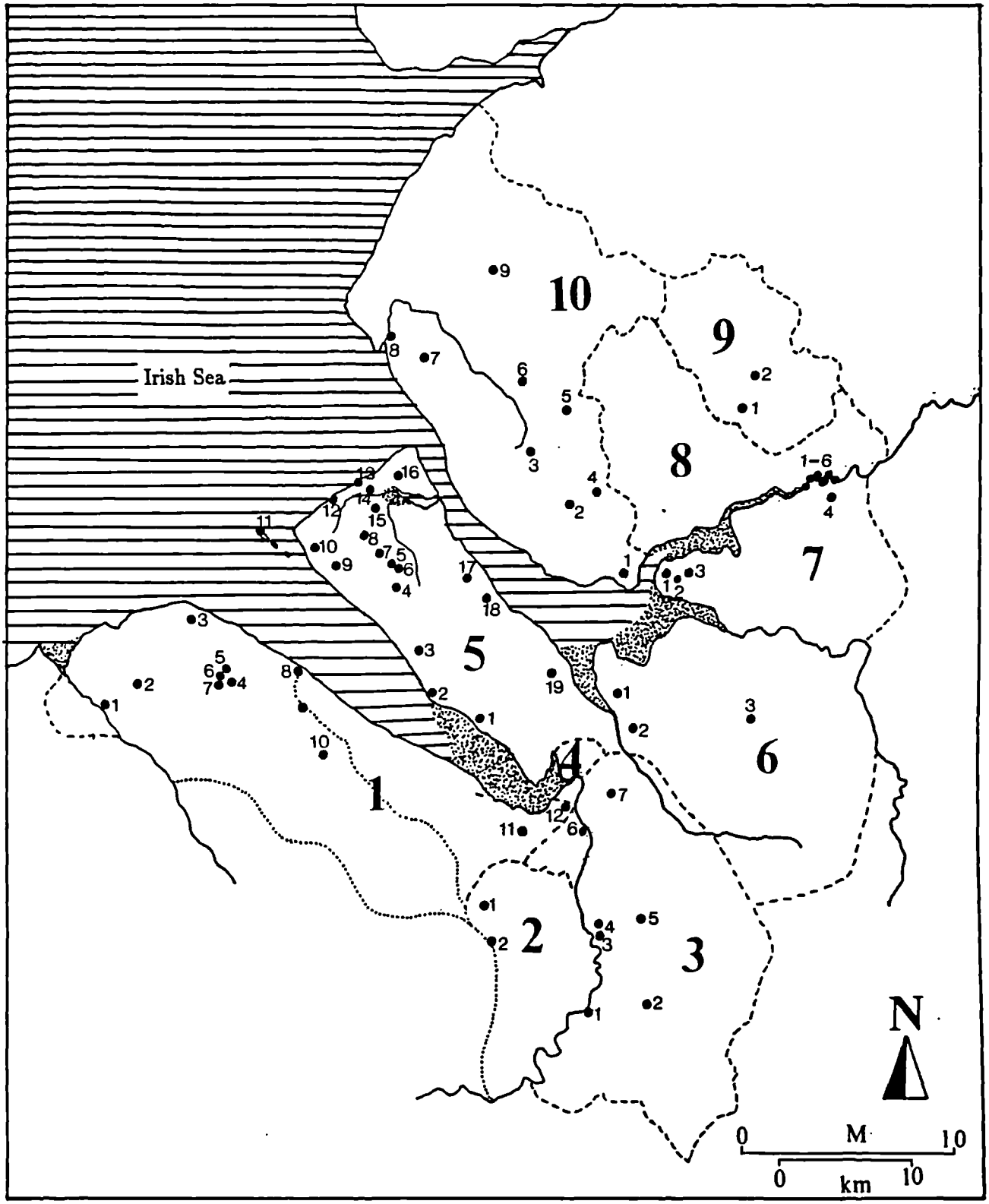
Archaeological information has been written in three main sections, a **gazetteer of sites,** catalogues of **artefacts** (appendix A,B) and **hoards/coinage** (appendix C). Whilst it is hoped that the abbreviations used can allow easy cross-reference, it was felt that the three sections were the best way to facilitate comparative discussion in the text. For the three sections respectively, chapters 3 & 4, 5 and 6 contain detailed discussion of the material. The abbreviations used for the finds refer to appendix B (below).

The gazetteer of sites has been organised moving roughly west-east through the Domesday hundreds as follows:

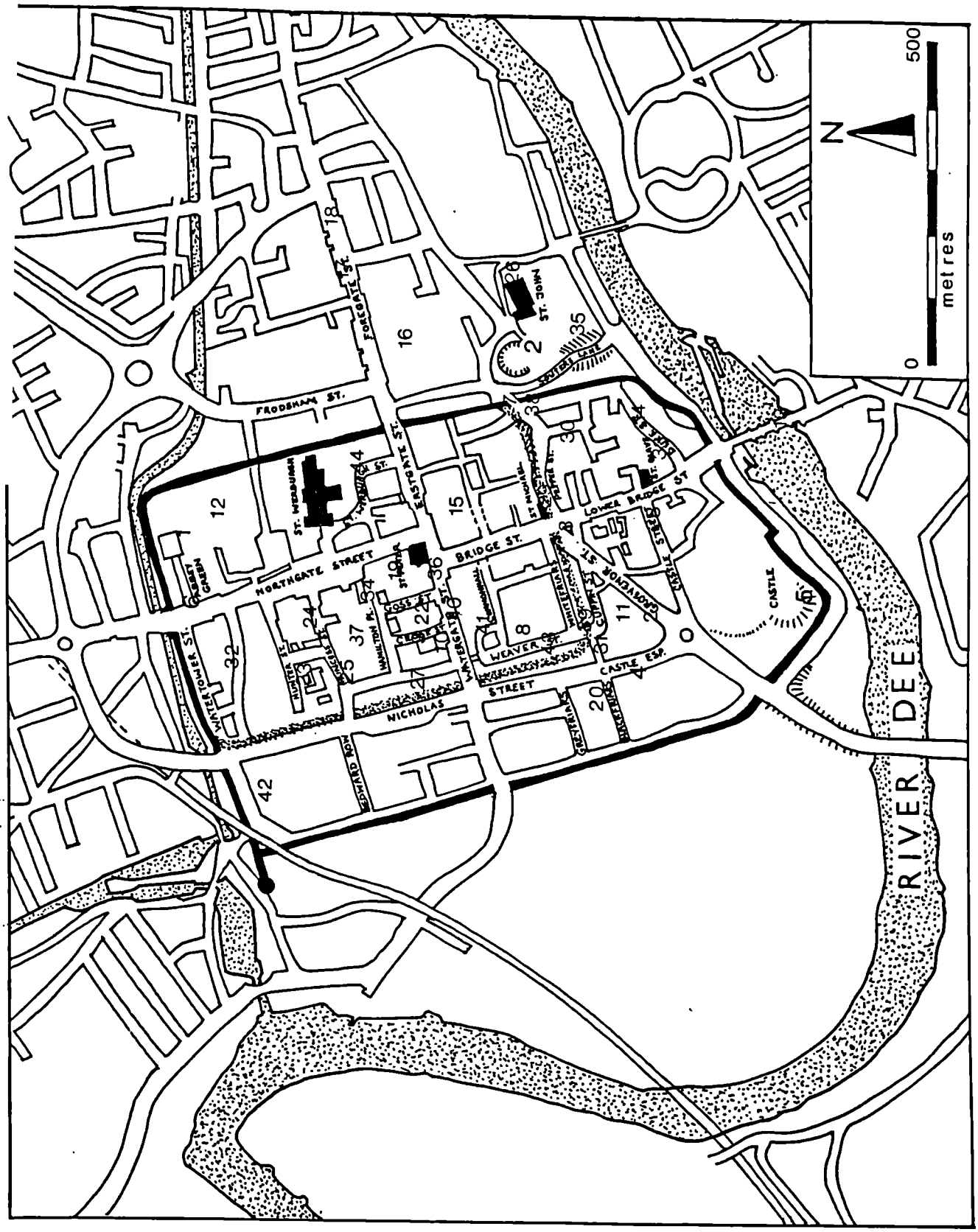
1. Atiscros (Clwyd)
2. Exestan (Clwyd)
3. Broxton *Dudestan*) (Clwyd/ Cheshire)
4. Chester (Cheshire)
5. Wirral (Cheshire/ Merseyside)
6. Eddisbury *(Roelau & Risedon)* (Cheshire)
7. Bucklow, West *(Tunendune)* (Cheshire)
8. Warrington (Cheshire/Merseyside)
9. Newton (Cheshire/Merseyside/Greater Manchester)
10. West Derby (Merseyside/ Lancashire)

The sites are numbered consecutively in each Hundred. The list of sites has been compiled moving west-east through the hundreds rather than alphabetically. This is intended to group sites in the same locality and to give the gazetteer of individual hundreds some geographical coherence (keys: overleaf).

Definite Site = site with clear archaeological feature(s)
Possible Site = feature(s) possibly dating to AD 800-1100
Negative Site = site of probable activity but as yet no archaeological potential.



Gazetteer: Key



Gazetteer (Chester): Key

1) ATISCROS HUNDRED (Clwyd)

1.1 Rhuddlan, centred on NGR SJ 0263 7768, fig 40

Definite Site

The site lies on the east bank of the River Clwyd upon a bluff of red boulder clay sloping gently to the river from c. 15m O.D. The bluff overlooks the formerly marshy lower Vale of Clwyd, around 4 km from the present coastline. The site is at the head of maritime navigation, the highest point on the Clwyd reached by tidal waters, and on the lowest fording point before the coast (cf. Chester). In medieval and post-medieval times Rhuddlan was a "flourishing port exporting agricultural produce (especially grain), metals, timber and coal" (Clwyd SMR; Manley 1987: 15). The modern town of Rhuddlan dates from the 13th-century establishment of the borough and castle by Edward I. F.T. Wainwright (1950) argued that the burh established by Edward the Elder in 921 at *Cledemutha* (Clwyd Mouth) was located at Rhuddlan. Since Wainwright's argument was first published, archaeological excavation to the south-east of the medieval castle has produced the only substantial evidence for later Anglo-Saxon occupation.

There have been two major excavation campaigns in Rhuddlan revealing information from the Late Anglo-Saxon period. The first and most productive was directed by Henrietta Quinnell (*nee* Miles) in 1969-73 (Quinnell & Day, forthcoming[1]). Quinnell excavated five trenches (A, B, E, T, V) in advance of the building of a school, Ysgol y Castell, in Hylas Lane. The three Grubenhäuser were not realised as such during the excavation and their character and dimensions have been established during the post-excavation stage.

Site A, Ysgol y Castell, fig 41

This trench consisted of a section through the Norman defences of Twt Hill (see below); the site of the trench is now under the school playground. *Structure 1* was an irregular hollow (C2), 10m by 5.5m with a depth of 1.2m, containing grey sandy silt. There was one posthole at either end. The structure was situated inside the line of the Norman borough defences and dated to the tenth century through a stratified find of an iron prick-spur (3:RH Misc/2) in the fill. The structure has been interpreted by the excavator as a Grubenhaus, or sunken-featured building, of circa 10m in length. The fill C2 also produced a small amount of evidence for antler-working. Two tines and two burrs of red deer antler, all of which had been sawn or cut with a knife were found in different areas of the fill (7:RH/ATL 1). Further finds included an iron axe-head (4:RH/Misc 3), a knife fragment (1:RH/K 1), a possible hinge fragment (5:RH/Misc 4) and two clench-bolt fragments (6:RH/ Misc 5). In the excavation of the ditch defences, the fill of ditch 1 (A78) produced a bone trial piece (2:/RH/Misc 1), a right radial bone of a calf with an incised zoomorphic design. Both the fill C2 and the fill A78 were overlain by later post-conquest/ medieval layers. A silver penny of Edward the Confessor (BMC Type ix) minted by Bruninc at Chester (below, appendix C) was removed from topsoil

[1] I am grateful to the authors for allowing me access to the unpublished report

by machine.

Site D, Gwindy Street
Excavation of the Edwardian Borough defences produced evidence of 12m wide single direction ploughmarks, interpreted by Quinnell as Anglo- Saxon by analogy with parallels at Hen Domen, Powys (Barker & Lawson 1971) and Gwithian, Cornwall (Fowler & Thomas 1962). No further information available.

Site M, Churchyard
This excavation took place in 1959 in the churchyard of the Norman Borough Church, founded by Robert de Rhuddlan in the 1070's. The Church itself probably measured 27 x 9m and was constructed of local millstone grit with mortar from lime in the Clwyd Hills (Quinnell, forthcoming). Two coins of William Rufus were found associated with the groin of the skeleton in grave M117. The coins have been interpreted as from the same issue, BMC III, which ceased in 1095 (below, appendix C). Nash-Williams (1950:127) described a quadrangular shaft of a standing cross decorated with cable mouldings and severely eroded panel plaitwork (late 10th/11th century), inside present church. Another cross fragment decorated with interlace is now lost (ibid).

Site T, Ysgol y Castell, fig 41
This trench produced evidence of two sunken-featured buildings or grubenhäuser, S3 and S4. S3 consisted of a rectilinear hollow 7m by 4.5m and 0.3m deep with a single posthole at either end. S4 consisted of an irregular hollow truncated by a medieval boundary, 6m by 4m with a depth of 0.35m. This site contained the only stratified sequence of Saxo-Norman pottery, six sherds of Chester ware (RH/ POT1), a rim sherd of Stamford ware, and an as yet unidentified rim sherd of Late Saxon type ware. Quinnell (forthcoming) also lists a series of five shell-tempered St. Neots type sherds which she interprets as ninth century by reference to the sherds of similar fabric found at Lower Bridge Street, Chester (Rutter 1985: 41). An actual cross-check of the pottery itself seems not to have been made and there is no assurance that the fabrics are really the same ware. If they are, Quinnell's conclusions on dating are still subject to doubt as the Chester sherds have now been re-interpreted not as Late Saxon but Late Roman (J. Rutter, pers comm). Pottery, fortunately the more reliably-dated Chester and Stamford ware (chapter 5), has been used to date the two structures S3 and S4 to the 10th/ 11th centuries.

Environmental Evidence
In a synthesised report in Quinnell & Day (forthcoming) Bruce Levitan phased the evidence from Quinnell's excavations, listing phase 4 (10th century) and 5 (late 10th/ 11th century) for the period 800-1100. Phase 4 yielded 179 bones from 7 contexts, and phase 5, 297 bones from 11 contexts. Bones from both phases included pig, sheep, goats and cattle in larger quantity. Evidence of butchery was mainly confined to cattle bones. Smaller quantities of horse, dog and cat bones were evident, suggesting that these came from domestic and working animals, whereas the former categories came from farmed livestock. There were very few

waterlogged deposits, confined to a very small number of shallow pits. Botanical evidence was slight and mainly from mesolithic and medieval contexts. A hulled variety of barley was most common among the extant remains (Holden, in Quinnell & Day, forthcoming). The vagueness and sparseness of the environmental record is not surprising in view of the dryness of the site and the relatively unsophisticated techniques of extraction of bones by hand and non-universal sampling used during the early 1970's.

Excavations on the Town Ditch 1979-82

The second major campaign aimed at the archaeology of *Cledemutha* was conducted by John Manley in 1979-82 (Manley 1987). Manley proceeded with the hypothesis that the large L-shaped double rampart and ditch around the eastern and southern perimeter of the site, known as the 'Town Ditch' was the enclosure of the Saxon burh. Quinnell's identification of the Norman defences in Site A, Ysgol y Castell, suggests that the Norman enclosure of 8-10 ha was much smaller than Manley's suggested Saxon enclosure. The Town Ditch furthermore bears a resemblance in dimension to the defences of Flint Castle (13th century) on the Dee Estuary (Edwards & Lane 1988:112).

Manley conducted two main investigations. The first, excavated in 1979-81 consisted of an irregular rectangular section across the southern arm of the town ditch measuring approximately 80m by 30m. The second was a "largely unsuccessful" attempt to locate the eastern entrance to the site (1987:22). In 1979-81, Manley identified five phases in the Town Ditch. They were as follows:

1. Shallow ditches cut into the boulder clay, filled with silt including four sherds of samian ware. There were also four oval post-holes in the northern (interior) portion of the trench. Dated to the Romano-British period by the samian ware.

2. Ten small hearths from which nine radio-carbon samples were taken (Manley 1985:106; 1987:18). They were as follows: uncal. HAR-4415: a.d. 950±80; HAR-4416: a.d. 860±110; HAR-4417: a.d. 880±80; HAR-4418: a.d. 840±90; HAR-4419: a.d. 1190±80; HAR-5029: a.d. 1100±70; HAR-4420: a.d. 890±70; CAR-240: a.d. 790±60; CAR-241: a.d. 795±60. (For further discussion, see chapter 4). There were three finds of iron artefacts, none of which can be directly attributed to the early medieval period. They were: a leaf-shaped socketed arrow head, a horse bit and a sickle blade (Manley 1987: 18). Manley interpreted the fires (ibid.) as related to the immediate pre-construction period.

3. Small bank (153) sealing the fires, itself partly buried by the rear of the inner bank. The small bank was interpreted as a marker for the inner bank (phase 4).

4. The defences proper and three possible post-holes in the interior. Radiocarbon date HAR-5169 giving an uncalibrated date of a.d. 1020±90 was taken from the fill of one of the postholes. The defences consisted of an outer and inner bank

of redeposited boulder clay with no indication of a timber or stone revetment.
Inner bank: Max height 3.5m, Max width 11m
Outer bank: Max height 1.5m, Max width 12.5m
Ditch: Max depth: 3m, Max width 15m.

5. Demolition phase of the defences; the ditch fill produced a radio-carbon date CAR-239: a.d 1440±60. Some activity was defined inside the defences consisting of a drainage ditch and a pit containing a [residual] Roman coin, a *sestertius* of Julia Mamaea struck in AD 230-231, iron fragments, lead waste and numerous fragments of 12th and 13th-century pottery.

The excavation of the eastern arm of the Town Ditch in 1982 produced very few features, of which the only datable examples conformed to the medieval phase 5 (Manley 1987:26).

Environmental Evidence
Most animal bones (161 in all) from the 1979-81 excavations came from the medieval phases (Rowley-Conwy in Manley 1987:37). Phase 1 produced two fragments of cattle teeth; phase 2, fragments of pig, horse and cattle bones; phase 3 a fragment of cow and a fragment of dog bone and phase 4 some "unidentified fragments". The plant remains (Manley et al. 1985:111-13; Williams in Manley 1987:40) were mainly from the fires in phase 2. They were dominated by oat grains, probably the wild oat species *Avena fatua* but included wild radish, broad beans, peas and hazelnuts.

Norman Fortifications
Rhuddlan was the seat of Gruffydd ap Llywelyn in 1063 (above, chapter 2.2), and his stronghold was burnt by the English in their first attack that year. After the Norman Conquest Robert de Rhuddlan, a follower of the Earl of Chester, built a motte today known as Twt Hill on the traditional site of Gruffydd's palace (Edwards & Lane 1988:113). The motte consists of a reinforcement of the natural scarp above the River Clwyd and is *circa* 20m O.D. at its present highest point. The fortifications of the bailey were apparently picked up in Quinnell's site A, although there is a possibility that the first cut of the ditch (in which the bone trial piece 2:RH/ Misc 1 was found) is pre-conquest. The borough church (above, site D) was in existence by 1086, recorded in the Domesday Survey together with 18 burgesses under the same borough laws as Hereford. The Domesday Survey also mentions iron mines, fisheries and mills on the Clwyd (Morgan 1978:269a,269b). The layout of the Norman borough is not clearly understood since its traces have been throughly obscured by the 13th-century castle and borough.

1.2 Dyserth, NGR SJ 0570 7982

Standing monuments
A free standing slab cross of the wheel head type with large raised boss and projecting ears. The shaft and wheel are decorated with small incised roundels on the wheel band, interlinked double beaded rings on the arms and 3 cord plait on the

shaft (Nash-Williams 1950:126). Dated (ibid) to the 12th/13th centuries but possibly late 11th. In the same churchyard is a conical base with a rectangular socket for a cross decorated with double link and bar devices, dated by Nash-Williams (1950:127) to the 12th/13th centuries.

1.3 Llanasa (Talacre) NGR: SJ 1198 8298, fig 42

Possible Site

Cist grave in the shingle bed of a dune sandhill found by workmen quarrying for sand in 1932 (Smith 1932). The grave was excavated by the local police, believing it to be a murder victim. The cist, originally mistaken for a stone drain, was "irregular in shape" (Smith 1932:46) but appears from the sketch to have been rectilinear. The cist was approximately 2.3 long by 0.8 metres wide, no height recorded, and aligned NW - SE. Inside the cist was a male skeleton, subsequently deposited at the Royal College of Surgeons. Among the long-bones was found a socketed iron spearhead of circa 50.4 cm in length. Only this crude illustration has survived. The contemporary conclusion of Reginald Smith of the British Museum was that the spearhead was 'Viking' (ibid:47). There was also a fragment of iron knife in the cist. Further quarrying activity in the vicinity failed to reveal related features. The accepted interpretation of the grave was that it represented a single burial of a 'sea rover', perhaps interred after a local *fracas*.

1.4 Whitford, NGR SJ 1288 7876, fig 43

Standing monument

The Maen Achwyfan or Stone of Lamentation (Nash-Williams 1950:127-8). A freestanding monolithic slab cross of red sandstone with a disc head and a tapering shaft. It is decorated on all faces with complex knotwork and ribbon plait. The front face bears the representation of a huntsman, and the sides bear T-fret patterns paralleled at Chester (St Johns, gaz 4.26) and Neston (5.3). Dated by Nash-Williams (ibid) to late 10th/early 11th century. At Whitford Church is a small slab bearing an incised latin cross potent, dated to 7th-11th century (Nash-Williams 1950:127).

The Maen Achwyfan is located in close proximity to three tumuli (1.5, 1.6 and 1.7, below). The palimpsest is situated close to Pentre Ffynnon Hall which stands on a noticeable eminence above the 200m contour. This may represent a significant early settlement site and offers potential for further investigation.

1.5 Whitford, NGR SJ 1270 7888

Possible site

Much-disturbed mound circa 180m north-west of the Maen Achwyfan, present height 1.8m, where "many carcasses and skulls, some of which were cut and one or two pierced by arrows" were discovered in the seventeenth century (Clwyd SMR:2354).

1.6 Whitford, NGR SJ 1257 7897

Possible site

Large, turf-covered earthen tumulus '180 paces' in circumference and around 2.5m in height, undisturbed and situated 180m WNW of the Maen Achwyfan (Clwyd SMR:2354).

1.7 Whitford, NGR SJ 1253 7883
Possible site
Undisturbed tumulus, '100 paces' in circumference and 0.75m in height. (Clwyd SMR:2354).

1.8 Basingwerk, NGR SJ 19 77
Possible Site
Cistercian Abbey, founded by Ranulph, Earl of Chester in 1131, on the probable termination of Wat's Dyke at the Dee Estuary. Coenwulf of Mercia died here in 821 (Lloyd 1912:201-2). The suffix *werk* suggests a fortification, whose exact site has not been determined. The Castle Field, adjacent to the abbey, has not been subjected to a geophysical survey; there is nothing visible above ground. There has not been a satisfactory answer to the problem of a populated Mercian stronghold at the northern end of the dykes. If Offa built a regional centre in the North-West, it may have been located at Basingwerk.

1.9 Holywell, St Bueno's Well, NGR SJ 1841 7619
Possible site
Pool of water measuring 2m by 3m with slight spring enclosed by a simple stone wall. St. Bueno died in AD 635 (Clwyd SMR:2423).

1.10 Halkyn Mountain, NGR SJ 20 70
Negative Site
Traces of multi-period lead mining over a wide area of upland heath and pasture. The area is dotted with slag heaps and shafts. Lead mining in the Romano-British period was recently confirmed by the excavation of a substantial official residence complex connected to the Roman lead industry at Pentre Farm, south of Flint (O'Leary et al. 1989:52). The possiblity exists for lead and silver mining in the Saxon period (see also cap 6.5). Much later lead extraction which ceased as recently as 1940 explains most of the slag heaps and is likely to have destroyed most of the evidence for earlier mining. The potential for further information about the Saxon period at Halkyn Mountain lies more with chance finds than with systematic investigation of the landscape (cf. appendix A, 1).

1.11 Dodleston, NGR SJ 362 609
Possible site
St. Mary's Church, curvilinear churchyard (Thacker 1987:288). The castle has early Norman origins.

1.12 Heronbridge, NGR SJ 4100 6360, fig 44
Possible Site
C-shaped earthwork between the Dee and Watling Street, south of Chester. It has an exterior ditch on the western side at present up to 5.8m wide and 2.8m deep.

Excavations in 1930-31 (Petch & Williams 1933:5-49) found considerable evidence for occupation in the Roman period, including buildings; at least 20 inhumations, many of whom had been killed by sword-blows, were attributed by the authors to the period AD 160-200 (ibid:19). This attribution seems purely speculative since there were no grave goods. The E-W orientation of the graves suggests that they are Christian burials. The burials lay above a wall dated to pre- AD 160. A rim sherd of a hand-made urn from the site (unpub, Grosvenor Museum, Old Collections) has been interpreted as "pagan Saxon" by L.R. Laing (1976:51), although this seems to be a single find; there is no information about its context. Excavations in 1953 (Hartley & Kaine 1954) discovered buildings and finds of the late first/early second century associated with a Roman 'dock' consisting of a stream-bed connecting with the Dee which had been cut to a width of 23 feet and fronted with massive sandstone blocks. Dated to AD 125-130 (ibid:21).

There have been many theories on the post-Roman phase at Heronbridge, including a Celtic Monastery related to nearby Eccleston in Broxton Hundred, less than 1 km to the south (Bu'Lock 1972:6-8), the stronghold of Ingimund or a Civil War earthwork (Laing & Laing 1985). If the site is to be better understood, a further excavation is necessary to establish the relationship between the rampart and the interior, especially the Roman phase.

2) EXESTAN HUNDRED, Clwyd

2.1 Pentre Bychan, NGR SJ 2994 4793

Possible hoard site

"Saxon coins" found during levelling part of a section of Offa's Dyke in 1824 (Fox 1928:97), no further information.

2.2 Caergwrle, NGR SJ 57 30

Stray find

CG/1.

3) BROXTON HUNDRED, Clwyd/ Cheshire

3.1 Bangor-is-y-Coed (Bangor on Dee), NGR SJ 38 45

Negative Site

Welsh Monastery, ([OE] *Bancornaburg,)* mentioned by Bede in his account of the Battle of Chester in 616 (Colgrave & Mynors 1969:138, 140; above, section 3.1): *"Maxime de nobilissimo eorum* [the Welsh] *monasterio quod uocatur lingua Anglorum Bancornaburg"*. As described by Bede, the monastery was very large, housing seven parts of no less than 300 monks *("..monasterio Bancor, in quo tantus fertur fuisse numerus monachorum, ut cum in septem portiones esset cum praepositis sibi rectoribus monasterium diuisum, nulla harum portio minus quam trecentos homines haberet, qui omnes de labore manuum suarum uiuere solebant").* This compares in reputed size with the largest Irish monasteries of the period such as Bangor, Clonfert and Clonard (Colgrave & Mynors 1969:141). The site of the monastery in the village is as yet unknown, and provides an opportunity for detailed local research and survey.

3.2 Castle Hill, Oldcastle NGR SJ 4678 4414

Possible site

Castle Hill, on a spur overlooking the valley of the Wych Brook. Earthwork discovered in 1957 during tree-clearance, consisting of a small platform on the crest of the spur c100ft x 36ft with ditch systems along each end. At the SE end, there are three short transverse ditches, each c. 60ft long x 40ft wide x 16ft deep. The neck of the spur is cut by two ditches, the inner one 60-70 ft wide. The inner ditch was sectioned by a trench 14ft long x 3ft wide. The fill was clean, undifferentiated clay, 4.5ft deep to the bottom of the ditch. There were no finds. A trench on the platform produced 'evidence of a possible hearth' (Cheshire SMR:1667). The site is now covered in woodland c.30 years old, but further investigation is certainly possible. Survey: R.C.H.M (E). F.H Thompson (1967:5-6) considered that the triple ditch system across the spur was unlikely to have been of iron age date, and suggested that the site is a Late Saxon or early Norman fortification.

3.3 Farndon, NGR SJ 413 544

Possible site

Church of St Chad. The Churchyard wall is partly curvilinear, which may indicate the existence of an early church. The line of the churchyard is mirrored by the High Street. Mother church to the chapelry of Holt. Possible episcopal link to the Bishop of Lichfield, the see of St Chad. The earliest fabric in the present church is the 14th century tower; the rest was rebuilt in 1658-60. Farndon was a royal estate in the early 10th century; Edward the Elder died here after suppressing a local revolt in 924 (above, chapter 3.2). Important fording point on the Dee.
Aerial photo: N.J. Higham 349510,12,16,18,20 (Cheshire SMR).

3.4 Farndon, NGR SJ 4109 5580

Possible site

Cropmark of a rectangular ditched enclosure circa 33m x 18m with bowed sides and rounded corners aligned approximately N-S. 10m wide gap in the southern end. Other surrounding linear features may represent a larger enclosure. Located above the floodplain of the Dee, 730m from the present E. bank, on a terrace of gravel and clay. Magnetometer survey using a Geoscan FM 18 Fluxgate Radiometer, February 1988 by J.A. Gater, failed to identify the site conclusively, although it showed up some anomalies; 8 small pits and 6 truncated ditches (Cheshire SMR:1807). Fieldwalking has produced one abraded medieval potsherd. Dating can only be decided through excavation.

3.5 Coddington, NGR SJ 4527 5526

Possible Site

A disturbed tree-covered mound, 32m in diameter, 3m high. Surrounded by a shallow, disturbed ditch c.0.5m deep. The top is flat and measures 12m x 10m. Described by Ormerod (1882:371) as a tumulus composed of red sand and describes "articles of some sort" found in it. When a portion was removed, local farmers noticed bones (ibid). Larger than most Bronze Age round barrows, it may be a

Saxon burial mound (Cheshire SMR:1824). A mill is recorded in the Domesday Survey at Coddington (Morgan 1978:263c,d).

3.6 Eccleston, NGR SJ 4133 6724

Possible site

Curvilinear Churchyard with a standing wall fragment of the former church at the centre. There was formerly a "large carved cross", possibly pre-Norman (Thacker 1987:288).

Aerial Photo: S.R. Williams 1983 (Cheshire SMR).

3.7 Christleton, NGR SJ 4415 6582

Possible site

Curvilinear Churchyard at St James's Church; sculptured cross now lost but possibly pre-Norman (Thacker 1987:288).

4) CHESTER HUNDRED (City)

Sites arranged alphabetically

The Late Saxon and Early Norman period in Chester is more difficult to identify than the Roman or medieval periods. This is primarily because the structural remains from the period consist of small wooden buildings, small ditches and postholes. Heavy medieval soil redistribution has meant that nearly all structural information has been preserved 'in negative', ie, only postholes and trenches whose fill is not necessarily related to the phase. Very poor organic preservation is explained by the high, well drained sandstone plateau upon which the City (the former Roman fortress) lies. Hence environmental information and material suitable for radiocarbon or dendrochronological dating is minimal compared to other Late Saxon towns.

4.1 Abbey Green, NGR SJ 4048 6667, fig 45

Definite Site

All information is taken from Ward, forthcoming[2].

Excavation 1975-8 by the Grosvenor Museum, Excavations Section, directed by J.C. McPeake. Post-excavation analysis by T.J. Strickland & J.A.A. Rutter. The site lies inside the northern wall of the Roman fortress on land owned by the Abbey of St Werburgh since the 1093 grant to the Abbey by Earl Hugh (Tait 1920:i,17). Saxon features were identified and dated mainly through finds of Chester ware pottery (57:CHE POT 1), 558 sherds in all, together with two sherds of 10th/ 11th-century Stamford ware. The Saxon phase is stratigraphically located between a substantial Roman phase and medieval cultivation; ploughing has truncated some of the features in the Saxon phase. The excavation trench covered partly the remains of the Roman *vallum* and the north ends of three barrack blocks to the south of the Roman intervallum road. In area II deliberate demolition and robbing of the former Roman interval tower was dated to the Late Saxon phase; robbing of former barrack-block walls was defined in areas V and VI where the remains of

[2] I am grateful to the editor and contributors for access to this unpublished excavation report.

the northern walls of the blocks were only visible through robber trenches.

Road surface: intervallum road on a slighly different alignment to the Roman wall consisting of surface metalled with small pebbles, overlying the tail of the Severan rampart. The road is dated to the 10th/ 11th century through a find of a Chester ware sherd beneath its surface.

Corn-drying oven
Located in the SE corner of area IV, cut through Roman wall footings. The remains consisted of two parallel walls W13 and W14 forming the sides of a channel cut into the ground. The channel terminated in a pit which had originally been lined with sandstone. The fill consisted of charcoal and burnt grain with one sherd of 10th/ 11th-century Chester ware in the upper fill. The upper fill was sealed by a mixture of clay and rubble. Stratigraphically this feature must be post-Roman since it is cut into Roman walling; the excavators interpret it as the earliest feature on the Abbey Green site in the late Saxon phase. The two walls are interpreted as a kiln; a flue in which a fire was lit leading to an underground chamber where the crops were dried at a medium temperature.

Pit complex M14, bone & antler working
Pit in two phases, located on the eastern edge of area VII. The first fill consisted of black silty soil becoming greyer at the bottom. The second phase was cut into this fill. The pit in the second phase was oval in plan with a neatly laid sandstone lining on its western side. Adjoining the SW corner was a channel made of squared stones set upright in clay, up to 30cm thick (M15). On the western side of these features was a hollow filled with sandstone. Its base and perimeter were defined by iron panning, suggesting that it functioned as a soakaway for the pit (which could itself be bailed into the channel using the stone lining as a support for working at the edge). The excavators (forthcoming) consider that the channel M15 and the pit M14 are contemporaneous. 87 pieces of antler were found in this area, with most coming from the pit (56:CHE/ATL 1). The antler pieces consisted of pedicles, beam sections, tine endings, crudely finished plaques and cylinders, almost exclusively from red deer. Some of the raw material must have been collected in forests since there are fewer indications of chopping; the ratio of naturally-shed antler to chopped is 9:7. The three features are dated to the tenth/eleventh century by finds of Chester ware pottery in the fills of the hollow, both phases of the pit and the channel.

Timber Structure and Hearths, Area IV
This structure was noticed through deposits of charcoal and burnt daub above up to 17 post-holes, although some of these are uncertain. The southermost alignment (PH31, PH34, PH35) are sealed by the burning deposit, PH35 retaining traces of the post itself which was squared and 12cm in section. The excavators have interpreted the structure as a building due to the widespread daub in the destruction deposit, suggesting a more substantial structure than a fence. The west wall of the structure probably lies outside the excavation trench to the west. There is little

trace of the north wall, suggesting that the structure may have been open-sided. The structure is dated to the period of use of Chester ware (10th/ 11th centuries). There have not apparently been any radiocarbon samples taken from the post-holes or from the destruction layer. Associated with this building were four clay-lined bowl-shaped hearths (M8, M9, M11, M12). They were filled with sooty soil and seem to have been associated with ironworking. Twice as much slag came from the Saxon contexts at Abbey Green as from Roman or Medieval contexts. Smithing slag accounted for 80% of the waste products in the Saxon layers, whereas hearth slag, tap slag and fuel ash accounted for 20%, although a much greater percentage in earlier and later phases. The consequent interpretation of the timber building and the associated hearths is that they represent a blacksmith's workshop. Abbey Green represents the highest concentration of iron finds in Chester.

Other possible Saxon features
The stone drain M19 was cut into the intervallum road, and was probably covered with capping flagstones which have since been robbed. The drain is lined with sandstone, and dated to the period through a find of Chester ware in the lowest fill. There are also several pits in the vicinity, which are difficult to date and may be as late as the 12th century.

4.2 Ampitheatre, NGR SJ 4081 6619
Possible site
Site of the Roman ampitheatre, portion of a grave slab with an incised circle-headed cross found in 1936 during levelling work (Newstead 1946:157n).

4.3 St Bridgets Church, NGR SJ 4055 6609
Negative site
Church formerly sited on the south gate of the Roman fortress, demolished in the creation of Grosvenor Street in the early 19th century. The Church was first mentioned in 1224, but "that reference shows it to have existed from the 12th [century] and it was probably much older (Thacker 1987:258). In the 11th century, it has been estimated that the northern limit of the parish was Commonhall Street, the eastern limit Bridge Street, the western limit the city wall and that it stretched down to the river and included a block of land on the south bank (Alldridge 1981:17-19).

4.4 Castle Esplanade/ Nicholas Street NGR SJ 4033 6598
Possible site
Site of find of silver hoard in 1950, see below, appendix C; 58:CHE/POT 2.

4.5 Chester Castle, NGR SJ 4046 6580
Definite Site
The castle was founded in 1070 by William I, acted as the stronghold of Hugh, Earl of Chester for the remainder of the 11th century and continued in the possession of the earls until 1237. The inner bailey stood on an artificial motte on the western side whilst standing on a natural sandstone outcrop on the eastern side. Although

outside the Roman walls, the castle is almost certainly within the burh enclosure of 907 (above, chapter 4.1). Simpson (1925:71) argued that the castle had its origins in 907; there seems to be very little evidence of this. The Norman enclosure was originally fortified with timber, which was replaced in stone in 1246 (ibid:72).

4.6 City Wall, Northgate Street, NGR SJ 4036 6666

Possible site

Small scale excavation by the Excavations Section, Grosvenor Museum in December 1980 against the north face of the city wall, 40m west of the North Gate. A north-south section revealed the profile of a bank, in the extreme upper levels of which a small fragment of Chester ware was discovered. This may indicate that the bank is from the 10th/ 11th century, but "the consistent chronological pattern [of] Roman pottery throughout all but the uppermost levels suggests it represents a Severan improvement of the earlier Flavian and Trajanic defences. The Chester ware would then be seen as intrusive" (T.J Strickland, unpub. interim report, Grosvenor Museum).

4.7 City Wall, South East Angle Tower, NGR SJ 4075 6645

Fragment of the upper portion of a circle headed cross of red sandstone found in the rubble core of the medieval city wall in 1937. The fragment consists of part of the circle, decorated with three-strand interlace in a double-bordered field, with pelleting on the inner circumference (Newstead 1948:157, pl VII).

4.8 Commonhall Street (Crypt Court) NGR SJ 4040 6620

Possible site

Excavation in 1954 (directed by D.F Petch) and 1956 (directed by F.H Thompson) of Roman granary buildings in the SW quadrant of the Roman fortress. The disregard for post-Roman stratigraphy common in earlier excavations in Chester is present in the excavation report, with all sections referring blankly to "post-Roman fill" above the Roman layers (eg. figs 5,6). The stratigraphy had been badly truncated by medieval cellaring. Any Saxon or early Norman features were not recorded, except for one possible pit:"In the north end of trench 4 was a pit at least 4ft deep which contained some interesting late Saxon pottery", (20 sherds of Chester ware, (60:CHE/POT 4). (Petch & Thompson 1959:45,60; Carrington in Davey (ed) 1977:16).

4.9 Crook Street, North NGR SJ 4036 6632

Possible site

Small-scale excavation in 1963 directed by F.H Thompson, no structures recorded but 12 sherds of Chester ware found (61:CHE/POT 5; Thompson 1969:13).

4.10 Crook Street, NGR SJ 4038 6629, fig 46

Definite site

Excavations in 1973-4 directed by T.J. Strickland (Ward, forthcoming). The site is located on the west side of Crook Street, a minor N-S street leading north from Watergate Street formerly to Princess Street (Parsons Lane), within the NW

quadrant of the Roman fortress. The course of the street was cut in the 1960's by the building of a new supermarket. The street name Crook is derived from the Old Norse personal name *Krokr* (Dodgson 1968b:40); the present Crook Street was called Gerard's Lane in c1230, later joining with the contiguous Crook's lane off Northgate Street, the second name being applied to both. The excavation consisted of one trench above two Roman barracks aligned N-S and fronting onto *Via Principalis* (Watergate Street). The Roman buildings influenced the later topography of the site by forming two raised platforms with an alley between. The stratigraphy, in common with all other Chester sites, was shallow enough to have permitted medieval pits to intrude on the Roman layers and therefore to destroy anything in between. The Late Saxon phase is dated by the excavator as a level between the upper phase of occupation of the Roman barracks and the lowest medieval occupation layer.

Timber Building(s)

The buildings have been defined (Ward, forthcoming) through the discovery of 40 post-holes cut into the tops of the Roman barrack walls. The post-holes are mainly circular with an average diameter of c.25-30 cm and depth of 30-50cm, filled with dark loose soil. The majority of post-holes formed two lines running N-S through the edge of the Roman road surface. The spacing is irregular, ranging from 1m to 1.5m. The western line is mirrored in the eastern line, although the eastern line includes some extra holes. There are also a scatter of smaller postholes between the lines. Their dating is problematic; they are clearly post-Roman since they cut into the latest Roman phase, and no Roman pottery or other artefacts are associated. Their relationship with the overlying medieval soil layer is less clear since the post-holes are filled with the same material. The post-holes however pre-date medieval pits, so are argued by the excavator to be very early medieval. The question of whether they are pre or post-conquest is almost impossible to answer. Their layout reflects the medieval property boundaries in the area, long thin plots fronting onto Watergate Street; they are therefore conceivably immediately post-conquest. Occupation surfaces have unfortunately been removed by medieval cultivation; there were no stratified tenth or eleventh century finds in the structures, only in pit 49. Interpretation of the nature of the structure from the post-holes is also difficult. The postholes are relatively large to be fenceposts and the pairing suggests a building. It is more a matter of conjecture as to whether the lines of post-holes represent a single building or two, even three aligned on the same axis, with the ends of the northern and southern buildings lying outside the excavation trench. The span between the lines in the northern group is approximately 5.03m, which conforms to the *northern rod* unit (Huggins et al. 1982:21-66). The most likely arrangement is two buildings, the northern wall of the southern building defined by F218 and F193; the southern wall of the northern building defined by F105 and F42. F56 and F57 are possibly the remains of a square and flimsy porch structure at the centre of the western wall of the putative northern building.

Pits

Two pits were excavated in the centre of the trench cut into the former alleyway between the Roman barrack buildings. Another pit, F176, was picked up in the eastern section of the trench, mostly lying outside the excavation. F49 was circular, of diameter 2.25m and depth 2.0m, filled with soil and clay. Finds: 20:CHE/RP1, 62:CHE/POT 6. With the only stratified Chester ware and the polyhedral-headed ringed pin, the pit can be clearly attributed to the 10th/ 11th century. Pits F52 and F176 are more difficult to date, although both were sealed by the medieval cultivation layer. Pit F52, which was sub-rectangular and 1m deep contained charcoal, bone and burnt debris (pending post-excavation analysis).

4.11 Cuppin Street NGR SJ 4037 6604

Definite Site

This site is at present in the early stages of post-excavation analysis and will not be published in the forthcoming compilation of reports (Ward, forthcoming). The excavation took place on the street frontage in July - Sept 1986 on the site of the New Magistrates Court development, outside the Roman walls but probably within the L-shaped burh enclosure (above, chapter 4.1) and within 250m of the castle. Medieval and earlier layers were truncated by a substantial post-medieval cess-pit and a medieval sandstone cellar. The phase from Late Roman to Medieval was represented by an accumulation of cultivation soil in which a few post-holes and pits interpreted as Late Saxon were found. One of the pits contained a stone ingot mould fragment (39:CHE/IM 2), together with charcoal and burnt clay. The site lies within 50m of the findspot of the 1950 Castle Esplanade Hoard (below, hoards gazetteer).

4.12 Deanery Field, NGR SJ 4057 6666

Possible site

Excavations in 1935 directed by R. Newstead on the site of Roman barracks in the NE quadrant of the Roman fortress. 20:CHE/RP 1, a copper-alloy, baluster headed ringed pin was interpreted as Roman and stated as stratified in the "upper Roman stratum" (Newstead & Droop 1936:37). As the find is certainly later (above, chapter 5.1), considerable doubt must be attached to its context. No structures from the post-Roman period are recorded except for a 14th century potter's kiln.

4.13 Dee Bridge, NGR SJ 4070 6577

Possible site

The bridge existed as early as 958 when a grant from King Edgar to the secular canons of St. Werburgh exempted them from the duties of bridge maintenance. The bridge is mentioned in the Domesday Survey (Morgan 1978:262c,d) where one man from each hide in Cheshire was required for maintenance. The bridge led to Watling Street, the main Roman road running southwards from the city, eventually to London. There are no certain remains of the pre-Conquest bridge, or of the immediate post-Conquest bridge; both are likely to have been flimsy and built of wood, since the bridge carried away by floods in 1227 was described as wooden (Stewart Brown 1933:66). Apparently ancient foundation stones observed

in the river bed during the dry summer of 1976 have been interpreted as Roman (T.J Strickland, pers comm) but need not necessarily be so. The waterfront is most likely to have been centred on the Bridge area; no archaeological trace has yet come to light.

4.14 Drill Hall, Duke Street NGR SJ 4072 6599

Possible site

Site located outside the Roman walls to the SE of the fortress. Minor rescue excavation in 1983 revealed no structures from the Saxon or early Norman periods; there was a find of one sherd of Chester ware (63:CHE/POT 7; Cheshire SMR:3012).

4.15 97 Eastgate Row NGR SJ 4062 6632

Hoard site

Site of the 1857 silver hoard (below, appendix C). The address no longer exists, having been incorporated before 1877 into Eastgate Street (O.S Record card 1964: SJ 46 NW12).

4.16 8 Foregate Street (Lloyd's Bank) NGR SJ 4074 6633

Possible site

The site is located outside the Roman walls to the E of the fortress. Machine excavation (unsupervised) of a trench for a bank strongroom in 1958, no structures from the Saxon or early Norman periods; find 22:CHE/RP 3 (Thompson 1958:72).

4.17 46-50 Foregate Street (Co-operative Store) NGR SJ 4087 6636

Negative site

Major rescue excavation in 1961 directed by F.H Thompson. The Saxon and early post-conquest phase is missing (Whitwell & McNamee 1964:2), having probably been destroyed by medieval cultivation. Find: 33:CHE/CF3.

4.18 97 Foregate Street (Queen's Head Hotel) NGR SJ 4099 6643

Possible Site

Findspot of a complete Chester ware pot 64:CHE/POT 8 during demolition work in 1938 (Newstead 1946:158).

4.19 Goss Street NGR SJ 4045 6634, fig 47

Definite site

Excavation in 1973 directed by J.C. McPeake (Ward, forthcoming). Goss Street was a minor street of medieval Chester leading north from Watergate Street (Via Principalis). The excavation consisted of a trench 13m N-S by 9m E-W, with a limited extension of 5 by 3m on the western side. The site lies between the Roman Principia wall (to the east) and a *taberna* to the west. The area between these buildings was a major street in the Roman fortress which became built-over in the post Roman period as the modern Northgate Street was driven over the site of the Roman Principia. The Saxon phase was located between the latest Roman structures and the medieval horizon above. The excavator considered that the evident robbing of some of the Roman walls had taken place in the medieval

period, although 3 sherds of Chester ware were found stratified in the robber trenches (63:CHE/POT 9) suggesting that the robbing took place within the 10th/ 11th centuries. 14 further sherds of Chester ware were found in residual contexts dated to the post-Medieval period. There was also 1 fragment of early 11th-century Stamford ware from a residual context (65:CHE/POT 9), as was a copper-alloy hooked tag (15:CHE/HT 1). Demolition deposits from the Roman buildings covered the site, themselves covered by a layer of brown sandy soil. Into this layer were cut nine certain and one possible post-holes, the majority of which were c20-30cm in diameter. The depths ranged from 20 to 38cm. The post-holes were filled with small stones, tile and charcoal; one, F92, had stone packing. Two slots, F202 and F203/F209 were cut into the demolition rubble in the southern part of the trench running E-W. The slots had a tapering profile which make them unlikely to have been construction trenches; F202 was filled with a cess deposit suggesting that the slots acted as drainage gullies. The post-holes are not considered by the excavator to represent a building; they are more likely to have been fences.

4.20 Greyfriars Court NGR SJ 4022 6608

Possible site

The site lies on the western side of the city, just south of the Watergate. The excavation of the Medieval Dominican Friary took place in 1977-83. There was no structural continuity between the Roman and medieval phases; any Saxon or early Norman stratigraphy is likely to have been severely disrupted by medieval burials, followed by the demolition of the Friary itself at the time of the Reformation. Finds: Chester ware (66:CHE/POT 10), 14 sherds, all residual, a copper alloy hooked tag (16:CHE/HT 2), a lead plaque from a hooked tag (17:CHE/HT 3), comb end-plate of Saxon type (32:CHE/CF 2), and a coin of Edward the Confessor, all from residual contexts (Ward 1990:25).

4.21 Grosvenor Street, NGR SJ 4050 6603

Possible site

Watching brief of the excavation for a gas pipeline in 1985 yielded a sherd of Chester ware (67:CHE/POT 11); no structural information (J.A. Rutter, pers comm).

4.22 Hamilton Place, NGR SJ 4042 6649, fig 48

Definite site

Excavation on the south side of Hamilton Place, immediately east of its junction with Crook Street from June - October 1971, directed by T.E. Ward. The Saxon features were only recognised at the post-excavation stage. These consisted of two semi-sunken huts or *grubenhäuser*. The first consisted of post-holes and pits set in dark earth, measuring circa 7.15m E-W. No clear pattern among the post-holes was discernible; the feature is interpreted (D.J.P. Mason, in Ward, forthcoming) as a semi-basement subsequently filled with earth and sandstone. It is dated to the 10th/ 11th century through a single sherd of Chester ware recovered from the fill of one of the post-holes, together with 17 more being retrieved from the infill of the hollow. The second sunken-featured structure measured circa 5.2m E-W and

continued beyond the confines of the trench to the north and south. The main vertical timbers were set in post-holes around the edge of the sunken floor, in a similar fashion to the houses at Lower Bridge Street. Finds: 27 sherds of Chester ware (68:CHE/POT 12), all from blackened cooking pots.

4.23 Hunter's Walk/ Hunter Street School, NGR SJ 4039 6646, fig 49

Definite site

The two sites form sub-sites of a larger area of archaeological importance often referred to as Princess Street, after the street forming the southern boundary of the area (excavation reports in Ward, forthcoming). The sites lie in the NW quadrant of the Roman fortress, the whole area is now occupied by the City bus station.

4.24 Hunter's Walk 1979-80, NGR SJ 4040 6646

This excavation was located east of Hunter's walk, a minor N-S street connecting Hunter Street and Princess Street. Hunter's walk is not an ancient thoroughfare, having been created as late as the 1830's. Only two trenches, II and V produced structural evidence from the Late Saxon period. In the Roman period the area was occupied by a street alonside the Principia with a courtyard building to the east. The Roman buildings were in a state of dereliction by the 10th century. The Late Saxon features were disturbed by medieval activity, lying only 75cm below the present ground surface, except for a deeper area in the northern end of trench V. Soil disturbance created a problem in dating the features.

Trench II:

This small trench included a fired clay feature, although the burning deposits around it had been destroyed by medieval cultivation. The feature was bowl-shaped and located at the side of the Roman road; no metalworking debris was found.

Trench V:

The Late Saxon levels were protected by the crushed sandstone floor of a medieval building (F41). Dug into the surface of the Roman road were two series of post-holes. Four were substantial with their pits packed with stones (T26, T27, T29, T34) three of which lay in a E-W line. The post-holes indicate that the posts were squared, measuring on average 25 by 18 cm. Stratified in the fill of T29 (362) were 3 sherds of Chester ware. The line of post-holes directly overlay the levelled wall of the Roman building, through which a slot had been cut for the wall of the Late Saxon structure, outside the line of post-holes. An area of burnt clay and charcoal (323) between the post-holes has been interpreted as a hearth. The occupation surface appears to have been the reconditioned surface of the former Roman road, as bone and clay fragments had been trodden into the insterstices of the paving. The post-holes appear to represent a large timber hall of width c5.6m. The posts appear to have been set out at around 5m apart, a distance which conforms to the 'northern rod' (Huggins et al 1982:22, 39-43). The distance between posts in the same line (circa 3m) does not however bear any relationship to the northern

rod. The occupation of the building has been dated by stratified finds of Chester ware, together with its relationship to the overlying 12th-century deposits, to the 11th century. The building appears to have been derelict by the 12th century, and the excavator suggests that it was abandoned at the time of the Norman Conquest (Ward, forthcoming). 93 sherds of Chester ware (69:CHE/POT 13). The highest densities of Chester ware were in the southern half of the excavation, the northern remains having been less well protected from later disturbance.

4.25 Hunter Street School 1979-81, NGR SJ 4038 6646

Definite site

This site, the larger of the two Princess Street sites, was excavated by S.W Ward (Ward, forthcoming). The post-Roman stratigraphy was better preserved in the eastern half of the area. In the Roman period the site was occupied by a large enclosure surrounded by a sandstone wall, with some evidence for light timber structures in the Late Roman period. The remains of the substantial Roman building complex to the south of the compound had been reduced to rubble by the Late Saxon period.

The Dark Earth and Saxon Paving

The most widespread feature of the site relating to Late Saxon occupation was the *dark earth* deposit picked up overlying the Roman phase in trenches II, III, IV, VI, X, XII, XIII, XV and XXB. The dark earth was mainly confined to the former Roman compound, with extensions to the W and E, suggesting that the compound had been standing during the accumulation of the dark earth and had actively influenced the spatial layout of the site. The dark earth consisted of a blackish, powdery soil containing bone, pottery sherds, slag and industrial waste, slate, burnt daub and micaeous sandstone. At its deepest in the eastern part of the area it was up to 35 cm thick, although much less so in trenches II, III and IV. It has been dated to the Late Saxon period through the large amount of Chester ware throughout the deposit and three radiocarbon dates: uncal, HAR 5006: 960±80 b.p. (from the middle of the deposit); HAR 5007: 1180±100 b.p. (immediately above the dark earth) and HAR 6625: 1490± b.p. (lower part of the dark earth). These dates span the later Saxon period and confirm the dating of Chester ware (Rutter 1985:54-5) to the Late Saxon period. Much of the bone in the deposit was extremely fragmentary; most of the identifiable pieces were cattle bones. The pottery was also mainly very small sherds, suggesting that the dark earth deposit had been constantly trampled and disturbed during its accumulation. Although relatively poor preservation of organic deposits made it difficult to identify dung, the dark earth has been interpreted by the excavator as evidence that the former Roman compound was used in the tenth century as a cattle pen. Rough sandstone paving also dating to the late Saxon period was picked up in small concentrations across the Hunter Street School site. This paving was embedded in the dark earth and interpreted as reinforcement of the ground surface in areas which had become particularly disturbed and muddy. It was beneath one of the rubble concentrations, although possibly disturbed, that the copper-alloy brooch 12:CHE/BH2 was found.

Trench IV: the Sunken Featured Building
Trench IV is situated in the centre of the Roman compound. Associated with the dark earth was a sub-rectangular pit with several post-holes lying around it, apparently completely undisturbed. The pit measured 3.4m E-W, 2.5m N-S and was 34cm deep. It was lined with yellow sand and soil (212), into which was cut a small rectangular pit lined with rubbishy soil and a sherd of Chester ware. The yellow fill of the pit contained several sub-phases, representing different periods of accumulation. There were no significant demolition deposits and no hearth, suggesting that the structure was used as a shed rather than a dwelling. The structure has been interpreted by the excavator as a *grubenhaus*. It is dated to the 10th century by the stratified sherd of Chester ware, together with sherds of Chester ware in the overlying deposit, which probably began to accumulate within the period of use of Chester ware (10th/ 11th century).

Trench XIII
This trench, on the western side of the excavation, contained a large pit (P101), 2.25m in diameter and 1.3m deep containing soft black soil. In the fill of the pit was a complete Chester ware cooking pot (70:CHE/ POT 14).

4.26 St. John's Church NGR SJ 4088 6612
Definite site
The Minster and Collegiate Church of St. John the Baptist was believed in the 12th century to have been founded by Æthelred of Mercia in 689; in 1066 it was a secular college attached to the see of Lichfield (Thacker 1987:268), having been enriched "with ornaments and grants of privileges" by Earl Leofric of Mercia in 1057 (Florence of Worcester, *Chronicon ex Chronicis*; Thacker 1987:269). Nothing remains of the Saxon Church; the collegiate complex was re-built in the 12th century, and again in the 19th. The parish of St. John was a large parish on the eastern side of the city, holding 8 houses, with an eighth of the city's burgesses in 1066. In 1870 red sandstone fragments of 10th/ 11th century stone sculpture were discovered during reconstruction work at the east end of the Church. The main group comprises a complete circle-headed cross in two fragments, three other cross heads and portions of two shafts (one lost). Related material includes two further cross heads (one unfinished), a grave slab (lost) and fragments of interlace (lost). J.D. Bu'Lock argued (1958:5) that there was a local school of stonemasons at St. John's, using stone from the adjacent quarry at Redcliff. The most common type of Anglo-Scandinavian cross head in the local area, the circle-headed form with spandrel bosses is well-represented at St. John's, including the unfinished piece. The St. Johns Church 1862 hoard, dated to c920, was discovered outside the west end of the Church (below, appendix C).

4.27 Linenhall Street, NGR SJ 4029 6630, fig 50
Definite site
The excavation of a sewer trench along the line of the western rampart of the Roman fortress took place in 1961 and was directed by F.H. Thompson. In trenches

17, 15, 13 and 23, in line along the rampart, inside the Roman wall, was found "a gully varying from 1 to 2 ft in depth accompanied or interrupted by square cut pits 2-4 ft in depth and 4ft along the sides" (Thompson 1969:9). At the southern end of the excavation was also found a 25ft length of ditch associated with a masonry structure which may have been a gate or tower near the former Roman Watergate. These features were interpreted as evidence for the Æthelflædan refortification in 907. The lack of associated finds makes this dating doubtful. There is also a strong case for the burh of 907 having included all land to the west of the Roman fortress (above, chapter 4.1). The possibility that the supposed 'palisade trench' could be late Roman must be accepted. Finds: 4 rim sherds of Chester Ware (71:CHE/ POT 15), two from a pit cut into the supposed Saxon masonry feature in trench 2, two unstratified from trench 1. Copper alloy ringed pin 23:CHE/RP 4.

4.28 26-42 Lower Bridge Street, NGR SJ 4056 6600 fig 51

Definite site

Excavations in 1974-76 directed by D.J.P Mason (Mason 1985). The site is located 100m south of the southern wall of the Roman fortress, but within the suggested L shaped enclosure of the burh (above, Chapter 4). Four trenches were opened in yards to the rear of the street front. The excavator has interpreted the results of the excavation in six phases:

Phase I: Roman refuse was overlain by light brown sandy soil (80) with abraded Roman potsherds and tile fragments, associated with which were four small north-south V-shaped ditches, which had been re-cut several times. Around the ditch in area II there were small parallel striations in the soil. These, together with significant disturbance of the latest Roman surface underneath were interpreted as evidence for ploughing, with the ditches acting as drainage gullies, with the possible additional function as spatial boundaries (Mason 1985:4-5). This phase is very difficult to date, other than as post-Roman and pre- phases II and III. The phase was overlain by a series of sterile soil accumulations.

Phase II: Four pits (no.s 236, 237, 249 in area II; 48 in area III) were dug through the soil accumulation 261 into the sandstone bedrock. They were filled with charred twigs, charcoal and a small number of animal bone scraps. Dated to pre-Chester ware (9th century or earlier; Mason 1985:33).

Phase III (fig 52): This phase was only determined for Area II. Cut into the grey soil accumulation (246,283) marking a discontinuity of use from phase II was a sub-rectangular pit with four circular post-holes. The pit, which was only partly excavated since the western end lay outside the trench, measured 2.7m E-W and approximately 3m N-S. A small gully ran eastwards from the area outside the structure. The structure was interpreted by the excavator as a sunken-featured hut or *grubenhaus*, Dated to the pre-Chester ware period, probably the 9th century (Mason 1985:33).

Phase IV (figs 53, 54): This phase was much more substantial than the preceding

phases. In *Area I* a rectangular or slightly bow-sided pit (structure 1) was cut through the ploughsoil into the bedrock. Total excavation was impossible but the pit was found to be 1.7m deep and to have a small extension to the sunken area at the NW corner. There were two regular lines of rectangular post-holes, A-D along the western edge of the pit and M, N and P at 90 degrees across the interior. A shallow slot varying in depth between 10 and 14cm connected the first line of post-holes. There were traces of an earlier structure in post-holes cut into the rock at a higher level than the pit bottom (called phase IVa). The post-holes were filled with silt from an apparent abandonment phase. In *Area II*, the western end of a similar structure (2) was discovered; the edges of the pit were lined with a series of rectangular post-holes (A-J) in a slot or chase, nine in all together with two (K,L) in the interior and two earlier ones from phase IVa (Y,Z) cut into the sides of the pit. The structure was also filled with silt and sandstone brash. *Area III*, a trench whose unwieldy shape was dictated by the proximity of standing buildings yielded evidence for two further bow-sided rectangular pits, structures 3 and 4. Structure 3, a pit 1.7m deep and 5m wide lined with rectangular post-holes (A-H), had an extension to the south consisting of a ramp down to the surface of the pit. The pit was filled with several layers of silt (one of which produced 4 sherds of Chester ware) and sandstone brash which had been severely disturbed by the digging of a pit (F51). Structure 4 was the most complete excavation of any of the four structures, only missing the NE corner. The pit measured 6.6m by 4.2m and was on average 84cm deep. It was lined with 20 rectangular post-holes. There was an extension to the west with a ramp, bordered by post-holes D and E which were more substantial than the others. Yellow clay flooring was overlain by a series of sandy fills, which had been disturbed by activity associated with phase V. In the western corner of Area III three post-holes possibly indicative of a fifth structure had been severely disturbed by medieval intrusion.

Structures 1-4 were interpreted as sub-rectangular, slightly bow sided houses with cellars (Mason 1985:15-23). Their construction appears to have been exclusively of wood, thatch and other perishable materials; no building stone, slate or tile was found in association with the structures. The post construction appears to have provided a timber frame which was clad with horizontal planks moored at the foot in the chase or slot common along the lines of post-holes. Access, at least to the cellars, was down the ramp features, which are likely to have supported wooden steps. These steps, it was suggested, were roofed over to prevent the cellars filling with rainwater (ibid:20). The excavator also suggests that the houses had a ground-level floor, over which there was a gabled roof supported on the wall posts. The floor is indicated by the internal post-holes in structures 1 and 2, which are suggested as beam-supports. Phase IV is dated by the excavator to a period spanning the introduction of Chester ware, since Chester ware was not found in construction features but was found in demolition deposits (Mason 1985:33). Mason suggests that the phase came to an end in the last quarter of the 10th century.

Phase V (figs 55, 56): Deposits in the Phase IV cellars consisting of silt and soil described as 'wind blown' and 'rain washed' were interpreted as the result of a period of abandonment (Mason 1985:23). Similarities in abandonment deposit suggested that the structures had been demolished around the same time in the closing decades of the tenth century. Subsequently, two stone-lined trenches or 'troughs' were constructed perpendicular to the long sides of the pits (F181/2, structure 2; F201, probably leading to structure 1; Mason 1985:25). The pits were also re-used as receptacles for refuse, the abandonment deposits having been partially cleared. Before this, a sandstone brash was laid down on the bottom of the pit of structure 2, which the excavator associates with the construction of the 'trough'. The fill of the pits consisted mainly of mixed greasy material in which were fragments of decayed wood and particles of leather, together with a brown staining which was interpreted as evidence for tanning at the site (ibid:26). The 'troughs' were interpreted as tanning pits where the skins would have soaked in a solution of tannic acid. The earliest fills in phase V contained stratified sherds of Chester ware and the excavator dated the beginning of tanning activity to the 11th century. The lack of any pottery other than Chester ware in sealed contexts in phase V was taken as an indication that phase V ceased around the end of the 11th century. Finds: 50-52:CHE/ Misc 9-11 together with 8 copper alloy fragments (Mason 1985:63).

The relatively unsophisticated dating techniques used to phase the site: stratigraphical association and the presence of Chester ware, may have led to a reduction of two possible phases into one, namely phase V. Mason does not conclusively show that the stone-lined trenches or troughs and the associated clearance and re-flooring of the phase IV cellars with sandstone brash are clearly related to the tanning deposits. There exists a possibility of an intermediate phase involving a reconstruction of the entrances to the buildings in stone-lined entrance passages and renovation of the interiors. These features, although possibly shortlived, are apparently just as likely to have been *re-used* in the tanning activity as to have been deliberately constructed for tanning purposes. Furthermore, the idea that the stone-lined features are watertight troughs is doubtful in view of the section through F181/82 (Mason 1985:31) and photograph of the same (ibid:28). The photograph in particular shows that the eastern wall of the trough consists merely of a large stone suspended in the section; there is no apparent wall. In recent excavations in St. Peter's Street, Waterford (above, chapter 4.1 for discussion), sunken-featured houses comparable in size to the Lower Bridge Street examples have been found. They are radiocarbon dated to the mid/late 11th century, and access to the cellars was clearly through stone lined, stepped entrance passages. This casts new light on the Chester structures; it seems a plausible re-interpretation to assign the stone-lined 'troughs' and the clearing of the accumulated deposits over phase IV to an intermediate re-use of the houses in the 11th century. Relatively soon afterwards, certainly within the later part of the eleventh century, the site went into phase V proper where refuse from tanning industry in the vicinity was

dumped in both the troughs and the cellars.

Phase VI: This phase was only determined in area II, where the tanning 'trough' became filled with soil (173) and was subsequently cut by two successive pits which contained Chester ware amongst later medieval pottery. Another medieval pit (F154), in the NE corner of area 4, cut into the rock and dated to the later medieval period (Mason 1985:34) contained two sherds of imported red burnished ware (72:CHE/POT 16) and a silver brooch (11:CHE/BH 1).

Environmental Evidence
This consisted of 378 animal bones (Morris, in Mason 1985:67) and a small ploughsoil sample analysed for plant macrofossil remains (Wilson, in Mason 1985:68). The animal bones, mainly from phase V, were dominated by cow and pig, with a low percentage of sheep and goat. There were also 2 horse bones and 3 deer bones. The ploughsoil sample (from phase V) "proved inconclusive" (ibid), but yielded evidence of charred grain, rush and blackberry.

4.29 St Michael's Church, NGR SJ 4058 6610

Possible site
Church erected on the east side of the south gate of the Roman fortress, opposite St Bridgets. The Church "could have been dedicated at any time in the 10th or 11th centuries, but was in existence by 1178-82 (Alldridge 1981:20). The northern limit of the parish was marked by a passage on the north side of the Roman baths building and the western limit by Bridge Street. The parish may have been reduced in favour of St. Olave's. The present building is Victorian.

4.30 Newgate/ Pepper Street, NGR SJ 4060 6608

Possible site
Excavation in 1964 by the Grosvenor Museum, no post-Roman structures recorded (J Chester Arch Soc 52:50). Finds: 24:CHE/SP 1; 31:CHE/CF1.

4.31 Nicholas Street, Carlux Site, NGR SJ 4033 6616

Possible site
Site located on the edge of the SW quadrant of the Roman fortress. Excavation in 1957 by G. Webster; decorated Chester ware sherd (73:CHE/ POT 17) found in demolition context associated with the Roman interval tower (Thompson 1962a:8).

4.32 Northgate Brewery, NGR SJ 4037 6663

Possible site
Site located inside the NW wall of the Roman fortress. No structures recorded but 42:CHE/Misc 1 found in machine excavated ploughsoil (Strickland & Ward 1978:1).

4.33 St. Olaves Church, NGR SJ 4063 6594

Possible site
Church in the extra-mural southern area of the burh, founded between 1030 (the death of Olaf Haraldsson) and 1119 when the Church was mentioned in a grant

to St Werburghs by Richard Butler (Alldridge 1981:19). The earliest mention of a dedication to St Olave in England (at York) is in the C version of the *Anglo-Saxon Chronicle* under the year 1030, written at Abingdon in c.1050 (Dickins 1945:56). The present fabric is medieval.

4.34 Old Market Hall, NGR SJ 4038 6643
Possible Site
Excavations directed by D.F. Petch in 1968-70 (Petch 1971) produced no evidence for Late Saxon structures; finds: 15:CHE/ HT 1; 74:CHE/POT 18.

4.35 Old Palace Yard (YMCA), NGR SJ 4085 6606
Possible site
Excavation during construction work for a fire escape at the YMCA produced two rim sherds of Chester ware (75:CHE/ POT 19; Ward et al, forthcoming). No structures recorded.

4.36 St. Peter's Church, NGR SJ 4052 6630
Possible site
Church built on the site of the Roman Principia, alleged by Alldridge (1981:6) to have been established in 907; no trace of the pre-Conquest Church remains in the present medieval fabric. The parish covered the southern half of the area of the Roman fortress (ibid:8).

4.37 Princess Street, NGR SJ 4039 6645
Possible site
Site located to the rear of the Town Hall, very close to the Old Market Hall Site. Excavations in 1939 directed by R. Newstead (Newstead & Droop 1939). This was the site of the Roman 'Elliptical Building', but no Saxon or early Norman features were recorded. Unstratified find of a copper-alloy stick pin (25:CHE/SP 2).

4.38 South-East Angle Tower, NGR SJ 4075 6616
Sculptural Fragment
Located at the SE corner of the Roman fortress. A portion of a circle-head cross was found in the rubble core of the medieval city wall (Newstead 1946:157).

4.39 South-West Angle Tower/ Whitefriars, NGR SJ 4037 6605
Stray Find
Located at the SW corner of the Roman fortress. Machine excavation in 1964 for the inner ring road led to the find of a bone strap terminal (13:CHE/ ST1).

4.40 12 Watergate Street, NGR SJ 4040 6635
Possible site
Excavation in 1985 by S.W. Ward failed to determine a Late Saxon or early Norman phase, although a large rim sherd of Chester ware (76:CHE/POT 20) was discovered during machine-stripping of the back yard area (Ward 1988:28).

4.41 17-19 Watergate Street, NGR SJ 4035 6631
Possible Site

Excavation of a small pit group in 1985, no structures recorded. Find: 34:CHE/CF 4.

4.42 Water Tower Street, (Pembertons Parlour), NGR SJ 4015 6658

Hoard Site

Site of the 1914 hoard, buried c. 1 metre beneath the road, 1 metre south of the City Wall (Appendix C, below).

4.43 Weaver Street, NGR SJ 4036 6615

Possible site

Excavation in 1956 directed by F.H. Thompson showed no late Saxon features; one unstratified piece of Chester ware (77:CHE/POT 21), (1959:72).

4.44 St Werburgh's Abbey, NGR SJ 4060 6645

Definite Site

The Church of secular canons was certainly in existence by 958, although is likely to have been founded around 874 (Thacker 1982). The house was enriched by Leofric of Mercia in the same year as St John's (958) see above, St. John's Church. In 1086 the Church had 13 houses in Chester for the canons and was converted into a Benedictine Abbey by Hugh d'Avranches in 1093. From the Abbey site there is a red sandstone grave slab fragment decorated with a backward facing animal bordered by a series of stafford knot interlace panels (now in the British Museum). T.D. Kendrick (1940:35) dated the slab to pre-950. No structural evidence of the pre-Norman Church survives, although there are two arches in the north side of the nave of the present Cathedral which may date to as early as the end of the 11th century.

5) WIRRAL HUNDRED

5.1 Shotwick Park, NGR SJ 3478 7044

Possible site

Earthwork associated with the site of the medieval castle. The earthwork is possibly part of the fortification built by Hugh d'Avranches before he granted Shotwick to the Abbey of St Werburgh in 1093 (Cheshire SMR:2025). Shotwick was a minor port throughout the middle ages and could possibly have functioned as an outpost of the port of Chester in the Saxon period, benefitting from a shorter tidal range. A dry quay at SJ 3490 7035 is probably 15th century; the whole site would benefit from a systematic survey and excavation could be expected to yield substantial information about the medieval waterfronts.

5.2 Burton Point, NGR SJ 3033 7356, fig 57

Possible site

Earthwork, promontory fort; the enclosure is situated on a low but rocky south-facing promontory of keuper sandstone overlooking the former course of the Dee (diverted to the west in the 18th century). The sandstone on the promontory is capped by boulder clay which provided material for the rampart (Longley 1987:109). There is a single rampart standing up to 3.5m high with an exterior

ditch, 2m below ground level at its lowest point. The ditch is 64m long between the cliff face to the W and that to the SE. The present path through the rampart on the western side is possibly the original entrance. The earthwork is curved and encloses an area to the south which has been truncated by post-medieval quarrying and marine erosion. Rabbit burrows, sheep trampling and tree growth threaten the site. On 17 Nov 1990 dressed sandstone blocks were observed in an erosion zone caused by tree growth, suggesting a possible building in the enclosure. Rescue survey and excavation with consolidation are needed. In 1878 at SJ 3000 7300 in the vicinity of the promontory, 29 inhumations were found in repairing the coastal causeway. They were laid E-W on an extensive platform and were 1-2m below the surface, no finds. The most probable explanation is that they are the burials resulting from 41 deaths in a shipwreck in 1637, but an Early Christian date cannot be discounted (Sulley 1889:170).

5.3 Neston, NGR SJ 2915 7744

Definite site

Church of St Mary & St Helen. The present building is mainly 19th century, with 12th century features at the earliest (Cheshire SMR:20). Within is a substantial collection of Anglo-Scandinavian stone sculpture in red sandstone consisting of 5 fragments of circle head crosses, probably of Storeton-type sandstone (White 1986).

5.4 Barnston, NGR SJ 2785 8345

Possible site

Level tree-covered platform with a sheer face to the north and steep slopes to the west and east; the southern area has a single transverse ditch. Further work is needed to deterine whether or not this feature is natural.

5.5 Thingwall, Cross Hill NGR SJ 2810 8425, fig 58

Possible site

Cross Hill stands some 5m above the surrounding landscape in the township of Thingwall; local tradition associates it with the meeting place of the Norse community in Wirral. At the highest point is a large mound, roughly circular in shape with a ridge running down the SE of the field. The road swerves around the site to the W. The site is at present under pasture/ root crop and has been actively ploughed in recent years. A trial excavation of the mound would be sensible in view of gradual erosion.

5.6 Thingwall, NGR SJ 2840 8402, fig 58

Possible site

Around a footpath running down a deeply cut sandstone gully running from the end of Lower Thingwall Lane, directly SE of Cross Hill are a group of linear earthworks consisting of a series of parallel banks and gullies which form one side of an elevated platform. The earthworks are possibly related to access to Cross Hill (Merseyside SMR: 2884/8).

5.7 Landican, NGR SJ 2805 8640

Possible site

Aerial photographs 4070/1 (Merseyside SMR:2886/1) revealed a circular feature in the ground close to the village, a centre of pre-Conquest Christianity and substantial village recorded in the Domesday Survey as being worth 40s in 1086 with a priest (Morgan 1978:265b).

5.8 Woodchurch, NGR SJ 2758 8684

Definite site

Church of the Holy Cross, no pre-12th century fabric survives, but the present fabric includes an inbuilt fragment of a circle-head Anglo- Scandinavian cross (Merseyside SMR:2786/1).

5.9 Thurstaston, NGR SJ 2475 8411

Possible site

Church first mentioned in 1120 in a gift to St Werburghs; in the Church field is a large mound-like feature up to 3m high built out from the natural slope; now covered in pine trees.

5.10 West Kirby, St. Bridget's Church, NGR SJ 2179 8642

Definite site

The earliest part of the present fabric of the Church is 14th century. There is in the attached Charles Dawson Brown Museum a collection of Anglo-Scandinavian stone sculpture consisting of two fragments of circle-head crosses, one broken; two fragments of cross shaft; a *hogback* grave cover decorated with two-strand interlace and *tegulae*; a recumbent grave slab from Hilbre Island bearing a relief design of a ring or circle-head cross with bosses in the spandrels and an expanded or swollen stem (Collingwood in Brownbill 1928:12-26).

5.11 Hilbre Island, NGR SJ 189 875, fig 59

Definite site

Three tidal islands, all part of the same sandstone outcrop, lying in a NW - SE line at the eastern side of the mouth of the Dee Estuary. Severe erosion has taken place, although slowed by reconstruction work done by the Mersey Docks and Harbour Board in the 19th century. The erosion of the cliff faces on all sides of the islands is the chief source of archaeological finds. The two larger islands, Middle Hilbre and Hilbre itself have been cultivated and populated since the Neolithic period, as attested by finds of flint arrowheads and a stone axe (Merseyside SMR:1888/1). Little Hilbre, a small *tombolo* nearest the West Kirby shore has produced a particularly rich collection of neolithic artefacts, including possible human remains, but very little later material (Merseyside SMR:1888/1). There was certainly a Benedictine Cell on the Island up to the Reformation attached to the Abbey of St Werburgh, which acted as a not-inconsiderable centre of pilgrimage (Leland, c1540; Brownbill 1928:35). The monastic cell is mentioned in the grant by Robert of Rhuddlan of the Church of West Kirby to the Abbey of St. Evroul, Normandy, in 1081 (Brownbill 1928:87). It is clear that the gift was made earlier than the

record, as the charter is merely a confirmation by the King. Evidence for an ecclesiastical presence on the Island before the Norman Conquest is apparent in Ecroyd Smith's account of the discovery of the grave slab (above, West Kirby) in 1864. Beneath the slab "several deposits of human remains were encountered: in one case a child of 8 or 9, and in another of a young person some 15 years of age, and their burial may have disturbed the repose of the more important skeleton under the stone, which was found to be very imperfect, not through decay, although by far the earliest inhumed." (Ecroyd Smith 1865:274).[3] Before this, in 1852, a large, red sandstone circle-head cross was discovered in the vicinity of the burials, just to the west of the geographical centre of the island (Hume 1863:267). W.G. Collingwood (in Brownbill 1928:17) dated the cross head as part of a group to AD 1030. A find of a blue glass bead in a rabbit hole in the same area, probably of Late Roman/ early Saxon type (below, appendix A), may be indicative of further inhumations. Evidence for associated structures or dwellings is lacking; Newstead's inconclusive and poorly-recorded excavations in 1926 (Newstead 1926) revealed no evidence from the Saxon or early Norman periods, although they did uncover some Roman pottery. That Newstead did not reveal any structures is hardly surprising in view of the very long and narrow trenches he excavated; he did not accurately survey the excavation, so the exact location of the trenches is now unknown. Numerous medieval finds have been made on the island; there are also four post-medieval middens in the cliff section and a salt pan. On the second largest of the islands, Middle Hilbre, low field walls of indeterminate date are now in a state of severe erosion. A magnetic susceptibilty survey using a Plessey Fluxgate Radiometer was carried out over most of the island in 1977 (Ancient Monuments Lab Geophysics Section Report No. 33/77, Unpub.). The field boundaries were not detected, but anomalies suggesting sections of a ditch or pits were noticed, together with a burnt soil outcrop on the western clifftop. Such is the state of erosion and the weakness of the soil matrix that the emphasis for the future must be on consolidation rather than excavation.

5.12 Meols, NGR SJ 227 903 - 253 923, figs 60-62

Definite site

Multi-period settlement site, known almost exclusively through archaeology. The placename *Melas* (ON sandbank; Dodgson 1972:296) gives little clue as to the nature of any habitation. For Great Meols, the Domesday Survey records the pre-Conquest value as 15s, subseqently waste, held by Leofnoth. 1 rider, 2 villagers and 2 smallholders with a plough are listed for the whole township. The northern coast of Wirral has been of significance as a port throughout historic times, the Meols anchorage acting as a small fishing haven today. In the 18th and 19th centuries the development of the port of Liverpool led to an increase in the use of the offshore anchorage, Hoole Lake, but which is now almost completely silted. The late 18th/ early 19th century marked the acceleration of coastal erosion on the whole coast, to which the Port Authority [of Liverpool] eventually reacted by

[3] The bones survived in Liverpool Museum until the air-raid damage of May 1941.

building sea defences along the Leasowe Embankment from 1829 onwards (Kenna 1986:1).

The eroded landscape was a complex stratigraphy spanning the entire Flandrian Stage, culminating in blown sand dunes formed during Tooley's second phase of dune formation in the 12th-13th centuries (Kenna 1986:11; Tooley 1978:144-5). More recent coastal change is evident from Saxton's Map of Cheshire (1577), Speed's map of Cheshire (1610; Harrison 1909:2-4) and Fearon and Eyes's coastal chart of 1755 (fig 60). All show a blunt spit extending seawards from approximately SJ 23 91. This has been identified with the former Dove Point (Hume 1863:8; Jones 1980:95). *Dove* has been interpreted as *Celt* 'Black' [peat], but may be a much later name associated with a John Dove, local landowner in the 1550's (Dodgson 1972:298). The present location of the Dove Spit is interpreted by the Ordnance Survey as SJ 2345 9070, but the 1840 survey placed it some 940 m to the N.E. at SJ 2041 9121, suggesting that this is the location referred to by Hume et al. (below).

As this stretch of coastline underwent severe erosion, antiquities were recovered from the dunes, and were first brought to the attention of antiquarians in 1817 (Hume 1863:49). Many of the finds are said to have been from the 'Ancient Forest' or 'Meols Stocks', which was the local name for the black peat layer filled with roots, identified much later as the *Upper Peat/ Forest Horizon,* radiocarbon dated to between (cal) 1887 BC and 2468 BC (Kenna 1986:5). This layer, still visible (1990) seaward of the sea wall, seems to have acted as the redeposition level for artefacts formerly stratified in higher, washed-out occupation surfaces. The forest attracted increasing antiquarian attention from the 1840's (Hume 1846). Antiquities were collected with increasing enthusiasm by Hume and Joseph Mayer, who were joined by Henry Ecroyd Smith in the 1850's and followed by Charles Potter and Edward Cox in the 1870's -1890's. Several thousand finds, ranging in date from Neolithic flint axes and scrapers to post-medieval pottery, were collected during the 19th century. Apart from the Late Saxon/ Viking period finds (see artefacts catalogue), other major phases in the artefacts aseemblage are the Roman phase (including Late Iron Age Celtic coins) and the high medieval phase of the 12th - 14th centuries. The total number of finds was clearly much greater than the total preserved in museum collections since only a sample reached the antiquarians, the rest being lost or destroyed (Hume 1863:48-9). Although a full study of the finds in museum collections has never been undertaken, a conservative estimate of their number would exceed 3000.

The antiquarians' methods of collecting represent an important aspect of interpreting the assemblage. Most of the finds, particularly in the 1820's and 1830's were retrieved by locals and later bought by Hume et al. By the 1850's the local fishermen and smallholders were consciously collecting with a view to selling to the antiquarians (Hume 1863:49). Hume mentions specifically *ancient metallic objects* (ibid), indicating that metal artefacts were consciously sought by the beach

collectors because they brought greatest remuneration from the antiquarians. In addition, there is evidence that the antiquarians had differing attitudes to collection and were selective in what they accepted: "His [Ecroyd Smith's] objects, as a whole, are less select than those of Mr Mayer, but they are very varied" (Hume 1863:50). Only Ecroyd Smith's collection contains any pottery, there being 5 Roman sherds, 69 medieval and 9 post medieval sherds (J. Rutter, pers comm). The absence of Late Saxon or early Norman wares, and the very small representation of Roman pottery is strange compared to the large metalwork and coin assemblages from these periods; such an imblance must reflect prejudice in collection rather than the actual proportion of pottery to metalwork. This is underlined by the archaeological picture from related local sites, both of the Roman and of the Late Saxon periods. At Hilbre (above) and sites in Chester, pottery occurs in much greater quantity than contemporary metalwork. More mundane finds from Meols such as iron agricultural implements and bone objects are much more common in the Potter Collection (Grosvenor Museum, Chester) than in the Mayer or Ecroyd Smith Collections (National Museums & Galleries on Merseyside), suggesting that they only became of significant antiquarian interest later in the century, after the death of Hume and the departure of Ecroyd Smith.

Hume, unusually for the earlier group of antiquarians, gave some indication as to the location of the finds:"The oldest, or Roman articles are found in the upper stratum of the forest turf...and they are found chiefly to the east of Dove Point. From this it is evident that the earliest inhabitants of Meols established themselves on the side nearest the lighthouse"(1863:391). "But the more modern objects are found further westward, certain Saxon examples, chiefly coins, being found nearly a mile to the west, and on the clay; thus showing a gradual change of residence in the direction of the Dee"(1863:392). This was also noted by Ecroyd Smith (1866:33): "Whilst the medieval articles have mostly been picked up upon the Hoylake side of the Dove Marks, a few objects of indeterminate age being exposed in the wind-opened gullies of the sand hills themselves...", Roman objects were more common towards the Leasowe end. In so far as these locations can be plotted, they approximate to SJ 253 915 and SJ 239 912.

Hume (1863:391) recorded the Roman objects as being found on the Upper Peat/ Forest Bed, which Kenna (1986:23) considers to have been an erosion surface in the Roman period, at a time of mean sea level of up to +5.4m on the north-west coast (Tooley 1980:82). The Late Saxon Period experienced decreasing sea-levels (ibid) and soil and dune formation accelerated on the Meols coastline. Above the Upper Peat/Forest stratum is a layer, the *Soil Bed*, recorded by Hume (1863:14), Ecroyd Smith (1865:215-26) and Morton (1897; ref. in Kenna 1986:14) as the location of many of the Saxon and medieval finds. The layer is described above a peat bed, 1ft thick, in which there were traces of cultivation in sandy earth: "...all the Norman and other medieval articles belong to a superincumbent, and what is still more remarkable, *wholly artificial* stratum, a mixture of arboreal matter and sand, strengthened by clay" (Ecroyd Smith 1873b:14). This layer was

subsequently identified with the help of Morton's notes by C.B Travis (1929:164). Kenna (1986:45) has combined 8 radiocarbon dates from a sample of 400 bore-holes across the whole North Wirral landscape to date the Soil Bed as an accumulation to the period (cal) 894 AD - 1400 AD (SRR 14046: 1090±120 BP; SRR 1402: 550±40 BP).

In 1866, Hume told the Historic Society: "I have myself found water-worn paving stones at the seaward base of a sand hill, apparently the remains of a farm-yard" (Hume 1866:33). Three years later, Ecroyd Smith related his observations of (undated) cremations being washed out of the sandhills:

"[on] an august evening near the old forest stumps...a circular patch of black matter attracted [Ecroyd Smith's] attention. Though already ravaged by the tide, it nevertheless retained what proved to be portions of the cremated head of a child, 8-10 years of age, including fragments of the crown and back of the skull and a couple of incisors. The blackened brain and charcoal confined nearly to the capacity of the skull, had naturally given the idea of an interment in a round hole or even an urn, though no signs of such a receptacle remained. The absence of fragments of other and larger bones excited suspicion as to the correctness of this view, and led to a further search, resulting in the discovery of portions of leg bones extended in length" (Ecroyd Smith 1869). Ecroyd Smith's description of the inhumation occuring through the blue silt layer suggests that it was Late Roman or Anglo-Saxon in date.

House structures were described in more detail by C. Potter (1876:139):

"The remains of ancient dwellings, three or four of which I have had the opportunity of examining immediately after their exposure by heavy storms and spring tides occuring at one and the same time. The floors are made of puddled clay derived from the lower *scrob* clay. What remains of the walls, which are varied from nine to fifteen inches in height, shows that they were made of wood framework, filled in with puddled clay similar to the floor, the puddled clay being worked up to a good smooth surface. The perpendicular timbers of the framework were supported on long, irregularly-shaped blocks of sandstone, two of which had holes cut in their surface for the *Bithinia Tentaculata* to rest in. The floors in all cases which I have examined are raised above the surface soil to a height varying from a few inches to fully two feet, each being considerably below the *Bithinia Tentaculata* beds" (see also appendix E).

Potter later described a different form of dwelling (1888:149):

"Where the sand, including the 'talus' of the low sand cliffs, has been swept away by storms from the shore, the sharpened ends of the stakes, deeply driven into the soil, are frequently exposed. The stakes are seldom more than a foot apart and were interlaced with gorse, broom and willow withies. It may be presumed that the dwellings were dry and comfortable... one room, well exposed on the side facing the sea, measured more than twenty-one feet between the walls; its length

in the opposite direction could not be established...".

Potter also referred (ibid) to metalworking debris - molten lead and bronze lumps, a mould core of bronze and quern stones, together with spindles and spindle whorls. Apart from the spindle whorls and an undated crucible in the Grosvenor Museum, Chester, the rest of the material seems to have been discarded or otherwise disappeared.

E.W. Cox's description of structures at Meols (1894:43-44) echoes Potter's first account:

"As the fretting of the sea removes the blown sandhills, there appears, a few inches below the level of spring tides, an ancient surface, showing traces of cultivation. Upon this the remains of medieval and older houses are continually washed out, together with ploughs, spades and other agricultural implements; showing that this was arable land. The houses are mostly built on rough sandstone foundations set in clay, with clay floors, and the walls of the upper part of rough stakes and wattled work. These seem to have lined an irregular village street. On one occasion, in 1890, traces of wheels of carts, horses feet with round shoes and the footsteps of cattle and men, who wore pointed shoes, were for a short time visible on ground below the level of high tide; by the side of the road were refuse heaps, containing bones, shellfish, fragments of iron, coal, cloth and shoes familiar to the footmarks. About a foot below the medieval floor level, and about eighteen inches below the line of the spring tides, a circular hut was exposed which I only saw after it was broken up by the tide; but in April 1892, I was fortunate enough to find the foundation of another circular hut, one half of which was visible beyond the scarp of the sandhill. The stones were partly rough, but had a few pick marks and holes cut in them in which to set the stakes for the conical roof...All these residences have their upright stakes preserved, but in a soft condition, to a uniform height of about 15 to 18 inches, above this height all trace is gone".

"...Among the innumerable 'finds' of ancient objects of every age found on this shore, I will only refer to one set, in the possession of Mr Potter, that is, the fragments of a British funereal urn. It is of the fragile, badly baked clay commonly used for such urns and ornamented with string and reticulated patterns. It could not have endured any long exposure, and when found must have been recently washed out of its grave mound" (ibid:44).

Unfortunately Cox did not locate his observations other than with the broad description of 'Meols'. The supply of objects had all but dried up by 1905, when R. Newstead and F.W. Longbottom made an expedition to the Meols shore, the last recorded antiquarian visit (Liverpool Museum Coll, notes VI). The dearth can be attributed to the sea having eroded most or all of the occupation surfaces to the north of the present sea defences. Occasional finds such as the St. Menas flask (appendix A) have since been found, and it is still possible to retrieve sherds of post-medieval pottery from the eroding remains of the Upper Peat/ Forest Bed.

The changes in coastline after the Ordnance Survey of 1883 (fig 61) can be shown by comparison with the 1963 Ordnance Survey (fig 62). The above observations were made in the 1880's and 1890's, and clearly refer to erosion of the sandhills rather than surviving peat layers further offshore. The area where Potter and Cox observed the settlement remains must, therefore, have been very close to the line of the present sea defences. Behind the sea defences, from the western (medieval) area of the site to the eastern (Roman) area of the site, the dune landscape is preserved intact with the minimum of building (which has affected much of the surrounding area). Much of the hinterland of the former Dove Spit is therefore preserved by the sea defences. The arbitrary line of the sea defences bisected the area N-S; whilst the sea wall was an effective act of abandonment of the dunes to seaward, it protected the landward dunes from the 1820's in the eastern area and from the 1890's in the western area. The strata recorded by Hume, Ecroyd Smith and Cox, and defined by Travis extend inland from the line of the sea wall. Examination of bore-hole data by Kenna (1978; 1986) showed that the Soil Bed and the Upper Peat/ Forest horizon were identifiable south of the sea defences under dune sand. This was confirmed in the area to the south of the wall at SJ 2401 1905 (an area stated by Kenna as under-represented in his study; 1986:6) by an auger survey and a machine-excavated trial trench by the author and the Archaeological Survey Dept. of National Museums and Galleries on Merseyside (April 1988)[4]. There remains the most interesting possibility that areas of activity directly related to the former beach settlement are preserved beneath the dune sand south of the sea defences. An integrated research project involving geophysical survey (ground radar, resistivity tomography, magnetic susceptibility), together with a phosphate survey and pollen analysis, is now planned by National Museums and Galleries, with the active encouragement and participation of the author (see also cap 9.2.1).

5.13 Lees Kirk, NGR SJ 255 927

Possible site

Former chapel attached to the Church of St Hilary, Wallasey, situated north of the present shoreline and destroyed during the 17th- 18th centuries by marine encroachment. "At very low tides traces of tombstones have been found. In 1828 a number of skeletons were disinterred below the low water mark, their regularity and position are evidence that a Church once stood on that point called Lees Kirk" (Gamlin 1892:80). This had apparently been reported in the *Liverpool Courier* of 19th March 1828, where an engineer "working nearly opposite the Mockbeggar Lighthouse dicovered skeletons in their hundreds... deposited side by side in a easterly direction" (Hume 1863:16; 1866:31). During repair of the sea wall around 1920, a medieval graveslab was found in the core of the wall (built in 1829). The slab is now in the Charles Dawson Brown Museum, West Kirby *(Cheshire Sheaf, March 1920).*

[4] Report included in appendix E, below.

5.14 Moreton, NGR SJ 2604 8991

Definite site

Excavation in 1987-88, at corner of Digg Lane, directed by R.A. Philpott. The only find related to the period was a silver penny of Edgar, minted in the south west of England in c955 (below, appendix C). The coin was deposited in the upper fill of a small ditch which had been re-cut. The earliest ditch has been interpreted as a construction beam-slot, and the first re-cut as a post/ beam slot combination. The ditch underwent three re-cuts, whose alignments were roughly in line, and are stratigraphically the earliest feature on the site. The ditch has a return angle and has been interpreted by the excavator as a foundation trench for a building; pending further post-excavation analysis (R. Philpott, pers comm). Indications of a wattle and daub structure with a hearth and clay floor are provisionally dated to the third phase (see Gaimster et al. 1990:202).

5.15 Overchurch, NGR SJ 265 891

Definite site

Complete curvilinar churchyard; the church was demolished in the early 19th century; the centre of the parish moved to Upton in 1813. A large fragment of an inscribed memorial stone was found in the fabric of the medieval Church during demolition. The decorated face bears a part of a motif consisting of two interlaced animals; the runic inscription reads:

> The Community erected [this] monument...
>
> Pray for Æthelmund...

Elliott (1959:145-47) dated the runes loosely to AD 700-900; Bu'Lock (1972:49) suggested that this Æthelmund was the Mercian Ealdorman killed in 800. (Stone now in possession of the Grosvenor Museum, Chester but on permanent loan to the Williamson Art Gallery, Birkenhead).

5.16 Wallasey, NGR SJ 2963 9213

Definite site

St. Hilary's Church, situated on the highest point of what was practically an island before 18th century land drainage, surrounded to the N and E by sea, to the S by Wallasey Pool and to the W by Bidston Moss, a low-lying, partially flooded marsh. The green upon which the Church stands is curvilinear. A sculptured cross, possibly of pre-Conquest date, was destroyed during the Cromwellian period (Thacker 1987:292). Excavations by E.W. Cox in 1857-60 did not reveal any structures or finds from the Saxon period.

5.17 Bebington, NGR SJ 3330 8392

Possible site

St. Andrew's Church, mentioned in the Domesday Survey. Arches in the recorded in south aisle in 1847 prior to reconstruction may have dated from the church built by St Werburgh's Abbey in 1093 (Merseyside SMR:3383/3).

5.18 Bromborough, NGR SJ 3491 8226

Definite site

Church first mentioned in a grant to St. Werburgh's Abbey in 1152, but described before reconstruction in 1828 as a 'Saxon building' (O.S Record Card SJ 38 SW). In 1863-4 several fragments of carved circle-head crosses were discovered during the removal of the last remnants of the medieval church. Most of these were lost in the 1930's but three were incorporated into a reconstructed cross in the churchyard in 1958. The Bromborough Church is not mentioned in the Domesday Survey but may well be the entry recorded for Eastham, where there is no early church.

Excavations at the moated site of Bromborough Court House in 1979 by Liverpool University Rescue Archaeology Unit (directed by D.J Freke) consisted of a limited trench across the moat. No evidence earlier than 18th century pottery was discovered and the original date of the moat and platform remain unknown (Freke 1979). There have been no archaeological investigations of the interior of the moated site.

5.19 Grange Cow Worth, NGR SJ 4114 7536

Possible site, now destroyed

The site is located a short distance inland from Stanlow Abbey on an artificial terrace 180m in length, which has now been levelled and built over. was established by the Monks of Stanlow Abbey in c.1133 (Brotherton-Ratcliffe 1975:69). Excavation in 1966-67 directed by E.H. Brotherton-Ratcliffe did not reveal any pre-12th century structures on the moated site, but found 2 sherds of Chester Ware (170:GCW/POT 1) immediately beneath ploughsoil with no associated finds (ibid:78).

6) EDDISBURY HUNDRED

6.1 Thornton le Moors, NGR SJ 4415 7454

Definite Site

St. Mary's Church, formerly dedicated to St. Helen, on the site of a church mentioned in Domesday (Morgan 1978:266d). The present building is 14th century onwards (Cheshire SMR:1997/1). In 1982, a trench around the exterior of the foundations of the church led to the discovery of part of an Anglo-Scandinavian cross shaft, decorated on all four faces; 1) 3 figures, poss. the arrest of Christ; 2) Part of a figure and the head of an animal; 3) 'stafford knot' type interlace; 4) *GOD HELPE* inscribed in Roman letters. Dated to the late 10th/ early 11th century (Brown et al. 1983:23-30).

6.2 Barrow, NGR SJ 4695 6830

Possible site

St. Bartholomew's Church; curvilinear Churchyard. There was formerly a large carved cross, now lost but possibly of Saxon date (Thacker 1987:286).

6.3 Castle Ditch, Eddisbury, NGR SJ 5530 6930, fig 63

Possible site

Hillfort situated on a flat-topped plateau on Eddisbury Hill, part of a ridge of

triassic sandstone running N-S through Eddisbury Hundred. The site also lies close to the Roman road running NE from Chester (above, cap 3.1.5). A *burh* was established at Eddisbury by Æthelflæd in 914 (*Mercian Register,* above, cap 2.2). The burh was apparently superseded by the establishment by Edward the Elder of Thelwall (919) and Manchester (921) and was shortlived as a fortification; no mint was ever established. The hillfort "ranks as the largest and most developed of the eight iron-age hillforts occupying the central Cheshire Ridge" (Cocroft et al 1989:131), but is the only one with any direct associations with the Late Saxon period. The ramparts at four places were excavated by W.J. Varley in 1935-38 (Varley 1950), who argued for seven phases of occupation, of which phases 6a and 6b were argued to be of the Saxon period, namely a hut of the 6th - 8th centuries and the Æthelflædan reconstruction of the defences (ibid:60-63). There are substantial problems with this phasing. The dating of phase 6a and subsequently phase 6b are confined to events in the sequence at Areas 1 and 2. In area 1, a hut was excavated in the fill of the western ditch (ibid:12-13), yet the published section shows the occupation floor suspended in a thick undifferentiated layer of infill. The only apparent evidence for the date of the structure, apart from its (rather dubious) position in the sequence was an annular baked clay weight (171:E/Misc 1), which remained in the private possession of the excavator and is now lost, as are all the finds. In Area 2, another hut was observed lying under a section of the Inner Rampart, dated by "Dark Age Pottery" (ibid:27). The uppermost section of the rampart, overlying the hut, was consequently interpreted as 10th century (ibid:61). Although possible, this interpretation is now unverifiable since the pottery, upon which the whole phase depends, is unavailable for checking. Varley gave no substantial description of the pottery and did not *explain* why he considered it to be Dark Age rather than Iron Age. It is (unfortunately) necessary to accept that Varley's phase 6 is just as likely to be late Iron Age or sub-Roman as Late Saxon. A complete survey by the R.C.H.M(E), Keele Office (Cocroft et al. 1989) led to a substantial re-interpretation of the Iron Age phasing. Varley excavated only on the ramparts; he did not attempt to examine the interior of the hillfort. Further re-interpretation of his report is not likely to solve the important question of Late Saxon occupation. The burh of Æthelflæd is still most readily identifiable with the Castle Ditch on historical and topographical grounds. For more reliable indicators of a Late Saxon presence at the site, a further limited excavation of both the defences and of the interior seems necessary.

7) BUCKLOW HUNDRED (WEST)

7.1 Runcorn, NGR SJ 5082 8333

Possible site (destroyed)

Castle Rock, destroyed by improvements to the river navigation in 1862, is the probable location of the burh established by Æthelflæd in 915 (*Mercian Register,* above, chapter 2.2). The Castle Rock formerly jutted out into the Mersey forming a significant point of control and visibility on the river course, which was fordable at low water. The location has also been a ferry point for several centuries

prior to construction of the modern bridges, the first recorded ferry being in 1178 (Ormerod 1882,2:675). In 1845 the site was described as "a triangular piece of ground opposite the gap [Runcorn Gap, on the Mersey] which juts out into the river, by which it was defended. It was cut off from the land by a ditch six yards in breadth" (Dodgson 1970:177).

7.2 Runcorn, NGR SJ 5106 8323

Possible site (destroyed)

Church of all Saints, recorded as having two priests in the Domesday Survey, listed under Halton (Morgan 1978:266b). Thacker (1987:253) argues that the Runcorn Minster was founded by Æthelflæd at the same time as the burh: "Like Chester on a smaller scale, Runcorn was to combine the roles of fortress and Mercian royal cult centre".

7.3 Preston on the Hill, NGR SJ 565 813

Possible site

Stray find of a St. Menas Flask (below, appendix A), Norton Priory Museum.

7.4 Grappenhall (Thelwall) NGR SJ 6545 8748, fig 64

Possible site

The burh of Thelwall was founded by Edward the Elder in 918/919 (*Mercian Register,* above, cap 2.2). The site has never been conclusively identified, despite a campaign of fieldwalking around Grappenhall and the modern Thelwall townships by N.J. Higham (N.J. Higham, pers comm). The only feature possibly related to the burh is an L-shaped earthwork in the village of Grappenhall, 1.2m high by 5m wide. The earthwork has a return angle, the NE arm is 36m long and the SE arm is 115m long, both of which have been disturbed by building work in the present century. The bank may be associated with more recent cultivation; only a trial excavation and thorough survey has a chance of establishing whether the bank is related to the Saxon fortification.

8) WARRINGTON HUNDRED

8.1 Mote Hill, Warrington, NGR SJ 6126 8851

Definite site (destroyed)

Early Norman motte; the central part of the mound was removed in 1832 in excavations by Rev E. Sibson. Most of the remainder was removed in 1841 by J. Kendrick (Kendrick 1853:61-2). Kendrick excavated a trench 34 yds by 22yds, finding a round depression 1ft deep in the top of the mound filled with 'refuse soil' containing burnt vegetable matter, animal bones and pottery with numerous sherds of medieval pottery and corroded iron knives and tools (Warrington Museum 1559-85+832). A wood-lined well in the centre of the motte contained burnt bone, shells, worked timber and a small medieval fibula. In excavated soil around the excavation and on the spoil-heap (ibid:62) were found further Roman amphora sherds, lead fragments and two jet gaming pieces (171,172:W/ Misc 1,2). There is little evidence for pre-Conquest activity; the gaming pieces are probably associated with the early Norman phase, despite the site's position at the centre of the

pre-Norman hundred and status as a Royal Estate in 1066 (Morgan 1978:269d).

8.2 Warrington, Walton Lock, NGR SJ 6066 8640

Logboat find, McGrail Warrington 2

Logboat found in March 1894 during excavation for the Manchester Ship canal. The logboat is constructed of oak *quercus* and has a rounded transverse section. The lines taper from a broad beaked end, interpreted by McGrail (1978:288) as the stern. Radiocarbon dated to ad 1020 (Q-1391: 930±90 bp; McGrail & Switsur 1979:105).
Length: 3.76m
Beam: 0.86m
Ext. Height: 0.38m
Warrington Museum KA1 821 (37/94).

8.3 Warrington, Warrington Bridge, NGR SJ 3103 8773

Logboat Find, McGrail Warrington 3

Logboat found on 21 May 1908 while dredging the bed of the Mersey. The logboat is constructed of oak *quercus* and was damaged when recovered; it probably had rounded ends and a rounded transverse section (McGrail 1978:291). Radiocarbon dated to ad 875 (Q-1392: 1075±60 bp; McGrail & Switsur 1979:105).
Length: 3.12m (incomplete)
Warrington Museum 68/08.

8.4 Warrington, Electricity Works, NGR SJ 6117 8772

Logboat Find, McGrail Warrington 4

Logboat found on 18 October 1922 in sand during pile-driving on the banks of the Mersey, one end was not recovered. The logboat is constructed of oak *quercus*, with a rounded transverse section and rounded bow (McGrail 1978:292). Radio carbon dated to ad 1072 (Q-1393: 878±60 bp; McGrail & Switsur 1979:105).
Length: 4.26m (incomplete, pre-shrinkage)
Beam: 0.71m (pre-shrinkage)
Warrington Museum 185/22.

8.5 Warrington, Arpley NGR SJ 6070

Logboat Find, McGrail Warrington 5

Logboat found on 22 June 1929 during dredging of the bed of the Mersey. One end and fragments of the bottom and sides were recovered. The logboat was constructed of oak *quercus* and was rounded on all three planes (McGrail 1978:294). Radiocarbon dated to ad 958 (Q-1394: 992±65 bp; McGrail & Switsur 1979:105).
Warrington Museum 105/29.

8.6 Warrington, Walton Arches, NGR SJ 5985 8657

Logboat Find, McGrail Warrington 7

Logboat found on 4 February 1931 during dredging of a sand bank in the River Mersey. The logboat was constructed of oak *quercus* with a rounded transverse section, the full length was not recovered (McGrail 1978:296). Radiocarbon dated

to ad 1090 (Q-1395: 860±60 bp; McGrail & Switsur 1979:105).
Length: 4.11m
Warrington Museum 7/31.

9) NEWTON HUNDRED

9.1 Winwick, NGR SJ 6039 9280

Definite site

St Oswald's Church, restored in 1553 (Cheshire SMR:570/1). In 1843 the centre and arms of a carved stone cross was discovered during grave digging. The cross is decorated with interlace, and has a boss at the centre. On the north side is a representation of a priest carrying handbells. Another, smaller, fragment found in 1830 is plain, but is locally known as a memorial to King Oswald (Collingwood 1927:139-40). The Church is recorded in the Domesday Survey with the unusually rich endowment of 15 manors, and took the fines for all crimes and offences committed within its limits where the land was exempt from the Danegeld (Morgan 1978:269,d). The village is rich in associations with King Oswald of Northumbria, who was slain in battle against the heathen Penda of Mercia at Maserfield in AD 642. Oswald is supposed to have used the Winwick Estate as one of his favourite residences (Cheshire SMR:570/1). A.T. Thacker (in Freke & Thacker 1990:35) considered that the dedication to St Oswald dates from the Æthelflædan period in the early tenth century. Æthelflæd had been responsible for moving the relics of Oswald from Bardney to Gloucester, and was apparently spreading the cult of Oswald throughout the western periphery of her kingdom (cf Thacker 1982:199-211).

9.2 Winwick, Southworth Hall Farm, NGR SJ 6189 9358

Definite site (destroyed)

Excavations in 1980 by Liverpool University Rescue Archaeology Unit, directed by D.J. Freke, uncovered a large Early Christian cemetery with up to 1200 inhumations (Freke & Thacker 1990:31). Very few human remains survived, and the graves were identified by the grave slots. The graves were all aligned E-W, and evidence for coffins consisting of soil stains and iron nails was found in 3 graves (ibid:32). Due to the lack of finds or datable carbon remains it was extremely difficult to date the period of use; the excavator suggests the 5th - 11th centuries, based on comparisons with other 'managed' cemeteries at Cannington, Somerset and Saffron Walden, Essex (ibid:33).

Finds: 14 special finds of fragmentary human remains, mainly teeth (ibid:37-8).

10) WEST DERBY HUNDRED

10.1 Hale, NGR SJ 4695 8154

Possible site

Private metal-detecting activity in 1986, in a ploughed field near the head of the Hale Promontory into the Mersey Estuary led to the finds of three metal artefacts of the Late Saxon period, more particularly the ninth century (173-5:H/DP 1, 2 & H/ST 1). Numerous Roman finds have also been revealed by metal-detecting

activity, including two Roman coins, a lozenge enamelled brooch, a dolphin brooch and two fibulae. A small programme of fieldwalking by members of the Merseyside Archaeological Society has yet to show results. The area has been subject to one aerial survey, but requires more attention if the context of the finds is to be understood. The conspicuous position of the promontory, a small distance downstream from Runcorn and directly opposite the possible site of Grange Cow Worth on the Wirral bank, suggests a landing place or even a small harbour in the period.
Mr. A.C Owen, 7 Cocklade Lane, Hale.

10.2 Childwall, NGR SJ 4154 8920

Possible site
All Saints Church, curvilinear churchyard (Merseyside SMR:4189/2). A priest is mentioned in the Domesday Survey (Morgan 1978:269c).

10.3 Thingwall Township, NGR SJ 412 909

Negative site
Small township in West Derby Hundred at the centre of which is Thingwall Hall, a psychiatric hospital. Beckett (1978:7) explored the grounds of the Hall for traces of a possible *thing* site similar to Cross Hill, Wirral. The entire exercise was negative; the site has been built over and extensively landscaped in modern times. The Hall itself stands on a low hill, which is probably all that remains of the site (Merseyside SMR:note).

10.4 Huyton, NGR SJ 4427 9113

Possible site
Church of St. Michael set in a raised, almost circular churchyard, not mentioned in the Domesday Survey (Merseyside SMR: Unpub.MS). The Estate, held by Dot in 1066 is recorded as having been worth 20s (Morgan 1978:269c).

10.5 Prescott, NGR SJ 4653 9270

Possible site
Curvilinear Churchyard; the Church is not mentioned in the Domesday Survey, but may have been an outlier of the royal estate of West Derby (Merseyside SMR 4692/2).

10.6 Kirkby, NGR SJ 4046 9898

Possible site
Chapel of St Chad, not recorded in the Domesday Survey. The dedication suggests a Mercian foundation. The site of the former chapel has not been built over and is open to survey (Merseyside SMR:4098/11).

10.7 Harkirke, Little Crosby, NGR SJ 3250 0105

Definite site
The Harkirke burial ground was the site of the find of the 1611 silver hoard (below, appendix C). The site of the possible early church has been subjected to further investigation. Excavations in 1950-51 directed by F. Tyrer (Tyrer 1952:153-55)

uncovered a line of rough sandstone blocks extending in a WNW direction from the 19th century chapel for 12.5 ft, and a further 16ft after a gap. In another trench to the S of the main trench, Tyrer found a stone "carved in three stepped arches, [it] seemed to have been part of an arched doorway or window" (ibid:155). The line of stones was interpreted by the excavator as the remains of an early building, although undated. The carved stones were, rather surprisingly, reburied at the site. Excavations in 1970-71 by F. Barker were undertaken for unknown reasons, with almost no competent site recording. Any finds or other discoveries remain a mystery. Further excavations by the Archaeological Survey Department of Liverpool Museum in 1990, directed by G. Falkingham, did not cast any further light on the archaeology of this enigmatic site (Merseyside SMR: 3201/5).

10.8 Altmouth, NGR SD 29 02, fig 65

Possible site

Coastal settlement near the mouth of the River Alt which was overwhelmed first by sand and subsequently eroded by the tide. It is recorded by Camden as 'a small village' but had all but disappeared by 1835 (Merseyside SMR: 2902/8). An assemblage of finds was picked up from the area to the south of the river mouth in the late 19th century, most of which were destroyed in the bombing of Liverpool Museum in 1941. Occasional finds have appeared from the area since 1945. The finds ranged from neolithic flint axes to post medieval buttons and pottery. There were two fragments of Roman pottery and another Roman coin lost in 1941, together with a group of medieval copper alloy and iron needles and keys. There was one find associated with the 9th-11th centuries: part of a penny of William I , also destroyed in 1941 (Merseyside SMR: 2902/3099).

10.9 Ormskirk, NGR SD 413 084

Possible site

Carved stone bearing the relief figures of a male and female separated by a vertical motif built into the exterior E wall of the Church, possibly pre-Conquest (Edwards 1978:69).

APPENDIX A

SUPPLEMENTARY CATALOGUE OF POST-ROMAN ARTEFACTS

Halkyn Mountain (gaz 1.10)
Four copper vessels, one of which was a hanging bowl, discovered "several yards below the surface of the earth in sinking a mineshaft" during the mid-18th century. They were argued to be "sub-Roman or Dark Age" by Thompson (1956a:194) and of Frankish manufacture.

Anon, Archaeologia 14, (1802) 275; Thompson 1956a:194-5.

Heronbridge (gaz 1.12)
Rim sherd of a hand-made urn, argued by L.R. Laing to be early or middle Saxon in date.

GM (old collections)

Laing 1976:51.

Chester, Deanery Field (gaz 4.12)
Copper-alloy mushroom-headed pin with flat ribbed head.

Newstead 1928, pl IX/8; Fowler 1963:156.

"Deeside"
Small long brooch of trefoil-headed type, the pin is missing.

Found in association with three glass beads; argued by L.R. Laing to be from a "pagan Anglian grave".

GM (old collections)

Laing 1976:50.

"Deeside"
Tubular red glass bead with central red band and green/yellow stripes on the ends.

Found in association with small long brooch and two other glass beads (now lost).

GM (old collections)

Laing 1976.

Hilbre Island (gaz 5.11)
Blue glass bead, convex and tubular, with yellow band.

Found in a rabbit-burrow over the site of the Early Christian cemetery.

NMGM (18.11.74)

Ecroyd Smith 1865:210, Chitty & Warhurst 1977:25.

Meols (gaz 5.12)
Copper-alloy annular brooch; pin missing. The circular loop if uneven thickness is decorated with circle-and-dot motifs. Two attachment holes in the loop. The back is plain.

Bu'Lock 1960:4 fig 2e; reproduced in Bu'Lock 1972: 20 fig 3e.

Meols (gaz 5.12)
Penannular brooch with ribbed hoop and terminals decorated with a single dot, Fowler group G (Dickinson G1.5).

Formerly Liverpool Museum, destroyed in air-raid damage in 1941.

Hume 1863:72, pl IV, 4; Bu'Lock 1960: 4, fig 2b, reproduced in Bu'Lock 1972: 20, fig 3b; Fowler 1963: 140; Dickinson 1982: 48.

Meols (gaz 5.12)
Penannular brooch with plain hoop and terminals decorated with a single dot, Fowler group G (Dickinson G1.7).

Formerly Liverpool Museum, destroyed in air-raid damage in 1941.

Hume 1863:72, pl IV, 5; Bu'Lock 1960: 4, fig 2a, reproduced in Bu'Lock 1972: 20, fig 3a; Fowler 1963: 140; Dickinson 1982: 49.

Meols (gaz 5.12)
Penannular brooch with plain hoop and plain terminals, Fowler group G (Dickinson G1.8).

Formerly Liverpool Museum, destroyed in air-raid damage in 1941.

Hume 1863:, 72, pl IV, 6; Bu'Lock 1960: 4 fig 2c, reproduced in Bu'Lock 1972: 20, fig 3c; Fowler 1963: 143; Dickinson 1982: 50.

Meols (gaz 5.12)
Pottery flask of pinkish-brown fabric, from the shrine (destroyed 7th century) of St. Menas (d. AD 296), near Alexandria, Egypt. Decorated with a scene in relief showing St Menas with raised hands flanked by two kneeling camels.

Found in a peat layer, 2 ft below the sand, at a point 300 yards to seaward of Dove Point.

GM (43. M.56)

Thompson 1956b.

Preston on the Hill (gaz 7.3)
Stray find of a St. Menas flask.

Norton Priory Museum

Unpublished.

APPENDIX B

ARTEFACTS CATALOGUE (AD 800-1100).

(Post-Roman finds in appendix A; coinage in separate catalogue, appendix C, below).

KEY

1. Sites (Site No. in Gazetteer)

RH = Rhuddlan (1.1)
TL = Talacre (1.3)
CG = Caergwrle (2.2)

CHE/ = Chester, followed by...
AG = Abbey Green (4.1)
CHS = Commonhall Street (4.6)
CITW = City Wall/ Northgate Street (4.7)
CRS = Crook Street (4.9)
CS = Cuppin Street (4.11)
DF = Deanery Field (4.12)
DS = Duke Street (4.14)
8FGS = 8 Foregate Street (4.16)
46FGS = 46-50 Foregate Street (4.17)
97FGS = 97 Foregate Street (4.18)
GS = Goss Street (4.19)
GFC = Grey Friar's Court (4.20)
GRS = Grosvenor Street (4.21)
HP = Hamilton Place (4.22)
HW = Hunter's Walk (4.24)
HSS = Hunter Street School (4.25)
LS = Linenhall Street (4.27)
LBS = Lower Bridge Street (4.28)
NP = Newgate/Pepper Street (4.30)
NS = Nicholas Street (4.31)
NGB = Northgate Brewery (4.32)
OMH = Old Market Hall (4.34)
OPY = Old Palace Yard (4.35)
PS = Princess Street (4.37)
SWA/WF = S.W. Angle Tower/Whitefriars (4.39)
12 WGS = 12, Watergate Street (4.40)
17-9 WGS = 17-19, Watergate Street (4.41)
WS = Werburgh Street (stray find only)
WVS = Weaver Street (4.44)

M = Meols (5.12)
GCW = Grange Cow Worth (5.19)
E = Castle Ditch Hillfort, Eddisbury (6.3)
W = Warrington, Mote Hill (8.1)
H = Hale (10.1)

ARTEFACT TYPES

BL = Buckle
MT = Mount
B = Bell
BH = Brooch
D = Disc
ST = Strap Terminal
HT = Hooked Tag
DP = Disc-headed pin
RP = Ringed Pin
SP = Stick Pin
CF = Comb Fragment
SW = Spindle Whorl
K = Knife Fragment
IM = Ingot Mould
WH = Whetstone
Misc = Miscellaneous
ATL = Antler-working products
POT = Pottery

(.....) = The smallfind number given to the artefact by the Museum in which it is housed.

Most catalogue entries are illustrated in photographic plates. In some cases, due to loss or inaccessibility, photographs are not available and drawings have been substituted. The Rhuddlan finds are reproduced from the illustrations from Quinnell & Day, forthcoming (see above, Acknowledgements). Occasionally, artefacts have been included without illustration where corrosion or breakage has obscured the original form of the object. None of the pottery or antler-working products are illustrated; description alone has been judged enough given the relative lack of visual distinctiveness and large quantities of material in these two categories.

MUSEUMS/COLLECTIONS

GM = Grosvenor Museum, Chester (City of Chester, Dept of Leisure Services)
NMGM = National Museums and Galleries on Merseyside
WM = Warrington Museum
CPAT = Clwyd/Powys Archaeological Trust.

Note on the identification of finds from Meols

The principal means of identifying the Meols finds are the museum labels written by the antiquarian collectors. In the small number of cases where such a label is missing, identification is possible through the "Meols Patina". The exposure of the finds to seawater during the erosion process (cf gaz, 5.12) has led to a distinctive smoothing and slight pitting of the surface of the finds; the copper alloy pieces are all oxidised, many to a rich dark green colour. This effect contrasts with other contemporary finds in the Museum collections which are less smooth in surface texture and oxidised to a lighter and more friable green.

CATALOGUE

Rhuddlan (gaz 1.1)

1: RH/K1 (not illustrated)
Fragment of iron knife

Context: Site A, from the fill of sunken-floored hut, dated to the 10th century.

CPAT T266

Quinnell & Day, forthcoming.

2: RH/Misc 1 (plate 1)
Bone trial piece on the right radial bone of a calf. The design consists of an incised beast in a closed panel with its foreleg raised up against the frame. The hindquarters of the beast develop into interlace. An eye or nostril is drilled or gouged above the jaw. The design is unfinished and roughly executed.

Length: 250 mm

Context: Site A, from the middle fill of ditch 1 of the Norman Defences (A78), dated to the 11th century.

CPAT MSF 21.

Quinnell & Day, forthcoming.

3: RH/Misc 2 (plate 1)
Iron prick-spur with round terminals, pierced by rivet holes. The sides are D-sectioned.

Length: 107 mm
Span: 75 mm

Context: Site A, fill of sunken-floored hut, dated to the 10th century.

CPAT MSF 136.

Quinnell & Day, forthcoming.

4: RH/Misc 3 (plate 1)
Iron axe head with a burred poll. It has pointed lugs above and below the hafting eye. Interpreted by Goodall (in Quinnell & Miles, forthcoming), as a woodman's axe rather than a weapon.

Length: 180 mm
Max width: 50 mm

Context: Site A, fill of sunken-floored hut, dated to the 10th century.

CPAT.

Quinnell & Day, forthcoming.

5: RH/Misc 4 (not illustrated)
Possible hinge fragment, badly decayed.

Context: C2, Site A, fill of sunken-floored hut, dated to the 10th century.

CPAT.

Quinnell & Day, forthcoming.

6: RH/Misc 5 (not illustrated)
Two fragments of clench-bolts, badly decayed.

Context: Site A, 67-8, fill of sunken-floored hut, dated to the 10th century.

CPAT.

Quinnell & Day, forthcoming.

7: RH/ATL 1 (not illustrated)
Two tines and two burrs of red deer antler, all partially sawn.

Context: Site A, fill of sunken-floored hut, dated to the 10th century.

CPAT.

Quinnell & Day, forthcoming.

8: RH/POT 1
6 sherds of Chester Ware, 1 sherd of Stamford Ware and an unidentified piece of "Late Saxon Ware".

Context: Site T, fill of sunken-floored hut, dated to the 10th century.

CPAT.

Quinnell & Day, forthcoming.

9: TL/1 (gaz 1.3, fig 42)
Iron socketed spearhead, found in stone cist with male inhumation in 1932.

Length: circa 500 mm

Lost

Smith 1932.

10: CG/1 (gaz 2.1, not illustrated)
Silurian limestone spindle whorl engraved with a motif resembling a penny of Aethelstan (925-941). The stone was described as "Silurian Limestone".

Diameter: 32.5 mm
Thickness: 1.4 mm

Context: Unknown, date of find not recorded.

Exhibited to the British Numismatic Society 21st March 1923; present location unknown.

Chester (gaz 4)

11: CHE/BH1 CHE/LBS (gaz 4.28, plate 2)

Silver disc brooch. It is decorated in openwork with an expanded arm cross. Two out of an original four blue glass inlays survive in the cross arms. Between the arms of the cross there are gaps partially filled with a trefoil or trilobate leaf motif. In the centre of the brooch is a boss, which Wilson (1985) suggested was the head of a rivet. There are two secondary (since they appear to interrupt the interlace pattern) rivet holes in opposing arms of the cross. The cross has a single border and the corroded remains of interlace are visible within. The back is apparently devoid of decoration. X-ray fluorescence revealed that the metal consisted of silver 93%; copper 2%; gold 1%; lead 1-2%; tin 2-3% (Wilson 1985) Wilson also stated that:"the results must be considered as semi-quantitative (the gold and silver were almost certainly enriched)".

Diameter: 35 mm
Maximum thickness: 2 mm

Context: Found in the fill of a Late Medieval rock-cut rubbish pit, F 154, (145) in association with two sherds of imported (Carolingian) red burnished ware."It is conceivable that they were abandoned by the occupants of Phase III", early tenth century or earlier, (Mason 1985: 34)

GM (Arch. Services)

Mason & Strickland 1985: 71
Mason 1985: 34, & Wilson: 61, 66, fig 9.1 & 9.2.
Thacker 1987: 287.

12: CHE/BH2 CHE/HSS (gaz 4.25, plate 2)

Circular copper-alloy brooch, consisting of two cast parts. An openwork convex disc decorated with a ribbon animal is backed by a plain plate which is flat and has two "pin attachment lugs (showing traces of iron corrosion from the missing pin, a catch plate, and a small attachment loop.; The two parts are held tightly together by a single rivet" (Graham-Campbell 1985: 448). The ribbon animal fills the field within a double-contoured border around the circumference of the brooch. The body of the animal is double contoured and decorated with elongated transverse billets. The head has a large circular eye which is at the top of the body: from this, facing towards the right, extends a snout. Behind the head is an ear which is linked to the end of the snout by an elliptical double-contoured lappet which passes beneath the body of the animal. The body of the animal extends across the field before doubling back on itself at the point to which the fore-leg is attached with a spiral joint. The body of the animal then crosses the field from right to left passing over the neck (but under the lappet) before it ends with the hind-leg which is similarly attached with a spiral joint. The tail is looped around the hind leg. The double-contoured and billeted body together with spiral hips and

the double-contoured border are strongly remniscent of the Jellinge Style of Viking Art (Wilson & Klindt-Jensen, 1966), as are the lappet and the tail. The triangular layout of the animal in the field with the arched body is more remniscent of the "gripping beast" motif in the Borre Style (Graham-Campbell 1985:448).

Diameter: 32 mm
Maximum thickness: 7 mm

Context: See gaz, 4.25; found in a partially disturbed context beneath rough sandstone paving of robbed Roman building stone, associated with the 'dark earth' inside the re-used Roman enclosure.

GM (Arch Services, CHE/HSS 1981, VI, 363 (1210)

Medieval Archaeol 26, 1983, 170, pl XIVV
Graham-Campbell 1985: 448 - 449
Mason & Strickland 1985: 71
Thacker 1987: 288
Graham-Campbell, in Ward, forthcoming.

13: CHE/ ST1, CHE/SWAT/WF (gaz 4.39, plate 2)

Decorated bone plaque strap terminal rectangular at the attachment end, rounded at the terminal and decorated with a carved design on one side, the back is plain. The design is set in a sunken panel whose outline follows the shape of the plaque, leaving a border around it 3-4 mm wide. At the attachment end there are three rivet holes in a panel sunk beneath the surface of the decoration. The decoration itself consists of a foliate design; There is a large circular boss in the centre decorated with a double bordered chevron on its lower side. Towards the attachment end four sets of bifurcating fronds extend. The frond nearest to the boss doubles back on itself and the others extend in series to the end of the panel The fronds expand in width away from the boss and terminate in curls or hooks. On the other side of the boss there is a foliate extension which bifurcates and seems to represent a thistle. This separates two confronted zoomorphic motifs in profile. They have feet attached to the boss and tails which hang either side of the boss and connect with the tips of the first frond stemming from the lower side of the boss. The snouts of the two creatures meet and are flat rather than beak-shaped suggesting that, despite their overall shape, they are animals rather than birds.

Length: 56.6 mm
Width: 20.5 mm
Thickness: 5 mm

Context: Unstratified "surface find" (P. Carrington, pers comm.)

GM (Arch. Services, CHE/SWA/WF 1964)

Thacker 1987: 288, 284, fig 42i
Lloyd-Morgan, in Ward, forthcoming.

14: CHE/ST2 CHE/AG (gaz 4.1, plate 2)

Worked bone tag; possibly a strap terminal. The tag is rectangular in shape but narrows at the terminal and has a rounded end. It is decorated on one side with incised interlace and on the other with a plain panel. The interlace is set within a double border and consists

of three medially-grooved double strands in a series of round figure-8 ring-knots. The panel is open at the square end of the tag but closed at the rounded end. On the other side the border of the panel is identical but there is no interlace in the field.

Length: 69 mm
Width: 16.7 mm
Thickness: 5.8 mm

Context: From the fill of an unphased pit cutting the Late Saxon road surface (2); (P. Carrington, pers comm).

GM (Arch. Services, CHE/AG75, 241,750)

McPeake et al. 1980: 31, fig 8 no 5
Thacker, 1987, 287
Lloyd-Morgan, in Ward, forthcoming.

15: CHE/ HT1 CHE/OMH (gaz 4.34, plate 2)

Copper-alloy hooked tag. There are some traces of raised decoration in the from of a string of dots around the circumference and across the neck of the shank. The plate is elliptical with the corroded remains of holes in two projecting lugs. The hook (now missing) was at the end of a tapering shank, which is differentiated from the plate by a small, plain collar.

Length: 26 mm
Width: 20.6 mm

Context: From a post-Roman layer dated to the tenth century but contaminated (P. Carrington, pers comm).

GM (Arch. Services, CHE/OMH 1967-69 Phase V, D1W DAM (1047).

Griffiths 1988: 44
Griffiths, in Ward, forthcoming.

16: CHE/ HT2 CHE/ HSS (gaz 4.25, plate 2)

Copper-alloy hooked tag consisting of a triangular plate with two holes, and an extension to an upturned hook. The short edge of the triangular plate appears to be damaged. There are three light hatch marks on the lower part of the plate on the side towards which the hook turns.

Length: 20.5 mm
Max. width: 9.5 mm

Context: Soil build-up dated from the Late Saxon/Pre-Conquest period through to Late Medieval (P. Carrington, pers comm). Found in association with CHE/P3.

GM (Arch. Services, CHE/HSS 1981,VI,362 (1083)

Griffiths 1988: 43.
Griffiths, in Ward, forthcoming.

17: CHE/HT3 CHE/GFC (gaz 4.20, plate 2)

Copper-alloy hooked tag with engraved decoration. It consists of a

triangular plate with an extension to the upturned hook. The triangular plate is decorated with a single engraved border with punched dots in no apparent order within the panel. It is pierced by two holes and the short side of the plate has five decorative incisions. The back is plain.

Length: 30.5 mm
Maximum Width: 14 mm

Context: Basically unstratified but from the surface of a structure associated with a thirteenth-century drain (P. Carrington pers comm).

GM (Arch. Services, CHE/GFC77, I, 257 (403).

Griffiths 1988: 42.
Griffiths, in Ward, forthcoming.

18: CHE/HT4 CHE/GS (gaz 4.19, plate 2)

Copper-alloy hooked tag. It consists of a triangular plate with rounded corners with an extension to an upturned hook. It is pierced by two holes. Around the edge of the plate is a single-strand border with punched dots in a parallel line, evident on both sides. The whole piece is in an advanced state of corrosion and in three pieces.

Length: 18 mm
Width: 12.5 mm

Context: Contaminated layer loosely dated to the Medieval period. (P. Carrington, pers comm).

GM (Arch. Services, CHE/GS 1973 A 34, (1212)

Griffiths 1988:43-4
Griffiths, in Ward, forthcoming.

19: CHE/HT5 CHE/GFC (gaz 4.20, plate 2)

Lead-alloy plate, almost certainly from a hooked tag. The plate is bent and considerably corroded, the hook is missing. It is pierced by two holes, one of which is bisected by damage to the corner.

Length: 21 mm
Maximum Width: 13 mm

Context: From a church demolition layer dated to the 16th century (P. Carrington, pers comm).

GM (Arch. Services, CHE/GFC77, 1, 139 (80).

Griffiths 1988: 43
Griffiths, in Ward, forthcoming.

20: CHE/RP1 CHE/DF (gaz 4.12, plate 3)

Copper-alloy ringed pin of the baluster headed type; the head is square in cross-section. The ring is rhomboidal in cross-section and narrows where it enters the head. The ring is penannular and the pierced holes either side of the head do not meet. There are two collars at the base of the head before the shank begins. The shank widens and flattens to 6-7 mm in thickness about halfway along its

length. The lower half of the shank is rectangular in cross section and has a panel either side, each of which have an incised single border.

Length of pin (including ring) 145 mm
Thickness of ring: 3 mm
Maximum width of shank: 7 mm

Context: "Gateway. Upper Roman Stratum" (Newstead & Droop, 1935, 37)

GM (Old Collections).

Newstead & Droop 1935: 37, pl XIX no 8.
Bu'Lock 1972: 67, pl 14.

21: CHE/RP2 CHE/CRS (gaz 4.9, plate 3)

Copper-alloy ringed pin of the polyhedral-headed type. The pin head has a pattern of five punched dots on two opposed sides. The head has a slight hip at the top of the shank. The ring, which is pennnular, has a series of four double grooves on its surface. It also narrows in thickness where it enters the head. The shank is circular in cross section and retains its original point although there is slight damage to the surface. There is no decoration on the shank.

Length (with ring): 165 mm
Thickness of ring: 3 mm
Width of pin head: 6 mm
Thickness of shank: 4 mm

Context: See gaz 4.10; Cess pit F49, found in association with sherds of Chester ware pottery (CHE/CW/POT 6), dated to the tenth century.

GM (Arch Services, CHE/CRS 1973 (193)

Thacker 1987: fig 42.2
Lloyd-Morgan, in Ward, forthcoming.

22: CHE/RP3 CHE/8FGS (gaz 4.16, plate 3)

Copper-alloy shank from a ringed pin; the ring is missing. The pin is of the polyhedral-headed type. The head is decorated on two sides with a square panel of closely spaced vertical lines, now somewhat worn. The head shows traces of faceting. The ring would have been penannular since the head is not pierced throughout. The shank is circular in cross section and is complete since the original point is present.

Length: 129 mm
Width of head: 8 mm
Thickness of shank: 6 mm

Context: Unstratified

GM (Old Collections 1954 52.S.57)

Thompson 1958: 72, fig 3
Bu'Lock 1972: 67, pl 14.

23: CHE/RP4 CHE/LS (gaz 4.27, plate 3)

Copper-alloy ringed pin of the crutch-headed type. The ring, which is penannular, is decorated with one punched circle-and-dot motif in the centre and is otherwise plain. It is of semi-circular cross section. The crutch-head is square in cross section and decorated with three punched circles on three sides, ie. above back and front. The shank is circular in cross section and is slightly bent. The original point is present; hence the pin is complete.

Length (including ring): 104 mm
External diameter of ring: 11 mm
Internal diameter of ring: 8 mm
Maximum Thickness of shank: 4.3 mm

Context: From a sewer trench; found in association with Chester ware pottery 71:CHE/POT 15 (Thompson 1969: 59).

GM (Old Collections 42.S.61)

Thompson 1962: 59
Bu'Lock 1972: 67, pl 14.

24: CHE/SP1 CHE/NP (gaz 4.30, plate 3)

Copper- alloy pin with spherical head, decorated with raised trisceles decoration. It has three spirals in all. At the point where the shank joins the head there are two plain collars. Beneath these, inlaid on one side in niello is a cross fourchee, and on the opposite side the rune K. The shank expands in width at about 20 mm down from the head and tapers to a point. At the point where the shank expands in width it is slightly bent. The point is intact with no sign of secondary sharpening and hence the pin is in its original condition. The shank is circular in cross section.

Length: 99 mm
Diameter of head: 6 mm
Maximum Thickness of shank: 7.5 mm

Context: Unstratified

GM (Arch. Services, CHE/NP 1964 XI (138)

Lloyd-Morgan, in Ward, forthcoming.

25: CHE/SP2 CHE/PS (gaz 4.37, plate 3)

Copper-alloy pin. It has a triangular globular head decorated with three punched rings on each side. There is a groove representing a collar beneath the head. The shank is plain, and since the original point is present, complete. The thickness of the shank expands and tapers towards the point. The shank is circular in cross section.

Length: 90 mm
Diameter of head: 5 mm
Maximum Thickness of shank: 4.8 mm

Context: Unstratified

GM (Arch. Services, CC 103.1939 Site B)

Newstead & Droop 1939: 39, pl X no 10.
Thacker 1987: 288.

26: CHE/SP3 CHE/HSS (gaz 4.25, plate 4)

Copper-alloy pin head, cuboid and broken from the shank at the point where it joins the head. Cleaning and conservation are needed to determine any decoration. The shank was circular in cross section.

Length: 3.7 mm
Cross section of head: 4x4 mm

Context: Soil build-up dated from the late Anglo-Saxon/Pre-Conquest period through to Late Medieval (P. Carrington, pers comm). Found in association with CHE/HT2.

GM (Arch. Services, CHE/HSS 1981 VI, 362 (1130)

Lloyd-Morgan, in Ward, forthcoming.

27: CHE/SP4 CHE/HSS (gaz 4.25, plate 4)

Copper-alloy pin with faceted, chip-carved head which is basically cuboid with indented faces, which slope upwards. The tip of the shank is lost. The shank is circular in cross section.

Length: 17.6 mm
Diameter of head: 4.5x4.4 mm
Thickness of shank: 3.4 mm

Context: Disturbed soil build-up dated from the Roman to the Late Saxon periods. (P. Carrington, pers comm).

GM (Arch. Services, CHE/HSS, VI, 363, (1247)

Lloyd-Morgan, in Ward, forthcoming.

28: CHE/SP5 CHE/HW (gaz 4.24, plate 4)

Copper-alloy pin with random punched dot decoration on the head. The head is cuboid with triangular indentations on each side.The shank is circular in cross section.

Length: 53 mm
Cross section of head: 5.5x3.6 mm
Thickness of shank: 3.8 mm

Context: Layer dated to the post-medieval period (P. Carrington, pers comm).

GM (Arch. Services, CHE/HW 1980 V 254 (224)

Lloyd-Morgan, in Ward, forthcoming.

29: CHE/SP6 CHE/AMP (gaz 4.2, plate 4)

Incomplete copper-alloy pin with a biconical head, slightly flattened at the edge. The shank expands towards the break.

Length: 71 mm
Diameter of head: 9 mm
Max. thickness of shank: 2.5 mm

Context: Unstratified

GM (Old Collection)

Newstead & Droop 1932:35, pl XI, no 7

30: CHE/SP7 CHE/LBS (gaz 4.28, plate 4)

"A bone pin made from sawn-off and pared-down antler tine. Highly polished and with some of the vesicular core exposed behind the very thin remaining layer of outer bone" (Rutter 1985: 65).

Length: 54 mm
Max. Width: 7.5 mm

Context: Area II, Phase VI, 11th century or later (gaz 4.28, Mason 1985: 63).

GM (Arch. Services, 1975)

Rutter 1985: 63, 65.

31: CHE/CF1 CHE/NP (gaz 4.30, plate 4)

Fragment of antler comb, originally double sided. It is constructed by rivetting the plates through the antler panels. The protruding panels were then cut into teeth; the better preserved panel bears cut marks from this process on both edges. The teeth are of different thickness on each side: the finer side have been broken off at the base. There are thirteen larger teeth; seven on the wider panel and six on the other. The better preserved of the two panels is decorated wth double strand cross hatching giving a diamond lattice pattern. Three iron rivets are preserved and the hole for a fourth is present, coloured with traces of oxidised iron. The remains of the other panel are attached to them.

Length: 46 mm
Width: 38 mm
Thickness: 11 mm
Max. width of teeth: 2.5 mm

Context: Supermarket area; From a robber trench of "Roman" wall on the north side of a stone block floor, dated to the post Roman/early medieval period. (P. Carrington, pers comm).

GM (Arch. Services, CHE/NP 1964,4,(140)

Lloyd-Morgan, in Ward, forthcoming.

32: CHE/CF2 CHE/GFC (gaz 4.20, plate 4)

Fragment of antler comb end plate from a single sided composite comb. There are the remains of a broken hole for a rivet to attach the end plate to the side plates. It has a wide butt with one semi-complete tooth and the remains of four more.

Length: 29 mm
Height: 33 mm
Thickness: 3.1 mm

Context: From garden soil dated to the post-medieval period (P.

Carrington, pers comm)

GM (Arch. Services, CHE/GFC 1976-78 I 58, (468).

Lloyd-Morgan, in Ward 1990: 177.

33: CHE/CF3 CHE/46-50 FGS (gaz 4.17, plate 4)

Comb end plate. It is sub-rectangular with an indented top and a small notch in one corner. It is cracked and decorated on both sides with five circle-and-dot decorative motifs.

Length: 39.7 mm
Width: 34.5 mm
Thickness: 3 mm

Context: Unstratified

GM (Arch Services, CHE/CO-OP1961 IV (7)

Whitwell et al, 1964, 18, fig 13,no 3.
Thacker, 1987, 288.

34: CHE/CF4 CHE/17-19 WGS (gaz 4.41, plate 4)

Antler side panel. Since there are only two rivet holes it is likely that this is half of a comb case rather than a comb itself. It is broken at one end across the rivet hole which displays traces of iron oxide from the rivet. The other end is complete. The panel is D-shaped in cross section and decorated on the convex (outside) face with four sets of vertical incisions, the centre two of which have a transverse gap in the middle.

Length: 127 mm
Maximum width: 13 mm
Maximum thickness: 6.3 mm

Context: Low down in the fill behind a medieval cellar; machine excavated. The context is not significant. (P. Carrington, pers comm).

GM (Arch. Services CHE/17-19 WGS 1985 "Laura Ashley", Hole 2 (2)

Unpublished.

35: CHE/SW 1 CHE/HW (gaz 4.24, plate 5)

Spherical stone spindle whorl with abraded surface and slightly flattened base.

Diameter: 31 mm
Height: 28 mm

Context: Earliest soil layer over Saxon features (interior surface of timber building).

GM (Arch. Services CHE/HW 80 23, V, (321)

Ward, forthcoming.

36: CHE/SW 2 CHE/HW (gaz 4.24, plate 5)
Spherical clay spindle whorl, cracked at one side.

Diameter: 26 mm
Height: 20 mm

Context: As SW/1; earliest soil layer over Saxon features.

GM (Arch. Services CHE/HW 80, 350, V (321)

Ward, forthcoming

37: CHE/SW 3 CHE/HW (gaz 4.24, plate 5)
Conical stone spindle whorl.

Diameter: 25 mm
Height: 22 mm

Context: As SW/1 and SW/2: earliest soil layer over Saxon features.

GM (Arch. Services CHE/HW 80, 356, V (321)

Ward, forthcoming.

38: CHE/IM 1 CHE/LBS 1975 (gaz 4.28, plate 5)
Cuboid stone ingot mould. It has reservoirs on all four large faces which were carved out "bearing striations along their length when the stone was scraped away." (Rutter, 1985, 64). On either side of the longest reservoir there are two parallel grooves. "The petrology of the mould [is] "made from a fragment of Horneblende-biotite-schist probably found in the Glacial Drift and likely to have come from the N W Highlands. The rock is predominantly siliceous, and would not have been unduly affected by heat". It was also analysed for traces of the cast metal by J Bayley, but although it had probably been used, tests proved negative, probably because the object had been too well cleaned before examination.

Length: 85 mm
Max. Cross section: 34 x 35 mm

Context: Area III, Phase V, 11th century (cf gaz 4.28; Mason 1985:63).

GM (Arch. Services, CHE/LBS 1975)

Rutter 1985: 64-66.

39: CHE/ IM 2 CHE/CUS (gaz 4.11, plate 5)
Fragment of a cuboid stone ingot mould. There are three small matrices on one side and a single large martix on the opposite side. The break has occurred at one end of the large matrix. The mould is perforated.

Length: 60 mm
Width: 36 mm
Thickness: 21 mm

Context: Pending further post-excavation analysis

GM (Arch. Services, CHE/CUS 1986)

Strickland 1986.

40: CHE/WH 1 CHE/HSS (gaz 4.25, plate 6)

Cuboid fragment of whetstone of polished black granite. The stone is perforated at the top.

Length: 87 mm
Width: 12 mm
Thickness: 10 mm

Context: Unstratified (from pipe trench under road surface).

GM (Arch. Services, CHE/HSS 81, 1719).

Strickland 1983.

41: CHE/WH 2 CHE/CUS (gaz 4.11, plate 6)

Complete whetstone of polished black granite. It is four-sided and tapers in profile; there is one perforation at the top.

Length 45 mm
Width: 14 mm
Thickness: 8 mm

Context: Pending further post-excavation analysis.

GM (Excavations Section CHE/CUS 86).

Strickland 1986.

42: CHE/Misc 1 CHE/NGB II (gaz 4.32, plate 6)

Fragment of silver ring, square in cross section. One broken end of the ring has clearly been subject to heat since the break is obscured by melting. This would suggest that the break was deliberate.

External diameter: 18.4 mm
Internal diameter: 12.5 mm
Cross section: 2.4x2.3 mm

Context: "Machine excavated medieval ploughsoil" (P. Carrington pers comm).

GM (Excavations Section CHE/NGB II 1974-75 Trench VI, 290, (357).

Thacker 1987: 288.

43: CHE/Misc 2 CHE/WS (stray find, plate 6)

Gold finger ring consisting of two twisted gold wires. The wires widen and the thickness of the ring increases opposite the point where the wires completely coalesce into a short bar of square cross section.

External diameter: 30 x 24.5 mm
Internal diameter: 20 x 16 mm
Maximum thickness: 6.6 mm

Weight: 305.4 grains

Context: Unstratified; Found in a drain in St. Werburgh Street, 1851.

GM (Old Collections).

J. Chester Archaeol Soc. 1852, ii, 203
Thompson Watkins 1886: 206 & pl on p. 18
Thacker 1987: 288

44: CHE/Misc 3 CHE/LBS (gaz 4.28, plate 6)

Lead anchor-shaped object with one arm broken short. Corroded; possibly a weight.

Length: 50 mm
Width: 36 mm

Context: Area II, Phase VI, 11th century or later (gaz 4.28; Mason 1985:63).

GM (Arch. Services, CHE/LBS 74-6)

Rutter 1985: 62.

45: CHE/Misc 4 CHE/AG (gaz 4.1, plate 6)

Iron dagger or seax. Large single edged knife blade with a kicked back and straight edge; the back drops to meet the edge at a long, sharply pointed tip. The short, rectangular tang is set midway between the back and the edge separated by small shoulders. "The MPO found on the tang is horn" (Q. Mould, in litt). In radiograph the blade back can be seen to be pattern welded, three distinct plates appearing like chevrons running in alternate directions and extending along the tang for a distance. The edge has no visible structure in radiograph and appears to be a relatively high carbon cutting edge. The back and edge do not have the usual straight weld line forming a butt or scarf weld but back and edge are joined with a serrated or zig-zag edge with interlocking teeth to key one metal to another. Voids can be seen in radiograph where individual teeth have broken away. The iron is heavily laminated.

Length: 334 mm
blade length: 270 mm
Maximum width: 39 mm
Thickness: 6 mm
Tang width: 8 mm

Context: Beneath layer dated to 10th century by Chester Ware sherd.

GM (Arch. Services, CHE/AG75-8 V/VI, 1368 (2777).

Strickland 1983: 10
Kenyon 1984: 68
Thacker 1987: 287.
Unpublished report to the Grosvenor Museum by Q. Mould held by Archaeological Services. X-ray No 8 MANAM.

46: CHE/Misc 5 CHE/AG (gaz 4.1, plate 7)

Iron long-armed prick spur with D-shaped sectioned arms, one with

an angular pierced terminal (Lond. Mus. Med. Catalogue type C) the other is broken. The decorative fluted point has a single moulding beneath, the actual prick is now missing. The heel is decorated by a series of oblique lines of inlay found to be tin chloride (Q. Mould, in litt), using SEM and the spur showed signs of having been tin plated during cleaning so that the tin chloride is likely to be associated with this, the actual inlay being lost. The other terminal is represented by a small D-shaped/angular frame with oval sectioned arms, the arm on hich the pin rests being wider than the rest of the frame. A fragment of flat sectioned sheet buckle plate of recangular shape articulates with the frame and pin.

Arm length: 140 mm
Terminal width: 18 mm
Terminal length: 27 mm
Prick length: 20 mm
Total width: 64 mm

Context: Soil over Late Saxon features.

GM (Arch. Services, CHE/AG75 IV, 99 (844).

Lloyd-Morgan, in Ward, forthcoming.
Report to the Grosvenor Museum by Q. Mould held by Archaeological Services. (X-ray MANAM 16)

47: CHE/Misc 6 CHE/AG (gaz 4.1, plate 6)

Iron object; a length of rectangular sectioned strip with a small rectangular extension on one side. The strip flattens and expands along its length before constricting to a point, the tip being fractured. It is possibly a broken key with a solid spatulate bit, although the X-ray shows it as possibly a blade.

Incomplete length: 82 mm
Maximum width: 15 mm
Width with extension: 20 mm

Context: Soil over Late Saxon features.

GM (Arch. Services, CHE/AG75-8 V 252 (815).

Lloyd-Morgan, in Ward, forthcoming.
Unpublished; Report by Q. Mould for the Grosvenor Museum held by the Excavations Section. X-ray No.s 1,4 MANAM.

48: CHE/Misc 7 CHE/AG (gaz 4.1, not illustrated)

Iron stem of round section assuming a square section at the lower stem and tapering to a fine pointed tip. The other end is broken. It is likely to be a heckle-tooth.

Length: 102 mm
Maximum Thickness: 3 mm

Context: 10th/11th century soil layer (P. Carrington, pers comm)

GM (Arch Services, CHE/AG75-8, 153, (659).

Ward et al, forthcoming.

Report to the Grosvenor Museum by Q. Mould held by the Excavations section. X-ray No. 4 MANAM.

49: CHE/Misc 8 CHE/AG (gaz 4.1, not illustrated)
Iron: tapering slender square sectioned stem with a pointed tip, broken at one end. Possibly a heckle-tooth.

Length: 75 mm
Maximum Thickness: 4 mm

Context: Mid-seventeenth century deposit on the Roman rampart. (P. Carrington, pers comm)

GM (Arch. Services, CHE/AG75-8 IV,693, (2058).

Unpublished; report to the Grosvenor Museum by Q. Mould held by the Excavations Section.

50: CHE/Misc 9 CHE/LBS (gaz 4.28, plate 7)
Head of horse-shoe nail of 'fiddle-key' shape, with a pentagonal head.

Length: 18 mm
Width: 9 mm

Context: phase IV (tenth century), cf gaz 4.28.

GM (Arch. Services CHE/LBS 74-6 670)

Rutter 1985: 62-3.

51: CHE/Misc 10 CHE/LBS (gaz 4.28, not illustrated)
Tapering iron rod, heavily corroded.

Length: 52 mm
Max. width: 13 mm

Context: phase V (eleventh century)

GM (Arch. Services CHE/LBS 74-6, 657)

Rutter 1985: 32-3.

52: CHE/Misc 11 CHE/LBS (gaz 4.28, not illustrated)
Copper-alloy fragment of a hollow cylindrical object.

Length: 9 mm
Width: 10 mm

Context: phase V, eleventh century

GM (Arch. Services CHE/LBS 74-6, 110)

Rutter 1985:62-3.

53: CHE/Misc 12 CHE/HSS (gaz 4.25, plate 7)
Fragment of brown/black glass linen smoother, broken but preserving a segment of the rounded edge.

Length: 62 mm
Width: 36 mm
Thickness: approx 20-26mm

Context: Medieval occupation layer (P. Carrington, pers comm)

GM (Arch. Services, HW 80, 23, V)

Cool, in Ward, forthcoming.

54: CHE/Misc 13 (Location Unknown, not illustrated)

Round glass linen-smoother "presumed to have been found at Chester".

Dimensions not accurately recorded.

Context: Unknown

Lost

Shetelig 1940: 69-70
repeated in:
Thacker 1987: 287.

55: CHE/Misc 14 CHE/OMH (gaz 4.34, plate 7)

Lead seal matrix of Peter, Bishop of Chester, inscribed: +SIGULLUM PETRI CESTRIENSIS EPISCOPI in a wide border. The robed figure of the bishop sits on a throne in the centre of the field; his upraised arms with outstretched fingers hold a crozier (right) and book (left). The bishop wears a chasuble fastened over an alb at the neck. Peter was consecrated Bishop of Lichfield in 1072, moving to Chester in 1075, d.1085. The seal was argued by J. Cherry (1985:473) as possibly a lead copy of the original silver matrix, made to be buried with the bishop, and so dating to 1085. The back is inscribed with a simple cross.

Height: 78.9 mm
Width: 56.2 mm

Context: From a pit with 13th century pottery: residual.

GM (Arch. Services, CHE/OMH 1967-9, V, (1090)

Cherry 1985.

56: CHE/ATL 1 CHE/AG (gaz 4.1, not illustrated)

87 pieces of antler at various stages of working, found all over the excavation in 28 different contexts. The majority are cylinders, cores, beam sections and tines displaying a sawn edge or paring. There are also rectangular and square plates, suggesting comb manufacture (context 95, 1 antler sheet; context 161, 3 strips; context 418, 1 plate; context 912, 2 plates).

Contexts: Soil over Saxon features

GM (Arch. Services CHE/AG 75-8)

Ward, forthcoming.

57: CHE/POT 1 CHE/AG (gaz 4.1)

558 sherds of Chester Ware; 2 sherds of Stamford Ware. 53.4% of the Chester ware is stratified in Late Saxon contexts; the rest and the Stamford ware is residual.

GM (Arch. Services, CHE/AG 75-8).

Ward, forthcoming.

58: CHE/POT 2 CHE/CE (gaz 4.4)

Broken Chester ware pot with roller stamped decoration on the shoulder, containing silver hoard.

Context: Dated to AD 965 on the basis of the coins it contained.

GM (Old Collections, 1950)

Dunning in Webster: 1953, 31-32
Davey (ed):1977, 12-13
Bu'Lock 1972: 64
Rutter in Mason (Ed): 1985, 53
Thacker 1987: 287.

59: CHE/POT 3 CHE/CITW Northgate St (gaz 4.6)

Single sherd of Chester Ware, 1980.

GM (Arch. Services)

Thacker 1987, 287.

60: CHE/POT 4 CHE/CHS (Crypt Court, gaz 4.7)

20 sherds of Chester ware, representing several vessels.

GM (Arch. Services)

Chesh. Arch Bull iii: 3.
Thacker 1987: 287

61: CHE/POT 5 CHE/CRS (gaz 4.9)

12 sherds of Chester ware, found in 1964.

GM (Arch. Services)

Thompson 1969: 13
Davey (ed) 1977: 14-17
Thacker 1987: 287

62: CHE/POT 6 CHE/CRS (gaz 4.9)

7 sherds of Chester ware found in association with 21:CHE/RP2.

Context: Cess pit F49, fill dated to the later 10th/11th centuries.

GM (Arch. Services)

Davey (ed) 1977: 14-17
Chesh Arch Bull iii, 3.
Thacker 1987: 287.

63: CHE/POT 7 CHE/DS (Drill Hall, gaz 4.14)
One sherd of Chester ware found in 1983.

GM (Arch. Services)

Thacker 1987: 287.

64: CHE/POT 8 CHE/97FS (Queen's Head Hotel, gaz 4.18)
Complete pot, found 1938.

GM (Old Collections)

Newstead 1946: 158-9
Davey (ed) 1977: 16-17, fig 38.2
Thacker 1987: 287.

65: CHE/POT 9 CHE/GS (gaz 4.19)
18 sherds of Chester ware; 1 sherd of Stamford ware, found 1973. 3 sherds of Chester ware from robber trenches on Roman wall.

GM (Arch. Services)

Davey (ed), 1977, 16
Chesh Arch Bull ii, 15
Thacker, 1987, 287

66: CHE/POT 10 CHE/GFC (gaz 4.20)
1 jar rim of Chester ware.

Context: Residual

GM (Arch. Services)

Rutter 1990: 150.

67: CHE/POT 11 CHE/GRS (gaz 4.21)
Single body sherd, found in 1985 in a cable trench.

GM (Arch. Services)

J. Rutter, pers comm.

68: CHE/POT 12 CHE/HP (gaz 4.22)
27 sherds of Chester ware from blackened cooking pots, found 1971.

GM (Arch. Services)

Ward, forthcoming.

69: CHE/POT 13 CHE/HW (gaz 4.24)
93 sherds of Chester ware.

Context: 7 sherds from the timber building, 32 others in residual contexts; the rest unstratified.

GM (Arch. Services)

Ward, forthcoming.

70: CHE/POT 14 CHE/HSS (gaz 4.25)
97 sherds of Chester ware, 1 complete pot.

Context: the "dark earth" deposit, the complete pot was found in pit p101, trench XIII.

GM (Arch. Services)

Ward, forthcoming.

71: CHE/POT 15 CHE/LS (gaz 4.27)
Four rim sherds of Chester ware found in 1961 in association with CHE/P4.

Context: Sewer trench.

GM (Old Collections)

Thompson 1969, 59
Medieval Archaeol 7, 306.

72: CHE/POT 16 CHE/LBS (gaz 4.28)
156 sherds of Chester ware; 23 sherds shelly vesicular ware; 4 sherds gritty ware; 1 sherd Chester-type ware and 2 sherds of Frankish red burnished ware.

GM (Arch. Services, LBS 74-6).

Rutter 1985, 40-61

73: CHE/POT 17 CHE/NS (gaz 4.31)
Single sherd of Chester ware found in 1957 "against north wall of Roman interval tower" Another single sherd found adjacently in 1974.

GM (Old Collections).

Thompson 1962a: 8
Davey (ed) 1977: 16

74: CHE/POT 18 CHE/OMH (gaz 4.34)
Several sherds, found 1967-70.

GM (Old Collections).

Petch 1971: 11.

75: CHE/POT 19 CHE/OPY (gaz 4.35)
2 rim sherds of Chester ware, found 1976.

GM (Arch. Services)

Chesh Arch Bull, V, 33
Ward, forthcoming.

76: CHE/POT 20 CHE/12WGS (gaz 4.40)
Single rim sherd of Chester ware, found in 1985.

GM (Arch. Services)

Thacker 1987, 288
Rutter, in Ward 1988: 28.

77: CHE/POT 21 CHE/WS (gaz 4.44)
Single sherd of Chester ware, found in 1956.

GM (Old Collections).

Thompson 1959: 72
Thacker 1987: 288.

Meols (gaz 5.12)

78: M/BL 1 (plate 8)
Brass buckle, consisting of a semi-circular ring, of elliptical cross section in the form of the joined bodies of two animals biting a thin bar, to which the pin is attached. The heads of the animals are formalised; the eyes are represented by depressions at he point where the snouts join the heads. The heads have three transverse ridges above the snout, and further away from the heads is a transverse groove on each side. The width of the loop increases at the centre where the pin rests on it in the closed position. There is a shallow triangular depression in the surface of the loop to prevent the pin moving. The pin itself is a brass rod of rectangular cross section, tapering to a point. It is bent around the bar of the brooch to form an almost complete loop. Despite corrosion (giving rise to the "Meols Patina"), the pin is still mobile.

Horizontal diameter: 32 mm
Length of pin: 23 mm

Context: not recorded

GM (Mrs Longueville Collection 367.S.1913).

Hume 1963: pl VIII, 3
Bu'Lock 1960: 22, fig 7a and 23, pl. 7.

79: M/BL 2 (plate 8)
Copper-alloy buckle consisting of a loop with a stylised animal head at either end biting a thin bar. The loop, composed of the body of the animal is of regular circular cross section. At the centre of the loop heads are considerably is a small depression to stop the pin from moving when in the closed position. The heads are considerably formalised; the body tapers to a point with an upstanding ridge on the outside of the loop representing ears. The bar is not of regular cross section and expands in thickness in the centre. At the points where it joins the snouts of the animals there is a small projecting bar or lappet extending beyond the snout and turned slightly downwards.

Length: 15.5 mm
Width: 119 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 22 fig 7d, 23, pl 7b.

80: M/BL 3 (plate 8)

Zoomorphic copper-alloy buckle without pin. In this case the heads are easily distinguishable as such; there are distinct ears formed by ridges and a series of ridges and incisions in the end of the snouts representing mouths. The bar is plain and of circular cross section. The loop is of irregular cross section; it is circular except on the inside of the ring where it has been flattened. There is a small depression in the centre of the loop to prevent the pin moving when in the closed position.

Length: 16.5 mm
Width: 17 mm

Context: not recorded

GM (Potter Collection)

81: M/BL 4 (plate 8)

Cast copper-alloy buckle with decoration in relief. The form is triangular consisting of a loop and a plain bar. The loop consists of the bodies of two animals or birds. The necks form the sides of the loop and the heads bite the plain bar. The heads have a definite forehead and snout. In the end of the snouts, just above the join with the plain bar are incisions representing mouths. The eyes are clear, double-bordered circular features. The necks of the two beasts widen away from the heads. On the necks is cast decoration in the form of fronds which extend towards the apex of the triangular buckle, terminating in sharply reversed hooks. There are two on each side. The apex of the buckle is decorated, on the inside of the ring by a simple pattern of vertical lines, and on the outside of the ring by a small bulbous extension decorated by a wide, single bordered chevron. This small extension with the ends of fronds on either side resembles a fleur-de-lys motif. The back is plain.

Length: 25 mm
Width: 25.5 mm

Context: not recorded

NMGM (M5689)

Hume 1863: pl VIII, 5
Bu'Lock 1960: 22, fig 7b (described as lost)
Chitty and Warhurst 1977: 26, 18.
Bu'Lock 1960: 21, fig 7c, 24, pl 7c
Philpott 1990:53.

82: M/BL 5 (plate 8)

Fragment of zoomorphic copper-alloy buckle loop. The swivel is missing; the point consists of a snout with two pierced nostrils or eyes. The tapering arms of the loop are joined to the snout at bosses.

Diameter: 18 mm
Max. thickness of loop: 5 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 22, fig 7g,

83: M/BL 6 (plate 8)

Triangular strip of unknown metal with two hinge loops on the short side. The rest of the piece comprised a panel which expanded slightly at around half way along its length and was pierced near the apex and in the centre of what appears to have been a punched circle of dots. There were two more circular motifs, each double bordered and with a central boss. The circles were filled with radiating single lines. The panel between the two smaller circles and the larger one was filled with a line of double bordered chevrons at either end with a line of three double bordered circles in the middle. These designs were bounded by strings of punched dots.

Length: 36 mm
Max. Width: 15 mm

Context: not recorded

Formerly Liverpool Museum 5696M, destroyed in air-raid damage in 1941

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: pl VII, no 12
reproduced in
Bu'Lock 1960: 11 fig 41
Bu'Lock 1972: 42 fig 91
Thacker 1987: 284, fig 42.

84: M/BL 7 (plate 8)

Round copper-alloy buckle. The pin, a thin bronze rod of circular cross section is attached to a thin bar; the rest of the loop comprises a slightly thicker moulded ring. At the place where the pin rests on the loop there is a triple moulding; lugs project from the outside of the loop and there is a recess for the pin. The cross section of the loop is irregular; the surface of the inside of the loop is flattened.

Diameter: 19.5 x 18 mm.

Context: not recorded

NMGM (CS23)

Chitty & Warhurst 1977: 28, 31a

85: M/BL 8 (plate 8)

Round copper-alloy buckle. The pin, a thin bronze rod of circular section, is attached to a thin bar by being bent around it to form an almost complete loop. The rest of the buckle is a slightly thicker moulded ring. At the point where the pin rests on the loop of the buckle there is a triple moulding; lugs project from the outside of the loop and there is a recess for the pin. The cross section of the loop is irregular; the surface of the inside of the loop is flattened.

Very similar to M/ BL 6.

Diameter 21 x 19.5 mm.

Context: not recorded

NMGM

Hume 1863, pl VIII, 10.
Chitty & Warhurst 1977, 28, 31.

86: M/BL 9 (plate 8)

Cast copper- alloy buckle with trapezoidal plate attached. The buckle is a moulded ring. At the point where the, now vanished, pin would have rested on the loop there is a series of three indentations into the surface. On either side of this position there are two very small lugs projecting from the outside of the ring. These probably represent formalised animal heads of the type found on other buckles from Meols (M/ BL 6, M/ BL 7). The loop of the buckle tapers and terminates in reversed hook where it joins the thin bar to which the plate is attached. The plate is a plain flat sheet of bronze with a simple single strand border. It narrows in width sharply at the point where one end is bent around the bar of the buckle ring. There are attachment holes in the plate. The back of the plate is plain.

Length: 50.5 mm
Max. width of plate: 13.5 mm
Diameter of loop: 20 x 14 mm

Context: not recorded

NMGM

Chitty & Warhurst 1977: 28, 32.

87: M/MT 1 (plate 8)

Rectangular copper-alloy mount with upturned edges on three sides. It is decorated with a central single- bordered sunken panel, also rectangular, decorated with interlace and a single bordered panel of interlace around the edge. At one end the border of the sunken panel is slightly indented; at this point there are two original holes (since they are incorporated into the design) between which is a triquetra motif. Set into the triquetra is a secondary hole (since it interrupts the design). At the other end there is one original hole incorporated into the design and two secondary holes, one on either side.The central panel is filled with elaborate double strand interlace, consisting of a vertical series of three loops. The interlace in the panel around the edge of the mount has three strands which cross each other in turn; it is also interrupted in two places (one on each side) by elliptical-shaped blank areas. The back is plain.

Length: 33.5 mm
Width: 19.5 mm
Thickness: 5.5 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 11, fig 4k
reproduced in:
Bu'Lock 1972: 43, fig 9k
Thacker 1987: 284, fig 42.

88: M/ MT 2 (plate 8)

Copper-alloy plate, roughly square with pronounced shoulders and an upward extension. The lower edge is bent backwards slightly with two incomplete holes. There is a complete hole in the upward extension. The upward extension has three lobes and resembles the trefoil or fleur-de-lys motif. There is incised decoration on one side of the plate. A single bordered enclosure delineates a field in which there is a disjointed square. Superimposed on the square design are four single bordered curved strands cutting the corners off. At the centre is an animal representation; an elliptical head with an eye, open mouth and lip lappet forms the centre of the design. Beneath the head is a stylised body or coiled neck. The animal design is surrounded by four fronds terminating in a sharply reversed hook. The back is plain.

Length: 56.5 mm
Width: 43 mm
Thickness: 1.2 mm

Context: not recorded

Bu'Lock 1960: 18, fig 6a
reproduced in:
Bu'Lock 1972:
Kenyon 1984: 93.

89: M/MT 3 (plate 8)

Fragmentary copper-alloy mount of zoomorphic form. It is apparently broken across four attachment holes, and tapers to a snout at the terminal. The piece is decorated with three lines of punched circle-and-dot motifs.

Width: 19 mm
Height: 17 mm

Context: not recorded

GM (Potter Collection 29.12.87)

Unpublished.

90: M/MT 4 (plate 8)

Quatrefoil openwork mount, described as lead, which may also be a strap terminal. It consisted of a cast diagonal cross in relief with lobed terminals, pierced in the spandrels. There were six attachment holes.

Length: 18 mm
Width: 14 mm

Context: not recorded

Formerly Liverpool Museum 5764M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863, 131, pl XII, 23
reproduced in:
Bu'Lock 1960, 11, fig 4g
Bu'Lock 1972, 43, fig 9g.

91: M/MT 5 (plate 8)

Round mount of unknown metal. The mount was decorated in relief with a zoomorphic form, with a reversed head biting a tail lappet. The rest of the decoration is difficult to determine in Hume's drawing (1863, 150, pl XIII, 13). The mount had three extant attachment holes in lugs, and originally probably had five.

Diameter: 23 mm

Context: not recorded

Lost

The above information is taken from:
Hume 1863, 150, pl XIII, 13
reproduced in:
Bu'Lock 1960:18, fig 6b.

92: M/ B1 (plate 9)

Iron bell with rectangular section. It has rounded shoulders and a simple bar shaped handle above. It is badly squashed and considerably corroded, especially on the inside. There is no apparent trace of a clapper but the remains of one may be obscured by corrosion inside.

Height:	105 mm
Cross section at top:	45 x 15 mm
Width at base:	60.3 mm
Length of handle:	31 mm

Context: not recorded

GM (Potter Collection)

Potter 1891: 239, plA fig 11.

93: M/ B2 (plate 9)

Copper-alloy bell, pyramidal in form and six-sided. The lower edges of the bell are indented on each side. The surface of the bell is plain, both inside and outside, although the surface of the inside of the bell is coated with marine corrosion. At the apex of the pyramid there is a suspension loop consisting of a complete circular hole in a square extension to the apex of the bell. The clapper is missing. The whole piece displays the smoothness and wear characteristic of the Meols Patina.

Maximum diameter at mouth:	24 mm
Thickness:	1.8 mm

Context: not recorded

GM (Potter Collection 1.S.1978)

Ecroyd Smith 1875: 96
Bu'Lock 1960: 14, fig 4m
reproduced in:
Bu'Lock 1972: 43, fig 9m
Thacker 1987: 284, fig, 42.

94: M/ BH1 (plate 9)

Annular brooch consisting of a thin copper alloy sheet with a pin formed of a copper alloy rod bent around the loop. The loop is decorated with lines formed by strings of punched dots, arranged as a series of six elliptical motifs, all joined, around the surface of the loop. At the point where the pin is bent around the loop, there is a small notch to prevent the pin from moving around the loop. The pin itself is plain with a blunt end; it is likely that the sharpened point has been lost. The design is worn and displays the Meols Patina.

Diameter: 27 mm
Thickness: 2.5mm

Context: not recorded

NMGM (M5821)

Chitty & Warhurst, 1977, 25,26, fig 16.

95: M/BH 2 (plate 9)

Annular brooch with missing pin. It consists of a loop formed by a thin copper-alloy sheet, circular in shape. The loop is decorated one one side with two concentric rings of punched dots. The back is plain.

Diameter: 23 mm
Thickness: 2 mm

Context: not recorded

NMGM (M5823)

Chitty & Warhurst 1977: 25, 26, fig 15.

96: M/ BH3 (plate 9)

Annular brooch consisting of a copper alloy loop, convex in cross section and a pin bent around a narrowed section of the loop. The loop is decorated with transverse grooves closely spaced all around the circumference. The pin is plain. The back of the loop is also plain.

External Diameter: 27 mm
Internal Diameter: 21 mm
Thickness: 4.8 mm

Context: not recorded

NMGM (M5829)

Chitty & Warhust 1977: 25, 26, fig 17.

97: M/ D 1 (plate 9)

Lead disc, circular in shape with a hole caused by corrosion in the centre of the interlace. The interlace consists of two pairs of intersecting ellipses, each double bordered which as a whole represents a cruciform motif. There is a plain border around the edge of the disc and the space between the border and the cruciform motif is filled with inward-facing grooves. The insterstices of the design are plain. The whole design is moulded. The back is plain.

Diameter: 18 - 19 mm
Thickness: 4 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 13, fig 4h, pl 4
reproduced in:
Bu'Lock 1972: 43, fig 9h.
Thacker 1987: 284, fig 42.

98: M/ D 2 (plate 9)

Lead-alloy disc with moulded decoration, considerably corroded. It was originally circular but the edges have been worn away around most of the circumference. The edge is bordered with a series of transverse ridges outside a more pronounced circular ridge. Inside the area created by the circular ridge there are four lentoid bosses arranged in the form of cross-arms with a circular boss in the centre. The spaces between the bosses are filled with worn moulded cross hatching. The back is plain.

Diameter: c.19.5 mm
Thickness: 4 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 13, fig 4i
reproduced in:
Bu'Lock 1972: 43, fig 9i
Thacker 1987: 284, fig 42

99: M/ D 3 (plate 9)

Lead- alloy disc with raised moulded decoration on both sides. It is circular with approx 60 degrees of the circumference worn down to a straight edge.

SIDE A:

Four triangular motifs with their short sides on the edge of the disc point to the centre to give a stylised cross with expanding arms motif. The triangular areas are single bordered and filled with cross hatching which has been obscured by surface wear. The insterstices are plain.

SIDE B:
There are two opposed quadrants, single bordered and filled with cross hatching similar to side A. The edge of the disc is delineated by a series of raised dots or knobs.

Diameter: 20 mm
Thickness: 2 mm

Context: not recorded

GM (Potter Collection)

Unpublished

100: M/ D 4 (plate 9)
From Bu'Lock's drawing (1960, 11, fig 4j) it appears that this disc is similar to the three above. It has a double bordered edge and a central boss. The space between the boss and the border is filled with radiating lines or ridges giving a wheel-like motif. The other side is not mentioned. Bu'Lock states that the metal is bronze.

Diameter (from Drawing): approx 17 mm

Context: not recorded

Lost

Bu'Lock 1960: 11 fig 4j
reproduced in:
Bu'Lock 1972: 43 fig 9j.
Thacker 1987: 284, fig 42

101: M/ST 1 (plate 9)
Copper-alloy openwork strap terminal, roughly rectangular in shape. The design is foliate, four pairs of bifurcating fronds extend from a central stem. All curve sharply in on themselves; the pair at the end of the tag inwards, the next pair outwards, the next inwards and the pair nearest to the attachment to the strap outwards. The pair at the end of the tag are possibly a stylised representation of birds, c.f. CHE/ST 1. All of the fronds terminate in a sharply reversed hook. The foliate design is based on a bar, under which is a plain panel with three parallel rivet holes, each with the corroded remains of a rivet. This panel is set approx 0.5 mm below the surface of the decoration in order to lie beneath the end of the strap fabric. The back is similar except in that the surface of the decoration is flat rather than in relief.

Length: 47 mm
Width : 24.5 mm
Thickness: 2.5mm

Context: not recorded

GM (Potter Collection).

Bu'Lock 1960: 13, fig 4f
reproduced in:
Bu'Lock 1972: 43, fig 9f

Thacker 1987: fig 42,4.

102: M/ST 2 (plate 9)

Iron openwork strap terminal, considerably corroded. It is rectangular and flat with a slight lip at one end. There are four holes of approximately the same size (4-6 mm) and the remains of two others all in parallel. This must be tentative in advance of X-ray analysis and adequate conservation.

Length: 52.7 mm
Width: c.38 mm
Thickness: 2-4 mm

Context: not recorded

GM (Potter Collection).

Possibly Hume 1863: pl XI, 11.
Kenyon 1984: 91.

103: M/ST 3 (plate 9)

Rectangular copper-alloy strap terminal decorated with engraved interlace. It has been broken at one end and subsequently worn, presumably by exposure to the sea which gives it the smoothness and superficial corrosion characteristic of the "Meols Patina". The corroded remains of a rivet are set within a hole in a plain square panel, set slightly below the surface upon which the decoration is carved.

SIDE A:

The interlace is set within a double-bordered panel, open at the end where it joins the plain panel with the rivet hole. Two single-bordered strands sharply double back on themselves. strands The interlace is bungled at certain points where a strand passing under another does not emerge at the same point; the borders of the strands are occasionally duplicated, giving the impression of double bordering. There is no evidence of drilling, although the strands do always cross each other at 90 degrees, suggesting a rudimentary grid as the origin of the design.

SIDE B:

An interlaced design is set within a double-bordered panel, open at the rivet end.The design is similar to side A although the interlace is less regular and the strands have a more angular and less flowing appearance. There is less occasional and seemingly accidental double-bordering in the interlace.

Length: 39.5 mm
Width: 14 mm
Thickness: c.2mm

Context: not recorded

GM (Potter Collection)

Side A: Unpublished
Side B: Hume 1863: pl IX, 2
Bu'Lock 1960: 11, fig 4e.

reproduced in:
Bu'Lock 1972: 43, fig 9e.

104: M/ST 4 (plate 10)

Copper-alloy strap terminal decorated with punched circle-and-dot design; there are ten motifs in all set in no apparent pattern. It is constructed of a thin metal sheet bent back upon itself to form a double-thickness piece. The butt is split and the remains of two attachment holes are evident at the point of the split.There is superficial corrosion on the surface of the strap terminal and a worn smoothness indicative of the "Meols Patina". the back is plain.

Length: 31 mm
Max. width: 13.3 mm

Context: not recorded

GM (Potter Collection).

Bu'Lock 1960: 6, fig 2f
reproduced in:
Bu'Lock 1972: 20, fig 3f.

105: M/ST 5 (plate 10)

Copper-alloy strap terminal. It is not silver, as suggested by Bu'Lock (1960, fig 4d). The strap terminal is very worn, but there are traces of decoration still present. The piece is roughly triangular, with two holes for attachment to the strap in the short side. These are no longer complete. The other end of the triangle where it narrows to a sharp point is moulded to form a stylised animal head by means of a series of indentations along each side and two small upstanding curved ridges representing ears. Mid-way along the body of the strap terminal is a panel of faded decoration where a design consisting of two intersecting lines and a dot was possibly representative of an animal. There are three more lines forming a kite shape between the attachment holes. The back is plain.

Length: 30 mm
Max width: 7.6 mm

Context: not recorded

GM (Potter Collection).

Bu'Lock 1960: 11, fig 4d
reproduced in:
Bu'Lock 1972: 43, fig 9d.
Thacker 1987: 284, fig 42,4.

106: M/ST 6 (plate 10)

Sub-rectangular strap terminal of unknown metal with stylised zoomorphic end and a panel of decoration. There were two attachment holes. The zoomorphic design consisted of a pair of circle and dot motifs representing eyes, an incised curve to the edge on both sides and a chevron in the centre of the field bounded by the curves. The panel of decoration was divided into three fields, one of which had a trefoil motif, and the other had two simple zoomorphic representations, apparently of the Trewhiddle style.

Length: 34 mm
Max. width: 10 mm

Context: not recorded

Formerly Liverpool Museum 5775M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: 125, pl XI, no 15
reproduced in:
Bu'Lock 1960: 11 fig 4a
Bu'Lock 1972: 43, fig 9a.

107: M/ ST 7 (plate 10)

Zoomorphic strap terminal of unknown metal. It was triangular in shape, terminating in a snout and apparently decorated with four elongated fields.

Length: 40mm
Max. Width: 11mm

Context: not recorded

Formerly Liverpool Museum 5772M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: 125, pl XI, 10.

108: M/ ST 8 (plate 10)

Strap terminal of unknown metal, of trapezoidal shape. At the widest end there were two attachment holes; the end of the terminal had rounded edges and two grooves, cf M/HT1. There were two plain panels below the attachment holes. The other end of the terminal had a stylised zoomorphic character, with two eyes and a snout, backed by a series of transverse ridges.

Length: 55 mm
Max. width: 11 mm

Context: not recorded

Formerly Liverpool Museum 5769M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: 125, pl XI, no 5
reproduced in:
Bu'Lock 1960: 11, fig 4b
Bu'Lock 1972: 43, fig 9b.

109: M/ ST 9 (plate 10)

Sub-rectangular strap terminal of unknown metal. At one end was a square plate with three rivet holes, at the other a stylised animal head with two eyes. Swept back from the eyes were two grooves resembling ears. Extending from between the eyes to the tip of the piece, a ridge seems to have represented a nose. The rest of the

strap terminal appears to have been convex in cross section, with a flat ridge along the top and plain.

Length: 51.5 mm
Max. width: 7.5 mm

Context: not recorded

Formerly Liverpool Museum 5767M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: 125, pl XI, no 1
reproduced in:
Bu'Lock 1960: 11, fig 4c
Bu'Lock 1972: 43, fig 9c.

110: M/ HT 1 (plate 10)

Copper-alloy hooked tag, comprising a triangular plate with two decorative incisions on its shortest side, the longer sides terminating in an integral upturned hook. There are two circular attachment holes. One side only (the side towards which the hook turns) is decorated with punched circle-and-dot motifs in an apparently random pattern, sixteen motifs in all. Four incised lines forming two strands cross at the centre of the short side of the triangle, emphasising the decorative incisions at the edge. The "Meols Patina" of superficial corrosion due to exposure to the sea is present. This item has been recently rediscovered in the Museum Collection, having been published by J.D. Bu'Lock (1960) as lost.

Length: 40 mm
Max. width: 16 mm

Context: not recorded

GM (Mrs Longueville Collection 358.S.1913)

Hume 1863: pl IX, 20
Bu'Lock 1960: 4, fig 2g.
Griffiths 1988: 39-40.

111: M/ HT 2 (plate 10)

Copper-alloy hooked tag consisting of a triangular plate upon which the worn remains of tracer-punched decoration are visible. The decoration on the plate seems to have been two fields separated by a plain axial line; the plate is bordered with a punched line. The two attachment holes are surrounded by similar. The integral hook turns away from the decorated side of the plate. The back is plain.

Length: 17 mm
Max. width: 11.5 mm

Context: Not recorded

GM (Potter Collection)

Griffiths 1988:40.

112: M/ HT 3 (plate 10)

Copper-alloy hooked tag in an advanced state of decay. It comprises a triangular plate pierced by two attachment holes which have been opened up by damage. The hook is missing. There is no obvious decoration.

Length: 17.2mm
Max. width: 9.4mm

Context: not recorded

GM (Potter Collection).

Griffiths 1988:40

113: M/ HT 4 (plate 10)

Copper-alloy hooked tag consisting of an elliptical plate with an extension which terminates in a hook. There are two attachment holes, one of which is in the centre of the design on the plate, the other of which interrupts the design and may be a secondary feature. On the edge of the plate are the remains of two projecting lugs, which formerly represented two further attachment holes. The plate is bordered by a single strand and divided into three fields by three single strands radiating from the central hole. Each panel is filled with indistinguishable interlace, consisting of concentric lines with some flourishes. The decoration is extremely worn; the back is plain.

Length: 35mm
Max. width: 18.5mm

Context: not recorded

GM (Potter Collection)

Griffiths 1988: 41.

114: M/ HT5 (plate 10)

Copper-alloy hooked tag consisting of an elliptical plate with an extension terminating in a hook. There are two attachment holes. There is no obvious trace of decoration and the whole piece is badly affected by the superficial corrosion and worn smoothness characteristic of the "Meols Patina".

Length: 17.2 mm
Max. width: 9.4 mm

Context: not recorded

GM (Potter Collection)

Griffiths 1988: 41.

115: M/ HT6 (plate 10)

Copper-alloy hooked tag, comprising a circular plate with an extension terminating in a hook, whose tip is missing. The plate is decorated with seven concentric circular ridges. There appears to be a wide border around the the circular motif which has now mostly been eroded. The plate is pierced by three holes. The central hole is

intergral to the design since it does not interrupt the pattern of ridges and has its own plain border. The other two holes are in tandem and do interrupt the design and are hence likely to be secondary. The back is plain.

Length: 19 mm
Max width: 11.8 mm

Context: not recorded

GM (Potter Collection)

Griffiths 1988: 43.

116: M/ HT 7 (plate 10)

Copper-alloy hooked tag comprising a roughly circular plate with an extension terminating in a hook. The plate is is decorated with six concentric circular ridges. The decoration appears complete. There is a wide plain border around the decoration. It is possible that this border was meant to be removed after casting leaving the decorated part of the plate as the compeleted object. The plate is pierced by three attachment holes, of which only the central one is integral to the design and has its own plain border. The other holes, as in M/ HT 6, are likely to be secondary since they interrupt the design. The back is plain.

Length: 19.4 mm
Width: 12.3 mm

Context: not recorded.

GM (Potter Collection)

Griffiths 1988: 42.

117: M/ HT 8 (plate 10)

Lead-alloy or pewter hooked tag with inlaid decoration. It comprises a circular plate with an extension for a hook. The hook is now missing. The circular plate has two projecting lugs, one of which is damaged, each pierced attachment holes. The decoration is set within a circular panel, within a plain border around the edge of the plaque. The border is edged by a groove, in part of which is inlaid with niello. The motif within the panel has been damaged but is apparently a swastika, although there are two additional vertical lines whose purpose is unclear. The extension for the hook has a simple base on the circumference of the panel and is devoid of decoration. The back is plain.

Length: 17.2 mm
Max. width: 11.7 mm

Context: not recorded

GM (Potter Collection).

Griffiths 1988: 41.

118: M/ DP 1 (plate 10)

Silver disc-headed pin with central boss. The shank is broken and has a circular cross section. It is differentiated from the pin head by a collar comprising on e ridge of silver. The disc is decorated on one side with silver wire applique in the form of interlace. At the neck of the disc there is a punched circle and dot motif and the interlace consists of straight horizontal lines with looped vertical lines. There is a single border around the circumference of the decorated face of the disc. The back of the disc head is plain. There is some corrosion evident and the piece diplays the Meols Patina.

Length: 26 mm
Diameter of disc head: 19 mm
Thickness of disc head: 2 mm

Context: not recorded

GM (Potter Collection)

Kenyon 1984: 74
Bu'Lock 1960: 8, fig 3c
reproduced in:
Bu'Lock 1972: 42, fig 8c.

119: M/ DP 2 (plate 10)

Iron disc-headed pin or stylus. The plate or pin head is elliptical and the handle or shank expands before tapering to a point. The piece is complete since the point is intact and there is no evidence that the point is a secondary one. The head is differentiated from the shank by a double baluster moulding; there is a similar double baluster moulding mid-way along the shank. The shank is of circular cross section and there is no surface decoration.

Length: 77.5 mm
Diameter of head: 14.8 mm
Max. thickness of shank: 5.1 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 10, fig 3f
reproduced in:
Bu'Lock 1972: 42, fig 8f
(In Bu'Lock's drawing the baluster mouldings are incorrectly interpreted as single rather than double)

120: M/ DP 3 (plate 10)

Copper-alloy disc headed pin. The head is circular and pierced once, off centre at the top bordering the circumference. There is no differentiation between the head and the shank. The shank is complete, tapering to a point, and is of circular cross section.

Length: 89 mm
Diameter of head: 15.5 mm
Thickness of shank next to head: 4.5 mm

Context: not recorded

NMGM (M5671)

Hume 1863: 75, fig 5, no. 11
Chitty & Warhurst 1977: 24, 26, no.9
Bu'Lock 1960: 8, fig 3e
reproduced in:
Bu'Lock 1972: 42, fig 8e.

121: M/DP 4 (plate 10)

Disc-headed pin of unknown metal. The shank was differentiated from the head by a collar. The head, of which only a small fragment was illustrated, appears to have been decorated with an expanded-armed cross.

Length: 49 mm
Max. thickness of shank: 3mm

Context: not recorded

Lost

Hume 1863: 234, pl XXIII, 6
reproduced in Bu'Lock 1960: 8, fig 3d.

122: M/RP 1 (plate 11)

Spiral ring from a ringed-pin. The ends of the ring were decorated with horizontal hatching.

Diameter: 25 mm
Thickness: 3 mm

Context: not recorded

Lost

Bu'Lock 1960: 16, fig 5a.
reproduced in Bu'Lock 1972: 68, fig 12a.

123: M/RP 2 (plate 11)

Copper-alloy ringed pin of the loop-headed type. The shank is broken and flattened for approx 37mm from the end. For the remainder of the shank up to the loop the cross section is circular. There is no decoration apparent on the shank from either the Museum Record photograph or the one published drawing (Chitty & Warhurst, 1977, 26, fig 13), except a band of cross hatching which extends approximately 7mm from the loop. From the above sources the loop appears have decoration in the form of cross hatching. The loop is bent around the ring to form a closed hook. The ring itself is of lozenge cross section and is decorated with three groups of grooves.

Length of shank: c.127 mm
Width of shank: c. 3 mm
Thickness of ring: c. 4 mm
External diameter of ring: c. 21mm

Context: not recorded

Missing believed stolen, formerly of NMGM (CS18)

Chitty & Warhurst 1977: 25, 26, fig 13.

124: M/RP 3 (plate 11)

Copper-alloy shank of a plain ringed pin. The pin head is pierced throughout. The ring is completely absent. The shank is plain and circular in cross section. The Museum in which it is housed has not labelled it specifically as a Meols find, but the character of the smooth worn patina is so strongly remniscent of the Meols patina that there can be very little doubt that this is indeed a Meols piece.

Length:	92.5 mm
Maximum thickness of shank:	4.5 mm
Thickness of head:	4 mm

Context: not recorded

GM (Old Collection 172.S.1976)

Unpublished.

125: M/RP 4 (plate 11)

Copper- alloy ringed pin of the loop-headed type. The shank is of rectilinear cross section and varies considerably in width. The shank does not narrow gradually to a point as it does in other ringed pins from Meols (e.g. M/RP6); the point is very short and sharpened from what could be a break. At approx 70 mm from the loop the shank expands to a width of 6mm and then narrows slightly (at this point the shank has a more elliptical cross section) before expanding again with a rectilinear cross section to include a panel of decoration on one side. This is trapezoidal in shape and bordered by a single upstanding ridge. Within the panel there are traces of decoration in the form of cross hatching, with four extremely small bosses just below the top of the pin head. Above the panel the shank is bordered on each side with a small raised ridge.The decoration in the panel is somewhat worn, and the whole piece displays the Meols Patina. The back of the shank is devoid of decoration. The ring is penannular with a gap of approximately 3mm. The ring tapers slightly towards the break and is of elliptical cross section. It is decorated with five groups of grooves, four with fifteen to twenty grooves and one next to the break with three grooves.

Length:	135 mm
External diameter of ring:	41 mm
Thickness of ring:	3 mm
Max. width of shank at pin head:	7.7 mm

Context: not recorded

GM (Potter Collection 174.S.1976)

Bu'Lock 1960: 16, fig 51, 17, pl 5
reproduced in:
Bu'Lock 1972: 68, fig 121
Thacker 1987: 284, fig 42.

126: M/RP 5 (plate 11)

Copper-alloy ringed pin of the loop-headed type. The ring is lozenge shaped in cross section and is attached to the shank through a complete loop. The outside of the loop is decorated with four vertical ridges and the loop expands slightly from the shank. The shank is plain and the surface is worn and smooth with very slight pitting; an example of the Meols Patina. The shank is circular in cross section and devoid of decoration. At 75mm along its length from the pin head it is half cut away and flattened, giving it a semi-circular cross section. The shaft also appears to be broken since the point is missing. The whole is of remarkably thick and heavy construction compared to the other ringed pins from Meols.

Length: 91 mm
External diameter of ring: 28 mm
Thickness of ring: 3.3 mm
Thickness of shank: 5 mm

Context: not recorded

GM (Potter Collection 170.S.1976)

This pin could be: Bu'Lock, 1960, 16, fig 5i (reproduced in Bu'Lock, 1972, 68, fig 12i). In each case the drawing appears without discussion. The resemblance between this pin and the above drawing is not conclusive.

127: M/RP 6 (plate 11)

Copper-alloy ringed pin of the loop- headed type. This pin is complete and of very simple design; there is no decoration. The shank consists of a plain pin of circular cross section tapering to a point. Towards the pin head the pin expands in width and flattens out to a rectangular cross section, forming a rectangular plate. This plate is bent double to form the attachment for the plain, circular, penannular ring. The ring is of semi-circular cross section.

Length: 82 mm
External diameter of ring: 12 mm
Thickness of shank: 2 mm
Thickness of loop: 2.7 mm
Thickness of ring: 2 mm

Context: not recorded

GM (Potter Collection 173.S.1976)

Bu'Lock 1960: 16, fig 5d
reproduced in:
Bu'Lock 1972: 68, fig 12d.

128: M/RP 7 (plate 12)

Complete copper-alloy ringed pin of the baluster-headed type. The shank is plain and slightly bent in two places. It is of circular cross section. The head is of more rectilinear cross section and is bounded above and below the ring attachment with slight raised moulded collars. the holes in the pin head for the attachment of the ring have been enlarged by wear. The ring itself is of square cross section and twisted three times; it is deliberately filed down at

the attachment point to the shank. The pin head is not pierced throughout and the ring is therefore penannular.

Length:	150.5 mm
External diameter of ring:	25 mm
Thickness of ring:	3 mm
Max. Thickness of shank:	3 mm
Cross section of head:	4.8 x 5 mm

Context: not recorded

GM (Potter Collection 169.S.1976)

Bu'Lock 1960: 16, fig 5h
reproduced in:
Bu'Lock 1972: 68, fig 12h.

129: M/RP 8 (plate 12)

Copper-alloy ringed pin of the polyhedral-headed type. The shank is broken but otherwise the pin is intact. The surface is worn and displays the Meols Patina. The cross section of the shank is circular and there is no decoration below the raised ridge or collar at the base of the head. The head is square in cross section and is decorated on two sides with a moulded lozenge design, consisting of a double bordered rhomboid or kite-shape with two opposed diagonal lines in the centre. The head is pierced throughout and the ring is an annular circle, worn at the attachment to the head. The ring is plain and of circular cross section.

Length:	69.5 mm
Outside diameter of ring:	19 mm
Thickness of ring:	1.8 mm
Thickness of shank:	3.2 mm

Context: not recorded

GM (Potter Collection 166.S.1976)

Possibly Bu'Lock 1960: 16, fig 5e.

130: M/RP 9 (plate 12)

Copper-alloy ringed pin of the polyhedral-headed type. The shank is plain and of circular cross section. The point is missing hence it is likely that the present end is a break. The head, which is of square cross section, is bounded above and below by pronounced collars, between which on each side is a simple incised lozenge design divided into four quadrants by two opposed diagonal lines. The ring is plain and of circular cross section. It appears to pass right through the head and is slightly narrowed by wear at the attachment to the head. The whole piece displays the Meols Patina.

Length:	83.7 mm
External Diameter of ring:	15 mm
Thickness of ring:	2.8 mm
Thickness of shank:	4 mm
Cross section of head:	6 x 6 mm

Context: not recorded

GM (Potter Collection 167.S.1976)

Possibly Bu'Lock 1960: 16, fig 5f.

131: M/RP 10 (plate 12)

Copper-alloy ringed pin of the polyhedral-headed type. The shank is plain with a circular cross section and obviously incomplete. The head is bounded below by a collar and, despite considerable wear it is possible to detect thirteen facets. Only two, the larger central lozenge shaped facets on either side, bear any trace of decoration. On one side there are the remains of an incised quatrefoil interlace within a single border. On the other side there is a small incised cross within a single bordered triangular frame. The head is not pierced throughout and the ring is hence penannular. The ring tapers slightly at the point of its attachment to the head. It is plain except for a double incised groove on either side and two raised ridge mouldings in the centre.

Length:	41 mm
External diameter of ring:	17 mm
Thickness of ring:	3.4 mm
Thickness of shank:	4.7 mm
Cross section of head:	7 x 5 mm

Context: not recorded

GM (Potter Collection 168.S.1976)

Hume 1863: 75, plV, 18
Bu'Lock, 1960, 16, fig 5g
reproduced in:
Bu'Lock, 1972, 68, fig 12g.

132: M/RP 11 (plate 12)

Copper-alloy ringed pin of the kidney-ringed type. The shank is plain and of circular cross section. The point is missing hence the present end is probably a break. The haed is polyhedral with thirteen facets, two of these are pierced by the holes for the attachment of the ring; the rest are decorated. On either main face of the head there is a lozenge shaped moulded panel, double bordered with a pattern inside consisting of two sets of double opposed diagonal lines, or brambling, creating an arrangement of nine small lozenges. The facets around these lozenge designs are each decorated with three punched ring-and-dot motifs. The ring is thick and of semi-circular cross section. At the centre it is decorated with four grooves. At the point at which the ring is joined to the pin head there are two raised, moulded ridges on either side; these appear to be formalised zoomorphic features representing animal heads. This pin is not specifically referred to as a Meols find in the museum collection, merely as a West Cheshire find. The chararcter of the patina on the pin, however, being worn smooth with slight pitting is very remniscent of the Meols Patina and removes any serious doubt as to the provenance of the piece.

Length:	86 mm
External diameter of ring	21 mm

Thickness of ring: 7 mm
Thickness of shank: 5 mm
Max. cross section of head: 10.5 x 6.5 mm

Context: not recorded

GM (Old Collection 171.S.1976)

Unpublished.

133: M/RP 12 (plate 12)

Ringed pin, now lost. All information is derived from Hume (1863, 75, fig V,1). This pin appears to have been of the loop- headed type. The shank was plain and tapered to a point and hence was probably complete. It expanded slightly at the head and the loop was decorated with cross hatching. The ring was plain and of lozenge-shaped cross section.

Length: 138 mm
External diameter of ring: 15 mm
Thickness of ring: 3 mm
Width of loop: 5 mm
Thickness of shank: 3 mm

Context: not recorded

Lost

The above information is taken from:
Hume 1863: 75, fig V,1
Bu'Lock 1960: 16, fig 5j
reproduced in:
Bu'Lock 1972: 68, fig 12j.

134: M/RP 13 (plate 12)

Ringed pin, now lost. All information is derived from Hume (1863, 75, plV, 14). It appears to have been a polyhedral-headed pin with a plain shank whose length is not recorded. The head is bounded above and below by a pronounced collar and decorated in the centre with an arrangement of seven dots. The ring is plain.

External diameter of ring: 16 mm
Length of head: 8 mm
Thickness of ring: 2 mm
Thickness of shank: 3 mm

Context: not recorded

Lost

The above information is taken from:
Hume, 1863, 75, figV 14
Bu'Lock, 1960, 16, fig 5b
reproduced in:
Bu'Lock, 1972, 68, fig 12b.

135: M/RP 14 (plate 12)

Ringed pin, now lost. All information is derived from Hume (1863,

75, fig V,4). This pin was polyhedral-headed with a plain shank which tapered to a point and was hence probably complete. The head was decorated with a rectangular box in which were two opposed diagonal lines and with two quadrants filled with hatching. The ring was plain.

Length: 120 mm
External diameter of ring: 13 mm
Thickness of ring: 2 mm
Maximum Thickness of shank: 4 mm

Context: not recorded

Lost

The above information is taken from:
Hume 1863: 75, plV, 4
Bu'Lock 1960: 16, fig 5k
reproduced in:
Bu'Lock 1972: 68, fig 12k.

136: M/RP 15 (plate 13)

Copper-alloy shank of a ringed pin: the ring is missing. The shank is of circular cross section and is broken since the point is missing. The head, originally of the polyhedral type, is pierced throughout. It is differentiated from the shank by a plain collar and is rectangular in cross section. It is decorated on two sides with a pattern of punched dots.

Length: 56 mm
Thickness of shank: 4 mm
Cross section of head: 7x4 mm

Context: not recorded

GM (Potter Collection 165.S.1976)

Possibly Bu'Lock 1960: 16, fig 5c;
reproduced in:
Bu'Lock 1972: 68, fig 12c.

137: M/RP 16 (plate 13)

Copper-alloy ring from a ringed pin. It is circular and penannular with a slight taper at either end to fit the swivel of the pin head. The ring is circular in cross section and decorated with a series of transverse grooves.

External diameter: 19 mm
Internal diameter: 15 mm
Thickness: 2 mm

Context: not recorded

WM (190'04)

Unpublished.

138: M/RP 17 (plate 13)

Copper-alloy ring from a ringed pin. It is square in cross section and twisted three times. The ring is cut away at the point of the swivel and broken or sawn through immediately next to it.

External diameter: 22 mm
Internal diameter: 18 mm
Thickness: 2 mm

Context: not recorded

WM (14607)

Unpublished.

139: M/RP 18 (plate 13)

Copper-alloy penannular ring from a ringed pin. The ring is circular and thick, tapering to its points.

Diameter: 16 mm
Max. thickness: 2 mm

Context: not recorded

WM

Unpublished

140: M/RP 19 (plate 13)

Copper-alloy ring from a ringed pin. It is square in cross section and thin, twisted twice.

Diameter: 15 mm
Max. thickness: 1.3 mm

Context: not recorded

WM

Unpublished

141: M/SP 1 (plate 13)

Copper-alloy polyhedral headed pin with a broken shank. The head has nine facets, each bordered and decorated with a punched dot and circle design. At the point where the shank joins the head there is a slight collar. The shank is considerably eroded and the whole piece displays the "Meols Patina".

Length: 23 mm
Diameter of head: 7.4 mm
Maximum thickness of shank: 1.2 mm

Context: not recorded

GM (Potter Collection).

Bu'Lock 1960: 9, fig 3b
reproduced in:

Bu'Lock 1972: 42, fig 8b.

142: M/SP 2 (plate 13)

Copper-alloy polyhedral headed pin with broken shank. The head has thirteen facets, each decorated with a punched dot and circle design. At the point where the shank joins the head there is a slight collar.

Length:	19 mm
Cross section of head:	5.5 x 5.5 mm
Maximum thickness of shank:	1.8 mm

Context: not recorded

GM (Potter Collection).

Bu'Lock 1960: 9, fig 3b
reproduced in:
Bu'Lock 1972: 42, fig 8b.

143: M/SP 3 (plate 13)

Copper-alloy pin with slender shank. The point of the shank is present and the pin appears to be complete. The head is dodecahedral with a small central depression on each face. The cross section of the shank is circular.

Length:	43.5 mm
Cross section of head:	1.5 mm
Max. thickness of shank:	4.5 mm

Context: not recorded

NMGM (M5805)

Hume 1863: 235, pl XXIII, 11
Chitty & Warhurst 1977: 24, 26, 6.

144: M/SP 4 (plate 13)

Copper-alloy pin with a four-sided head, square in cross section; each face has a punched dot. The shank is circular in cross section and severely corroded. The head tapers slightly towards the shank and the two parts are differentiated by a collar.

Length:	29 mm
Cross section of head:	3.2 x 3.2 mm
Thickness of shank:	1.6 mm

Context: not recorded

NMGM (M5803)

Hume 1863: 235, pl XXIII, no.8
Chitty & Warhurst 1977: no 8.

145: M/SP 5 (plate 13)

Copper-alloy pin with a polyhedral head; each face is decorated with a punched circle and dot motif. The shank tapers to a point and is hence complete; it is circular in cross section and plain.

Length: 64 mm
Width of head: 5 mm
Thickness of shank: 2 mm

Context: not recorded

NMGM (CS1)

Hume 1863: 235, pl XXIII, no 7
Chitty & Warhurst 1977: 24, 26, no 7.

146: M/SP 6 (plate 13)

Copper-alloy pin with a polyhedral head with thirteen facets, each decorated with 1-4 punched circle-and-dot motifs. The shank, decorated with two vertical lines of dots, is circular in cross section, tapering to a point and is hence likely to be complete.

Length: 56 mm
Cross section of head: 4.8 x 5.5 mm
Thickness of shank: 2 mm

Context: not recorded

GM (Potter Collection)

Bu'Lock 1960: 8, fig 3a
reproduced in:
Bu'Lock 1972: 42, fig 8a.

147: M/SP 7 (plate 13)

Copper-alloy pin with a globular head decorated with small dots in no apparent order, with a short shank. The cross section of the shank is square. The shaft has a point intact but since the shaft is relatively short, this may be a secondary point. The whole piece is considerably worn and corroded and diplays the "Meols Patina".

Length: 23 mm
Diameter of head: 5.1 mm
Max. thickness of shank: 2.5 mm

Context: not recorded

NMGM (M5807)

Hume 1863: 235, pl XXXIII, 13
Chitty & Warhurst: 1977, 25,26, no.11.

148: M/SP 8 (plate 13)

Copper-alloy pin with a globular head, decorated with two punched circle and dot motifs. The shaft is broken and the whole piece is worn and corroded and displays the Meols Patina.

Length: 16 mm
Diameter of head: 5 mm
Thickness of shank: 1.5 mm

Context: not recorded

NMGM (M5804)

Hume 1863: 235, pl XXIII, 10
Chitty & Warhurst 1977: 25, 26 no. 10

149: M/SP 9 (plate 13)

Copper-alloy pin with a spherical head, differentiated from the shank by a collar. The shank expands in width slightly and tapers to a point. The shank is circular in cross section.

Length: 44.5 mm
Diameter of head: 2.5 mm
Maximum thickness of shank: 2 mm

Context: Not recorded

NMGM (M5799)

Hume 1863: 235, pl XXIII, no. 11
Chitty & Warhurst: 1977, 24, 26, no 5.

150: M/SP 10 (plate 13)

Copper-alloy pin with a spherical head which has a horizontal linear groove around the circumference. The shank is circular in cross section and tapers to a point and is hence a complete piece.

Length: 47.5 mm
Diameter of head: 3 mm
Maximum thickness of shank: 1 mm

Context: not recorded

NMGM (M5800)

Hume 1863: pl XXIII, no 3
Chitty & Warhurst 1977: 24, 26, no 4.

151: M/SP 11 (plate 13)

Broken end of the shank of a copper-alloy pin, probably from a brooch. It expands slightly before tapering to a point. On one side of the point there is a panel of faded interlace, so worn as to be almost indistinguishable. The pin fragment has a rectangular cross section.

Length: 52 mm
Max. cross section: 6 x 2 mm

Context: not recorded

GM (Potter Collection)

Unpublished

152: M/SP 12 (plate 11)

Incomplete copper-alloy ring headed pin. Half of the circumference of the head is lost. The pin is formed from a rod, circular in cross section, which tapers to a point.

Length: 76 mm
Thickness of shank: 4 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

153: M/SP 13 (plate 11)
Incomplete copper-alloy pin, probably from a brooch. The shank is bent considerably at the break; this is likely to have been the point at which it was bent around the loop of the brooch.

Length: 41 mm
Thickness: 3.2 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

154: M/SP 14 (plate 11)
Incomplete copper-alloy pin of circular cross section. The shank is bent towards the break.

Length: 62 mm
Thickness of shank: 3.5 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

155: M/SP 15 (plate 14)
Incomplete copper-alloy pin with a biconical head, slightly flattened around the edge.

Length: 44 mm
Thickness of shank: 2 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

156: M/SP 16 (plate 14)
Incomplete copper-alloy pin with a biconical head, slightly flattened around the edge.

Length: 26 mm
Thickness of shank: 2 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

157: M/SW 1 (plate 14)

Lead spindle whorl. it is flat-bottomed and the lower edge has a lip; It is conical in profile and the surface is pitted wuth wear. The Meols Patina is present.

Diameter: 28 mm
Diam. of hole: 8 mm
Height: 10 mm

Context: not recorded

WM (106'23)

Unpublished

158: M/SW 2 (plate 14)

Lead spindle whorl, circular and convex in profile with a flat base.

Diameter: 29 mm
Diameter of hole: 12 mm
Height: 4 mm

Context: not recorded

WM (106'23)

Unpublished.

159: M/SW 3 (not illustrated)

Grey stone (?sandstone) spindle whorl; circular and convex in profile with a flat bottom.

Diameter: 32 mm
Diameter of hole: 9 mm
Height: 10 mm

Context: not recorded

WM (1557)

Possibly: Hume 1863: 152 pl XIV No. 8
Otherwise unpublished

160: M/K1 (not illustrated)

Fragment of iron knife blade. it is considerably corroded; the ferrule is broken off short and the blade is broken, only the handle-end being present.

Max. length: 55 mm
Max. width: 11 mm
Thickness: 3 mm

Context: not recorded

WM

Unpublished

161: M/K2 (not illustrated)
Fragment of iron knife blade, extremely corroded.

Length: 33 mm
Width: 6 mm
Thickness: 2 mm

Context: not recorded

WM

Unpublished

162: M/Misc 1 (plate 14)
Copper-alloy swivel consisting of two loops pierced and rivetted with a copper-alloy rivet through the the expanded parts of the two loops. The loops are of circular cross section and terminate before the expanded section in stylised zoomorphic heads. The swivel consists of two opposed bosses, each decorated on each side with a wide, double bordered chevron.

Length: 38 mm
Width: 23 mm
Thickness of loops: 3.6 mm

Context: not recorded

GM (Potter Collection 13.S.1977)

Potter 1876: 182, pl V, fig 5.

163: M/Misc 2 (plate 14)
Drinking horn terminal of unknown metal. It consisted of a hollow tube, tapering away from its open end, with a spherical terminal.

Length: 91 mm
Max. Width of tube: 15 mm
Diameter of spherical terminal: 19 mm

Context: not recorded

Formerly Liverpool Museum 5702M, destroyed in air-raid damage in 1941.

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863 201: pl XXI, no 9
reproduced in:
Bu'Lock 1960: 18 fig 6f.

164: M/Misc 3 (plate 14)
Rectangular copper-alloy strip (incomplete). It formerly had two holes, and is broken across one; decorated with an incised step pattern.

Length: 48 mm
Width: 19 mm

Context: not recorded

GM (Potter Collection)

Hume 1863: pl XII, no 19.

165: M/Misc 4 (plate 14)

Bone handle (incomplete) consisting of a hollow tubular bone ornamented with incised circle-and-dot motifs in lines and also in an apparently random fashion. It tapered slightly from one end to the other.

All measurements are taken from the 1:2 drawing in Hume (1863)
Length: 84 mm
Max. width: 20 mm

Context: not recorded

Formerly Liverpool Museum 5650M, destroyed in air-raid damage in 1941. pool Museum. (M5650).

The above information is taken from:
Pre-1941 archive, NMGM
Hume 1863: 348, pl XXXII, no 7.

166: M/Misc 5 (plate 15)

Iron shield boss. It consists of a hemispherical boss of which the top of the dome is now missing, on a flange which is still pierced by a series of square nails to secure it to the shield. The flange is also incomplete.

Width of flange: 2.45-2.8 mm
Internal diameter of boss: 110 mm

Context: not recorded

GM (Potter Collection)

Unpublished.

167: M/Misc 6 (plate 15)

Iron axe head. It has a curved blade and tapers equally on each side before its profile expands again by the hole for the shaft, after which it has a rectangular terminal. The hole for the shaft is trapezoidal.

Length: 156 mm
Width of blade: 85.7 mm
Width by hole for shaft: 45.2 mm

Context: not recorded

GM (Potter Collection)

Potter 1891:241.

168: M/Misc 7 (plate 14)
Round earthenware bead, orange in colour. It is convex with flat top and base.

Diameter: 9 mm
Height: 6 mm

Context: not recorded

WM

Unpublished

Grange Cow Worth

169: GCW/POT 1 (gaz 5.19)
2 sherds of Chester ware, 1 decorated with roller-stamped motif, found 1966-67.

Context: Beneath ploughsoil, no associated finds.

Brotherton-Ratcliffe 1975:78.

Castle Ditch Hillfort, Eddisbury

170: E/Misc 1 (gaz 6.3, not illustrated)
"Annular baked clay loomweight", described as Later Anglo-Saxon by W.J. Varley (1950:10), found in association with "dark age pottery" in an oval hut sited in the ditch of the hillfort (site 1, 1935-8 excavation). No further information available; the loomweight and pottery are now lost, or location unknown.

Warrington, Mote Hill

171: W/Misc 1 (gaz 8.1, plate 15)
Jet gaming piece, consisting of a rectangular block of jet with bevelled edges and one corner rounded off. The gaming piece is decorated with incised circle-and-dot ornament, where large double rings are linked to small single rings with interconnecting diagonal lines.

Height: 55 mm
Width: 40 mm
Thickness: 22 mm

Context: not recorded in detail; from beneath or in the lower levels of the Norman Motte in 1841.

WM

Kendrick 1853:61-2
Bu'Lock 1972:52, pl 12.

172: W/Misc 2 (gaz 8.1, plate 15)
Cylindrical gaming piece of jet, with bevelled top. The piece is plain and damaged one one side.

Height: 36 mm

Diameter: 24 mm

Context: not recorded in detail; possibly from spoil associated with the lower levels of the Norman Motte, excavated in 1841.

WM

Kendrick 1853:61-2
Bu'Lock 1972:52, pl 12.

Hale

173: H/ST 1 (gaz 10.1, plate 16)

Copper-alloy strap terminal with an incised panel with zoomorphic decoration. The decoration consists of a beast with open snout and lappet. The body is coiled and the legs develop into abstract motifs filling the rest of the field. The point of the terminal is moulded in a zoomorphic form with a snout and two bulbous eyes, with engraved (?)ears behind. One of the attachment holes is broken. The back is plain.

Length: 35 mm
Width: 10.5 mm

Context: Metal detector find in ploughed field, west of Church Road.

Private Ownership

Unpublished.

174: H/DP 1 (gaz 10.1, plate 16)

Silver disc head with shaft broken off short. One face is decorated with a circular field, in which is a zoomorphic motif. The beast's head is marked by a collar and drilled eye, and its mouth has a protruding tongue. The body is very worn, but the limbs develop into interlace. Along the line of the back is a vegetal tendril terminating in a hook. Opposite the stump of the shaft is a projection from the disc.

Diameter: 72 mm

Context: Metal detector find in a ploughed field west of Church Road.

Private Ownership

Unpublished.

175: H/DP 2 (gaz 10.1, plate 16)

Copper-alloy pin (or stylus) with an expanded shaft and irregular shaped head, slightly flattened in profile.

Length: 50 mm
Width of head: 7 mm
Max. thickness 4 mm

Context: Metal detector find in a ploughed field, west of Church Road.

Private Ownership

Unpublished.

Altmouth (gaz 10.8)

Most of the recorded finds from this site were destroyed in the 1941 fire at Liverpool Museum. Amongst them was a coin of William I (below, appendix C). No Anglo-Saxon or other pre-Conquest finds are recorded as such amongst the assemblage. However, the surviving descriptions are extremely rudimentary, tending to discriminate only between Roman and "Medieval" articles. These are described as brooches, buttons, knives and pins. Recent finds at the site have included Roman coins and a brooch.

Liverpool Museum, pre-1941 archive, NMGM.

APPENDIX C: CATALOGUE OF HOARDS AND COIN FINDS

A: HOARDS

1. Otterspool, 1863, NGR SJ 40 84.

Base copper and silver coins.

"Towards the end of the year [1863] some navvies, employed in the construction of the new railway line from Liverpool to Manchester via Garston, found near the inner reach of Otterspool Creek [a] small batch of coins, but fearful of the pieces being claimed by other parties, they kept the matter so close that little beyond the bare fact of discovery has transpired. They are asserted to be of very small size, but with comparatively large letters for so limited a disc, which would lead to the conclusion of their proving stycas of the Saxon Kingdom of Northumbria" (Ecroyd Smith 1872b:13).

also Metcalf 1960:97-8.

2. Harkirke, 1611 (gaz 10.7).

Circa 300 Anglo-Saxon, Viking and Continental coins. The hoard itself was dispersed and probably melted down. A record of 35 of the coins survives on an engraved copper plate, now in the possession of F. Tyrer esq. (Blunt et al 1989).

No.	Reign/Issue	Type	Mint	Moneyer
1.	Plegmund of Canterbury			Ethelwulf
2.	Alfred	BMC (A)viii	Oxford	Bernwald
3.	Alfred	BMC (A)i b	None	Aethelstan
4.	Alfred	BMC (A)i b	None	Cuthbert
5.	Alfred	BMC (A)i b	None	Ludig
6.	Alfred	BMC (A)i b	None	Wulfred
7.	Alfred	BMC (A)i b	None	Wulfred
8.	Edward the Elder	BMC (A)i/ii	None	Aethelred
9.	Edward the Elder	BMC (A)i/ii	None	Aethelred
10.	Edward the Elder	BMC (A)i/ii	None	Beahstan
11.	Edward the Elder	BMC (A)i/ii	None	Beornwald
12.	Edward the Elder	BMC (A)i/ii	None	Deorwald
13.	Edward the Elder	BMC (A)i/ii	None	Diora
14.	Edward the Elder	BMC (A)i/ii	None	Eadmund
15.	Edward the Elder	BMC (A)i/ii	None	Wulfred
16.	Edward the Elder	BMC (A)xiv	None	Wulfred
17.	St Edmund Memorial	BMC (A)i	None	Bado
18.	St Edmund Memorial	BMC (A)i		Ioma
19.	St Edmund Memorial	BMC (A)i		Odo
20.	St Edmund Memorial	BMC (A)i		Winier
21.	Cnut, Cunetti	BMC (A)i,b		None
22.	St Peter of York	BMC (A)5		
23.	St Peter of York	BMC (A)5		
24.	St Peter of York	BMC (A)5		
25.	St Peter of York	BMC (A)5		
26.	St Peter of York	BMC (A)5		
27.	St Peter of York	BMC (A)5		
28.	St Peter of York	BMC (A)5		
29.	St Peter of York	BMC (A)5		
30.	St Peter of York	BMC (A)5		
31.	St Peter of York	BMC (A)5		

32.	St Peter of York	BMC (A)5
33.	Louis le Debonnaire	Christiana Religio
34.	Berengar of Italy	Christiana Religio
35.	Charles le Chauve	Melle

Ecroyd Smith 1876; Churchill 1887; Thompson 1956:67-8, no 184.

3. Chester, St John's Church 1862 (gaz 4.26)

Found outside the West End of St John's Church, Chester, 4th March 1862. Supposed to be the original coins from under the foundation stone of the Saxon building which existed prior to the erection of the present Norman structure (Hughes 1964; Mack 1967:37), 16 feet underground (Mack 1967:37). The following are all that were recorded from a larger number, dispersed at the time of discovery.

No.	Reign/Issue	Type	Mint	Moneyer
1.	Edward the Elder	BMC ii	?N West	Adwold
2.	Edward the Elder	BMC ii	?N West	Diora
3.	Edward the Elder	BMC ii	?N West	Wulfsige
4.	Edward the Elder	BMC v	?N West	Cutferth
5.	Edward the Elder	BMC vi	?N West	None
6.	Edward the Elder	BMC xi	?N West	Eadred
7.	Edward the Elder	BMC xii	?N West	Wulfsige
8.	Edward the Elder	BMC xii	?N West	Palter
9.	St Edmund Memorial			Cipice
10.	St Peter of York	BMC v		
11.	St Peter of York	BMC v		
12.	St Peter of York	BMC v		
13.	St Peter of York	BMC v		
14.	St Peter of York	BMC v		
15.	St Peter of York	BMC v		
16.	St Peter of York	BMC v		
17.	St Peter of York	BMC v		

Peacock, unpublished MS (Mack 1967:37); Hughes 1864; Mack 1967.

4. Chester, Castle Esplanade 1950 (gaz 4.4)

Found in Chester ware pot and scattered nearby during the installation of an electric cable on the West Side of the Castle Esplanade. This position would have been on the shores of the Nuns' Fields Creek, connecting with the harbour, in the tenth century.

Note: The coins have been re-numbered here to include the second parcel deposited at the Grosvenor Museum after inquest in 1976. BM = stored in the British Museum, all others in the Grosvenor Museum, Chester.

No.	Reign/Issue	Type	Mint	Moneyer	location
1.	Alfred	BMC xvii	Canterbury	?	
2.	Edward the Elder	BMC i	none	Aethered	
3.	Edward the Elder	BMC ii	none	Aethered	
4.	Edward the Elder	BMC ii	none	Beahstan	
5.	Edward the Elder	BMC ii	none	Beornred	BM
6.	Edward the Elder	BMC ii	none	Eadstan	BM
7.	Edward the Elder	BMC ii	none	Wulfred	

8.	Edward the Elder	BMC ii	none	?	
9.	Edward the Elder	Anglo-Danish Imitation			
10.	Aethelstan	BMC i	none	?Abba	
11.	Aethelstan	BMC i	none	AElfwine	BM
12.	Aethelstan	BMC i	none	AEthelsige	BM
13.	Aethelstan	BMC i	none	Beorard	BM
14.	Aethelstan	BMC i	none	Berhelm	BM
15.	Aethelstan	BMC i	none	Clac	
16.	Aethelstan	BMC i	none	Eadmund	
17.	Aethelstan	BMC i	none	Eadmund	
18.	Aethelstan	BMC i	none	Frithestan	BM
19.	Aethelstan	BMC i	none	?Godfred	
20.	Aethelstan	BMC i	none	Iohann	
21.	Aethelstan	BMC i	none	Manna	BM
22.	Aethelstan	BMC i	none	?Mathelbert	
23.	Aethelstan	BMC i	none	Oda	
24.	Aethelstan	BMC i	none	Stefanus	
25.	Aethelstan	BMC i	none	Wealdhelm	
26.	Aethelstan	BMC i	none	Winele	
27.	Aethelstan	BMC i	none	Woelfburt	BM
28.	Aethelstan	BMC i	none	?	
29.	Aethelstan	BMC i	none	?	
30.	Aethelstan	BMC i	none	?	
31.	Aethelstan	BMC viii	Canterbury	Torthelm	BM
32.	Aethelstan	BMC viii	Norwich	Manticen	
33.	Aethelstan	BMC viii	Norwich	Secgse	BM
34.	Aethelstan	BMC viii	York	Aethelred	BM
35.	Aethelstan	BMC viii	?SMRIE	Eadbald	BM
36.	Aethelstan	BMC v	none	?	BM
37.	Aethelstan	BMC v	Chester	Abba	
38.	Aethelstan	BMC v	Chester	Deorard	
39.	Aethelstan	BMC v	Chester	Eadulf	BM
40.	Aethelstan	BMC v	Chester	Oslac	BM
41.	Aethelstan	BMC v	Chester	Osulf	
42.	Aethelstan	BMC v	Chester	Wulfstan	BM
43.	Aethelstan	BMC v	Chester	Cnapa	
44.	Aethelstan	BMC v	Oxford	Ingelri	
45.	Aethelstan	BMC v	S/Nhampton	Eadgild	BM
46.	Aethelstan	BMC v	Shaftesbury	Aethelwine	BM
47.	Aethelstan	BMC v	Shrewsbury	Behrtelm	
48.	Aethelstan	BMC v	Shrewsbury	Eofermund	BM
49.	Aethelstan	BMC v	Shrewsbury	Frotger	BM
50.	Aethelstan	BMC v	Winchester	Eadstan	BM
51.	Aethelstan	BMC v	Winchester	Raegenulf	BM
52.	Aethelstan	BMC v	York	Regnald	
53.	Aethelstan	BMC v	York	Regnald	
54.	Aethelstan	BMC v	York	Regnald	
55.	Aethelstan	BMC va	York	Regnald	
56.	Aethelstan	BMC vi	Chester	Eadmund	
57.	Aethelstan	BMC vc	Chester	Abba	
58.	Aethelstan	BMC via	Chester	Wiard	BM
59.	Aethelstan	Anglo-Danish Imitation			BM
60.	Edmund	BMC i	none	Aelfmund	BM
61.	Edmund	BMC i	none	Aelfric	
62.	Edmund	BMC i	none	Aelfstan	
63.	Edmund	BMC i	none	Aelfstan	
64.	Edmund	BMC i	none	?Aelfstan	BM
65.	Edmund	BMC i	none	Aelfwald	

66.	Edmund	BMC i	none	Aelfwald	
67.	Edmund	BMC i	none	Aelfwald	
68.	Edmund	BMC i	none	Aethelgar	BM
69.	Edmund	BMC i	none	Aethelwulf	
70.	Edmund	BMC i	none	Behrtsige	BM
70.	Edmund	BMC i	none	Biorneard	
72.	Edmund	BMC i	none	Biorneard	
73.	Edmund	BMC i	none	Biorneard	
74.	Edmund	BMC i	none	Biorneard	
75.	Edmund	BMC i	none	Burnwald	
76.	Edmund	BMC i	none	Burnwald	
77.	Edmund	BMC i	none	Burnwald	BM
78.	Edmund	BMC i	none	Cenbehrt	BM
79.	Edmund	BMC i	none	Demenec	
80.	Edmund	BMC i	none	Diarwald	BM
81.	Edmund	BMC i	none	Dorulf	
82.	Edmund	BMC i	none	Dorulf	
83.	Edmund	BMC i	none	Dorulf	
84.	Edmund	BMC i	none	Eadred	
85.	Edmund	BMC i	none	Eadstan	
86.	Edmund	BMC i	none	Eadstan	
87.	Edmund	BMC i	none	Eardulf	
88.	Edmund	BMC i	none	Heremod	
89.	Edmund	BMC i	none	Heremod	
90.	Edmund	BMC i	none	Herewig	
91.	Edmund	BMC i	none	Ingelgar	
92.	Edmund	BMC i	none	Ingelgar	
93.	Edmund	BMC i	none	Ivan	BM
94.	Edmund	BMC i	none	Ivan	BM
95.	Edmund	BMC i	none	Leofric	
96.	Edmund	BMC i	none	Lifinc	BM
97.	Edmund	BMC i	none	Maeldomen	
98.	Edmund	BMC i	none	Maeldomen	BM
99.	Edmund	BMC i	none	Maerten	
100.	Edmund	BMC i	none	Maerten	
101.	Edmund	BMC i	none	Osferth	BM
102.	Edmund	BMC i	none	Osfred	BM
103.	Edmund	BMC i	none	Osulf	BM
104.	Edmund	BMC i	none	Othelric	BM
105.	Edmund	BMC i	none	Othelric	
106.	Edmund	BMC i	none	Raegenold	
107.	Edmund	BMC i	none	Raegenold	BM
108.	Edmund	BMC i	none	Sideman	
109.	Edmund	BMC i	none	Sigar	
110.	Edmund	BMC i	none	Sigeferth	BM
111.	Edmund	BMC i	none	Sigwold	
112.	Edmund	BMC i	none	Stefan	BM
113.	Edmund	BMC i	none	Telia	BM
114.	Edmund	BMC i	none	Wigeard	
115.	Edmund	BMC i	none	Wintred	
116.	Edmund	BMC i	none	Wulfgar	BM
117.	Edmund	BMC i	none	Wulfstan	
118.	Edmund	BMC i	none	blundered	BM
119.	Edmund	BMC i	Derby	Afra	
120.	Edmund	BMC iii	none	Aelfstan	BM
121.	Edmund	BMC iii	none	Amund	BM
122.	Edmund	BMC iii	none	Amund	
123.	Edmund	cf Ath.5	Chester	Beorard	BM

124.	Edmund	cf Ath.5	Dorchester	Iohan	BM
125.	Edmund	cf Ath.5	Norwich	Giongbald	BM
126.	Edmund	cf Ath.5	none	Bruninc	BM
127.	Edred	BMC i	Derby	Aelfric	BM
128.	Edred	BMC i	none	Aelfric	BM
129.	Edred	BMC i	none	Aelfric	
130.	Edred	BMC i	none	Aelfric	
131.	Edred	BMC i	none	Aelfsig	
132.	Edred	BMC i	none	Aelfsig	
133.	Edred	BMC i	none	Aelfsig	
134.	Edred	BMC i	none	Aelfwine	BM
135.	Edred	BMC i	none	Aethelmund	
136.	Edred	BMC i	none	Aethelwulf	
137.	Edred	BMC i	none	Aethered	BM
138.	Edred	BMC i	none	Agtard	
139.	Edred	BMC i	none	Agtard	
140.	Edred	BMC i	none	Agtard	
141.	Edred	BMC i	none	Agtard	
142.	Edred	BMC i	none	Amund	
143.	Edred	BMC i	none	Amund	BM
144.	Edred	BMC i	none	Baldric	
145.	Edred	BMC i	none	Baldric	
146.	Edred	BMC i	none	Baldwin	
147.	Edred	BMC i	none	Baldwin	
148.	Edred	BMC i	none	Beahred	
149.	Edred	BMC i	none	Beahred	BM
150.	Edred	BMC i	none	Behrtred	BM
151.	Edred	BMC i	none	Bernard	
152.	Edred	BMC i	none	Bernere	
153.	Edred	BMC i	none	Biorhtulf	
154.	Edred	BMC i	none	Biorhtulf	BM
155.	Edred	BMC i	none	Boiga	
156.	Edred	BMC i	none	Boiga	
157.	Edred	BMC i	none	Boiga	
158.	Edred	BMC i	none	Boiga	
159.	Edred	BMC i	none	Boiga	
160.	Edred	BMC i	none	Cenberht	
161.	Edred	BMC i	none	?Cilm	BM
162.	Edred	BMC i	none	Cristin	BM
163.	Edred	BMC i	none	?Delfel	BM
164.	Edred	BMC i	none	?Deorhere	BM
165.	Edred	BMC i	none	Dudig	
166.	Edred	BMC i	none	Dunn	BM
167.	Edred	BMC i	none	Eadmund	BM
168.	Edred	BMC i	none	Eadmund	
169.	Edred	BMC i	none	Eferbred	BM
170.	Edred	BMC i	none	Frethic	
171.	Edred	BMC i	none	Frethic	
172.	Edred	BMC i	none	Frethic	
173.	Edred	BMC i	none	Frethic	
174.	Edred	BMC i	none	Frethic	
175.	Edred	BMC i	none	Frothric	
176.	Edred	BMC i	none	Frothric	
177.	Edred	BMC i	none	Frothric	
178.	Edred	BMC i	none	Frothric	
179.	Edred	BMC i	none	Frothric	
180.	Edred	BMC i	none	Frothric	
181.	Edred	BMC i	none	Frothric	

182.	Edred	BMC i	none	Gilles	BM
183.	Edred	BMC i	none	Gilles	BM
184.	Edred	BMC i	none	Gislehelm	
185.	Edred	BMC i	none	Gislemer	
186.	Edred	BMC i	none	Gislemer	
187.	Edred	BMC i	none	Grim	
188.	Edred	BMC i	none	Grim	
189.	Edred	BMC i	none	Grim	
190.	Edred	BMC i	none	Heremod	
191.	Edred	BMC i	none	Heremod	
192.	Edred	BMC i	none	Heremod	BM
193.	Edred	BMC i	none	Heremod	
194.	Edred	BMC i	none	Heremod	
195.	Edred	BMC i	none	Hildulf	
196.	Edred	BMC i	none	Hildulf	BM
197.	Edred	BMC i	none	Hunred	
198.	Edred	BMC i	none	Hunred	
199.	Edred	BMC i	none	Hunred	
200.	Edred	BMC i	none	Hunred	
201.	Edred	BMC i	none	Leofhelm	BM
202.	Edred	BMC i	none	Leofhelm	
203.	Edred	BMC i	none	Leofhelm	
204.	Edred	BMC i	none	Leofstan	BM
205.	Edred	BMC i	none	Leofwine	BM
206.	Edred	BMC i	none	Londbehrt	BM
207.	Edred	BMC i	none	Maerten	BM
208.	Edred	BMC i	none	Mann	
209.	Edred	BMC i	none	Manna	
210.	Edred	BMC i	none	Osferth	
211.	Edred	BMC i	none	Oslac	BM
212.	Edred	BMC i	none	Osmund	BM
213.	Edred	BMC i	none	Osulf	BM
214.	Edred	BMC i	none	Osulf	
215.	Edred	BMC i	none	Oswine	BM
216.	Edred	BMC i	none	Othelric	
217.	Edred	BMC i	none	Othelric	
218.	Edred	BMC i	none	Othelric	
219.	Edred	BMC i	none	Othelric	
220.	Edred	BMC i	none	Otic	
221.	Edred	BMC i	none	Raedwine	
222.	Edred	BMC i	none	Regther	
223.	Edred	BMC i	none	Regther	
224.	Edred	BMC i	none	Regther	
225.	Edred	BMC i	none	Scyrua	BM
226.	Edred	BMC i	none	Siefereth	BM
227.	Edred	BMC i	none	Siger	
228.	Edred	BMC i	none	Siger	
229.	Edred	BMC i	none	Siger	
230.	Edred	BMC i	none	Siger	
231.	Edred	BMC i	none	Theodmaer	
232.	Edred	BMC i	none	Theodmaer	BM
233.	Edred	BMC i	none	Thurferth	BM
234.	Edred	BMC i	none	Thurmod	
235.	Edred	BMC i	none	Thurmod	
236.	Edred	BMC i	none	Thurmod	
237.	Edred	BMC i	none	Thurmod	
238.	Edred	BMC i	none	Ucelberd	BM
239.	Edred	BMC i	none	Werferth	BM

240.	Edred	BMC i	none	Werstan	
241.	Edred	BMC i	none	Wilaf	
242.	Edred	BMC i	none	Wulfgar	
243.	Edred	BMC i	none	Wulfgar	
244.	Edred	BMC i	none	Wulfgar	
245.	Edred	BMC i	none	Wulfgar	
246.	Edred	BMC i	none	Wulfhelm	BM
247.	Edred	BMC i	none	Wulfstan	
248.	Edred	BMC i	none	Wulfstan	BM
249.	Edred	BMC i	none	Aethelred	
250.	Edred	BMC i	none	Aelfsige	
251.	Edred	BMC i,c	none	Frothric	
252.	Edred	BMC i,c	none	Othelric	
253.	Edred	BMC i,d	none	Frarad	
254.	Edred	BMC i,b	none	Wilebert	
255.	Edred	BMC i,b	none	Thodmaer	
256.	Edred	BMC i	blundered		BM
257.	Edred	BMC iv	none	Manin	BM
258.	Edred	BMC iv	none	Mann	
259.	Edred	BMC iv	none	Mann	
260.	Edred	BMC v	none	Ethelweth	BM
261.	Edred	BMC v	none	Bruininc	BM
262.	Edred	BMC v	none	Copman	BM
263.	Edred	BMC v	none	Manna	
264.	Edred	BMC v	none	Manna	
265.	Edred	BMC v	none	Norbert	BM
266.	Edred	BMC v	none	Nothelm	BM
267.	Edred	BMC v	none	Osulf	BM
268.	Edred	BMC v	none	Saraward	
269.	Edred	BMC v	none	Walter	BM
270.	Edred	BMC v	none	Wilebert	
271.	Edred	BMC v	none	Wilebert	
272.	Edred	BMC v	none	Wine	BM
273.	Edred	Half d.	none	Gilles	BM
274.	Edred	variant	none	Hildulf	BM
275.	Edwig	BMC i,ii	Bath	Biorhtulf	BM
276.	Edwig	BMC i,ii	Bedford	Aelfsige	BM
277.	Edwig	BMC i,ii	Bedford	Baldwin	
278.	Edwig	BMC i,ii	Bedford	Baldwin	
279.	Edwig	BMC i,ii	Bedford	Baldwin	
280.	Edwig	BMC i,ii	Bedford	Boiga	
281.	Edwig	BMC i,ii	Bedford	Frothgar	BM
282.	Edwig	BMC i,ii	Bedford	Frothgar	
283.	Edwig	BMC i,ii	Bedford	Grim	
284.	Edwig	BMC i,ii	Bedford	Grim	
285.	Edwig	BMC i,ii	Bedford	Grim	
286.	Edwig	BMC i,ii	Bedford	Grim	
287.	Edwig	BMC i,ii	Bedford	Grim	
288.	Edwig	BMC i,ii	Bedford	Herewig	
289.	Edwig	BMC i,ii	Bedford	Herewig	
290.	Edwig	BMC i,ii	Bedford	Leofstan	
291.	Edwig	BMC i,ii	Newark	Cilm	BM
292.	Edwig	BMC i,ii	Newark	Cilm	BM
293.	Edwig	BMC i,ii	Newark	Clac	
294.	Edwig	BMC i,ii	Newark	Clac	
295.	Edwig	BMC i,ii	N/S'hampton	Baldric	BM
296.	Edwig	BMC i,ii	N/S'hampton	Eadgild	
297.	Edwig	BMC i,ii	N/S'hampton	Mangod	

298.	Edwig	BMC i,ii	N/S'hampton	Waerin	BM
299.	Edwig	BMC i,ii	N/S'hampton	Waerin	
300.	Edwig	BMC i,ii	N/S'hampton	Waerin	
301.	Edwig	BMC i,ii	N/S'hampton	Waerin	
302.	Edwig	BMC i,ii	N/S'hampton	Wineman	BM
303.	Edwig	BMC i,ii	N/S'hampton	Wineman	
304.	Edwig	BMC i,ii	Oxford	Winhelm	BM
305.	Edwig	BMC i,ii	NW	Aelfsig	
306.	Edwig	BMC i,ii	NW	Deorulf	
307.	Edwig	BMC i,ii	NW	Eadmund	
308.	Edwig	BMC i,ii	NW	Eoferad	
309.	Edwig	BMC i,ii	NW	Eoferad	
310.	Edwig	BMC i,ii	NW	Eoroth	BM
311.	Edwig	BMC i,ii	NW	Frard	
312.	Edwig	BMC i,ii	NW	Freotheric	BM
313.	Edwig	BMC i,ii	NW	Freotheric	
314.	Edwig	BMC i,ii	NW	Freotheric	
315.	Edwig	BMC i,ii	NW	Wilsig	
316.	Edwig	BMC i,ii	NW	Wilsig	BM
317.	Edwig	BMC i,ii	none	Aelfsige	BM
318.	Edwig	BMC i,ii	none	Aelfstan	BM
319.	Edwig	BMC i,ii	none	Aesculf	
320.	Edwig	BMC i,ii	none	Aethelsige	BM
321.	Edwig	BMC i,ii	none	Aethelstan	BM
322.	Edwig	BMC i,ii	none	Aethelulf	BM
323.	Edwig	BMC i,ii	none	Agtard	
324.	Edwig	BMC i,ii	none	Bernferth	BM
325.	Edwig	BMC i,ii	none	Bernferth	
326.	Edwig	BMC i,ii	none	Biorhtulf	
327.	Edwig	BMC i,ii	none	Boiga	
328.	Edwig	BMC i,ii	none	Boiga	
329.	Edwig	BMC i,ii	none	Brothar	
330.	Edwig	BMC i,ii	none	Brothar	
331.	Edwig	BMC i,ii	none	Cilm	BM
332.	Edwig	BMC i,ii	none	Clac	BM
333.	Edwig	BMC i,ii	none	Clac	
334.	Edwig	BMC i,ii	none	Clac	
335.	Edwig	BMC i,ii	none	Cytel	
336.	Edwig	BMC i,ii	none	Demence	BM
337.	Edwig	BMC i,ii	none	Eadmund	BM
338.	Edwig	BMC i,ii	none	Eadulf	BM
339.	Edwig	BMC i,ii	none	Eadulf	
340.	Edwig	BMC i,ii	none	Eadulf	
341.	Edwig	BMC i,ii	none	?	BM
342.	Edwig	BMC i,ii	none	Frethric	
343.	Edwig	BMC i,ii	none	Frothgar	BM
344.	Edwig	BMC i,ii	none	Grim	
345.	Edwig	BMC i,ii	none	Grim	BM
346.	Edwig	BMC i,ii	none	Heremod	
347.	Edwig	BMC i,ii	none	Heremod	
348.	Edwig	BMC i,ii	none	Heriger	
349.	Edwig	BMC i,ii	none	Heriger	
350.	Edwig	BMC i,ii	none	Heriger	
351.	Edwig	BMC i,ii	none	Heriger	
352.	Edwig	BMC i,ii	none	Heriger	
353.	Edwig	BMC i,ii	none	Heriger	
354.	Edwig	BMC i,ii	none	Heriger	
355.	Edwig	BMC i,ii	none	Hildulf	BM

356.	Edwig	BMC i,ii	none	?Ive	BM
357.	Edwig	BMC i,ii	none	Leofhelm	
358.	Edwig	BMC i,ii	none	Leofhelm	BM
359.	Edwig	BMC i,ii	none	Leofhelm	
360.	Edwig	BMC i,ii	none	Levinc	
361.	Edwig	BMC i,ii	none	Mann	
362.	Edwig	BMC i,ii	none	Mann	
363.	Edwig	BMC i,ii	none	Manna	BM
364.	Edwig	BMC i,ii	none	Oswald	BM
365.	Edwig	BMC i,ii	none	Regther	
366.	Edwig	BMC i,ii	none	Sigefreth	BM
367.	Edwig	BMC i,ii	none	Sunulf	
368.	Edwig	BMC i,ii	none	Wineman	
369.	Edwig	BMC i,ii	none	Wulfmaer	BM
370.	Edwig	BMC i,ii	none	Wulfric	BM
371.	Edwig	BMC i,ii	none	Wulfstan	BM
372.	Edwig	BMC i,ii	none	?	
373.	Edwig	BMC i,ii	none	?	
374.	Edwig	BMC i,ii	none	?	
375.	Edwig	BMC i,ii	none	?	
376.	Edwig	BMC i,a	none	Leofhelm	
377.	Edwig	BMC iii	none	Eferulf	BM
378.	Edwig	BMC iii	none	Eferulf	BM
379.	Edwig	BMC iii	none	Manin	BM
380.	Edwig	BMC iii	none	Manin	
381.	Edwig	BMC iii	none	Ucelberd	BM
382.	Edwig	BMC iv	none	Oswald	
383.	Edwig	BMC iv	Barnstaple	Berhtsige	BM
384.	Edwig	BMC iv	Totnes	Wynstan	
385.	Edwig	BMC iv	none	Aelfsige	
386.	Edwig	BMC iv	none	Aethelgar	BM
387.	Edwig	new	none	Aethelsige	
388.	Edwig	new	none	Aethelsige	BM
389.	Edwig	half d.	none	Eadwin	BM
390.	Edgar	BMC i	none	Adelaver	
391.	Edgar	BMC i	none	Adelaver	BM
392.	Edgar	BMC i	none	Aelfred	
393.	Edgar	BMC i	none	Aelfred	
394.	Edgar	BMC i	none	Aelfred	BM
395.	Edgar	BMC i	none	Aelfsige	
396.	Edgar	BMC i	none	Aelfsige	BM
397.	Edgar	BMC i	none	Aelfsige	
398.	Edgar	BMC i	none	Aelfsige	
399.	Edgar	BMC i	none	Aesculf	
400.	Edgar	BMC i	none	Aethelulf	BM
401.	Edgar	BMC i	none	Aethered	
402.	Edgar	BMC i	none	Bernferth	BM
403.	Edgar	BMC i	none	Bernulf	BM
404.	Edgar	BMC i	none	Boiga	BM
405.	Edgar	BMC i	none	Brothar	BM
406.	Edgar	BMC i	none	Brothar	BM
407.	Edgar	BMC i	none	Demence	
408.	Edgar	BMC i	none	Durand	
409.	Edgar	BMC i	none	Eadmund	BM
410.	Edgar	BMC i	none	Eadmund	
411.	Edgar	BMC i	none	Eanulf	
412.	Edgar	BMC i	none	Eoroth	
413.	Edgar	BMC i	none	Eoroth	BM

414.	Edgar	BMC i	none	Eoroth	
415.	Edgar	BMC i	none	Farthein	
416.	Edgar	BMC i	none	Frethic	
417.	Edgar	BMC i	none	Frehtic	
418.	Edgar	BMC i	none	Frothric	
419.	Edgar	BMC i	none	Frothric	
420.	Edgar	BMC i	none	Grim	
421.	Edgar	BMC i	none	Grim	BM
422.	Edgar	BMC i	none	Grim	BM
423.	Edgar	BMC i	none	Haculf	
424.	Edgar	BMC i	none	Harcer	
425.	Edgar	BMC i	none	Heriger	
426.	Edgar	BMC i	none	Heriger	
427.	Edgar	BMC i	none	Heriger	
428.	Edgar	BMC i	none	Heriger	
429.	Edgar	BMC i	none	Heriger	
430.	Edgar	BMC i	none	Heriger	
431.	Edgar	BMC i	none	Heriger	
432.	Edgar	BMC i	none	Heriger	
433.	Edgar	BMC i	none	Heriger	
434.	Edgar	BMC i	none	Heriger	
435.	Edgar	BMC i	none	Heriger	
436.	Edgar	BMC i	none	Heriger	
437.	Edgar	BMC i	none	Heriger	
438.	Edgar	BMC i	none	Heriger	
439.	Edgar	BMC i	none	Hunbein	
440.	Edgar	BMC i	none	Ingolf	
441.	Edgar	BMC i	none	Ingolf	
442.	Edgar	BMC i	none	Isembert	
443.	Edgar	BMC i	none	Ive	
444.	Edgar	BMC i	none	Ive	
445.	Edgar	BMC i	none	Ive	
446.	Edgar	BMC i	none	Leofstan	BM
447.	Edgar	BMC i	none	Mamolet	
448.	Edgar	BMC i	none	Mamolet	
449.	Edgar	BMC i	none	Manna	
450.	Edgar	BMC i	none	Manna	
451.	Edgar	BMC i	none	Othelric	
452.	Edgar	BMC i	none	Sigar	
453.	Edgar	BMC i	none	Thurmod	
454.	Edgar	BMC i	none	Werstan	BM
455.	Edgar	BMC iii	Chester	Aelfsige	BM
456.	Edgar	BMC iii	Chester	Freotheric	BM
457.	Edgar	BMC iii	Chester	Freotheric	
458.	Edgar	BMC iii	Chester	Thurmod	
459.	Edgar	BMC iii	Chester	Thurmod	
460.	Edgar	BMC iii	Chester	Thurmod	BM
461.	Edgar	BMC iii	Chester	Thurmod	
462.	Edgar	BMC iii	Chester	Thurmod	
463.	Edgar	half d.	Chester	Aelfsige	BM
464.	Edgar	BMC iii	Derby	Boiga	BM
465.	Edgar	BMC iii	Derby	Iole	BM
466.	Edgar	BMC iii	Derby	Iole	
467.	Edgar	BMC iii	Derby	Leofhelm	BM
468.	Edgar	BMC iii	Derby	Man	BM
469.	Edgar	BMC iii	Derby	Osulf	
470.	Edgar	BMC iii	Derby	Osulf	BM
471.	Edgar	BMC iii	Derby	Othelric	BM

472.	Edgar	half d	none	Boiga	BM
473.	Edgar	BMC iii	N/S'hampton	Berhtferth	BM
474.	Edgar	BMC iii	N/S'hampton	Boiga	BM
475.	Edgar	BMC iii	N/S'hampton	Thurferth	BM
476.	Edgar	BMC iii	Oxford	Wulfstan	BM
477.	Edgar	BMC iii	Shaftesbury	Leofstan	BM
478.	Edgar	BMC iii	Tamworth	Deorulf	
479.	Edgar	BMC iii	Wardborough	Ethelferth	BM
480.	Edgar	BMC iii	NW	Eadelfstan	BM
481.	Edgar	BMC iii	NW	Eoferard	BM
482.	Edgar	BMC iii	NW	Eoferard	BM
483.	Edgar	BMC iii	NW	Eofermund	BM
484.	Edgar	BMC iii	NW	Siferth	
485.	Edgar	BMC iii	NW	Siferth	BM
486.	Edgar	BMC iii	NW	?	BM
487.	Edgar	BMC iii	none	Aelfsige	
488.	Edgar	BMC iii	none	Aelfsige	
489.	Edgar	BMC iii	none	Aelfstan	
490.	Edgar	BMC iii	none	Aelfstan	
491.	Edgar	BMC iii	none	Aelfstan	
492.	Edgar	BMC iii	none	Amynd	
493.	Edgar	BMC iii	none	Daniel	BM
494.	Edgar	BMC iii	none	Deorulf	BM
495.	Edgar	BMC iii	none	Deorulf	
496.	Edgar	BMC iii	none	Deorulf	BM
497.	Edgar	BMC iii	none	Eadmund	
498.	Edgar	BMC iii	none	Eoferard	BM
499.	Edgar	BMC iii	none	Eoroth	BM
500.	Edgar	BMC iii	none	Frothald	
501.	Edgar	BMC iii	none	Frothric	
502.	Edgar	BMC iii	none	Frothric	BM
503.	Edgar	BMC iii	none	Gilys	BM
504.	Edgar	BMC iii	none	Hidulf	BM
505.	Edgar	BMC iii	none	Hidulf	
506.	Edgar	BMC iii	none	Oswald	BM
507.	Edgar	BMC iii	none	Siferth	BM
508.	Edgar	BMC iii	none	Siferth	
509.	Edgar	BMC iii	none	Thurmod	
510.	Edgar	BMC iii	none	Thurmod	
511.	Edgar	BMC v	Bath	Biorhtulf	BM
512.	Edgar	BMC v	Bedford	Aelfsige	
513.	Edgar	BMC v	Exeter	Wenberht	BM
514.	Edgar	BMC v	Hertford	Abenel	BM
515.	Edgar	BMC v	Huntingdon	Prim	
516.	Edgar	BMC va	London	Aethered	BM
517.	Edgar	BMC va	Totnes	Burnstan	BM
518.	Edgar	BMC va	none	Aelfsige	BM
519.	Edgar	BMC va	none	Ethelbrand	BM
520.	Edgar	BMC va	none	Baldwin	
521.	Edgar	BMC va	none	Baldwin	BM
522.	Edgar	BMC va	none	Baldwin	
523.	Edgar	BMC va	none	Baldwin	
524.	Edgar	BMC va	none	Burnferth	BM
525.	Edgar	BMC va	none	Liofstan	
526.	Edgar	BMC va	none	Liofstan	
527.	Edgar	BMC va	none	Liofstan	BM
528.	Edgar	BMC va	none	Manna	BM
529.	Edgar	BMC va	none	Norbert	BM

530.	Edgar	BMC va	none	Tuholf	BM
531.	Edgar	BMC va	none	Wulfmaer	BM
532.	Edgar	BMC va	none	Wulfstan	
534.	Edgar	BMC va	none	Wulfstan	BM
535.	Edgar	BMC va	none	?	
536.	Edgar	?	none	Aelfsige	
537.	Edgar	half d	none	Oswine	BM
538.	Edgar	half d	none	none	BM
539.	Anlaf	Brooke 1	(York)	Farman	
540.	Anlaf	Brooke 2	(York)	Ethelferth	
541.	Anlaf	Brooke 6	(York)	?	
542.	? (English)	Rosette	?	?	
543.	? (English)	Small+	?	Osulf	
544.	? (English)	Small+	?	Wulfstan	
545.	Charles the Bald	denier	Melle	none	
546.	Charles the Bald	denier	Melle	none	
547.	Berengarius	denier	Milan	none	

Archibald (1967) records two coins included in the 1950 hoard cabinet at the Grosvenor Museum :

548.	Edmund II	BMC i	none	none
549.	Edred	BMC iv	none	Oslac

Webster et al. 1953
Blunt and Dolley 1955
Archibald 1967
Unpub. Catalogue of 1976 parcel, Grosvenor Museum, Chester.

Chester, Castle Esplanade 1950, non-numismatic material

All hacksilver to No. 147 is part of the Castle Esplanade Hoard of 29th November 1950. No.s 1-68 and 74-147 were recovered at the time and No.s 68-73 were recovered as part of a second parcel, the inquest for which was held on 9th November, 1976. All therefore have the same context and are deposited in the Grosvenor Museum, Chester under the same accession number (44.S.1969c). In order not to fragment the relevant information, the catalogue entry will take account of the common characteristics in this collection. Details of context, location and Museum accession will be listed at the end of the series of individual entries for No.s 1-147. Individual entries will consist of description, dimensions and weight, and, where relevant, previous publication.

Dimensions, in common with the rest of this catalogue, are given in millimetres, weight in grammes

1) Bar, of square cross section, bent slightly at one end. it is decorated on two sides with a step pattern incised in the silver.

Length: 45 mm
Cross section: 0.42 x 0.42 mm
Weight: 7.03 g

Webster 1953: 28, pl IXb no.1.

2) Fragment of thin bracelet of triangular cross section with a raised zig-zag pattern.

Length: 26 mm
Cross section: 0.2 x 0.2 mm
Weight: 0.62 g

Webster 1953: 28, plIXb No.2

3) Fragment of thistle brooch, of amorphous shape with a double contoured edge at one point, the rest of the surface is covered with brambling. the back is plain. It is torn and folded.

Dimensions: 23 x 16 x 7.4 mm
Weight: 6.95 g

Webster 1953: 28, pl IXb no. 3

4) Flattened fragment of thistle brooch covered in brambling. The back is plain.

Dimensions: 29.5 x 16 x 3.5 mm
Weight: 6.02 g

Webster 1953: 28, plIXb no. 4

5) Sheet of amorphous shape with hammered punch decoration consisting of a series of triangular motifs, each with two or three dots. The back is plain.

Dimensions: 16 x 18 x 1 mm
Weight: 1.67 g

Webster 1953: 28, pl IXb no 5

6) Sheet with hammered punch decoration, similar to 5. In two pieces. The back is plain.

Dimensions: 12.6 x 10.1 x 1 mm
Weight: 0.52 g

Webster 1953: 28 plIX no 6

7) Fragment of bracelet; there are two plain wires of circular cross section, twisted together and bent in two.

Length: 28 mm
Cross section: 5.5 mm
Weight: 6.98 g

Webster 1953: 28, plIXb no 7

8) Wire of circular cross section, bent in half, twisted and folded.

Length: 20 mm
Cross section: 2 x 2 mm
Weight: 2.13 g

Webster 1953: 28, plIXb no 8

9) Segment of square bar, slightly twisted with rectangular cross

section.

Length: 21 mm
Cross section: 4 x 2 mm
Weight: 1.28 g

Webster 1953: 28, plIXb no 9

10) Curved bar which tapers to one end. Sub-rectangular cross section.

Length: 3 mm
Cross section: 3.9 x 3.4 mm
Weight: 1.89 g

Webster 1953: 28, plIXb no 10

11) Segment of a ring with almost square cross section and decorated with linear engraving consisting of two parallel lines joined by diagonal lines, on adjacent faces. Bent and distorted.

Length: 15 mm
Cross section: 3.7 x 3.5 mm
Weight: 1.59 g

Webster 1953: 28 fig 2 no 11

12) Bar or wire with elliptical cross section, tapered and folded in half. It has two cut marks at the thicker end.

Length: 32 mm
Cross section: 4.6 x 3.8 mm
Weight: 7.15 g

Unpublished

13) Bent segment of ring with rectangular cross section: Slightly tapered towards one end.

Length: 40 mm
Cross Section: 3.9 x 3.1 mm
Weight: 2.98 g

Webster 1953: 28, fig 2 no 13

14) Bar or wire with sub-rectangular cross section, bent to form a hook.

Length: 45 mm
Cross section: 4.1 x 4.2 mm
Weight: 8.63 g

Unpublished

15) Segment of bar with elliptical cross section. It tapers consistently; the thicker end has been cut; the thinner end seems not to have been broken.

Length: 112 mm
Cross section: 7.7 x 6.9 mm
Weight: 33.42 g

Webster 1953: 28, fig 2 no 15, plIXb no 15

16) Bar or segment of ring with elliptical cross section. Each end has been cut.

Length: 41 mm
Cross section: 7.8 x 8.1 mm
Weight: 19.3 g

Webster 1953: 28, fig 2, no 16

17) Bar or straightened segment of ring with elliptical cross section. Each end has been cut.

Length: 44 mm
Cross section: 5.3 x 5.4 mm
Weight: 8.23 g

Unpublished

18) Straight bar with circular cross section, each end has been cut.

Length: 28 mm
Cross Section: 6.1 x 6.1 mm
Weight: 7.70 g

Unpublished

19) Straight bar with circular cross section; each end has been cut.

Length: 24 mm
Cross section: 6.5 x 6.5 mm
Weight: 6.24 g

Unpublished

20) Straight bar with elliptical cross section; each end has been cut.

Length: 39 mm
Cross section: 5 x 6 mm
Weight: 11.31 g

Unpublished

21) Short bar with elliptical cross-section; each end has been cut.

Length: 2.27 mm
Cross section: 7.3 x 7.8 mm
Weight: 8.84 g

Unpublished

22) Bar, slightly bent, with elliptical cross section; each end has been cut.

Length: 20 mm
Cross section: 4.9 x 5.3 mm
Weight: 3.69 g

Unpublished.

23) Bar, slightly curved, with elliptical cross section; each end has been cut.

Length: 14.3 mm
Cross section: 5.8 x 6.1 mm
Weight: 3.20 g

Unpublished

24) Curved bar with elongated seven-sided cross section; each end has been cut.

Length: 39 mm
Cross section: 5.4 x 6.1 mm, 6.1 x 6.8 mm
Weight: 11.31 g

Unpublished

25) Bar, with circular cross section; each end has been cut.

Length: 21.5 mm
Cross section: 0.68 mm
Weight: 6.87 g

Unpublished

26) Bar with circular cross section, slightly curved and tapering; each end has been cut.

Length: 18 mm
Cross section: 73 mm
Weight: 5.63 g

Unpublished

27) Bar, slightly curved, with elliptical cross section. Each end has been cut.

Length: 23.6 mm
Cross section: 5.8 x 6.1 mm
Weight: 5.73 g

Unpublished

28) Bar, elliptical cross section; each end has been cut.

Length: 18 mm
Cross section: 5.5 x 5.6 mm
Weight: 3.43 g

Unpublished

29) Bar, elliptical cross section; each end has been cut.

Length: 18.4 mm
Cross section: 4.9 x 5.1 mm
Weight: 3.25 g

Unpublished

30) Bar, elliptical cross section; each end has been cut.

Length: 13.3 mm
Cross section: 4.8 x 4.2 mm
Weight: 1.71 g

Unpublished

31) Bar, elliptical cross section; each end has been cut.

Length: 1.37 mm
Cross section: 0.44 x 0.41 mm
Weight: 1.73 g

Unpublished

32) Bar, circular cross section, one end has been cut, the other broken.

Length: 10 mm
Cross section: 57 mm
Weight: 1.62 g

Unpublished

33) Curved bar; elliptical cross section; each end has been cut.

Length: 22 mm
Cross section: 5.2 x 5.3 mm
Weight: 3.26 g

Unpublished

34) Bar; it has a square cross section with bevelled corners; each end has been cut.

Length: 25 mm
Cross section: 6.4 x 6.7 mm
Weight: 8.35 g

Unpublished

35) Bar; elliptical cross section; each end has been cut.

Length: 10 mm
Cross section: 6.8 x 5.6 mm
Weight: 2.20 g

Unpublished

36) Bar; it has a square cross section with bevelled edges; each end has been cut.

Length: 10 mm
Cross section: 4.6 x 4.6 mm
Weight: 1.76 g

Unpublished

37) Bar; elliptical cross section, slightly curved; each end has been cut.

Length: 18.8 mm
Cross section: 6.3 x 6.5 mm
Weight: 2.88 g

Unpublished

38) Bar; it has a square cross section with rounded edges; each end has been cut.

Length: 33 mm
Cross section: 7.8 x 8.1 mm
Weight: 14.28 g

Unpublished

39) Bar of circular cross section, tapering slightly to the end and bent double.

Length: 57 mm
Cross section: 4.2 mm
Weight: 6.40 g

Unpublished

40) Twisted circular bar, thin enough to qualify as wire.

Length: 27 mm
Cross section: 3 x 2.1 mm
Weight: 1.65 g

Unpublished

41) Flattened round disc; it may be a slice of cylindrical ingot.

Diameter: 13.4 x 14 mm
Thickness: 2.5 mm
Weight: 3.50 g

Webster 1953: 28, plIXb no 41

42) Flattened, round disc: possibly a slice of cylindrical ingot.

Diameter: 10.4 x 11.7 mm
Thickness: 2.9 mm
Weight: 2.52 g

Webster 1953: 28, plIXb no 42, plIXc.

43) Flattened, round disc; possibly a slice of cylindrical ingot.

Diameter: 10.1 x 9.7 mm
Thickness: 3.3 mm
Weight: 2.14 g

Webster 1953: pl IXb, no 43.

44) Slice across cylindrical ingot with cut marks on the perimeter. Neither flat nor polished like nos. 41-43.

Diameter: 11 x 11 mm
Thickness: 2 mm
Weight: 1.63 g

Webster 1953: plIXb no 44.

45) Flattened round disc; a slice of cylindrical ingot.

Diameter: 9.4 x 7.9 mm
Thickness: 1.5 mm
Weight: 0.82 g

Webster 1953: plIXb no 45.

46) Flattened elliptical disc; a fragment of ingot.

Diameter: 13.8 x 9 mm
Thickness: 0.3 mm
Weight: 2.72 g

Unpublished

47) Flattened piece of plate cut to roughly rectangular shape.

Dimensions: 14 x 9.7 x 1.3 mm
Weight: 1.42 g

Unpublished

48) Flattened, polished bar of rectangular shape.

Dimensions: 24.5 x 8.6 x 2.7 mm
Weight: 1.42 g

Unpublished

49) Flattened bar of rectangular shape and rectangular cross section. It is polished; one end is cut, the other polished.

Dimensions: 13.2 x 5.3 x 3.3 mm
Weight: 1.78 g

Unpublished

50) Flattened bar of rectangular cross section, with bevelled edges.

Dimensions: 12.7 x 6.1 x 4.4 mm
Weight: 2.74 g

Unpublished

51) Flattened bar of roughly rectangular cross section.

Dimensions: 10.4 x 7.8 x 2.9 mm
Weight: 1.56 g

Unpublished

52) Offcut from flattened bar of roughly rectangular cross section.

Dimensions: 9 x 7.7 x 3.3 mm
Weight: 1.59 g

Unpublished

53) Flattened bar of D-shaped cross section.

Length: 7.3 mm
Cross section: 5 x 3.6 mm
Weight: 0.86 g

Unpublished

54) Flattened bar, rounded at both ends, of rectangular cross section.

Dimensions: 28.8 x 7.6 x 3.5 mm
Weight: 0.86 g

Unpublished

55) Flattened bar, cut at one end.

Dimensions: 27.5 x 7.5 x 5.1 mm
Weight: 7.06 g

Unpublished

56) Bar, of roughly trapezoidal cross section, tapering towards one end.

Length: 2.42 mm
Cross section: 6 x 6.4 mm
Weight: 5.46 g

Unpublished

INGOTS

The silver ingots need no individual descriptions since they are all alike in their shape and lack of distinguishing characteristics such as decoration. Where any differ even slightly from the type of cylindrical plain ingot, a note will be inserted into the catalogue entry to that effect. Other than these occasional remarks, the ingots will be classified merely in terms of dimensions and weight. For detailed analysis of selected ingots, together with estimations of

"nicking", see Kruse 1988b.

COMPLETE INGOTS

57) Flat base

Length: 116.3 mm
Cross section: 16 x 11.9 mm
Weight: 127.82 g

Webster, 1953, 28, pl IXc

58)...

Length: 4.84 mm
Cross section: 8.6 x 10.7 mm
Weight: 26.82 g

Unpublished

59)...

Length: 44 mm
Cross section: 11.9 x 8.8 mm
Weight: 27.69 g

Unpublished

60)...

Length: 41.7 mm
Cross section: 11 x 9.2 mm
Weight: 24.64 g

Unpublished

61)...

Length: 41.7 mm
Cross section: 10.6 x 6.8 mm
Weight: 18.98 g

Unpublished

62)...

Length: 43.2 mm
Cross section: 7.7 x 7.6 mm
Weight: 15.57 g

Unpublished

63) Thin, tapering ingot.

Length: 53.2 mm
Cross section: 7.6 x 8.2 mm
Weight: 15.72 g

Unpublished

64) Some encrustation at one end.

Length: 35 mm
Cross section: 11.9 x 8.3 mm
Weight: 20.83 g

Unpublished

65)...

Length: 3.35 mm
Cross section: 10.1 x 6.1 mm
Weight: 13.46 g

Unpublished

66)...

Length: 29.8 mm
Cross section: 8.3 x 6.2 mm
Weight: 9.38 g

Unpublished

67)...

Length: 2.76 mm
Cross section: 7.6 x 5.2 mm
Weight: 5.06 g

Unpublished

68) Ingot A of the Second Parcel (inquest 9th November 1976)

Length: 117 mm
Cross section: 16 x 12 mm
Weight: 130.03 g

Unpublished

69) Ingot B -----|-----

Length: 119.5 mm
Cross section: 19.5 x 13 mm
Weight: 129.40 g

Unpublished

70) Ingot C -----|-----

Length: 116.7 mm
Cross section: 16.7 x 12.5 mm
Weight: 127.62 g

Unpublished

71) Ingot D -----|-----

Length: 117 mm
Cross section: 17.5 x 11 mm
Weight: 129.55 g

Unpublished

72) Ingot E -----|-----

Length: 113.4 mm
Cross section: 28.5 x 13.6 mm
Weight: 282.45 g

Unpublished

INGOTS CUT AT ONE END

73)...

Length: 27.4 mm
Cross section: 13.1 x 9 mm
Weight: 21.82 g

Unpublished

74)...

Length: 30.9 mm
Cross section: 10.2 x 7.5 mm
Weight: 14.23 g

Unpublished

75)...

Length: 27.4 mm
Cross section: 8 x 8.5 mm
Weight: 16.14 g

Unpublished

76)...

Length: 30.5 mm
Cross section: 9.1 x 7.9 mm
Weight: 21.75 g

Unpublished

77) Flat base

Length: 27.6 mm
Cross section: 17.3 x 8.8 mm
Weight: 27.09 g

Unpublished

78)...

Length: 23.4 mm
Cross section: 8.4 x 6.6 mm
Weight: 8.51 g

Unpublished

79)...

Length: 34.4 mm
Cross section: 12 x 8.1 mm
Weight: 17.57 g

Unpublished

80)...

Length: 39.7 mm
Cross section: 10.8 x 8.1 mm
Weight: 20.09 g

Unpublished

81)...

Length: 30.9 mm
Cross section: 9.1 x 7.9 mm
Weight: 14.25 g

Unpublished

82)...

Length: 31.4 mm
Cross section: 9.2 x 6.8 mm
Weight: 12.18 g

Unpublished

83)...

Length: 29.4 mm
Cross section: 11.6 x 5.4 mm
Weight: 12.22 g

Unpublished

ENDS OF BARS

84)...

Length: 19.5 mm
Cross section: 12.7 x 5.6 mm
Weight: 8.49 g

Unpublished

85)...

Length: 13.7 mm
Cross section: 7.7 x 6 mm
Weight: 3.88 g

Unpublished

86)...

Length: 10.8 mm
Cross section: 8.7 x 6.8 mm
Weight: 3.58 g

Unpublished

87)...

Length: 13 mm
Cross section: 8.3 x 4.9 mm
Weight: 2.86 g

Unpublished

88)...

Length: 17.1 mm
Cross section: 9.5 x 9.1 mm
Weight: 8.10 g

Unpublished

89)...

Length: 18.6 mm
Cross section: 10.3 x 5.6 mm
Weight: 6.68 g

Unpublished

90)...

Length: 14 mm
Cross section: 8.3 x 7 mm
Weight: 3.98 g

Unpublished

91) Some encrustation

Length: 20 mm
Cross section: 8.1 x 6.1 mm
Weight: 3.56 g

Unpublished

92)...

Length: 9.5 mm
Cross section: 9.1 x 7 mm
Weight: 2.83 g

Unpublished

93)...

Length: 8.5 mm
Cross section: 8.4 x 5.9 mm
Weight: 2.39 g

Unpublished

94)...

Length: 16 mm
Cross section: 12 x 8.7 mm
Weight: 10.10 g

Unpublished

95)...

Length: 11.6 mm
Cross section: 8.7 x 6.5 mm
Weight: 3.41 g

Unpublished

96)...

Length: 10.9 mm
Cross section: 10.6 x 8 mm
Weight: 6.50 g

Unpublished

97) Triangular section

Length: 14 mm
Cross section: 11.7 x 8.6 mm
Weight: 6.52 g

Unpublished

98)...

Length: 14.1 mm
Cross section: 10.5 x 9.6 mm
Weight: 9.13 g

Unpublished

99)...

Length: 1.48 mm
Cross section: 10.4 x 9.3 mm

Weight: 8.39 g

Unpublished

100)...

Length: 16 mm
Cross section: 8 x 6.1 mm
Weight: 5.04 g

Unpublished

101)...

Length: 11.5 mm
Cross section: 11.2 x 6.2 mm
Weight: 4.40 g

Unpublished

102)...

Length: 11.5 mm
Cross section: 7.9 x 6.8 mm
Weight: 3.70 g

Unpublished

103)...

Length: 13 mm
Cross section: 8 x 6 mm
Weight: 5.55 g

Unpublished

104) Triangular section

Length: 19 mm
Cross section: 11 x 8.5 mm
Weight: 10.05 g

Unpublished

105)...

Length: 8 mm
Cross section: 7.4 x 7 mm
Weight: 1.49 g

Unpublished

106)...

Length: 60 mm
Cross section: 9.3 x 4.4 mm
Weight: 1.49 g

Unpublished

SLICES FROM INGOTS CUT AT BOTH ENDS

107)...

Length: 9 mm
Cross section: 15.7 x 7.4 mm
Weight: 5.55 g

Unpublished

108)...

Length: 10.8 mm
Cross section: 7.5 x 6.4 mm
Weight: 3.09 g

Unpublished

109) Cut on three faces

Length: 10.8 mm
Cross section: 8.7 x 10.5 mm
Weight: 6.24 g

Unpublished

110)...

Length: 2.46 mm
Cross section: 9.9 x 7.6 mm
Weight: 12.63 g

Webster, 1953, 28, plIXc.

111)...

Length: 21.1 mm
Cross section: 10.5 x 8.4 mm
Weight: 12.36 g

Unpublished

112)...

Length: 11.5 mm
Cross section: 9.7 x 8.2 mm
Weight: 4.99 g

Unpublished

113)...

Length: 14.3 mm
Cross section: 12.3 x 8.1 mm
Weight: 8.49 g

Unpublished

114)...

Length: 15.7 mm
Cross section: 8.5 x 7.5 mm
Weight: 6.32 g

Unpublished

115)...

Length: 8.7 mm
Cross section: 7 x 6.1 mm
Weight: 2.35 g

Unpublished

116)...

Length: 18.7 mm
Cross section: 7 x 6.7 mm
Weight: 5.26 g

Unpublished

117)...

Length: 12.5 mm
Cross section: 15.3 x 7 mm
Weight: 8.62 g

Unpublished

118)...

Length: 21 mm
Cross section: 23.9 x 7.2 mm
Weight: 23.08 g

Webster, 1953, 28, plIXc

119)...

Length: 10.1 mm
Cross section: 10.9 x 9.9 mm
Weight: 6.78 g

Unpublished

120)...

Length: 8.7 mm
Cross section: 7 x 6.1 mm
Weight: 2.35 g

Unpublished

121)...

Length: 16.5 mm
Cross section: 6.7 x 5.8 mm
Weight: 4.47 g

Unpublished

122) Cut on three faces

Length: 8.6 mm
Cross section: 14.9 x 13 mm
Weight: 9.28 g

Unpublished

123)...

Length: 17.1 mm
Cross section: 8.6 x 8.5 mm
Weight: 7.88 g

Unpublished

124)...

Length: 10.7 mm
Cross section: 7 x 4.9 mm
Weight: 2.07 g

Unpublished

125)...

Length: 16.6 mm
Cross section: 7 x 6.3 mm
Weight: 4.45 g

Unpublished

126)...

Length: 10.3 mm
Cross section: 5.9 x 6.2 mm
Weight: 2.35 g

Unpublished

127)...

Length: 6.2 mm
Cross section: 7.9 x 8.9 mm
Weight: 2.23 g

Unpublished

128)...

Length: 9.3 mm
Cross section: 7.4 x 6.4 mm
Weight: 2.69 g

Unpublished

129)...

Length: 10.7 mm
Cross section: 10.4 x 5.2 mm
Weight: 3.61 g

Unpublished

130)...

Length: 14.9 mm
Cross section: 9.3 x 5.8 mm
Weight: 5.17 g

Unpublished

131)...

Length: 10.3 mm
Cross section: 11.3 x 9.9 mm
Weight: 7.64 g

Unpublished

132)...

Length: 10 mm
Cross section: 7.6 x 7.4 mm
Weight: 3.10 g

Unpublished

133)...

Length: 7.8 mm
Cross section: 7.8 x 7.7 mm
Weight: 2.96 g

Unpublished

134)...

Length: 15.5 mm
Cross section: 9.7 x 6.9 mm
Weight: 6.74 g

Unpublished

135)...

Length: 10.8 mm
Cross section: 8.7 x 6.7 mm

Weight: 3.58 g

Unpublished

136) Fragment cut on three faces

Length: 12.6 mm
Cross section: 10.6 x 8.2 mm
Weight: 6.43 g

Unpublished

137) Fragment cut on three faces

Length: 8.7 mm
Cross section: 6.4 x 7.1 mm
Weight: 1.86 g

138) Fragment cut on three faces

Length: 12 mm
Cross section: 10.6 x 9.2 mm
Weight: 6.48 g

Unpublished

139)...

Length: 8.9 mm
Cross section: 8.7 x 8.5 mm
Weight: 3.13 g

Unpublished

140) Fragment from the end of an ingot

Length: 9.1 mm
Cross section: 8.4 x 5.7 mm
Weight: 2.01 g

Unpublished

141) Fragment cut on four faces

Length: 7 mm
Cross section: 3.7 x 5.9 mm
Weight: 0.95 g

Unpublished

142) Fragment of an ingot

Length: 8.2 mm
Cross section: 6.2 x 3.7 mm
Weight: 0.86 g

Unpublished

143) Thin flake from an ingot

Length: 12.3 mm
Cross section: 5 x 4.6 mm
Weight: 0.98 g

Unpublished

144) Small fragment of an ingot

Length: 7 mm
Cross section: 3.8 x 5.2 mm
Weight: 0.89 g

Unpublished

MISCELLANEOUS

145) Fused mass

Dimensions: 12.5 x 17.9 x 7.3 mm
Weight: 4.10 g

Webster 1953: 29

146) Coil of wire

Length: 37.7 mm
Cross section of wire: 0.25 mm
Weight: 1.01 g

Webster 1953: 29
"The Chester Chronicle", Dec 30, 1950

147) Coil of wire

Dimensions: -----|-----
Weight: 1.74 g

5. Chester, 97 Eastgate Row 1857, (gaz 4.15)

Unknown context, the address has now been removed.
42 out of an original 70-80, now in Grosvenor Museum, Chester.

No.	Reign/Issue	Type	Mint	Moneyer
1.	Edred	BMC i	? Chester	Thurmod
2.	Edred	BMC i	? Chester	Thurmod
3.	Edred	BMC i	? Chester	Sieferth
4.	Edwig	?	York	Aethelstan
5.	Edgar	BMC id	Thetford	Alfred
6.	Edgar	BMC id	Chester	Aelfsige
7.	Edgar	BMC id	Chester	Aelfsige
8.	Edgar	BMC id	Chester	Aldewine
9.	Edgar	BMC id	Chester	Aldewine
10.	Edgar	BMC id	Chester	Aldewine
11.	Edgar	BMC id	?	Alhmund
12.	Edgar	BMC id	?	Alhmund

13.	Edgar	BMC id	Chester	Eoroth
14.	Edgar	BMC id	Chester	Eoroth
15.	Edgar	BMC id	Chester	Eoroth
16.	Edgar	BMC id	Chester	Eoroth
17.	Edgar	BMC id	Chester	Eoroth
18.	Edgar	BMC id	Chester	Aelfsige
19.	Edgar	BMC id	Chester	Eadmund
20.	Edgar	BMC id	Chester	Eadmund
21.	Edgar	BMC id	Chester	Deorulf
22.	Edgar	BMC id	Chester	Deorulf
23.	Edgar	BMC id	Chester	Thurmod
24.	Edgar	BMC id	Chester	Thurmod
25.	Edgar	BMC id	Chester	Thurmod
26.	Edgar	BMC id	Chester	Thurmod
27.	Edgar	BMC id	Chester	Frothric
28.	Edgar	BMC id	Chester	Frothric
29.	Edgar	BMC id	Chester	Frothric
30.	Edgar	BMC id	Chester	Frothric
31.	Edgar	BMC id	Chester	Frothric
32.	Edgar	BMC id	Chester	Frothric
33.	Edgar	BMC id	Chester	Frothric
34.	Edgar	BMC id	Chester	Gillys
35.	Edgar	BMC id	Chester	Gillys
36.	Edgar	BMC id	Chester	Hrothulf
37.	Edgar	BMC id	Chester	Martin
38.	Edgar	BMC id	Chester	Martin
39.	Edgar	BMC id	Chester	Werstan
40.	Edgar	BMC id	Chester	Teothuc
41.	Edgar	BMC id	Chester	Werstan
42.	Edgar	BMC iv	Chester	Thurmod

Turner 1944.

6. Chester, Pemberton's Parlour 1914 (gaz 4.42)

No.	Reign/Issue	Type	Mint	Moneyer
1.	Edgar	BMC (A)vi	Canterbury	Boga
2.	Edgar	BMC (A)vi	Canterbury	Wine
3.	Edgar	BMC (A)vi	Canterbury	Wine
4.	Edgar	BMC (A)vi	Derby	Osulf
5.	Edgar	BMC (A)vi	Leicester	Mani
6.	Edgar	BMC (A)vi	Lymne	Aethelstan
7.	Edgar	BMC (A)vi	Oxford	Wulford
8.	Edgar	BMC (A)vi	Rochester	Sideman
9.	Edgar	BMC (A)vi	Rochester	Sideman
10.	Edgar	BMC (A)vi	Rochester	Sideman
11.	Edgar	BMC (A)vi	Southampton	Eadnoth
12.	Edgar	BMC (A)vi	Southampton	Eadnoth
13.	Edgar	BMC (A)vi	Southampton	Leofsig
14.	Edgar	BMC (A)vi	Southampton	Leofsig
15.	Edgar	BMC (A)vi	Southampton	Leofsig
16.	Edgar	BMC (A)vi	Southampton	Leofsig
17.	Edgar	BMC (A)vi	Southampton	Oswold
18.	Edgar	BMC (A)vi	Stamford	Aescman
19.	Edgar	BMC (A)vi	Stamford	Cnapa
20.	Edgar	BMC (A)vi	Winchester	Aelfsige
21.	Edgar	BMC (A)vi	Winchester	Wihtsige

22.	Edgar	BMC	(A)vi	Winchester	Wihtsige
23.	Edgar	BMC	(A)vi	York	Unspac
24.	Edgar	BMC	(A)vi	York	Oda
25.	Edward the Martyr	BMC	(A)i	Bedford	Aelfstan
26.	Edward the Martyr	BMC	(A)i	Bedford	Aelfstan
27.	Edward the Martyr	BMC	(A)i	Bedford	Aelfstan
28.	Edward the Martyr	BMC	(A)i	Bedford	Aelfstan
29.	Edward the Martyr	BMC	(A)i	Bedford	Baldric
30.	Edward the Martyr	BMC	(A)i	Bedford	Baldric
31.	Edward the Martyr	BMC	(A)i	Chester	Boiga
32.	Edward the Martyr	BMC	(A)i	Chester	Boiga
33.	Edward the Martyr	BMC	(A)i	Guildford	Aelfweard
34.	Edward the Martyr	BMC	(A)i	Lincoln	Adelaver
35.	Edward the Martyr	BMC	(A)i	Lincoln	Grim
36.	Edward the Martyr	BMC	(A)i	Lincoln	Grim
37.	Edward the Martyr	BMC	(A)i	Lincoln	Grind
38.	Edward the Martyr	BMC	(A)i	Lincoln	Leofwig
39.	Edward the Martyr	BMC	(A)i	Lincoln	Leofwig
40.	Edward the Martyr	BMC	(A)i	Lincoln	Leofwig
41.	Edward the Martyr	BMC	(A)i	London	Aelfweard
42.	Edward the Martyr	BMC	(A)i	London	Aethelwald
43.	Edward the Martyr	BMC	(A)i	London	Wigferth
44.	Edward the Martyr	BMC	(A)i	Lymne	Aethelstan
45.	Edward the Martyr	BMC	(A)i	Lymne	Aethelstan
46.	Edward the Martyr	BMC	(A)i	Norwich	Manninc
47.	Edward the Martyr	BMC	(A)i	Norwich	Manninc
48.	Edward the Martyr	BMC	(A)i	Oxford	Wulfred
49.	Edward the Martyr	BMC	(A)i	Rochester	Eadwerd
50.	Edward the Martyr	BMC	(A)i	Rochester	Sideman
51.	Edward the Martyr	BMC	(A)i	Southampton	Cylm
52.	Edward the Martyr	BMC	(A)i	Southampton	Cytel
53.	Edward the Martyr	BMC	(A)i	Southampton	Leofhelm
54.	Edward the Martyr	BMC	(A)i	Southampton	Leofsige
55.	Edward the Martyr	BMC	(A)i	Stamford	Aelfwald
56.	Edward the Martyr	BMC	(A)i	Stamford	Aelfwald
57.	Edward the Martyr	BMC	(A)i	Stamford	Aelfwald
58.	Edward the Martyr	BMC	(A)i	Stamford	Aescman
59.	Edward the Martyr	BMC	(A)i	Stamford	Aescman
60.	Edward the Martyr	BMC	(A)i	Stamford	Cnapa
61.	Edward the Martyr	BMC	(A)i	Stamford	Cnapa
62.	Edward the Martyr	BMC	(A)i	Stamford	Cnapa
63.	Edward the Martyr	BMC	(A)i	Stamford	Cnapa
64.	Edward the Martyr	BMC	(A)i	Stamford	Wacer
65.	Edward the Martyr	BMC	(A)i	Stamford	Wacer
66.	Edward the Martyr	BMC	(A)i	Stamford	Wulfgar
67.	Edward the Martyr	BMC	(A)i	Tamworth	Deorulf
68.	Edward the Martyr	BMC	(A)i	Tamworth	Manna
69.	Edward the Martyr	BMC	(A)i	Wilton	Boiga
70.	Edward the Martyr	BMC	(A)i	Wilton	Eadwine
71.	Edward the Martyr	BMC	(A)i	Winchester	Eadstan
72.	Edward the Martyr	BMC	(A)i	York	Beolan
73.	Edward the Martyr	BMC	(A)i	York	Oda
74.	Edward the Martyr	BMC	(A)i	York	Styr
75.	Edward the Martyr	BMC	(A)i	York	?
76.	Edward the Martyr	BMC	(A)i	?	Leofwine
77.	Edward the Martyr	BMC	(A)i	?	?
78.	Aethelred II	BMC	(A)i	Bedford	Aelfstan
79.	Aethelred II	BMC	(A)i	Bedford	Baldric

80.	Aethelred II	BMC (A)i	Bedford	Baldric
81.	Aethelred II	BMC (A)i	Bedford	Byrnwine
82.	Aethelred II	BMC (A)i	Chester	Aelfstan
83.	Aethelred II	BMC (A)i	Chester	Deorlaf
84.	Aethelred II	BMC (A)i	Derby	Gunar
85.	Aethelred II	BMC (A)i	Derby	Gunar
86.	Aethelred II	BMC (A)i	Derby	Osulf
87.	Aethelred II	BMC (A)i	Derby	Osulf
88.	Aethelred II	BMC (A)i	Derby	Osulf
89.	Aethelred II	BMC (A)i	Derby	Osulf
90.	Aethelred II	BMC (A)i	Derby	Osulf
91.	Aethelred II	BMC (A)i	Lincoln	Leofwig
92.	Aethelred II	BMC (A)i	Lincoln	Leofwig
93.	Aethelred II	BMC (A)i	Lincoln	Grim
94.	Aethelred II	BMC (A)i	Lincoln	Grind
95.	Aethelred II	BMC (A)i	Lincoln	Grind
96.	Aethelred II	BMC (A)i	Lincoln	Grind
97.	Aethelred II	BMC (A)i	Lincoln	Rodbehrt
98.	Aethelred II	BMC (A)i	Lincoln	Rodbehrt
99.	Aethelred II	BMC (A)i	Lincoln	Rodbehrt
100.	Aethelred II	BMC (A)i	Lincoln	Rodbehrt
101.	Aethelred II	BMC (A)i	Stamford	Boia
102.	Aethelred II	BMC (A)i	Stamford	Leofing
103.	Aethelred II	BMC (A)i	Stamford	Wulfgar
104.	Aethelred II	BMC (A)i	Stamford	Wulfgar
105.	Aethelred II	BMC (A)i	Tamworth	Mana
106.	Aethelred II	BMC (A)i	Tamworth	Leofwine
107.	Aethelred II	BMC (A)i	Totnes	Manna
108.	Aethelred II	BMC (A)i	York	Beolan
109.	Aethelred II	BMC (A)i	York	Swertinc
110.	Aethelred II	BMC (A)i	?	?
111.	Aethelred II	BMC (A)ic	Canterbury	Boga
112.	Aethelred II	BMC (A)ii	Chester	Leomann
113.	Aethelred II	BMC (A)ii	Shrewsbury	Aelfic
114.	Aethelred II	BMC (A)iia	Chester	Aelfstan
115.	Aethelred II	BMC (A)iia	Chester	Aelfstan
116.	Aethelred II	BMC (A)iia	London	Alfwold
117.	Aethelred II	BMC (A)iia	London	Alfwold
118.	Aethelred II	BMC (A)iia	London	Goda
119.	Aethelred II	BMC (A)iia	Winchester	Aelfsige
120.	Aethelred II	BMC (A)iia	York	Farman
121.	Aethelred II	BMC (A)iia	York	Swertinc
122.	?	BMC (A)	Stamford	Wulfgar

Hill 1920, Thompson 1956:29.

SINGLE FINDS OF POST-ROMAN COINAGE TO AD 1100

Rhuddlan (gaz 1.1)

1. Edward the Confessor, BMC type ix, Chester, Bruninc; Found in machine- excavated topsoil, Site A, 1969.

2. William II (Rufus), penny found in grave M117, site M.

3. William II (Rufus), penny found in grave M117, site M.

Chester

1. Aethelstan, BMC type v, Eadmund.

"found in Chester"

GM, Unpublished.

2. Aethelstan, BMC type v, Eadmund.

"found in Chester"

GM, Unpublished.

3. Edred, BMC i, (?) North-Western, Boiga.

"found near Ampitheatre, July 1951"

GM, Unpublished.

4. Edward the Martyr, BMC type i, Ipswich, Wilebent.

"found near the Cathedral"

GM, Unpublished

5. Aethelred II, BMC type i (last small X), Chester, Alcsige.

Crook Street (gaz 4.10)

GM (Arch. Services, CRS 1973-4, 121)

Ward, forthcoming.

6. Aethelred II, BMC type i, ii.

"found near the Cathedral"

GM, Unpublished.

7. Edward the Confessor, BMC type ix, Chester, Dunninc, half.

Greyfriars Court Excavation, phase IV, structure 11 (residual)

GM (Arch. Services GFC 76-8, 399)

Lloyd-Morgan, in Ward 1990:165.

Meols (gaz 5.12)

1. Porcupine sceatta series (c.680-730 AD), BMC type 4.

(NMGM 18.11.74).

Ecroyd Smith 1868: 113-5
Bu'Lock 1960: 5
Metcalf 1960: 97
Dolley 1961: 197
Chitty & Warhurst 1977: 35
Warhurst 1982: 19.

2. Porcupine sceatta series (c.680-730 AD), BMC type 5.

(NMGM 18.11.74).

Ecroyd Smith 1868: 113-5
Bu'Lock 1960: 5
Metcalf 1960: 97
Dolley 1961: 197
Chitty & Warhurst 1977: 35
Warhurst 1982: 20.

3. Styca series, Aethelred II (1st reign), Fordred.

(NMGM 4809)

Hume 1863: 292
Bu'Lock 1960:198
Metcalf 1960: 97
Dolley 1961: 198
Chitty & Warhurst 1977: 36
Warhurst 1982: 74.

4. Styca series, Aethelred II (location unknown/lost).

Hume 1863: 292
Metcalf 1960: 97
Dolley 1961: 198.

5. Styca series, Redwulf, Coenred.

(NMGM 4810)

Hume 1863: 292
Bu'Lock 1960: 7
Dolley 1961: 198
Chitty & Warhurst 1977: 36
Warhurst 1982: 96.

6. Edgar, BMC type vi, York, cut half.

(NMGM 18.11.74)

Hume 1863: 292

Longbottom 1908: 15
Dolley 1961: 198
Chitty & Warhurst 1977: 36
Warhurst 1982: 512.

7. Edgar, BMC type vi (?) frag (centre)

(NMGM M4090)

Hume 1863: 293 as Cnut
Chitty & Warhurst 1977: 36
Warhurst 1982: 512.

8. Aethelred II, BMC type iia, Shaftesbury, Aethestan.

(NMGM 18.11.74)

Hume 1863: 292
Dolley 1961: 199
Chitty & Warhurst 1977: 36
Metcalf 1980: 45
Warhurst 1982: 516.

9. Aethelred II, BMC type iiia, London, Godric, cut half.

(NMGM 18.11.74)

Hume 1863: 292
Dolley 1961: 199
Chitty & Warhurst 1977: 37
Metcalf 1980: 45
Warhurst 1982: 527.

10. Aethelred II, "common type", (?)London.

lost

Longbottom 1908: 15
Dolley 1961: 199.

11. Cnut, BMC type viii, Chester, Ceolnoth.

GM (Potter Collection)

Harris Gibson 1887: 64
Dolley 1961: 199
Metcalf 1980: 45.

12. Cnut, BMC type viii, Chester, ...leof, frag.

GM (Potter Collection)

Harris Gibson 1887: 64
Ecroyd Smith 1867: 110
Longbottom 1908: 15
Dolley 1961: 199
Metcalf 1980: 45.

13. Cnut, BMC type viii, Chester, Gunleof, frag.

(NMGM 18.11.74)

Hume 1863: 293
Dolley 1961: 199
Chitty & Warhurst 1977: 37
Metcalf 1980: 43
Warhurst 1982: 616.

14. Cnut, BMC type xiv, Chester, Leofwine.

lost

Ecroyd Smith 1873:128
Longbottom 1908: 15
Dolley 1961: 199
Metcalf 1980: 45

15. Cnut, BMC type xiv, Shrewsbury, Etsige.

(NMGM 18.11.74)

Hume 1863: 293 as Leicester
Dolley 1961: 200
Chitty & Warhurst 1977: 37
Metcalf 1980: 45.

16. Cnut, BMC type xiv, Winchester, Swileman.

(NMGM 18.11.74)

Hume 1863: 293
Dolley 1961: 200
Chitty & Warhurst 1977: 37
Metcalf 1980: 45
Warhurst 1982: 652.

17. Harthacnut, BMC type ii, Chester, Leofn (oth), cut half.

lost

Ecroyd Smith 1868: 110
Dolley 1961: 200
Metcalf 1980: 45.

18. Edward the Confessor, BMC type iv, London, Leofric, cut half.

(NMGM 18.11.74)

Hume 1863: 293
Dolley 1961: 200
Chitty & Warhurst 1977: 37
Metcalf 1980: 45
Warhurst 1982: 695.

19. Edward the Confessor, BMC type ii, Southwark, Aelfwine.

lost

Ecroyd Smith 1868: 110
Dolley 1961: 200
Metcalf 1980: 45.

20. Edward the Confessor, BMC type ix, (?) Chester.

lost

Ecroyd Smith 1868: 110
Dolley 1961: 200
Metcalf 1980: 45.

21. Hiberno-Norse

GM (Potter Collection)

Longbottom 1908: 15
Dolley 1961: 201
Metcalf 1980: 45

22. William I, BMC type ii, frag.

lost (found 1869)

Ecroyd Smith 1870
Metcalf 1960:113.

23. William I, BMC type iv.

Ecroyd Smith 1870
Metcalf 1960:113.

24. William I, BMC type iv, half.

lost (found 1869)

Ecroyd Smith 1870
Metcalf 1960:113

25. William I, BMC type viii, Winchester, Spraelinc.

(NMGM 18.11.74)

Chitty & Warhurst 1977: 38

Warhurst 1982: 891

26. William I, BMC type v, half

lost

Longbottom 1908: 16
Metcalf 1960: 113
Metcalf 1980: 45

27. William I, BMC type v, cut farthing.

lost

Longbottom 1908: 16
Metcalf 1960: 113
Metcalf 1980: 45.

28. William II (Rufus), penny.

Formerly Liverpool Museum 4093 M, destroyed in air-raid damage in 1941.

Unpublished.

Moreton (gaz 5.14)

1. Edwig, BMC type v, IOH, ANHO MON.

First cut of beam slot in house structure, found 1988.

NMGM (Archaeological Survey)

Unpublished.

Altmouth (gaz 10.8)

1. William I, (?) BMC type v.

Destroyed in air-raid damage in 1941

formerly Liverpool Museum (now NMGM)

Unpublished.

APPENDIX D: Methodology: data and interpretation.

This thesis is, as stated in chapter 1, a piece of research with two main features: an archaeological gazetteer of a specific area and an interpretative statement about the period AD 800-1100 in that area and beyond. The available information (of which the material remains are catalogued), includes both historical (documentary) and archaeological data. I would suggest placing toponymic data with its dependence on documents within the orbit of primary historical research. From a viewpoint of examining questions particularly germane to the gazetteer (settlement and economy), I seek to synthesise the data so that it can be interpreted or ascribed meaning. I am therefore working towards a detailed, and general, historical account. Such an objective poses two important methodological questions:

1) How can the disparate historical and archaeological information be constructively integrated?

2) How can meaning be ascribed to the result?

The existing debate in early medieval archaeology in the British Isles and Scandinavia has left a number of important questions not just unresolved but untouched.

1: Archaeology and History

The difficulties associated with the relationship of history and archaeology are profound, yet the relationship is epistemologically basic to the study of the early medieval past. The traditional, empiricist style of archaeology can be criticised for a failure to explain the interpretative framework in which archaeological facts are orientated to a chronological model constructed of documentary references. Indeed the theoretical "silence" has recently been remarked upon as "institutionalised in the publication practices of medieval history and archaeology" (Driscoll 1988:163).

The methodological problem of combining archaeological information with "history" is exacerbated by the continuing belief in the otherness (and seniority) of history as an academic discipline:

> "The two disciplines should use their own techniques on their own material and only then see what measure of agreement there is" (Sawyer 1983:47).

The relationship between history and archaeology has been the subject of a number of recent studies (Deetz 1977; Trigger 1980; Hodder 1987; Driscoll 1988). A common theme is the denial of the need for a split between archaeology and history. We have to recognise that history and archaeology are dedicated to the same end: writing the past. Any sustainable difference must therefore depend not on the conclusions but on the primary material. In what way, if any, are documents essentially different to other manifestations of culture, such as works of art, pots, jewellery, architecture or the spatial layout of a farm?. Driscoll (1988:166) outlines the case for a difference as two "unstated assumptions"; that "the division between document and artefact is natural because the mental processes at work in each instance are different" and that "artefacts can only be known at the functional level since meaning and intention are so remote from form".

The case for the active and culturally meaningful role of literate communication as contrasted with the primacy of function and passivity of style in artefacts is at best unproven. A glance at everyday objects in the gazetteer (below) shows that dress fasteners, mounts and tools made in base metal are covered with motifs, devices and depictions, often completely irrelevant to their plain function as a pin or a chape. They are imbued with styles whose parallels and provenance (chapter 5) create a cultural context around them. Documents, held as so important in our literate age may actually have been less meaningful to the bulk of early medieval society than small objects because they were physically isolated in monasteries and palaces and culturally isolated from the public due to general illiteracy. Nevertheless the link between documents and artefacts is strong. Documents are also imbued with style, and motifs found on documents are often found on artefacts. An immediate example of this is the interlace in the border of 87:M/MT 1, a bronze mount from Meols, which is a version in metal of the interlace in the border of the first page of the gospel of Mark in the Book of Durrow (above, cap 5.1). Indeed the range of Viking art styles (Wilson & Klindt-Jensen 1966) is notable for its universal applicability - on stone, metal, wood, leather and parchment.

So here we can see many of the same messages being conveyed by both documents and artefacts. Yet the point remains that literate sources may convey an active message and that 'material culture' plays a purely passive role reflecting ethnicity and adaptation to circumstance. This view denies that form and style can have any active meaning - yet abstract and representative as nearly all early medieval style is, it cannot simply act as a record or photograph of existing conditions. It carries ethnic and cognitive meaning; Christian or Pagan, Norse or Celtic. R.G. Collingwood's concept of the "internal significance" of historical events (1946) can be translated into material culture:

> "Material culture is assumed to passively reflect individual or ethnic identities. It is quite possible that precisely the contrary situation may take place, in which style is actively manipulated to invert, disguise and misrepresent social practices. Furthermore style cannot be held simply to mirror social strategies and practices but can also mediate and therefore serve to actively reorientate these strategies". (Shanks & Tilley 1987:142)

Is a particular written source "a biased example intended to manipulate" (Addyman 1976:311) or is it a passive record of circumstances?. The very fact that this question can be asked of both documents and artefacts suggests that the supposed difference between early medieval documents and material culture has sprung from a deep epistemological inconsistency. Words on vellum, artefacts and spatial patterning must be seen to have the possibility to act as the conveyor of a particular social message and to have an active cultural role. To what extent are we justified in trying to classify a sculptured stone, a coin or a runic inscription on a sword or a cow-rib as a document or artefact?. The very sterililty of such an exercise stresses the connexion between document and artefact (in this period) and the interchangeability of the terms.

What, then, is left of the difference between history and archaeology?. Common sense still protests that there is a practical difference between documents and metal or wooden objects. The writing of history demands reference to the information within the data. Separate technical skills are necessary to engage this primary information in historical interpretation. These skills (such as palaeography, or drawing an archaeological section) are not at issue, yet the early convergence of the raw or primary information is inevitable. From the perspective of attempting a general interpretation about a specific aspect of the past, this convergence denies any significant epistemological difference between history and archaeology. At this secondary, interpretative stage, the discriminatory powers required to read the bias and manipulative stance of written history can be employed to 'read' the cultural meaning and strategy of form and style in material culture.

2: Understanding and Meaning

The common 'silence' in traditional medieval archaeology on theory and the basis of understanding has not been conquered by the New Archaeology. New (or processual) archaeology, with its dependence on models is possibly clearer about aspects of methodology. "Loose methods of induction" (Wilson 1985a:255) are replaced by the hypothetico-deductive method. The basis for the hypotheses, the majority of models in New Archaeology, are almost never questioned. The concept of social evolution is rarely even explained. The principal model of social evolution which has affected North European medieval archaeology is the development through stages of the early state, a model profoundly dependent on the social-evolutionary view. The motor behind this putative evolution is materialism, the progressive maximization of resources. It pervades not just the study of agriculture and economy; culture and social change are subordinated to the driving force of control and redistribution of resources. A crude transfer of Darwinian theory into the social sphere, social evolution is by no means as logical and straightforward as its common usage might suggest. Central to objections to its eco-functionalism is a criticism that it neglects the role of human rationality and irrationality; the agency of thought and the range of intentions behind human action and social change (Collingwood 1946:213; Johnsen & Olsen, forthcoming). The concept of social evolution has been found wanting as a model for interpretation, in this case the Marxist version: "Childe's version of historical materialism may be in some respects a particularly crude one, but it does have the virtue of bringing into the open assumptions which are often surreptitiously made. The fact that human beings must survive in the material environment in which they live tells us nothing about whether what they do in order to survive plays a dominant role in social transformation" (Giddens 1984:243). Like traditional medieval archaeology, New Archaeology is dependent on unstated assumptions. Despite its 'objective' and 'scientific' self-image, processual archaeology has offered in place of inductive thinking a science whose models are not laws but highly questionable and reductionist hypotheses; crude appropriations of Darwinism.

With the problem of asking particular questions of a diversified database, the existing research in early medieval archaeology does not offer a satisfactory method. If one is to rely on the essential 'otherness' of history to provide a factual framework for a descriptive style of archaeology, one is missing much of the potential

meaning within the archaeological material. Yet if one seeks to apply ready-made models such as early state development, the resulting interpretation is open to unanswerable criticisms of the underlying concept of social evolution.

In order to make sense of the data and come to an interpretation, it is necessary to state explicity how this understanding is to be achieved from the most basic level. Any discussion of how understanding is reached must regard studying the past as an interpretative practice (Hodder 1986; Johnsen & Olsen forthcoming). It is also important that this practice is located in the present. The construction of knowledge is an interplay between the remains of the past (the data) and the interpreter, themself situated in the present. Such a concept of interplay is encapsulated in the philosophical tradition of Hermeneutics (Gadamer 1977; Johnsen & Olsen, forthcoming). Hermeneutics (from the Greek word hermeneuin, to interpret, and connected etymologically to Hermes, the messenger of the Gods), is mainly a product of German philosophical discourse. It characterises interpretation as a circle, the hermeneutic circle, where interpretation takes place as a reciprocal reference between the subject (the author) and the object:

> "The circle starts from the divination of the totality to which the confronted element belongs; if the guess is correct, the element reveals part of its meaning, which in turn gives us the lead toward a better, fully, more specific reconstruction of the totality. The process goes on, in ever wider circles, until we are satisfied that the residue of opacity still left in our object does not bar us from appropriating the meaning" (Bauman 1978:31).

The hermeneutic characterization of the dialectic is of profound significance in interpreting a database in archaeology. The information available at the convergence after primary engagement consists of disparate historical references, finds, landscape information, structures, spatial patterning and placenames. A constructive dialectic will involve the subject (the interpreter) asking questions of the data and transferring the result or consequent impression into new and different questions. The formulation of these questions is the motor behind the research and their reformulation requires the researching skills of the interpreter.

Central to the formulation of such questioning is the idea of context, defined by I. Hodder as:

> "...the zone in which we can assume that the same thing has the same meaning...It is the space in which I have a theory that I can transfer meaning" (1988:68).

The basis of research must be comparative: the assessment of possibilities for meaning to be transferred, the search for a context by looking for similarities. Within a context, meaning can be transferred from a find, hoard or site to another, thus widening and strengthening the context: establishing a dialectic. Historical information can furnish the semblance of a context which itself will pose a question of other, pertinent data, from which the interpretation can ascend. Even if the questions asked of the data break down the original context, the dialectic between suggestion and

non-confirmation will reorientate the research problem and may lead to more fruitful questions being asked of the data.

Such a methodological prescription can only be of value if it is taken to a practical research problem and applied. In order to illustrate its importance to this thesis I have selected two examples from my own experience.

a) The interpretation of the character of a major settlement: Chester.
Chester was contextualised by historical references to it as a Saxon burh. This led to questions directed at the the archaeology of the city: in what way does it resemble a burh?. The idea of a burh as a fortified town was sought amongst comparable examples; Hereford, Worcester, Gloucester and York. Their topography was used as a lead with which to discuss the topography of Chester - streets, houses and walls. A dialectic was established as this information reorientated the original context of a burh in this case as an urban settlement of planned character. Following this dialectic, new and more searching questions were asked of the archaeological evidence: What are the origins of the finds?, what was the population engaged in doing?. Through comparison of the evidence with material from similar contexts, the interpreter was able to show the existence of long-distance exchange and production in the burh itself. This reflected on the context of the burh as a market and economic centre, enabling the interpreter to argue for the existence of trade and industry. These realizations prompted further investigations of the economic relationship of industry in Chester with trading contacts and the agricultural hinterland.

b: The significance of a particular group of finds: the ringed pins from Meols.
A group of ringed pins were contextualised by their record at the Museum as having been found at Meols. The interpreter, interested in Meols, asked how and why the objects came to be there. Their function was established simultaneously with their approximate date as they were compared to similar objects from other sites. The geographical distribution of parallels created a suggestion as to the cultural context of such artefacts. This was reflected back dialectically onto the original bare context of Meols as the location of finds of ringed pins, reorientating it with a suggestion of some relationship to Dublin, York, Chester or Peel Castle. The dialectic is carried further as this enriched context prompted the interpreter to try to confirm the suspicion of similarity by asking detailed questions of a wide range of data from these sites, thus discovering considerable levels of comparison between the archaeological data from Meols and the other sites. The context of Meols now included a relationship with these sites. The interpreter subsequently sought to understand the nature of the relationship, arguing for social and economic contact where the ringed pins and many other finds are seen as a product or by-product of trade. The dialectical mode of reasoning has consequently brought about a dynamic interpretation, through comparative research on the finds, of Meols as a trading site with established contacts.

The hermeneutic circle or dialectic has always been present, unacknowledged, in the interpretative practices of medieval archaeology. It is, however, an act of methodological honesty and self-awareness to identify it as the agent of interpretation. Even in

recent expositions of contextual archaeology by I. Hodder (1986), the importance of the hermeneutic/dialectic has not been given prominence. Indeed, Hodder's contextual archaeology is characterised by a lack of emphasis on the active role of the interpreter in formulating and reformulating the dialectic - " a new concretization of meaning that goes on continually between the past and the present" (Linge 1977:22, quoted by Johnsen & Olsen forthcoming). There is no need to structure discussion in a laborious series of questions and answers. It should rather be assumed, a spoken assumption, that the method of reasoning in a particular argument is founded not upon factual observance by a neutral interpreter, but a dialectic of author and data, of context and object.

This thesis is structured around the development of context, beginning with the minutiae of detailed comparative analysis of the data in chapters 2,3,4,5 and 6 to a detailed regional consideration in chapter 7 and a wider, more thematic statement in chapter 8. This structure has been designed to serve the consolidation of the context of the archaeology and therefore provide the basis for an interpretative stance moving from the specific to the general.

APPENDIX E: THE GEOLOGY OF MEOLS

A detailed discussion of the archaeological topography of Meols is contained in the gazetteer (above 5.12). The Flandrian sequence of the North Wirral Coast has been the subject of a programme of research by R.J.B. Kenna (1978, 1979, 1986). Correlation of bore-hole data led to the establishment of a schematic model for the Flandrian coastal strata. Kenna followed this up with sampling of isolated partial sequences of the Flandrian strata between Dove Point and Great Meols during reconstruction of the sea defences between 1978 and 1979 (1986:4). These samples were subjected to micropalaeontological analyses and radiocarbon assays. In the area of archaeological interest (see above, gaz 5.12), boreholes clustered to the S and SW of Dove Point, but not the SE (see below).

The sub-Flandrian surface is composed of red boulder clay. The glacial deposits are incised by buried channels closely identified with the present Fender and Birket river systems, effectively placing Meols on an island between these channels and the Irish Sea basin. A buried channel running S-N from Wallasey Pool to the Irish Sea east of Meols was eroded in the late Devensian period (Tooley 1978).

Coastal Sequence: Summary, Modern to Ancient

This summary refers in particular to Kenna's E and F sections, which lie in the hinterland of Dove Point and therefore within the area of archaeological interest (SJ 237 908).

9. DUNE SAND
Fine blown sand overlying horizontally stratified sands, in which a layer of pebbles between E and F probably represents a path through the sand dunes.

8. BITHINIA TENTACULATA SAND
Laminated sand, with persistent peaty bands, deposited on top of the soil bed up to c. 540 years BP.

7. SOIL BED
Peaty sand with clayey peat, containing seed and pollen of the bog bean (meryanthes trifoliata) and bog myrtle (myrica gale). At J, (SJ 2754 9621), a radiocarbon date of (cal) AD 1050 was obtained (GU 1311: 925 $\pm$ 50 BP), putting the layer within the early medieval period, a date also supported by archaeological and antiquarian evidence (see gaz 5.12). Description: "An artificial arable soil - an admixture of bog and sand with a little marl" (Ecroyd Smith 1866). Thickness: up to 1 metre (R. Kenna, pers comm).

6. PEAT
Thin, black clayey peat, pollen analysis indicated open woodland with a high incidence of "weed pollen".

5. TELLINA BALTHICA SAND
Fine grey gritty sand on an undulating surface of peat, thickness ranging from 15 cm to 40 cm.

4. UPPER PEAT/ FOREST BED
Major stratigraphic unit, often described as the "Ancient Forest". Brown laminated fibrous peat with pre- elm decline pollen assemblage, including stumps, flattened branches and other debris of oak, pine and birch. A late Neolithic/ early Bronze Age midden at A (SJ 2722 9248) is radiocarbon dated to (cal) 2565 BC (Birm 1013: 3980 ± 70 BP).

3. LEASOWE MARINE BEDS
Grey and blue clays and silts with lenses of scrobicularia plana.

2. LOWER PEAT/ FOREST BED
Thin, dark brown and black laminated peat, occasionally rooted in the boulder clay.

1. BASAL SANDS AND CLAYS
Thin cover of clayey sand and silty clay with pebbles on the boulder clay subsurface.

Survey, April 1988
The accounts of the antiquarians (above, gaz 5.12) and the work of geologists (most recently Kenna) have identified the soil bed as the stratigraphic unit at Meols most associated with the early historic phase of the archaeological site. Kenna's sampling, undertaken for geological purposes, did not cover all areas of the sand dunes preserved behind the sea defences, which the present author has identified as of archaeological importance to the Meols settlement. Permission to undertake trial investigations of the buried landscapes at Meols was granted by the landowner, Wirral Borough Council (Leisure Services Department). Consequently a programme of trial excavation was mounted by the author and Dr. R. Philpott of the Archaeological Survey Department of Liverpool Museum (National Museums and Galleries on Merseyside). This was limited to auger trenching and one machine-excavated trench measuring 2 x 1 metre. The aim was specifically to demonstrate that the soil bed (and associated stratigraphy) extended throughout the area of archaeological interest (see gaz 5.12).

NGR SJ 2360 9078 Auger trench: Confirmed (9), (8), hit stone feature.

NGR SJ 2382 9084 Auger trench: Confirmed (9), (8), (7), (6), (5), (4).

NGR SJ 2389 9080 Auger trench: Confirmed (9), (8), then water table.

NGR SJ 2401 9101 Auger Trench: Confirmed (9), (8), (7), (6).

NGR SJ 2431 9121 Auger Trench: Confirmed (9), (8), then water table.

NGR SJ 2433 9130 Auger Trench: Confirmed (9), (8), (7), (6), (5).

The augering became impossible over c. 2 metres into the strata due to the presence of suspended water tables over peat layers, which caused the sides of the auger trenches to collapse. Deeper sampling would have required casing.

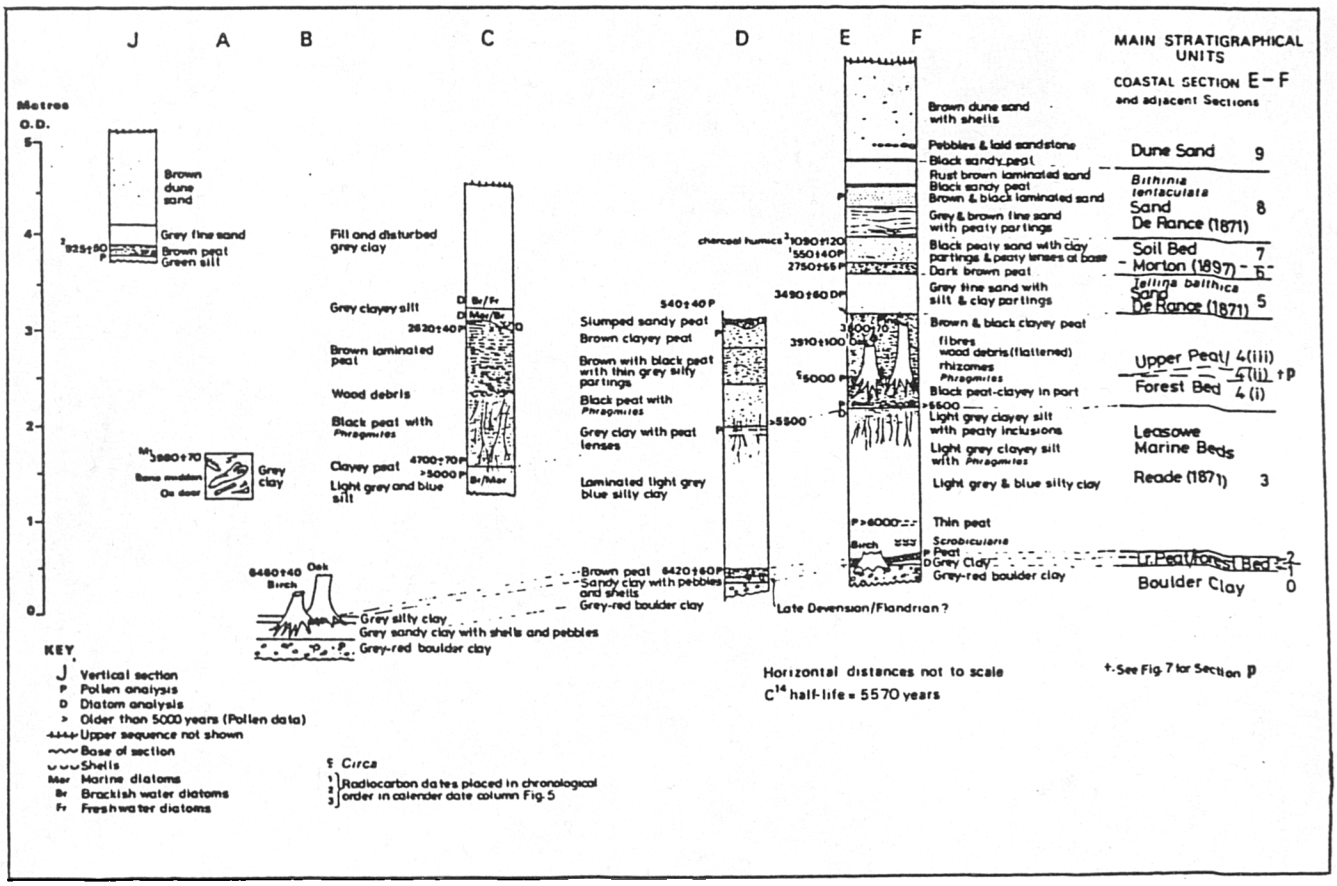
The augering exercise proved that the soil bed was preserved across a wider area than that demonstrated by Kenna's sampling, and it is a strong hypothesis that the soil bed is fully preserved across the area of archaeological interest except for isolated truncations caused by

trenching for a sewer at SJ 2401 9100.

A machine excavated trial trench (or "sondage") at SJ 2433 9130 was then undertaken. This confirmed all of Kenna's stratigraphical units down to (3), although the soil bed was observed to be thin at this point.

Having established more fully the topography of the soil bed, future investigation of the historic-period settlement must concentrate on further sampling and environmental work in the soil bed, together with geophysical survey techniques outlined above (gaz 5.12, cap 9.2.1). The soil bed is likely to be a rich source of information about the exploitation of the landscape, and will provide the stratigraphical context for such structural archaeology which may remain.

Survey team: D.W. Griffiths, R. Philpott, R.J.B. Kenna, R. Trench-Jellicoe, M. Edgeworth.



Sampled strata: North Wirral Coastal Area with Radiocarbon Chronology (from Kenna 1986:11)

LIST OF SOURCES

Editions of primary historical documents quoted in text

Aislinge Meic Conglinne: The Vision of Mac Conglinne
Meyer, K. (ed) 1892, London, Longman.

Anglo-Saxon Chronicle
to 1042: Whitelock, D. (ed) 1979, English Historical Documents, Vol 1, London, Eyre Methuen; after 1042: Douglas, D.C. & Greenaway, G.W. (eds) 1981, English Historical Documents, Vol 2, London, Eyre Methuen.

Annals of Ireland, the Three Fragments
O'Donovan, J. (ed) 1860, Dublin, Irish Archaeological and Celtic Society.

Annals of Ulster,
MacAirt, S. & MacNiocaill, G. (eds) 1974, Dublin, Institute for Advanced Study.

Asser, *De Rebus Gestis Alfredi*
Keynes, M. & Lapidge, S. (eds) Harmondsworth, Penguin.

Bede, *Ecclesiastical History*
Colgrave, B. & Mynors, R.A.B. (eds) 1969, Oxford, Clarendon Press.

Burton Abbey Charters
Sawyer, P.H. (ed) 1979, Anglo-Saxon Charters II, Oxford, British Academy.

Brut y Tywysogion, or the Chronicle of the Princes
Jones, T. (ed) 1955, Red Book of Hergest Version, Cardiff, University of Wales Press.

Cogadh Gaedhel re Gaillibh
Todd, J.H. (ed) 1867, Rolls Series, London, Longman.

Chartulary or Register of the Abbey of St. Werburgh, Chester
Tait, J. (ed) 1920, Chetham Soc, New Ser, 79.

Domesday Book, Cheshire
Morgan, P. (ed) 1978, History from the Sources, Morris, J (ed), Chichester, Phillimore.

Cheshire Pipe Roll, 1182
Ormerod, G, 1882, History of the County Palatine and City of Chester (2nd Ed, Helsby, T.), London, Routledge, 518.

Domesday Survey of Cheshire
Tait, J. (ed) 1916, Chetham Soc, 2nd Ser, 75.

Domesday Survey
Sawyer, P.H. & Thacker, A.T. 1987, Victoria History of Cheshire, Vol 1 (Harris, B.E, ed.), London, Institute of Historical Research, 293-370.

Fagrskinna
Anderson, A.O. (ed) 1922, Early Sources of Scottish History, Edinburgh, Oliver & Boyd, 105.

Florence of Worcester, *Chronicon ex Chronicis*
Whitelock, D. (ed) 1979, English Historical Documents, Vol 1, London, Eyre Methuen.

Heimskringla
Anderson, A.O. (ed) 1922, Early Sources of Scottish History, Edinburgh, Oliver & Boyd, 106-7.

Higden, Ranulf, *Polychronicon*
Babington, C. (ed) 1869, Rolls Series, London, Longman.

History of Gruffydd ap Cynan
Jones, A. (ed) 1910, Manchester, Manchester University Press.

Life of St. Swithun
Whitelock, D. (ed) 1979, English Historical Documents, Vol 1, London, Eyre Methuen, 853.

Lucian, *Liber Luciani de Laude Cestrae*
Taylor, M.V. (ed) 1912, Record Soc Lancashire Cheshire 44, 1-75.

Orderic Vitalis, *Ecclesiastical History*
Chibnall, M. (ed) 1969-80, 6 vols, Oxford, Oxford Medieval Texts, Oxford University Press.

William of Malmesbury, *De Gestis Pontificum Anglorum*
Hamilton, N.E.S.A. (ed) 1870, Rolls Series, London, Longman.

BIBLIOGRAPHY

Note: The System of Abbreviations used here is that of the C.B.A. *Archaeological Bibliography,* (published by the Council for British Archaeology, London 1980.) Where sources not included in the C.B.A. list have been used (such as journals published outside the United Kingdom), the same system of abbreviations has been applied if the journal title is in English, eg. *Norw Arch Rev* for **Norwegian Archaeological Review**, otherwise the title is given in full.

Addyman, P.V. 1964
A Dark Age Settlement at Maxey, Northants, *Medieval Archaeol 8,* 20-73.

Addyman, P.V. & Hill, D.H. 1969
Saxon Southampton: A Review of the Evidence 1, *Proc Hampshire Fld Club Archaeol Soc 25,* 61-93.

Addyman, P.V. & Hill, D.H. 1970
Saxon Southampton: A Review of the Evidence 2, *Proc Hampshire Fld Club Archaeol Soc 26,* 61-96.

Addyman, P.V. 1976
Archaeology and Anglo-Saxon Society, in Sieveking, G, Longworth, I.H. & Wilson, K.E. (eds) *Problems in Economic and Social Archaeology,* London, Duckworth, 309-22.

Ager, B.M. 1985
The Smaller Variants of the Anglo-Saxon Quoit Brooch, in Hawkes, S.C, Campbell, J & Brown, D (eds) *Anglo-Saxon Studies in Archaeology and History 4,* Oxford, Oxford University Committee for Archaeology, 1-58.

Alcock, L. 1963a
Dinas Powys, an Iron Age, Dark Age and Early Medieval Settlement in Glamorgan, Cardiff, University of Wales Press.

Alcock, L. 1963b
Pottery and Settlements in Wales and the March, in Foster, I. & Alcock, L. (eds) *Culture and Environment, Essays in honour of Sir Cyril Fox,* London, Routledge, 281-302.

Alcock, L. 1976
A multi-disciplinary chronology for Alt Clut, Castle Rock, Dumbarton, *Proc Soc Antiq Scot 107,* 103-13.

Allan, J, Henderson, C, Higham, R. 1984
Saxon Exeter, in Haslam, J. (ed) *Anglo-Saxon Towns in Southern England,* Chichester, Phillimore, 385-411.

Alldridge, N.J. 1981
Aspects of the Topography of Early Medieval Chester, *J Chester Archaeol Soc 64,* 5-31.

Allen, J.R. & Cox, E.W. 1893
The Early Christian Monuments of Lancashire and Cheshire, *Trans Historic Soc Lancashire Cheshire 9,* 1-32.

Allen Brown, R. 1984
The Norman Conquest, London, Arnold.

Almqvist, B. & Greene, D. (eds) 1976
Proceedings of the Seventh Viking Congress, Dublin 1973, Dublin, Royal Irish Academy.

Ambrosiani, K. 1981
Viking Age Combs, Comb making and Comb Makers in the Light of Finds from Birka and Ribe, Stockholm, Stockholm Studies in Archaeology 2.

Andersen, P.S. 1974
Ting (Norge), *Kulturhistorisk Lexikon för nordisk medeltid 18,* Malmö, Allhelms Förlag, 346-59.

Anderson, A.O. 1922
Early Sources of Scottish History AD 500-1286, Edinburgh, Oliver & Boyd.

Anderson, D. 1900
Description of a collection of objects found in excavations at St. Blane's Church, Bute, exhibited by the Marquis of Bute, *Proc Soc Antiq Scot 34,* 307-25.

Arbman, H. 1940
Birka 1: Die Gräber, Uppsala, Kungl. Vitterhets Historie och Antikvitets Akademien.

Archibald, M.M. 1967
Disposition of the Chester 1950 Hoard, *Brit Numis J 36,* 189.

Armstrong, E.C.R. 1922
Irish Bronze Pins of the Early Christian Period, *Archaeologia 72,* 71-86.

Astill, G. 1985
Archaeology, Economics and Early Medieval Europe, *Oxford J Archaeol 4 (2),* 215-31.

Atkin, M.A. 1985
Some Settlement Patterns in Lancashire, in Hooke, D. (ed) *Medieval Villages,* Oxford University Committee for Archaeology Monograph 5, Oxford, 171-85.

Babington, C. (ed) 1869
Polychronicon Ranulphi Higden Monachi Cestrensis, *Rolls Series 2.*

Bailey, R.N. 1970
An Anglo-Saxon Pin-head from Pontefract, *Yorkshire Arch J 62,* 405-6.

Bailey, R.N. 1974
The Viking Age Sculpture of Cumberland, Westmorland and Lancashire north of the Sands Unpub. PhD thesis, University of Durham.

Bailey, R.N. 1984
Irish Sea Contacts: The Sculptural Evidence, *Tredie Tværfaglige Vikingesymposium, Københavns Universitet 1984,* Moesgård, 7-36.

Bailey, R.N. 1985
Aspects of Viking-Age Sculpture in Cumbria, in Baldwin, J.R. & Whyte, I.D. (eds) *The Scandinavians in Cumbria,* Edinburgh, Scottish Society for Northern Studies, 53-64.

Baldwin, J.A. & Whyte, I.D. (eds) 1985
The Scandinavians in Cumbria, Edinburgh, The Scottish Society for Northern Studies.

Barker, P.A. & Lawson, J. 1971
A Pre-Norman Field System at Hen Domen, Montgomery, *Medeival Archaeol 15,* 58-72.

Barnes, G. 1950
The Scandinavian Element in Cheshire Place-Names, Unpub. M.A. Thesis, University of Sheffield.

Barnes, G. 1953
The Evidence of Placenames for the Scandinavian Settlements in Cheshire, *Trans Lancashire Cheshire Antiq Soc 63,* 130-55.

Batey, C.E. 1988
A Viking-Age Bell from Freswick Links, Caithness, *Medieval Archaeol 32,* 213-16.

Batey, C.E. forthcoming
Discussion of penannular brooch, in Keevil et al, Excavations at the Cathedral Green, Carlisle, in 1988.

Bauman, Z. 1978
Hermeneutics and Social Science, London, Hutchinson.

Beckett, R. 1978
Things, or the Scandinavian Meeting Places of England, Unpub. B.A dissertation, University of Liverpool.

Belier, A.C. 1982
A Sherd of *Terra Sigillata* from Wood Quay, Dublin, *Ulster J Arch 192-4, 3 ser,* 44-5.

Bersu, G. 1949
A Promontory Fort on the Shore of Ramsey Bay, *Antiq J 39,* 62-79.

Bersu, G. 1957
Three Viking Graves in the Isle of Man, *J Manx Mus VI,* 15-18.

Bersu, G. & Wilson, D.M. 1966
Three Viking Graves in the Isle of Man *Soc for Medieval Archaeology Monograph No.1,* London

Bestemann, J.C. 1974
Carolingian Medemblik, *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek 24,* 43-106.

Biddle, M. 1976
Towns, in Wilson, D.M. (ed) *The Archaeology of Anglo-Saxon England,* Cambridge, Cambridge University Press (1981), 99-150.

Biddle, M. & Hill, D. 1971
Late Saxon Planned Towns, *Antiq J 51 (1),* 70-85.

Biddle, M. & Kjølbye-Biddle, B. 1981
England's Premier Abbey: the Medieval Chapter House of St Albans Abbey and its excavation in 1978, *Hertfordshire's Past 9,* 3-27.

Biddle, M. 1990
Object and Economy in Medieval Winchester, *Winchester Studies 7,ii,* Oxford. Clarendon Press.

Binford, L.R. 1965
Archaeological Systematics and the study of Culture Process, *American Antiquity 31,* 203-10.

Bjørn, A. & Shetelig, H. 1940
Viking Antiquities in England: Shetelig, H. (ed) *Viking Antiquities in Great Britain and Ireland 4,* Oslo, Aschehoug.

Blackburn, M.A.S, Dolley, M & Colyer, C. 1983
Early Medieval Coins from Lincoln and its Shire c770-1100, The Archaeology of Lincoln 6/1, London, C.B.A and the Lincoln Archaeological Trust.

Blackburn, M.A.S. (ed) 1986
Anglo-Saxon Monetary History, Leicester, Leicester University Press.

Blackburn, M.A.S. & Lyon, C.S.S. 1986
Regional Die Production in Cnut's Quatrefoil Issue, in Blackburn, M.A.S. (ed) *Anglo-Saxon Monetary History,* Leicester, Leicester University Press, 223-272.

Blackburn, M.A.S & Pagan, H. 1986
A Revised Check-List of coin hoards from the British Isles c500-1100, in Blackburn, M.A.S. (ed) *Anglo-Saxon Monetary History,* Leicester, Leicester University Press, 291-313.

Blindheim, C. 1976
Celtic Material from Kaupang, in Almqvist, B, & Greene, D. (eds) *Proceedings of the Seventh Viking Congress, Dublin 1973,* 9-28.

Blindheim, C, Heyerdal-Larsen, B. & Tollnes, R. 1981
Kaupang Funnene 1, Oslo, Universitets Oldsaksamling.

Blundell, D.A.J. 1989
Viking Stone Sculpture in West Cheshire, Unpub. B.A. Dissertation, Department of Archaeology, University of Durham.

Blunt, C.E. 1974
The Coinage of Æthelstan 924-939, A Survey *Brit Numis J 42,* 39-159.

Blunt, C.E. & Dolley R.H.M. 1954
The Chester (1950) Hoard, *Brit Numis J 27,* 125-60.

Blunt, C.E, Stewart, B.H.I.H. & Lyon, C.S.S. 1989
Coinage in Tenth-Century England, Oxford, The British Academy.

Bohannan, P, & Dalton, G. 1962
Markets in Africa, *Northwestern University African Studies 9,* Evanston.

Boon, G.C. 1959
The Latest Objects from Silchester, Hants, *Medieval Archaeol 2,* 79-88.

Boon, G.C. 1986
Welsh Hoards 1979-81 Cardiff, National Museum of Wales.

Bourke, C. 1980
Early Irish Hand-Bells, *J Roy Soc Antiq Ire 110,* 52-66.

Bourke, C. 1983
The Hand-Bells of the Early Scottish Church, *Proc Soc Antiq Scot 113,* 464-68.

Bourke, E. forthcoming
Two Early 11th century Houses from Bride Street, Wexford and the Layout of the Properties on the site, *J Wexford Hist Soc.*

Bowen, E.G. 1970
Britain and the British Seas, in Moore, D (ed) *The Irish Sea Province in Archaeology and History,* Cardiff, The Cambrian Archaeological Association, 13-28.

Bowen, E.G. 1972
Britain and the Western Seaways, London, Thames and Hudson.

Bradley, J. (ed) 1988
Settlement and Society in Medieval Ireland, Studies Presented to F.X. Martin, Kilkenny, Boethius Press.

Bradley, J. 1988
The Interpretation of Scandinavian Settlement in Ireland, in Bradley, J. (ed) *Settlement and Society in Medieval Ireland, Studies presented to F.X Martin,* Kilkenny, Boethius Press, 49-78.

Bradley, J. 1990
The role of town-plan analysis in the study of the medieval Irish town, in Slater, T.R. (ed) *The Built Form of Western Cities,* Leicester, Leicester University Press, 39-59.

Braudel, F. 1973
The Mediterranean and Mediterranean World in the Age of Philip II, London, Collins.

Brooke, D. 1987
The Deanery of Desnes Cro and the Church of Edingham *Trans Dumfriesshire Galloway Natur Hist Antiq Soc 62,* 48-65.

Brooks, N. & Graham-Campbell, J.A. 1986
Reflections on the Viking-Age Silver Hoard from Croydon, Surrey, in Blackburn, M.A.S (ed) *Anglo-Saxon Monetary History,* Leicester, Leicester University Press, 91-110.

Brotherton-Ratcliffe, E. 1975
Excavations at Grange Cow Worth, Ellesmere Port, 1966 and 1967, *J Chester Archaeol Soc 58,* 69-80.

Brown, M, Gallagher, D.B, Higgitt, J. 1983
An Anglo-Viking Cross Shaft from Thornton Le Moors, *J Chester Archaeol Soc 66,* 23-30.

Brownbill, J. & Farrer, W. 1906
Victoria History of the County Palatine of Lancaster Volume 1, London, Institute of Historical Research.

Brownbill, J. 1928
West Kirby and Hilbre, A Parochial History,. Liverpool, Henry Young.

Bu'Lock, J.D. 1958
Pre-Norman Crosses of West Cheshire and the Norse Settlements around the Irish Sea, *Trans Lancashire Cheshire Antiq Soc 68,* 1-11.

Bu'Lock, J.D. 1960
The Celtic, Saxon and Scandinavian Settlement of Meols in Wirral, *Trans Historic Soc Lancashire Cheshire 112,* 1-28.

Bu'Lock, J.D. 1972
Pre-Conquest Cheshire, Chester, Cheshire Community Council.

Callander, J.G. 1921
Report on the excavations of Dun Beag, a broch near Struan, Skye, *Proc Soc Antiq Scot 55,* 110-31.

Callander, J.G. 1932-3
A Collection of Prehistoric Relics from the Stevenston Sands, Ayrshire and other objects in the National Museum, *Proc Soc Antiq Scot 67,* 26-34.

Cameron, K. 1977
Place-name Evidence for the Anglo-Saxon Invasion and Scandinavian Settlements, Nottingham, English Place-Name Society.

Candon, A. 1988
Muichertach Ua Briain, Politics and Naval Activity in the Irish Sea, 1075 to 1119, in MacNiocaill, G. & Wallace, P.F. (eds) *Keimelia: Studies in Medieval Archaeology and History in memory of Tom Delaney,* Galway, Galway University Press, 397-415.

Capelle, T. 1976
Die frügeschichtlichen Metallfunde von Domburg 1/2, *Nederlandse Oudheden 5.*

Capelle, T. 1978
Die Karolingische Funde von Schouwen, *Nederlandse Oudheden 6.*

Caple, C. 1986
An Analytical Appraisal of Copper Alloy Pin Production 400-1600 AD, Unpub. PhD thesis, University of Bradford.

Caple, C. forthcoming
Pins, Wires and Shafts from Coppergate *The Archaeology of York,* York, York Archaeological Trust.

Carrington, P. 1975
Some types of late Saxon pottery from Chester, *Cheshire Archaeol Bull 3,* 3-9.

Carrington, P. 1977
The Crook Street Pit Group, in Davey, P.J (ed) *Medieval Pottery from Excavations in the North-West,* Liverpool, Inst of Extension Studies, 14-17.

Carver, M.O.H. 1979
Three Saxo-Norman Tenements in Durham City, *Medieval Archaeol 23,* 1-80.

Carver, M.O.H. 1980
The Site and Settlements at Worcester, in Carver, M.O.H. (ed) Medieval Worcester: An Archaeological Framework, *Trans Worcestershire Archaeol Soc 3 Ser, 7,* 15-30.

Chadwick, N.K. 1962
The Vikings and the Western World, in O'Cuiv, B. (ed) *The Impact of the Scandinavian Invasions on the Celtic-speaking Peoples* International Congress of Celtic Studies 1959, Dublin, 13-42.

Charles, B.G. 1934
Old Norse Relations with Wales, Cardiff, University of Wales Press.

Charles, B.G. 1938
Non-Celtic Placenames in Wales, *London Medieval Studies. Monograph 1,* London, University College.

Charles, F.W.B. 1982
Soil and Botanical Studies of the Dark Earth, in Dimbleby, G & Jones, M (eds) Environment of Man: Iron Age to the Anglo-Saxon Period, *Brit Archaeol Rep (Brit Ser) 87,* 309-331.

Cherry, J. 1985
The lead seal matrix of Peter Bishop of Chester, *Antiq J 65, 2,* 472-3.

Chibnall, M. 1969-80
The Ecclesiastical History of Orderic Vitalis (6 vols) Oxford Medieval Texts, Oxford, Oxford University Press.

Chitty, G. & Warhurst, M. 1977
Ancient Meols: A Collection of finds from the Cheshire Shore in Merseyside County Museums, *J Merseyside Archaeol Soc 1,* 19-42.

Chitty, G. 1978
Wirral Rural Fringes Survey, Liverpool, Merseyside Museums and Galleries.

Christopherson, A. 1980
Håndverket i Forandring, Studier i Horn- og Beinhåndverkets Utvikling i Lund ca. 1000-1350, *Acta Archaeologica Lundensia 4 ser, 13,* Lund.

Christopherson, A. 1988
"Og Olav ordnet det slik at der skulle være Kaupstad", *Trondhjemske Samlinger for 1988,* 7-48.

Christopherson, A, Jondell, E, Marstein, W, Nordeide, S.W. & Reed, I.W. 1988
Meddelser Nr 13: Fortiden i Trondheim Bygrunn, Folkebibliotekstomten, Meddlelser Nr 13, del 1, Utgravning, Kronologi og Bebyggelsesutvikling, Trondheim, Riksantikvaren.

Churchill, W.S. 1887
The Harkirke Find, *Trans Antiq Soc Lancashire Cheshire 5,* 219-30.

Clark, D.V. & O'Connor, A. (eds) 1983
From the Stone Age to the Forty-Five, Studies Presented to R.B.K. Stevenson, Edinburgh, John Donald.

Clarke, D.L. 1968
Analytical Archaeology, London, Methuen.

Clarke, D.L. 1972
Models and Paradigms in Contemporary Archaeology, in Clarke, D.L. (ed) *Models in Archaeology,* London, Methuen.

Clarke, H.B. 1977
The Topographical Development of Early Medieval Dublin, *J Roy Soc Antiq Ir 107,* 29-51.

Cocroft, W.D, Everson, P. Jecock, M. & Wilson-North, W.R. 1989
The Castle Ditch Hillfort, Eddisbury, Cheshire, in the light of Recent Field Survey, in Bowden, M, Mackay, D, Topping, P. (eds) From Cornwall to Caithness: Some Aspects of British Field Archaeology, *Brit Archaeol Rep (Brit Ser) 209,* 125-35.

Coleman-Smith, R. 1985
Sherd Refiring, in Mason, D.J.P. (ed) Excavations at Chester, 27-42 Lower Bridge Street

1974-6, the Dark Age and Saxon Periods, *Grosvenor Museum Excavation and Survey Reports 3,* Chester, Chester City Council/ Grosvenor Museum, 56.

Colgrave, B, & Mynors, R.A.B. (eds) 1969
Bede's Ecclesiastical History of the English People, Oxford, Clarendon Press.

Collingwood, W.G. 1927
Northumbrian Crosses of the Pre-Norman Age, London, Gwyer & Faber.

Collingwood, W.G. 1928
The Early Monuments of West Kirby, in Brownbill, J. *West Kirby and Hilbre, a Parochial History*, Liverpool, Henry Young, 14-26.

Collins, A.E.P. 1952
Excavations in the Sandhills at Dundrum, Co. Down, 1950-51, *Ulster J Archaeol 15,* 2-26.

Collins, A.E.P. 1959
Further Investigations in the Dundrum Sandhills, *Ulster J Archaeol 22,* 5-20.

Cormack, W.F. 1962
Two Coins from Glenluce Sand Dunes and one from Dryfesdale, *Trans Dumfriesshire Galloway Natur Hist Antiq Soc 39,* 159-60.

Cormack, W.F. 1965
Northumbrian Coins from Luce Sands, Wigtownshire, *Trans Dumfriesshire Galloway Natur Hist Antiq Soc 52,* 149-50.

Cowan, E.J. 1990: The Vikings in Galloway: A Review of the Evidence, in Oram, R.D & Stell, G.P (eds) *Galloway, Land and Lordship,* Edinburgh, Scottish Society for Northern Studies, 63-75.

Cowen, J.D. 1934
A Catalogue of the objects of the Viking Period in the Tullie House Museum, Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc 34,* 166-87.

Cowen, J.D. 1948
Viking Burials in Cumbria, *Trans Cumberland Westmorland Antiq Archaeol Soc 48,* 73-76.

Cox, E.W. 1894
Traces of Submerged Lands on the Coasts of Lancashire, Cheshire and North Wales, *Trans Historic Soc Lancashire Cheshire 46,* 19-56.

Cox, E.W. 1895
Leaves from an Antiquary's Notebook, *Trans Historic Soc Lancashire Cheshire 47,* 235-52.

Cramp, R.J. 1964
An Anglo-Saxon Pin from Birdoswald, *Trans Cumberland Westmorland Antiq Arch Soc 64,* 90-93.

Cramp, R.J. 1976
Monkwearmouth and Jarrow: The Archaeological Evidence, in Bonner, G. (ed) *Famulus Christi,* London, S.P.C.K, 5-18.

Cramp, R.J. 1984
General Introduction, Corpus of Anglo-Saxon Stone Sculpture, Oxford, British Academy & Oxford University Press.

Crawford, B.E. 1987
Scandinavian Scotland, Leicester, Leicester University Press.

Crowe, C.J. 1979
Monastic and Early Church Settlement in North-West England from the Dee to the Solway, Unpub. M.A. thesis, University of Manchester.

Cruden, S. 1965
Excavations at Birsay, Orkney, in Small, A. (ed) *The Fourth Viking Congress, York 1961,* Aberdeen, Aberdeen University Press.

Cubbon, M. 1983
The Archaeology of the Vikings in the Isle of Man, in Fell, C et al (eds) *The Viking Age in the Isle of Man,* London, Viking Society for Northern Research, 13-26.

Cunliffe Shaw, R. 1949
Kirkham in Amounderness: The Story of a Lancashire Community, Preston, Seed & Sons.

Curle, A.O. 1913-14
Report on the Excavation, in September 1913, of a vitrified fort at Rockliffe, Dalbeattie, known as the Mote of Mark, *Proc Soc Antiq Scot 68,* 125-68.

Dalton, G. 1965
Primitive Money, *American Anthropologist 67,* 44-65.

Dalton, G. 1977
Aboriginal Economies in Stateless Societies, in Earle. T.K. & Ericson, J.E. (eds) *Exchange Systems in Prehistory,* New York, The Academic Press, 191-212.

Darby, H.C. & Maxwell, I.S. 1962
Domesday Geography of Northern England, Cambridge, Cambridge University Press.

Darby, H.C. & Versey, G.R. 1975
Domesday Gazetteer, Cambridge, Cambridge University Press.

Davey, P.J. (ed) 1977
Medieval Pottery from Excavations in the North-West, Liverpool, Institute of Extension Studies.

Davey, P.J. 1978
Man and the Environment in the Isle of Man, *Brit Archaeol Rep (Brit Ser) 54,* Oxford.

Davidson, J.M. 1952
Report on the Discoveries at Glenluce Sands, Wigtownshire, *Proc Soc Antiq Scot 86,* 43-69.

Davies, E. 1956
Treens and Quarterlands: A Study of the Land System of the Isle of Man, *Transactions and Papers, Inst. of British Geographers 22,* 97-116.

Davies, J.L, Hague, D.B, Hogg, A.H.A. 1971
The Hut Settlement on Gateholm, Pembrokeshire, *Archaeol Cambrensis 120,* 102-10.

Davies, M. 1946
The Diffusion and Distribution Pattern of Megalithic Monuments of the Irish Sea and the North Channel Coastlands, *Antiq J 26,* 38-60.

Davies, W. 1982
Wales in the Early Middle Ages, Leicester, Leicester University Press.

Davison, B.K. 1967
The Late Saxon Town of Thetford: An Interim Report on the 1964-6 excavations, *Medieval Archaeol 11,* 189-208.

De Paor, L. 1976
The Viking Towns of Ireland, in Almqvist, B. & Greene, D. (eds) *Proceedings of the Seventh Viking Congress, Dublin 1973,* Dublin, Royal Irish Academy, 29-37.

Deetz, J. 1977
In Small Things Forgotten, The Archaeology of Early American Life, New York, The Anchor Press.

Dickins, B. 1945
The Cult of St Olave in the British Isles, *Saga Book 12,* 53-80.

Dickinson, T.M. 1973
Bronze Lace Tags from Site F, in Brodribb, A.C.C, Hands, A.R. & Walker, D. (eds) *Excavations at Shakenoak 4,* 116-7.

Dickinson T.M. 1982
Fowler's Type G Penannular Brooches Reconsidered, *Medieval Archaeol 26,* 41-68.

Dickinson, T.M. 1983
Anglo-Saxon Archaeology: Twenty-Five Years On, in Hinton, D.A (ed) *25 Years of Medieval Archaeology,* Sheffield, University of Sheffield, Dept. of Prehistory & Archaeology.

Dod, J.P. 1986
Domesday Cheshire: Some Agricultural Connotations, *J Chester Archaeol Soc 68,* 85-95.

Dodgson, J. McN. 1957
The Background of Brunanburh *Saga Book 14,* 303-16.

Dodgson, J. McN. 1966
The Significance of the distribution of the English Place-name in -ingas, -inga, in South-east England, *Medieval Archaeol 10,* 1-22.

Dodgson, J. McN. 1968a
The English Arrival in Cheshire, *Trans Historic Soc Lancashire Cheshire 119,* 1-37.

Dodgson, J. McN. 1968b
Place-names and Street Names at Chester, *J Chester Archaeol Soc 55,* 29-61.

Dodgson, J. McN. 1970
The Place-names of Cheshire, Part 2, Cambridge, English Place-name Society.

Dodgson, J. McN. 1971
The Place-names of Cheshire, Part 3, Cambridge, English Place-name Society.

Dodgson, J. McN. 1972
The Place-names of Cheshire, Part 4, Cambridge, English Place-name Society.

Doherty, C. 1980
Exchange and Trade in Early Medieval Ireland *J Roy Soc Antiq Ir 110,* 67-89.

Doherty, C. 1985
The Monastic Town in Early Medieval Ireland, in Clarke, H.B. & Simms, A. (eds) The Comparative History of Urban Origins in Non-Roman Europe, *Brit Archaeol Rep (Int Ser) 255 (i),* Oxford, 45-75.

Dolley, R.H.M. 1955
The Mint of Chester, Part 1, *J Chester Archaeol Soc 42,* 1-20.

Dolley, R.H.M. 1960
An Unpublished Penny of Harthacnut found at Caerwent, *Numis Chron. 6th Ser 20.* 191-95.

Dolley, R.H.M. & Skaare, K. 1960
Nytt lys over Skandinavias Nordligste Skattefun med Angelsaksiske og Kufiske Mynter, *Nordisk Numsmatisk Årskrift for 1960,* 5-24.

Dolley, R.H.M. 1961
The Anglo-Saxon Coins from Meols Sands, *Trans Historic Soc Lancashire Cheshire 113,* 197-201.

Dolley, R.H.M. & Pirie, E.J.E. 1964
The Repercussions on Chester's Prosperity of the Viking Descent on Cheshire in 980, *Brit Numis J 34,* 39-44.

Dolley, R.H.M. & Cormack, W.F. 1967
A Hiberno-Norse Penny of Dublin found in Wigtownshire, *Trans Dumfriesshire Galloway Natur Hist Antiq Soc 44,* 122-25.

Dolley, M. & Knight, J.K. 1970
Some Single Finds of Tenth and Eleventh Century English Coins from Wales, *Archaeol Cambrensis 119,* 75-82.

Dolley, M. 1976
The Coins. in Wilson, D.M (ed) *The Archaeology of Anglo-Saxon England,* Cambridge, Cambridge University Press, 349-72.

Douglas, D.C. & Greenaway, G.W. 1981
English Historical Documents 1042-1189, London, Eyre Methuen.

Driscoll, S.T. 1988
The Relationship between History and Archaeology: Artefacts, Documents and Power, in Driscoll, S.T. & Nieke, M.R. (eds) *Power and Politics in Early Medieval Britain and Ireland,* Edinburgh, Edinburgh University Press, 162-87.

Driscoll, S.T. & Nieke, M.R. (eds) 1988
Power and Politics in Early Medieval Britain and Ireland, Edinburgh, Edinburgh University Press.

Dunning, G.C. 1952
Late Saxon Objects from Whittington, in Whittington Court Roman Villa, *Trans Bristol Gloucestershire Archaeol Soc 71,* 77-85.

Dykes, W. 1976
Anglo-Saxon Coins in the National Museum of Wales, Cardiff, National Museum of Wales.

Ecroyd Smith, H. 1865
Notice of an Early Conventual Cemetery in Wirral, *Trans Historic Soc Lancashire Cheshire 17,* 271-6.

Ecroyd Smith, H. 1866
Notabilia of the Archaeology and Natural History of the Mersey District 1863-5, *Trans Historic Soc Lancashire Cheshire 18,* 203-28.

Ecroyd Smith, H. 1867
Produce of the Sea-beach of Cheshire, *Trans Historic Soc Lancashire Cheshire 19,* 178-88.

Ecroyd Smith, H. 1868
Archaeology in the Mersey District 1867, *Trans Historic Soc Lancashire Cheshire 20,* 87-130.

Ecroyd Smith, H. 1869
Archaeology in the Mersey District 1868, *Trans Historic Soc Lancashire Cheshire 21,* 199-218.

Ecroyd Smith, H. 1870
Archaeology in the Mersey District 1869, *Trans Historic Soc Lancashire Cheshire 22,* 267-294.

Ecroyd Smith, H. 1871
Archaeology in the Mersey District 1870, *Trans Historic Soc Lancashire Cheshire 23,* 119-152.

Ecroyd Smith, H. 1872
Archaeology in the Mersey District 1871, *Trans Historic Soc Lancashire Cheshire 24,* 131-50.

Ecroyd Smith, H. 1873a
Archaeology in the Mersey District 1872, *Trans Historic Soc Lancashire Cheshire 25,* 113-52.

Ecroyd Smith, H. 1873b
Local Numismatic Waifs and Strays, *J Liverpool Numis Soc 1,* 10-21.

Ecroyd Smith, H. 1874
Archaeology in the Mersey District 1873, *Trans Historic Soc Lancashire Cheshire 26,* 83-112.

Ecroyd Smith, H. 1875
Archaeology in the Mersey District 1874, *Trans Historic Soc Lancashire Cheshire 27,* 85-108.

Edwards, B.J.N. 1977
Bone pins from Cuerdale *Lancashire Arch Bulletin 3 (6),* 129-30.

Edwards, B.J.N. 1978
An Annotated Check-list of Pre-Conquest Sculpture in the Ancient County of Lancaster, *Lancashire Arch J 2,* 53-81.

Edwards, N. 1985
A Possible Viking Grave from Benllech, Anglesey, *Trans Anglesey Antiq Soc Field Club for 1985,* 19-24.

Edwards, N. 1986
Anglesey in the Early Middle Ages: The Archaeological Evidence *Trans Anglesey Antiq Soc Fld Club for 1986,* 19-41.

Edwards, N. & Lane, A. 1988
Early Medieval Settlements in Wales AD 400-1100. Cardiff/ Bangor, Research Centre Wales.

Edwards, N. 1990
The Archaeology of Early Medieval Ireland, London, Batsford.

Ekwall, B.O.E 1918
Scandinavians and Celts in the North-West of England, *Lunds Universitets Årskrift 27,* Lund.

Ekwall, B.O.E. 1922
The Placenames of Lancashire, Manchester, Manchester University Press.

Ekwall, E. 1960
The Concise Oxford Dictionary of English Place-names, Oxford, Clarendon Press. 3rd Ed.

Elliott, R.W.V. 1959
Two neglected English Runic inscriptions: Gildon and Overchurch. *Melanges de Linguistique et de Philologie Fernand Mosse,* Didier, Paris, 140-47.

Ellison, N. 1956
The Wirral Peninsula, London, Robert Hale.

Fanning, T. 1970
The Viking Grave Goods discovered near Larne, County Antrim, *J Roy Soc Ir 100,* 71-78.

Fanning, T. 1975
Some Bronze Ringed Pins from the Irish Midlands, *J Old Athlone Soc 1,* 211-17.

Fanning, T. 1983a
The Hiberno-Norse Pins from the Isle of Man, in Fell, C. et al (eds) *The Viking Age in the Isle of Man,* London, Viking Society for Northern Research, 27-36.

Fanning, T. 1983b
Some Aspects of the Bronze Ringed Pin in Scotland, in Clarke, D.V. & O'Connor, A. (eds) *From the Stone Age to the Forty-Five,* Edinburgh, Edinburgh University Press, 324-42.

Fanning, T. 1988
Three Ringed Pins from Viking Dublin and their Significance, in Bradley, J (ed) *Settlement and Society in Medieval Ireland, Studies presented to F.X Martin* Kilkenny, Boethius Press, 161-75.

Fearon, S. & Eyes, J. 1738
Chart of the Sea Coast from Chester Bar to Formby Point, New Chart December 1737, Liverpool, Adam Sadler.

Fell, C, Foote, P, Graham-Campbell, J.A. & Thomson, R. (eds) 1983
The Viking Age in the Isle of Man, London, Viking Society for Northern Research.

Fellows-Jensen, G. 1983
Scandinavian Settlement in the Isle of Man and North-West England: The Placename Evidence, in Fell, C et al (eds) *The Viking Age in the Isle of Man,* London, Viking Society for Northern Research, 37-52.

Fellows-Jensen, G. 1985
Scandinavian Settlement Names in the North-West, Copenhagen, C.A Reitzels Forlag.

Fowler, E. 1963
Celtic Metalwork of the Fifth and Sixth Centuries AD, A Reappraisal, *Archaeol J 120,* 98-160.

Fowler, P.J. & Thomas, A.C. 1962
Arable Fields of the Pre-Norman Period at Gwithian, *Cornish Archaeol 1,* 61-84.

Fox, A. 1955
Some Evidence for a Dark-Age Trading Site at Bantham, near Thurlestone, South Devon, *Antiq J 35,* 55-67.

Fox, C. 1928
Third Report: Offa's Dyke from Plas Power Park, Bersham Parish. Denbighshire, to the River Vyrnwy on the boundary between Llanymynech (Shropshire) and Carreghofa (Montgomeryshire), *Archaeol Cambrensis 83,* 33-110.

Fox, C. 1932
The Personality of Britain, Cardiff, National Museum of Wales.

Fraenkel-Schoorl, N. 1978
Carolingian Jewellery with Plant Ornament, *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek 28,* 346-98.

Freeman, A. 1985
Moneyer and Mint in the reign of Edward the Confessor, 1042-1066, *Brit Archaeol Rep (Brit Ser) 145,* Oxford.

Freke, D.J. 1979
Bromborough Court House Moated Site, Excavations 1979, *J Merseyside Archaeol Soc 2,* 47-52.

Freke, D.J. 1985
Peel Castle Excavations, 3rd Interim Report, Peel, St Patrick's Isle Archaeological Trust.

Freke, D.J. 1986
Peel Castle Excavations, 4th Interim Report, Peel, St Patrick's Isle Archaeological Trust.

Freke, D.J. et al. forthcoming
Final Report, Peel Castle Excavations.

Freke, D.J. & Thacker, A.T. 1990
The Inhumation Cemetery at Southworth Hall Farm, Winwick, *J Chester Archaeol Soc 70,* 31-8.

Fried M. H. 1967
The Evolution of Political Society, New York, Random House.

Fuglesang, S.H. 1980 *Some Aspects of the Ringerike Style,* Medieval Scandinavia Supplements 1, Odense, Odense University Press.

Gadamer, H.J. 1977
Philosophical Hermeneutics, Berkeley, University of California Press.

Gaimster, D.R.M, Margeson, S. & Hurley, M. 1990
Medieval Britain and Ireland in 1989, *Medieval Archaeol 34,* 162-252.

Gale, D.A. 1989
The Seax, in Hawkes, S.C (ed) Weapons and Warfare in Anglo-Saxon England, *Oxford University Committee for Archaeol Monograph 21,* 71-83.

Gamlin, H. 1892
Twixt Mersey and Dee, Liverpool, Marples & Co.

Gelling, M. 1984
Placenames in the Landscape, London, Dent.

Gelling, M. 1989
The Place-Name Burton and Variants, in Hawkes, S.C (ed) *Weapons and Warfare in Anglo-Saxon England.* Oxford Univ. Committee for Archaeol, Monograph 21, Oxford, 145-53.

Gelling, P.S. 1952
Excavation of a promontory fort at Port Grenaugh, Sancton, *Proc Isle of Man Natur Hist Antiq Soc 5 (3)*, 307-15.

Gelling, P.S. 1958
Recent Excavations of Norse Houses in the Isle of Man. *J Manx Museum 6 (75)*, 54-6.

Gerriets, M. 1985
Money Among the Irish: Coin Hoards in Viking Age Ireland, *J Roy Soc Antiq Ire 115*, 121-39.

Gerriets, M. 1987
Kingship and Exchange in Pre-Viking Ireland, *Cambridge Medieval Celtic Studies 13*, 39-72.

Gibson, J.H. 1887
Synopsis of the Coins found on the Meols Beach, Cheshire, in the Collection of Mr C. Potter, *J Liverpool Numis Soc for 1887*, 63-84.

Giddens, A. 1981
A Contemporary Critique of Historical Materialism, London, Macmillan.

Giddens, A. 1984
The Constitution of Society Cambridge, Polity Press.

Goodall, I.H. 1981
The medieval blacksmith and his products, in Crossley, D.W. (ed) *Medieval Industry*, CBA Research Report 40, London, 51.62.

Gowen, M. 1988
Three Irish Gas Pipelines: New Archaeological Evidence in Munster, Dublin, Wordwell Ltd.

Graham-Campbell, J.A. 1973
A Fragmentary Bronze Strap-End of the Viking Period from the Udal, North Uist, Inverness-shire, *Medieval Archaeol 17*, 128-31.

Graham-Campbell, J.A. 1976a
The Viking Age Silver hoards of Ireland, in Almqvist, B & Greene, D (eds) *Proceedings of the Seventh Viking Congress, Dublin 1973*, Dublin, Royal Irish Academy, 33-74.

Graham-Campbell, J.A. 1976b
The Viking Age silver and gold hoards of Scandinavian character from Scotland, *Proc Soc Antiq Scot 107*, 114-35.

Graham-Campbell, J.A. 1976c
Western British, Irish and Later Anglo-Saxon, *Archaeol J 133*, 277-89.

Graham-Campbell, J.A. 1978
An Anglo-Scandinavian Ornamented Knife from Canterbury, Kent, *Medieval Archaeol 22*, 130-32.

Graham-Campbell, J.A. 1980a
The Scandinavian Viking-Age Burials of England - Some problems of Interpretation, in Rahtz, P, Dickinson, T.M, & Watts, L. (eds) Anglo-Saxon Cemeteries 1979, *Brit Archaeol Rep (Brit Ser) 82*, 379-82.

Graham-Campbell, J.A. 1980b
Viking Artefacts: A Select Catalogue, London, British Museum.

Graham-Campbell, J.A. 1982a
An unpublished gold finger-ring of Viking-age date from the Isle of Skye and new light on the 1850 Skye hoard, *Proc Soc Antiq Scot 112,* 568-70.

Graham-Campbell, J.A. 1982b
Some New and Neglected Finds of Ninth-Century Anglo-Saxon Ornamental Metalwork, *Medieval Archaeol 26,* 144-51.

Graham-Campbell, J.A. 1983a
Viking-Age Silver hoards in Man, in Fell, C. et al (eds) *The Viking Age in the Isle of Man,* London, Viking Society for Northern Research, 53-80.

Graham-Campbell, J.A 1983b
Some Viking-Age Penannular Brooches from Scotland and the Origins of the 'Thistle Brooch', in Clarke, D.V. & O'Connor, A. (eds) *From the Stone Age to the Forty-Five: Studies presented to R.B.K. Stevenson,* Edinburgh, John Donald, 310-323.

Graham-Campbell, J.A. 1985
Two Scandinavian Disc-brooches of Viking Age Date from England, *Antiq J 65, 448-49.*

Graham-Campbell, J.A. 1987
Some Archaeological Reflections on the Cuerdale Hoard, in Metcalf, D.M. (ed) Coinage in Ninth-Century Northumbria, *Brit Arch Rep (Brit Ser) 180,* 329-44.

Graham-Campbell, J.A, in Freke, forthcoming
Tenth-Century graves: the Viking Artefacts from the Peel Castle cemetery and their significance, in Freke, D.J. et al, *Peel Castle Excavations.*

Graham-Campbell, J.A. forthcoming, a
The Hooked Tags from the Forum Hoard, Rome, *Bolletino di Numismatica,* Rome.

Graham-Campbell, J.A. (ed) forthcoming, b
Viking Treasure from the North-West: The Cuerdale Hoard in its Context, *National Museums and Galleries Merseyside Occ. Paper.*

Graham-Campbell, J.A. forthcoming, c
The Cuerdale Hoard: a Viking and Victorian Treasure, in Graham-Campbell, J.A. (ed) Viking Treasure from the North West: the Cuerdale Hoard in its Context, *National Museums and Galleries Merseyside Occ. Paper.*

Gransden, A. 1974
Historical Writing in England c550 to c1307, London, Routledge & Kegan Paul.

Gregson, N. 1985
The Multiple Estate Model: some critical questions, *J Hist Geog 11, 4,* 339-51.

Grieg, S. 1940
Viking Antiquities in Scotland, Shetelig, H. (ed) *Viking Antiquities in Great Britain and Ireland 2,* Oslo, Aschehoug.

Grierson, P. 1959
Commerce in the Dark Ages: A Critique of the Evidence *Trans Roy Hist Soc 9,* 123-40.

Griffiths, D.W. 1988
A Group of Late Anglo-Saxon Hooked Tags from Cheshire, *J Chester Archaeol Soc 70,* 39-49.

Griffiths, D.W. forthcoming
Trade and the Late Saxon Port, in Ward, S.W Excavations at Chester: Saxon occupation

within the legionary fortress: sites investigated 1963-1981. *Chester Archaeological Service Monograph 7,* Chester, Chester City Council.

Griffiths, D.W. forthcoming
The Coastal Trading Ports of the Irish Sea, in Graham-Campbell, J.A. (ed) *Viking Treasure from the North West,* Liverpool, National Museums and Galleries on Merseyside.

Grimes, W.F. 1968
The Excavation of Roman and Dark Age London, London, Routledge and Kegan Paul.

Grinsell, L.V. 1986
The Bristol Mint, Bristol, City of Bristol Museum and Art Gallery.

Gwynn, A. 1947
Medieval Bristol and Dublin, *Irish Historical Studies 5, 20,* 275-86.

Haldenby, D. 1990
An Anglian Site on the Yorkshire Wolds, *Yorks Arch J 62,* 51-63.

Hall, D.N. 1988
The Late Saxon Countryside: Villages and their Fields, in Hooke, D. (ed) *Anglo-Saxon Settlements,* Oxford, Blackwell, 99-122.

Hall, R.A. 1974
A Check-List of Viking Age Coin Hoards from Ireland, *Ulster J Archaeol 36,37,* 71-86.

Hall, R.A. 1981
The Viking Dig, York, York Archaeological Trust.

Hall, R.A. 1982
Tenth-Century Woodworking in Coppergate, York, in McGrail, S (ed) Woodworking Techniques before AD 1500, *Brit Archaeol Rep (Int Ser) 129,* 231-44.

Hall, R.A. 1984
A Late Pre-Conquest Building Tradition, in Addyman, P.V & Black, V (eds) *Archaeological Studies from York presented to M.W Barley,* York, York Archaeological Trust, 75-86.

Hall, R.A. 1989
The Five Boroughs of the Danelaw: a review of present knowledge, *Anglo-Saxon England 18,* 149-208.

Halliday, C. 1969
The Scandinavian Kingdom of Dublin, 2nd Ed (1st ed 1884), Shannon Press.

Hamilton, J.R.C. 1956
Excavations at Jarlshof, Shetland, Edinburgh, H.M.S.O.

Hamilton, N.E.S.A. (ed) 1870
William of Malmesbury: *De Gestis Pontificum Anglorum,* Rolls Series, London, Longman.

Harris Gibson, J. 1887
Synopsis of the Coins found on the Meols Beach, Cheshire, since 1870, in the Collection of Mr.C. Potter *J Liverpool Numis Soc 3,* 59-67.

Harrison, W. 1909
Early Maps of Cheshire, *Trans Lancashire Cheshire Antiq Soc, 26,* 1-26.

Hart, C.R. 1975
Early Charters of Northern England and the North Midlands, Leicester, Leicester University Press.

Hart, C.R. 1989
Two Late Anglo-Saxon Strap-ends from Yorkshire, *Yorkshire Arch J 61*, 189-90.

Hartley, B.R. & Kaine, K.F. 1954
Roman Dock and Buildings, *J Chester Archaeol Soc 41*, 15-37.

Harvey, S.P.J. 1985
Taxation and Ploughland in Domesday Book, in Sawyer, P.H. (ed) *Domesday Book: A Reassessment*, London, Arnold, 86-103.

Hawkes, S.C. & Dunning, G.C. 1961
Soldiers and Settlers in Britain, Fourth to Fifth Century, *Medieval Archaeol 5*, 1-70.

Heighway, C.M. (ed) 1972
The Erosion of History, Archaeology and Planning in Towns, London, Council for British Archaeology.

Heighway, C.M. 1984
Anglo-Saxon Gloucester to AD 1000, in Faull, M. (ed) *Studies in Late Anglo-Saxon Settlement*, Oxford, Oxford Univ. Dept of External Studies, 35-53.

Heighway, C.M, Garrod, A.P, Vince, A.G. 1979
Excavations at 1 Westgate Street, Gloucester, 1975, *Medieval Archaeol 23*, 159-213.

Hencken, H.N.O'N. 1936
Ballinderry Crannog No.1 *Proc Roy Ir Acad 43,C*, 103-240.

Hencken, H.N.O'N. 1942
Ballinderry Crannog No.2 *Proc Roy Ir Acad 47,C*, 1-76.

Henderson, I. 1967
The Picts, London, Thames & Hudson.

Henry, F. 1965
Irish Art in the Early Christian Period (to 800 AD), London, Methuen, Revised Ed.

Herteig, A.E. 1954
Omkring Kaupangen på Veøy i Romsdal, *Viking 17*, 69-96.

Herteig, A.E. 1973
Kaupangen på Borgund, Ålesund, Borgundkaupangens Venner.

Higham, N.J. & Jones, G.D.B. 1975
Frontiers, Forts and Farmers: Cumbrian Aerial Survey 1974-5 *Archaeol J 132*, 16-53.

Higham, N.J. 1979
Continuity in North-West England in the First Millennium AD, in Higham, N.J (ed) *The Changing Past*, Manchester, University of Manchester, Dept of Extra-Mural Studies, 43-51.

Higham, N.J. 1985
The Scandinavians in North Cumbria: Raids and Settlement in the later Ninth to mid Tenth Centuries, in Baldwin, J.R & Whyte, I.D (eds) *The Scandinavians in Cumbria*, Edinburgh, Scottish Society for Northern Studies, 37-51.

Higham, N.J. 1986
The Northern Counties to AD 1000 London, Longman.

Higham, N.J. 1988
The Cheshire Burhs and the Mercian Frontier to AD 924. *Trans Antiq Soc Lancashire Cheshire 98,* 193-222.

Higham, N.J. forthcoming
Northumbria, Mercia and the Irish Sea Norse, AD 893-924, in Graham-Campbell, J.A. (ed) Viking Treasure from the North West, *National Museums and Galleries on Merseyside, Occ Paper.*

Hill, D. 1969
The Burghal Hidage: the establishment of a text, *Medieval Archaeol 13,* 84-92.

Hill, D. 1978
Trends in the Develoment of Towns during the reign of Ethelred II, in Hill, D (ed) Ethelred the Unready, *Brit Archaeol Rep (Brit Ser) 59,* 213-226.

Hill, D. 1981
An Atlas of Anglo-Saxon England, Oxford, Blackwell.

Hill, D. 1988a
Towns as Structures and Functioning Communities through Time: The Development of Central Places from 600 to 1066, in Hooke, D. (ed) *Anglo-Saxon Settlements,* Blackwell, Oxford, 197-212.

Hill, D. 1988b
Unity and diversity - a framework for the study in European towns. in Hodges, R.A. & Hobley, B. (eds) *The Rebirth of Towns in the West,* CBA Research Report 68, London, Council for British Archaeology, 8-15.

Hill, G.W. 1920
A Find of Coins of Eadgar, Eadweard II and Æthelred II at Chester, *Numis Chron 4 Series, 20,* 141-65.

Hill, P.H. 1989
Whithorn 2, Whithorn, Whithorn Trust.

Hill, P.H. 1990a
Whithorn 3, Whithorn, Whithorn Trust.

Hill, P.H. 1990b
Whithorn: The Missing Years, in Oram, R.D. & Stell, G.P. (eds) *Galloway, Land and Lordship,* Edinburgh, Scottish Society for Northern Studies, 27-44.

Hinton, D.A. 1974
Catalogue of the Anglo-Saxon Ornamental Metalwork 700-1100 in the Department of Antiquities, Ashmolean Museum, Oxford, Oxford, Clarendon Press.

Hinton, D.A. (ed) 1983
25 Years of Medieval Archaeology, Sheffield, University of Sheffield, Dept of Prehistory & Archaeology.

Hinton, D.A. 1990
The Medieval Gold, Silver and Copper-Alloy objects from Winchester, in Biddle, M. (ed) Object and Economy in Medieval Winchester, *Winchester Studies 7, ii,* Oxford, Clarendon Press, 29-35; Buckles and Clothes fittings, op. cit. 494-580.

Hodder, I. 1986
Reading the Past, Cambridge, Cambridge University Press.

Hodder, I. 1987
The Contribution of the Long Term, in Hodder, I. (ed) *Archaeology as Long-term History* Cambridge, Cambridge University Press, 1-15.

Hodder, I. 1988
Material Culture Texts and Social Change: A Theoretical Dicussion and some Archaeological Examples, *Proc Prehist Soc 54,* 67-76.

Hodges, R. 1977
Trade and Urban Origins in Dark Age England: An Archaeological Critique of the Evidence, *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek 27,* 191-216.

Hodges, R. 1982a
Dark Age Economics, London, Duckworth.

Hodges, R. 1982b
The Evolution of Gateway Communities: Their Socio-Economic Implications, in Renfrew, C. et al (eds) *Ranking, Resource and Exchange* Cambridge, Cambridge University Press, 117-123.

Hodges, R.A. 1983
New Approaches to Medieval Archaeology, in Hinton, D.A (ed) *25 Years of Medieval Archaeology* Sheffield, University of Sheffield, Dept of Prehistory and Archaeology, 24-37.

Hodges, R.A. 1986
Peer polity interaction and socio-political change in Anglo-Saxon England, in Renfrew, C. (ed) *Peer Polity Interaction and Socio-political change,* Cambridge, Cambridge University Press, 69-78.

Hodges, R.A. 1988a
Primitive and Peasant Markets, Oxford, Blackwell.

Hodges, R.A. 1988b
The Rebirth of Towns in the Early Middle Ages, in Hodges, R.A. & Hobley, B (eds) *The Rebirth of Towns in the West,* CBA Research Report 68, London, Council for British Archaeology, 1-7.

Hodges, R.A. & Hobley, B. (eds) 1988
The Rebirth of Towns in the West, CBA Research Report 68, London, Council for British Archaeology.

Hodges, R.A. & Moreland, J. 1988
Power and Exchange in Middle Saxon England, in Driscoll, S.T. & Nieke, M.R. (eds) *Power and Politics in Early Medieval Britain and Ireland,* Edinburgh, Edinburgh University Press, 79-95.

Hooke, D. 1981
Anglo-Saxon Landscapes of the West Midlands: the Charter Evidence, *Brit Archaeol Rep (Brit Ser) 95,* Oxford.

Hooke, D. 1983
The Landscape of Anglo-Saxon Staffordshire: the charter evidence, Keele, University of Keele.

Hooke. D. 1985
Village Development in the West Midlands, in Hooke, D. (ed) *Medieval Villages*, Oxford University Committee for Archaeology, Monograph 5, Oxford, 125-69.

Hooke, D. (ed) 1988
Anglo-Saxon Settlements, Oxford, Blackwell.

Hope-Taylor, B. 1977
Yeavering, An Anglo-British Centre of Early Northumbria London, H.M.S.O.

Holmqvist, W. 1972
Excavations at Helgö IV (Workshop Pt 1) Uppsala.

Horsman, V, Milne, C. & Milne, G. 1988
Building and Street Development near Billingsgate and Cheapside, Aspects of Saxo-Norman London 1, London, London & Middlesex Archaeological Society Special Paper II.

Howard-Davis, C, Innes, J, Stocks. 1988.
Peat and the Past, a survey an assessment of the prehistory of the lowland wetlands of North-West England, Lancaster, H.B.M.C.

Howarth, R. 1988
The Site of St Olave's Church, Dublin, in Bradley, J (ed) *Settlement and Society in Medieval Ireland, Studies Presented to F.X. Martin,* Kilkenny, Boethius Press, 177-91.

Hudson, B. 1978
The Irish Sea Province 1000-1167 Unpub. M.Phil Thesis, University College Dublin, Department of History.

Huggins, P, Rodwell, K, Rodwell, W. 1982
Anglo-Saxon and Scandinavian Building Measurements, in Drury, P (ed) Structural Reconstruction: Approaches to the interpretation of the excavated remains of buildings, *Brit Archaeol Rep (Brit Ser) 110,* 21-66.

Hume, A. 1846
An Account of a Recent Visit by several Members of the Society to the Submarine Forest at Leasowe, *Proc Lit Phil Soc Liverpool 1,* 97-107.

Hume, A. 1863
Ancient Meols, or some account of the Antiquities found on the Sea Coast of Cheshire, London, John Russell Smith.

Hume, A. 1866
Changes in the Sea Coast of Lancashire and Cheshire, *Trans Historic Soc Lancashire Cheshire 19,* 1-88.

Hurley, M. 1988
Recent Archaeological Excavations in Waterford City, *Archaeology Ireland 2,* 17-21.

Husain, B. 1973
Cheshire under the Norman Earls, Chester, Cheshire Community Council.

Hårdh, B. 1978
Trade and Money in Scandinavia in the Viking Age, *Meddelanden från Lunds Universitets Historiska Museum 2,* 157-171.

Hårdh, B. 1989
The Function of Silver in the Viking Age, in Clarke, H. & Schia, E. (eds) Coins and Archaeology *Brit Archaeol Rep (Int Ser) 556,* 43-52.

Ingstad, A.S. 1977
The Discovery of a Norse Settlement in America Vol 1. Oslo/ Bergen/ Tromsø, Universitetsforlaget

Innes, J.B. forthcoming
The Prehistory of Merseyside, *National Museums and Galleries on Merseyside, Occ. Paper.*

Irvine, W.F. 1893
Notes on the Domesday Survey, so far as it relates to the Hundred of Wirral, *J Chester Archaeol Soc (New Ser) 5,* 72-84.

Jeffries, H.A. 1985
The History and Topography of Viking Cork, *J Cork Hist Archaeol Soc 90,* 14-25.

Jermy, K. 1961
The Roman Road in Wirral, *J Chester Archaeol Soc 48,* 1-14.

Johansen, O.S 1988
Vikingene lengst in nord: Håløgske høvdingesenter i Nord-Norge, in Bekker-Nielsen, H. & Frede-Nielsen, H. (eds) *Syvende Tværfaglige Vikingesymposium,* Odense, 21-46.

Johansen, O.S. & Sobstad, T. 1977
De Nordnorske Tunanleggene fra Jernalderen, *Viking 41,* 9-56.

Johnsen, H. & Olsen, B. forthcoming
Hermeneutics and Archaeology: On the Philosophy of Contextual Archaeology *Review of Current Anthropology.*

Jones, A. 1910
The History of Gruffydd ap Cynan: The Welsh Text, Manchester, Manchester University Press.

Jones, G. 1984
A History of the Vikings, Oxford, Oxford University Press.

Jones, G.D.B. 1980
Archaeology and Coastal Change in the North-West, in Thompson, F.H (ed) Archaeology and Coastal Change, *Soc Antiq Occas. Paper No.1,* London, Society of Antiquaries, 87-102.

Jones, G.R.J. 1965
Early Territorial Organization in Northern England and its bearing on the Scandinavian Settlement, in Small, A. (ed) *The Fourth Viking Congress, Lerwick,* 67-84.

Jones, G.R.J. 1972
Post-Roman Wales, in Finberg, H.P.R. (ed) *The Agrarian History of England and Wales vol 1 AD 43-1042,* 283-382.

Jones, G.R.J. 1976
Multiple Estates and Early Settlement, in Sawyer, P.H. (ed) *Medieval Settlement,* London, Edward Arnold, 15-40.

Jones, G.R.J. 1983
Nucleal Settlement and its Tenurial Relationships: Some Morphological Implications, in Roberts, B.K. & Glasscock, R.E. (eds) Villages, Fields and Frontiers: Studies in European Rural Settlement in the Medieval and Early Modern Periods, *Brit Archaeol Rep, Int Ser 185,* Oxford, 153-67.

Jones, G.R.J. 1985
Multiple Estates Perceived, *J Hist Geog 11,4*, 352-63.

Jones, T. (ed) 1955
Brut y Tywysogion, or the Chronicle of the Princes, Red book of Hergest Version, Cardiff, University of Wales Press.

Jonsson, K. 1986
Viking Age Hoards and Late Anglo-Saxon Coins, Stockholm, GOTAB.

Jonsson, K. 1987
The New Era: the Reformation of the Anglo-Saxon Coinage, Commentationes de Nummis Saeculorum 9-11, Nova Series 1, London/Stockholm, Spink & Son.

Jope, E.M. 1966
Archaeological Survey of County Down Belfast, H.M.S.O.

Keevil, G. 1989
Carlisle Cathedral Excavations 1988, Carlisle

Keevil, G. et al, forthcoming
Excavations at the Cathedral Green, Carlisle, 1988, Final Report.

Kelly, E.P. 1986a
Ringed Pins of County Louth, *J County Louth Archaeol Hist Soc 21, 2*, 179-99.

Kelly, E.P. 1986b
Objects found in the Vicinity of a Holy Well at Bellewstown, Co. Meath, *Riocht na Midhe (Proc Meath Archaeol Hist Soc) 7, 4*, 60-1.

Kendrick, J. 1853
An Account of Excavations at the Mote Hill, Warrington, Lancashire, *Trans Historic Soc Lancashire Cheshire 5*, 59-68.

Kendrick, T.D. 1938
An Anglo-Saxon Cruet, *Antiq J 18*, 377-81.

Kendrick, T.D. 1940
Two Saxon Sculptures from Cheshire, *Brit Mus Quarterly 14*, 35.

Kenna, R.J.B. 1978
Early Settlement on the North Wirral Coastal Area, *J Merseyside Arch Soc 2*, 27-34.

Kenna, R.J.B. 1979
Coastal Change and Early Settlement on the North Wirral, *J Merseyside Archaeol Soc 3*, 41-51.

Kenna, R.J.B. 1986
The Flandrian Sequence of North Wirral, *Geol J 21*, 1-27.

Kenny, M. 1987
The Geographical Distribution of Irish Viking Age Coin Hoards, *Proc Roy Acad Ir 21, 2*, 179-99.

Kenyon, D. 1984
Archaeology, Place-names and Settlement in Lancashire and Cheshire AD 400-1066, Unpub. PhD Thesis, University of Manchester.

Keynes, S. & Lapidge, M. (eds) 1983
Alfred the Great: Asser's Life of King Alfred and other contemporary sources, Harmondsworth, Penguin.

Kilmurry, K. 1980
The Pottery Industry of Stamford, Lincs, *Brit Archaeol Rep (Brit Ser) 84*. Oxford.

King, A. 1978
Ribblehead: An Interim Report. in Hall, R.A. (ed) *Viking Age York and the North* CBA Research Report 27, London, Council for British Archaeology, 21-25.

Kinvig, R.H. 1975
The Isle of Man: A Social, Cultural and Political History, Liverpool. Liverpool University Press.

Kitson Clark, M. 1941
Late Saxon Pin Heads from Roos, East Yorkshire, and South Ferriby, Lincs, *Proc Leeds Philos Lit Soc 5,* 333-38.

Kruse, S.E. 1988a
Ingots and Weight Units in Viking Age Silver Hoards, *World Archaeology 20, 2,* 285-301.

Kruse, S.E. 1988b
Viking Age Silver Ingots from England and Wales and their Economic Implications, Unpub PhD thesis, University of London (University College).

Laing, L.R. 1975a
The Archaeology of Late Celtic Britain and Ireland London, Batsford.

Laing, L.R. 1975b
The Mote of Mark and the origins of Celtic Interlace, *Antiquity 49,* 98-108.

Laing, L.R 1976
Some Pagan Anglian Finds from Deeside *J Chester Archaeol Soc 59,* 50-1.

Laing, L.R. & Laing, J. 1985
The Dark Ages of West Cheshire Chester, Cheshire County Planning Dept. Pamphlet.

Laing, L.R. & Laing, J. 1987
The Early Christian Period Settlement at Ronaldsway, Isle of Man: A Reappraisal *Proc Isle Man Natur Hist Antiq Soc 9.3,* 389-415.

Lang, J.T. 1988
Viking-Age Decorated Wood: A Study of its Ornament and Style, *Medieval Dublin Excavations 1962-81 Ser B, 1,* Dublin, Royal Irish Academy.

Larsen, J.H. 1980
Vikingitids Handelsplass i Valle, Setesdal, *Univ. Oldsaksamlings Skrifter, Ny Rekke 3,* Oslo.

Larsen, J.H. 1985
En mulig handelsplass i Grimstadområdet i Vikingetiden, *Universitets Oldsaksamlings Årbok for 1984-5,* 111-120.

Leeds, E.T. 1947
A Saxon Village at Sutton Courtenay, Berkshire, Third Report, *Archaeologia 42,* 79-94.

Lenney, A. 1962
Studies in the minor place-names of South-West Lancashire, Unpub. M.A. thesis, University of Liverpool.

Lewis, J. 1982
Sefton Rural Fringes Survey, Liverpool, Merseyside County Museums.

Linge, D.E. 1977
Editor's Introduction, in Gadamer, H.G. *Philosophical Hermeneutics*, Berkeley, University of California Press, 11-58.

Liversage, G.D. 1967
Excavations at Dalkey Island, Co. Dublin 1956-1959, *Proc Roy Ir Acad 66, C*, 53-234.

Lloyd, J.E. 1912
A History of Wales (2 vols), 2nd Ed London, Longman.

Lloyd-Jones, M. 1984
Society and Settlement in Wales and the Marches 500 BC - AD 1100 *Brit Archaeol Rep (Brit Ser) 121,* Oxford.

London Museum 1954
London Museum Medieval Catalogue, Ward-Perkins, J.B. (ed), London, H.M.S.O.

Longbottom, F.W. 1908
A Few Notes on the Coins of the Potter Meols Collection, *J Chester Archaeol Soc 14,* 5-17.

Longley, D.M.T. 1987
Prehistory, in Harris, B.E (ed) *History of Cheshire, Vol 1*, Victoria History of the Counties of England, London, Institute of Historical Research, 36-114.

Longworth, I. & Cherry, J. (eds) 1986
Archaeology in Britain since 1945 London, British Museum.

Loyn, H.R. 1976
The Vikings in Wales, Dorothea Coke Memorial Lecture, London, University College.

Lucas, A.T. 1966
Irish-Norse Relations: Time for a Reappraisal?, *J Cork Archaeol Hist Soc 71,* 62-75.

Lynn, C. 1978
Early Christian Domestic Structures: A Change from Round to Rectangular Plans *Ir Archaeol Res Forum 5,* 29-45.

MacAirt, S. (ed) 1973
The Annals of Ulster, Dublin, Institute for Advanced Studies.

MacGregor, A. 1978
Industry and Commerce in Anglo-Scandinavian York, in Hall, R.A. (ed) *Viking Age York and the North,* CBA Research Report 27, London, Council for British Archaeology, 37-57.

MacGregor, A. 1982
Anglo-Scandinavian Finds from Lloyd's Bank, Pavement and other sites, *Archaeology of York 17/2,* London, CBA/ York Archaeological Trust.

MacGregor, A. 1985
Bone, Antler, Ivory and Horn: The Technology of Skeletal Materials since the Roman Period, London, Croom Helm.

Mack, R.P. 1967
The St John's Church, Chester, Hoard of 1862 *Brit Numis J 36,* 36-9.

Mackinder, H.J. 1902
Britain and the British Seas, London, Heinemann.

Malinowski, B. 1922
Argonauts of the Western Pacific London. Routledge.

Manley, J. 1981
Rhuddlan and Coastal Evolution, *Landscape Hist 3,* 1-15.

Manley, J. 1984
The Late Saxon Settlement of Cledemutha, in Faull, M. (ed) *Studies in Late Anglo-Saxon Settlement*, Oxford, Dept of External Studies.

Manley, J, Otlet, R.L, Walker, A.J, Williams, D. 1985
Early Medieval Radiocarbon Dates and Plant Remains from Rhuddlan, Clwyd *Archaeol Cambrensis 84,* 106-119.

Manley, J. 1986
Cledemutha: A Late Saxon Burh in North Wales *Medieval Archaeol 31* 13-46.

Mann, J.E. 1982
Early Medieval Finds from Flaxengate 1: Objects of Antler, Bone, Stone, Ivory, Amber and Jet, *The Archaeology of Lincoln 14 (1),* Lincoln, CBA, The Lincoln Archaeological Trust.

Maple, J.T. 1985
The Irish Sea Region AD 800-1500, PhD thesis, University of Kansas.

Margary, I.D. 1967
Roman Roads in Britain, Revised Ed, London, John Baker.

Margeson, S. 1983
On the Iconography of the Manx Crosses, in Fell, C et al (eds) *The Viking Age in the Isle of Man,* London, Viking Society for Northern Research, 95-106.

Marstrander, C.J.S. 1937
Treen og Keill, *Norsk Tidsskrift for Sprogvidenskab 8*, 287-500.

Martens, I. 1982
Recent investigations of Iron Production in Viking Age Norway, *Norw Arch Rev 15,* 29-44.

Martens, I. 1985
Iron Extraction, Settlement and Trade in the Viking and Early Middle Ages in South Norway, in Knirk, J.E (ed) Proceedings of the Tenth Viking Congress, *Universitets Oldsaksamlings Skrifter, ny rekke 9,* Oslo, 69-80.

Martens, I. 1988
Jernvinna på Møsstrond i Telemark, *Norske Oldfunn 13,* Universitets Oldsaksamling, Oslo.

Marwick, H. 1935
Leidang in the West or the Norse fleets of Orkney and the Isle of Man, *Proc Orkney Antiq Soc 13,* 15-31.

Marwick, H. 1949
Naval Defence in Norse Scotland, *Scottish Hist Rev 28,* 1-11.

Mason, D.J.P. 1976
Chester, the Evolution and Adaptation of its Landscape, *J Chester Archaeol Soc 59,* 14-23.

Mason, D.J.P. 1985
Excavations at Chester, 27-42 Lower Bridge Street, the Dark Age and Saxon Periods, *Grosvenor Museum Archaeological Excavation and Survey Reports 3*, Chester, Chester City Council/ Grosvenor Museum.

Mason, D.J.P. 1988
The Roman Site at Heronbridge, near Chester: Aspects of Civilian Settlement in the Vicinity of Legionary Fortresses in Britain and Beyond, *Arch J 145*, 123-157.

Mauss, M. 1925
Essai sur le don, forme archaique de l'exchange, (Trans I. Cunnison as *The Gift: forms and functions of exchange in archaic societies,*) London 1980.

McGrail, S. 1978
Logboats of England and Wales, *Brit Archaeol Rep (Brit Ser) 51,* Oxford.

McGrail, S. & Switsur, R. 1979
Medieval Logboats of the River Mersey - A Classification Study, in McGrail, S. (ed) The Archaeology of Medieval Ships and Harbours in Northern Europe, *Brit Archaeol Rep (Int Ser) 66,* Oxford, 93-115.

McKerrell, H. & Stevenson, R.B.K. 1972
Some analyses of Anglo-Saxon and Associated Oriental Silver Coinage, in Hall, E.T. & Metcalf, D.M. (eds) *Methods of Chemical and Metallurgical Investigation of Ancient Coinage,* Royal Numismatic Society, Special Publication 8, London, 195-209.

McNeil, R. 1983
Two 12th-century Wich Houses in Nantwich, Cheshire, *Medieval Archaeol 27,* 40-88.

McPeake, J.C, Bulmer, M. & Rutter, J.A. 1980
Excavations in the Garden of No.1 Abbey Green, Chester, 1975-77, *J Chester Archaeol Soc 63,* 14-38.

McWhirr, A. (ed) 1976
Archaeology and History of Cirencester, *Brit Archaeol Rep (Brit Ser) 30,* Oxford.

Megaw, B.R.S. 1937
Weapons of the Viking Age found in Man, *J Manx Mus 3,* 234-36.

Megaw, B.R.S. & Megaw, E. 1950
The Norse Heritage in the Isle of Man, in Fox, C. & Dickins, B. (eds) *The Early Cultures of North West Europe* Cambridge, Cambridge University Press.

Megaw, B.R.S. 1978
Norseman and Native in the Kingdom of Man and the Isles, in Davey, P.J. (ed) Man and the Environment in the Isle of Man, *Brit Archaeol Rep (Brit Ser) 54,* Oxford, 265-314.

Metcalf, D.M. 1960
Some Finds of Medieval Coins from Scotland and the North of England, *Brit Numis J 30,* 88-123.

Metcalf, D.M. 1978
The Ranking of the Boroughs: Numismatic Evidence from the Reign of Ethelred II, in Hill, D (ed), Ethelred the Unready, *Brit Archaeol Rep (Brit Ser) 59.* Oxford, 159-212.

Metcalf, D.M. 1980
Continuity and Change in English Monetary History c973-1086, *Brit Numis J 50* 20-49.

Metcalf, D.M. 1984
Monetary Circulation in Southern England in the First Half of the Eighth Century,

in Hill, D & Metcalf, D.M (eds) Sceattas in England and the Continent, 7th Oxford Symposium on Coinage and Monetary History, *Brit Archaeol Rep (Brit Ser) 128.* 27-47.

Metcalf, D.M. 1986
The Monetary History of England in the Tenth Century, in Blackburn. M.A.S. (ed) *Anglo-Saxon Monetary History*, Leicester, Leicester University Press, 133-157.

Metcalf, D.M. 1987a
A Topographical Commentary on the Coin Finds from Ninth-Century Northumbria c780-c870, in Metcalf, D.M (ed) Coinage in Ninth-Century Northumbria, *Brit Archaeol Rep (Brit Ser) 180,* 361-82.

Metcalf, D.M. 1987b
Were Ealdormen exercising independent control over the Coinage in Mid Tenth-Century England?, *Brit Numis J 57,* 24-33.

Metcalf, D.M. forthcoming
The Monetary Economy of the Irish Sea Province, in Graham-Campbell, J.A. (ed) Viking Treasure from the North West: the Cuerdale Hoard in its context, *National Museums and Galleries on Merseyside, Occ Paper.*

Meyer, K. 1892
Aislinge Meic Conglinne: The Vision of Mac Conglinne, London, Longman.

Mikkelsen, E. 1988
Territorier og økonomiske, sosiale og politiske strukturer i forhistorisk tid, *Viking 51,* 9-42.

Morgan, P. 1978
Cheshire, in Morris, J. (ed) *Domesday Book 26,* Chichester, Phillimore.

Morris, C.D. 1977
Northumbria and the Viking Settlement: the Evidence for Landholding. *Arch Aeliana, 5 ser, 4,* 81-103.

Morris, C.D. 1979
The Vikings and Irish Monasteries, *Durham Univ J 71,* 175-85.

Morris, C.D. 1982
The Vikings in the British Isles, Some aspects of their settlement and economy. in Farrell, R.T (ed) *The Vikings,* London, Phillimore, 70-94.

Morris, M. 1983 *Medieval Manchester*, Manchester, Greater Manchester Archaeology Unit.

Morris, R.H. 1894
Chester in the Plantagenet and Tudor Reigns, Chester, Private Publication.

Munch, G.S. & Johansen, O.S. 1988
Borg in Lofoten - An Inter-Scandinavian Research Project, *Norw Arch Rev 21, 2,* 119-126.

Murray, H. 1983
Viking and Early Medieval Buildings in Dublin, *Brit Archaeol Rep (Brit Ser) 119,* Oxford.

Myhre, B. 1987
Chieftains' graves and chiefdom territories in South Norway in the Migration Period, *Studien zur Sachsenforschung 6,* 169-188.

Myrvoll, S. 1984
Trade in Telemark and the Earliest Settlement in Skien, *Offa 41*. 41-55. Neümunster.

Møllerop, O. 1971
De Ringformede Tunanlegg i Rogaland, *Fra Haug ok Heidni 3*. 151-166.

Nash-Williams, V.E.
The Early Christian Monuments of Wales Cardiff, National Museum of Wales.

Neely, G.J.H. 1940
Excavations at Ronaldsway, Isle of Man, *Antiq J 20,* 72-86.

Newstead, R. 1926
Excavations at Hilbre 1926, *Trans Historic Soc Lancashire Cheshire 78,* 136-143.

Newstead, R. 1946
Records of Archaeological Finds, *J Chester Archaeol Soc 36,* esp. 154-9. esp. 154-59.

Newstead, R. & Droop, J.P. 1932
The Roman Ampitheatre at Chester, *J Chester Archaeol Soc 29,* 5-40.

Newstead, R. & Droop, J.P. 1936
Excavations in the Deanery Field and Abbey Green, 1935 *Annals Archaeol Anthropol Liverpool 23 (1),* 3-50.

Newstead, R. & Droop, J.P. 1939
Excavations in Chester 1939, The Princess Street Clearance Area *J Chester Archaeol Soc 34,* 49-172.

Nicolaissen, W.F.H. 1976
Scottish Placenames, London, Batsford.

Nieke, M.R. & Duncan, H. 1988
Dalriada: the establishment and maintenance of an early historic kingdom in northern Britain, in Driscoll, S.T. & Nieke, M.R. (eds) *Power and Politics in Early Medieval Britain and Ireland,* Edinburgh, Edinburgh University Press, 6-21.

North, J.J. 1963
English Hammered Coinage, London, Spink & Son.

Norton, D. 1978
A Chronological Investigation of the North Wirral Coastline during the Quarternary Period, Unpub B.A. dissertation, Edge Hill College of Higher Education; University of Lancaster.

Ó Corráin, D. 1972
Ireland before the Normans, Dublin, Gill & Macmillan.

Ó Cuiv, B. (ed) 1962
The Impact of the Scandinavians upon the Celtic Speaking Peoples, Internat. Congress of Celtic Studies, Dublin 1959, Dublin, Institute for Advanced Studies.

Oddy, W.F. & Tylecote, R.F. 1990
Objects associated with gold working, in Biddle, M. (ed) Object and Economy in Medieval Winchester, *Winchester Studies 7, ii,* Oxford, Clarendon Press, 76-8.

Odner, K. 1983
Finner og Terfinner: Etniske Prosesser i det nordlige Fenno-Skandinavia, University of Oslo, Occasional Papers in Social Anthropology, Oslo.

O'Donovan, J. 1860
Annals of Ireland. The Three Fragments, Dublin, Irish Archaeological and Celtic Society.

Ó hEailidhe, P. 1957
The Rathdown Slabs, *J Roy Soc Antiq Ire 87,* 75-88.

O'Ferrall, R.S.M. 1951
A Pilgrim's Flask found in Derby, *J Derbyshire Arch Natur Hist Soc 71,* 78-9.

O'Kelly, M.J. 1956
An Island Settlement at Beginish, Co. Kerry, *Proc Roy Ir Acad 57, C,* 159-94.

O'Kelly, M.J. 1963
Two Ring Forts at Garryduff, Co. Cork *Proc Roy Ir Acad 63, C,* 17-125.

O'Leary, T, Blockley, K, Musson, C. 1989
Pentre Farm, Flint 1976-81: An Official Building in the Roman Lead Mining District, *Brit Archaeol Rep (Brit Ser) 207,* Oxford.

O'Meadhra, U. 1979
Early Christian, Viking and Romanesque Art: Motif Pieces from Ireland, Theses and Papers in North European Archaeology 7, Stockholm, Almqvist & Wiksell.

O'Rahilly, C. 1975
A Catalogue and Classification of Bronze Stick Pins from the Excavations in Dublin 1962-72, Unpub. M.A. Thesis, University College Dublin.

Ordnance Survey 1957
Geological Survey of the United Kingdom, 2nd Edition.

Ordnance Survey 1977
Quarternary Map of the United Kingdom, 1st Edition.

Ó Riordáin, A.B. 1971
Excavations at High Street and Winetavern Street, Dublin, *Med Archaeol 15,* 73-78.

Ó Riordáin, A.B. 1976
The High Street Excavations, in Almqvist, B. & Greene, D. (eds) *Proceedings of the Seventh Viking Congress, Dublin 1973,* Dublin, Royal Irish Academy.

Ó Riordáin, S.P. 1942
Excavation of a Large Earthen Ring-Fort, Garranes, Co. Cork, *Proc Roy Ir Acad 47, C,* 77-150.

Ó Riordáin, S.P. 1950
Lough Gur Excavations: Carraig Aille and the Spectacles, *Proc Roy Ir Acad C, 52,* 39-111.

Ormerod, G. 1882
The History of the County Palatine and City of Chester (2nd Ed, Helsby, T,), London, Routledge.

O'Sullivan, D. 1985
Cumbria before the Vikings: A Review of some 'Dark Age' Problems in North-West England, in Baldwin, J.R. & Whyte, I.D. (eds) *The Scandinavians in Cumbria,* Edinburgh, Scottish Society for Northern Studies, 17-36.

Oxley, J.E. 1983
Nantwich: An Eleventh-Century Salt Town and its Origins, *Trans Hist Soc Lancashire Cheshire 131,* 1-20.

Peacock, D.P.S. & Thomas, C. 1967
Class 'E' Imported Post-Roman Pottery: A Suggested Origin, *Cornish Archaeol 6*. 35-46.

Peers, C. & Radford, C.A.R. 1943
The Saxon Monastery of Whitby, *Archaeologia 89*. 27-88.

Perring, D. 1981
Early Medieval Occupation at Flaxengate, Lincoln, The Archaeology of Lincoln IX (1), London, CBA and the Lincoln Archaeological Trust.

Petch, D.F. 1971
Excavations on the Site of the Old Market Hall, Chester, Second Summary Report 1968-70, *J Chester Archaeol Soc 57,* 3-26.

Petch, D.F. 1987
Roman Cheshire, in Harris, B.E. (ed) *History of Cheshire Vol 1.* Victoria History of the Counties of England, London, Institute of Historical Research, 115-236.

Petch, J.A. 1933
Excavations at Heronbridge, *J Chester Archaeol Soc 30,* 5-49.

Petersen, J. 1919
De Norske Vikingesverd, Videnskabselskabets Skrifter 2, Kristiania.

Petersen, J. 1940
British Antiquities of the Viking Period, found in Norway: Shetelig, H. (ed) *Viking Antiquities in Great Britain and Ireland V*, Oslo, Aschehoug.

Philpott, F.A. 1990
A Silver Saga: Viking Treasure from the North West (J.A. Graham-Campbell, ed), Liverpool, National Museums and Galleries on Merseyside.

Pirenne, H. 1925
Medieval Cities, their origins and the revival of trade, Princeton, Princeton University Press.

Pirie, E.J.E. 1964
Grosvenor Museum, Chester, Part 1, Coins with the Chester Mint Signature *Sylloge Coins Brit Isles*, London, British Academy.

Pirie, E.J.E. 1986a
Finds of Sceattas and Stycas of Northumbria, in Blackburn, M.A.S. (ed) *Anglo-Saxon Monetary History* Leicester, Leicester University Press, 67-90.

Pirie, E.J.E. 1986b
Post-Roman coins from York Excavations, 1971-81, *The Archaeology of York 18, 1,* London, CBA/ York Archaeological Trust.

Polanyi, K. 1957
The Economy as an Instituted Process, in Polanyi, K, Arensberg, C. & Pearson, H. (eds) *Trade and Markets in Archaic Societies*, Glencoe, 243-9.

Polanyi, K. 1963
Ports of Trade in Early Societies, *J Econ Hist 23,* 30-45.

Pollexfen, J.H. & Sim, G. 1864
Notice of the Coins of David I of Scotland, Henry 1 and Stephen of England, found with gold ornaments at Plan, in the Island of Bute, in June 1863, *Proc Soc Antiq Scot 5,* 372-84.

Potter, C. 1876
Observations on the Geology and Archaeology of the Cheshire Shore. *Trans Hist Soc Lancashire Cheshire 28*, 121-43.

Potter, C. 1888
Antiquities of the Meols Shore, *Trans Hist Soc Lancashire Cheshire 40*, 143-52.

Potter, C. 1889
Leather, Bronze and Pewter Ornaments from the Cheshire Shore, *Trans Hist Soc Lancashire Cheshire 41*, 195-202.

Potter, C. 1891
Agricultural and Mechanical Implements on the Meols Shore, *Trans Hist Soc Lancashire Cheshire 43*, 233-44.

Proudfoot, V.B. 1961
The Economy of the Irish Rath, *Medieval Archaeol 5*, 91-122.

Quinnell, H. & Day, M.R. forthcoming
Excavations at Rhuddlan, Clwyd 1969-73, Mesolithic to Medieval.

Radford, C.A.R. 1940
Small Bronzes from St Augustine's Abbey, Canterbury, *Antiq J 20*, 506-8.

Radford, C.A.R. 1956
Imported Pottery found at Tintagel, Cornwall, in Harden, D.B. (ed) *Dark Age Britain: Studies Presented to E.T. Leeds*, Leicester, Leicester University Press, 59-70.

Radley, J. 1971
Economic Aspects of Anglo-Danish York, *Medieval Archaeol 15*, 37-57.

Raftery, J. 1961
A Viking Burial in County Galway, *J Galway Archaeol Hist Soc 29*, 3-6.

Rahtz, P.A. 1976
Buildings and Rural Settlement, in Wilson, D.M (ed) *The Archaeology of Anglo-Saxon England*, Cambridge, Cambridge University Press (2nd Ed 1986), 49-98.

Rahtz, P.A. 1977
The Archaeology of West Mercian Towns, in Dornier, A. (ed) *Mercian Studies*, Leicester, Leicester University Press, 107-29.

Rahtz, P.A. 1983
New Approaches to Medieval Archaeology, Part 1. in Hinton, D.A (ed) *25 Years of Medieval Archaeology*, Sheffield, University of Sheffield, Dept of Prehistory and Archaeology, 12-21.

Rahtz, P.A, Dickinson, T.M, Watts, L. 1980
Anglo-Saxon Cemeteries 1979, *Brit Archaeol Rep (Brit Ser) 82*, Oxford.

Randsborg, K. 1980
The Viking Age in Denmark, London, Duckworth.

Rasch, M. 1988
Today's Beach - Yesterday's Harbour, in Hårdh, B. et al, (eds) *Trade and Exchange in Prehistory*, Lund, Acta Archaeologica Lundensia 8, no 16, 279-86.

Reilly, P. 1988
Computer Analysis of an Archaeological Landscape: Medieval Land Divisions in the Isle of Man, *Brit Archaeol Rep (Brit Ser) 190*, Oxford.

Renfrew, C.A. 1975
Trade as Action at a Distance: Questions of Integration and Communication, in Sabloff, J. & Lamberg-Karlovsky, C.C. (eds) *Ancient Civilization and Trade* Albuquerque, University of New Mexico Press.

Richardson, C. forthcoming
Aspects of the Insular Borre Style, Unpub. M.A. thesis, University of Newcastle-upon-Tyne.

Roesdahl, E. 1982
Viking Age Denmark, London, British Museum.

Roesdahl, E, Graham Campbell, J.A, Connor, P. & Pearson, K (eds) 1981
The Vikings in England, London, Anglo-Danish Viking Project.

Rogerson, A. & Dallas, C. 1984
Excavations in Thetford, *East Anglian Archaeol 22.*

Rutter, J.A. 1985
The Pottery, in Mason, D.J.P. (ed) Excavations at Chester: 26-42 Lower Bridge Street 1974-76, the Dark Age and Saxon Periods, *Grosvenor Museum Archaeological Excavation and Survey Reports 3,* Chester, Chester City Council/Grosvenor Museum, 40-55.

Rutter, J.A. 1988
Saxon Pottery, in Ward, S.W. (ed) Excavations at Chester, 12 Watergate Street 1985, Roman Headquarters to Medieval Row, *Grosvenor Museum Excavation and Survey Reports 5,* Chester, Chester City Council/ Grosvenor Museum, 29-31.

Rutter, J.A. forthcoming
Some Pottery from the Collection of the 19th century antiquarian Henry Ecroyd Smith, *J Merseyside Archaeol Soc.*

Rygh, O. 1885
Norske Oldsager, Christiania, Cammermeyer.

Rynne, E. 1965
A Bronze Ring-Brooch from Luce Sands, Wigtownshire: its affinities and significance, *Trans Dumfriesshire Galloway Natur Hist Antiq Soc 52,* 99-113.

Sahlins, M. 1965
On the Sociology of Primitive Exchange, in Banton, M. (ed) *The Relevance of Models for Social Anthropology,* Tavistock Publications, London, 139-236.

Savory, H.N. 1960
Excavations at Dinas Emrys, Beddgelert (Caern), 1954-56, *Archaeol Cambrensis 109,* 13-77.

Sawyer, P.H. 1970
The Vikings and the Irish Sea, in Moore, D (ed) *The Irish Sea Province in Archaeology and History,* Cardiff, Cambrian Archaeological Association, 86-92.

Sawyer, P.H. 1978
From Roman Britain to Norman England, London, Methuen.

Sawyer, P.H. 1979
Charters of Burton Abbey, *Anglo-Saxon Charters II,* Oxford, British Academy.

Sawyer, P.H. 1980
Review of Randsborg 1980, *Popular Archaeol 2 (5),* 24-27.

Sawyer, P.H. 1982
Kings and Vikings, London, Methuen.

Sawyer, P.H. (ed) 1985
Domesday Book: A Reassessment, London, Arnold.

Sawyer, P.H. 1985
1066-1086: A Tenurial Revolution?, in Sawyer, P.H. (ed) *Domesday Book: A Reassessment*, London, Arnold, 71-85.

Sawyer, P.H. & Thacker, A.T. 1987
Domesday Survey, in Harris, B.E (ed) *Victoria History of the County of Cheshire Vol 1*, London, Institute of Historical Research, 293-370.

Schanche, A. 1986
Nordnorsk Jernalder Arkeologi: Et Sosialgeografisk Perspektiv, Unpub Mag. Art. Thesis, University of Tromsø, Institute of Social Science.

Schanche, A. 1989
Jernalderens bosettings mønster i et fleretnisk perspektiv, in Bertelsen, R et al (eds) *Framskritt for Fortida i Nord: I Povl Simonsens Fotefar*, Tromsø Museums Skrifter 22, Tromsø, 171-183.

Schofield, J, Palliser, D. & Harding, D. (eds) 1981
Recent Archaeological Research in English Towns, London, Council for British Archaeology.

Seaby, W.A. & Woodfield, P. 1980
Viking Stirrups from England and their Background, *Medieval Archaeol 24*, 87-122.

Shanks, M. & Tilley, C. 1987
Reconstructing Archaeology, Cambridge, Cambridge University Press.

Sheehan, J. 1985
Hiberno-Viking Arm Rings, Unpub. M.A. thesis, University College Galway.

Sherborne, J.W. 1965
The Port of Bristol in the Middle Ages, London, Historical Association.

Shoesmith, R. 1980
Excavations at Castle Green, Hereford, Hereford City Excavations 1, CBA Research Report 36, London, Council for British Archaeology.

Shoesmith, R. 1982
Excavations on and close to the defences, Hereford City Excavations 2, CBA Research Report 46, London, Council for British Archaeology.

Shoesmith, R. 1985
The Finds, Hereford City Excavations 3, CBA Research Report 56, London, Council for British Archaeology.

Simpson, F. 1925
Chester Castle AD 907-1925, *J Chester Archaeol Soc 26*, 71-132.

Sjøvold, T. 1962
The Iron Age Settlement of Arctic Norway 1: Early Iron Age, *Tromsø Museums Skrifter 10, 1*, Oslo/ Bergen/ Tromsø, Universitetsforlaget.

Sjøvold, T. 1974
The Iron Age Settlement of Arctic Norway 2: Later Iron Age, *Tromsø Museums Skrifter 10, 2,* Oslo/ Bergen/ Tromsø, Universitetsforlaget.

Skaare, K. 1976
Coins and Coinage in Viking Age Norway, Oslo/ Bergen/ Tromsø, Universitetsforlaget.

Skinner, F.G. & Bruce-Mitford, R.L.S. 1940
A Celtic Balance-beam of the Christian period, *Antiq J 20,* 87-148.

Smith, A.H. 1957
The Placenames of Westmorland (7 vols), Cambridge, English Place-name Society.

Smith, B. & George, T.N. 1961
North Wales, *British Regional Geology,* Inst. of Geological Sciences, London, H.M.S.O (3rd Ed).

Smith, F.G. 1932
Talacre and the Viking Grave, *Proc Llandudno, Colwyn Bay & District Field Club 17,* 42-50.

Smyth, A.P. 1975
Scandinavian York and Dublin 1, Dublin, Templekeiran Press.

Smyth, A.P. 1979
Scandinavian York and Dublin 2, Dublin, Templekeiran Press.

Smyth, A.P 1987
Scandinavian York and Dublin 1 and 2, 2nd Eds, Dublin, Templekeiran Press.

Sognnes, K. 1979a
Arkeologiske Modeller for Vestlandets vikingitid, *Gunneria 34,* Trondheim, Vitenskaps Museum.

Sognnes, K. 1979b
The Relationship between Coastal and Inland Areas in the Viking Period of West Norway, *Acta Archaeologica 50,* 223-33.

Stenton, F.M. 1971
Anglo-Saxon England, 3rd Ed, Oxford History of England, Oxford, Clarendon Press.

Stevenson, R.B.K. 1968
The Brooch from Westness, Orkney, in Niclasen, B (ed) *Proceedings of the Fifth Viking Congress, Torshavn 1965,* Torshavn, 25-51.

Stewart-Brown, R. 1933
The Old Dee Bridge at Chester *J Chester Archaeol Soc 30,* 63-78.

Stewart-Brown, R. 1936
Serjeants of the Peace in Medieval England and Wales, Manchester, Manchester University Press.

Storli, I. 1985
Håløyghøvdinger - om Grunnlaget for og Vedlikeholdet av Høvdingmakt i Jernalderen, med vekt på Sør Salten, Unpub. Mag. art. Thesis, University of Tromsø, Institute of Social Science.

Strickland, T.J. & Ward, S.W 1978
Excavations at Chester, Northgate Brewery 1974-5 *Grosvenor Museum Excavation and Survey Reports No.1,,* Chester, Chester City Council/ Grosvenor Museum.

Strickland, T.J. 1981
Chester, in Hobley, B. & Milne, G. (eds) *Waterfront Archaeology in Britain and Northern Europe,* CBA Research Report 41, London, Council for British Archaeology, 95.

Strickland, T.J. 1983
Archaeology in Chester since 1970, *Interim Report, Grosvenor Museum Excavations Section*, Chester.

Strickland, T.J. 1984
The Roman Heritage of Chester: the survival of the buildings of *Deva* after the Roman Period, *J Chester Archaeol Soc 67,* 18-36.

Strickland, T.J 1986
Cuppin Street Excavation: July-September 1986, *Grosvenor Museum Newsletter Autumn 1986,* Chester.

Strickland, T.J. 1988
The Roman Heritage of Chester, in Hodges, R.A. & Hobley, B. (eds) *The Rebirth of Towns in the West,* CBA Research Report 68, London, Council for British Archaeology, 109-18.

Swainson-Cowper, H. 1891
Law Ting at Fell Foot, Little Langdale, Westmorland, *Trans Cumberland Westmorland Antiq Arch Soc 11,* 1-6.

Sulley, P. 1889
The Hundred of Wirral, Birkenhead.

Sylvester, D. & Nulty, G. 1958
Historical Atlas of Cheshire, Chester, Cheshire Community Council.

Sylvester, D. 1963
Cheshire in the Dark Ages: A Map Study of Celtic and Anglian Settlement, *Trans Historic Soc Lancashire Cheshire 114,* 1-22.

Sylvester, D. 1967
Parish and Township in Cheshire and North-East Wales, *J Chester Archaeol Soc 54,* 23-36.

Tait, J. 1916
The Domesday Survey of Cheshire, *Chetham Soc (2nd Ser) 75.*

Tait, J. 1920
The Chartulary or Register of the Abbey of St Werburgh, Chester, I, *Chetham Soc (New Ser) 79.*

Tatton-Brown, T. 1984
The Towns of Kent, in Haslam, J (ed) *Anglo-Saxon Towns in Southern England,* Chichester, Phillimore, 1-36.

Taylor, M.V. (ed) 1912
Liber Luciani de Laude Cestriae, *Record Soc Lancashire Cheshire 44,* 1-75.

Thacker, A.T. 1982
Chester and Gloucester: Early Ecclesiastical Organization in Two Mercian Burhs, *Northern Hist 18,* 199-211.

Thacker, A.T. 1987
Anglo-Saxon Cheshire, in Harris, B.E (ed) *History of Cheshire Vol 1,* Victoria History of the Counties of England, London, Institute of Historical Research, 237-92.

Thacker, A.T. 1988
Early Medieval Chester: The Historical Background, in Hodges, R. & Hobley, B. (eds) *The Rebirth of Towns in the West,* CBA Research Report 68, London, 119-24.

Thacker, A.T. forthcoming
Medieval Chester, pre-Conquest and post-Conquest periods, in Thacker, A.T. (ed) *History of Cheshire Vol 5,* Victoria History of the Counties of England, London, Institute of Historical Research.

Thomas, A.C. 1959
Imported Pottery in Dark-Age Western Britain, *Medieval Archaeol 3,* 89-111.

Thomas, C. 1988
The Context of Tintagel: a new model for the diffusion of post-Roman Mediterranean imports, *Cornish Archaeol 27,* 7-25.

Thomas, C. 1990
Gallici Nautae de Galliarum Provinciis - A Sixth/ Seventh Century Trade with Gaul reconsidered, *Medieval Archaeol 34,* 1-26.

Thompson, F.H. 1956a
Anglo-Saxon Sites in Lincolnshire, *Antiq J 36,* 181-99.

Thompson, F.H. 1956b
Pilgrim's Flask from Meols, *J Chester Archaeol Soc 43,* 48-9.

Thompson, F.H. 1958
Miscellanea, *J Chester Archaeol Soc 45,* 71-4.

Thompson, F.H. 1959
Excavation in Weaver Street, *J Chester Archaeol Soc 46,* 69-72.

Thompson, F.H. 1961
Notes on Roman Roads in Cheshire, *J Chester Archaeol Soc 48,* 25-6.

Thompson, F.H. 1962a
Excavation in Nicholas Street 1957, *J Chester Archaeol Soc 49,* 5-8.

Thompson, F.H. 1962b
Late Saxon Pin from Linenhall Street, *J Chester Archaeol Soc 49,* 59.

Thompson, F.H. 1967
Excavations at Castle Hill, Oldcastle, near Malpas, 1957, *J Chester Archaeol Soc 54,* 5-7.

Thompson, F.H. 1969
Excavations at Linenhall Street, *J Chester Archaeol Soc 56,* 1-21.

Thompson, J.D.A. 1956
Inventory of British Coin Hoards, London, Royal Numismatic Society.

Thompson Watkins, W. 1886
Roman Cheshire, Liverpool, Private Publication.

Thomsen, P.O. 1986
Lundeborg I, Havn og handelsplads fra 3 og 4 århundre efter Kr, *Årbog 1986 for Svendborg,* 12-52.

Thomsen, P.O. 1987
Undersøgelse af havn og handelsplads ved Lundeborg, *Årbog 1987 for Svendborg,* 17-29.

Thrane, H. 1988
Import, Affluence and Cult: Considerations caused by recent - and old - discoveries at Gudme on Fünen, Denmark, in Hårdh, B et al (eds) *Trade and Exchange in Prehistory,* Lund, Acta Archaeologica Lundensia 8, no 16, 187-96.

Thurborg, M. 1988
Regional Economic Structures: An Analysis of the Viking Age Silver hoards from Öland, Sweden, *World Archaeology 20 No.2,* 302-324.

Todd, J.H. (ed) 1867
Cogadh Gaedhel re Gallibh, London, Longman.

Tooley, M.J. 1978
Sea Level Changes in North West England during the Flandrian Stage, Oxford, Clarendon Press.

Tooley, M.J. 1980
Theories of Coastal Change in North West England, in Thompson, F.H. (ed) Archaeology and Coastal Change, *Soc Antiq Occas. Paper No.1,* London, Society of Antiquaries, 74-86.

Travis, C.B. 1929
The Peat and Forest Beds of Leasowe, Cheshire, *Proc Liverpool Geol Soc 15,2,* 157-178.

Trigger, B. 1980
Gordon Childe: Revolution in Archaeology, London, Thames and Hudson.

Turner, T.M. 1944
A Find of Coins of Eadred, Eadwig and Eadgar at Chester, *Brit Numis J 24,* 47-9.

Tweddle, D. forthcoming
Carlisle, Cathedral Green: Decorated Metalwork, in Keevil, G. et al. Excavations at the Cathedral Green, Carlisle, 1988, Final Report.

Tylecote, R.F. 1981
The medieval smith and his methods, in Crossley, D.W. (ed) *Medieval Industry,* CBA Research Report 40, London, Council for British Archaeology, 42-50.

Tyrer, F. 1952
The Harkirke, Little Crosby, *Trans Historic Society Lancashire Cheshire 104,* 153-7.

Unwin, T. 1988
Towards a model of Anglo-Scandinavian Rural Settlement in England, in Hooke, D. (ed) *Anglo-Saxon Settlements,* Oxford, Blackwell, 77-98.

Varley, W.J. 1950
Excavations of the Castle Ditch, Eddisbury, 1935-38, *Trans Historic Soc Lancashire Cheshire 102,* 1-68.

Vince, A.G. 1983
The Medieval Ceramic Industry of the Severn Valley, Unpub PhD thesis, University of Southampton.

Vince, A.G. 1985
Part 2, the Ceramic Finds, in Shoesmith, R. (ed) The Finds, *Hereford City Excavations 3,* CBA Research Report 56, London, Council for British Archaeology, 34-83.

Vince, A.G. 1989
The Urban Economy in Mercia in the 9th and 10th centuries, *Arkeologisk Skrifter, Historisk Museum, Bergen 5,* 136-59.

Wainwright, F.T. 1948
Ingimund's Invasion, *Eng Hist Rev 63,* 145-69.

Wainwright, F.T. 1950
Cledemutha, *Eng Hist Rev 65,* 202-12.

Wainwright, F.T. 1975
Scandinavian England (ed. H.P.R Finberg) Chichester, Phillimore.

Walker, D. 1971
Bristol in the Early Middle Ages, University of Bristol, The Historical Association.

Wallace, P.F. 1981
Dublin's waterfront at Wood Quay: 900-1317, in Hobley, B. & Milne, G. (eds) *Waterfront Archaeology in Britain and Northern Europe,* CBA Research Report 41, London, Council for British Archaeology, 109-118.

Wallace, P.F. 1982
The Origins of Viking Dublin, in Scott, B.G. (ed) *Early Ireland, Studies Presented to M.V. Duignan,* Belfast, Queens University, 129-43.

Wallace, P.F. 1985a
The Archaeology of Viking Dublin, in Clarke, H.B. & Simms, A. (eds) The Comparative History of Urban Origins in Non-Roman Europe, *Brit Archaeol Rep (Int Ser) 255 (i),* Oxford, 103-146.

Wallace, P.F. 1985b
The Layout of Later Viking age Dublin: Indications of its regulation and problems of continuity, in Knirk, J (ed) Proceedings of the Tenth Viking Congress, Larkollen 1985, *Universitets Oldsaksamlings Skrifter 9,* Oslo, 271-85.

Wallace, P.F. 1986
The English Presence in Viking Dublin, in Blackburn, M.A.S. (ed) *Anglo-Saxon Monetary History,* Leicester, Leicester University Press, 201-221.

Wallace, P.F. 1987
The Economy and Commerce of Viking Age Dublin, in Düwel, K. et al.(eds) *Untersuchungen zu Handel und Verkehr der vor- und frühgeschichtlichen Zeit in Mittel- und Nordeuropa, Teil IV,* 200-45, Göttingen, Vandenhoek & Rupprecht, 200-45.

Wallace, P.F. 1988
Archaeology and the emergence of Dublin as the principal town of Ireland, in Bradley, J. (ed) *Settlement and Society in Medieval Ireland,* Kilkenny, Boethius Press, 123-59.

Ward, S.W. 1988
Excavations at Chester, 12 Watergate Street 1985: Roman Headquarters to Medieval Row, *Grosvenor Museum Excavation and Survey Reports No.5,* Chester, Chester City Council/ Grosvenor Museum.

Ward, S.W. 1990
Excavations at Chester: The Lesser Medieval Religious Houses, Sites Investigated 1964-1983, *Grosvenor Museum Excavation and Survey Reports No.6,* Chester, Chester City Council/ Grosvenor Museum.

Ward, S.W. forthcoming
Excavations at Chester: Saxon Occupation within the legionary fortress: sites investigated 1963-1981, *Chester Archaeological Service Monograph 7,* Chester, Chester City Council.

Warhurst, M. 1982
Merseyside County Museums, *Sylloge Coins Brit Isles 29,* London. British Academy.

Warner, R.B. 1976
Scottish Silver Arm Rings: An Analysis of Weights, *Proc Soc Antiq Scot 107,* 136-43.

Warner, R.B. 1988
The Archaeology of Early Irish Historic Kingship. in Driscoll, S.T & Neike, M.R (eds) *Power and Politics in Early Medieval Britain and Ireland,* Edinburgh, Edinburgh University Press, 47-68.

Waterman, D.M. 1958
Excavations at Ballyfounder Rath, Co. Down, *Ulster J Archaeol 21,* 39-61.

Waterman, D.M. 1959
Late Saxon, Viking and Early Medieval finds from York, *Archaeologia 97,* 59-105.

Webster, G. 1951
Chester in the Dark Ages *J Chester Archaeol Soc 38,* 39-48.

Webster, G, Dolley, R.H.M, Dunning, G. 1953
A Saxon Treasure Hoard found at Chester, *Antiq J 33,* 22-32.

Webster, L. 1986
Anglo-Saxon England AD 400-1100, in Longworth, I. et al (eds) *Archaeology in Britain since 1945,* 119-60, London British Museum.

White, R. 1986
Viking-Period Sculpture at Neston. Cheshire, *J Chester Archaeol Soc 69.* 45-58.

Whitelock, D. (ed) 1979
English Historical Documents Vol 1, c500-1042, 2nd Ed, London, Eyre Methuen.

Whittow, J.B. 1970
Shoreline Evolution on the Eastern Coast of the Irish Sea, *Quartenaria 12,* 185-96.

Whitwell, J.B. & McNamee, S.M. 1964
Excavations at 46-50 Foregate Street Chester 1961, *J Chester Archaeol Soc 38,* 1-19.

Wilde, W.R. 1861
A Descriptive Catalogue of the Antiquities of Animal Materials and Bronze in the Museum of the Royal Irish Academy, Dublin, Royal Irish Academy.

Williams, D.F. 1985
The Petrology of Chester Ware, in Mason, D.J.P. (ed) Excavations at Chester, 27-42 Lower Bridge Street 1974-76, the Dark Age and Saxon Periods, *Grosvenor Museum Excavation and Survey Reports 3,* Chester, Chester City Council/ Grosvenor Museum, 55-6.

Williams, S.R. 1984
Aerial Archaeology and the evidence for medieval farming in West Cheshire, *Trans Hist Soc Lancashire Cheshire 133,* 1-23.

Williamson, T. 1988
Settlement Chronology and Regional Landscapes: The Evidence from the Claylands of East Anglia and Essex, in Hooke, D. (ed) *Anglo-Saxon Settlements,* Oxford, Blackwell, 153-76.

Wilson, D.M. 1964
Anglo-Saxon Ornamental Metalwork 700-1100 in the British Museum. London. Trustees of the British Museum.

Wilson, D.M. (ed) 1976a
The Archaeology of Anglo-Saxon England, Cambridge, Cambridge University Press.

Wilson, D.M. 1976b
Scandinavian Settlement in the North and West of the British Isles: An Archaeological Point of View *Trans Roy Hist Soc 26 (5 ser),* 95-114.

Wilson, D.M 1985a
Trade between England and Scandinavia and the Continent, in Düwel, K et al (eds) *Unterschungen zu Handel und Verkehr der vor- und frügeschichtlichen Zeit in Mittel- und Nordeuropa, Teil III,* 255-69. Göttingen, Vandenhoek & Rupprecht.

Wilson, D.M. 1985b
The Silver Brooch. in Mason, D.J.P. (ed) Excavations at Chester, 27-42 Lower Bridge Street, the Dark Age and Saxon Periods, *Grosvenor Museum Excavation and Survey Reports 3,* Chester, Chester City Council/ Grosvenor Museum, 61.

Wilson, D.M. & Klindt-Jensen, O. 1966
Viking Art, London, Allen & Unwin.

Winchester, A.J.L. 1985
The Multiple Estate: A Framework for the Evolution of Settlement in Anglo-Saxon and Scandinavian Cumbria, in Baldwin, J.R. & Whyte, I.D. (eds) *The Scandinavians in Cumbria,* Edinburgh, Scottish Society for Northern Studies, 89-102.

Youngs, S.M. & Clarke J. (eds) 1981
Medieval Britain in 1980, *Medieval Archaeology 25,* 166-228.

Zachrisson, I. 1988
The So-Called Scandinavian Cultural Boundary in Northern Sweden in Viking Times - Ethnic or Socio-Economic?, *Acta Borealia 1/2,* 70-97.

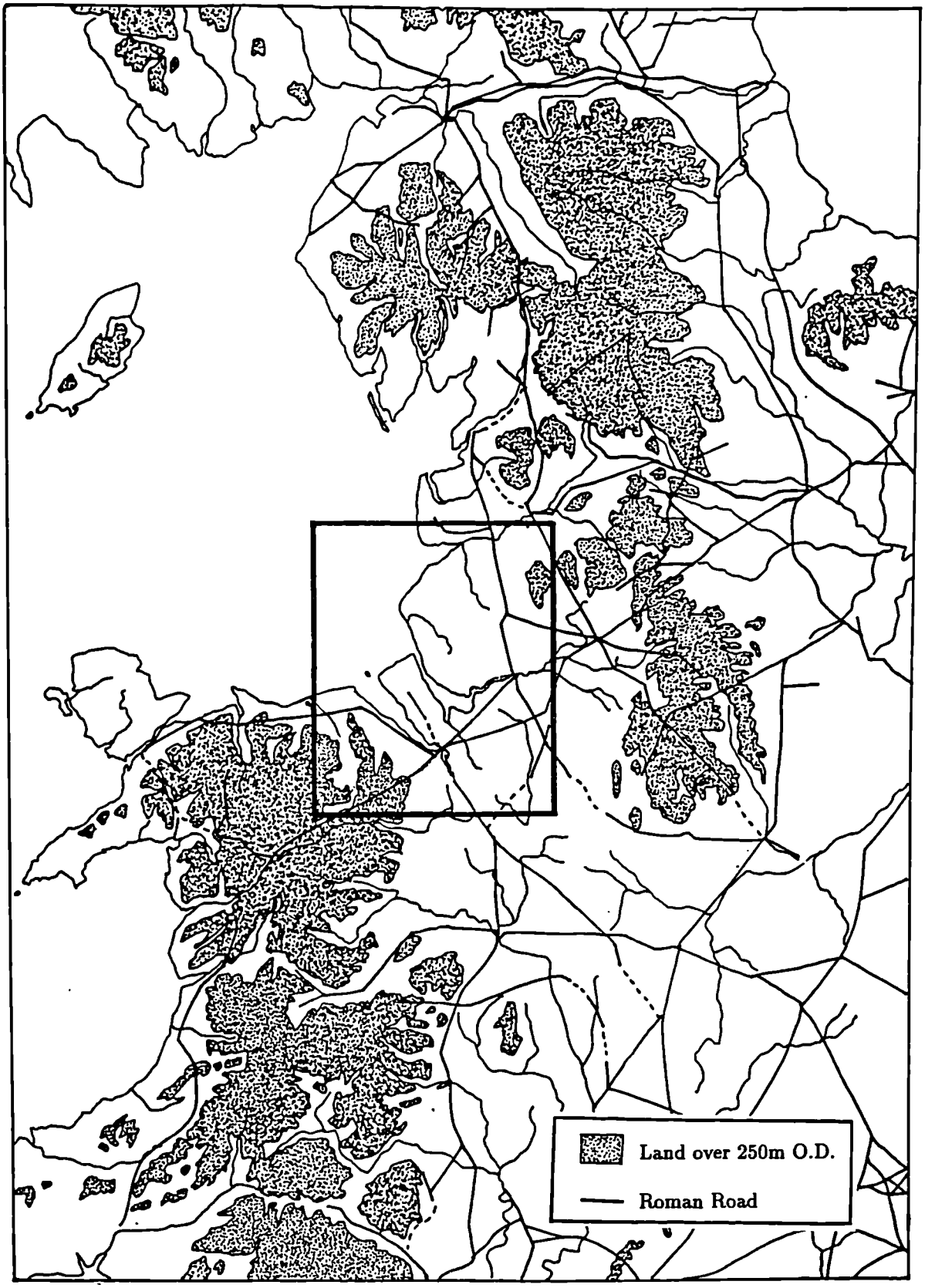


Figure 1: Location of Study Area

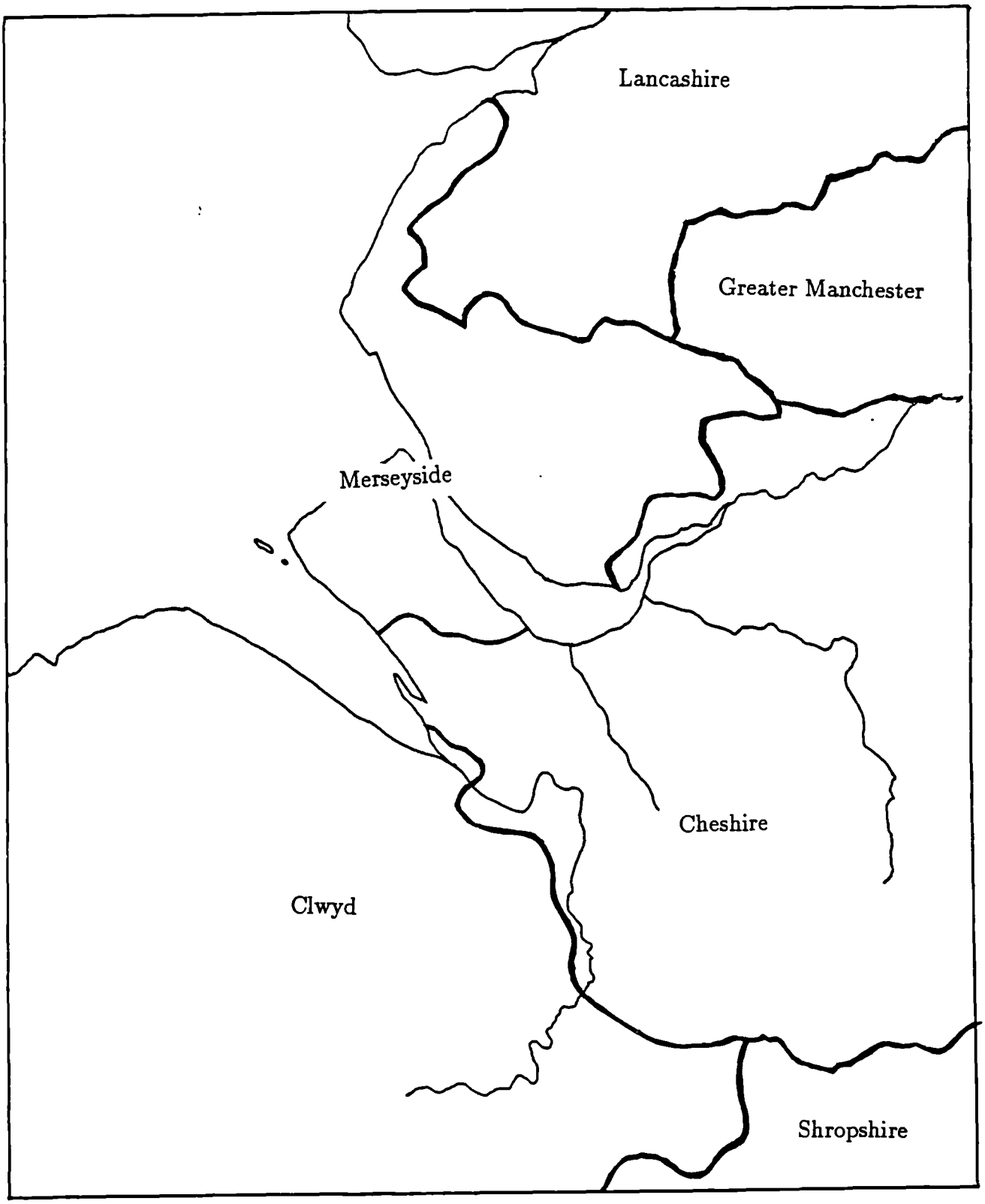


Figure 2: Modern County Boundaries

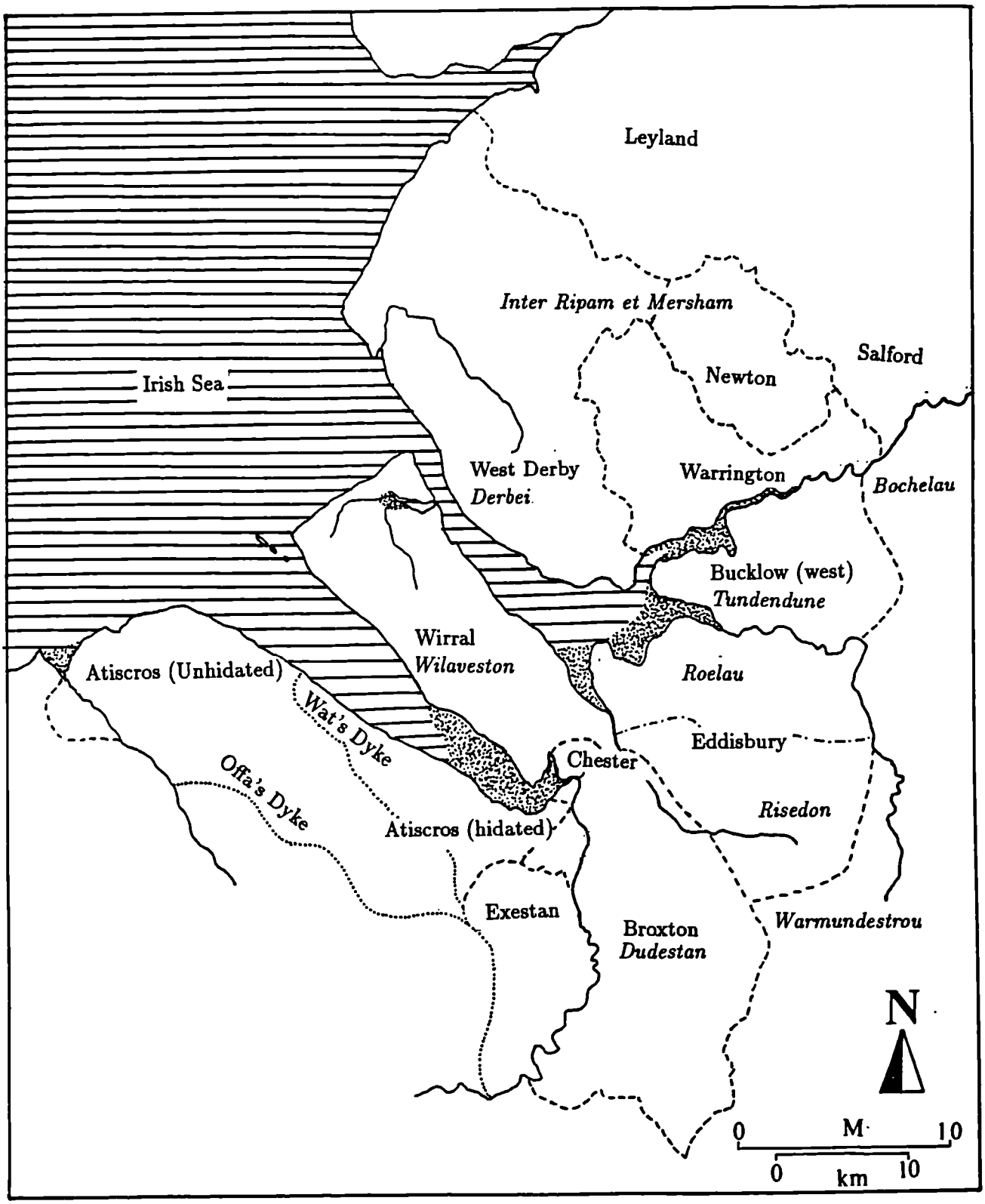


Figure 3: Domesday Hundreds

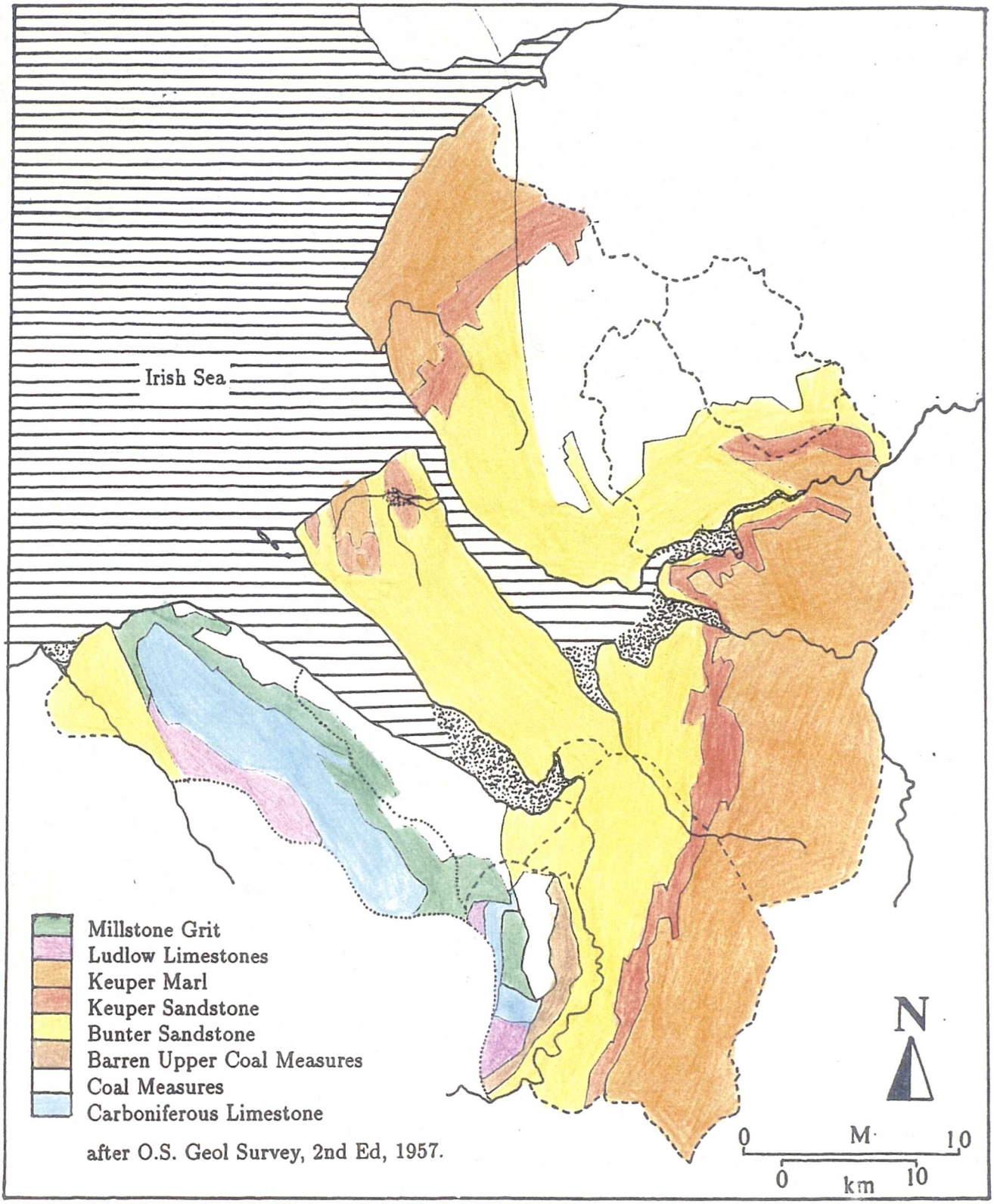


Figure 4: Solid Geology

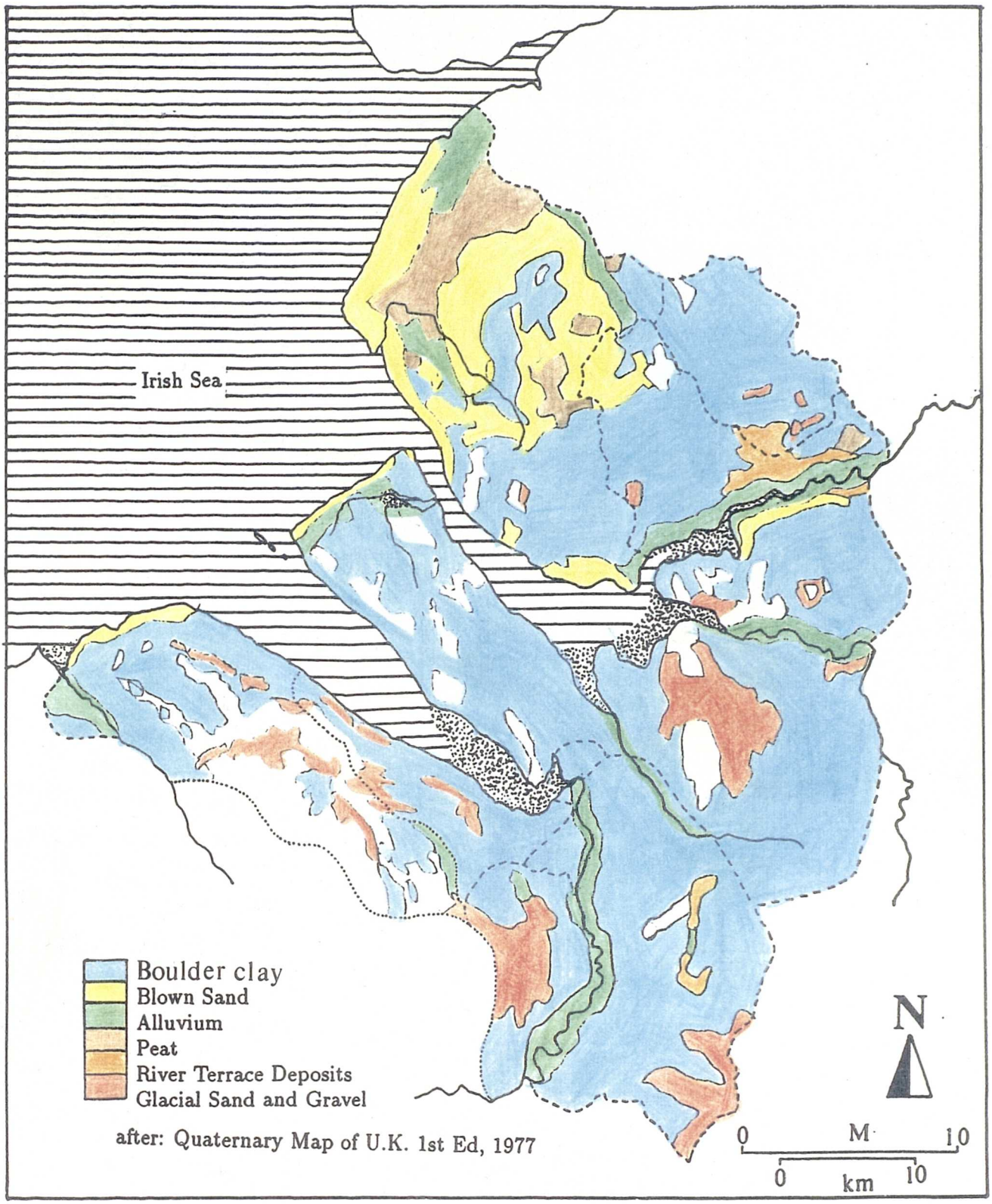


Figure 5: Drift Geology

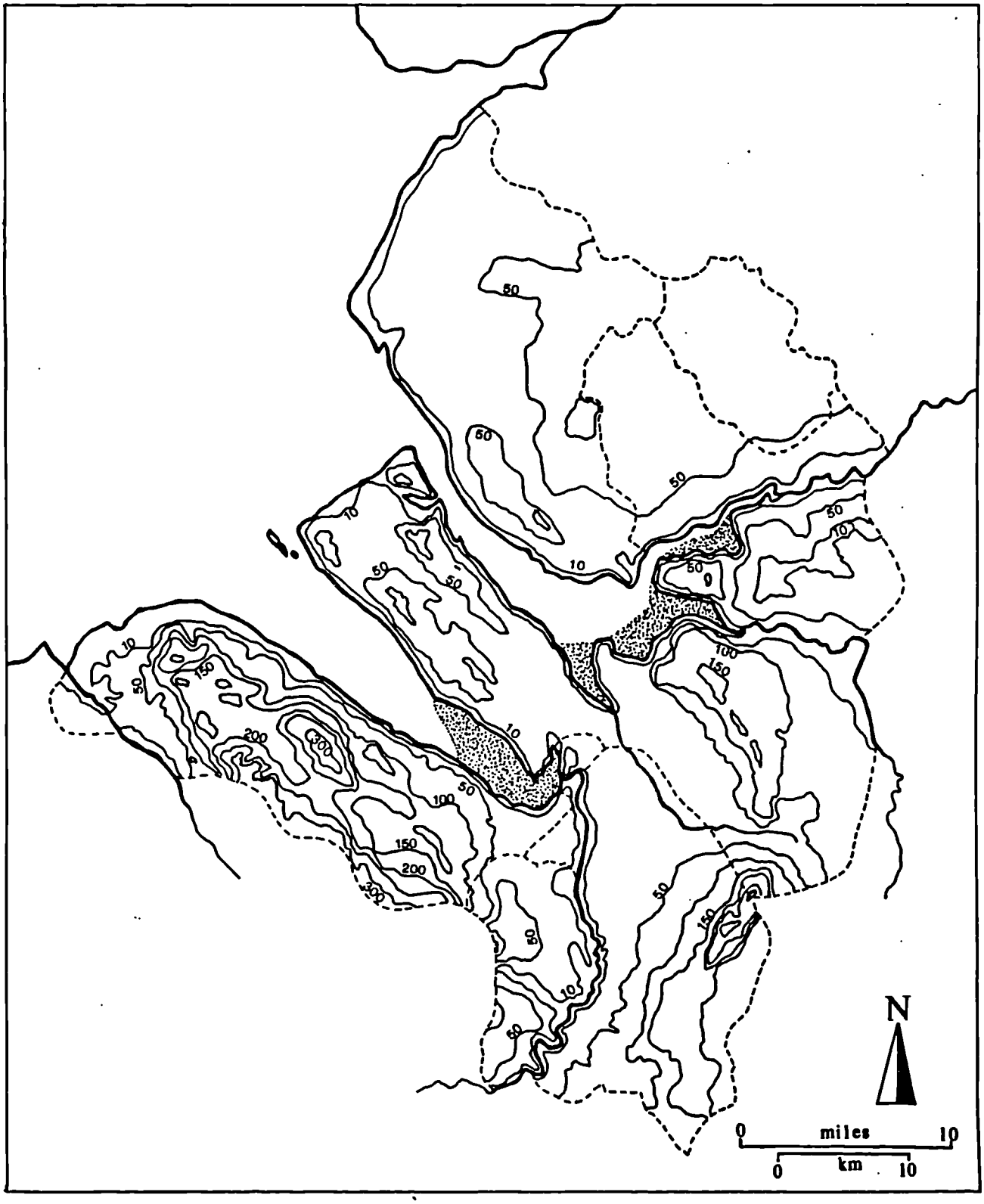


Figure 6: Relief

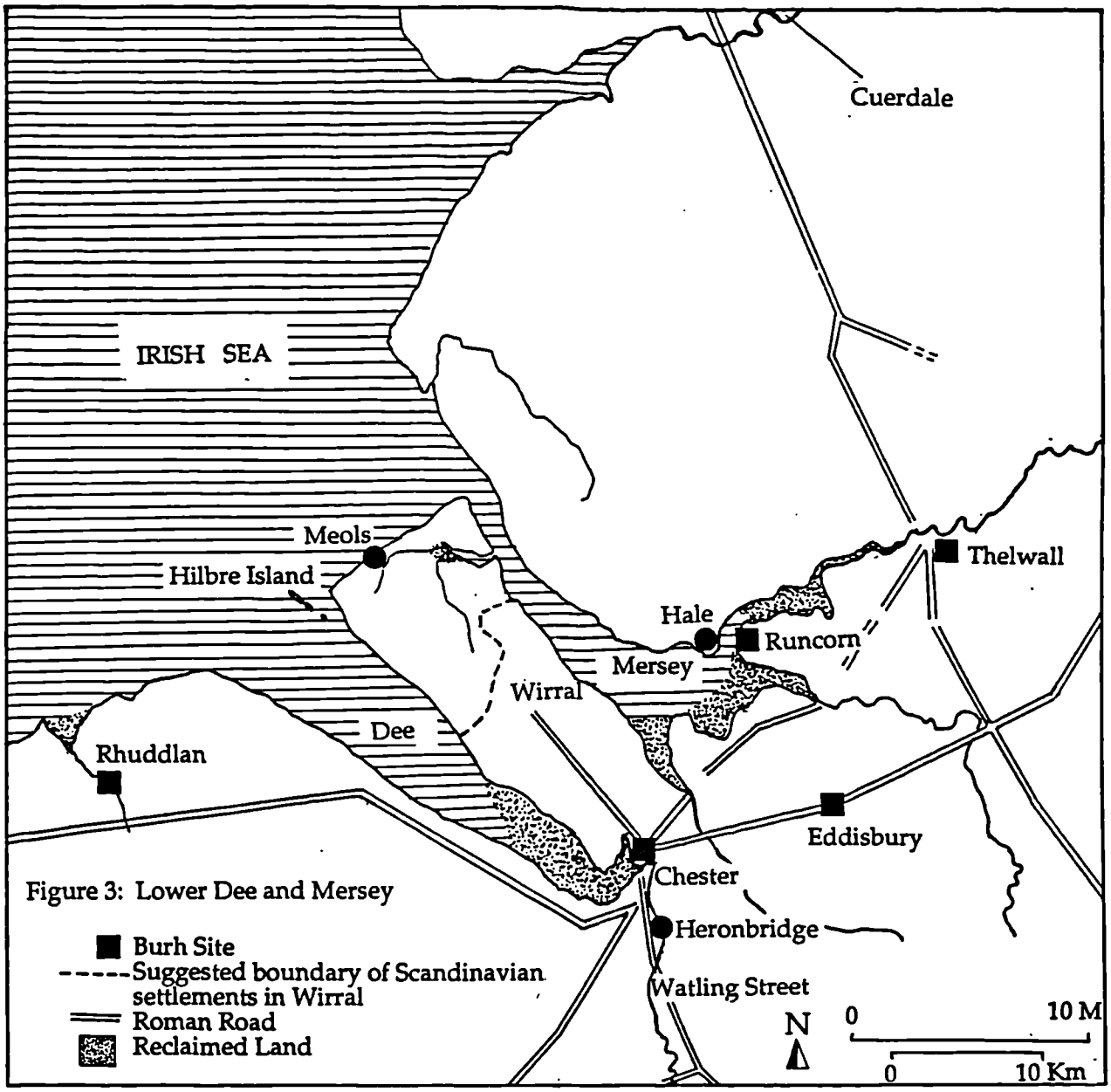


Figure 7: Roman Roads and Burh Topography

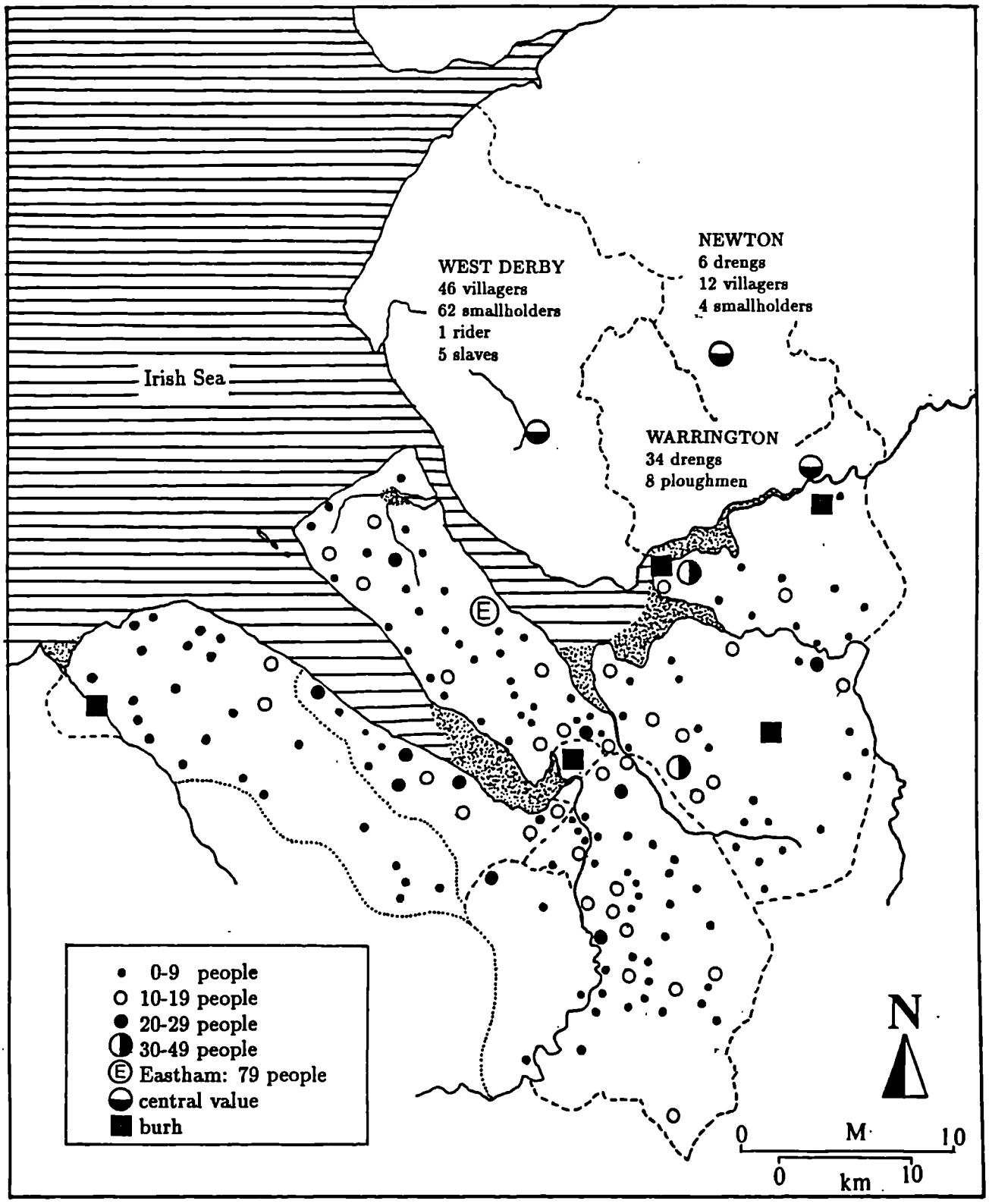


Figure 8: Domesday: Population of the Manors

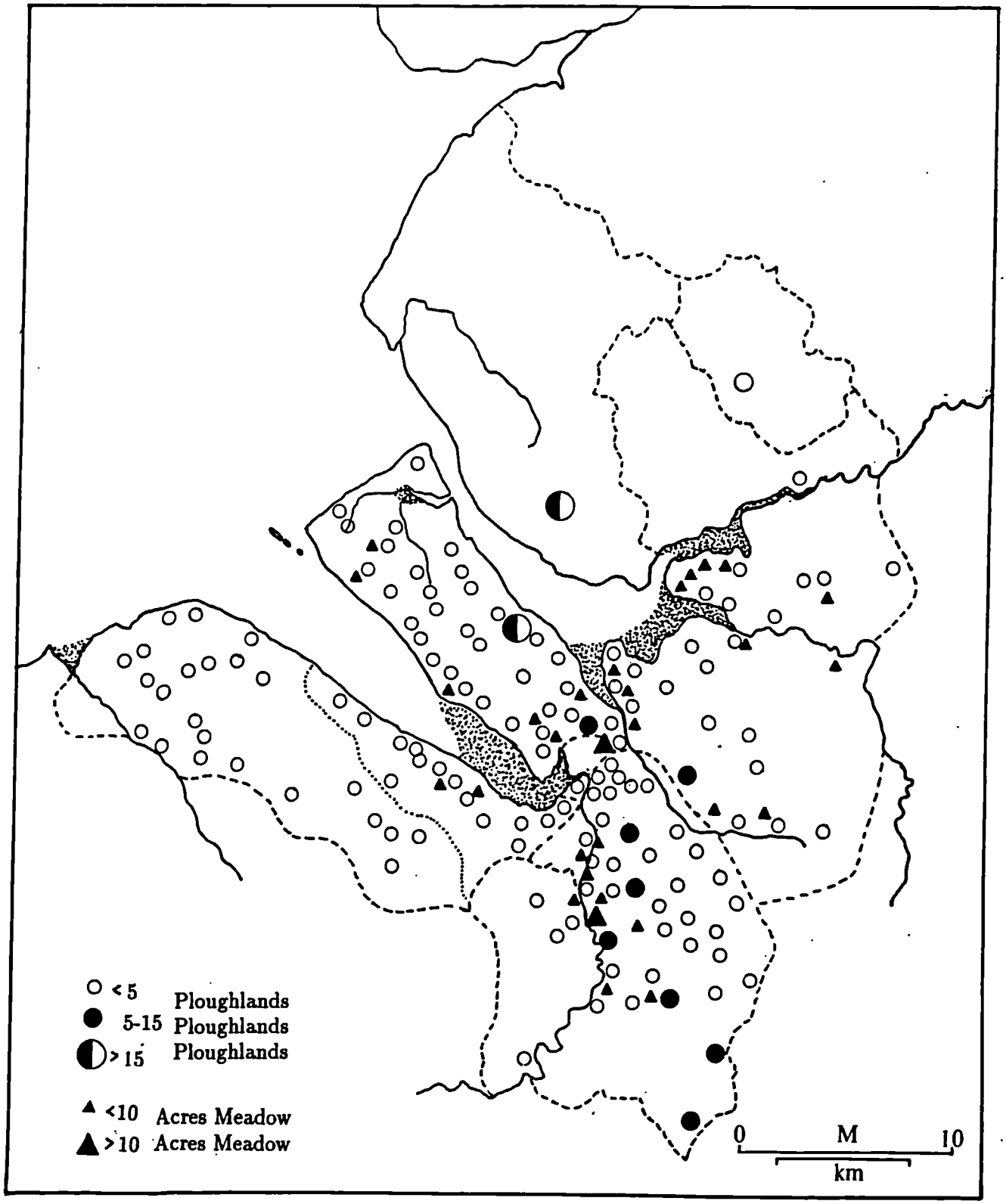


Figure 9: Agriculture and Land-Use in 1086

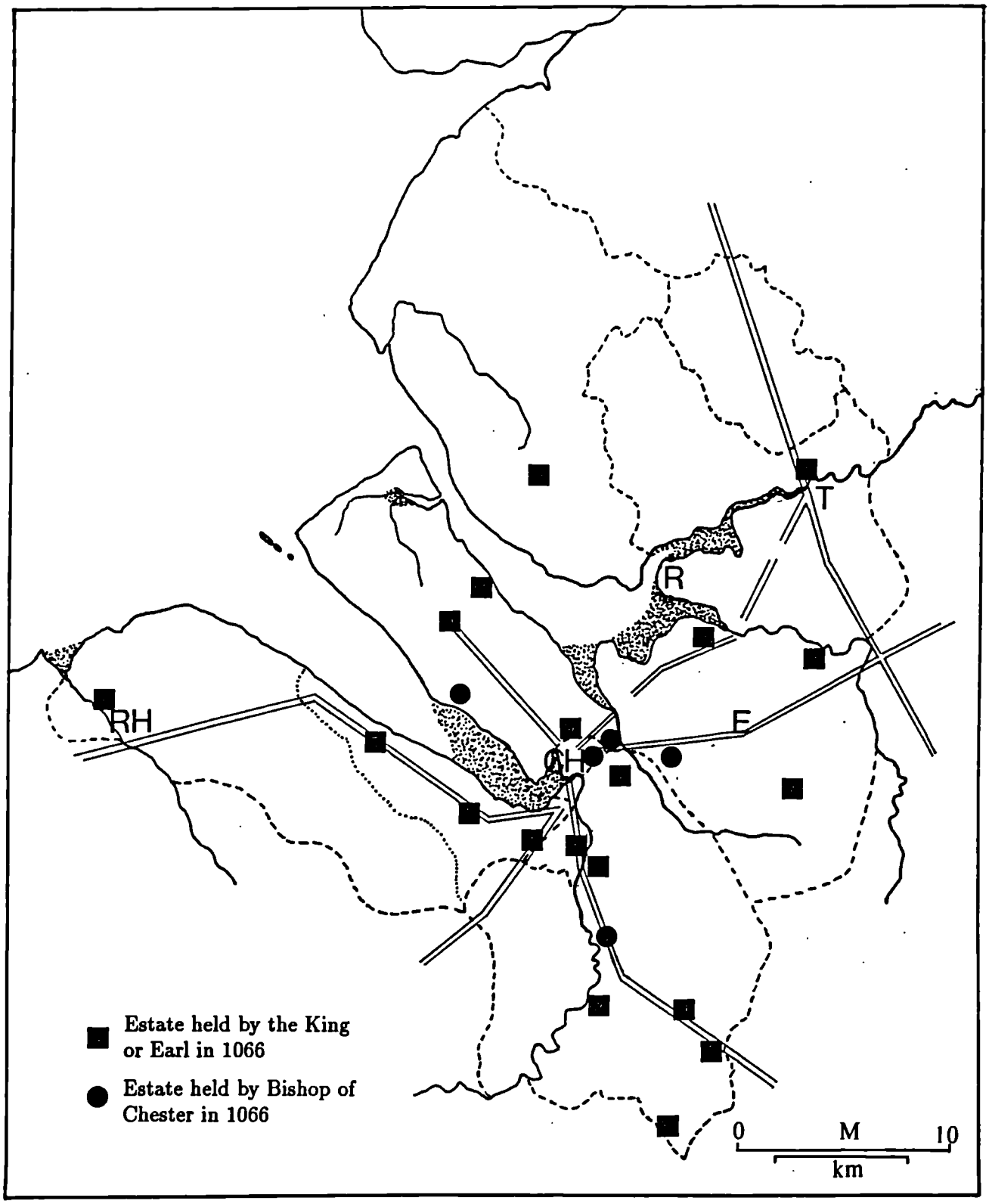


Figure 10: Communication and Estate Location

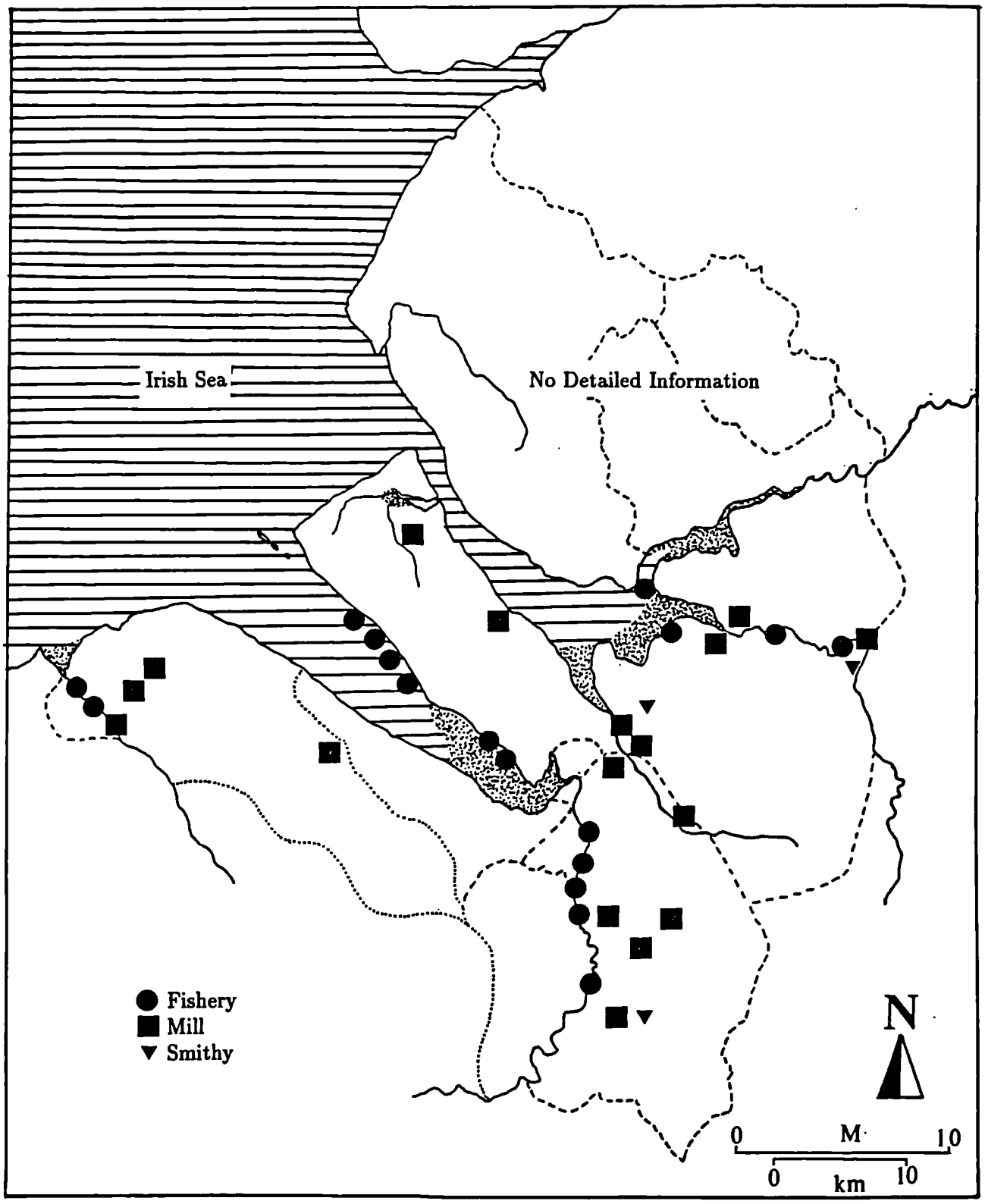


Figure 11: Agriculture in 1086: Smiths, Mills and Fisheries

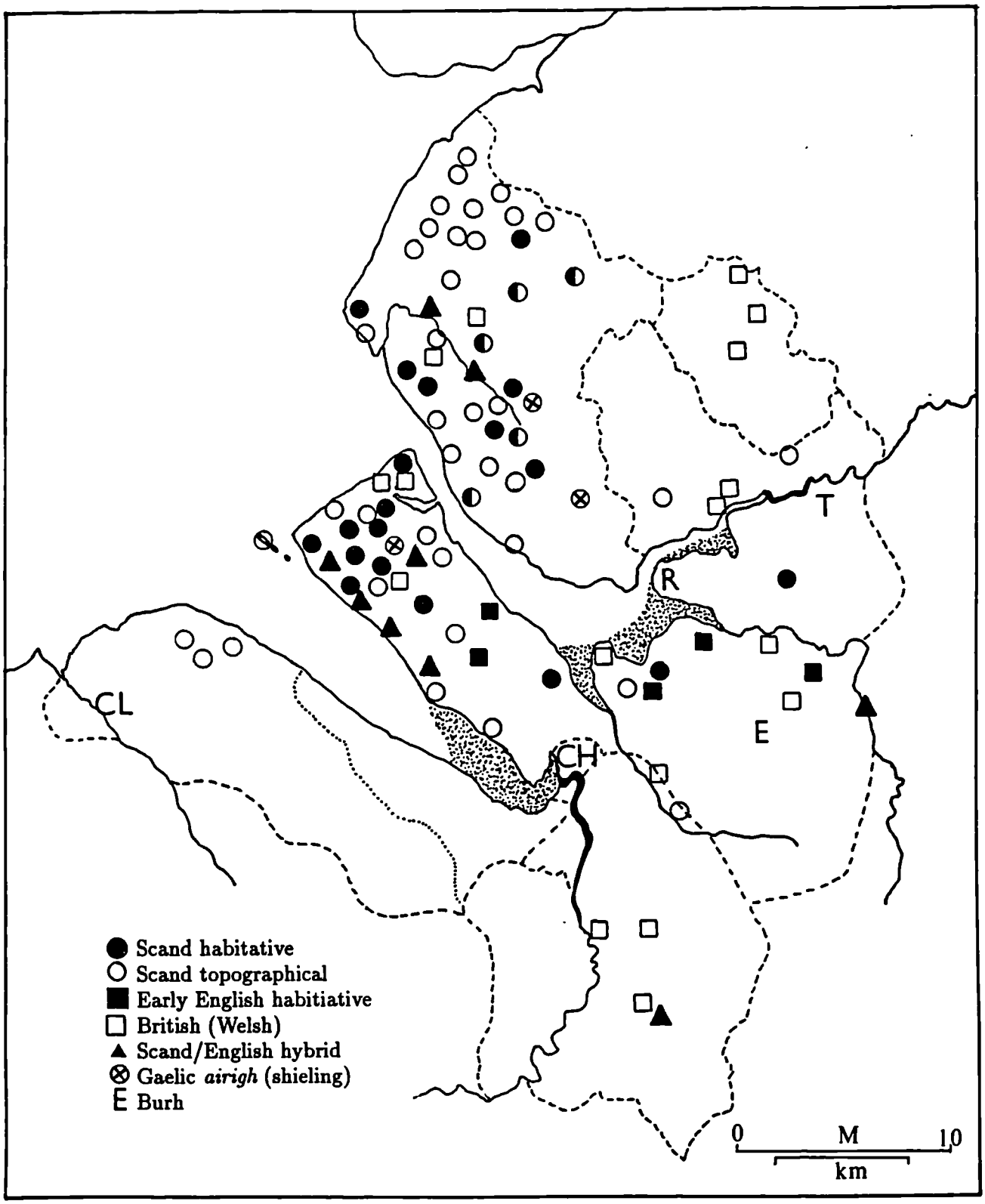
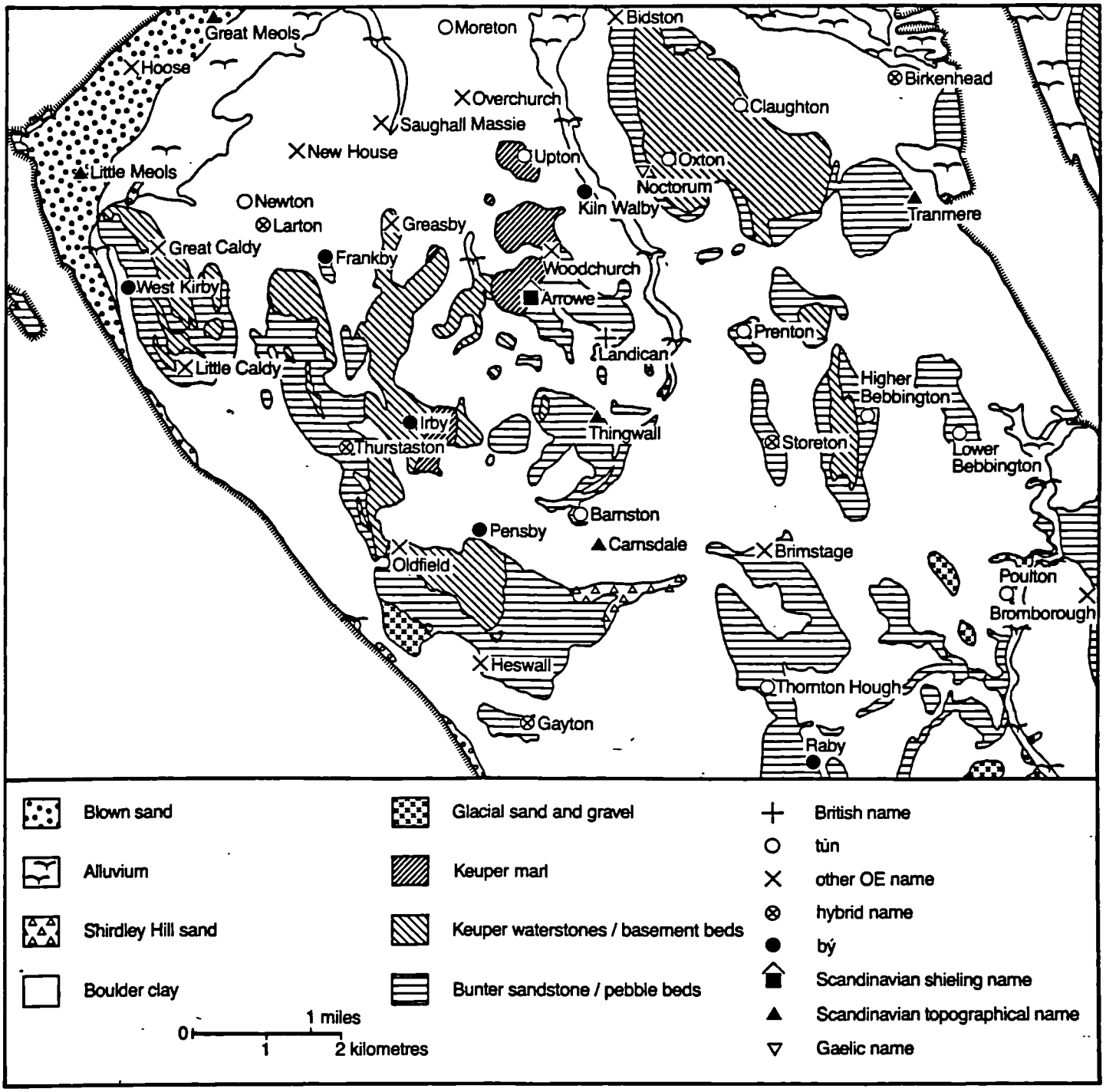
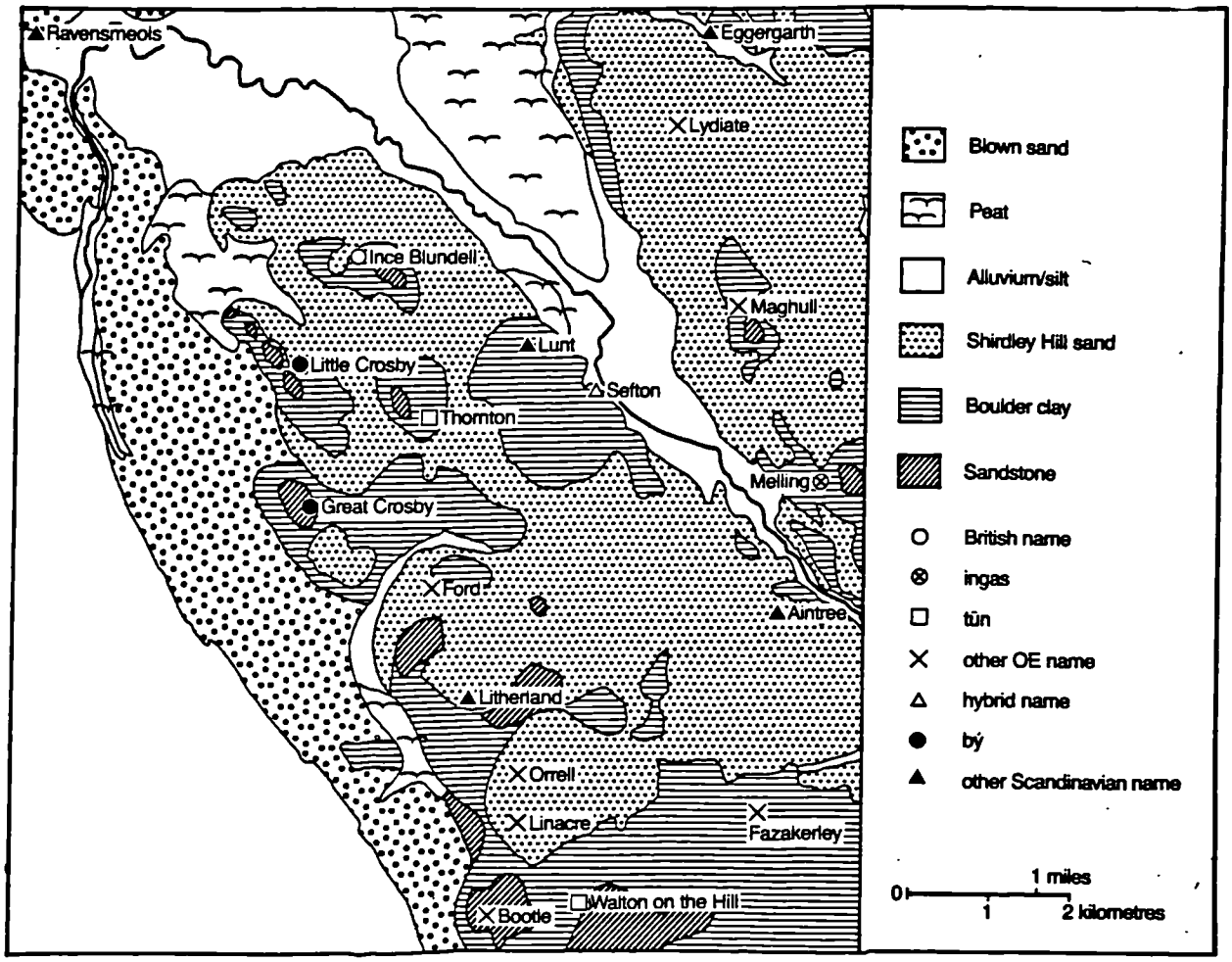


Figure 12: Scandinavian and pre-Scandinavian Place-names



Fellows-Jensen 1985, fig 21

Figure 13: Geology and Settlements in Wirral



Fellows-Jensen 1985, fig 20

Figure 14: Geology and Settlements in South-West Lancashire

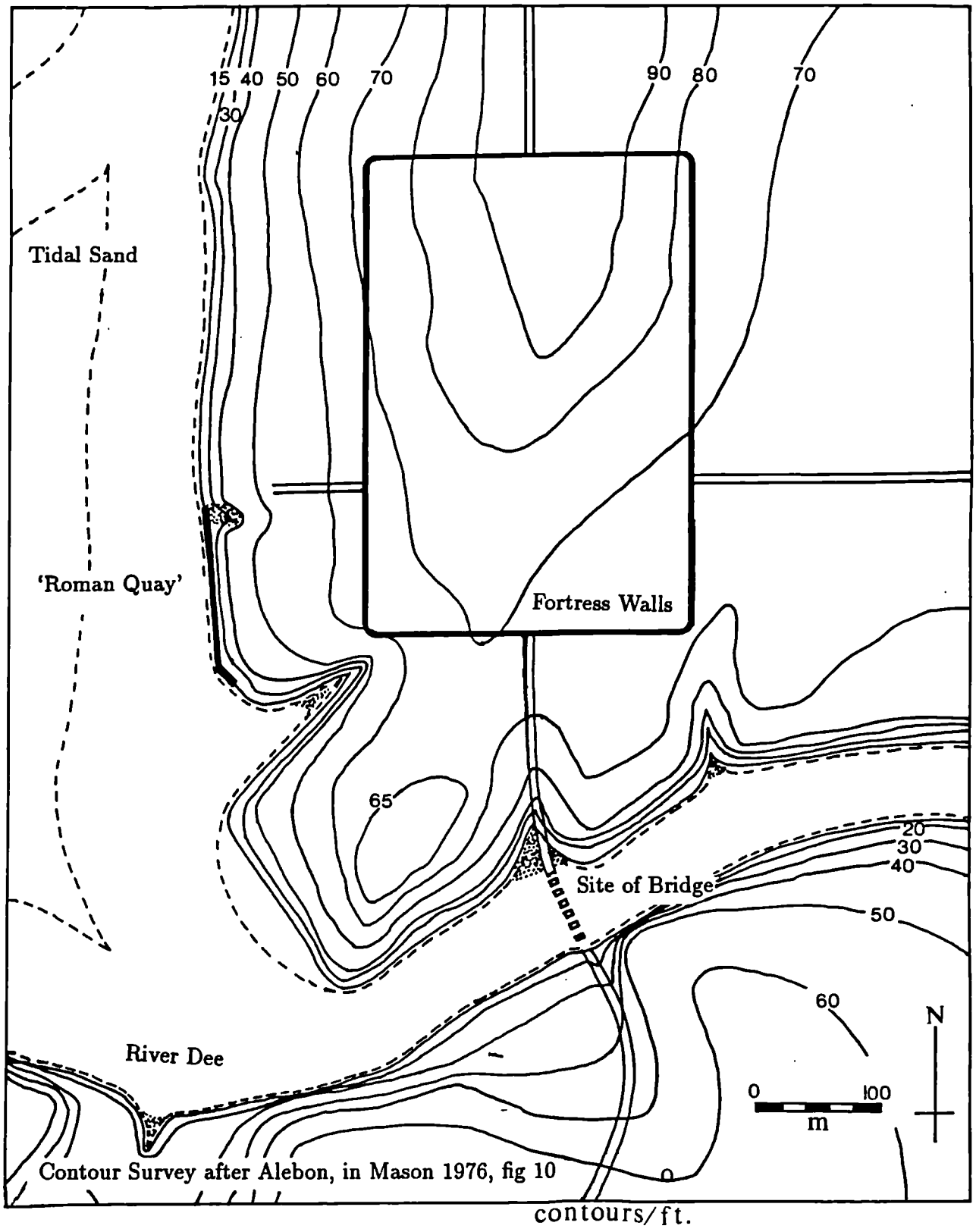


Figure 15: Chester: Detailed Topography (Roman Period)

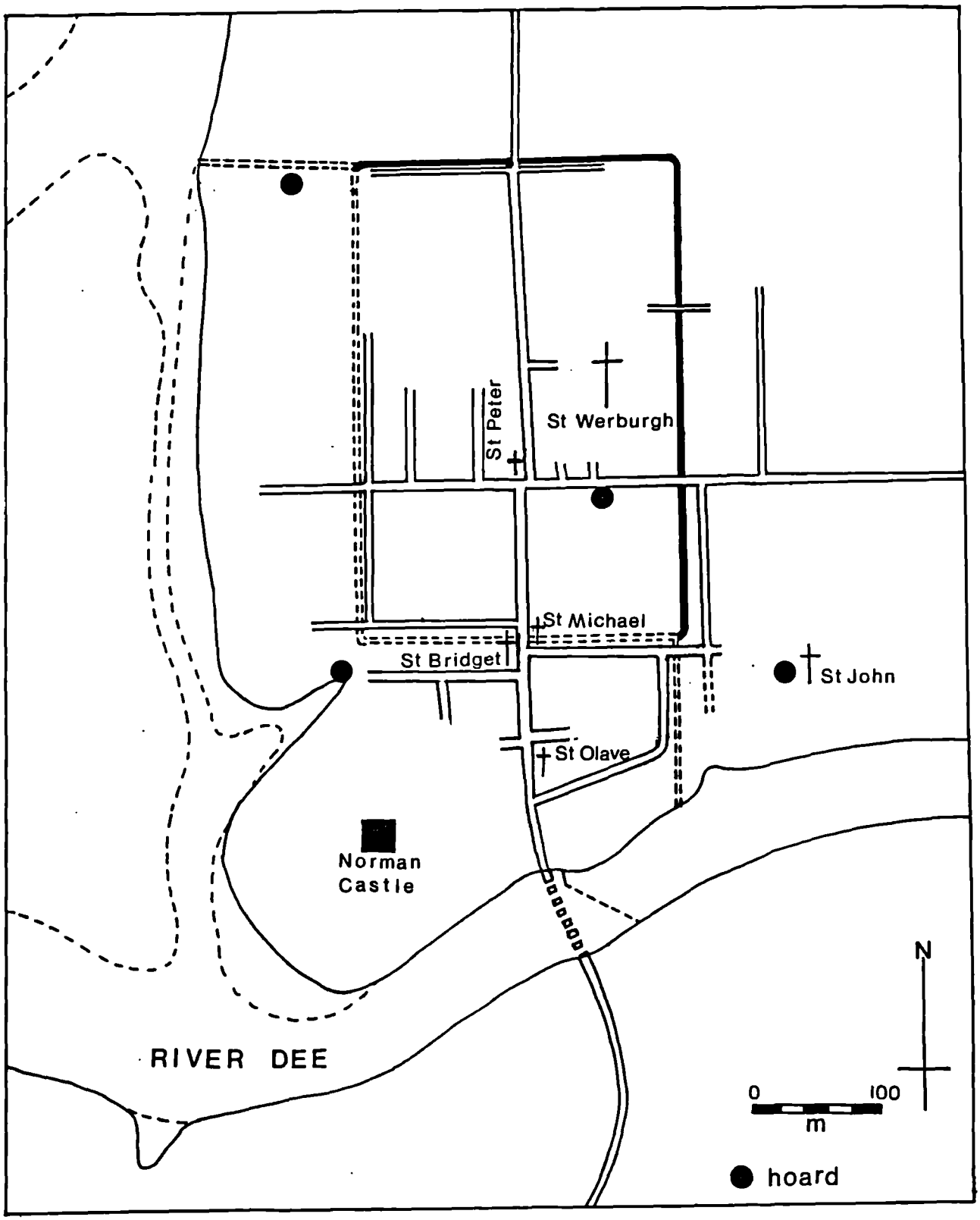


Figure 16: Late Saxon Chester

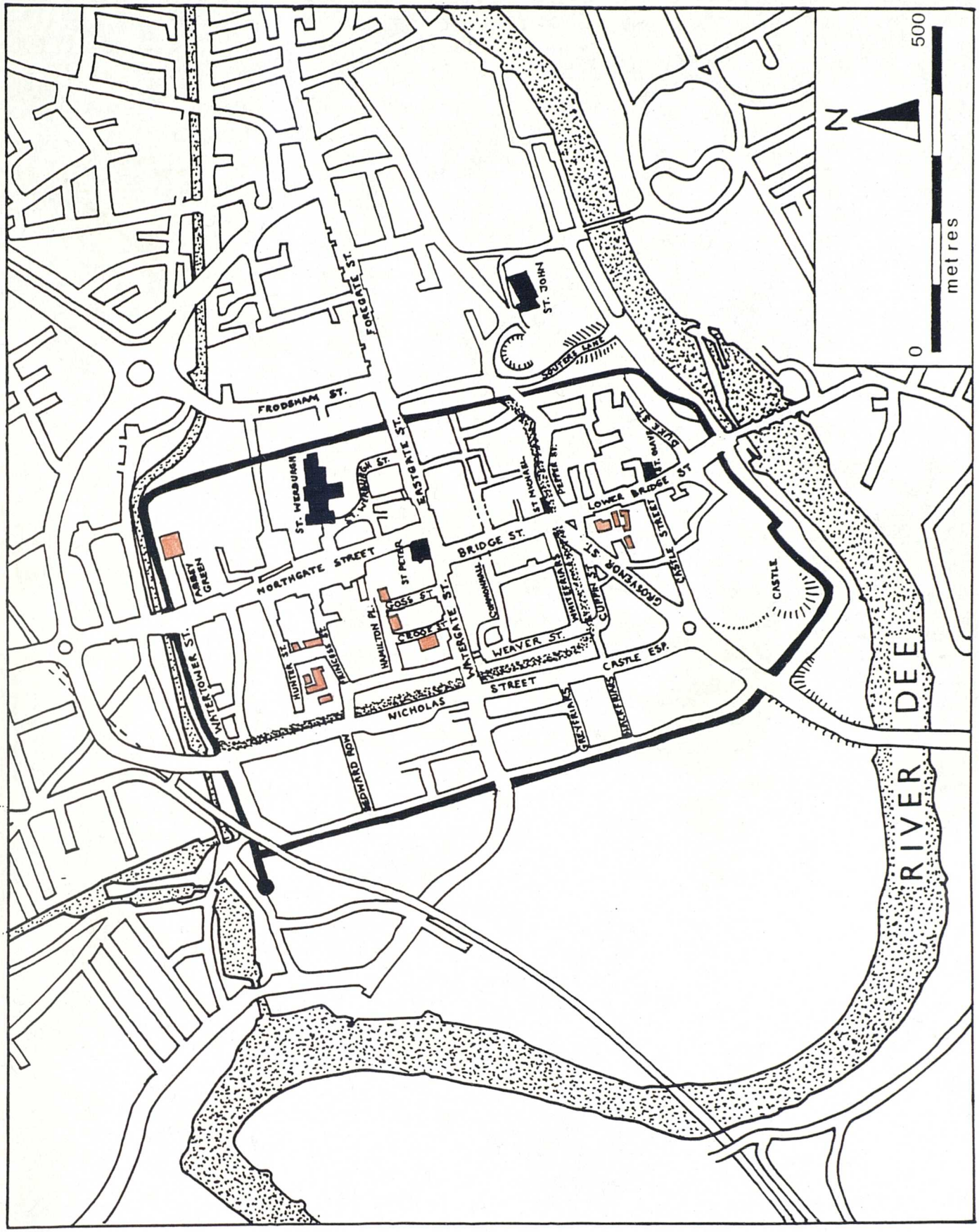


Figure 17: Chester: Excavated Late Saxon Structures

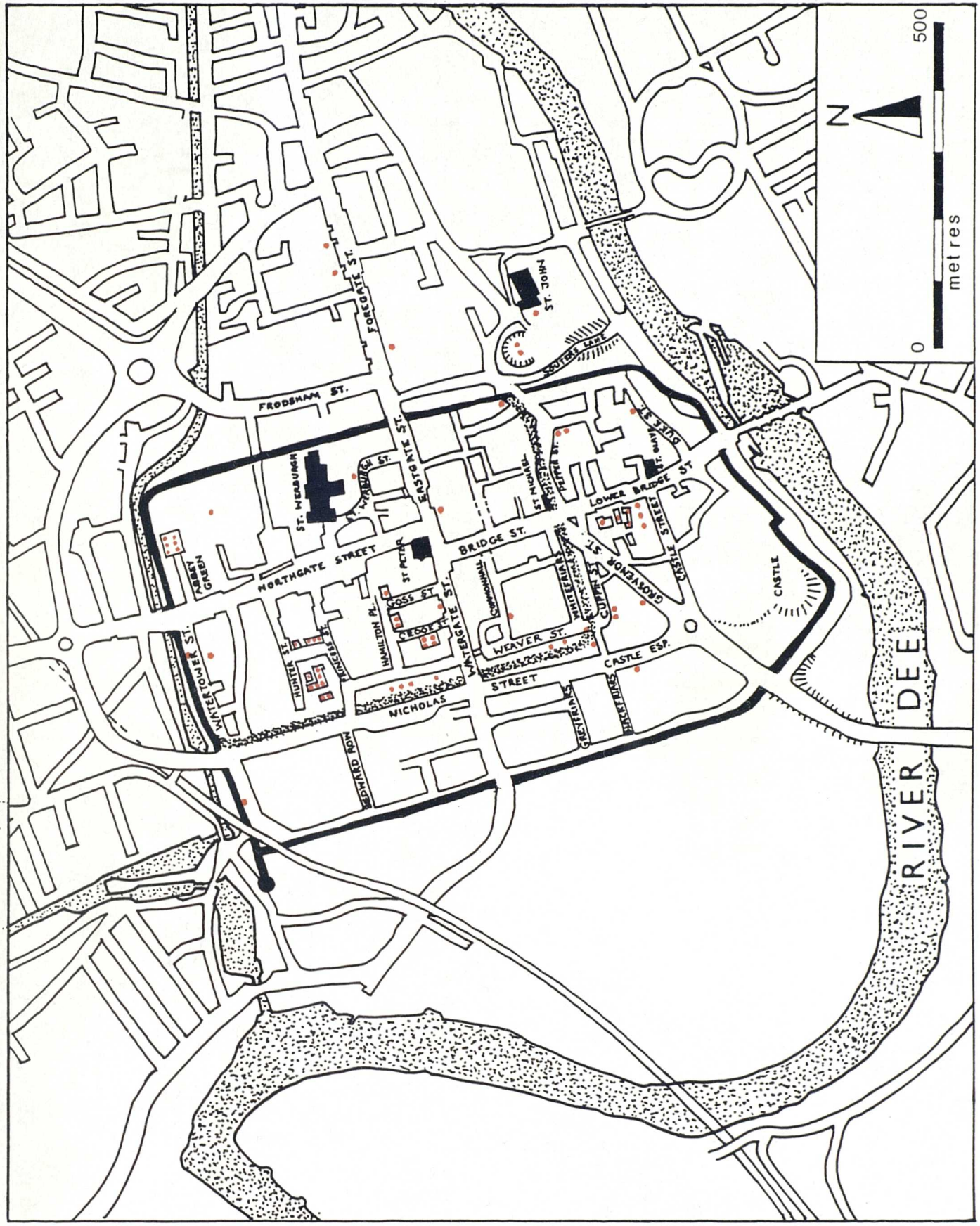
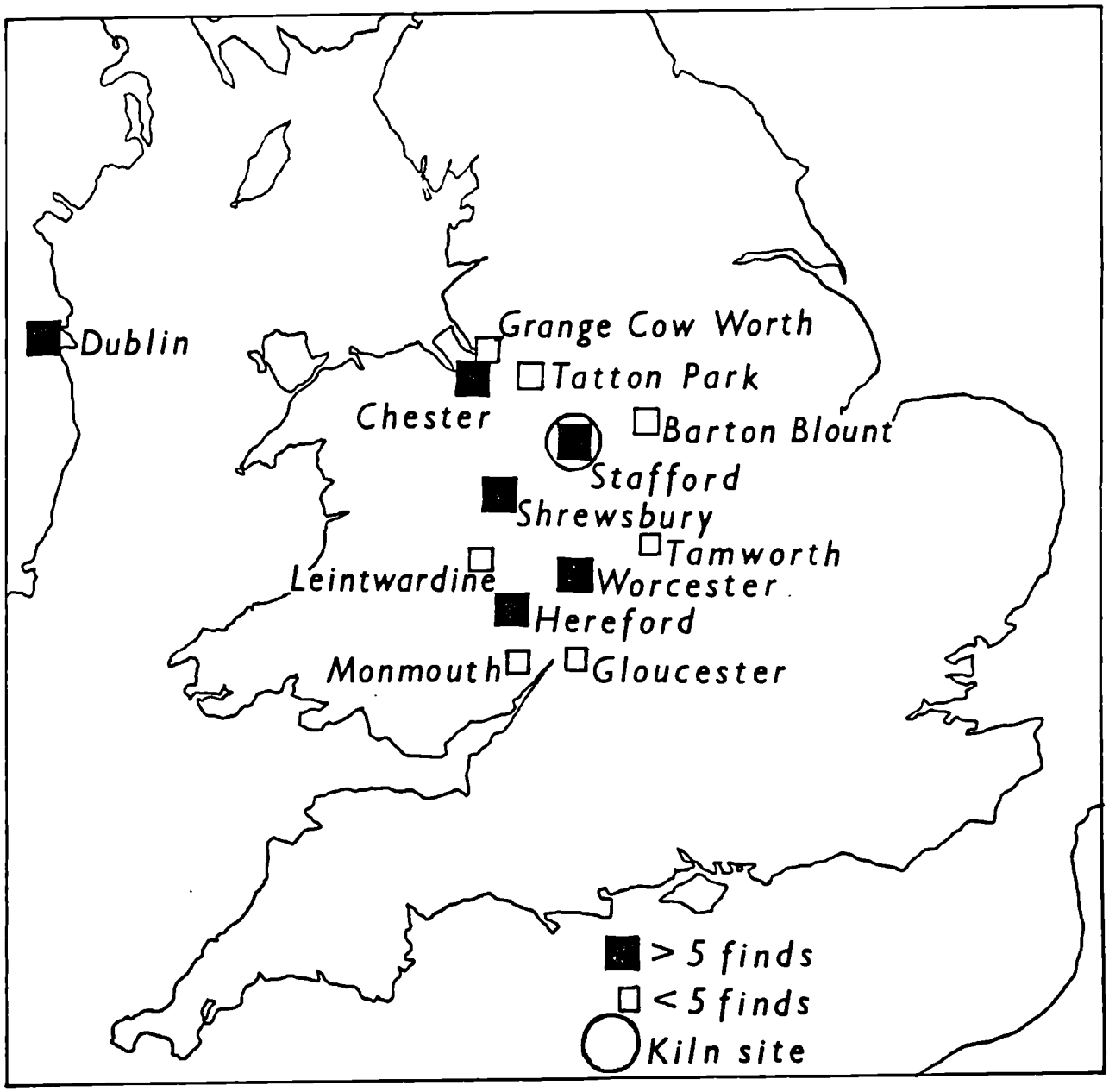
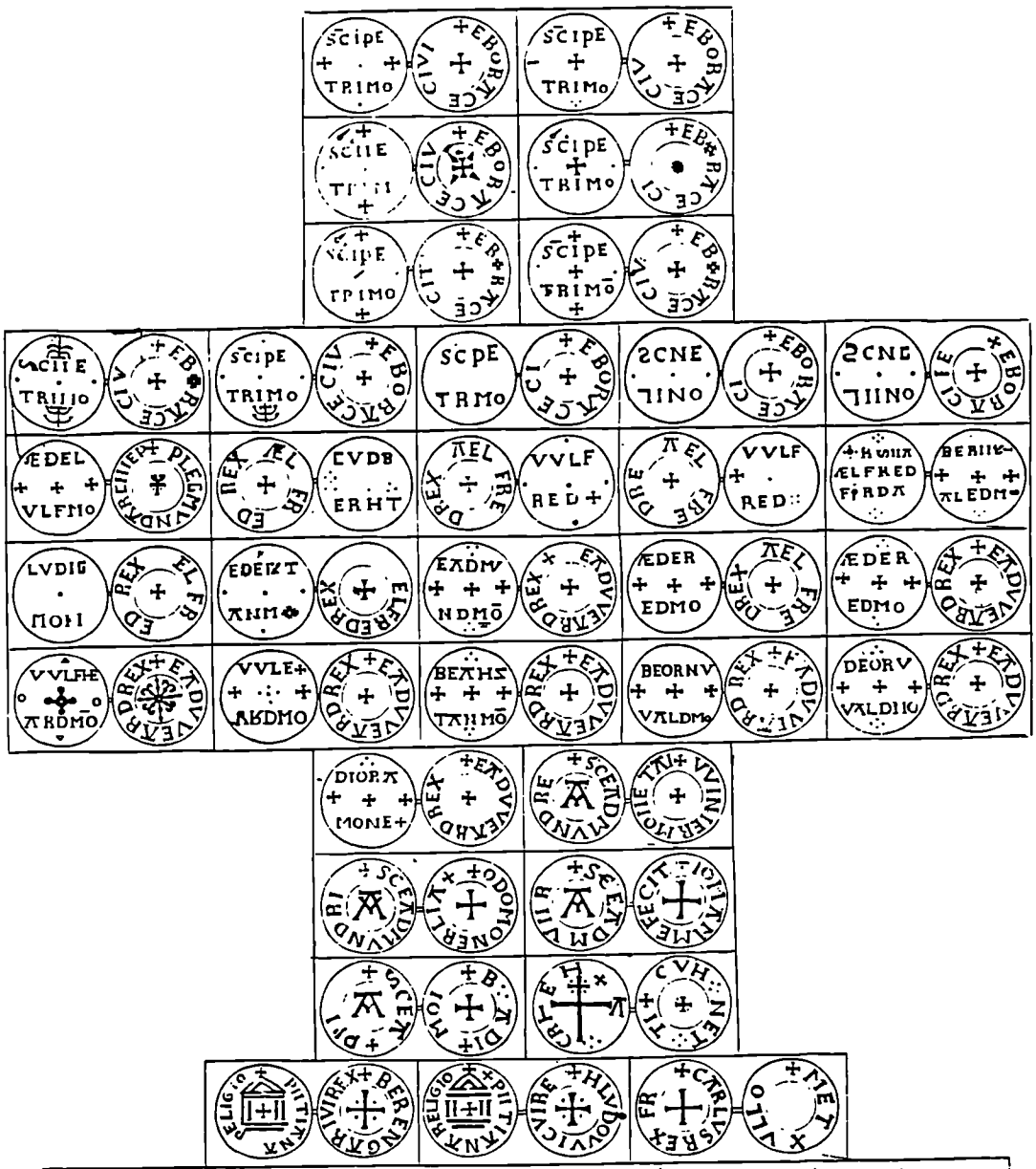


Figure 18: Chester: Finds Distribution, AD 800-1100



after Rutter 1985

Figure 19: Distribution of Chester Type-wares



† A true purtraiture of ſundrie coynes found the 8 of Aprill and other daies following in the yeare 1611 in a certaine place called the Harkirke within the lordſhip of little Croſbie, in Scphton in the counte of Lancaſter w^th place — William Blundell of the ſaid lirle Croſbie Eſquire incloſed from the reſidue of the ſaid Harkirke for the burrall of ſuch Catholick recuſantes deceaſing either of the ſaid village or of the adioyning neighbourhood, as ſhoulde be denied burrall at their pariſh church of Sephton..

after Blunt et al. 1989

Figure 20: Harkirke Hoard: Copper Plate

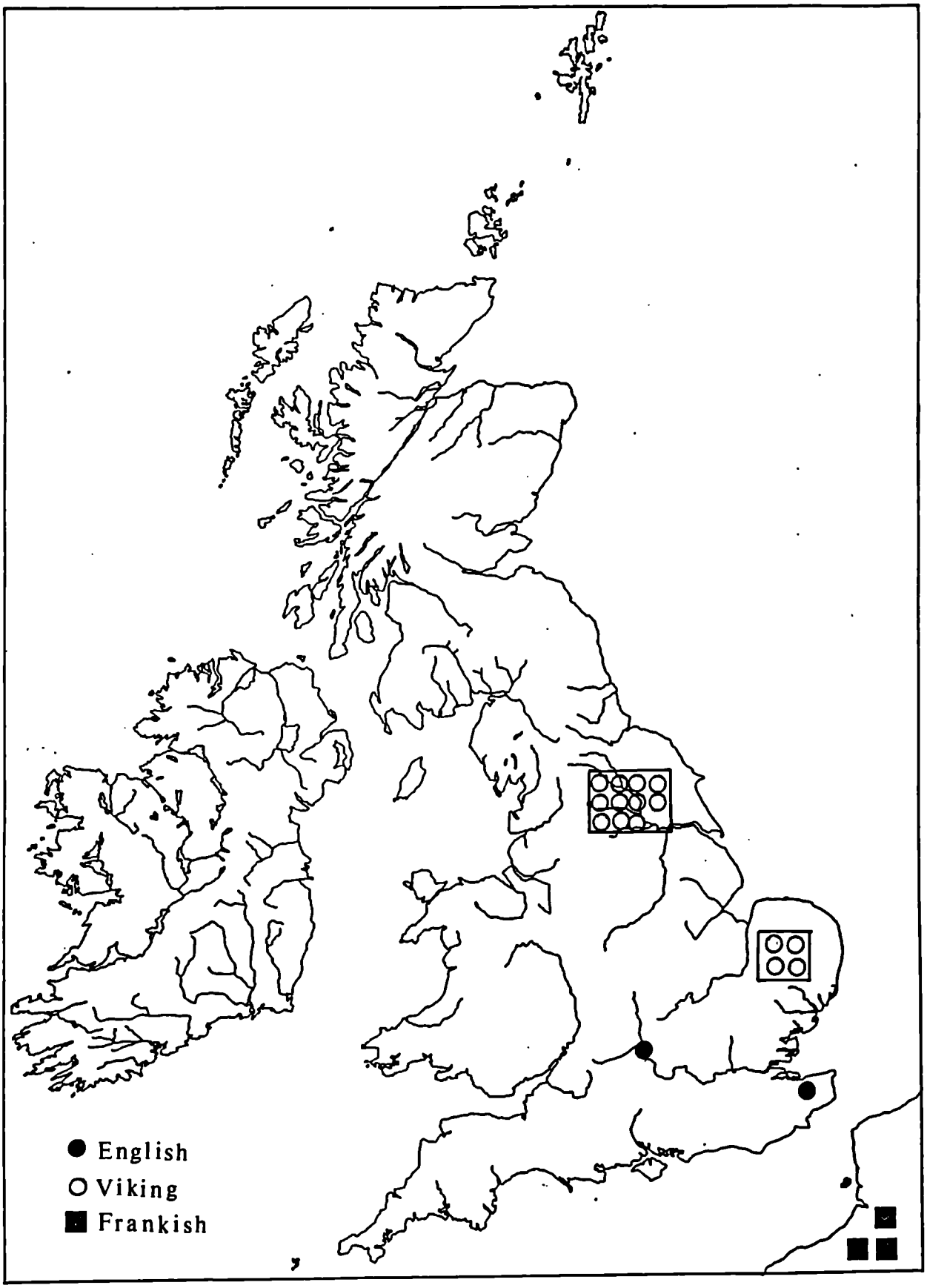


Figure 21: Harkirke Hoard: Provenance by Issue/Mint

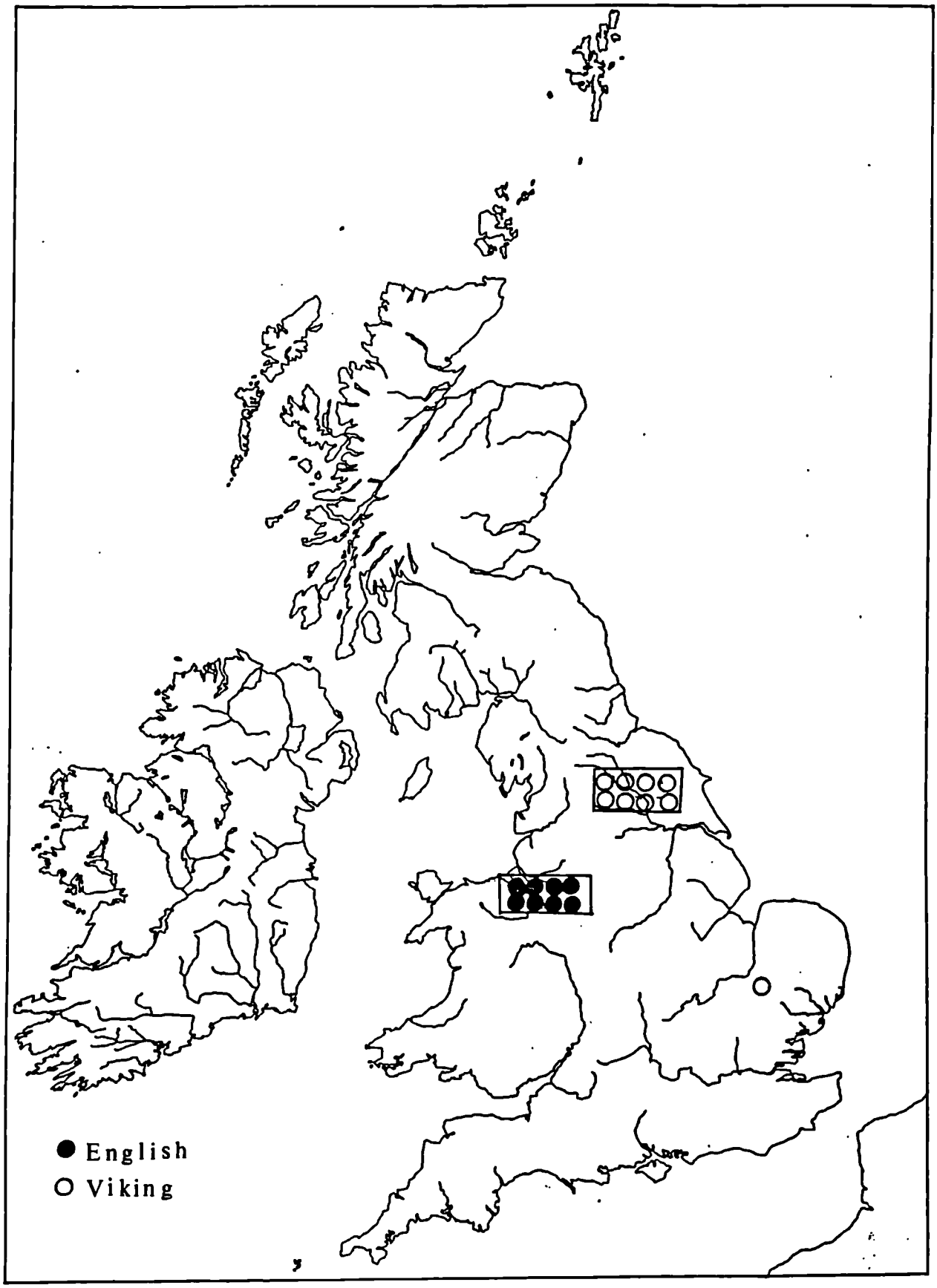


Figure 22: St. Johns Church Hoard: Provenance

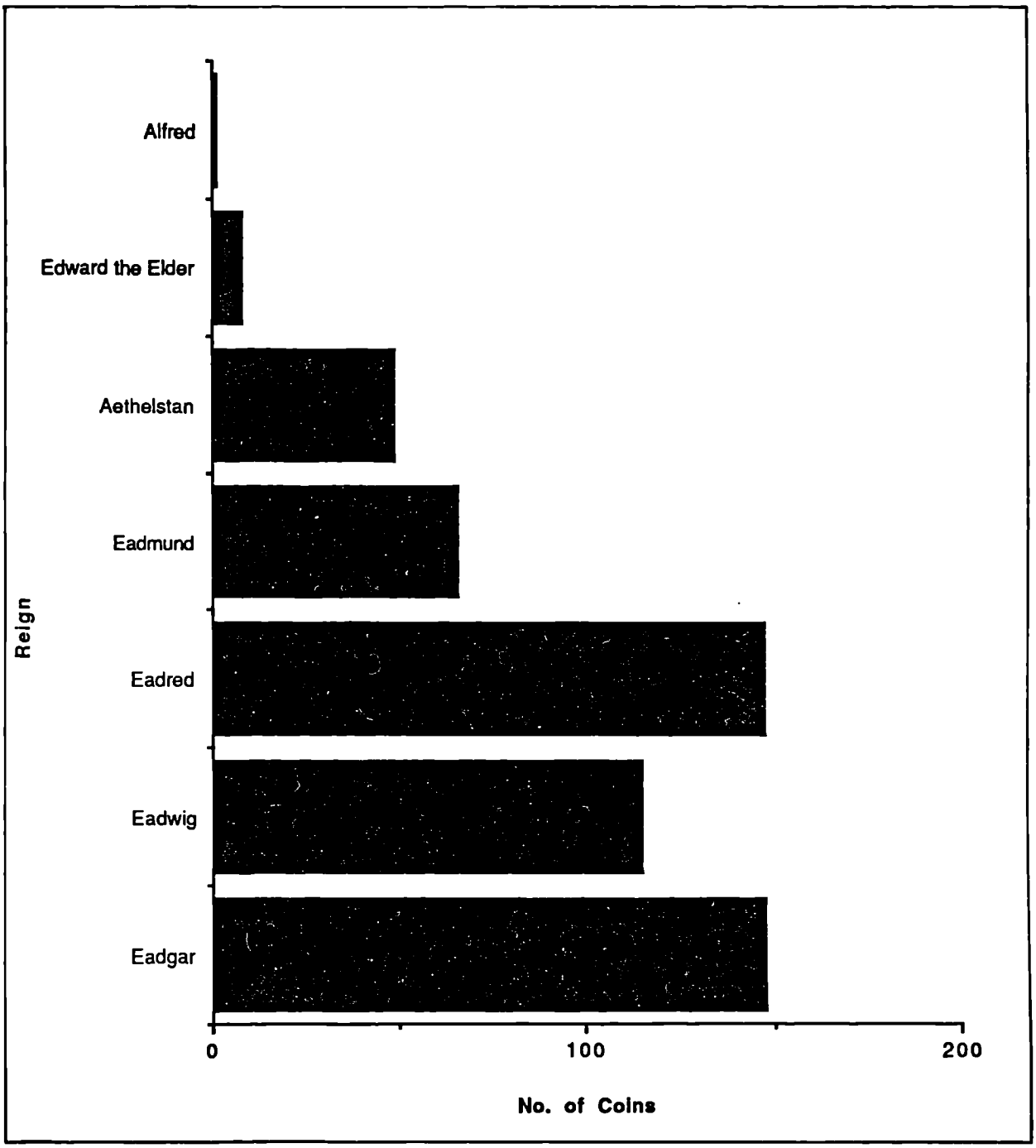


Figure 23: Castle Esplanade Hoard: Age Structure

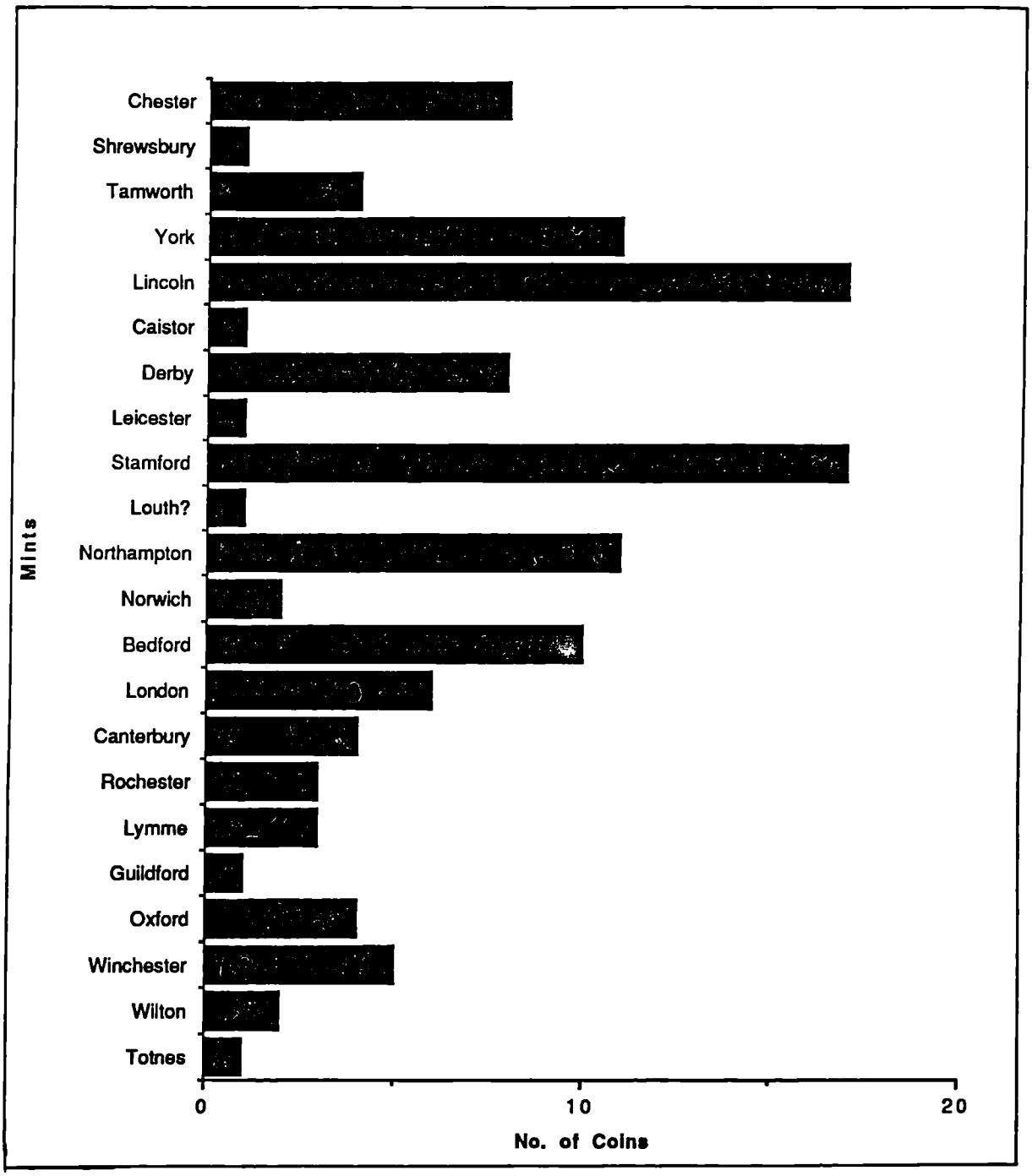


Figure 24: Pembertons Parlour Hoard: Composition

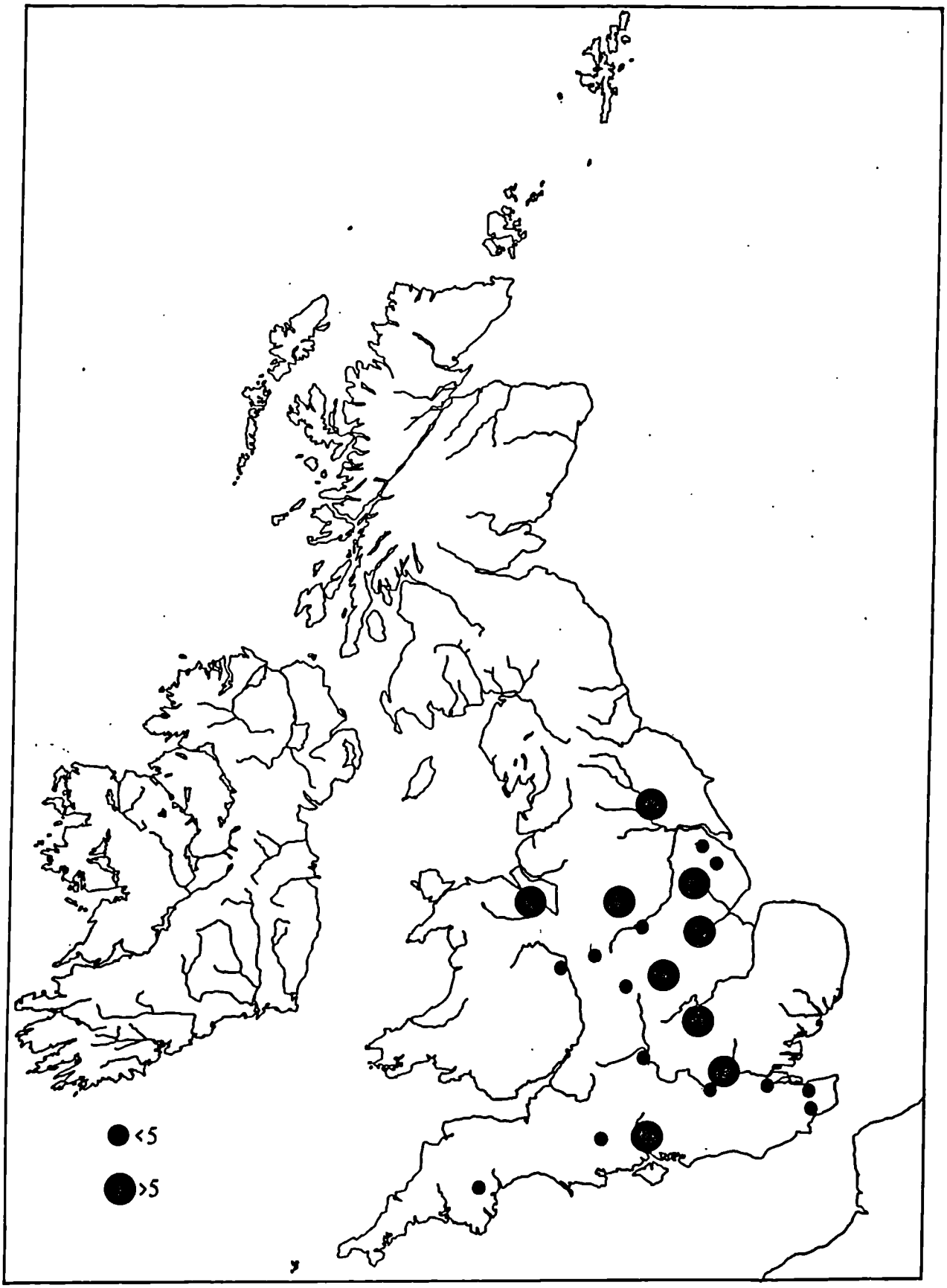


Figure 25: Pembertons Parlour Hoard: Provenance

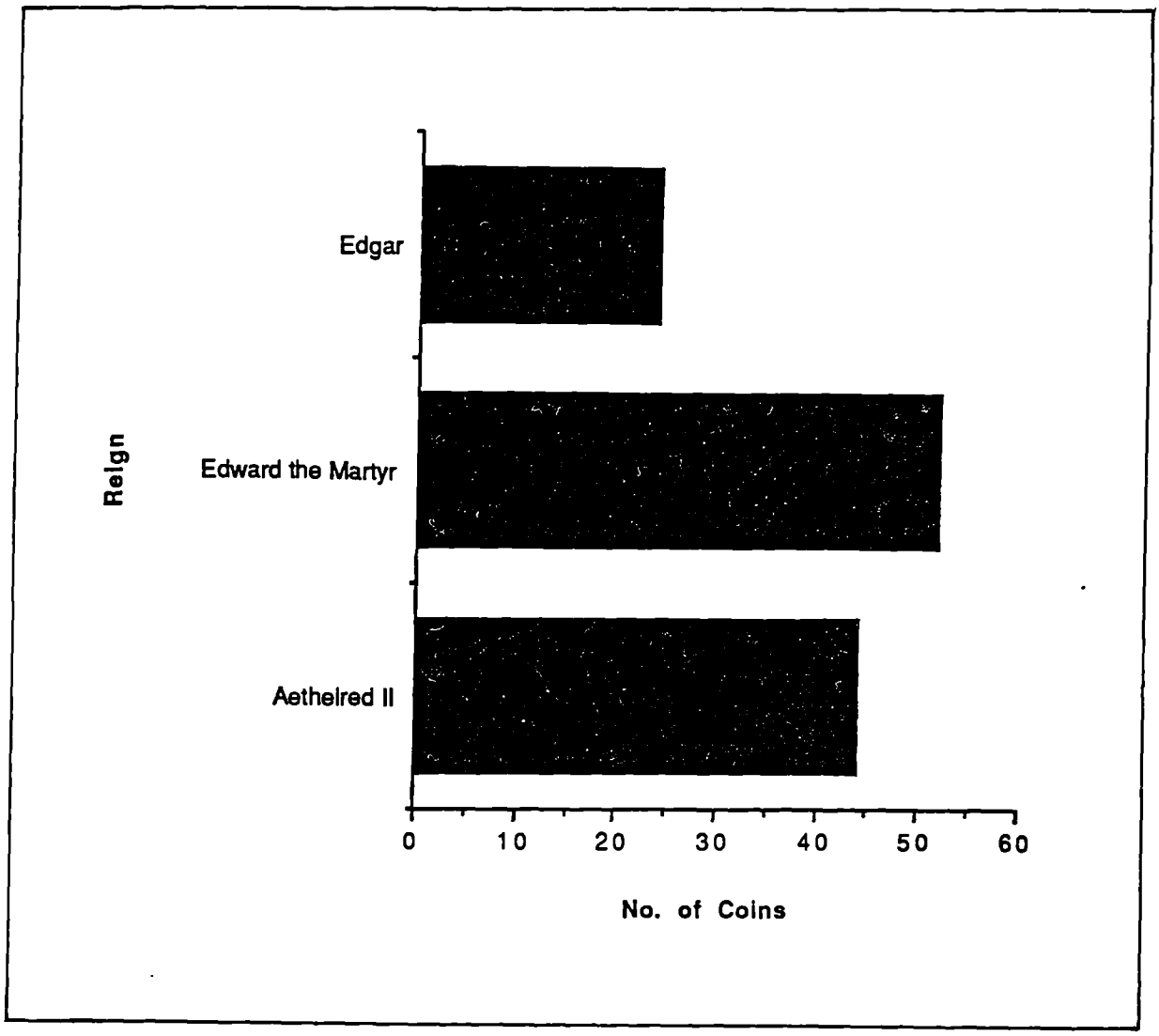


Figure 26: Pembertons Parlour Hoard: Age Structure

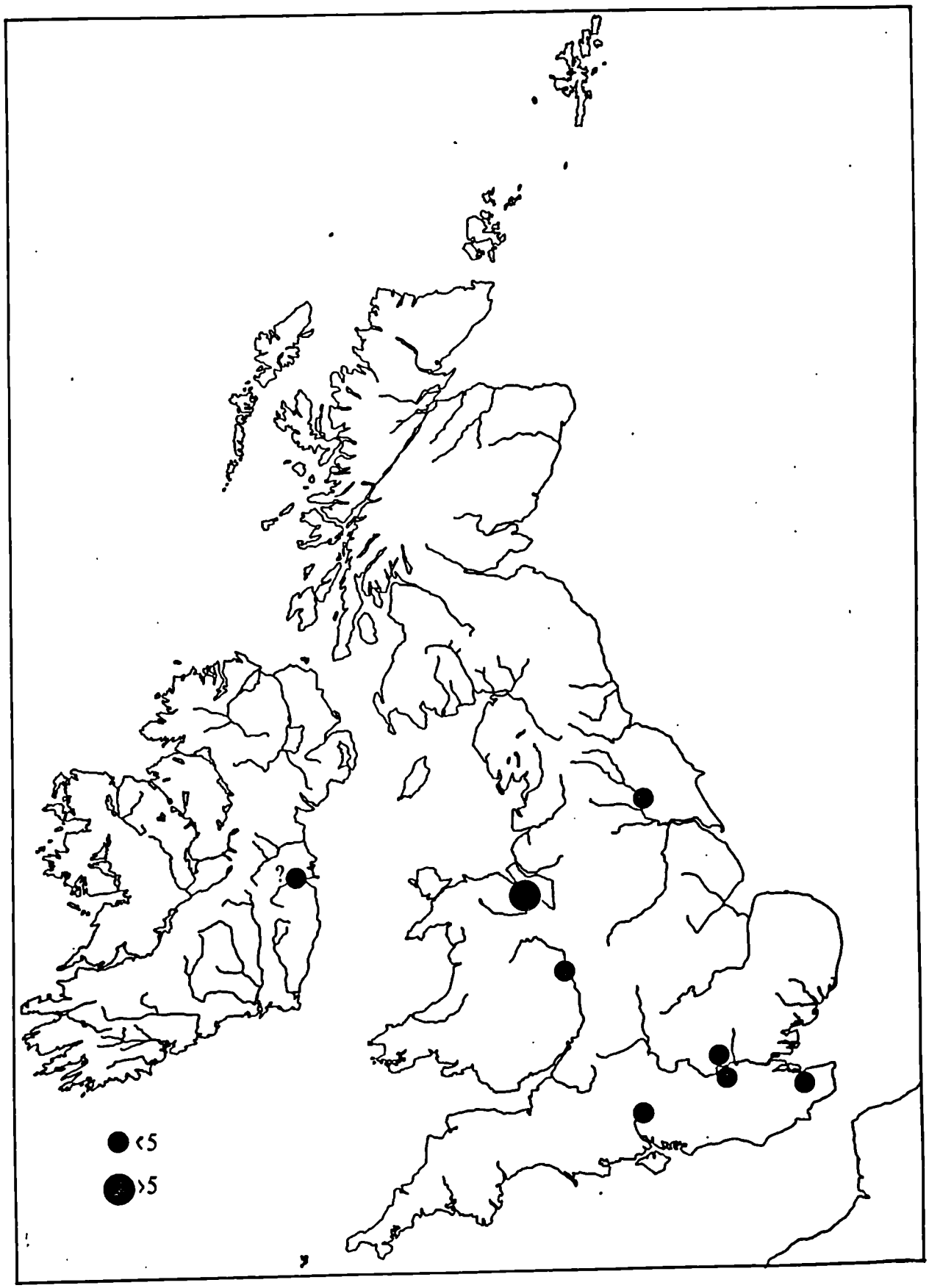


Figure 27: Meols: Provenance by Issue/Mint

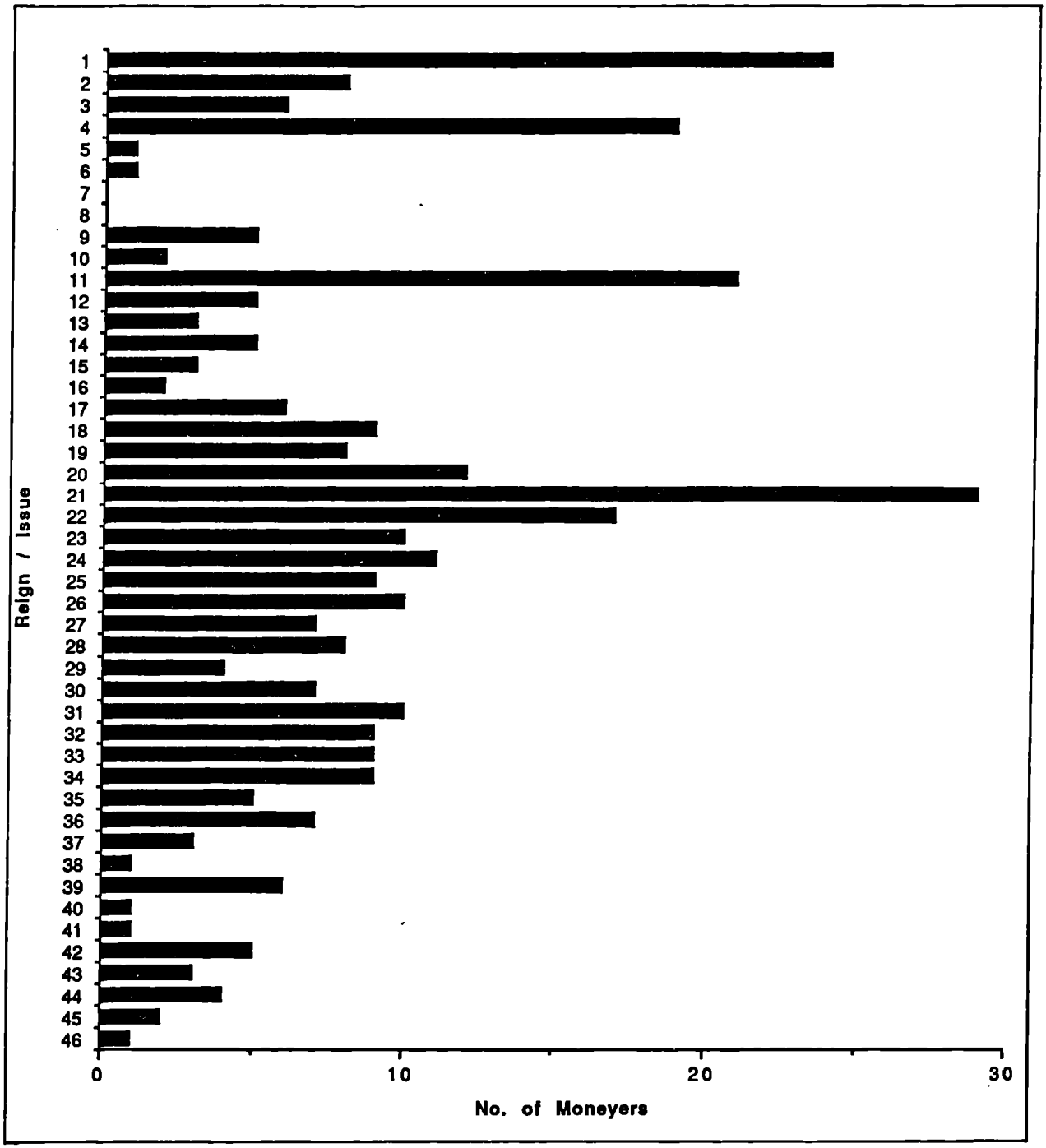


Figure 28: Chester Mint: Moneyers by Issue, AD 924-1100

NO.	REIGN	ISSUE	NO. OF MONEYERS
1	Aethelstan	BMC v	24
2	"	BMC vc	8
3	"	BMC via	6
4	"	BMC vi	19
5	Edmund	BMC v	1
6	Edmund	BMC iv	1
7	Eadred	None certain	
8	Eadwig	None certain	
9	Edgar	BMC iii	5
10	"	BMC iv	2
11	"	BMC ii	21
12	"	BMC vi	5
13	Edward II	BMC i	3
14	Ethelred II	BMC iia	5
15	"	BMC iid	3
16	"	BMC iif	2
17	"	BMC iiia	6
18	"	BMC iva	9
19	"	BMC viii	8
20	"	BMC i	12
21	Cnut	BMC viii	29
22	"	BMC xiv	17
23	"	BMC xvi	10
24	Harold I	BMC i	11
25	"	BMC vc	9
26	Harthacnut	BMC ii/xiv	10
27	Edwd. Conf	BMC iv	7
28	"	BMC i	8
29	"	BMC iii	4
30	"	BMC ii	7
31	"	BMC v	10
32	"	BMC vii	9
33	"	BMC ix	9
34	"	BMC xi	9
35	"	BMC xiii	5
36	"	BMC xv	7
37	Harold II	BMC i	3
38	William I	BMC i	1
39	"	BMC ii	6
40	"	BMC iii	1
41	"	BMC v	1
42	"	BMC viii	5
43	William II	BMC i	3
44	"	BMC ii	4
45	"	BMC iii	2
46	"	BMC iv	1

Figure 28: Key (information from Pirie 1964)

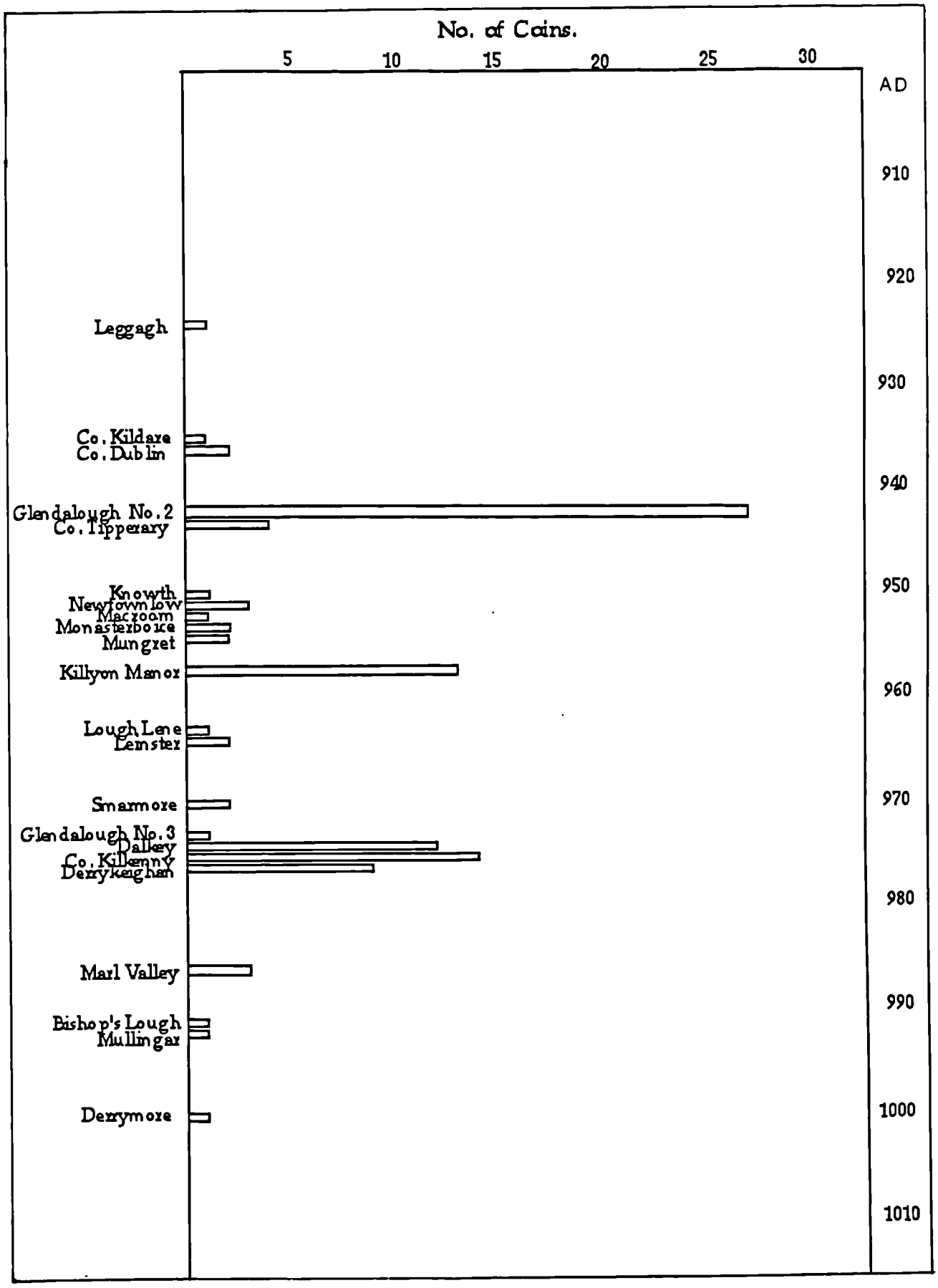


Figure 29: Chester Coins in Irish Hoards



Figure 30: Archaeological Finds of Coins of the Chester Mint 900-973



Figure 31: Archaeological Finds of Coins of the Chester Mint 973-1016

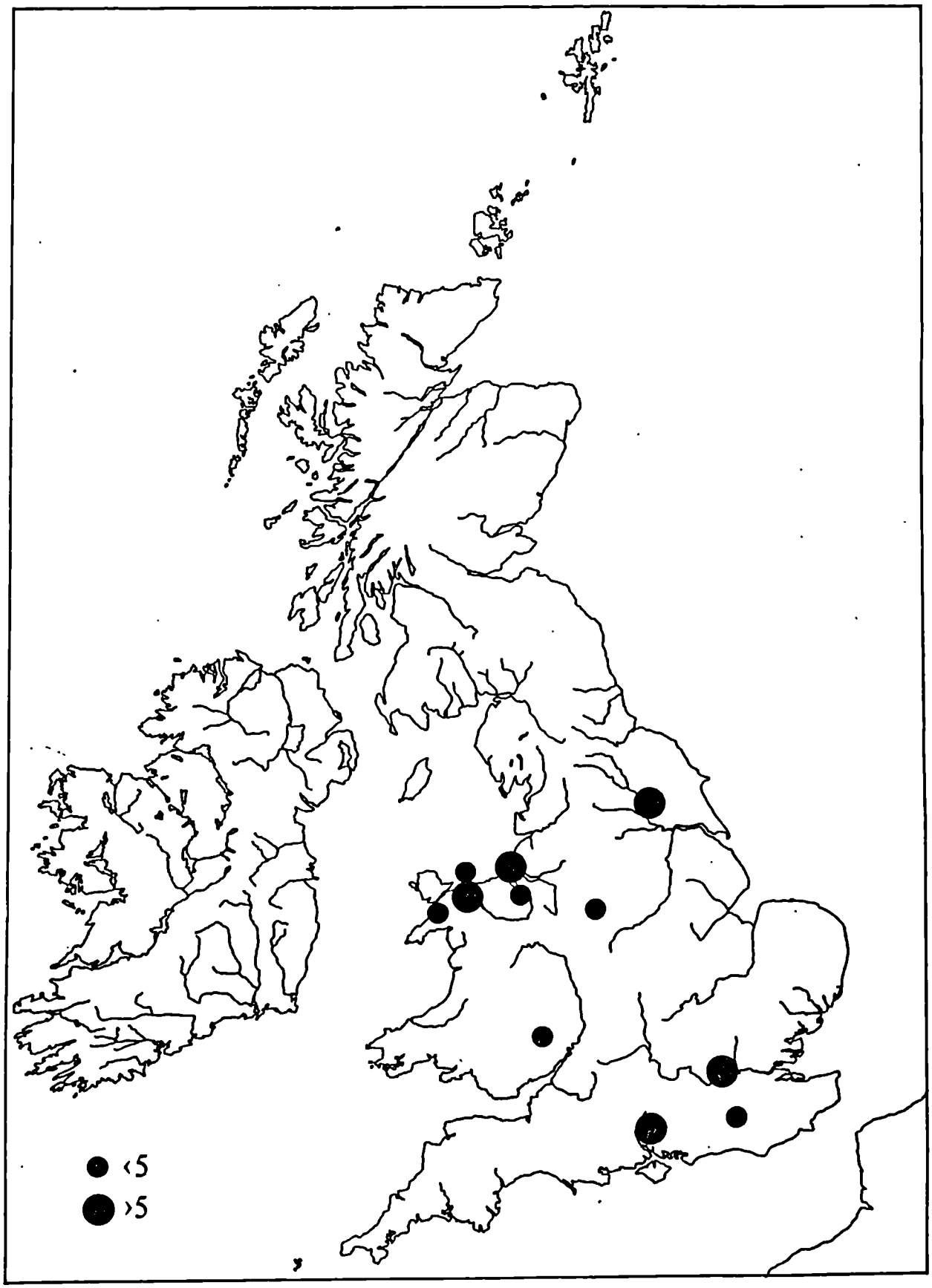


Figure 32: Archaeological Finds of Coins of the Chester Mint 1016-1100

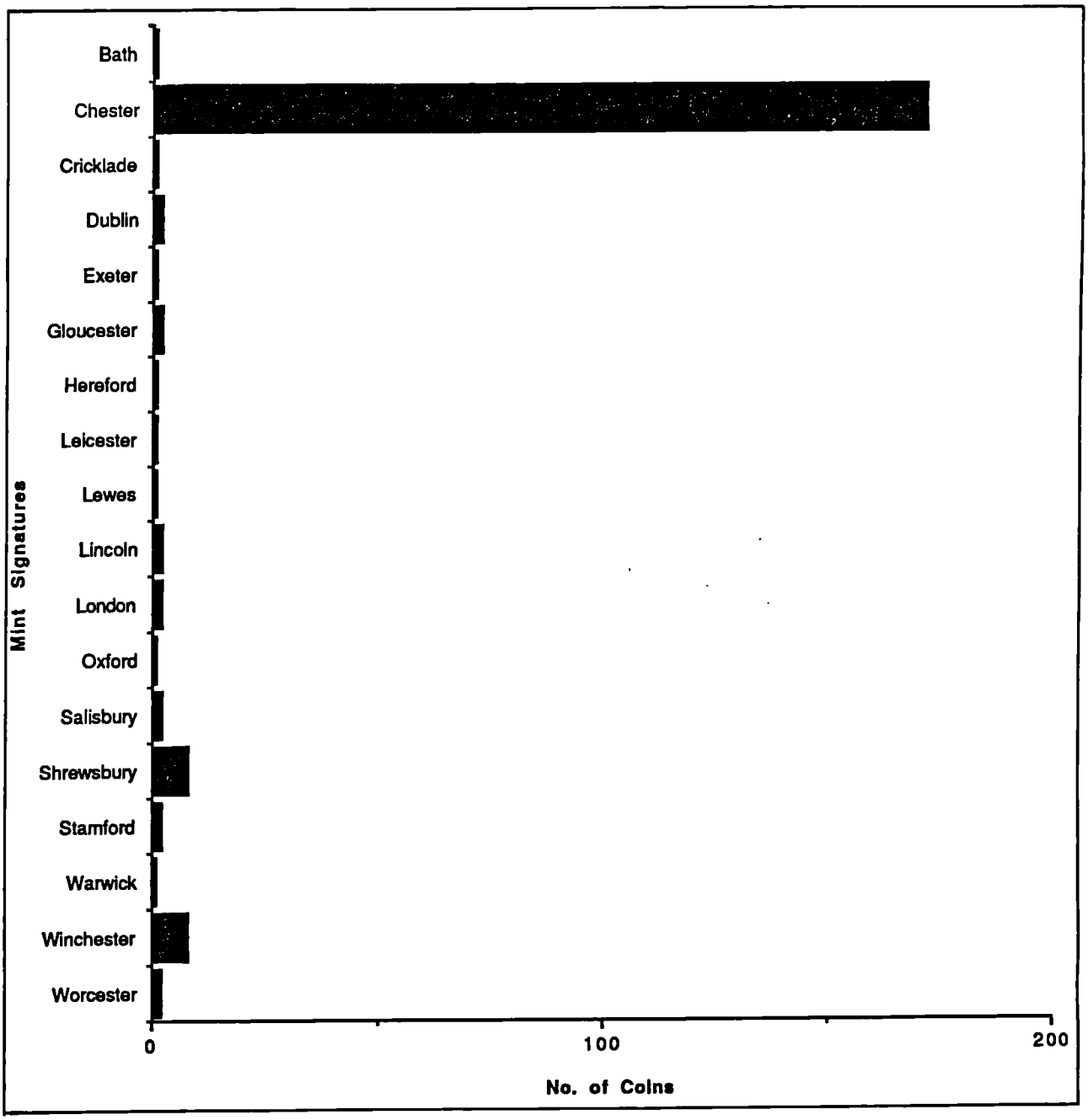


Figure 33: Bryn Maelgwyn Hoard: Composition by Mint

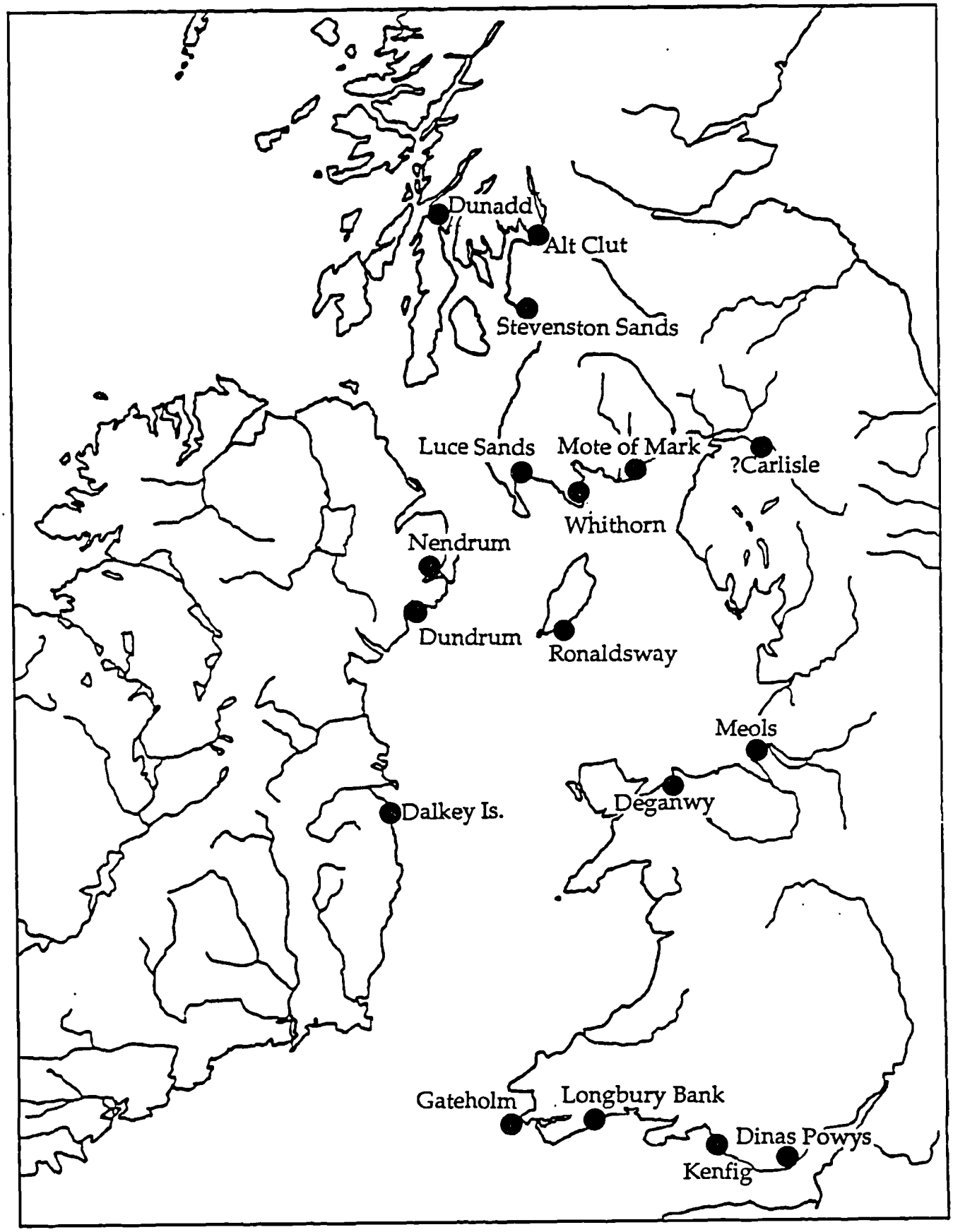


Figure 34: Pre-Viking Coastal Sites

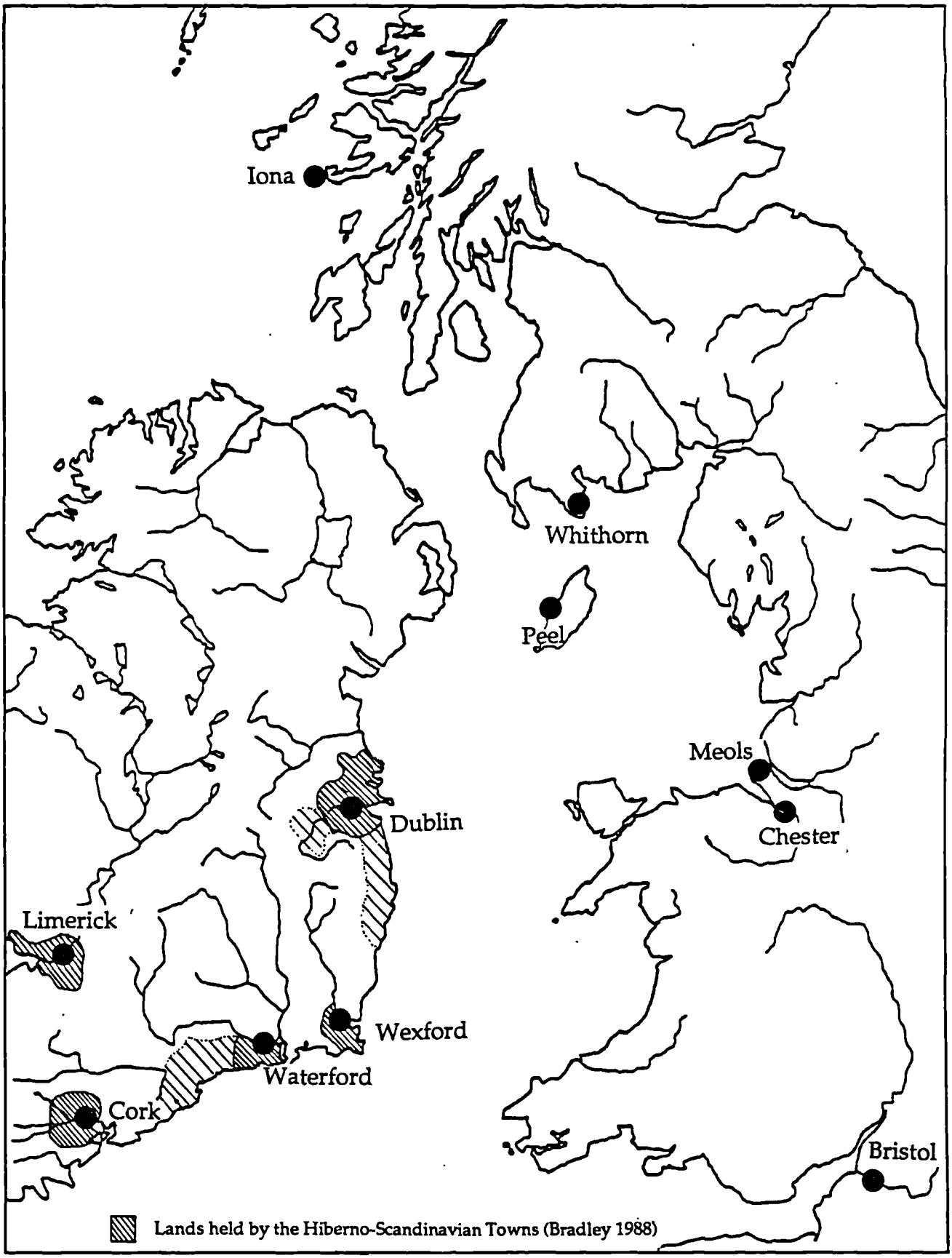


Figure 35: Viking-Age Coastal Trading Ports

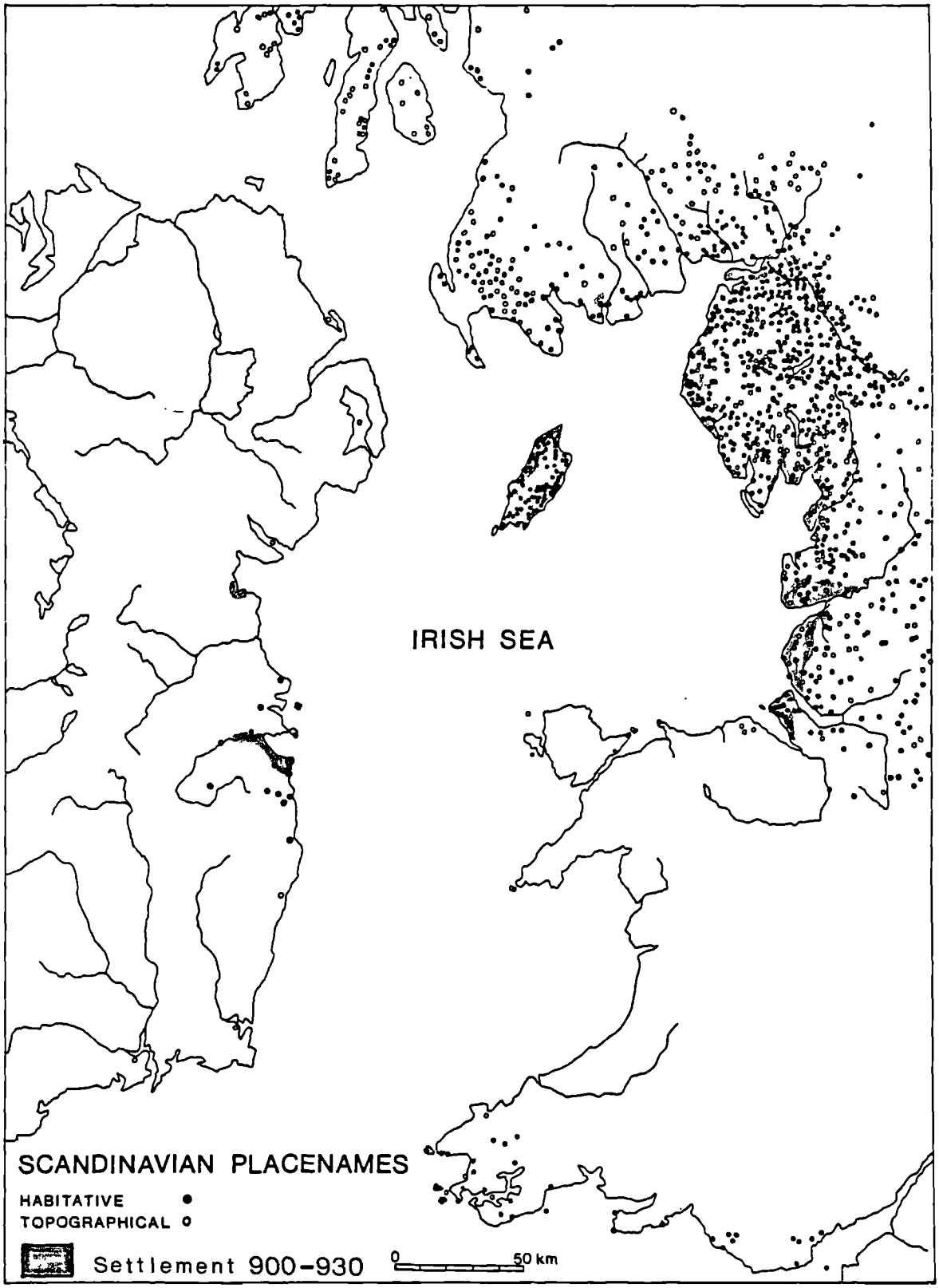


Figure 36: Scandinavian Place-names in the Irish Sea region

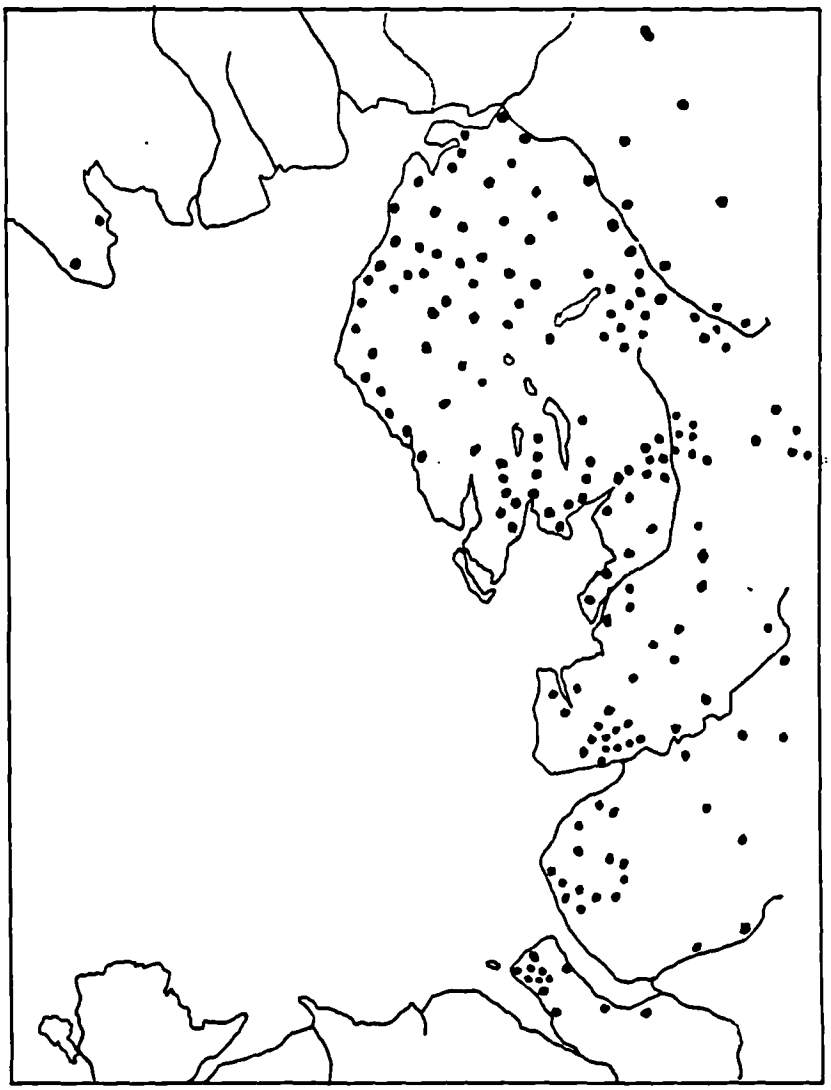


Figure 37: Scandinavian Parish Names in the North-West

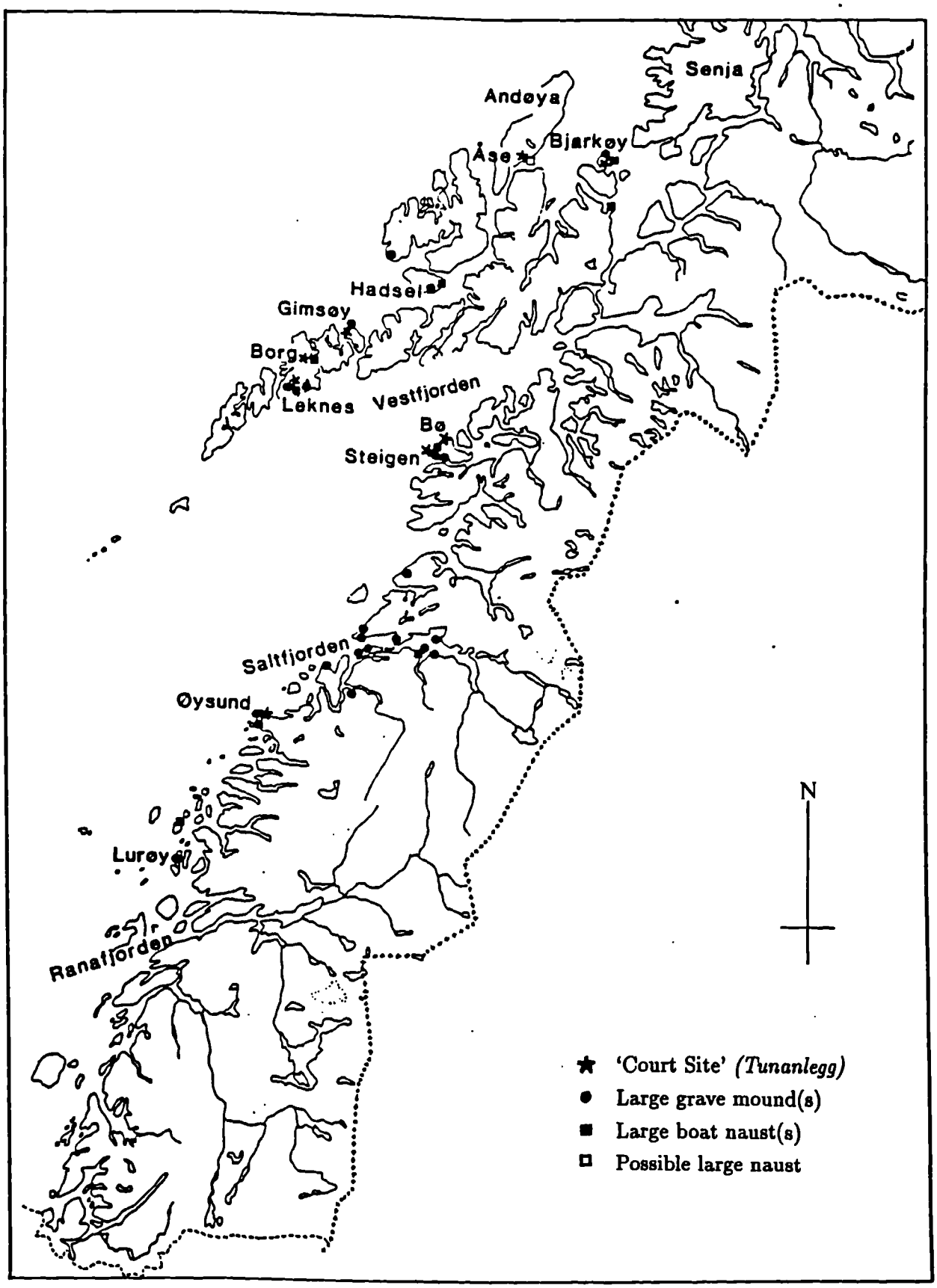


Figure 38: Chiefdom Centres: North Norway

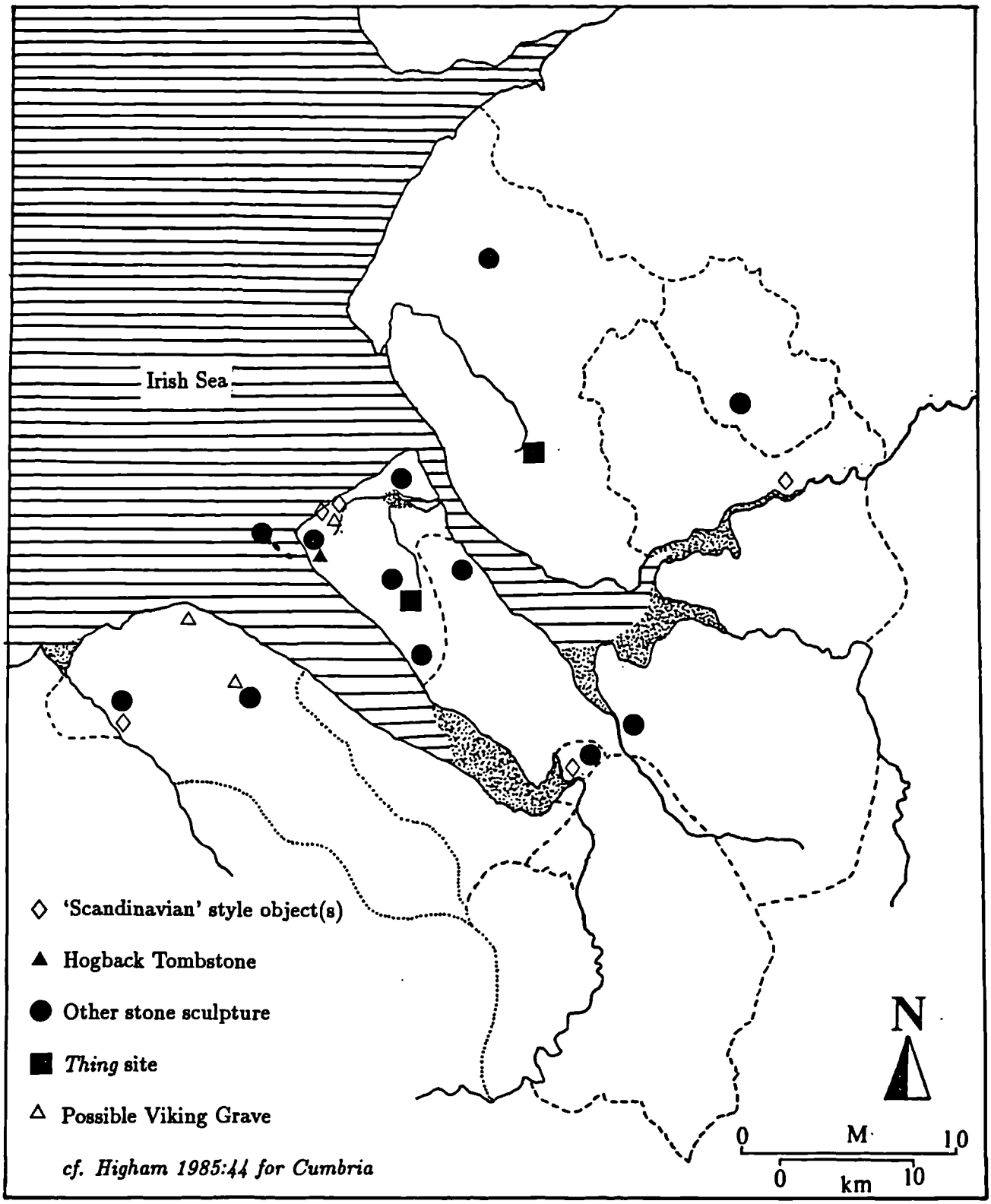


Figure 39: Scandinavian Lordship and Artistic Patronage

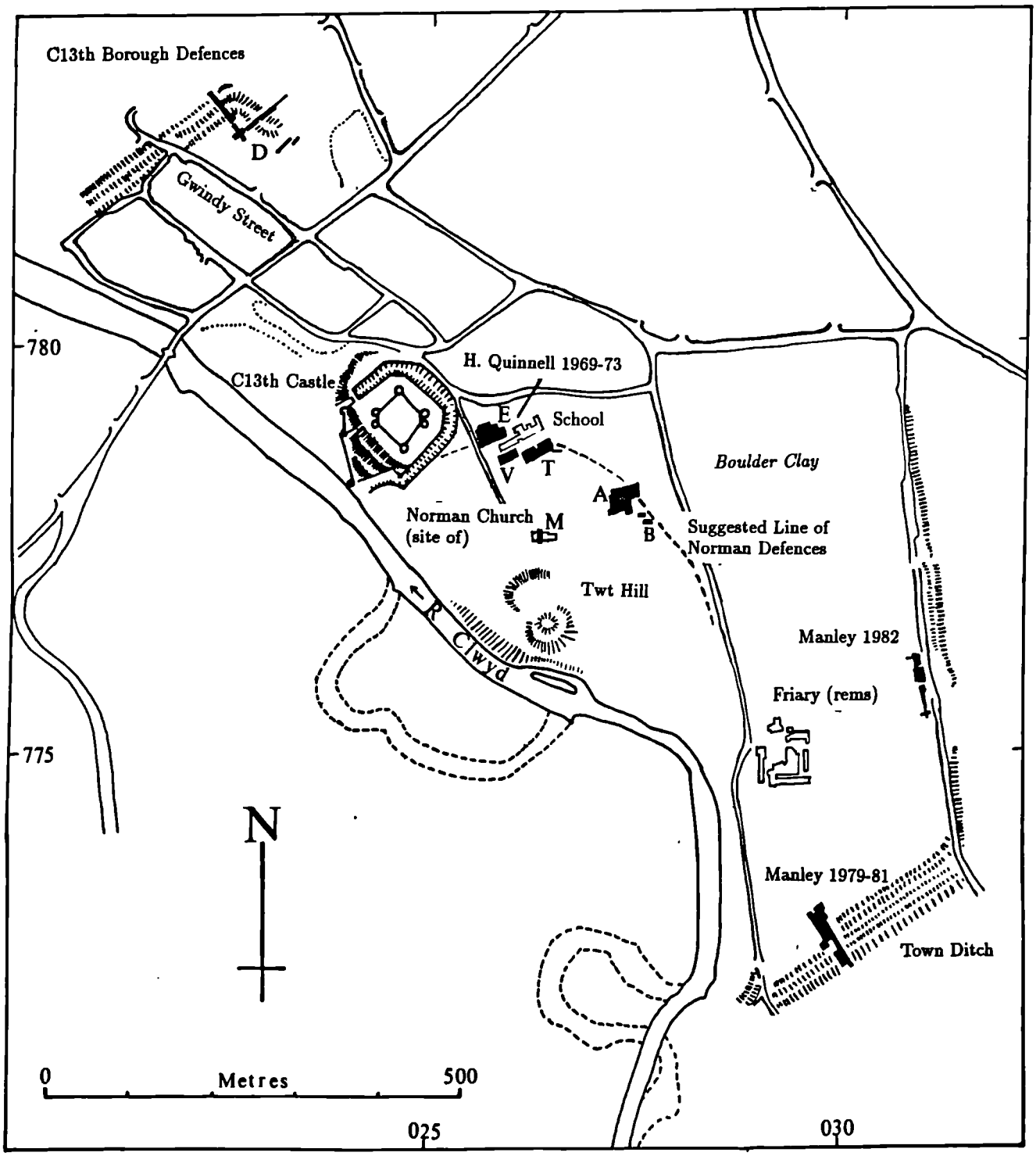


Figure 40: Rhuddlan (gaz 1.1) General Map

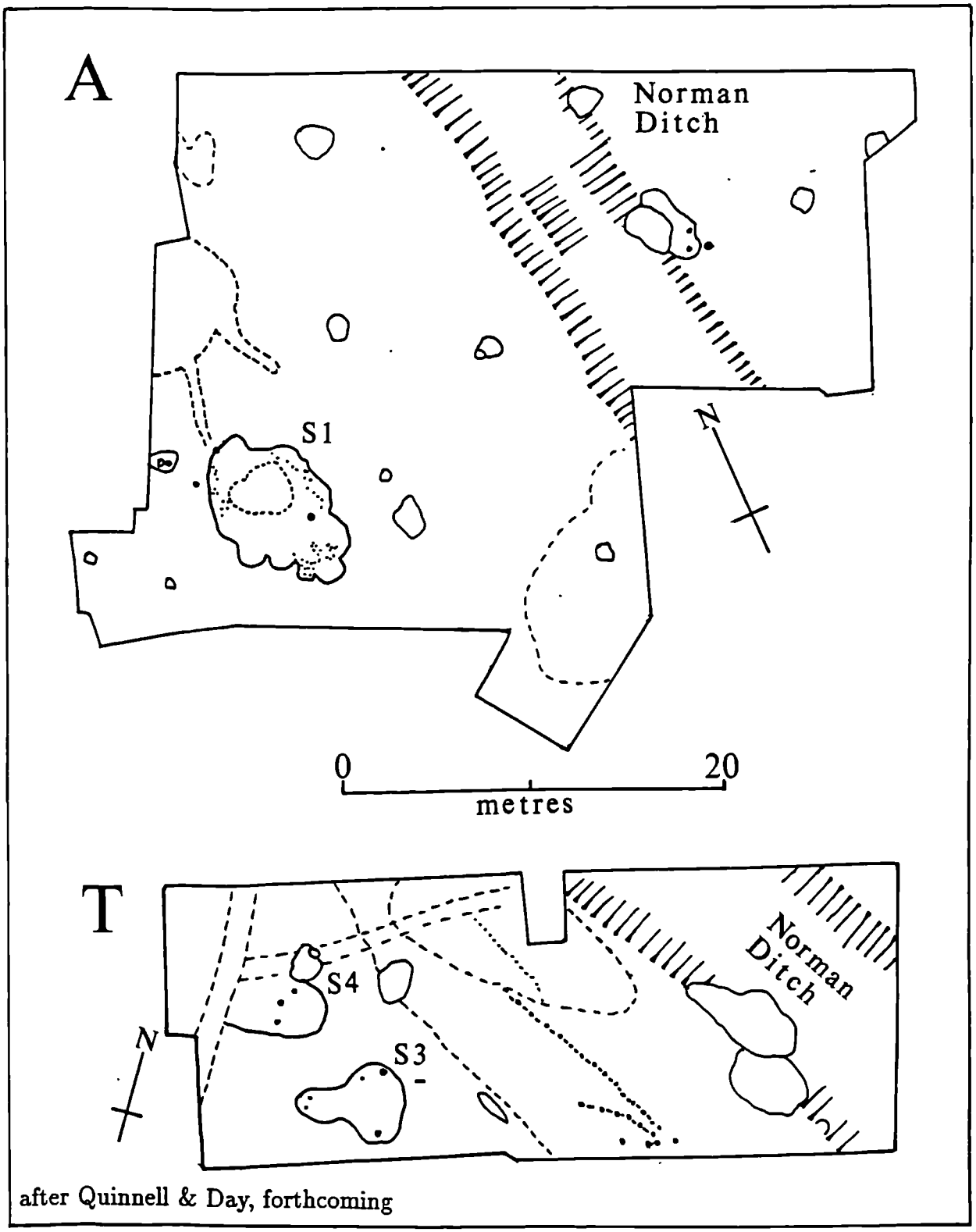
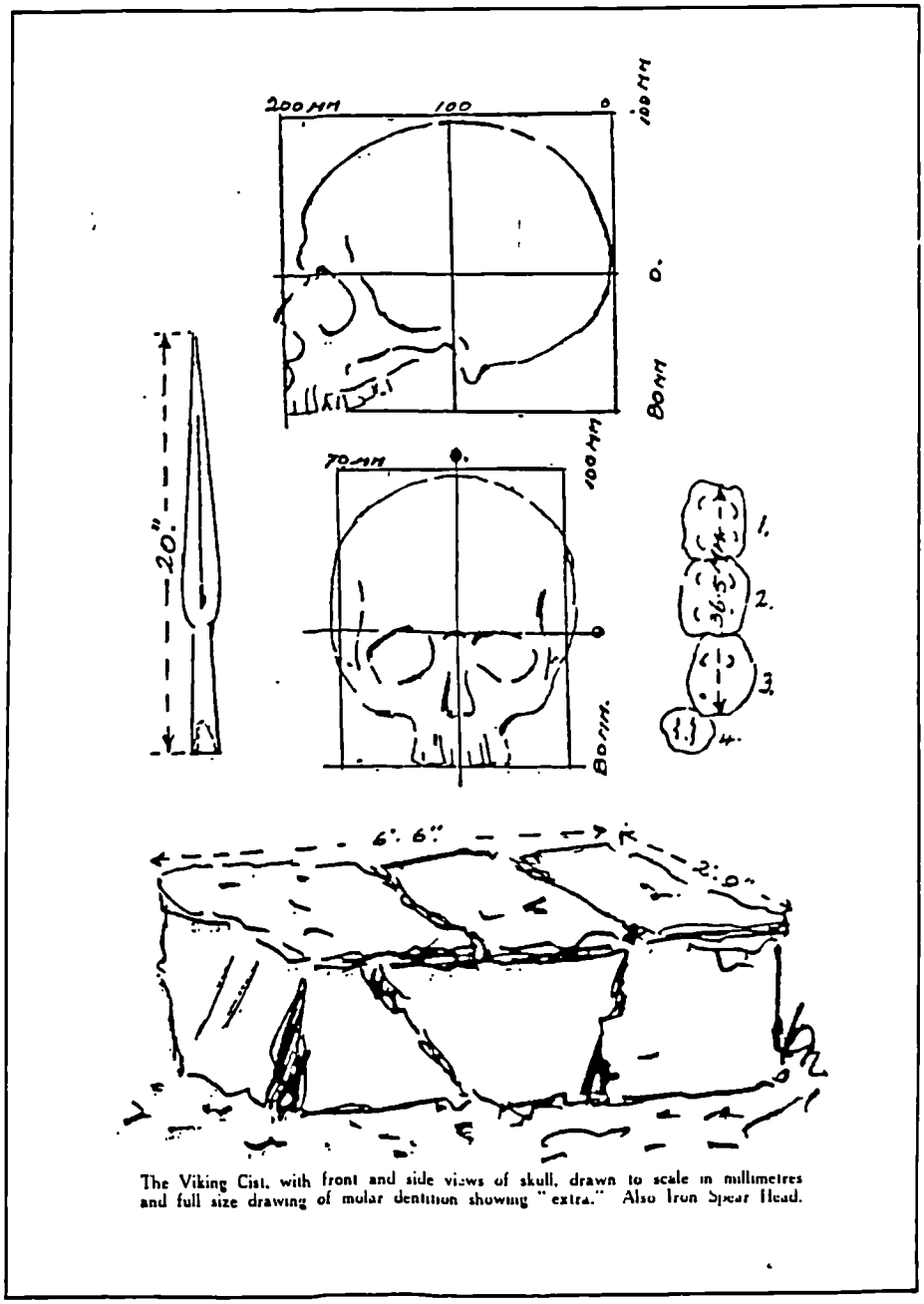


Figure 41: Rhuddlan, Sites A and T



The Viking Cist, with front and side views of skull, drawn to scale in millimetres and full size drawing of molar dentition showing "extra." Also Iron Spear Head.

Figure 42: Talacre (gaz 1.3), from Smith 1932

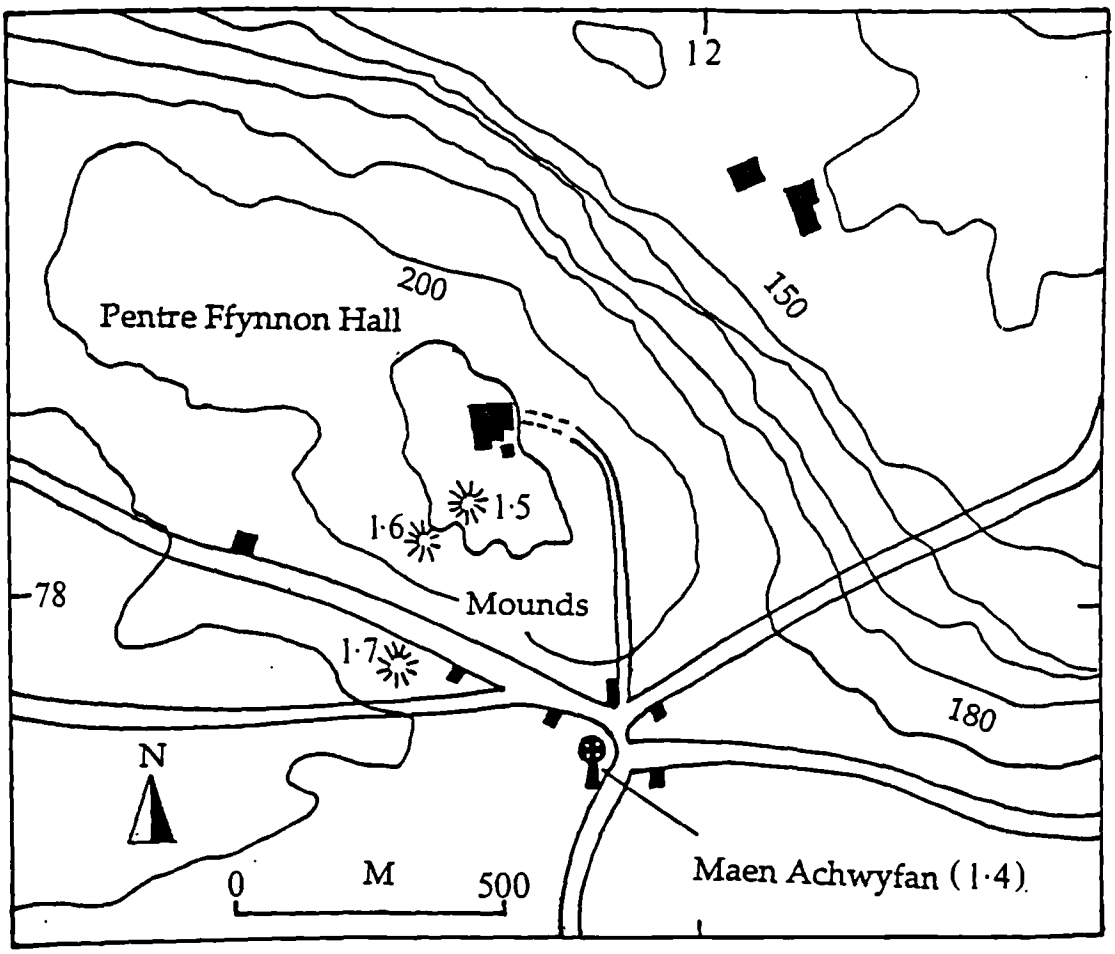


Figure 43: Whitford (gaz 1.4)

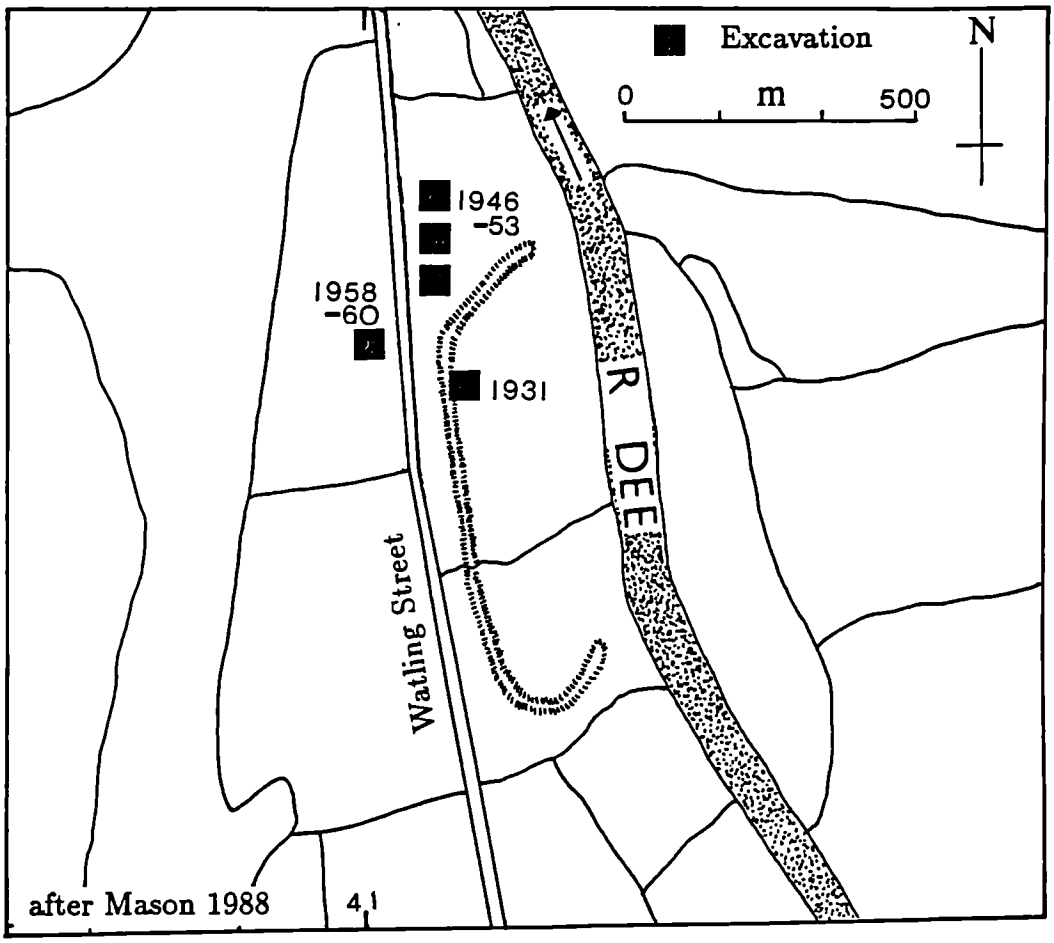


Figure 44: Heronbridge (gaz 1.12)

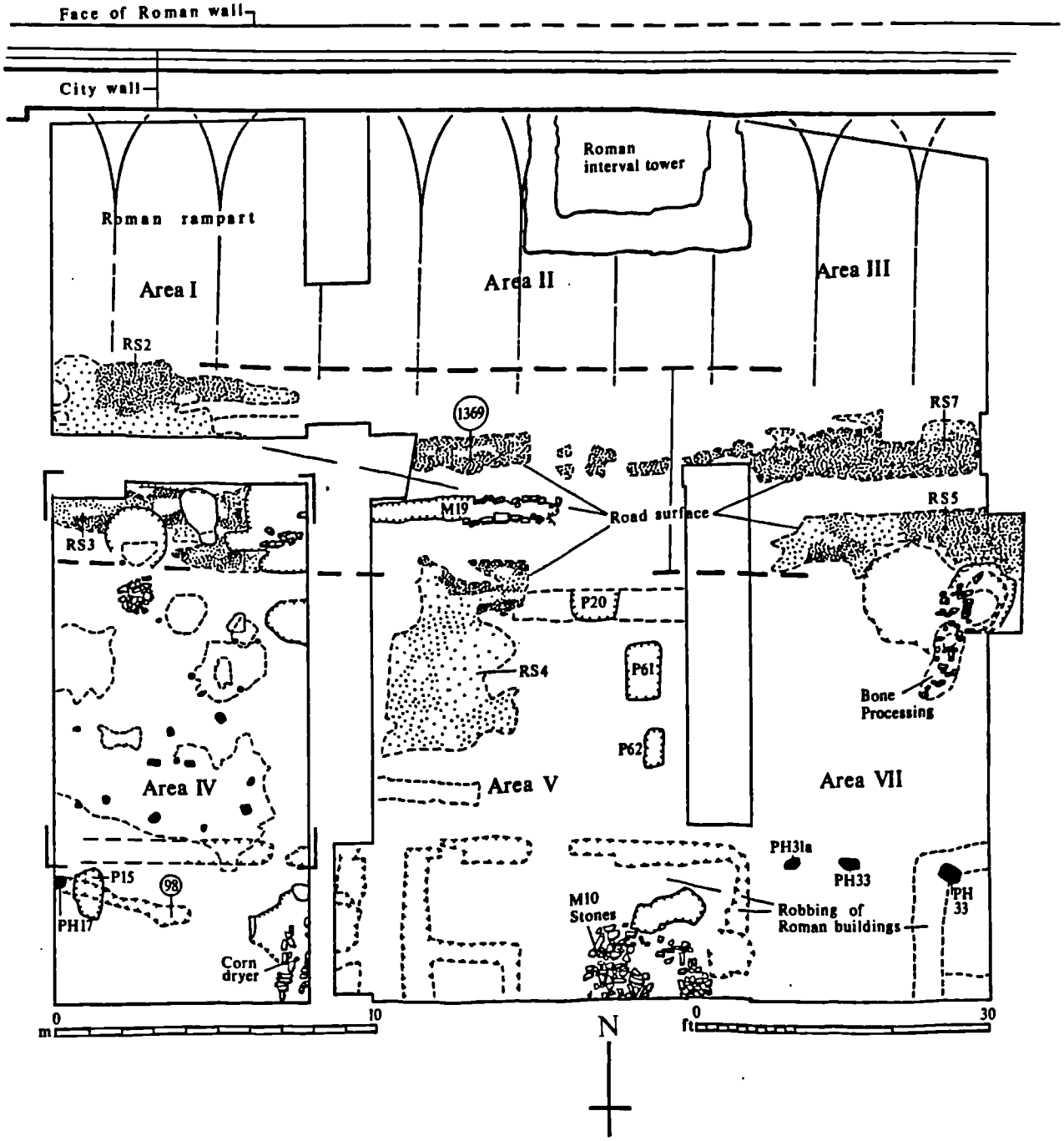


Figure 45: Abbey Green (gaz 4.1)

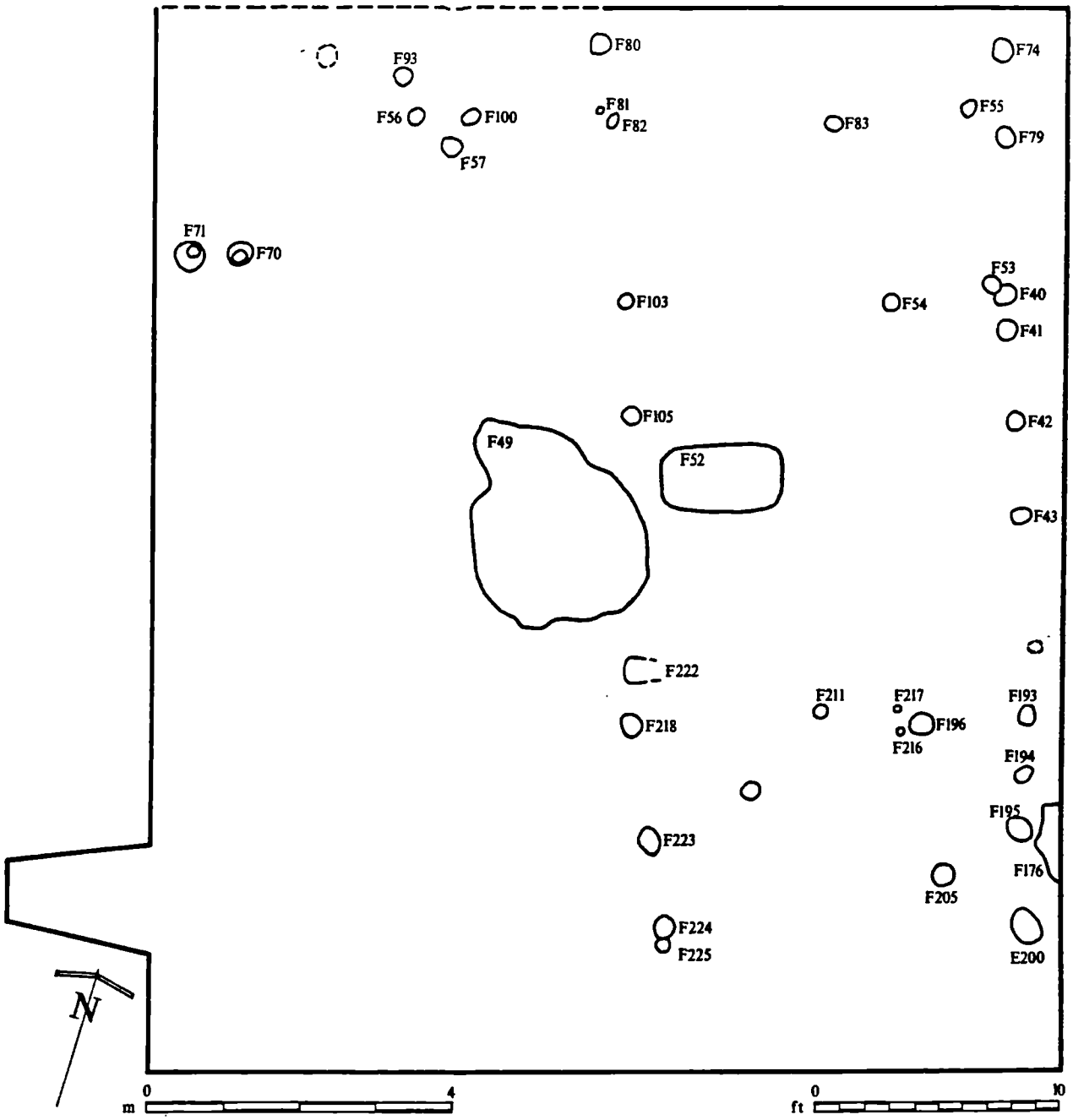


Figure 46: Crook Street (gaz 4.10)

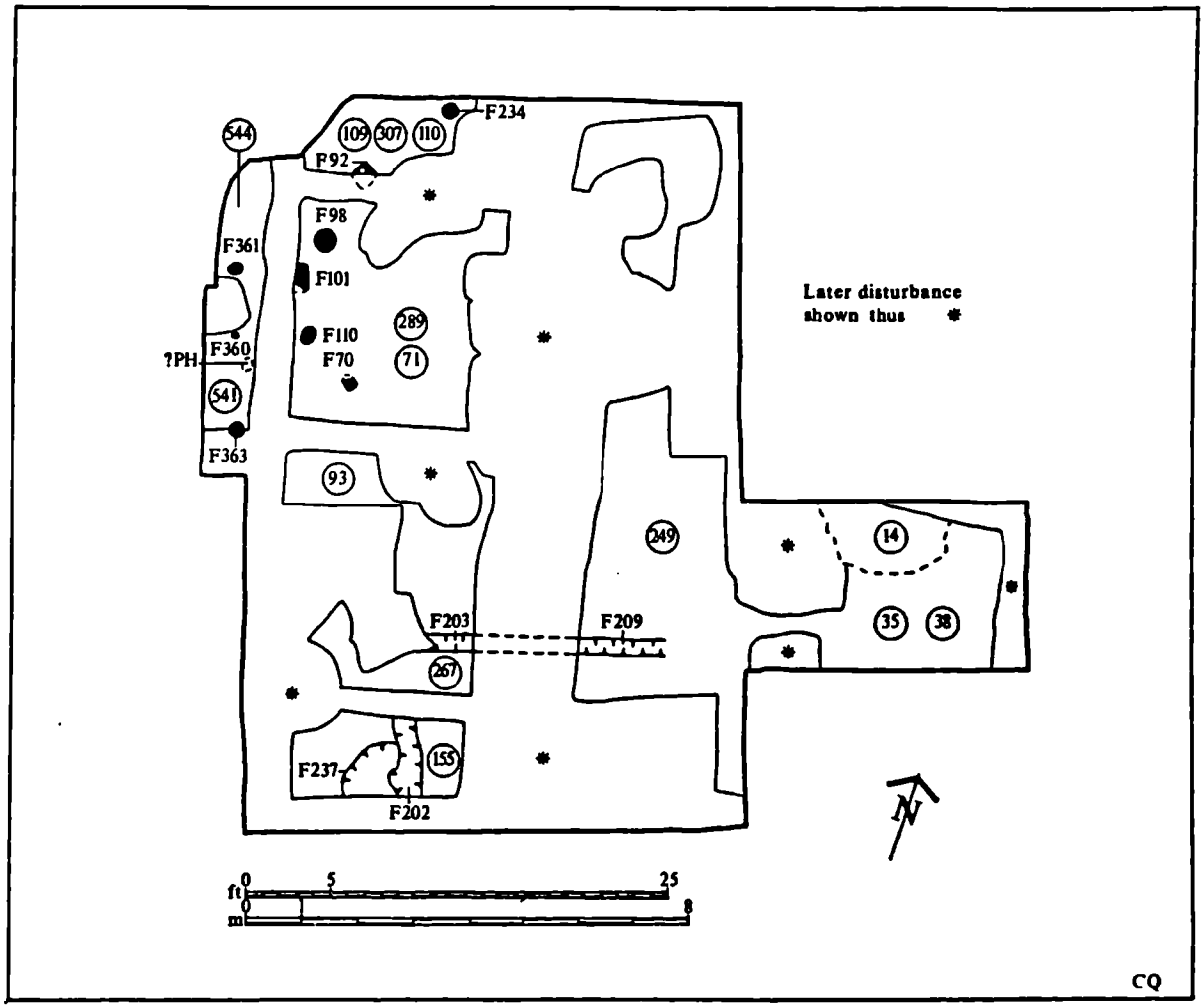


Figure 47: Goss Street (gaz 4.19)

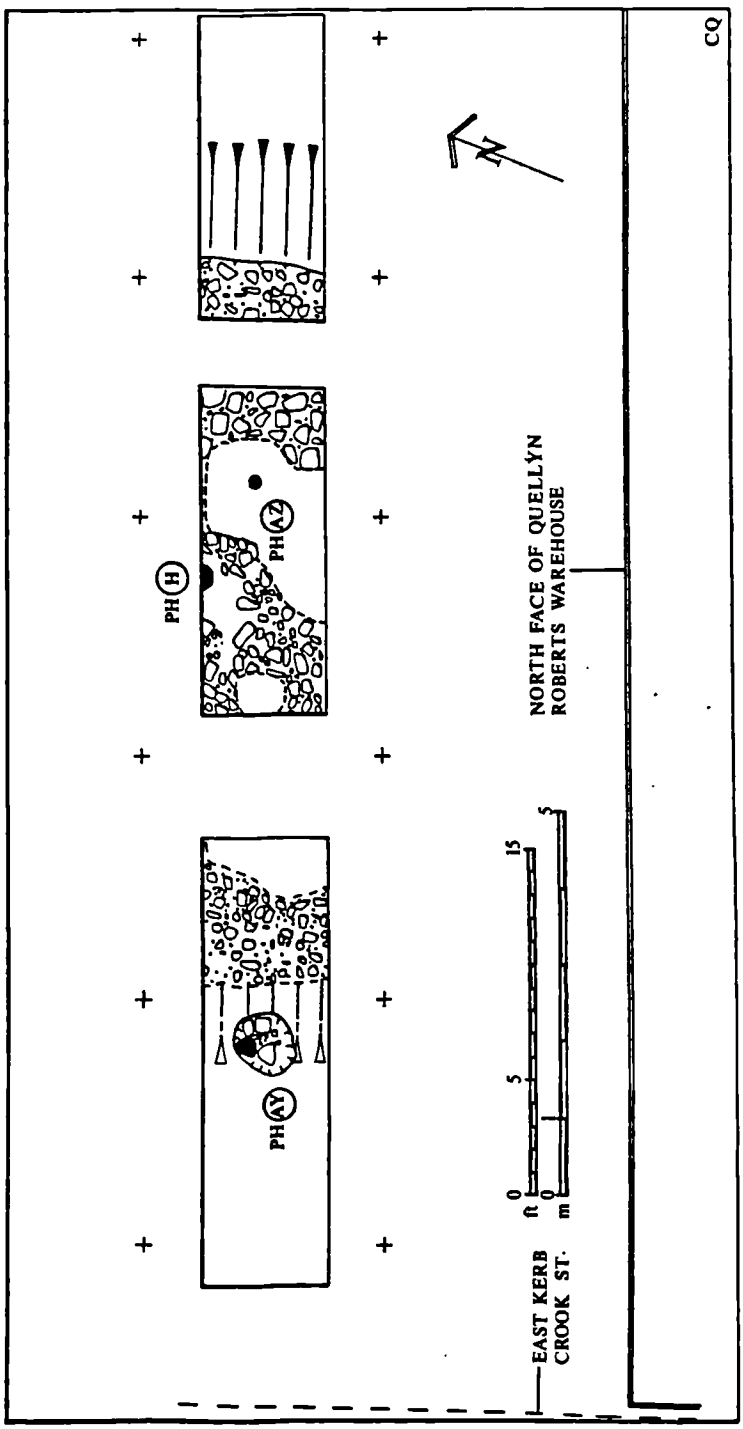


Figure 48: Hamilton Place (gaz 4.22)

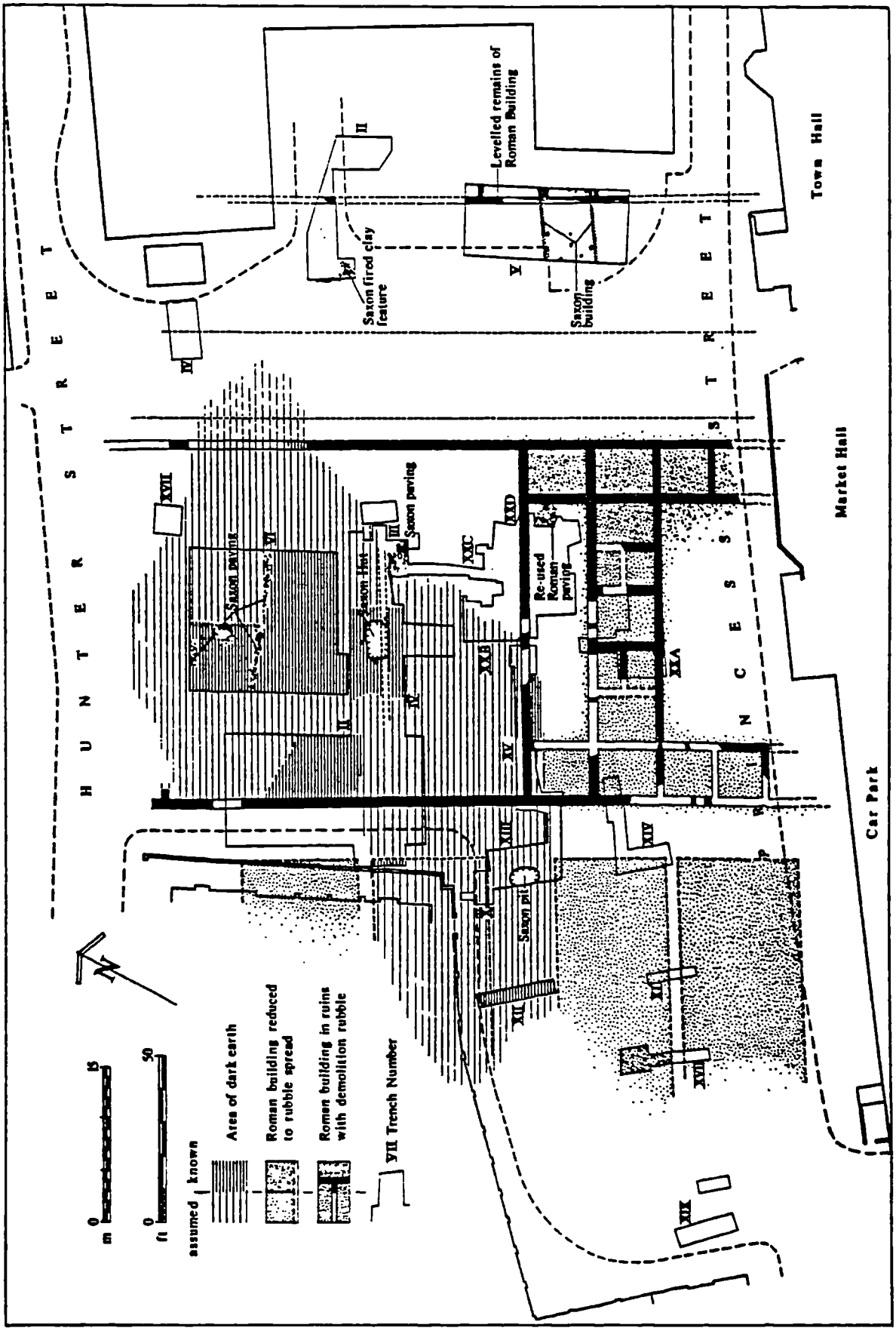


Figure 49: Hunter Street/ Hunters Walk (gaz 4.23)

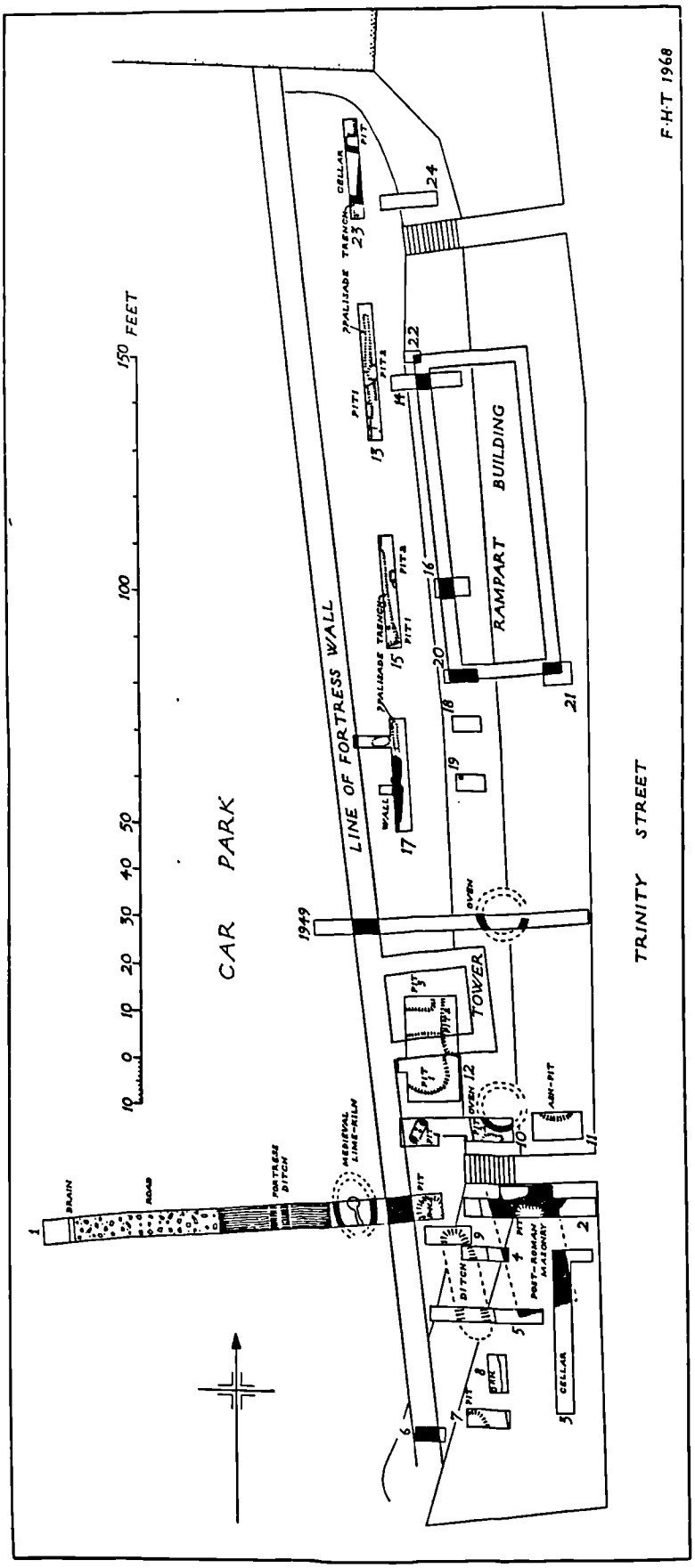


Figure 50: Linenhall Street (gaz 4.27)

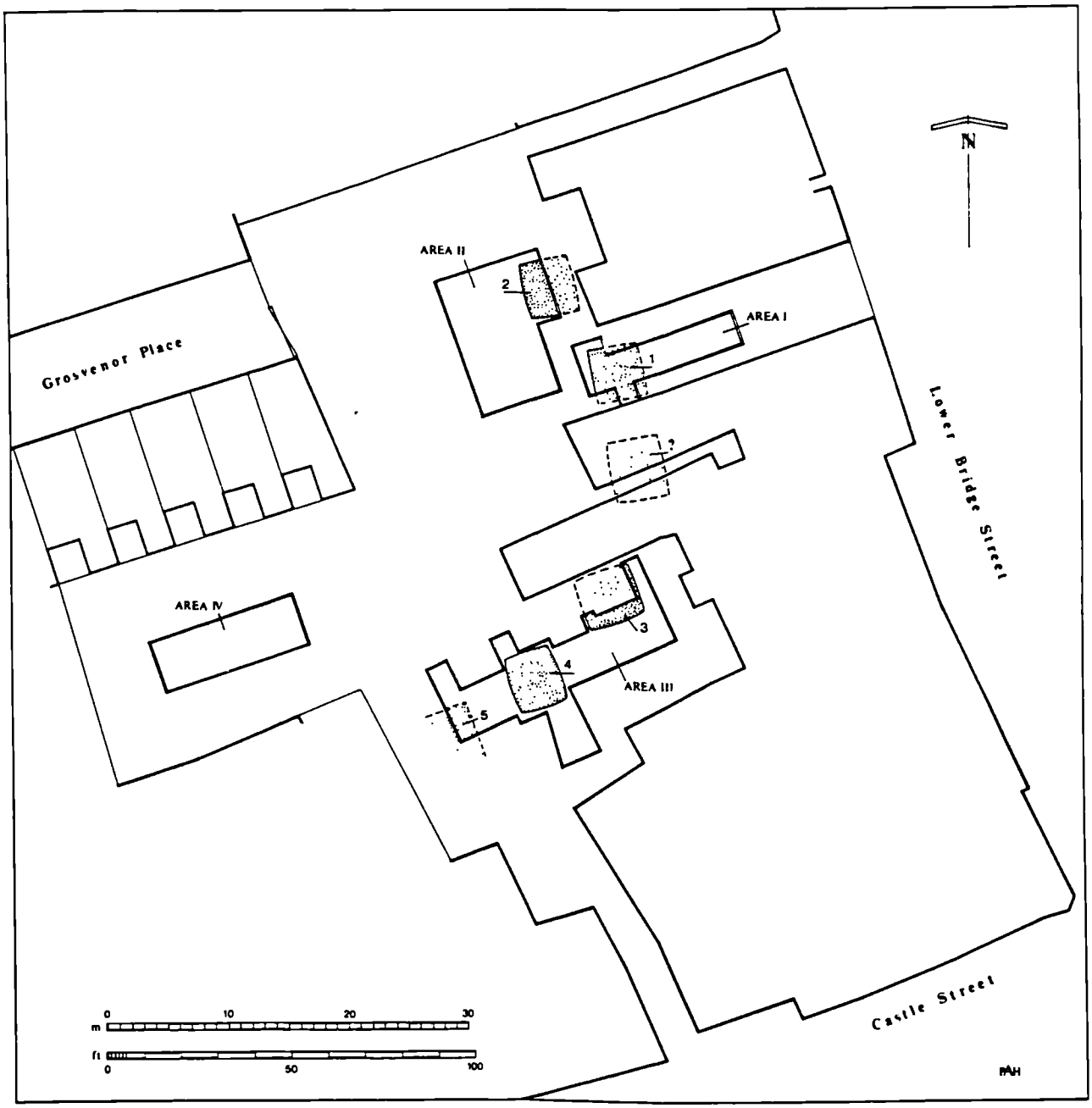


Figure 51: Lower Bridge Street (gaz 4.28)

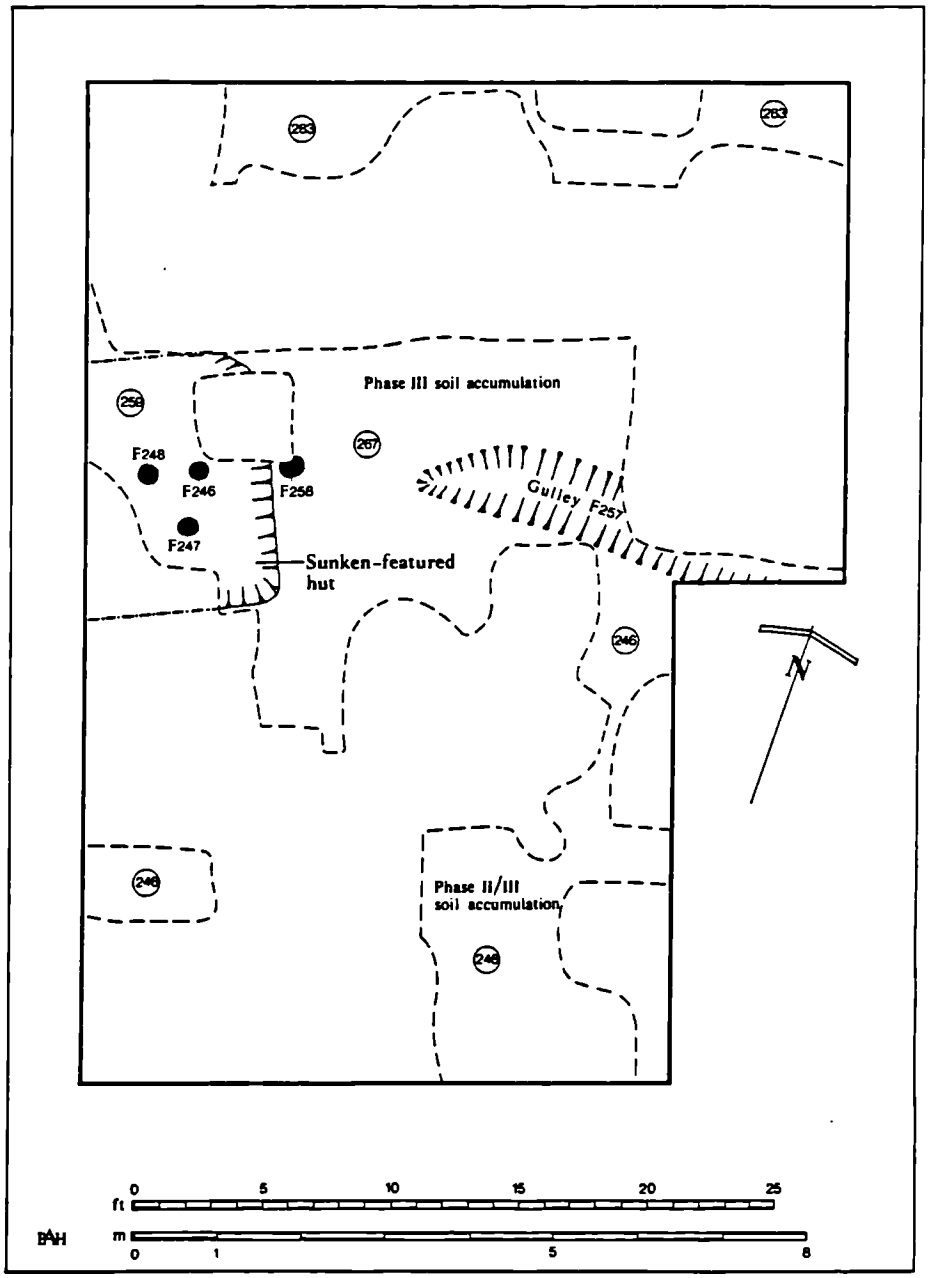


Figure 52: Lower Bridge Street: Phase III

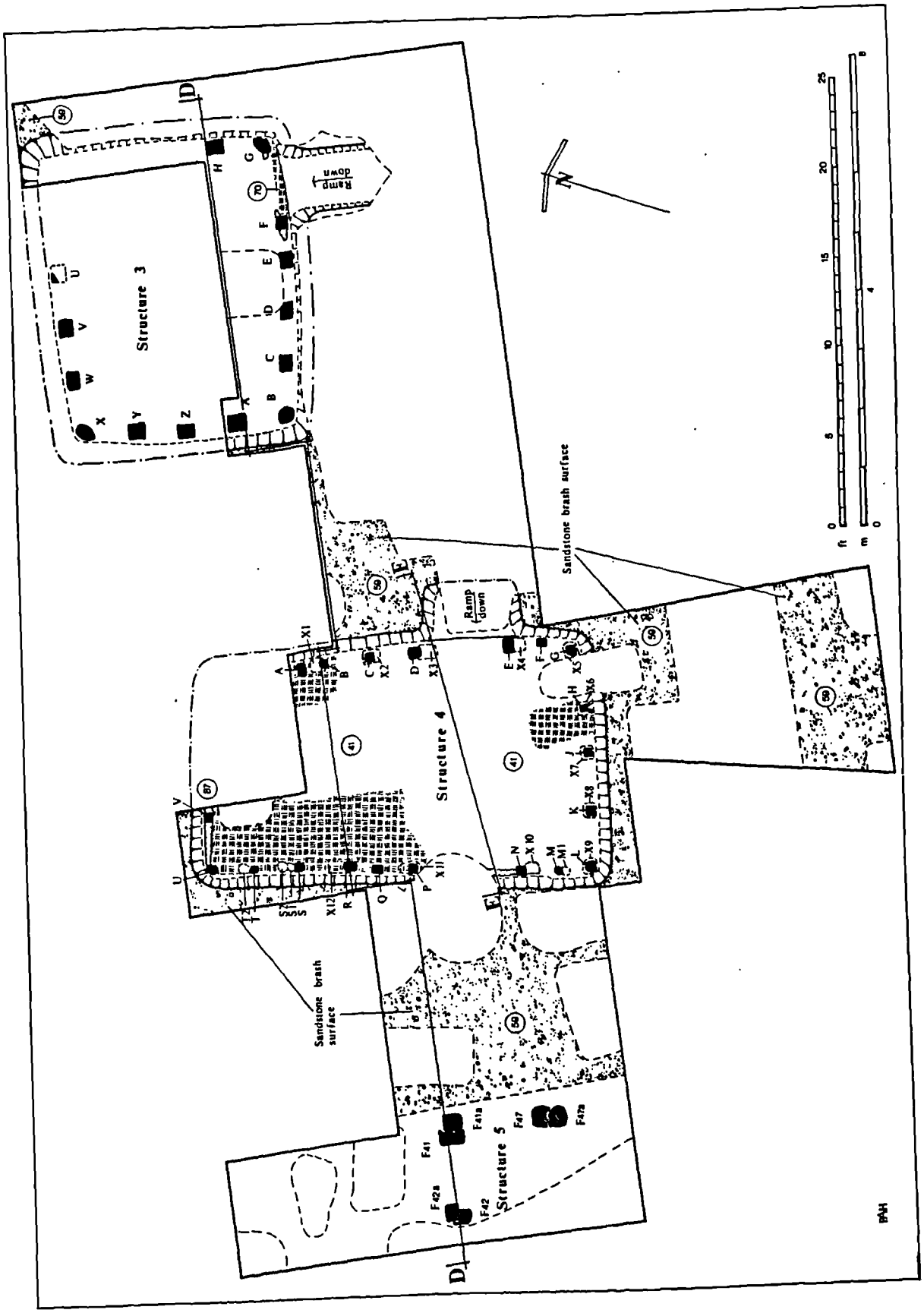


Figure 53: Lower Bridge Street: Phase IV, Area III

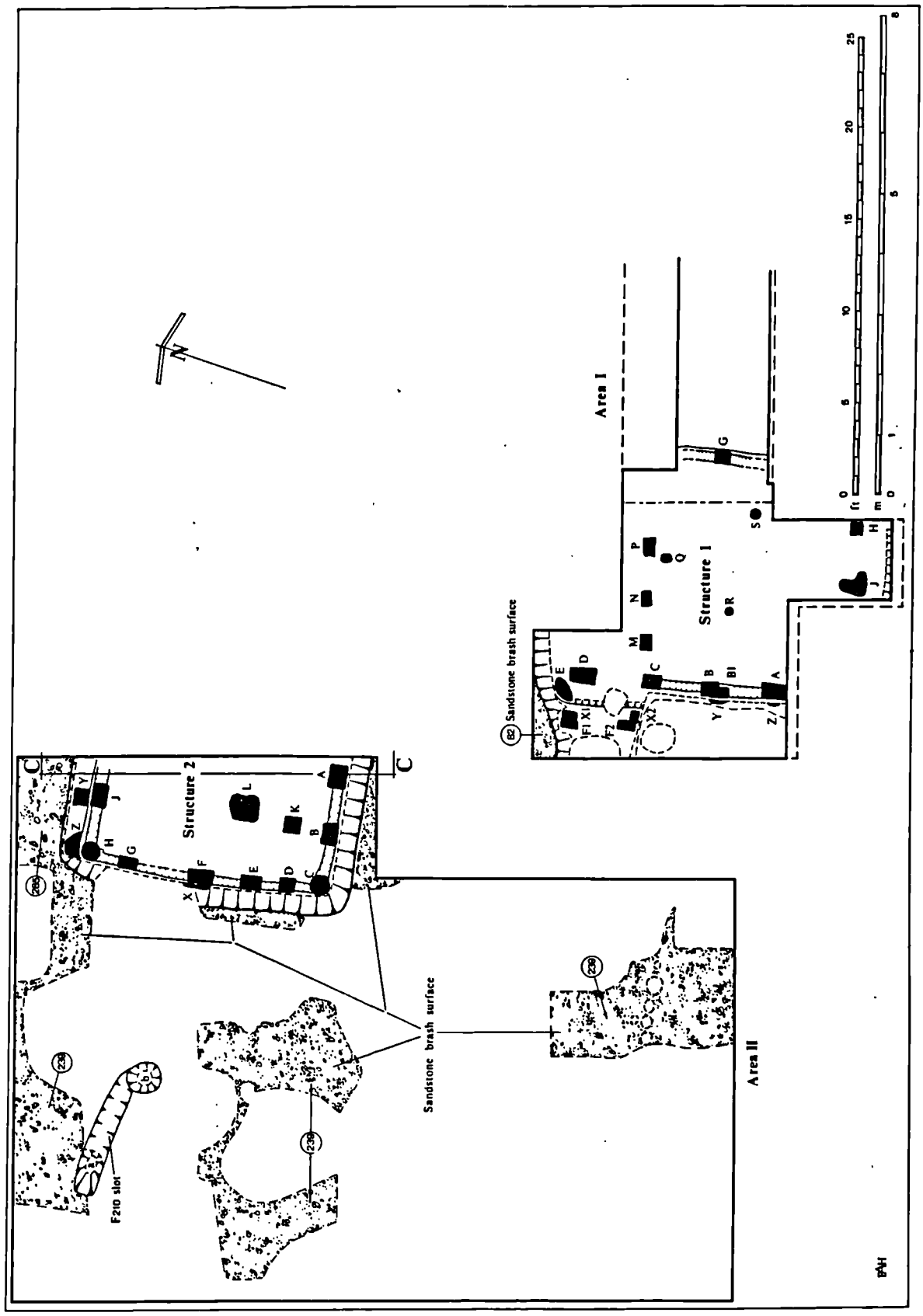


Figure 54: Lower Bridge Street: Phase IV, Areas I,II

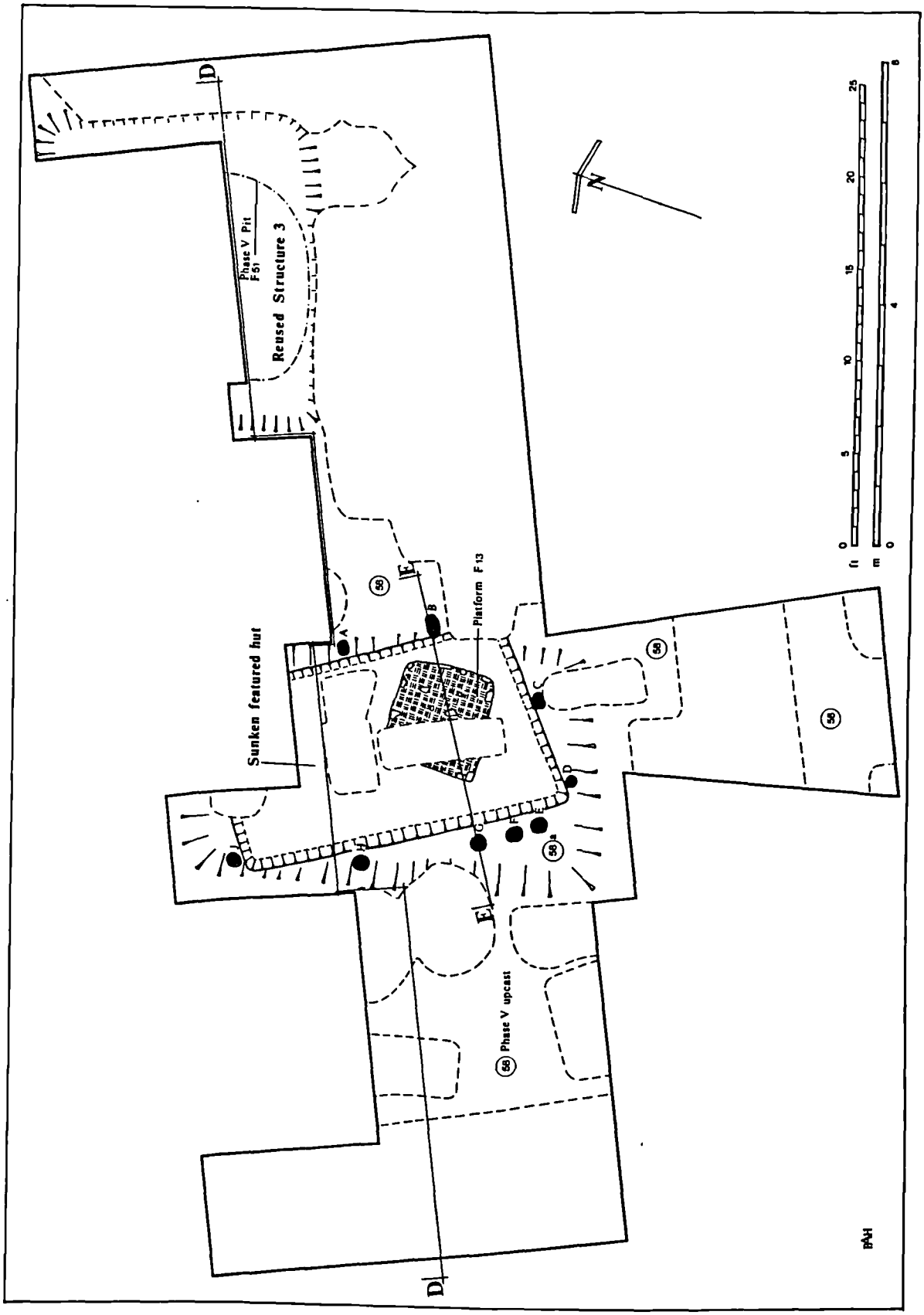


Figure 55: Lower Bridge Street: Phase V, Area III

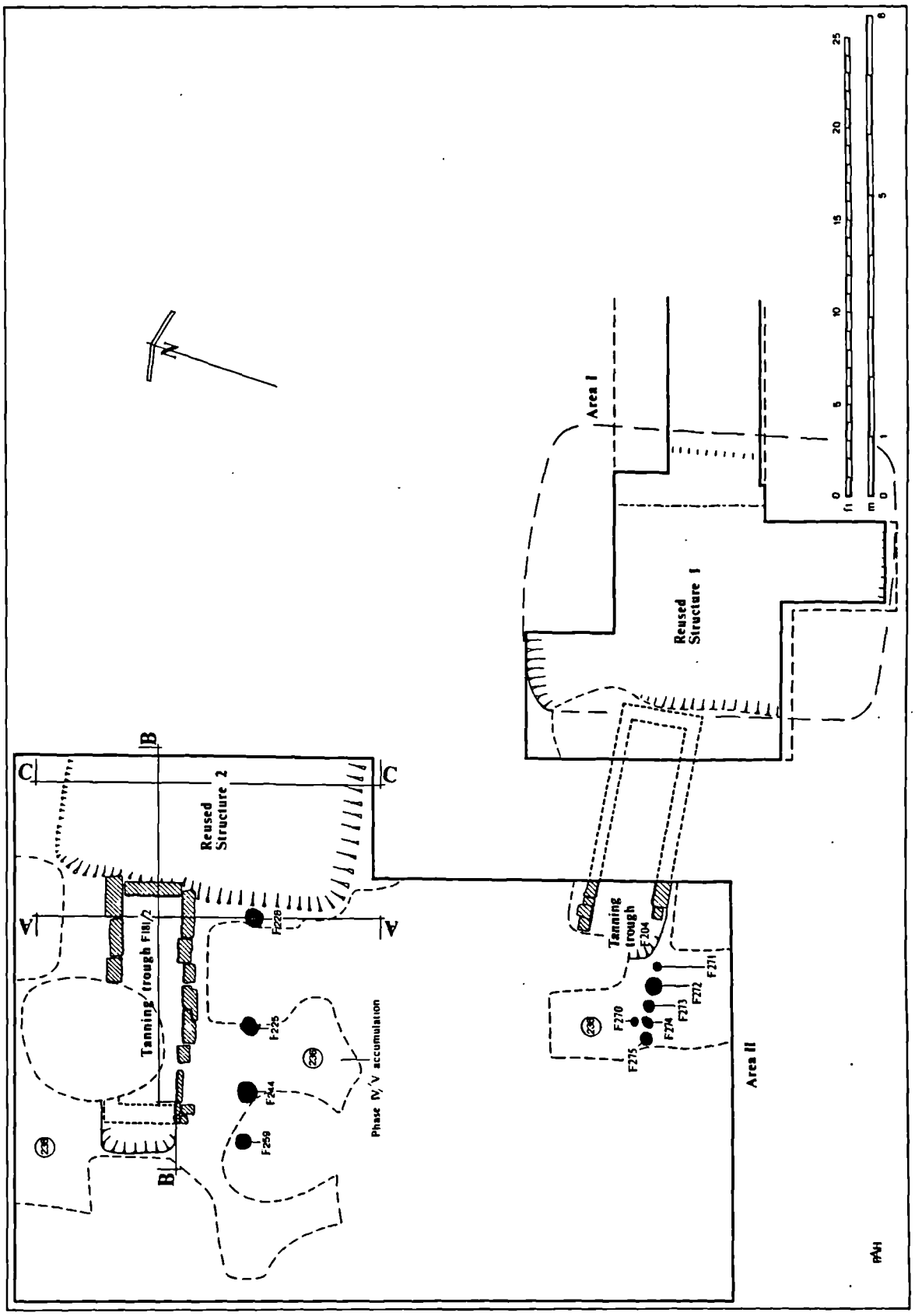
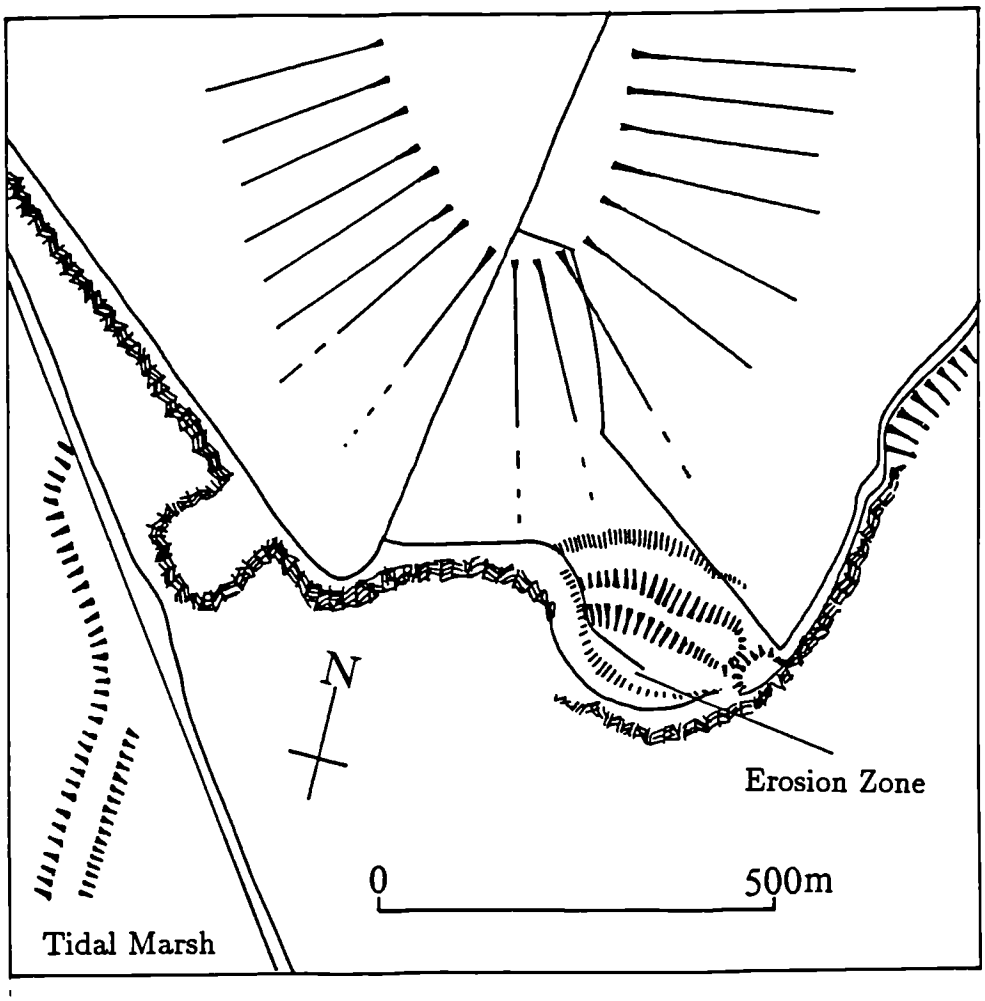


Figure 56: Lower Bridge Street: Phase V, Areas I, II



Surveys: D.M.T. Longley 1987, author 1990.

Figure 57: Burton Point (gaz 5.1)

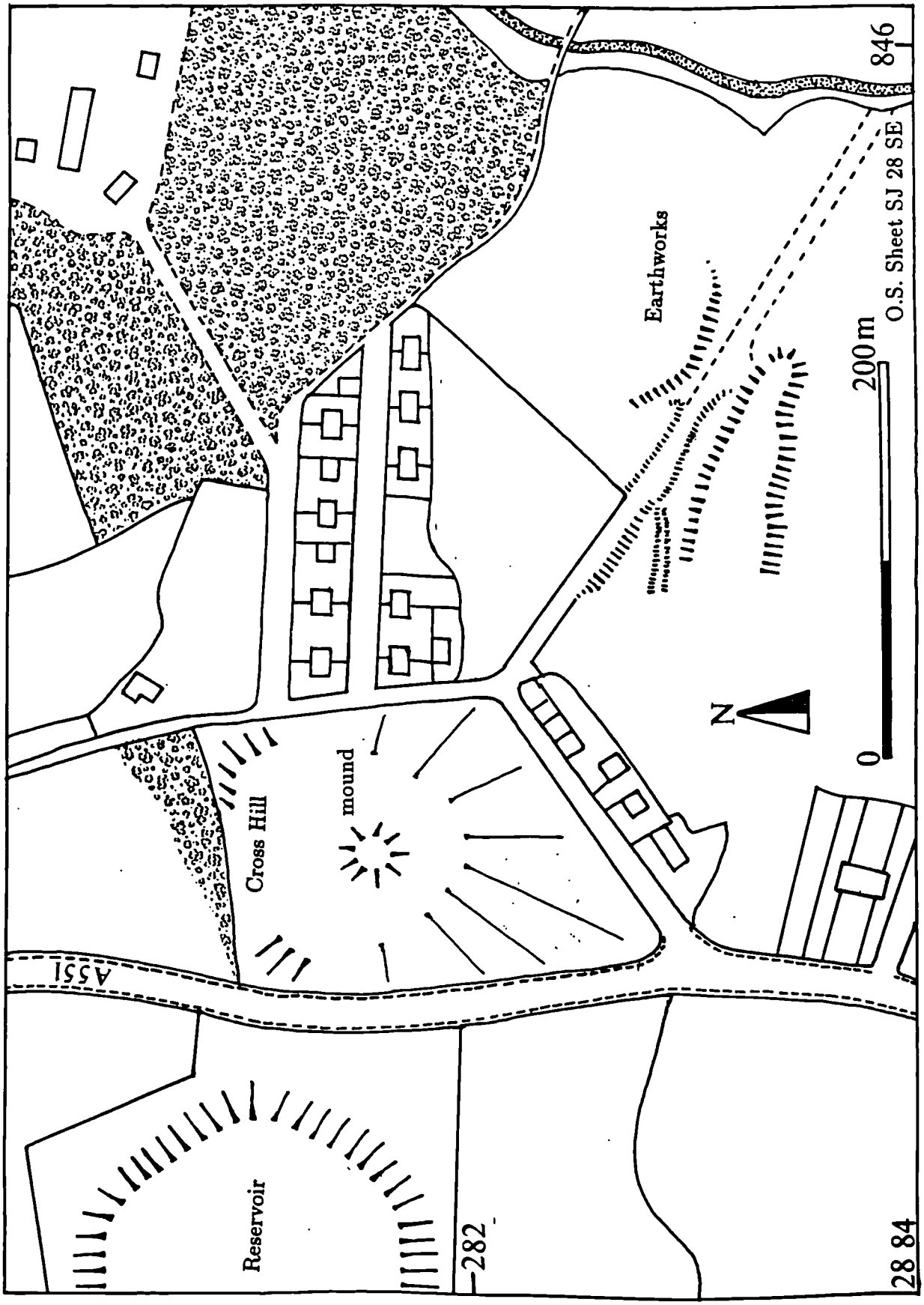


Figure 58: Thingwall (gaz 5.5, 5.6)

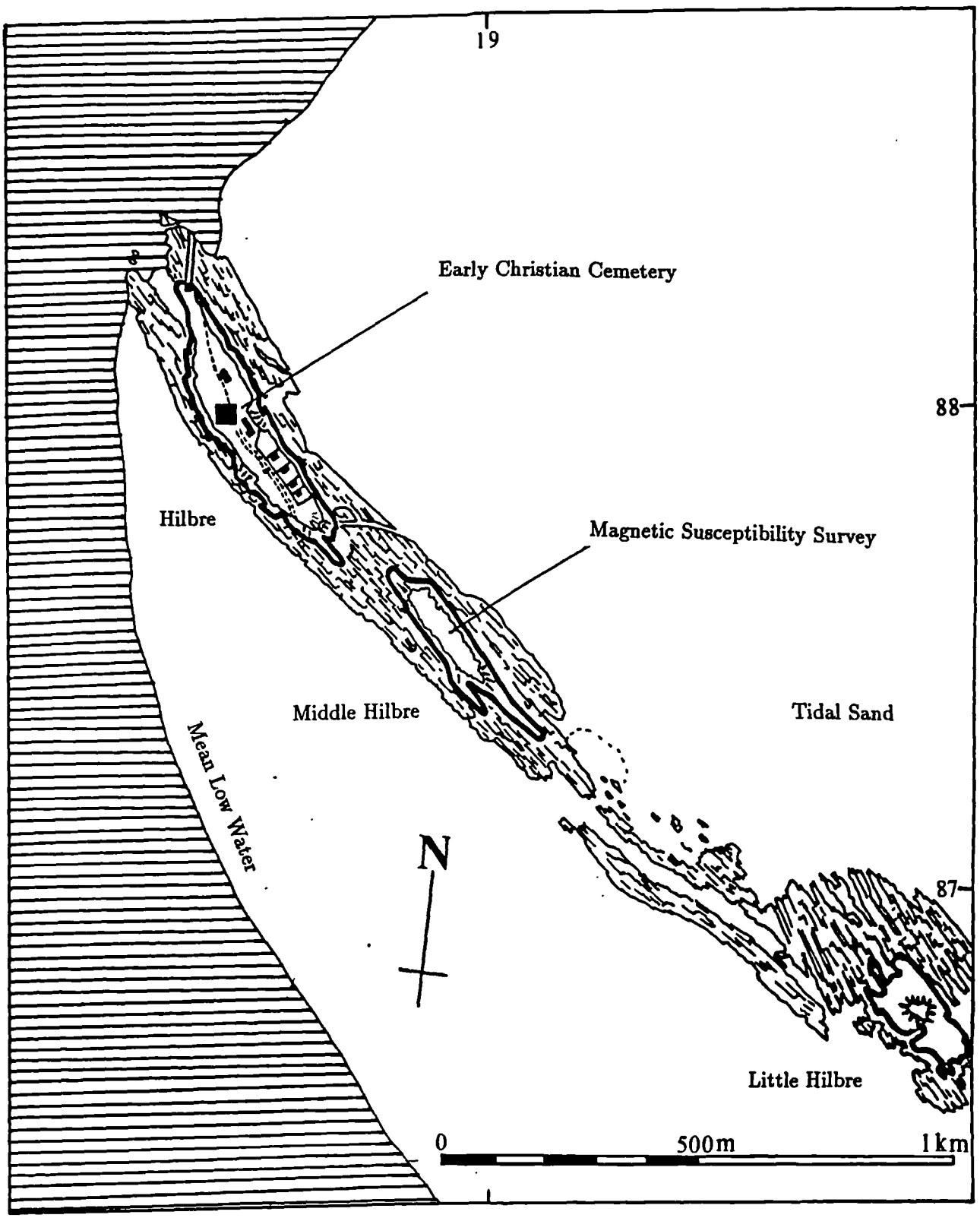
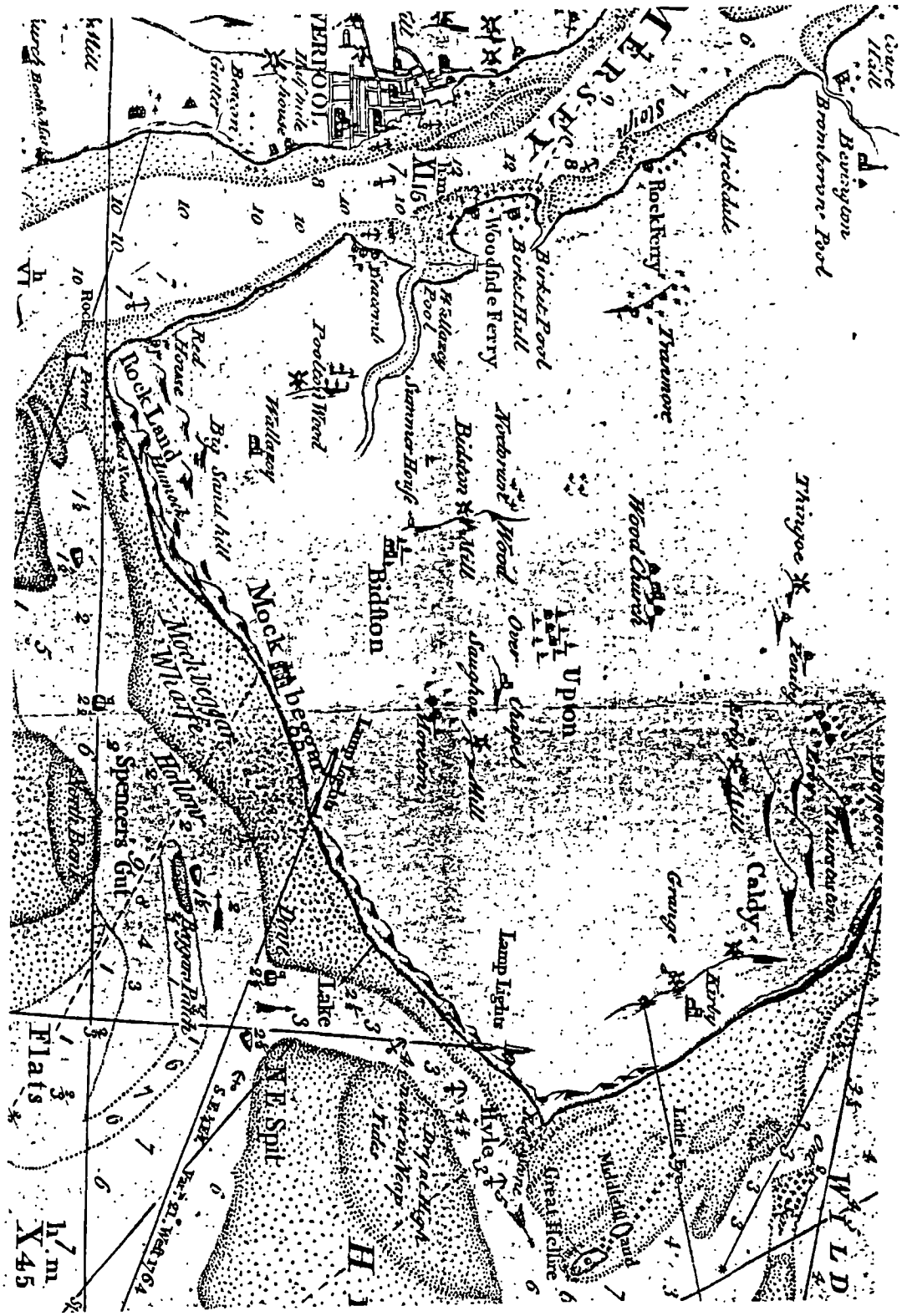


Figure 59: Hilbre (gaz 5.11)


Bromborrow Pool
Brickdale
Rock Ferry
Thingoe
Wood Church
Birket Pool
Woodside Ferry
Poulton Wood
Wallasey
Big Sand Hill
Rock Land
Red House
Bidston
Mock Beggar Hall
Mock Beggar Wharfe
Spencer's Gut
Lamp Lights
Upton
Caldy
Grange
Kirkby
Hyle
Great Hellire
Middle Hill Quand
Little Eye
Dry Rock
Tide
Lake
NE Spit
Flats
Pass. Marks
Ferry
Pool
Summer House
Over
Wood
Hill
Sawhoe
Hill
Lamp Lights
Ferry
Grange
Little Eye
Great Hellire
Middle Hill Quand
Dry Rock
Tide
Lake
NE Spit
Flats
Pass. Marks
Spencer's Gut
Mock Beggar Hall
Mock Beggar Wharfe
Rock Land
Red House
Big Sand Hill
Wallasey
Poulton Wood
Bidston
Summer House
Pool
Woodside Ferry
Birket Pool
Rock Ferry
Thingoe
Wood Church
Upton
Caldy
Kirkby
Hyle
Great Hellire
Middle Hill Quand
Little Eye

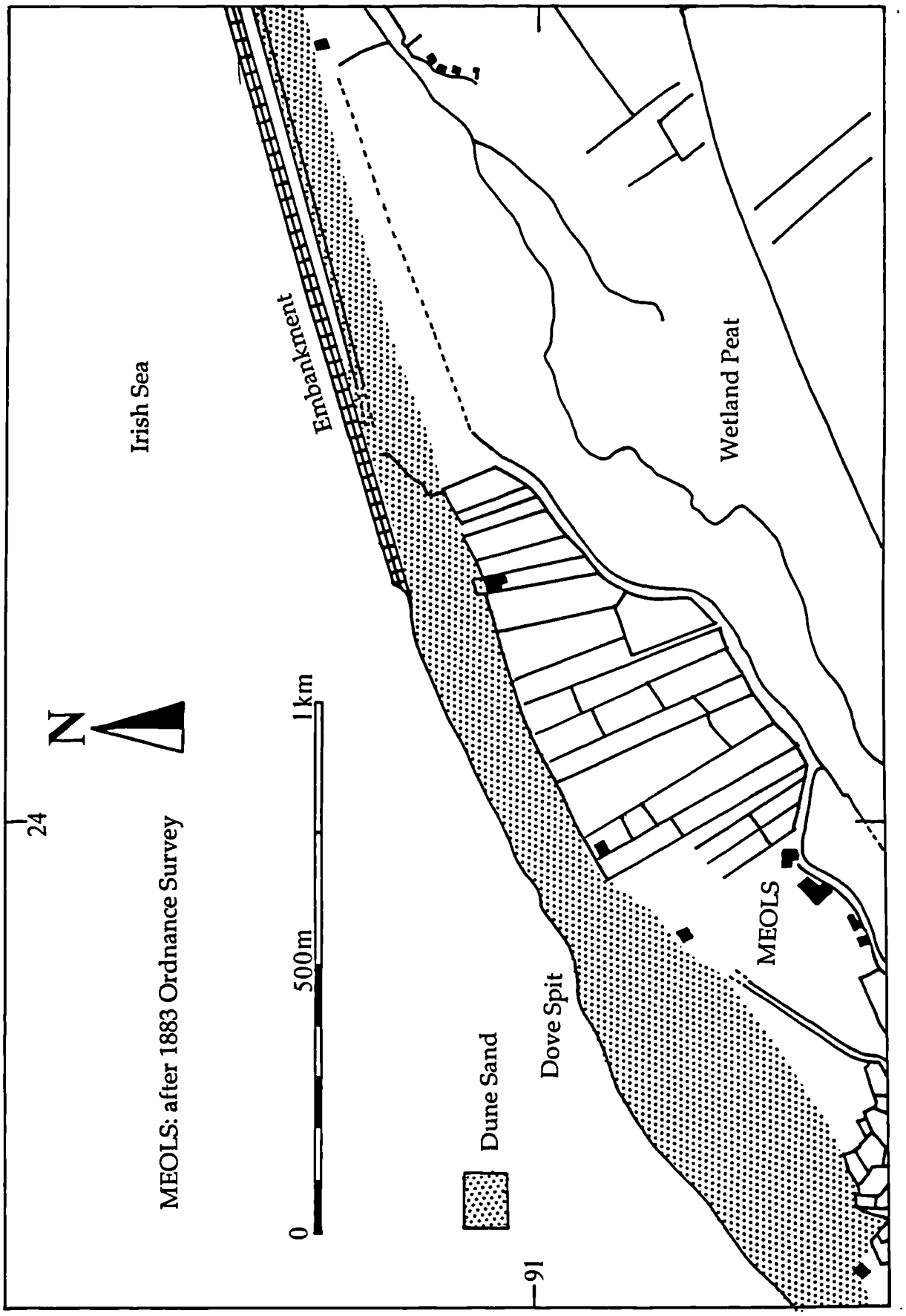


Figure 61: Meols: 1883 Ordnance Survey

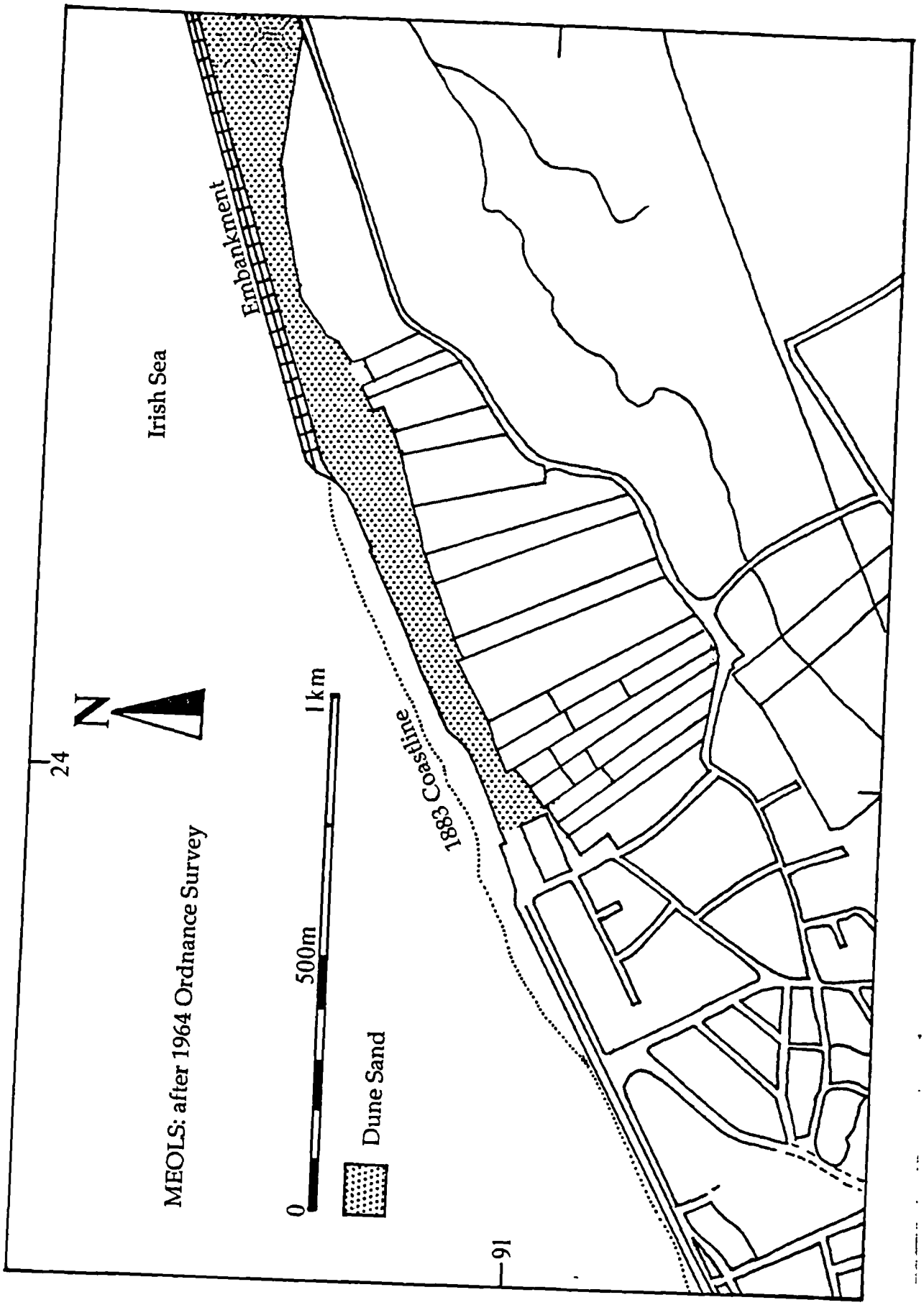
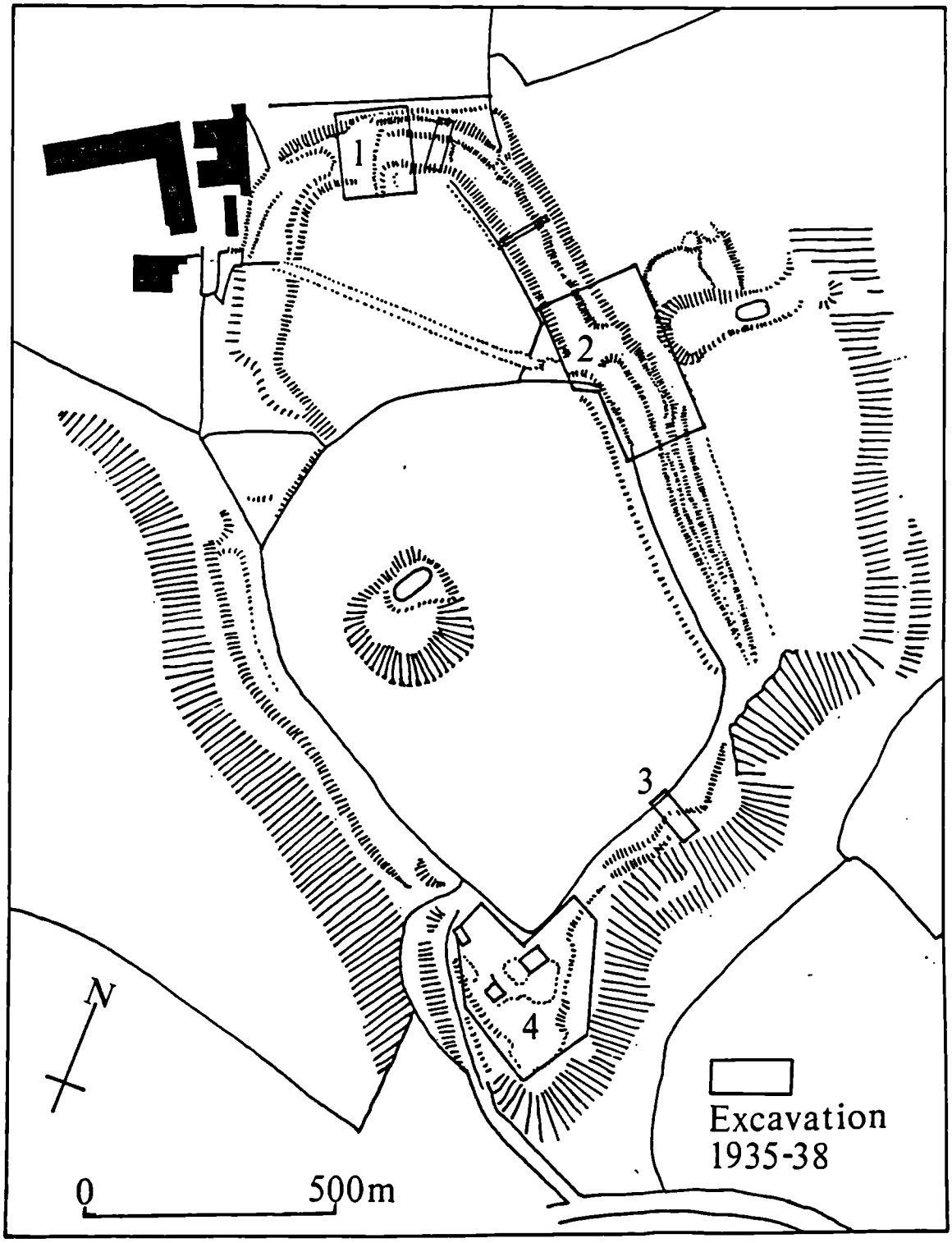


Figure 62: Meols: 1964 Ordnance Survey



after R.C.H.M.E.

Figure 63: Castle Ditch Hillfort, Eddisbury (gaz 6.3)

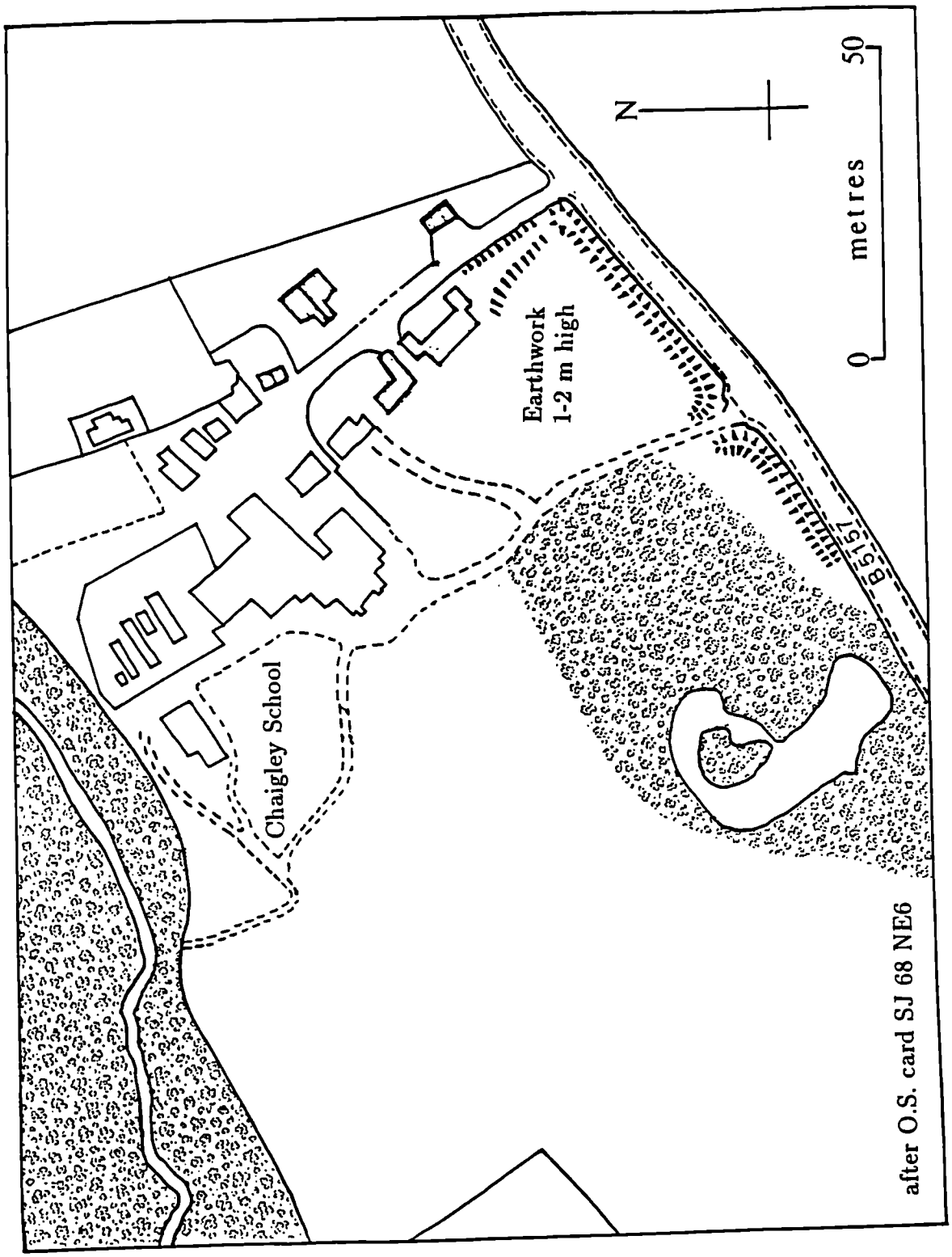


Figure 64: Grappenhall (Thelwall), gaz 7.4

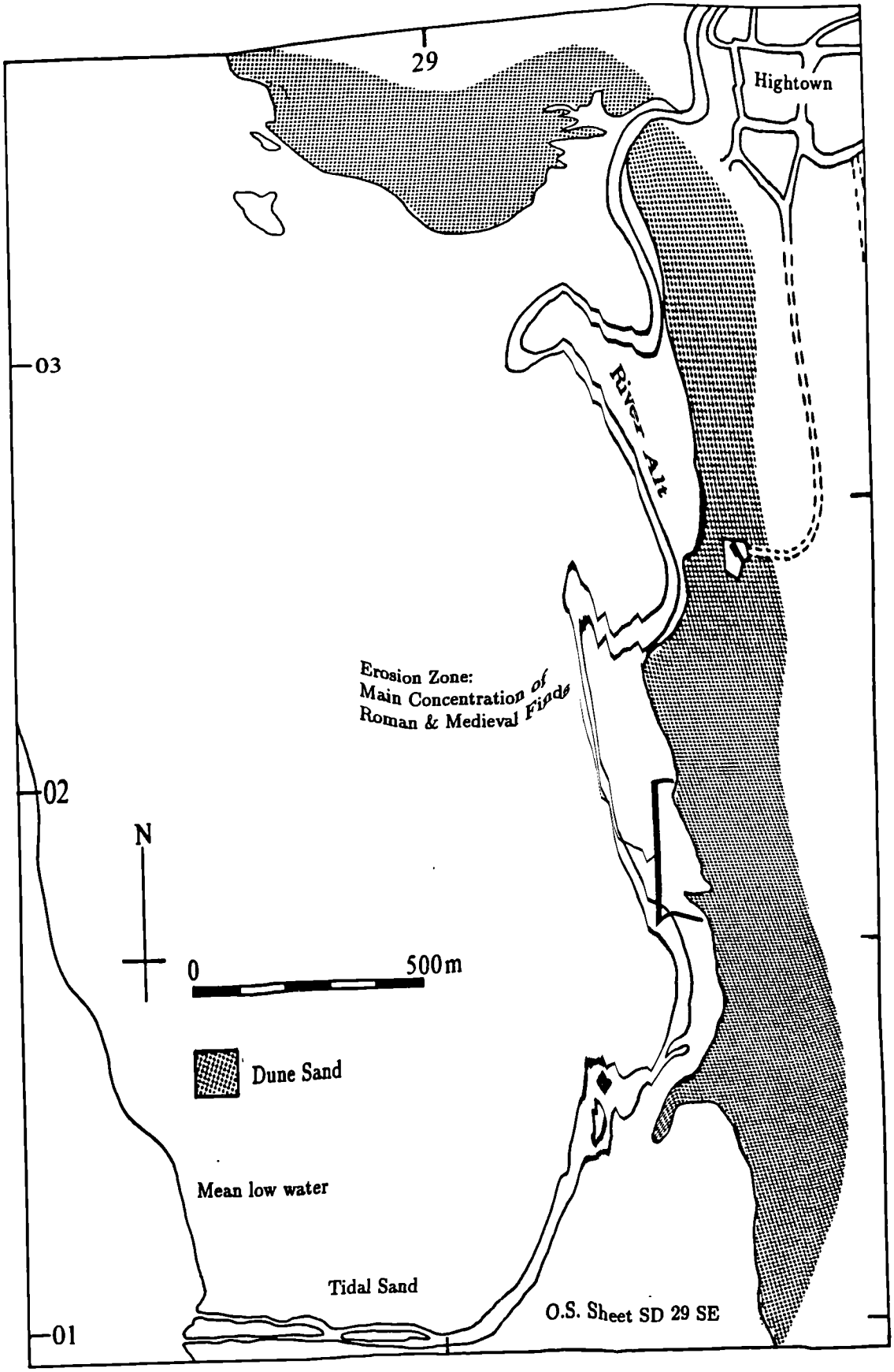
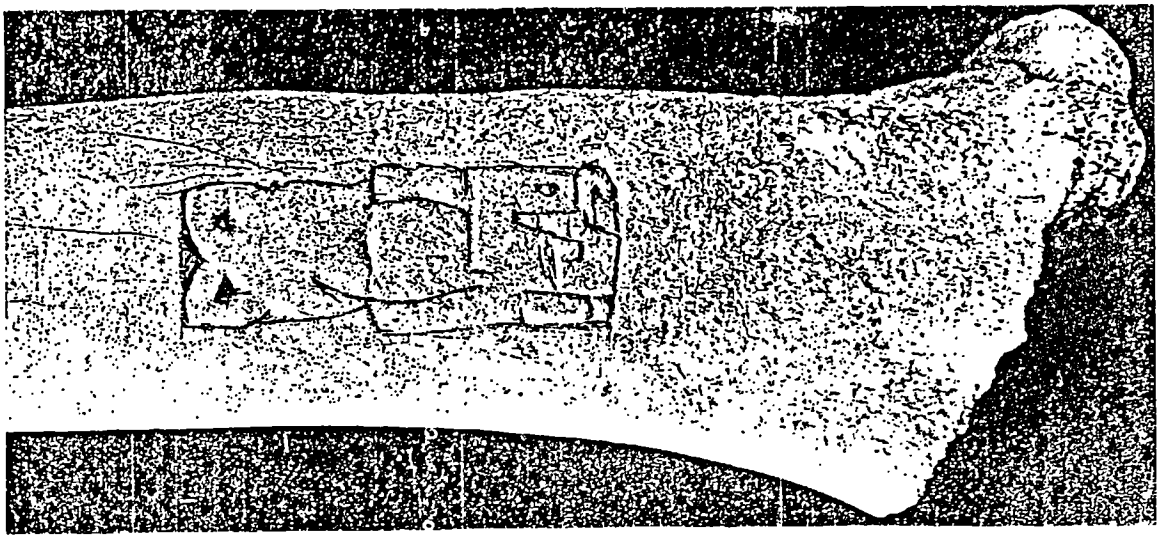
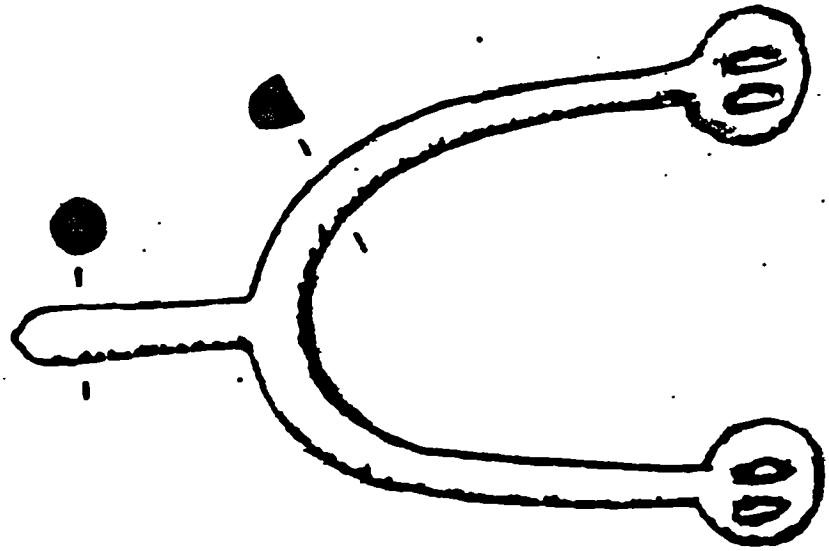


Figure 65: Altmouth (gaz 10.8)

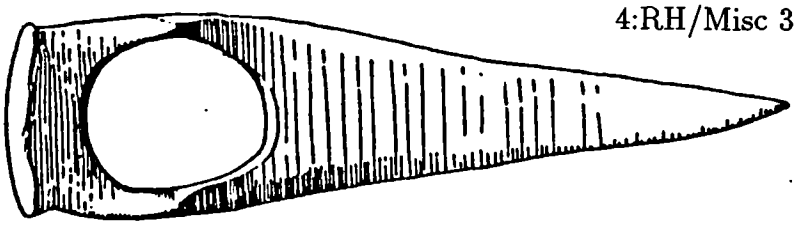


2:RH/Misc 1



3:RH/Misc 2

4:RH/Misc 3



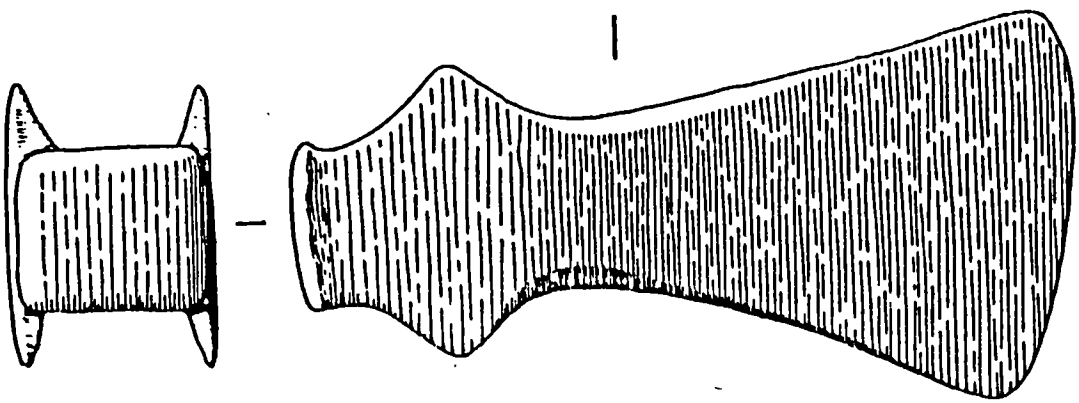
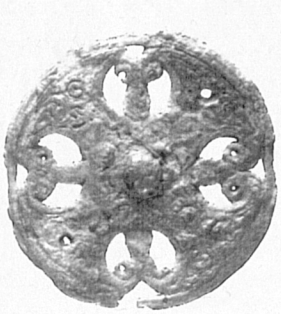


Plate 1: Rhuddlan



11:CHE/BH1



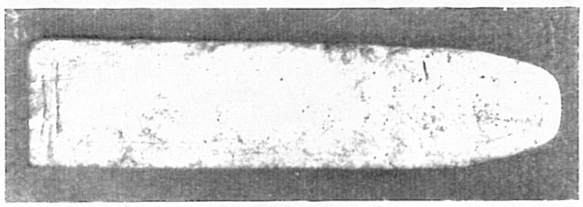


12:CHE/BH2

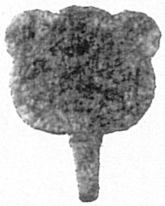


13:CHE/ST1





14:CHE/ST2



15:CHE/HT1



16:CHE/HT2



17:CHE/HT3



18:CHE/HT4



19:CHE/HT5

Plate 2: Chester; Brooches, Strap Terminals, Hooked Tags

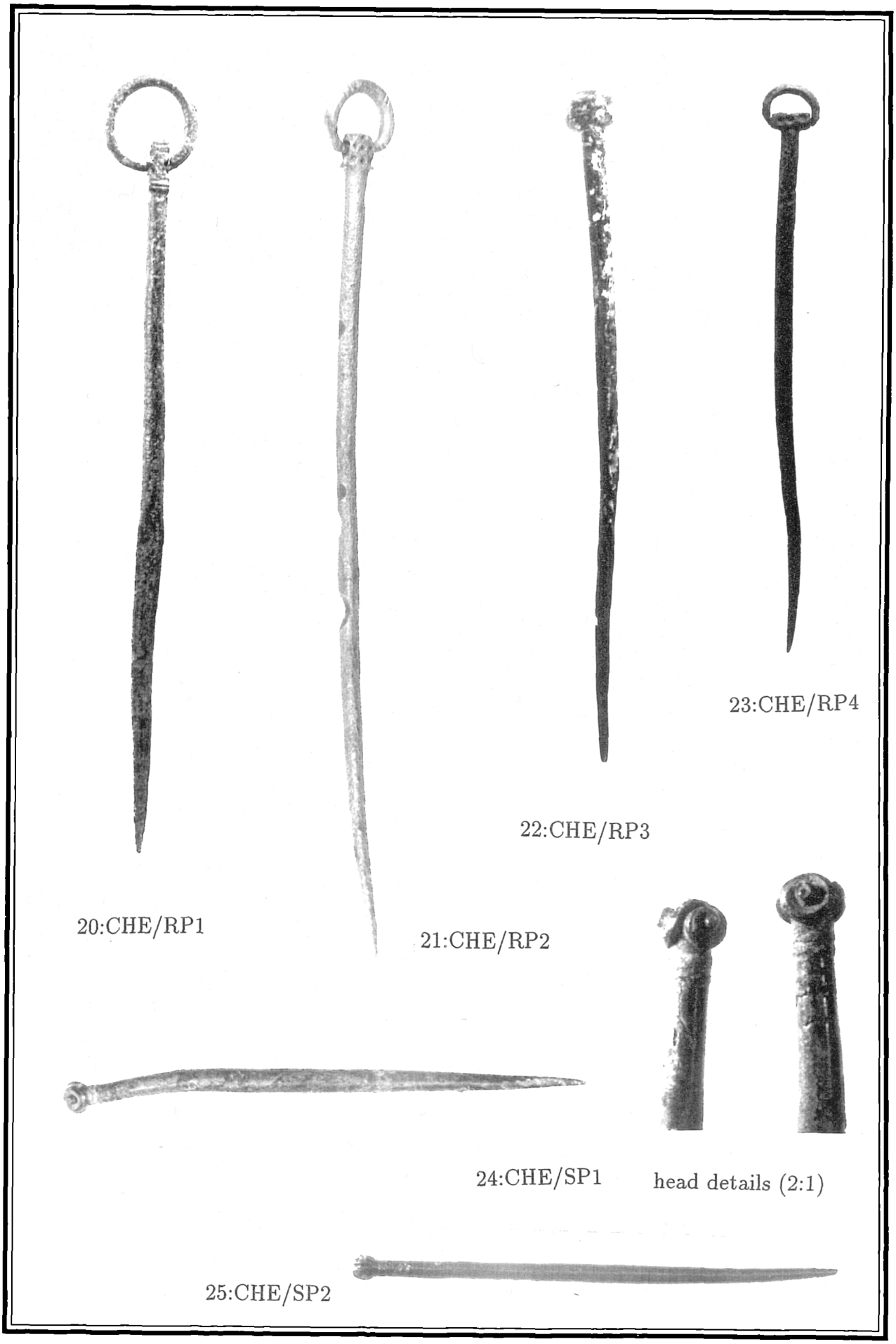


Plate 3: Chester; Pins



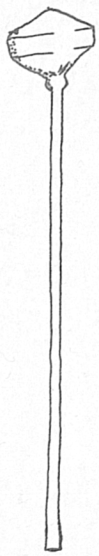
26:CHE/SP3 (2:1)



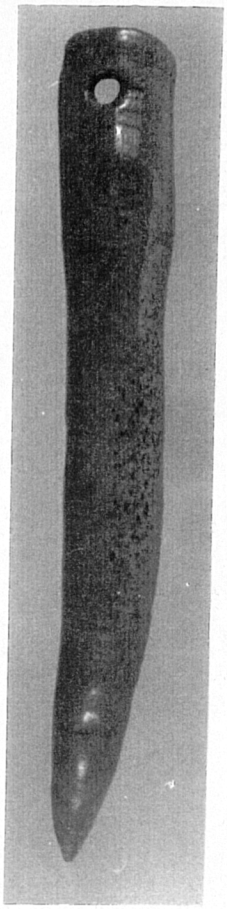
27:CHE/SP4



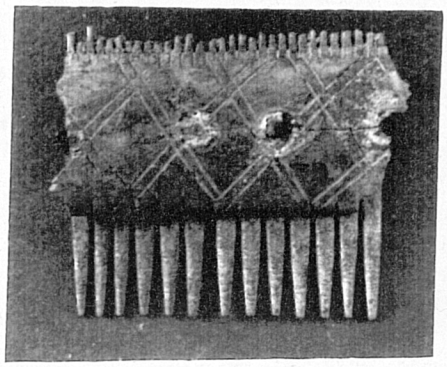
28:CHE/SP5



29:CHE/SP6



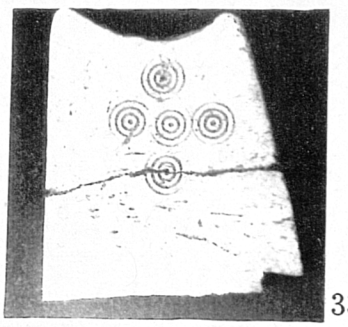
30:CHE/SP7



31:CHE/CF1



32:CHE/CF2

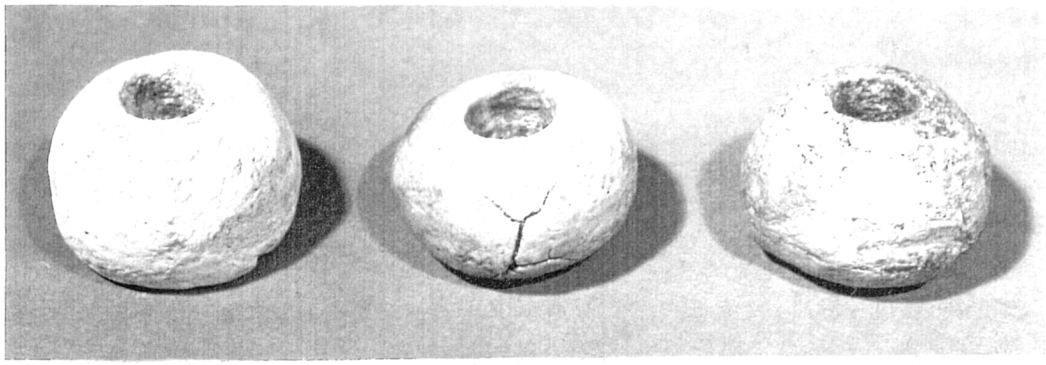


33:CHE/CF3

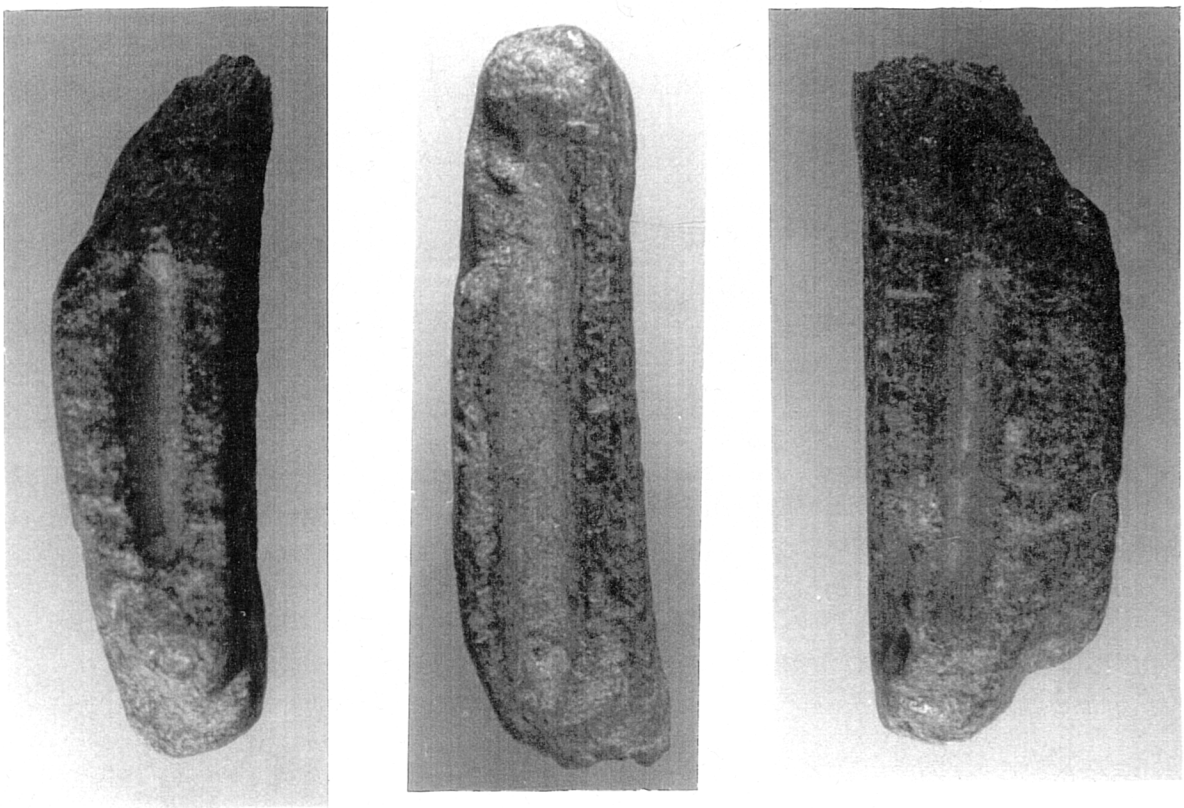


34:CHE/CF4

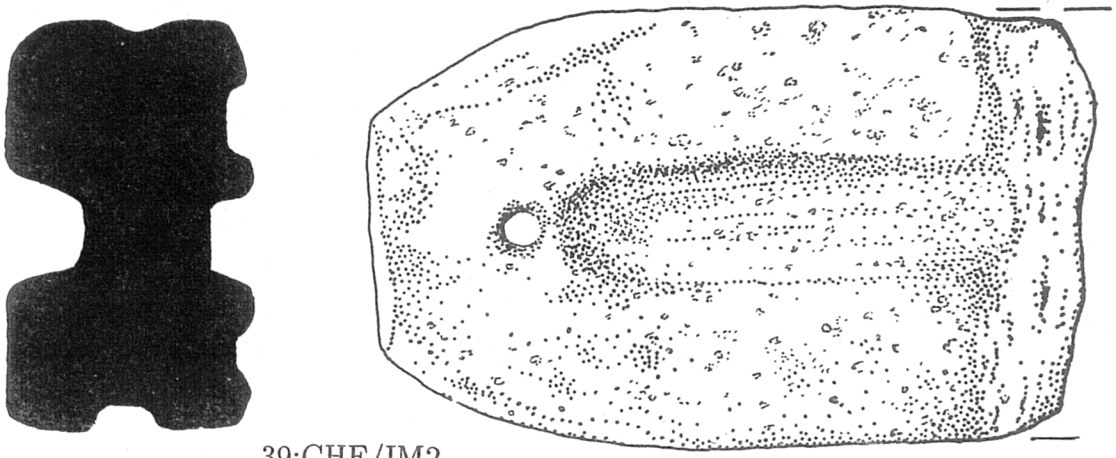
Plate 4: Chester; Pins, Combs



35:CHE/SW1 36:CHE/SW2 37:CHE/SW3

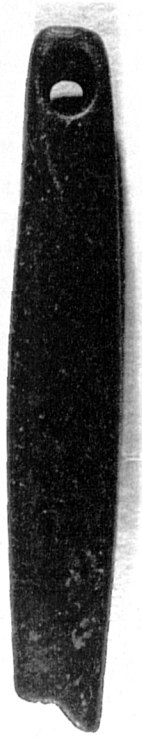


38:CHE/IM1

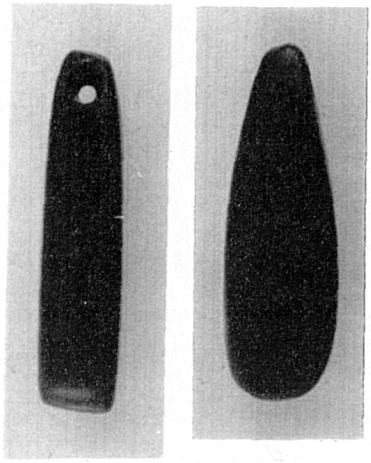


39:CHE/IM2

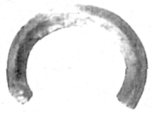
Plate 5: Chester; Spindle Whorls, Ingot Moulds



40:CHE/WH1



41:CHE/WH2



42:CHE/Misc 1



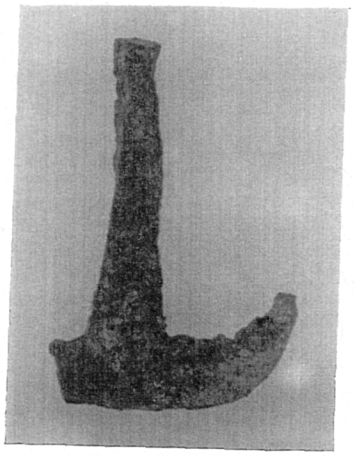
43:CHE/Misc 2



45:CHE/Misc 4 (1:2)

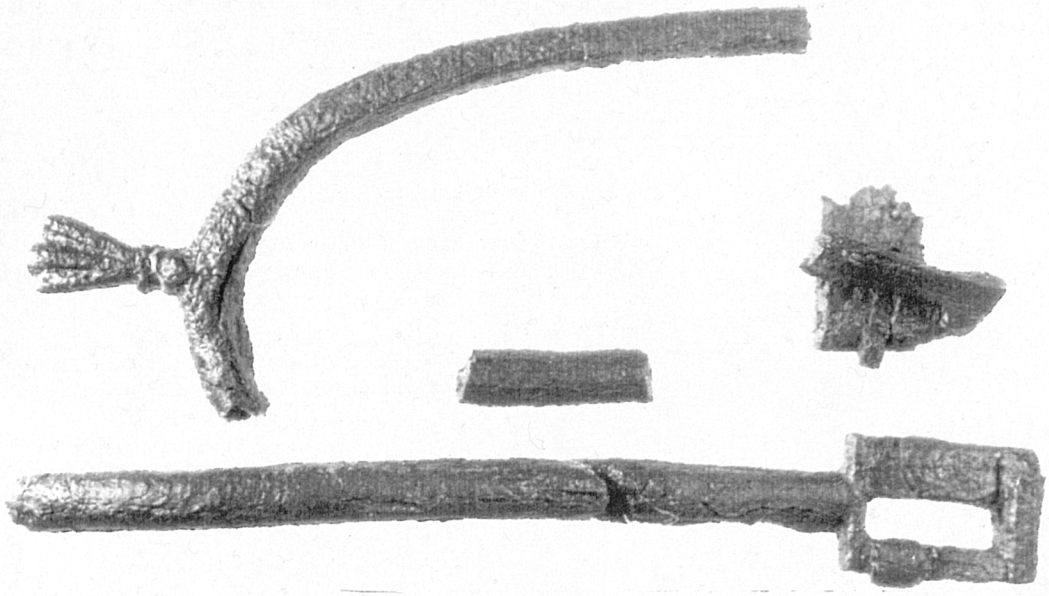


47:CHE/Misc 6

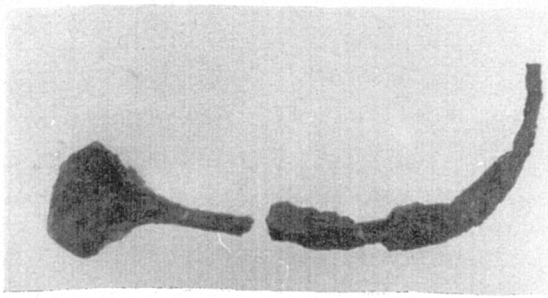


44:CHE:Misc 3

Plate 6: Chester; Whetstones and Miscellaneous



46:CHE/Misc 5



50:CHE/Misc 9



53:CHE/Misc 12



55:CHE/Misc 14

Plate 7: Chester; Miscellaneous



78:M/BL1



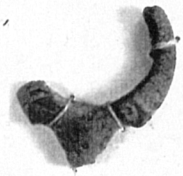
79:M/BL2



80:M/BL3



81:M/BL4



82:M/BL5



83:M/BL6



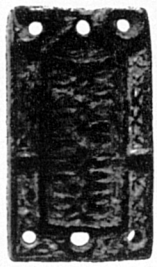
84:M/BL7



85:M/BL8



86:M/BL9



87:M/MT1



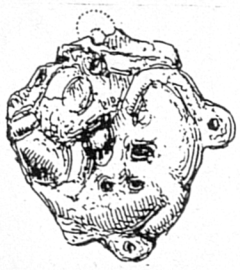
88:M/MT2



89:M:MT3



90:M/MT4



91:M/MT5

Plate 8: Meols; Buckles, Mounts

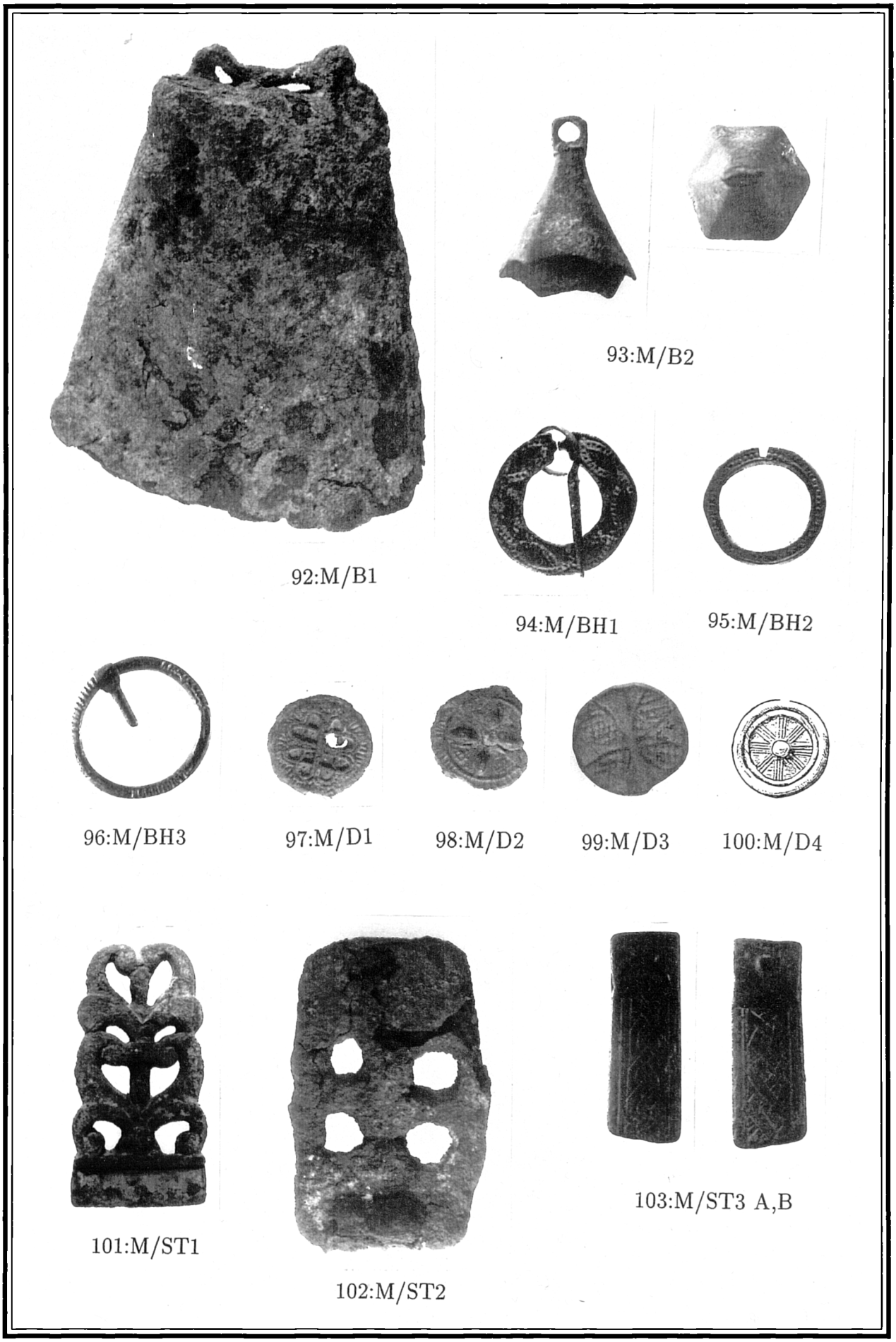


Plate 9: Meols; Bells, Brooches, Discs, Strap Terminals

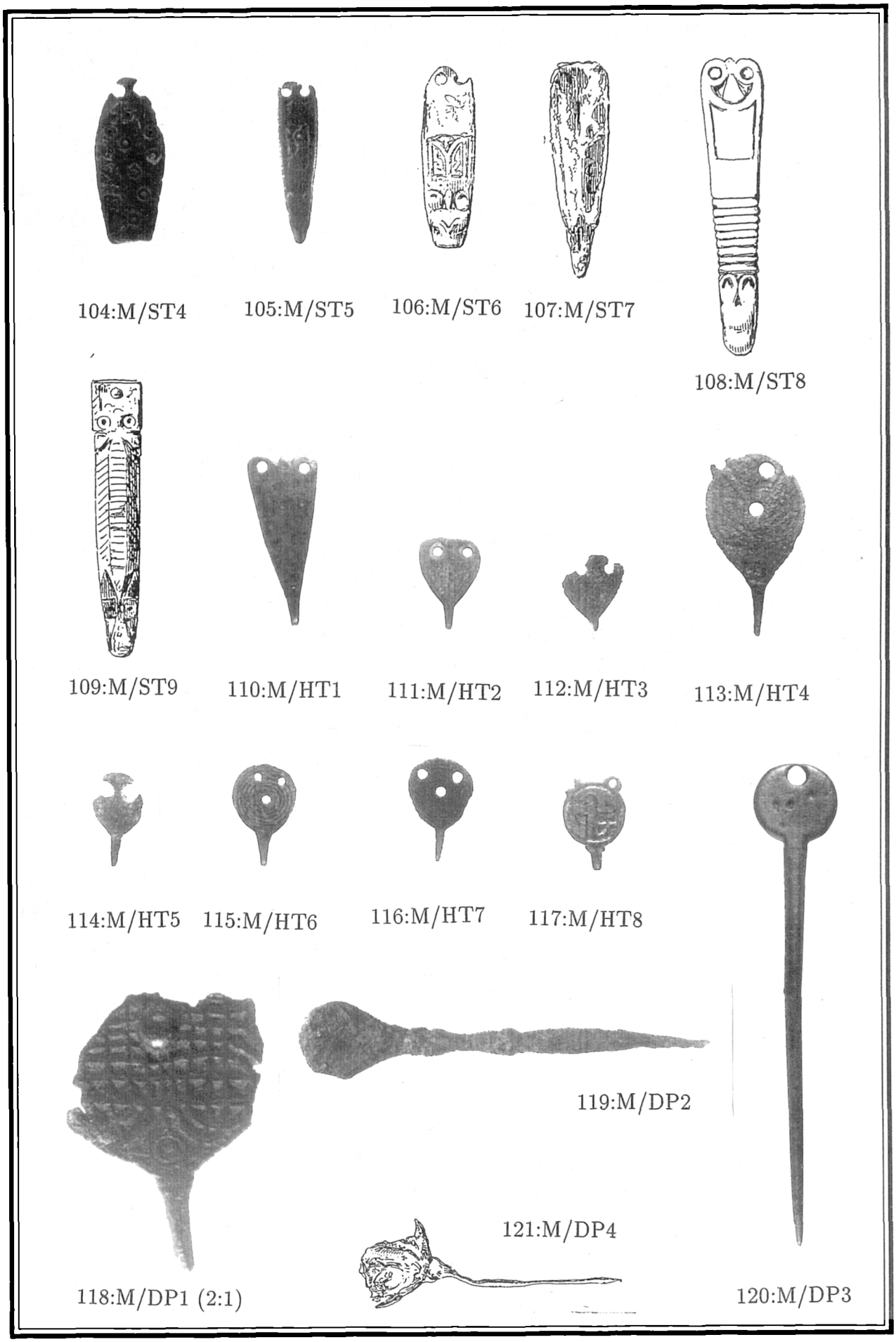


Plate 10: Meols; Strap Terminals, Hooked Tags, Disc Pins



122:M/RP1



123:M/RP2



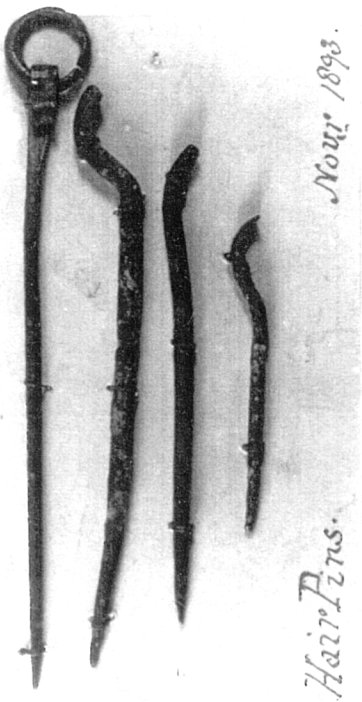
124:M/RP3



125:M/RP4



126:M/RP5



From left:
127:M/RP6
152:M/SP12
153:M/SP13
154:M/SP14

Plate 11: Meols; Pins

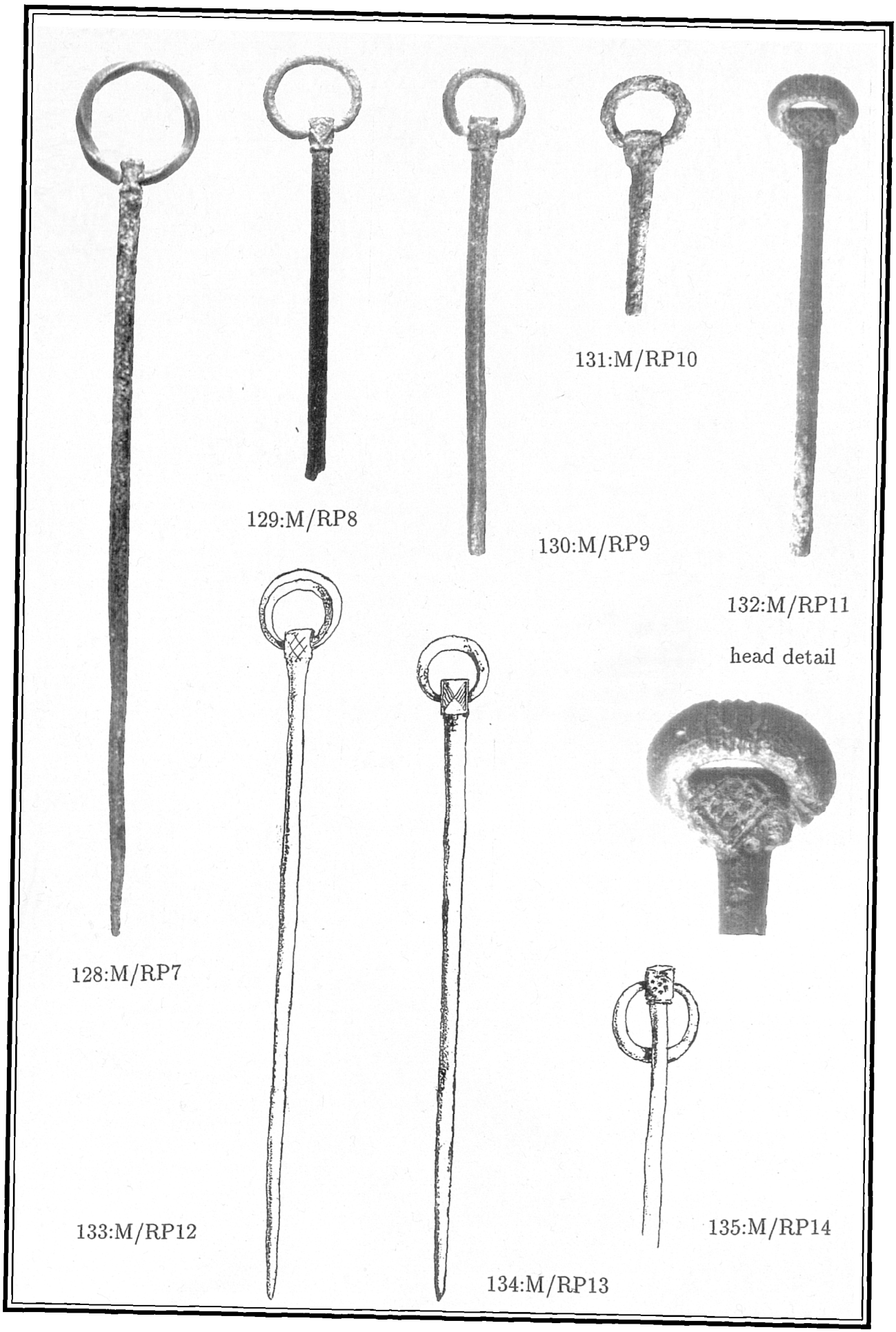


Plate 12: Meols; Pins

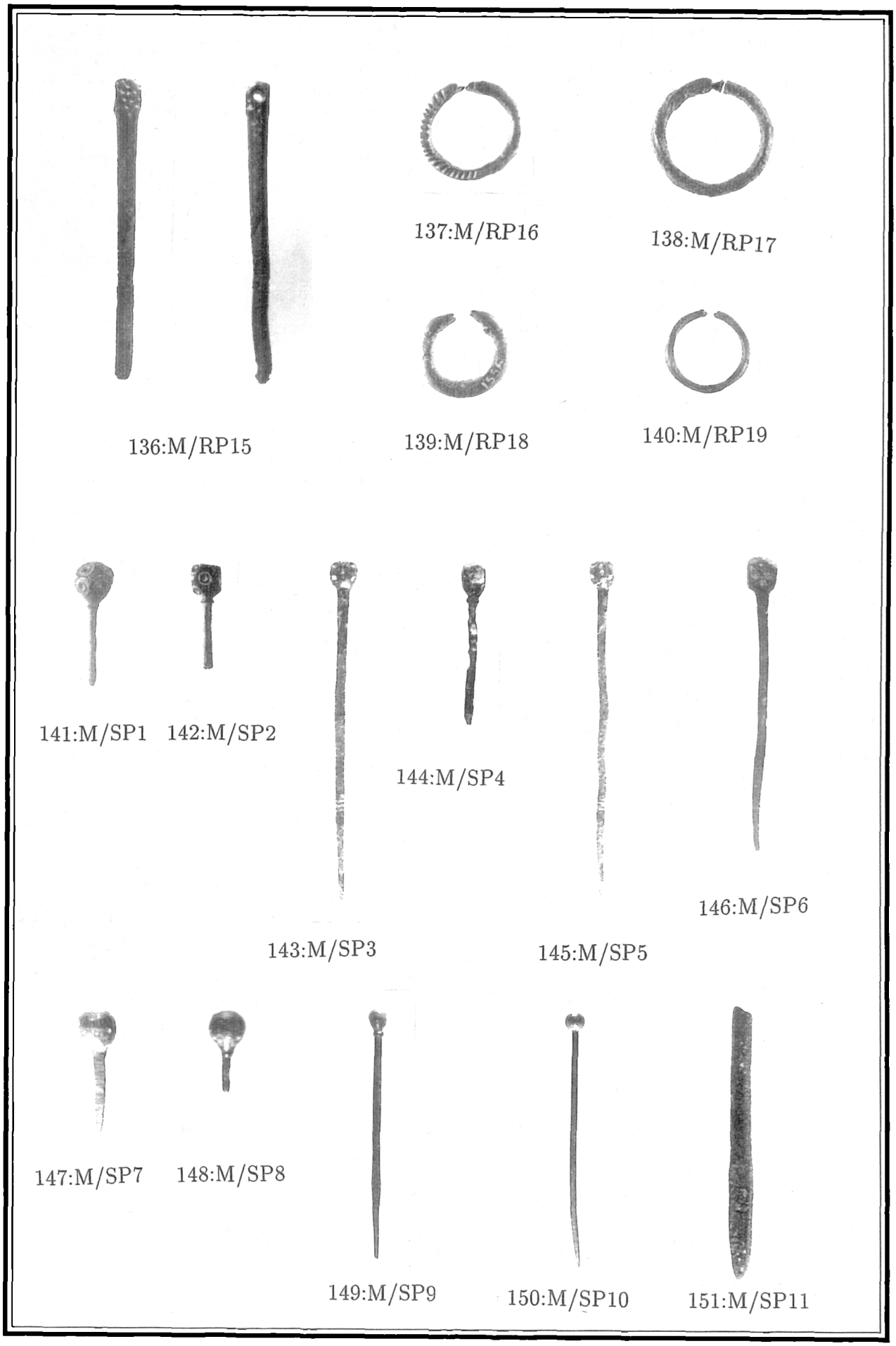


Plate 13: Meols; Pins



155:M/SP15



156:M/SP16



157:M/SW1



162:M/Misc 1



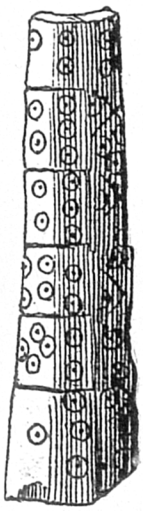
158:M/SW2



163:M/Misc 2



164:M/Misc 3



165:M/Misc 4



168:M/Misc 7

Plate 14: Meols; Pins and Miscellaneous

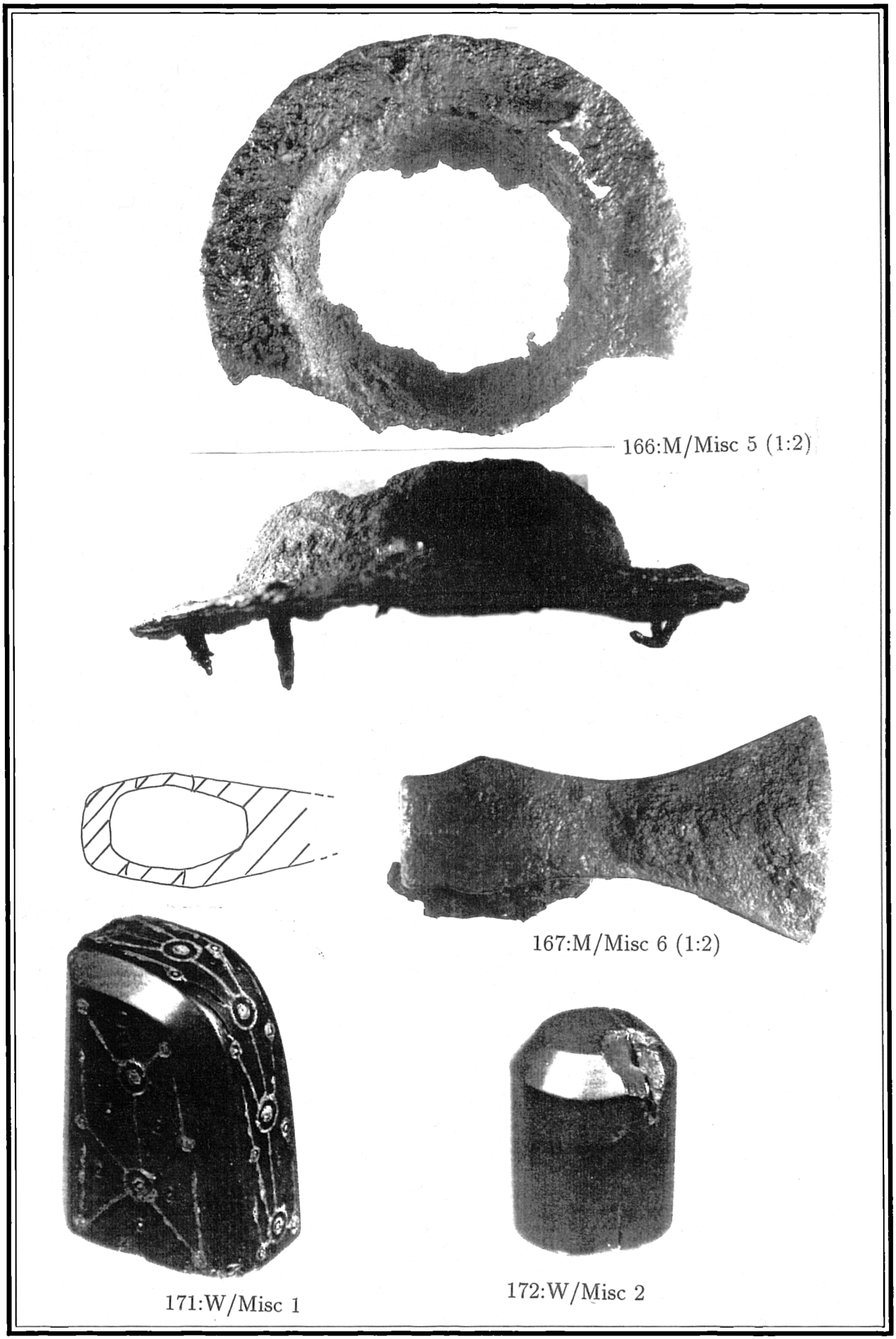
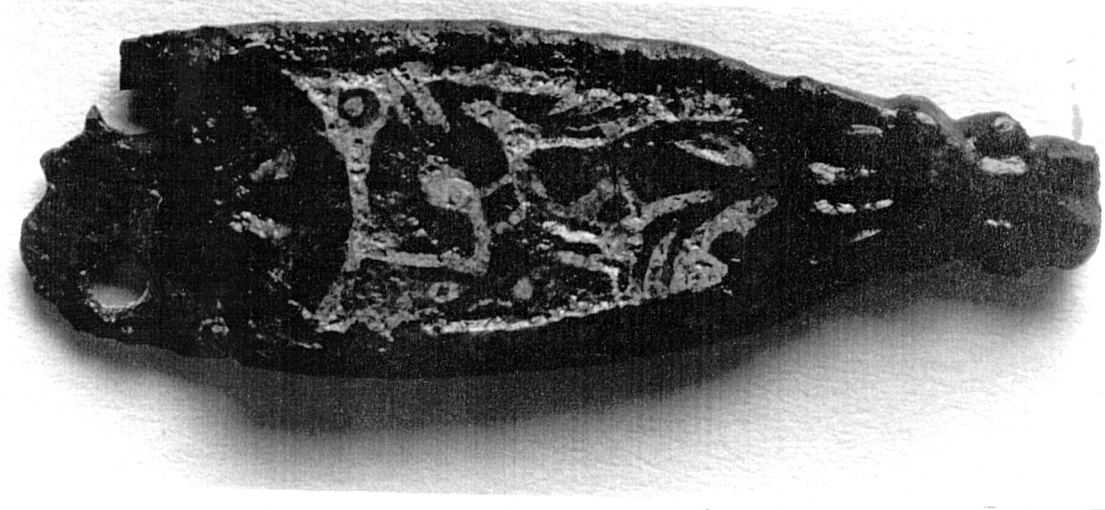


Plate 15: Meols, Warrington



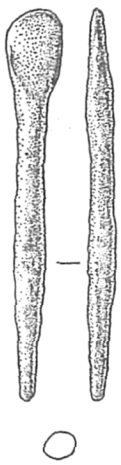
173:H/ST1

(3:1)



174:H/DP1

(3:1)



175:H/DP2

Plate 16: Hale