DARK-AGE AND VIKING-AGE POTTERY
IN THE HEBRIDES,
WITH SPECIAL REFERENCE TO THE UDAL, NORTH UIST

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This thesis is an examination of the evidence for Dark-age and Viking-age pottery in the Hebrides. A brief discussion of current knowledge of Hebridean ceramics shows how unusually ceramic-rich this area is in comparison with the rest of Scotland and much of the British Isles. But the Dark Age and Viking Age in the Hebrides and the pottery of those periods are very poorly known. The excavation of one major settlement site, the Udal on North Uist, by I.A. Crawford, has allowed examination of stratified pottery groups of the period from c. 400 A.D. to c. 1100 A.D. The stratigraphy, structures and chronology of this site are described briefly. The problems and methods involved in analysing a large handmade pottery assemblage are discussed in some detail. The stratified pottery from the Udal is described and the characteristic features of both Dark-age and Viking-age pottery assemblages are defined. Pottery from other sites in the Hebrides is then discussed and a series of sites with similar Dark-age pottery is listed. No close parallels have been found for this pottery outside the area. The Hebridean sites with Viking-age pottery are then described and pottery from other areas is examined in order to define the geographic range of this style. Close similarities can be seen with Souterrain Ware assemblages in northern Ireland and possibly with assemblages in the Faroes.
This evidence suggests that the Dark-age style developed from the local Iron-age ceramics. The Viking-age style may indicate influence from Ireland and the interaction of Norse and native peoples in Scotland or Ireland. Further research, systematic fieldwork and excavation are now required to examine these hypotheses.
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CHAPTER 1

THE STUDY OF HEBRIDEAN DARK-AGE AND VIKING-AGE POTTERY PRIOR TO 1975

This thesis is concerned with the study of pottery from the Hebrides in the Dark Age and Viking Age. The Hebrides are groups of islands off the west coast of Scotland (figs 1&2). There are c. 500 islands in total, and although some of these are tiny and uninhabited some 100 were said to be inhabited some years ago (Seltzer 1952, 770). These islands are divided into two groups, the Inner and Outer Hebrides, by stretches of water known as the Sea of the Hebrides and the Minch. The Outer Hebrides comprise the group of islands (or 'Long Island') running from Lewis and Harris in the north, through North Uist, Benbecula, and South Uist, to Barra in the south. This is to name only the main islands of the group; to the west lies St Kilda. The Inner Hebrides are less coherent, running from Skye in the north, through Rhum and Eigg, Coll and Tiree, Mull, south to Colonsay, Islay and Jura. I do not propose to discuss the islands from a geographical, geological, or historical viewpoint except where it is strictly relevant to the present study (for such information see O'Dell & Walton 1962; McNeill & Nicholson 1975; Whittow 1977).

I shall also draw a distinction between the northern and southern Hebrides - the division being north of Mull and the Ardnamurchan peninsula on the mainland, though as will become clear Coll and Tiree seem more closely
related to the northern Hebrides than to the southern group in terms of some archaeological evidence.

I am using the terms 'Dark Age' and 'Viking Age' to cover the period from c. 400 to c. 1100 A.D. These dates, and in particular the initial date, should be regarded as approximate and are stated for the purposes of classification and discussion of archaeological evidence. The question of whether these chronological terms and divisions have any meaning in terms of sites in the Hebrides can only be assessed after presentation and discussion of the archaeological evidence.

The term Dark Age is used in preference to the many different terms used elsewhere and here refers to the period c. 400 to c. 800 A.D. This term has been in disfavour in recent years and such terms as Early Historic, Post-Roman, Late Celtic, Late Iron Age or Early Medieval have frequently been used (cf. Laing 1975, xxvi). However, since the Hebrides were never occupied by the Romans and remain, at least in the Outer Hebrides, virtually undocumented until the Viking Age, the term Dark Age is used since it is reasonably widely understood and begs fewer questions than the other usages. The dates attributed to the Dark Age should be regarded as approximate. I shall discuss the chronology in greater detail in the course of the thesis.

The Viking Age is probably more widely used though its chronological significance varies considerably. A date c. 800 A.D. is generally accepted as the beginning of the period - marked by the contemporary outrage at
the attack on Lindisfarne in 793 (Sawyer 1971, 1).

Though raiding may have begun slightly earlier (Sawyer 1978, 114-15), there is no reliable evidence for earlier settlement in the Western or Northern Isles (Wilson 1976, 99-103; Crawford 1981; Graham-Campbell 1980, 5-7; contra O'Corrain 1972, 81). The date given for the termination of the Viking Age is more varied - a mid-eleventh century date being most common. In some areas, however, Scandinavian influence continued to be extremely important much later and parts of modern Scotland, including the Hebrides, Orkney and Shetland, owed political allegiance to the Norwegian crown until well into the Medieval period. Nevertheless the character of this later contact is somewhat different from the earlier period (Wilson 1971, 112). For the purposes of the present work a date of c. 1100 A.D. is taken for reasons which I shall explain in the next chapter. This date can be justified on historical grounds for in 1098 King Magnus of Norway campaigned in the Hebrides and Irish Sea, and the Scottish king, Edgar, formally ceded all the islands off the west coast of Scotland to the Norwegian king (Duncan 1975, 127).

The selection of the pottery of the Hebrides for study was influenced by a number of factors. These factors included: the knowledge that there were substantial quantities of pottery in a stratified and dated sequence from one site - the Udal, North Uist; the belief that if definitive traits for each major phase at the site could be defined, then similar material might be recognised at other sites, either from excavations or from surface
collections; the hope that this might contribute to an understanding of the historical problems of the area, or at least to begin to define Dark-age material culture in one area; and the hope that other sites might be recognised as being of this period, on the evidence of old finds or new survey work, and thus assist in the selection of sites for future investigation.

The selection of pottery as the object for study was based on its frequency and availability rather than any a priori belief that pottery, as opposed to other material items, was the best cultural indicator and in spite of suggestions that coarse pottery is not culturally sensitive. Ideally, the whole range of material culture of an area would be studied in conjunction, but as the archaeological study of this period in the Hebrides is still in its infancy each artefact class may need individual study. It will be through the synthesis of these studies in conjunction with site, structural, economic, environmental and social studies that real historical enlightenment will come. Such synthesis is beyond the scope of a study like this. Nevertheless, conclusions can be reached about the pottery and these conclusions will contribute to the fuller regional synthesis when that can be undertaken. Interpretation of the pottery will probably be modified by that synthesis in the dialectical manner characteristic of archaeological studies in general (van der Leeuw 1976, 19-107).

It should perhaps be stressed that the Hebrides are very unusual in terms of Scottish archaeology in the quantity of pottery recovered from sites later in date than the
Bronze Age. Neolithic and Bronze-age pottery, though not common, is found throughout Scotland. Local pottery of the period from the Iron Age to the Medieval period is scarce and when it occurs it is often scarcely diagnostic. Heavily-gritted bucket forms occur on Iron-age sites (MacKie 1974, 226-30), and possibly on Dark-age sites (cf. Hope-Taylor 1977, 170-7), but little distinctive material has yet been recognised. The Hebrides, in contrast, produce large quantities of pottery, some decorated, some not, from eroding sites as well as from the few excavations undertaken in the area. Only the decorated pottery is usually dated with any confidence. Aspects of that confidence may be misplaced (Crawford & Switsur 1977, 133; Lane 1978, 97-8) and, in any case, the bulk of the pottery finds is undated. At this fairly crude level of observation distinctions can be made within the Hebrides. Little pottery is found after the Bronze Age on the islands to the south of Tiree. In this respect, the southern islands appear to be more akin to the western mainland. The ceramic-rich zone stretches from Tiree to North Lewis and apparently includes Skye. By contrast, the western mainland appears to be virtually aceramic and, although lack of excavation in some areas may be a factor, the lack of surface finds seems to indicate a genuine difference.

A few other parts of Scotland also have ceramic sequences. Shetland has one based on the evidence from Jarlshof (Hamilton 1956) and the Orkneys may have one defined over the next few years as the result of work by John Hedges and other archaeologists now working in the area.
It might be argued that the absence of diagnostic pottery from other areas is merely the result of inadequate work, but such sites as have been dug have failed to produce any quantity of pottery or useful ceramic sequences.

The Hebrides, or rather the more northerly part of them, stand out as ceramic-rich even if, until recently, the chronological significance of the pottery was poorly known or biased towards the Iron Age. Thus the Hebrides were virtually 'self-selecting' as a study-area. That my work could be carried out was the result of the long-term research work of Iain Crawford whose excavation at the Udal has provided the hard stratigraphic data and stratified finds for study. The precise study-boundaries were only arrived at after searching museum collections for comparative material and thus represent the distribution of known finds, although comparison was made with pottery in other parts of Britain and Ireland.

Before discussing the methods and results of my study of the Udal pottery, and of the comparative finds from other sites, I shall outline the state of knowledge of Hebridean pottery of the Dark Age and the Viking Age prior to 1975 when I began work on the Udal finds.

The Study of Hebridean Dark-age and Viking-age pottery prior to 1975
The detailed study of Hebridean pottery can only be said to have begun in the late 1940s. Early Prehistoric pottery had already received some study because it could be tied into sequences and dated by finds from elsewhere in the British Isles (Childe 1935). Some Iron-age pottery was likewise
dated by comparison with English material, but not until 1948 with the publication of Clettraval was any sizeable assemblage published (Scott 1948). Dark-age and Viking-age pottery was virtually unknown. Prior to this, decorated pottery had been published, but only very selective site-assemblages were illustrated and discussed, being attributed vaguely to 'broch people' or 'wheelhouse people'. There was a growing quantity of pottery in the NMAS, but without well-excavated stratified sites, and an absolute chronology, many of the finds were considered to be undatable or were dated by using questionable assumptions. These early publications, however, indicate something of the pottery of the area.

Erskine Beveridge, in his volumes on Coll and Tiree (1903) and on North Uist (1911), published pottery from surface collections and excavations at a number of sites on those islands, but with little indication of their date. However, as further finds were made, it is clear that some Scottish archaeologists became aware of the problem. Thus in 1921, J. Graham Callander, then Director of the NMAS, wrote about the finds from the broch of Dun Beag on Skye:

... fragments of pottery were found throughout the mass of debris, and consequently it is difficult to assess their date. Although great quantities of potsherds have been found on anciently inhabited Hebridean sites, little is known regarding their chronology. The difficulty of the subject is great because so little scientific excavation or even collecting has been carried out in these islands, and also because hand-made pottery continued to be made there until the middle of the nineteenth century.

(Callander 1921, 129).
For some archaeological periods these remarks remained valid until the 1970s and in some ways are still valid now.

However, knowledge of Iron-age pottery has advanced. Even in 1921 Callander was prepared to attribute much of the decorated pottery of the area to 'the early part of the Christian era' (ibid., 130). In 1924 Arthur Edwards, the Assistant Keeper of the NMAS, was citing parallels for decorated pottery from Galson, Lewis, with that from a range of broch and midden sites and dating it to the Iron Age (1924, 196-202). In 1931 Callander was attributing decorated pottery and other finds from 'earth-houses', brochs and duns to the first centuries of the Christian era and the later part of the Scottish Early Iron Age (1931, 342-9 and 356). In one of the first major syntheses of Scottish archaeology, Gordon Childe drew comparisons between Hebridean Iron-age pottery and some from southern England, noting in particular parallels at All Cannings Cross in Wiltshire. These similarities, and others in bonework from south-west England, were attributed to a sea-borne migration from south to north (Childe 1935, 237-49).

However, it was only with the publication of the excavations of the wheelhouse of Clettraval, North Uist, by Sir Lindsay Scott in 1948 that the first attempt at a modern-style site report and pottery analysis was made (Scott 1948). Scott analysed the pottery from the site and tried to identify a sequence of change within the assemblage. He noted parallels with other sites in the area but saw the origin of the pottery and of the
whole 'culture' in the Iron Age of south-west England. These comparisons allowed him to date the finds to the period from the first century B.C. to the first few centuries A.D. The subsequent development of this 'Gallo-British' culture and its pottery in the Hebrides was unclear, but he believed that it 'degenerated' in the succeeding centuries (ibid., 60-6 and 114-16). Although there were problems with the stratigraphy at the site, and Scott's conclusions can now be challenged, he did set in motion excavation and research which continued to be quite fruitful into the 1960s. Before Scott's death in 1952, he began the work at Allasdale (Tigh Talamhanta), on Barra, which Alison Young completed and published (Young 1953). She then went on to dig further sites in the area and to lay the basis for much of our knowledge of the Hebridean pottery sequence until the late 1960s. With the publication of Allasdale, she drew attention to further variety in the Iron-age ceramics (Young 1953). She then extended this Iron-age sequence with her work at Dun Cuier, Barra, arguing for a coarse, poorly decorated, ceramic phase later than the Iron-age wheelhouses and related in some way to 'Scotic' influence in the early seventh century A.D. (Young 1956, 304-13).

Interest in the archaeology of the Hebrides contributed to the major 'rescue' programme launched in the mid-1950s to deal with the threat to sites caused by the proposed construction of a rocket range on South Uist. Many sites were dug but unfortunately little publication followed and, as yet, only a handful of site reports are available.
At the same time as Young was excavating in the Hebrides the publication of one major site had a considerable influence on opinion about Scottish ceramics. This was the multi-period site of Jarlshof, Shetland, published in 1956 by J.R.C. Hamilton. Jarlshof is geographically peripheral to Scotland - c. 100 miles from the nearest point on the mainland and c. 200 miles from the northern tip of Lewis - but this report on the site had a major influence on subsequent thought. Jarlshof has a sequence of structures and artefact assemblages from the Late Bronze Age (in 1956 thought to be very late indeed), continuing through various Iron-age phases, Dark-age 'degeneration', a major 'Viking' phase and ending in the Medieval period (Hamilton 1956). Since many of the changes in structures and artefacts were thought to be caused by successive influxes of invaders, or by outside influences of other kinds, attempts were made to use the Jarlshof sequence to date pottery elsewhere to the south and there was an assumption that the 'passing waves of invaders' should have had some effect in the Hebrides. As it happens, the Iron-age ceramics of the Hebrides have few close parallels in the north, although individual traits, e.g. everted rims and cordons, can be found in both areas.

Alison Young and K.M. Richardson published one of the rocket-range sites in 1960. At the wheelhouse of a' Cheardach Mhor, on South Uist, Young recognised a sequence of structures and artefacts which led her to modify some
of her earlier suggestions but reaffirmed the basic pottery sequence. The first phases associated with the wheelhouse have the decorated Iron-age ceramics known from other sites in the area (Young & Richardson 1960, figs 5 and 6). After abandonment, and the infilling of that structure by sand, several phases of exiguous structures were built. The first slight structures had decorated pottery, but of a simpler style than the earlier wheelhouse finds (ibid., fig. 10, no. 44). Then came a phase of coarse plain pottery (ibid., fig. 10, nos 45-57), associated with fragmentary curvilinear structures, and then some activity thought to be associated with the use of imported pottery and steatite (ibid., 157-8). This site sequence was believed to run from the second century A.D., or earlier, to the eighth century or even to the Viking Age, but with the local pottery ceasing by the seventh century (ibid., 158-9).

This phase of Hebridean archaeology, and in particular the ceramic work begun by Sir Lindsay Scott and continued by Alison Young, can be seen as ending in the early 1960s. The conference on 'Problems of the Iron Age in Northern Britain' held in 1961 marks its culmination (Rivet 1966). On this occasion, Alison Young presented a paper summarising her views of the development of Hebridean pottery. By the time it was actually published new excavation and research work by Euan MacKie was beginning to query some of her views, at least of the Iron-age material (MacKie 1965a), and MacKie's subsequent use of radiocarbon dates was
posing a major challenge to the traditional Iron-age chronology (1969). Nevertheless Young's paper is an important summary of the ceramic sequence and much of it has not really been superceded. In consequence it is worth outlining her sequence.

Although principally concerned with the Iron Age, Young began with Neolithic finds and took the sequence through to the middle or later part of the first millennium A.D. Her suggestion of Neolithic influence on the pottery of the Iron Age must now be regarded as extremely unlikely since a chronological gap of one, or more likely two, thousand years separates the two groups. The Iron-age sequence begins with incised and pin-stamped decoration on 'weak' rim and profile vessels (Young 1966, fig. 4, nos 1-3), which were found on wheelhouse sites and dated pre-first/second century A.D. and possibly as early as the third/second century B.C. (ibid., 54-5). These decorated forms continued, but new traits including everted rims, angular profiles, cordon decoration, and arcaded and fluted decoration were introduced apparently from the south (ibid., fig. 4, nos 5-7). This phase was dated to the first or second century A.D. Subsequently the use of incised decoration declined, but the other forms continued. The next phase had sparsely decorated vessels, some with flaring rims and irregular cordon decoration (ibid., plate 4b) which were seen as Iron Age in character, i.e. a continuation of the Iron-age tradition, but Dark Age in date. The final phase had coarse plain pottery (ibid.,
fig. 4, no. 8-10), which was seen as intrusive and linked to the Dalriadic settlement of western Scotland. This implied an initial date c. 500 A.D., ending sometime before the arrival of the Norse (ibid., 54-6).

Although this sequence can be criticised, and I shall reject aspects of it, it is based on observed changes at a number of sites. Though some of these may not have been well excavated the basic sequence can be defended. The chronological arguments were weak, being based on stylistic dates for iron pins and glass beads and being biased by the effects of the short Iron-age chronology then in use. The occurrence of Roman finds on some sites contributed to this short chronology since their apparent precision of dating inevitably distorted the chronology of the 'native' artefacts with which they were sometimes associated. Nevertheless, in spite of these faults in the chronology, her view of the Iron-age sequence may be essentially correct.

Before discussing later work in the next 'phase' of research there are aspects of Young's sequence that are worth considering. Since this thesis is not primarily concerned with the Iron Age I shall not pursue criticism of that but look at the end of her sequence in the first millennium A.D. (for a brief recent discussion of the Iron Age in this area see Megaw & Simpson 1979, 460-74).

Although Young was not explicit, she appeared to think that the Hebridean pottery sequence ended with her coarse-ware phase, apparently before the arrival of the
Norse. The only hint that pottery might have continued in production was given in a note to the effect that R.B.K. Stevenson believed a sherd from Lewis to be decorated with the impressions of a ringed pin of eighth/ninth-century date (Young 1966, 57, note 19). This view of a termination in production contradicts that held by earlier archaeologists who believed that pottery continued to be made in the Hebrides till the modern period. Thus Callander was aware that:

... hand-made pottery continued to be made there until the middle of the nineteenth century. Narrow-mouthed globular pots of various sizes were in general use, not only for containing and for cooking food but for churning, during many centuries after wheel-turned, glazed ware was being used in many parts of Scotland.' (Callander 1921, 129).

In 1931 he restated this belief that handmade 'craggans' succeeded the earlier pottery and continued to be made till the nineteenth century A.D. (1931, 346). This modern tradition of pottery production named from the Gaelic word used for these pots - 'craggan', an earthen jar (MacLennan 1925, 102) - was believed to be a 'prehistoric' survival. Martin Martin had reported this pottery on Lewis and Tiree in the late seventeenth century (Martin 1703, 2 and 268) and Arthur Mitchell described the methods of production at Barvas, Lewis, in the later nineteenth century (Mitchell 1880, 25-32). E.C. Curwen again drew attention to this 'prehistoric' tradition in his discussion of 'Iron-age' survivals in the Hebrides (1938, 280-2).

This knowledge of later pottery production meant that people like Callander were quite circumspect in
their treatment of Hebridean finds even though they
could not demonstrate the connection, or isolate groups
appropriate to the period, between the Iron Age and the
later 'craggans'. T.C. Lethbridge argued quite firmly
for a connection between the Iron-age and later pottery
groups and cited decorated handmade pottery associated
with glazed wheelmade imports of the twelfth to thirteenth
century from a site at Hoghbay on Coll (Lethbridge 1950,
96-7; 1954, 193). He thought that these handmade sherds,
which had rims ornamented with the impression of bird-
bones, were the 'Hebrido-Norse' pottery of the early
Middle Ages. Lethbridge was unsure whether the Norse
settlements in the Hebrides would have used pottery
because he knew that Viking-age Norway was virtually
aceramic, but he believed that the native pottery tradition
of the Hebrides must have continued. Thus he wrote:

The midden of the Norse farm in the Hebrides
will not then be crammed with broken potsherds
of a characteristic type. If there is pottery
at all, it will be that of descendants of the
broch people. (Lethbridge 1950, 96).

The evidence of Jarlshof has influenced
expectations of finding pottery on Norse sites in the
Hebrides. When A.O. Curle published his excavations
of 'Viking' houses at Jarlshof, he thought that large
quantities of pottery were in use in the primary phases,
then dated c. 800-1000 A.D. (1935, 306-08). One of
the distinctive features of this pottery was the mass of
vegetable matter - grass and seeds - incorporated in
the body of the pot as filler. Since this pottery was
also known from the 'Viking' settlement of Freswick, Caithness, it seemed as if a 'typical Viking hand-made ware' might be defined (Curle 1939, 104-06). However, with Hamilton's publication of the full range of work at Jarlshof, he demonstrated quite convincingly that 'Norse' pottery only occurred in securely stratified contexts of the twelfth and later centuries (1956, 187-8). Curle's finds were from houses that had been used over a long period and were clearly from chronologically mixed deposits. This realisation was confirmed by evidence from Freswick and other Norse sites in the north that the initial settlements were aceramic and that it was only after the Viking Age that pottery first appeared at those sites (Cruden 1965, 27-8). In spite of this demonstration that 'grass-tempered' pottery was not Viking-age in date, the belief that it is a diagnostic Norse cultural trait has persisted, being quoted as recently as 1980 as a dating trait on Islay (Alcock & Alcock 1980, 67). Lethbridge's view, that if there was pottery on Norse sites in the Hebrides it should be of local derivation, must be regarded as perceptive, although it may not be totally correct as I shall explain later.

Young's reasons for stopping her account of Hebridean pottery in the mid-first millennium A.D. are understandable, but it was misleading not to mention the later Medieval finds from the Hebrides and the possibility that a continuous sequence existed. Young could not have known the
nature of the pottery from between her Dun Cuier material of the seventh century and the 'craggans' of the later Medieval period because she had no excavated sites dated to that period. In 1950, at the first 'Viking Congress', Sir Lindsay Scott had said:

There is no building, ecclesiastical or civil, in the Northern Hebrides which can reliably be dated between A.D. 400 and 800, and the only one find which can with any confidence be assigned to that is an Ogham inscribed bone from a re-used Iron Age house in North Uist. (Scott 1954, 195)

He explained this by arguing for economic and cultural degeneration, leading to an impoverished and sparse population in the area when the Norse arrived (ibid., 195) — analogous to the case argued by Brøgger for the Orkneys (Brøgger 1929, 66-7). The fact that the archaeological evidence for the southern Hebrides was equally sparse does not seem to have occurred to Scott, nor the 'logical' deduction that the area — part of the historical heartland of Scottish Dalriada — could also on archaeological evidence have been said to be virtually empty.

Scott could also have made a similar statement about the buildings and non-sepulchral evidence for the Viking-age Hebrides because at that time no 'Viking' settlements were known anywhere in western Scotland. But historical, literary and placename evidence, and a few graves, made any suggestion of an empty Viking-age Hebrides virtually untenable. When Young gave her paper in 1961, one site had been found — the 'Viking' house at Drimore, South Uist, dug during the rocket-range campaign — but it
provided at best negative evidence for the pottery sequence, in that the finds indicated the use of steatite rather than pottery containers (MacLaren 1974). Thus Young could take the sequence only as late as her dating of Dun Cuier and a' Cheardach Mhor would allow her.

By the time the Iron Age in Northern Britain was published in 1966, MacKie's work was beginning to challenge the general view of Scottish Iron-age chronology and aspects of the Iron-age ceramic sequence. Most of this work involved pushing back the Iron Age and its pottery, as in his report on the Balevullin site on Tiree (MacKie 1963), or the results of his own excavations at Dun Mor Vaul, also on Tiree (MacKie 1965b & 1969). In his discussion of 'The Origin and Development of the Broch and Wheelhouse Building Cultures of the Scottish Iron Age' MacKie traced the development of artefacts and structures in the north and west of Scotland (1965a). For his final phases he largely followed Young in deriving a 'degenerate', sparsely decorated style which he called 'Dun Cuier Ware' from the earlier decorated 'Clettraval' style (ibid., fig. 5). This was the first time that Hebridean Dark-age pottery was so designated—in essence Young's 'long rimmed' pots with cordon decoration dated to the fifth or sixth centuries A.D. He did not comment on the supposedly later, coarse 'Dalriadic' style. In his discussion of the 'earth-house' at Gress Lodge, Lewis, he again used the term 'Dun Cuier Ware', citing parallels for the pottery at Dun Cuier and a' Cheardach Mhor (1966).
On the basis of the pottery he then dated the 'earth-house' (i.e. souterrain) to the fourth or fifth century A.D. (1966, 202).

Perhaps MacKie's most useful contribution in the context of the present study was in providing a more closely defined chronology for the decorated Iron-age wares. This chronology is still weak, as it largely depends on the sequence and radiocarbon dates from Dun Mor Vaul, but it does give some independent check for Young's sequence. Dun Mor Vaul was not fully published till 1974, though aspects of the ceramic sequence were in print earlier. In this final report the end of the Vaul ceramic sequence was explained. Decorated but 'degenerate' Clettraval and Vaul wares were found in the latest occupation levels which MacKie attributed to the third century A.D. Only a few sherds were thought to approximate to 'Dun Cuier Ware' (MacKie 1974, fig. 18, no. 362 and fig. 19, no. 483) and domestic occupation of the site was thought to have ceased before the proper emergence of this later style (ibid., 90).

Thus, by the 1970s, evidence for Dark-age pottery after the so-called 'Dun Cuier Ware' and for Viking-age pottery in the Hebrides had hardly advanced beyond the position indicated by Young (1966). A small amount of evidence has been published for the later Medieval pottery of the area which may have some bearing on the idea of continuity of production. D.J. Turner and J.G. Dunbar recovered 'craggan' pottery in the course of their excavations
at Breachacha Castle on Coll (1970). They noted that wheel-made pottery did not occur on the site in deposits earlier than the end of the sixteenth century, before which coarse handmade vessels in the 'craggan' tradition were used. Wheelmade imports then appear, but craggans continued in use until the nineteenth century (Turner & Dunbar 1970, 182). They illustrated various vessels and fragments, including 'pouch-' or 'bag-shaped' vessels with upright or flaring rims, some decorated with stab-marks (ibid., fig.13, nos I.1 - I.6, nos III.2 - III.3, nos IV.4, and VI.1 and VI.3 - VI.4). Other sherds display slashed line decoration (ibid., fig. 13, no. V.1) and one vessel, attributed to the eighteenth century, appears to be an open bowl (ibid., fig. 13, no. VI.2). This pottery is of some interest as the first published, late Medieval and Modern, excavated group from the Hebrides, but it was not discussed very fully and the stratigraphic contexts are not always clear.

A few other sherds have been attributed to the Dark-age period elsewhere in the Hebrides. Charles Thomas reported the discovery of pottery akin to Irish Souterrain Ware at the Columban monastery of Iona, as well as at two islands in the Sound of Harris (1971, 54-5). These sherds which were thought to have grass impressions on their bases—one of the common traits of Souterrain Ware—were attributed to Irish settlement or missionary activity.

The apparent absence of Dark-age pottery in the southern Hebrides and on the western mainland of Scotland has been
been a matter of some note. These areas are regarded as the heartland of the early Scottish kingdom of Dalriada (Bannerman 1974, 116), traditionally settled from the north of Ireland c. 500 A.D. (ibid., 73-5). Souterrain Ware is found almost exclusively in north-east Ireland and is very common on sites in that area (Ryan 1973, fig. 4). Thomas and others have claimed that it was in use there by the sixth century A.D. (Thomas 1968; Ryan 1973, 623-7). However, Leslie Alcock drew attention to an apparent discrepancy - the absence of such a diagnostic and common find on north Irish sites in the area of Scotland supposedly settled from north-east Ireland (1971, 266-7). This could be explained, either by cultural factors (e.g. potters did not move with the Dalriadic dynasty who adopted local cultural forms in Argyll), or by chronological factors (e.g. Thomas was wrong to date Souterrain Ware to the sixth century and it was not produced in Ireland until much later, possibly as late as the Viking Age) (Alcock 1971, 267).

Thus, though Thomas' report of grassmarked pottery on three Scottish sites was interesting, the date and significance of the pottery was by no means certain. Thomas argued, on the basis of the discovery of some sherds in 'presumably primary levels and contexts at Iona', that 'Souterrain Ware was transferred from the homeland to the colonies' (1968, 328). In retrospect this argument appears to have been misleading and circular (Lane 1981a). However, despite this contrast with the
absence of native pottery or Souterrain Ware from the other excavated Dark-age sites in Argyll, such as Dunadd (Alcock 1971, 267), Thomas' report did imply that a little pottery, whatever its date, was present in the southern Hebrides and in greater quantity in the north.

Subsequent to Thomas' report of these finds some confusion arose as to whether grass-tempered or grass-marked pottery had been found on Iona and the Sound of Harris sites (Reece 1973, 40). This was in part caused by the presence of both types on Iona, but it must be stressed that the two features are quite distinct — one being a tempering agent, the other a construction or manufacturing trait, probably designed to stop a pot sticking to the surface on which it was being worked or dried. Thomas' original discussion of grassmarked pottery makes the distinction clear (1968, 312 and 322-4). In spite of this confusion Reece does make the useful suggestion that the pottery at Iona was of tenth-to twelfth-century date and that only a few imported sherds, and no local handmade pottery, occurred in early contexts at the monastery (Reece 1974, 38-40).

One of the major developments of Dark-age archaeology over the last 30 years has been the recognition of groups of imported pottery on sites in the west of Britain and Ireland (Alcock 1971, 201-09). This has been crucial to site recognition and dating, as well as providing a new understanding of the 'Celtic West' and its overseas contacts. But this pottery is peripheral to the present
study. The imports have been found as far north as Argyll, but their occurrence further up the west coast has not yet been proved.

D-ware and E-ware are known from the fort at Dunadd, Mid Argyll, E-ware from Loch Glashan crannog nearby, and also from Kildalloyg dun to the south in Kintyre (Thomas 1981, 19-22; and 1976, fig. 3). A-ware and E-ware (one sherd of each) are known from Iona (Reece 1981, 15 and 22). These wares, which often occur on sites with other Dark-age finds, help to confirm the absence or extreme rarity of locally produced pottery in Scottish Dalriada at this date. Loch Glashan crannog, which has good waterlogged preservation conditions, produced a range of wooden vessels and artefacts and probably indicates what was used in this area instead of hand-made pottery (Laing 1975, 76). This supposition can be supported by even a brief examination of the Scottish museum collections from Argyll in which pottery dated later than the Bronze Age is minute in quantity in comparison to the many thousands of sherds from the islands to the north.

Some imported finds have been claimed further north in the Hebrides. Thomas lists one sherd of E-ware from Dun Ardtreck on Skye (1981, 22). However, this is the only supposedly Dark-age find from a site apparently abandoned in the early centuries A.D. (MacKie 1965b, 277) and its identification as E-ware has been doubted (per. comm. L. Alcock). No other finds from the area are
recorded in Thomas' most recent list (1981). Radford identified a sherd from a' Cheardach Mhor, South Uist, as being an amphora sherd (Young 1958, 92; and Young & Richardson 1960, 158 and 167) and Young thought a ribbed sherd from Allasdale was also an import (1953, 95-6). However, neither identification has been accepted in any of Thomas' lists of such finds (1959; 1976; 1981), and recent comparison of the sherds in the NMAS supports this view; both finds seem to represent local handmade products and are probably of Iron-age date (per. comm. L. Alcock). The 1972 report of black painted, orange fabric, Mediterranean imports at the Udal, North Uist, was subsequently rejected when these were recognised as fragments of metalworking moulds almost certainly of local manufacture (Crawford 1972, 6; and 1973, 5).

Thus the Hebrides, apart from the major monastery on Iona, would seem to be beyond the range of contacts indicated by the imported wares, a fact which may help to confirm Bannerman's view of the northern boundary of Dalriada (1974, 113-16). This absence of imports is of course of significance for the problems of identifying and dating Dark-age sites in the area. We cannot use the external dating provided by the imports which was and remains so important for our knowledge of sites elsewhere in Britain and Ireland.

The general state of knowledge of Hebridean pottery in the early 1970s can be outlined briefly. Dark-age pottery could be identified, albeit on arguable stratigraphic
grounds at sites such as Dun Cuier on Barra and a' Cheardach Mhor on South Uist. What happened after the seventh or eighth century on Young's scheme was unknown, except for a hint provided by the one decorated sherd from Lewis attributable to the eighth/ninth century. Pottery of the Viking Age and early Medieval period was unknown, though Lethbridge's claim to have recognised twelfth/thirteenth century 'Hebrido-Norse' pottery on Coll, and knowledge of the existence of the poorly documented Later Medieval/Modern 'craggans', hinted that continuity through the first and second millennium A.D. was a possibility. Thomas' suggestion of Souterrain Ware, or at least grassmarked pottery, in the Sound of Harris opened up further possibilities. The imported wares could not be shown to have penetrated the northern Hebrides and did not occur on sites with large handmade pottery assemblages.

Why was there still so little known about Dark-age and Viking-age ceramics in this area? One view was that the lack of evidence indicated a genuinely sparse population. The idea that the Iron-age cultures of the area degenerated was first suggested by Childe (1935, 248-9), and then re-affirmed by Scott, to explain the absence of archaeological evidence for the Dark Age in the northern Hebrides. Thus, it was argued, the population was so small, scattered and poverty stricken as to have left little trace before it was overwhelmed by the Norse. This, in part, was to be explained on environmental grounds (1954, 195-6). This view of an empty Hebrides
was again argued as recently as 1971 by Alan Small. However, close reading of his paper makes it clear that he is merely restating Scott's arguments and the hypothetical environmental evidence is conjured up as a hypothesis to explain the lack of archaeological evidence (1971, 79-80). In view of the obvious lack of evidence for Dalriadic and Norse settlements throughout the Hebrides and western Scotland this argument should have been recognised as dubious even then (cf. Crawford 1981, 259-64).

The answer should have been sought in the quality of the archaeological evidence and the amount of research conducted in the area. Callander's words of 1921 were still apposite at that date:

Although great quantities of pottery have been found on anciently inhabited Hebridean sites, little is known regarding their chronology. The difficulty of the subject is great because so little scientific excavations or even collecting has been carried out in these islands, and also because hand-made pottery continued to be made there until the middle of the nineteenth century. (Callander 1921, 129)

Apart from the work at the Udal, which was still in progress, hardly any sites could be attributed to the Dark Age or the Viking Age. This failure to make progress was, at least in part, due to a 'vicious circle' in research. Finds could not be dated and attributed to this period because no sites with diagnostic assemblages had been dug and, as I have noted above, the evidence provided elsewhere by the imported wares was missing. Such sites could not be located because their nature was not predictable in advance; nor could they be located on the surface
for stray finds from eroding sites could not be dated. The Udal excavation, which provided the pottery upon which this study largely depends, was designed by Iain Crawford to break out of this impasse by excavating a historically documented site which was thought might have a long stratified sequence back from the documented recent past (Crawford & Switsur 1977, 123-6). While other approaches may have been possible, the adoption of this research strategy has led to the dramatic results that Crawford has supplied. As yet these are only available in interim form, to which this ceramic study may be regarded as contributing, but enough is now available in print to indicate something of the importance of this site for Hebridean archaeology (Crawford & Switsur 1977; and Crawford 1981).

Aspects of the ceramic evidence have already been mentioned in print. Thus in his 1974 paper to the 'Scottish Archaeological Forum', Crawford reported the presence of large quantities of pottery in Dark-age and Viking-age levels at the site. The Dark-age pottery was described as of poor quality and in 'flower-pot' shapes and was styled 'tongue-and-groove ware' from the ring-built construction technique. Some round-based pottery with grassmarking was noted as being present in fifth- to sixth-century levels. The Viking-age pottery was not clearly described, other than to note large flat 'platters' also bearing grassmarks (Crawford 1975a, 11-12).
Such then was the position in the mid-1970s when I began work on the Udal pottery. Little new has since been published. Thus this analysis of the Udal ceramics was undertaken without any clear idea or expectation about the nature of the pottery of the Dark-age and Viking-age Hebrides. The Dun Cuier evidence seemed useful potentially, but the actual date of the site - early Iron Age or Dark Age - was unclear and, although some finds were clearly of Dark-age date, no a priori assumptions could be made about the pottery.

The following chapters discuss the evidence of the Udal and outline the methods used in analysing its pottery. This is then followed by a description of the pottery in the Dark-age and Viking-age levels at the Udal and subsequently by a discussion of similar pottery from other sites in the Hebrides and of any comparable groups elsewhere.
CHAPTER 2
THE UDAL EXCAVATIONS

Introduction

Iain Crawford's excavations at Coileagan an Udail, North Uist, are crucial to this discussion of Hebridean pottery. From 1963 to 1976 and subsequently from 1978 to 1982 Mr I.A. Crawford, of Christ's College, Cambridge, conducted a series of excavations on several closely situated sites in the area, known as Coileagan an Udail, i.e., 'the sand bunkers of the Udal' (Crawford 1975a, 9). I shall refer to these sites collectively as the Udal. No final report is yet available on the completely excavated sites, but post-excavation work is in progress.

Typescript interim reports have been produced annually since 1963 (Crawford 1963-76 and 1978-81). These reflect changing knowledge and interpretation of the sites as the excavations progressed and consequently earlier statements can be contradicted by later interims. The most useful general statement about the site as a whole was published in 1977 in Antiquity (Crawford & Switsur 1977). This gives a brief summary of the environmental setting and history of the site with an outline of the major site-sequences and their chronologies. This remains the principal published source of information about the site. I shall not reproduce that information except to refer to salient points where necessary. It should, however, be remembered that this article is only an interim summary,
albeit at the end of 13 years of excavation; certain statements and suggestions may need to be modified in the light of detailed analysis of the finds and the stratigraphy. My own work on the pottery has led me to query or contradict some published interpretations and statements about the site, but all differences with the published work are fully indicated in the text below. Certain other aspects of the site have been discussed in other books and journals; reference will also be made to Crawford's papers in *Scottish Archaeological Forum* 6 (1975), *World Archaeology* 10 (1978) and the *Proceedings of the Eighth Viking Congress* (1981).

This study of the pottery has been done with the cooperation of Mr Crawford who kindly gave me full access to the site record cards and small-find books and answered all queries on the site stratigraphy insofar as they were answerable at the time. Of necessity, this analysis of the Udal pottery has used provisional stratigraphic information in advance of the definitive establishment of the site sequence and chronology. Sufficient definition of the site sequence was available to allow this analysis to be undertaken, but details of the relationship of finds to structures, and of fine sub-divisions of stratigraphic levels, could not be provided. In effect, this means that the pottery has had to be studied in larger stratigraphic units than may eventually be possible and that the site sequence must be accepted largely on trust and on the evidence of the published interim statements. The illustrations and discussion of the ceramic evidence in this thesis must
therefore be regarded as an initial statement which the definitive site publication may in some ways supercede. Responsibility for unreferenced statements about the site sequence rests with myself and, while the opinion of the excavator is of paramount importance in the discussion of any excavation, the opinions expressed in this thesis are not necessarily those of the excavator. Exigencies of time, finance and personnel have forced the adoption of particular procedures in the analysis and presentation of the data. The concept of different levels of publication advanced by the Ancient Monuments Board for England (1975) has therefore been adopted in an amended form to deal with this assemblage. Fuller information on this is given in the discussion of methods in chapter 3.

The Udal

The group of archaeological sites known in English as the Udal is situated on a narrow peninsula which juts out from the north coast of North Uist into the Sound of Harris (fig. 3). This is an area of deep calcareous and siliceous sand deposits known as machair; all the post-Beaker sites in this group are located in sandhill sites of varying dimensions. The existence of some of the sites has been known since early this century as Erskine Beveridge, a local landowner and active antiquarian, collected surface finds from eroding deposits and excavated part of a souterrain on the edge of one of the sandhills. He also noted medieval documentation and local oral and written
traditions which referred to the site (Beveridge 1911, xv, 77, 85, 95-6, 100, 129-31, 235-8, 268, 326).

Crawford's work in this area has shown the existence of a group of occupation and ritual sites dating from the 2nd millennium B.C. to the late 2nd millennium A.D. (Crawford & Switsur 1977). The major site, almost fully excavated by 1977, is known in Crawford's site nomenclature as the Udal North (marked N on figure 3). This consists of a series of superimposed settlements dating from the Iron Age to the Post-Medieval period. Less than a hundred metres to the south is another substantial sandhill, known as the Udal South (marked S on figure 3), consisting of an Iron-age wheelhouse set into earlier structures and deposits. The remaining sites (marked X and numbered 1-7 on figure 3) are all prehistoric on present evidence. Figure 4 outlines the basic chronology for the important sites.

It is Udal North with which I am principally concerned. This site, now largely excavated, was, prior to the beginning of excavation in 1963, a large sandhill capped with deep deposits of sterile sand and covered with rough vegetation. It seems clear from Beveridge's account that material has been slowly eroding from this site for many years (Beveridge 1911, 131). Crawford's first excavations at the Udal in 1963 tackled an exposure of drystone structures and midden deposits on one side of this hill. Although he had selected the site in the hope of finding a long sequence of activity, the extent and importance of the site were only gradually
appreciated as most of it was masked by substantial sterile deposits of sand.

After a period of working on the site methods were evolved to maximise recovery of objects and structures. Eventually, large areas were cleared of the deep sterile overburden by hand and machine, and techniques of open area excavation were adopted (Crawford Interims 1963-1976).

The Udal North has a depth of stratigraphy, perhaps over 10 metres, which is rarely found on British rural sites. The action of windblown sand in covering up structures and filling hollows has led to repeated replacement above earlier structures, sealing and protecting older deposits. Thus, whereas on most rural sites continued occupation has destroyed early structures, at the Udal a long sequence of superimposed settlements has been built up. This provides what is, at present, a stratigraphic sequence of unique longevity for the Western Highlands and Islands of Scotland.

However, just as sand can protect a site in the course of deposition around structures, it can equally allow destruction by eroding out from around and beneath the structures and layers. Periods of climatic instability and wind erosion can strip deep deposits away, virtually overnight. If these deposits contain building stone or heavy artefacts, these will be dropped onto the underlying deposits, potentially conflating hundreds of years of occupation, which can then be sealed in what may seem superficially to be correctly stratified deposits. Likewise
continuous settlement activity can lead to stone-robbing or clearance of older buildings, while the digging of pits and postholes can disturb older strata, as in any long occupied site. Although the Udal North has been carefully excavated over many years, there are areas where rebuilding, clearance, ploughing, erosion and rabbit activity have clearly made separation of phases and artefacts very difficult. These factors have been taken into account in interpretation of finds since problems of redeposition, residuality and disturbance can blur even the most clear-cut sequence. Quantities of finds have had to be largely disregarded where erosion of sections and surfaces has mixed deposits of different dates. However, most of the deposits have clearly associated structures and middens so that there is no danger of large-scale erosion and redeposition in antiquity. The site sequence has a reliability which should compare well with most modern excavations.

The major levels on the Udal North are numbered I to XV from the top down. The upper part of figure 4 is a diagrammatic representation of the sequence and chronology of the Udal North. These major levels have numerous subdivisions, some of which are referred to in the catalogues. Most of the subdivisions are little used in the present study, as their definitive sequence across the whole site had not been finalised when I was cataloguing the Udal finds. The relative sequence, important in itself, is made even more significant by virtue of its links to an absolute dating chronology established through a combination of historical,
artefactual and radiocarbon dates.

Levels I to IX incorporate the post-medieval and medieval settlements, spanning the period from about the eighteenth century to about the twelfth century A.D. Their dating is provided by a few English coins, one imported glazed sherd, and some late documentation (Crawford & Switsur 1977, 131-3). Levels IXb to X have three radiocarbon dates (figure 5), one Scandinavian coin and a few datable artefacts and are thought to date back from the late eleventh to the ninth century A.D. (ibid., 131). Levels XI to XIV have four radiocarbon dates (figure 5) and a few datable artefacts; these are thought to span the centuries back from perhaps the early ninth century A.D. to the fourth century A.D. (ibid., 129-31). Level XV can be related on artefactual evidence to the wheelhouse occupation of the Udal South which Crawford has suggested may date to the first two centuries A.D. (ibid., 129), but neither level XV nor the wheelhouse have any independent evidence of their dates as yet.

It will be apparent that I have divided the Udal North sequence into four units in discussing it in outline. As I shall explain in the course of this thesis I see these 'phase' divisions as having validity not only as a useful analytical tool, but also as having some actual historical reality. However, for the moment, I shall merely note their relationship to the Udal North stratigraphy: Level XV is Iron Age; levels XIV to XI are Dark Age; levels X to IXb are Viking Age; and levels IX to I are Medieval, Post-Medieval and Modern.
This bare outline of the site sequence is expanded below in discussion of the chronology of the appropriate levels; slightly more detail is available in published work (especially Crawford & Switsur 1977).

The excavation of large numbers of structures throughout this long sequence, with associated middens, cultivation levels, and generally well-stratified deposits may be an unique opportunity to study the evolution of a settlement over such a long time in this area. The large number of finds in a reliable relative sequence, with good absolute dating, provides the possibility of establishing dating criteria for many of the indigenous artefacts which have previously proved so difficult to date. Thus it would seem that the Udal North has a dependable local sequence which could revolutionise our understanding of the archaeology of the last two millennia in the Hebrides and which could provide insights of much wider importance.

The Udal Pottery
From the ceramic viewpoint, one of the most important discoveries of the site is that handmade pottery was found in quantity in all levels on the Udal North from the late Iron Age, with its wheelhouse-type pottery in level XV, to the squatter occupation of the eighteenth century A.D. in level I. Such a ceramic sequence of coarse handmade pottery of this longevity is unparalleled in Britain. The potential of such a site sequence to elucidate the ceramic development of the Hebrides over many centuries should be obvious, for not only does the Udal North
provide a relative sequence of stratified pottery groups, but also some basis for absolute dating by means of other datable artefacts and radiocarbon dates. It was impossible to predict just how localised pottery styles might have been in the area, but the Udal sequence at least gave a firm starting-point from which the necessary comparisons might begin to be made.

Ideally a pottery sequence of this length would be studied in one project by one person or group of people. Its sheer size (perhaps 150,000 sherds) demands a co-ordinated approach. Unfortunately, the Udal excavation had neither the financial support nor the institutional back-up to meet the post-excavation requirements demanded by the scale and importance of the site. As the assemblage had to be tackled by one person on a research grant of limited duration, deviation from ideal research methods and conditions had to be accepted.

It might still be argued that the pottery sequence is crucial in its entirety and should have been studied as a whole. This would have necessitated either many years of analysis, beyond the tenure of any one research student, or an alternative approach examining only a percentage of each level. The basic lack of knowledge of the Hebridean sequence after the Iron Age necessitated that either all the pottery of each phase be examined, or at least that a representative sample be extracted. A random sampling strategy might have been possible, but was rejected. It is the paradox of all sampling strategies that only when the entire assemblage
is known can a reliable sample be extracted. The dangers of a misleading sample were compounded by the lack of a finalised detailed stratigraphy, for only with a finalised stratigraphy could a reliable sampling strategy be evolved, in which case the study of the artefacts could not have begun before the site was written up in detail. Since sampling of the whole sequence was impossible, or at least very difficult, the division of the assemblage into logical units of study became imperative. I have already briefly mentioned the divisions adopted. The four phases, suggested by a combination of stratigraphic, historical and practical considerations, allowed the assemblage to be divided in a similar way. There are thus four phases of pottery for consideration.

The pottery of level XV seems, at least on brief examination, to be identical to that from the wheelhouse on the Udal South and fits into our knowledge of the Iron-age sequence as defined by Alison Young (cf. fig. 22, no. 40 and Young 1966, fig. 4, nos 1 & 3). This pottery is quite different from the rest of the Udal North sequence and seems best studied in conjunction with the pottery from the Udal South when that has been fully excavated. Levels XIV to XI represent a major phase on the site with the development of a distinctive house-type and distinctive artefact assemblages. Artefacts and radiocarbon dates suggest that this phase represents the Dark Age. Level X saw a major change in house-type and from X to IXc the settlement
developed during what may be regarded historically as the Viking-age phase. This phase was terminated by an apparent destruction at level IXB. Levels IX to I also saw substantial changes through time, but seem to represent in terms of quantity a reasonable further division of the pottery and to form, on initial examination, a coherent body of material.

These four phase divisions form a framework for analysing the pottery, but drastically simplify a complex site-development. However, as the artefactual and structural development of the site will only be known after prolonged research, the significance of these four phases or of the many more recorded stratigraphic divisions can not be predicted. When analysis of the artefacts and structures is complete, it should be possible to see if the phase divisions have a significance for the artefacts and, more generally, a historical significance for the site.

As stated already, the Iron-age phase will have to be examined in the context of the Udal South and the already quite well-known Hebridean Iron-age pottery sequence. The Dark-age phase is scarcely known in Scotland and the quantity of material and quality of dating at the Udal are such as to give this phase a major priority. Similarly the Viking-age phase is almost unknown in the Hebrides, at least in terms of settlements, and its discovery at the Udal represents a major breakthrough for Scottish archaeology. The Medieval/Modern phase is
also archaeologically scarcely known. However, its stratigraphic sequence was still in need of substantial work at the inception of this study, so militating against immediate examination of the Medieval and later finds.

It was obviously logical to examine contiguous phases so a research programme based on the Dark-age and Viking-age phases was adopted. These phases are of major historical interest both in themselves and in their inter-relationship and the elucidation of their ceramic components was hoped to be a useful new approach to Hebridean archaeology. Since it was important to be able to distinguish Dark-age and Viking-age pottery from Iron-age and Medieval pottery and as it was also important to understand the inter-relationships of all four phases I have had to consider briefly the Iron-age and Medieval finds but this has necessarily had to be fairly superficial. Work on the pottery from level I was begun by Crawford several years ago and it is hoped that the whole Medieval/Modern phase will be studied in the near future.

The Sequence and Chronology of the Udal North
In this section I propose to outline the nature of the four main phases at the Udal North, establishing their cultural content and relationships, and also their chronologies.
The Iron-age Phase

The phase referred to as Iron Age in the Udal North is represented in the stratigraphy by level XV. This is thought to be the lowest and thus the earliest substantial human activity on the site. It consisted of cultivation marks in a rectangular field running up to a smaller area containing enigmatic stone structures. These stone structures - four or five small fire-cracked platforms - were associated with decorated pottery, large quantities of iron slag and calcined human bone (Crawford 1976, 4; Crawford & Switsur 1977, 129). It is the pottery which dates level XV for it is of classic wheelhouse-type (e.g. fig. 22, no.40); it can be closely paralleled at a' Cheardach Mhor and similar sites (Young 1966, fig. 4, nos 1 & 5). Crawford also reports sherds with applied fillet, incised, appliqué and other decoration in fabrics identical to those from the main wheelhouse on the Udal South (1975b, 3-4). As a consequence he has suggested that level XV was an Iron-age field associated with the main wheelhouse less than 100m away on the Udal South. The stone platforms were either for funerary or metallurgical activities, or an interesting combination of both.

Although I have not examined the Iron-age phase at the Udal in any detail, it is important to understand its relationship to the succeeding Dark-age phase, both chronologically and culturally. There are as yet no independent dates for level XV or for the Udal South wheelhouse.
An inhumation found beneath one of the wheelhouse-period stone platforms should provide a terminus post quem for level XV when radiocarbon dates for it are available, but since the skeleton had been partly disturbed by the Iron-age field cultivation there may be a time-lapse between the two periods of activity. The radiocarbon date from level XIV of 336 a.d. \( \pm 120 \) may provide a terminus ante quem for level XV, but given the large size of its standard deviation, and the possibility of redeposition, it is not very helpful.

Thus, until further radiocarbon dates are available for level XV and the Udal South wheelhouse, we are dependent on stylistic dating of the pottery to date this part of the site sequence. The pottery from level XV seems to be of classic wheelhouse-type (e.g. Plate 1a). It has close parallels in the earliest pottery from a' Cheardach Mhor (Young & Richardson 1960, fig. 5, nos 1 & 2), and at Kilpheder, South Uist (Lethbridge 1952, fig. 7); other parallels occur at sites such as Clettraval and Allasdale (Crawford 1975b, 4). It is on this basis that Crawford dates this Iron-age activity to the first two centuries A.D. (Crawford & Switsur 1977, 129).

However, the chronology of Hebridean Iron-age pottery is still imprecise. Young's dates for similar incised pottery - from possibly as early as the third/second century B.C. to the first or second century A.D. (Young 1966, 54-5) - were based on stylistic dates for metal pins and glass beads. Although MacKie's radiocarbon dates
provide a more objective chronology, the only major group of
dates yet available, those from Dun Mor Vaul, does not
provide a convincing or close chronology for the pottery
(MacKie 1974; cf. Ritchie & Lane 1980, 215-20). The
vessel form from level XV, which I have illustrated here
(Plate Ia), is of the type described by MacKie as a
'Balevullin vase' (1964, fig. 3, nos 26 & 27; 1974, fig.
20). He has argued that this type may date from as early
as the fourth or fifth century B.C., to the second or third
century A.D. (1963). However, this argument is based on
the largely unstratified collections from the eroded
multi-period site at Balevullin on Tiree so that this supposition
must be rejected. At present we cannot closely date 'classic'
wheelhouse pottery such as that at the Udal. The yellow
glass beads used to date a' Cheardach Mhor to the first/
second century A.D. now have a suggested date range of
third century B.C. to first or second century A.D. (Ritchie
& Lane 1980, 219).

Consequently, no precise date can yet be given
for level XV on the Udal North. A cautious stylistic date
bracket could be as wide as third century B.C. to second
century A.D., though radiocarbon dates should allow this
to be refined in the near future. This wide date bracket
does of course pose certain problems. If the earlier
end of the bracket is preferred, a significant chronological
gap may appear between level XV and the radiocarbon date
for level XIV which centres on the fourth century a.d.
This might imply a break in the use of the Udal North or
loss, perhaps through erosion, of the evidence for any intervening
activity. Clearly this would have an important bearing on attempts to directly compare the cultural remains from levels XV and XIV, as we shall see in the next section.

The Dark-age Phase

The phase referred to as Dark Age on the Udal North is represented in the stratigraphy by levels XIV, XIII, XII and XI. These levels represent a build-up of archaeological deposits some 2 metres in depth (Crawford & Switsur 1977, 129-31) which can be broken down into numerous subdivisions, but I shall not deal with these finer stratigraphic units as little evidence has yet been published about them.

These levels contain the remains of a substantial settlement with up to eight major structural foci which develop and change through time. These eight foci were grouped on a slight crescentic ridge almost encircling a large sand bunker which was used for deposition of midden debris. The houses were of a cellular type for which the term 'ventral house' has been suggested by the excavator (ibid., 130). These houses develop through the life of the settlement, changing in form from level XIV to level XI. In levels XIV and XIII simple oval-bellied buildings, 5 m x 4 m, are present with single satellite cells, slab-lined central hearths and a single internal revetted platform. In level XII a more elaborate structure appears with a large oval chamber 6 m long, one satellite cell at either end
and a central hearth flanked by two revetted platforms. Subsequently, a more complex structure appears where the basic plan ('the figure of eight') has further small satellite cells added to it. These later structures are flanked by fenced areas, some constructed quite elaborately, and in one case with 30 cm squared timbers. At all periods small four-post structures were also built. As yet little detail is published about these structures, but a few sketch plans are available in the Interim reports (Crawford 1972, 16; 1973, 9). In addition to the structures, middens and fields provide evidence for industrial and agricultural activities.

As yet, little has been published of the artefact assemblages from these levels, but it is clear that they were rich in bone, stone, clay and metal artefacts. These seem to comprise a classic Dark-age assemblage with decorated bone pins and composite bone combs, bronze pins, iron knives, clay moulds and crucibles and various other artefacts which might be expected on a rich Dark-age site in Western Britain or Ireland (Alcock 1971; Laing 1975). However, in contrast to most of the comparable sites elsewhere in these areas, these levels are also rich in handmade pottery.

Since results are not yet available from the study of most of the artefacts, we are dependent on a few special finds and a run of radiocarbon dates to indicate the date of the Dark-age levels. Only a few artefacts can be quoted. A decorated penannular silver ring was
found in level XII and this has been described as 'sub-Roman' (Crawford & Switsur 1977, 127). More useful perhaps is a gilt-bronze pin-head discussed by Graham-Campbell (1975a, 17-18 and plate 1a). This was found in one of the latest sub-divisions of level XI and is of relevance to the date of the end of this phase. The object, decorated with two-strand interlace and a triquetra, is thought to be a mutilated penannular brooch pin with Irish affinities. Graham-Campbell dates this to within the period second half of the eighth century and first half of the ninth century A.D. (1975a, 17).

Radiocarbon dates were taken for each major level. Level XIV has one date of 336 a.d. ± 120. Level XIII has a date of 448 a.d. ± 80. Level XII has a date of 597 a.d. ± 115 and level XI has a date of 679 a.d. ± 115 (Switsur & West 1975, 46-7). The size of these standard deviations is rather disquieting, but these un-calibrated dates fall into sequence in agreement with their stratified contexts. Switsur has calibrated the dates to present them in calendar years. To do this he recalculated the dates from a 5568 half-life of C14 to the 5730 half-life. The dates were then corrected according to Clark's calibration curve (Crawford & Switsur 1977, 134-5). However, contrary to Switsur's statement, the dates have only been presented at one standard deviation, i.e. at 66 per cent confidence level (cf. Switsur & West 1975; and Crawford & Switsur 1977, 134-5). This then gives the Dark-age phase dates for level XIV of 250-495 A.D., for level XIII of 395-590 A.D., for
level XII of 495-735 A.D. and for level XI of 595-815 A.D. (see fig. 5).

These dates clearly confirm that these levels are of Dark-age date. However, from a historical point of view, the dates when this phase began and ended are of particular interest. Level XIV has only one radiocarbon date which calibrates as above to 250-495 A.D. If the date were presented at two standard deviations, i.e. at a 95 per cent confidence level, as Alcock has argued for other Dark age sites, this date bracket would more than double (Alcock 1976, 109-11). Unfortunately even at one standard deviation this gives a very imprecise date for this level. In addition the date came from a whale vertebra thus including an unknown time factor between death of the whale and the inclusion of the vertebra in level XIV. A sequence of radiocarbon dates from level XIV might give us better basis for greater precision, but at present there seems to exist no adequate basis for establishing if the Dark-age phase began in the third, fourth or fifth century A.D. My definition of Dark Age in the first chapter suggested 400 A.D. as a starting date but it should be clear that no such precision is possible at present.

This imprecision with regard to level XIV gives rise to even greater uncertainty as to the absolute chronological positions of levels XIV and XV. This is of some importance. Crawford has argued that there is no chronological gap between XV and XIV and explains the contrast in structures and
artefacts in terms of an invasion:

... the structure and artifacts of all types change character abruptly and completely from classic wheel house types to a range of material comprehensively alien thereto.

(Crawford & Switsur 1977, 129)

It is not entirely clear whether he envisages this invasion of the Hebrides to have been of Irish origin, and so in some way related to the traditional Dalriadic incursion into western Scotland to the south, or to have been some other undocumented event.

Other matters follow from a belief that XV and XIV are chronologically immediately contiguous. Level XV is seen as contemporary with the main wheelhouse on the Udal South. Consequently all structures later than the wheel house ('... a motley arrangement of squatter structures and a souterrain') must be contemporary with or later than level XIV (ibid., 129). Although this is quite possible, none of Crawford's work on the Udal South up to 1977 had produced any evidence of artefactual similarity between the two areas. In 1978 Crawford began more work on the Udal South and he has now reported a number of structures which are later than the main wheelhouse. These include a fragment of wall with elements of flooring attached; a number of small sub-circular cells which may or may not be associated with human remains; a building with platforms and cells, inserted into the centre of the wheelhouse, which may be a prototype for the ventral buildings of the Udal North; this building has a small bronze smithy apparently contemporary with it, as well as a 20 m souterrain running off from its edge (Crawford 1978, 2-5 and plan).
Although this structural sequence is of great interest, and apparently all post-dates the main wheelhouse, its interpretation as contemporary with level XIV on the Udal North does not seem to be supported by any evidence. As Crawford has said himself, there is no obvious artefactual similarity between level XIV and these structures (Crawford & Switsur 1977, 121). Clearly the similarity between the building with cells and platforms inserted into the wheelhouse and the Dark-age houses is of importance - '... virtually the prototype of the ventral buildings' (Crawford 1978a, 3) - but in the absence of comparable artefacts or radiocarbon dates, it seems premature to assume that level XIV on the Udal South is contemporary with these post-wheelhouse structures.

This raises the question of a possible chronological break between the Iron-age and Dark-age phases on the Udal North. Although neither level XV nor XIV can be precisely dated, the artefacts from level XV may be of significance. The pottery from this level is best paralleled in early contexts at sites such as a' Cheardach Mhor, though whether this means that it is of the third century B.C. or of the second century A.D. is unclear. But there is good evidence for a number of sites for the development and evolution of the Iron-age decorated styles over some time, as indicated by Young's sequence (1966), before the 'alien' types of the Dark-age phase appear. Thus there is some basis for doubting the immediacy with which the settlement in level XIV followed on the activities represented in level XV.
The stratigraphic evidence shows that level XV lies immediately below XIV. However, the variability of erosion and deposition on sand sites is such that the juxtaposition of levels is not necessarily evidence of proximity in time. If the period after the laying down of level XV was a time of severe wind erosion, an unknown depth of deposit could have been removed or simply failed to build up. Crawford has argued for just such severe wind erosion late in level XV, as an explanation for the deep sand bunker in which the Dark-age midden subsequently built up (Crawford & Switsur 1977, 130). Thus there could have been a delay between the deposition of levels XV and XIV.

In the absence of precise dates for levels XV and XIV this problem cannot be resolved. Nevertheless, it should be clear that the striking contrasts in structural and artefactual evidence between the Iron-age and Dark-age phases may represent a chronological rather than a historical event. I shall return to this question at the end of this thesis after discussing the ceramic evidence from both the Udal and the rest of the Hebrides.

After a build up of archaeological deposits to a depth of c. 2m, containing the distinctive cellular houses, a major change takes place in the nature of the archaeological deposits of the subsequent levels. It is not merely a stratigraphic, but also a cultural interpretation that level XI sees the end of the Dark-age phase. As we shall see subsequently, there are good reasons for seeing the end of the Dark-age settlement as resulting from
the historically documented Viking raids and settlements in the western and northern British Isles.

What date is level XI? As I have already explained, one artefact in the latest sub-division of level XI has been dated to the period mid-eighth to mid-ninth century A.D. by Graham-Campbell (1975a, 17). There is one radiocarbon date for level XI which calibrates to the period 595-815 A.D. Clearly neither of these pieces of evidence gives us a precise date for the end of the Dark-age phase. The radiocarbon date has such a large standard deviation - 115 years - that a date somewhere in the seventh, eighth or ninth centuries A.D. is indicated. The bronze pin-head suggests that the end of level XI took place later than 750 A.D. but it does not provide a terminus ante quem for the layer since we do not know the delay between manufacture and final deposition of the piece. In order to date the end of the Dark-age phase we must look to the succeeding levels and the evidence that they provide. The evidence of the Viking-age levels will be discussed in the next section.

In discussing the Dark-age phase I have only attempted to outline some of the major characteristics of its cultural content and have concentrated primarily on its chronology, but it should be clear that I do not think that precise dates can be given on the basis of the currently available evidence, although work on the artefacts may yet provide a more precise chronology. Although I have adopted
the term Dark Age and quoted dates of 400 to 800 A.D., such precise dates cannot be applied at the Udal. The initial date in particular must be open to dispute. Nevertheless, such dates provide a conceptual guide for discussion of this phase, until evidence can be produced to suggest others.

The Viking-age Phase

The phase referred to as Viking Age on the Udal North is represented in the stratigraphy by levels X, IXc and IXb. These deposits consist of stone buildings, middens and ploughed land of almost half a hectare in area, amounting to a depth of one metre of deposits (Crawford 1981, 266).

Level X was a fairly shallow deposit laid down on top of the preceding Dark-age levels. Although damaged by later activity, the buildings in this layer are clearly of rectilinear form apparently c. 10 m long, with some evidence of slightly bowed walls and with long slab-lined central hearths. In three cases rectangular structures were built on top of Dark-age cellular buildings (e.g. Crawford 1975a, fig. 3), and in some cases existing wooden fenced enclosures were replaced in stone. One of the first structures of this phase was a small (10.5 x 8 m) sub-rectangular fort built on top of a pre-existing cellular house (Crawford 1976, plan). Although this had been robbed down to near its foundations, it appeared to have been massively constructed and based on a substantial foundation trench packed with a rubble core of stones and turf (Crawford 1981, 266-7). This structure is thought
to have soon gone out of use or at least to have been downgraded
to being a cabbage patch. Around its edges a corn-drying
kiln and threshing floor, metalworking furnaces and other
small buildings grew up after the fort's disuse.

The second major Viking-age level is IXc. This
appears to represent a more protracted period of activity
with deposits of an average depth of 40 cm covering the
entire settlement area. The structures of this period
were badly damaged by later activity, but some six major
buildings are reported and there was a generally denser occupation
of the Udal North than in the preceding level X.

No details are yet available concerning the IXc buildings,
other than that they are rectilinear in plan and show
continuity with the preceding level X structures. The
final level of the Viking-age phase is IXb. This is a dense
burnt level which seals IXc and which appears to represent
the destruction of the settlement of this phase.

As yet, few of the artefacts of this period have been
published but the quantity and range of artefacts is clear.
Artefacts of bone, iron, bronze, clay and stone are again
found. Thus some 50 bone combs are reported from level
IXc. Although no detailed descriptions of the bulk of
the artefacts are yet available, Crawford has reported
distinctions between the Dark-age and Viking-age finds.
Thus a contrast is drawn in bronzes, in ironwork and in
bonework. The bone pins and combs of level XI are said to
be distinguishable both in shape and decoration from the
Viking-age examples. The moulds of the Dark-age phase
disappear and small crucibles in level XI are replaced by large crucibles (Crawford 1975a, 11-12; 1981, 266-7). As in the previous period pottery occurs in quantity and some new forms appear in the Viking-age levels.

So far I have described the nature of levels X and IXc without commenting on their interpretation. The number of objects which can be shown to be Norse or Scandinavian is very small. Nevertheless in view of the historical, onomastic and archaeological evidence from Scotland as a whole (Duncan 1975, 79-87; Wilson 1976, 99-102), it would be obscurantist to deny that the major changes at the Udal at the level XI / X junction are the result of Viking intrusion. The buildings of level X find parallels throughout the Scandinavian settlements of the North Atlantic (Sveinbjarnardottir 1976), and a few artefacts can be seen to be of 'Norse' origin (Graham-Campbell 1975a). If we accept that level X represents the initial Viking intrusion at this site, it is important to establish its date and the nature of that intrusion. Crawford sees the Viking arrival as very sudden, probably violent and at a date in the mid-ninth century (Crawford & Switsur 1977, 131). He has argued strongly against the idea of a peaceful infiltration of the area by the Norse and sees the Udal evidence - the end of the Dark-age village, the building of a fort, and a major change in structures and artefacts - as evidence for the speed and violence of the Norse takeover (1981). If this is correct, and the Udal evidence is persuasive, the date of this event is of some importance.
As we have already seen the terminal date for level XI is imprecise. The gilt-bronze pin-head from the top of XI is dated c. 750 / 850 A.D. What date is level X? The most closely datable artefact from level X is the decorated bronze strap-end published by Graham-Campbell (1973). This combines Borre-style ornament on one face with simple single-strand interlace on the reverse in what Graham-Campbell sees as a mixture of Celtic, Norse and Anglo-Saxon features. The object finds close parallels in Viking-age contexts in Dublin and the Isle of Man, and Graham-Campbell argues for a date in the period 850 to 950 but thinks it not likely to be much later than c. 900 A.D. (1973). Another datable artefact comes from the top of level X. This is an ornamented bone comb case which can be closely paralleled at Freswick, Caithness, and at Dublin. The Dublin evidence suggests that it should be tenth-eleventh-century in date (Graham-Campbell 1975a, 20).

There is one radiocarbon date, of 859 a.d. ± 40, for level X. This has a calibrated bracket of 800 to 985 A.D. Although this helps to confirm that level X is likely to be of ninth or tenth century date, it does not help towards a more precise date for the beginning of the Viking-age phase.

No precision is possible on the present evidence. Level X must be later than XI, with its pin-head dated to after 750 A.D., but there is no basis on site evidence at present for choosing between dates of 775, 800, 825, 850 or even later. The presence of an eighth/ninth-century gilt-bronze penannular brooch pin of Irish or Scottish provenance, re-
used as a stick-pin, in the Viking-age levels should warn us that artefacts do not always have short lives (Crawford 1975b, 4; Crawford & Switsur 1977, plate XIVa).

We might consider whether there is historical evidence for the likely period of the Viking settlement in this area. There have been claims that a gradual peaceful Scandinavian infiltration might have taken place in the Western and Northern Isles as early as the seventh or eighth century A.D. (O'Corrain 1972, 81). There now seems no basis for that view and there is no archaeological evidence for Norse settlement in Scotland before the ninth century. It is quite possible that the raids on western Scotland and Ireland beginning in 795 were made from established settlements in the Hebrides or the Northern Isles, but this does not prove the date of the Viking takeover at the Udal (Graham Campbell 1975a, 17).

There seems good evidence to think that there was no time-lag between the Dark-age and Viking-age phases at the Udal, but the date of transition can only be loosely bracketed as late eighth / ninth century A.D. We may accept it as probable that level X encompasses much of the ninth century and part of the tenth century A.D., as Graham-Campbell has suggested (1975a, 18).

Level IXc is regarded by Crawford as a more protracted Norse phase with a more densely occupied settlement. Apart from some ceramic distinctions, and in particular the presence of pottery platters, he has not documented
any artefactual differences between levels IXc and X. Nevertheless, he does state that IXc is distinct from X in a number of respects though clearly archaeologically of Norse affinity' (Crawford & Switsur 1977, 131). He suggests that IXc represents the material culture of the 'Gall-Ghaidheal', the mixed Norse-Gaelic population who are historically documented in the west of Scotland at this time (Duncan 1975, 89).

Level IXc has a few datable artefacts. The most important is a Norwegian coin found close to the top of the level. This is a silver Triquetra penny of King Harald Hardradi which Skaare dates to the period c. 1055-65 A.D. (Dolley & Skaare 1973; Skaare 1976, 73, 82, 178 and 206). There is no easy way of calculating the possible time lapse between its mint date and its date of deposition in level IXc. However, the latest hoard find containing similar coins seems to be a Faroese hoard buried after 1095 A.D. (Skaare 1976, 71-3). Graham-Campbell reports a bronze crutch-headed stick-pin from IXc which he dates to the eleventh - twelfth century A.D. on the basis of examples from the Dublin excavations. He argues that level IXc spans part of the tenth and the whole of the eleventh century A.D. (1975a, 20).

There are two radiocarbon dates for IXc. One is 1038 a.d. † 150 which calibrates as 925 to 1255 A.D. The other is 1097 a.d. † 40 which calibrates as 1055 to 1235 A.D.

The Viking-age phase at the Udal ends with the deposition of a layer of dense burnt material, level
IXb. Crawford interprets this as a destruction level and indeed, in the succeeding level IX, there is a major reorganisation of the site and a new house type appears (1975a, 12-13). The date at which this occurs is uncertain. The radiocarbon dates clearly would allow level IXc to continue into the thirteenth century. However, level IX has finds of that date and an unstratified coin of Henry II / John seems to take activity back into the twelfth century (Crawford 1974a, 2). In view of the absence of definite medieval finds below IXb, it is tempting to follow Crawford's suggestion that the destruction of the site should be associated with the well-attested Norwegian royal onslaught on the west of Scotland in 1098 which led to the cession of the area by King Edgar of Scotland to King Magnus Barefoot (Crawford 1975a, 13; Duncan 1975, 127). If this supposition is correct, it provides a terminal date for the Viking-age phase of considerable precision.

In my first chapter I adopted dates for the Viking Age of c. 800 to 1100 A.D. As should be clear from my discussion of the Viking-age levels at the Udal, it is not possible on present archaeological evidence to provide precise dates for the beginning or end of this phase. However 800 A.D. and 1100 A.D. can be accepted as reasonable estimates, or at least a chronological framework, within which to discuss the artefacts.
The Medieval / Modern Phase
I do not propose to discuss this phase in any detail as it lies beyond the chronological concern of my thesis. In levels IX - VII a single compartmented long house 15 m x 7 m with outbuildings was in use. This has English coins of Henry II and Edward I and Crawford argues that the site was abandoned briefly in the late thirteenth century. Levels VI and V have similar long houses and other buildings including timber barns. A fourteenth-century glazed imported sherd allows this phase to be correlated with the earliest historical documentation which shows the site linked to one of the lineages of the Lordship of the Isles. Levels IV - II see the farm shrinking in size till a cessation of permanent occupation came in the late seventeenth / early eighteenth century AD. Final activity in level I seems to be of transhumance shielings which are then capped by 4 - 5 m of blown sand. All these levels have house structures, artefacts and often associated fields. It is noteworthy in the present context that handmade pottery continues to be plentiful throughout these levels and it is cautionary that pottery excavated from level I, produced in the eighteenth century, actually joins up with sherds in the NMAS Iron Age collections (Crawford & Switsur 1977, 133).
Summary
In this chapter I have outlined the sequence and chronology of the Udal North. The pottery from this site forms the basis of the thesis. It will be clear that, though I believe the main phases of the site to be well dated, there is little precision for the beginning and end of each phase. It should also be clear that there are major historical considerations involved in the interpretation of the site. Once the remainder of the finds and the structures has been published it may be possible to refine the chronology, but at present some uncertainty must remain.
CHAPTER 3

METHODS OF ANALYSIS AND PRESENTATION
USED IN THE STUDY OF THE UDAL POTTERY

Introduction

In the course of this chapter I shall discuss general problems of pottery analysis with reference to the study of the Udal Dark-age and Viking-age finds. This involves some comment on general approaches to ceramic analysis, but I shall concentrate mainly on the problems encountered with the Udal pottery and the methods adopted to deal with that assemblage.

The last two decades have seen British archaeology become aware of and involved in the methodological debates and developments that have been a dominant part of American archaeology for a longer period (Binford & Binford 1968). The increasing interest in social and economic interpretations, often based on anthropological work and ethnographic data, the development of a growing battery of scientific techniques (Brothwell & Higgs 1969) and statistical approaches (Doran & Hodson 1975), and an emphasis on explicit and 'scientific' analytical procedures, have led to a considerable expansion in the literature of archaeological methodology available to the British archaeologist.

Pottery has featured in some of the methodological debates of the 'New Archaeology' in Britain (e.g. Clarke
1970). The comparative rarity of practical examples and applications of the theory expounded, coupled with the often abstruse language of the genre, has tended to dramatise the contrasting methodologies and exaggerate the actual differences in the practice of pottery analysis (see Van der Leeuw 1976, 19-64). These controversies of theory have often proved of little significance in their application to raw data. Virtually every method involves both inductive and deductive reasoning, and all attempt to find patterning in the data (Trigger 1978, 2-18).

Since the prior level of information about the ceramics of this period and area is so low as to allow few significant assumptions, no complex a priori model can be imposed on the Udal assemblage. The analysis has, as a result, involved a rather empirical extraction of the maximum information from the assemblage, using any method which seemed likely to produce significant patterning and results. Thus, initially, a policy of maximising descriptions was adopted. After a sample of the material had been examined, methods were modified or in some cases abandoned as seemed appropriate. However, the adoption of the concept of levels of publication (see below) has meant that some information is recoverable in archive. Since the application of any theoretical approach requires analysis of the raw data, it is hoped that the methods adopted here have been sufficiently rigorous to provide the information for
any future alternative methodological approaches.

The very nature of the material and its sheer quantity present problems in analysis. It is sometimes implied that coarse, sparsely decorated pottery is useless as a cultural type and is consequently not worth examination or analysis. This is largely an implicit assumption which has in the past resulted in the dismissal or severe distortion of ceramic assemblages of certain periods (e.g. Tratman 1970, 153-162). Fine decorated pottery is thus seen as artistic and culturally specific, whereas coarse pottery is seen as incapable of localisation and hence not an aid in the definition of cultures. This belief has been explicitly stated with reference to the study of the British Iron Age (Hodson 1962, 154). While not rejecting Hodson's arguments about the possible misapplication of pottery analysis in the definition of cultural groupings, it is clearly methodologically unsound to refuse to examine potential evidence as the result of a priori assumptions or aesthetic distaste. To suggest that research workers interested in the Neolithic period should not analyse pottery simply because it is coarse would be academically unacceptable. Similarly to refuse to attempt analysis of the Hebridean sequence would be gross negligence and indicate a continuation of nineteenth-century antiquarian attitudes. This is neither to deny the real problems of analysis of coarse handmade pottery nor to predict the explanatory value of the results, but the potential of the material can only be
evaluated after detailed examination. Even if the results were to be totally negative, the necessity for documentation would remain, if only to force caution on other archaeologists in the handling of similar materials.

The difficulty in finding parallels to the Udal assemblage and consequently in defining appropriate methods of study is in part due to the previous reluctance of archaeologists to study this kind of material. British pottery analyses are rarely explicit in their methods, the pottery often being classified as 'Beakers' or 'Urns' prior to detailed examination (Clarke 1970). Since the pottery of the Hebrides in this period is virtually unstudied and unknown, there is no typological scheme into which the Udal pottery can be fitted. Even to find a detailed study of comparable material in Britain has been virtually impossible. In addition, the study of handmade pottery is still dominated by the study of funerary finds which are usually complete vessels, although the bulk of pottery recovered by excavation is in the form of sherds. These pose totally different problems to those involved in the analysis of complete vessels. As a result, the Udal pottery was approached without an a priori method; methods were applied and changed as experience suggested appropriate techniques. The discussion of my methodological procedure combines therefore a review of current ideas about pottery analysis with a description of the methods actually used, including changes made as the study of the pottery developed, in the hope that this may assist other researchers with similar problems.
Aims of Study
The purpose in studying the Udal pottery was to describe and define the forms and types in use on the site; to trace any changes recognisable in the material through time; to isolate any intrusive pottery, and if possible to locate its source; to attempt to throw light on the role of pottery in this society; and in general to extract the maximum information from the pottery about the cultural history of the site (cf. Peacock 1977, 21-25). It was hoped that the detailed analysis of the Udal material would provide a dated sequence with the aid of which material from other sites might be dated. The clarity of the ceramic changes and the distinctiveness of the pottery in each period of the Udal sequence would determine the usefulness of its wider application. Meaningful generalisations about the ceramic development of the Hebrides seemed to depend on the susceptibility of the Udal pottery to analysis and subdivision. At worst the study of this pottery would show the difficulties of dating this material and so prevent overdogmatic cultural and chronological attributions by other researchers. If reasonably well-defined chronological changes could be identified, these would allow the recognition and location of sites of Dark-age and Viking-age date. To this end, analysis of form, fabric, technology and surface treatment have been as rigorous and wide-ranging as seemed appropriate to the material, and as was possible given available resources.
Presentation of Data

As has been stated already, the quantity of finds from the Udal causes real problems in the analysis and publication of the site. These problems of scale were compounded in the work of this thesis by the provisional nature of much of the stratigraphy. Most of the material can be located securely within the major phase boundaries, but the sequences within these phases is not always certain. Thus, though the sequence of levels (XI.1, XI.2, XI.3, etc.) is fairly straightforward, the relationship of some subdivisions, and the correspondence between house floors and all levels is not. In order therefore to avoid subdividing the Dark-age phase into numerous overlapping divisions, it has been treated as one unit. This means that all the pottery from levels XI to XIV has been treated as a group. It may seem crude to treat a '400-year' sequence of pottery in this way, but until a final stratigraphy is published, the subdivisions cannot be usefully applied to the whole ceramic assemblage.

Only the Dark-age phase has been treated in this way since the homogeneity of the pottery suggested that the finer stratigraphic subdivisions would give little additional information. The Viking-age phase has been subdivided. There seemed to be clear changes between its two major levels, X and IXc, and the historical importance of the transition from level XI to level X, the primary 'Viking' settlement, necessitated that both the major Viking-age levels be examined independently. An additional category
includes material that cannot yet be defined in separate levels, but falls within the Viking-age phase, levels X to IXb. The material which cannot at present be securely attributed to either of these major phases but which is either Dark-age or Viking-age in date has not been used in synthesis, though it has undergone examination and classification.

In 1975 a working party of the Ancient Monuments Board for England produced a report on the principles and practice of publication in rescue archaeology (Ancient Monuments Board 1975). While the detailed recommendations they made are not strictly applicable to this work, their concept of several levels of publication is one of critical interest to anyone dealing with a large site or with large quantities of finds. The basic problems which faced archaeological publication by the late 1960s, and which are still increasing, are a combination of factors, both internal and external to archaeology. Internal factors are that excavations are becoming larger with more detailed recording; that more excavations are being undertaken and consequently finds are becoming more numerous, particularly with improved recovery techniques; and that specialist reports are becoming longer and more numerous. The external factors are that both general costs of publication and printing have soared.

The ideal of 'complete' publication has become impractical, but in addition there is some doubt as to the validity of that ideal in modern conditions (Alcock 1978).
The development of enormous excavation reports containing repetitious descriptions, undigested specialist reports, and pages of section drawings of identical features, is one response to the increased scale of excavation. Repetition of excavations arises from the growing interest in social and economic issues and statistical and spatial techniques, for which excavation of complete settlements or field systems are necessary. Whereas in the past archaeologists have been interested in the unique object, the single house, or the intrusive artefact or people, current research aims demand patterns and repetition rather than single examples.

However, while large areas may need to be excavated, little is gained by publishing undigested detail (e.g. Wainwright & Longworth 1971, figs 118-38). If the data gained in excavation is soundly analysed, it should be possible to publish summaries without distorting the excavation record. This is not an excuse for archaeologists to excavate without publishing, but a balance must be drawn between repetition of data and provision of sufficient information for critical assessment. All the data must still be considered, but final publication should consist of synthesis with sufficient examples to substantiate the conclusions proposed (cf. Alcock 1978, 4). It is also necessary that unpublished data be available so that researchers wishing to reconsider the site, or rework the evidence, perhaps using new techniques or methods, can get easy access to archived material.
As yet, few works have been produced using the recommendations of the Ancient Monuments Board, and it remains to be seen whether the glossy 'magnum opus' will remain the norm for important or influential sites, or if the principles put forward gain acceptance generally (cf. Cunliffe 1975 and 1976; Smith 1977; Rahtz 1977). The need for some standardisation and quality control over archive procedures has yet to be fully thought out or put into practice (Wainwright 1977, 379; Jefferies 1977).

The size of the Udal pottery assemblage, coupled with its considerable homogeneity, has necessitated the adoption of procedures appropriate to this site for analysis and publication. A detailed description of every sherd with a drawing of every rim and base would result in the repetition of information and the production of a report gargantuan in form and virtually unusable in content. There are over 2,000 bags of pottery from the Udal levels XIV to IXb, each containing between one sherd and several hundred sherds. Even a summary of the contents of every bag of pottery would produce many hundreds of pages of typescript. The publication of the pottery data has consequently been visualised as coming in several stages.

The stages of analysis are outlined briefly below and I shall occasionally refer to them in the course of this discussion of methods. After the methods of analysis have been discussed a more detailed explanation of the content and format of each stage of analysis and
presentation is given, so that any future researchers can relate the current analysis to the archive and to the pottery itself. This slightly cumbersome procedure, separating the outline of stages from their detailed description, is necessary since both methods of analysis and the format of presentation interact and influence each other. The term 'stage' is used, rather than 'level', to avoid any confusion with stratigraphic levels. In addition, the term 'publication' is used, following the proposals of the Ancient Monuments Board (1975, 3) to refer to all stages of analysis and recording, including the site records in archive and the finds themselves, since these represent part of the basic record of activities on the site and will be available for future study, even though the objects cannot be 'published' in the normal sense of the word.

Stages of publication:

Stage I: the pottery itself as excavated, bagged and numbered on site.

Stage II: the excavation records regarding these finds, including numbered finds-record cards and notebooks.

Stage III: the description of the contents of each bag of pottery in rough, unpublished notes.

Stage IV: a numerical analysis and summary description of the contents of each bag of pottery; this forms part of the site archive.
Stage V: the summarised data on the pottery from each level or part of a level, as contained in Appendix I of this thesis.

Stage VI: the synthesis and discussion of the pottery, as presented in this thesis.

Classification
The basic variables involved in pottery analysis can be listed as form, fabric, surface treatment, decoration and technology. As will become clear, neither decoration nor surface treatment is of much significance in this analysis, since the bulk of the assemblage consists of simple undecorated handmade vessels. Some criteria which are often used, for example, colour, thickness, or minor rim variations, have been ignored since they can be seen to vary within single vessels and their inclusion threatened to obscure significant features in a mass of insignificant detail. There are, of course, problems in deciding what is significant detail, but attempts at totally unweighted analysis have not yet been proved to be very effective, whereas more subjective analyses, if properly controlled, can provide far more useful information (Clarke 1970, 32-3). Some criticisms of previous work for subjectivity and inaccuracy are valid and the aim of a controlled uniformity of cataloguing procedure to 'ensure identical and complete cataloguing by several cataloguers or by the same person at different times' has an undeniable logic (Wood 1966). However, the over-rigid and uncritical use of techniques
not necessarily appropriate to the material under study
is one danger of the new orthodoxy.

Shepard has outlined two basic approaches to pottery
classification using American and African examples
(Shepard 1965, xiv-xv). One, which she characterises
as the 'look-feel' method, involves the subdivision of
an assemblage into ceramic units on the basis of several
factors, including form, fabric and decoration. The
other approach, termed 'analytical', involves analyses
of the variables individually with the definition of types
or wares by the synthesis of recurring combinations of
variables. While in practice the number of variables
in a simple assemblage may not be many, it seems important
that they should be examined independently, even if they
then prove insignificant. The danger of the 'look-feel'
approach is that it may divide the material into non-
existent categories, since the reality of each variable is
not being tested, but rather the superficial impression
of a combination of factors. Clarke (1970, 26-7, 465-7) has
argued that types should be defined at the end of
classification once the different ceramic attributes
have been tested and their variability proven. This puts
considerable emphasis on final synthesis and in some
cases may risk loss of recognition of some detail in the
process. In general, however, this 'analytical' approach
has been adopted, and each variable has been examined
independently, at least in the initial sample. Superficial
variation has been rejected where it seemed likely to
lead to an over-elaborate classification.
Vessel Fragments and Units of Analysis

The sheer size of the assemblage has necessitated that it be largely analysed in the condition of fragmentation in which it was found. No major search for joining sherds and reconstructable vessels has been possible, as neither the time nor the personnel have been available for such a procedure. Complete vessels or profiles were only obtained when major sherd groups were recognised on site as probably representing single vessels, or when unusual forms were recognised during analysis. The homogeneity of the pottery permits this approach and it seems likely that all the major forms have been recognised, particularly as any unusual sherds were examined closely to check for the presence of unrecognised variants. Even if a prolonged search for reconstructable forms had been possible, the overwhelming bulk of the pottery would still have had to be classified in a fragmentary state. This is an inevitable consequence of the recovery of pottery from settlement sites and is one of the major problems of modern ceramic studies. Because the assemblage is largely in a fragmentary condition, it has been divided into four groups based on the fragmented pieces of vessels. Each of these four groups of pottery can provide different information of varying quality and potential for the purposes of classification and analysis. These are rims, bases and body sherds, with a further distinction between large and small body sherds being made because the thousands of tiny fragments, which were
either recovered by sieving procedures or were created after excavation by abrasion of larger sherds, provide virtually no useful information. The small body sherds arbitrarily defined as being below 2.5 cm² (c. 1 in²), are too small to give useful information about form or construction and are very difficult to classify reliably by fabric. These were termed miscellaneous.

In the following discussion the methods of analysis are discussed in relation to general principles of pottery analysis and the specific problems of the Udal assemblage. The appropriate treatment of the vessel fragments is outlined for each variable used in the analysis.

Fabric Analysis
The analysis of fabric – the physical and chemical composition of pottery – has become of increasing importance in ceramic studies in recent years. It has always had an implicit role in pottery analysis in that the recognition of coarseness or fineness of paste has often been used as an indicator of date or cultural grouping. However, the refinement of geological methods and improved optical magnification has led to a new and widespread recognition by archaeologists of the importance of fabric analysis (Peacock 1977). Fabric analysis is basically concerned with the nature and origin of the clay, and with the nature, origin and density of the filler or grits that have been used to strengthen and stabilise the clay before firing. Until recently it has been the analysis of grits
that has been most widely used since considerable information can be gained merely by examination by eye, or low magnification (Shepard 1965, xi). Variation in the geological source of grits can be an important means of subdividing pottery assemblages. At best it can be used to identify imports by isolating pottery groups whose geological composition is alien to the place of finding, and dramatic trade patterns have been claimed as the result of analyses of Neolithic, Iron-age and Medieval pottery (Peacock 1968; 1969; and 1977). Even in the absence of obvious foreign elements, variation in tempering provides one basis for classifying the material. Limitations in geological resources, in conjunction with the supposed conservatism of primitive potters (Foster 1965, 47-59), should lead to consistent use of local tempering materials, although the nature of local geological resources will be of crucial importance. There is, however, no practical reason why temper should be brought long distances since it can consist of almost any stone, shell, flint, organic material, or even ground-up pottery. This ready availability of tempering materials means that local changes in usage can indicate selectivity with cultural, chronological or technological implications.

Subdivision of pottery on the basis of superficial differences in the size of grits, or density of grits, has been used to produce complicated classifications (Bradley & Ellison 1975, 94-97). A systematic form of this, involving thin-sectioning and the counting of densities
under optical magnification, has been shown to be a valuable approach to professionally-made pottery (Kilmurry 1980). However, this approach must be used with caution in analysing prehistoric pottery, as considerable variation in density and size can be observed within single vessels, and even within single sherds, with the consequent danger that sherds could be sorted into meaningless categories. The degree of sophistication of the pottery and the consistency of particle size must be considered before over-elaborate schemes are developed.

The analysis of the clay composition of pottery is not an approach that is commonly used. The enormous variation in clays, combined with the difficulty of simple optical identification, has precluded any widespread study of pottery by clay source. There has been a considerable number of techniques evolved using either heavy mineral analysis (Williams 1977), or trace element analysis (Shepard 1965, iii-x; Matson 1969), but expense and shortage of equipment and personnel have prevented the wider adoption of such approaches.

A basic hierarchical approach to fabric analysis, as outlined by Shepard (1965, xi), involving initial examination by eye, followed by optical magnification, and then more complex optical and chemical methods, if justified, still seems valid and economical (Peacock 1977, 25).

The examination of fabrics has been taken as the primary step in the Udal classification, since other variables, that is form, decoration, and manufacturing technique, may not always be observable.
In practice, all rims, bases and large body sherds have been classified by fabric. The small body sherds (the miscellaneous group) have not been classified in this way since many were too small to give secure fabric definitions, although some fabric references were made to these sherds at stage III in the rough notes on each finds number. The sherds of so-called 'platter', mainly found in level IXc, have been treated separately because even tiny sherds of this type are easily recognisable, and so every platter sherd recognised was defined using a separate classification.

The initial examination of the Udal pottery was undertaken on material from level XI as this was thought to be among the best defined stratigraphically, as well as providing enough sherds to indicate likely variability. This initial sorting indicated a large number of minor variations in colour and texture. None of these variations appeared to be of significance when the material was examined with a binocular microscope of x10 magnification. Ideally some of this pottery would have been submitted to more rigorous analysis, perhaps by thin-sectioning, but this was not financially or practically possible. In view of the minor variations detectable at this stage, it was decided to use a system of provisional fabric types to avoid the loss of any unusual fabrics through failure to distinguish them from the mass of material. Thus, unusual sherds, visually or microscopically distinct, were given a letter and number series and stored so that immediate
reference could be made to them. The numbering system runs A0, A1, A2 to A20, and B1 to B20, etc. These provisional fabric types were kept available during examination of the pottery so that sherds could be directly referred to them. Due to limitations of space and the sheer number of types, a second series had to be started to handle the Viking-age phase pottery.

This approach was adopted because of the danger of important fabric variations going unnoticed among the superficial variations. It became clear fairly soon that most of the sherd types were minor variations of a few major groups, but this approach was retained in the examination of all the pottery. This is an unwieldy method of analysis, particularly in a confined working area, and it resulted in hundreds of provisional fabric types which later had to be correlated. It is very similar to the approach characterised by Shepard as 'look-see', though in this case it was only used for a provisional analysis. A slightly more advanced form of this method, with an elaborate filing system, is being used to analyse Roman and Medieval pottery by the Department of Urban Archaeology of the Museum of London (Orton 1979, 62-6). It is not an ideal method unless considerable storage space is available, preferably with computer facilities to correlate the provisional types.

The provisional fabric types were retained until after Stage IV, when all the fabric examples were examined using a binocular microscope and the main groups were defined.
This resulted in the acceptance of eight fabric groups from several hundreds of sherds. The defined groups are the fabric types quoted in stage V and VI of this work. Only major distinctions in tempering materials, for example, quartz, or mica, or grass, were used in defining the groups. The densities and size of grit inclusions have not been used to define fabrics because they vary considerably within single vessels and even within single sherds. Texture and thickness of sherds were not used for the same reason. Any classification using these criteria would divide single vessels or the sherds from them into different groups. Colour was not generally used either, as its variability seemed likely to relate to poorly controlled firing, to the subsequent use of the vessels, as well as to post-depositional conditions, rather than to the use of different clays in manufacture. These factors could be of interest, but the differentiation of the different causes could not be pursued (see discussion of colour below).

Although the use of provisional fabric groups necessitated considerable and laborious revision of written work, it does mean that the fabrics were defined at the end of the analysis when the whole range of material was known. In addition, the complete range of minor fabric variation has been extracted from the assemblage and will be available for study in archive should further physical or chemical analysis prove desirable. These provisional fabric types and their accepted fabric groups can be found in the printed sheets of stage IV in the archive.
Having defined the major fabric groups using a binocular microscope, examples were selected for thin-section analysis. The aim was to characterise the geological content of the sherds and to determine the significance of the differences between the major fabrics. On the basis of visual identifications, none of the material need be other than from local sources. Some twenty sherds were submitted to Dr Williams of the Department of Archaeology, University of Southampton, for thin-sectioning, and heavy mineral analysis, if appropriate. These twenty samples attempted to encompass variation within the fabric groups so that the homogeneity of the groups as well as their differences could be tested. The results are discussed in the next chapter.

The concept of clay analysis has similar objectives to those of analysis of filler, though the difficulties involved may leave some uncertainty about the results. The variability of clay and its frequent occurrences make the identification of a single source rather unlikely. However, the importance of this analysis is to establish whether all the site pottery is made from similar clay. Any deviation from this would be valuable for comparison with stylistic analysis, with particular interest focussing on the transition from the Iron-age to the Dark-age phase, and from the Dark-age to the Viking-age phase. A change in the clay source used by the settlement would be a useful factor in judging the completeness of any cultural break recognisable from other indicators. Having defined
the principal clay source, or at least its mineralogical characteristics, any possibly intrusive, or exotic, sherds could be tested against it.

Two different approaches have been pursued as regards clay analysis: X-ray diffraction (Brothwell et al., 1969 514-5), and neutron activation (McKerrell 1977).

Eight samples were submitted to Mr R. McGill, of the Department of Geology of the University of Dundee, for X-ray diffraction analysis (Hutchison 1974, 144; Shepard 1965, viii-ix). This method analyses the larger mineralogical components of the clay and filler and can be used to test the homogeneity of assemblages. The results are presented in the next chapter. It is not a quantitative method, but merely records the presence or absence of minerals and consequently the method is not sufficiently accurate to recognise minor variations. More information on the methods of preparation and analysis are available in archive, in the form of notes submitted by Mr McGill.

With the aim of getting qualitative analyses, over one hundred samples were submitted to the Research Laboratory of the National Museum of Antiquities, in Edinburgh, for neutron activation analysis. This technique, which tests the trace elements present in pottery, has produced useful results when applied to late Anglo-Saxon pottery (Kilmurry 1980, 208-14) and Near Eastern ceramics (Davidson & McKerrell 1976). As it requires only a very small sample of a sherd it can be used without seriously damaging or scarring artefacts. At the time of writing, no results are available
from this work.

It is hoped that the combination of visual and optical definition of fabric groups, tested by thin-section analysis, and by clay analysis, will provide a reliable characterisation of the pottery fabrics used on site throughout the Udal sequence. Upon the results of these analyses depend the necessity or usefulness of any further scientific work.

Colour

I have not listed colour as a major variable in pottery analysis. It is sometimes used as a factor in defining groups, since the visual appearance of pottery is often the first thing to be noted by an observer. The significance of colour varies considerably in studies of pottery of different periods, but in unglazed, unpainted earthenware, colour is dictated by a complex interaction of the mineralogical composition of the clay, the method of firing, subsequent use, and the local conditions after deposition (Shepard 1965, 102-07). Archaeologists have tended explicitly to minimise the value of colour analysis in such pottery, though it is often used implicitly in sorting pottery in the 'look-feel' approach to classification. Consistent major differences in colour are usually considered since they can represent differences in clay, firing, or decorative treatment.

Attitudes to the analysis of colour in ceramics have undergone similar changes to those affecting general
approaches to ceramic studies. The ideals of consistency of recording, scientific objectivity and accuracy of observation have led to the adoption of colour charts by some archaeologists (Shepard 1965, 107-13; Smith 1970, 215). However, before this approach is undertaken, the aims of the method need to be considered.

Objectivity and consistency in recording colour is a laudable aim in itself. There can be little doubt that when archaeologists describe colour subjectively, the descriptions vary enormously according to their colour recognition and their own terminology. The use of a colour chart will give accurate and consistent colour descriptions to a considerable degree of refinement. However, this is only of value if the colour variation recognised is going to be significant and the information assist our understanding of the material being studied.

My initial attitude to the analysis of colour in the Udal pottery was that a colour chart should be used to ensure consistency of description throughout the whole sequence, particularly as it was to be studied in segments by different people. But examination of the pottery suggested that the use of a colour chart was unlikely to provide useful information. There is a considerable degree of minor colour variation present, with the result that the sherd material could be divided many times without isolating each variation. With coarse handmade pottery and primitive firing techniques, the differences in colour on one vessel can be considerable. The pottery from the
Udal sometimes shows horizontal banding of colours, or gradual changes from top to bottom of a vessel, with irregular patches of external soot posing an additional problem. Thus the range of colour on individual sherds and on complete pots is sufficient to make nonsense of precise colour analysis. Consequently, colour variation has not normally been used to define the fabrics, and only generalised descriptions of colour, largely in the range of greys, browns and buffs, have been included in descriptions. It is possible that some of the colour variations are significant, but the difficulty in sorting these from the mass of material has led to the virtual exclusion of colour as a criterion in classification. A statistically handled analysis of the minute colour variations might detect generalised trends in the clay used, or perhaps changes in firing, but it would require mechanised colour scanning before an assemblage of this size could be easily approached in this way.

Hardness

The role of hardness is in many ways similar to that of colour in ceramic studies. It has been used rather subjectively in the past and consequently has been criticised for similar inconsistency and inaccuracy. The use of a geological scratch-test for calculating hardness - the Mohs Scale (Shepard 1965, 114-17) - has been advocated by a few archaeologists (Smith 1970, 215), but not widely adopted (Peacock 1977, 30). Although hardness is partly
due to clay and to firing factors, the problems of post-
depositional variation in conditions and the consequent
variation in the hardness of the pottery when excavated
can make it a totally false indicator of pottery types.
Even within a single site differential drainage and weathering
can radically modify the hardness of sherds, and the likely
variation between different sites is sufficient to make
comparisons of little value.

The degree of variation of hardness in the Udal
assemblage is not great, though superficial differences can
be recognised. The Mohs Scale is not adequate for the
degree of variation recognised here, particularly as the
irregularity of the pottery, the presence of variable grit
densities, and patchy firing can give inconsistent results.
As Shepard observes 'primitive pottery is not suitable for
exact hardness measurement since it is porous and
heterogeneous' (Shepard 1965, 16).

The recognisable differences in the Udal pottery are
a combination of hardness and texture since it is the
surface condition of the pottery which gives the impression
of hardness. These differences have not been used to
define fabric groups or types because of the degree of
subjectivity involved and the possibility of natural post-
depositional changes. It is, however, possible that there
are significant changes through time at the Udal, as some
Viking-age pottery seems to be harder or denser than the
Dark-age finds, but this remains a subjective observation
which would require considerable technological investigation
to substantiate.
Form

The study of form or shape has been the traditional basis of pottery classification in Britain since Thurnam (1871). The desire for objectivity and the rejection of a nomenclature that prejudges purpose has led to some development of analyses based on geometric shapes and formulae (e.g. Gardin 1967). These analyses are concerned with complete vessels and while some elements of the approach are quite useful, they do not provide methods applicable to a sherd assemblage of the Udal type. The geometric codes for description, outlined by Shepard (1965, 224-45), and Gardin (1967), are only necessary when dealing with large numbers of vessels of considerable variation, as a preliminary to punch-card or computer sorting. The simple nature of the forms present at the Udal, and the rarity of complete vessels, make the illustration of all the major recognisable variants quite feasible, while the use of nomenclature such as 'bucket' or 'bowl' need not prejudice discussion of purpose. The methods used by Clarke, to define shape by ratios, are similarly of little use in a large sherd assemblage (Clarke 1970, 26-7). It is a major weakness of the geometric methods developed in recent years that they rarely consider the problems of fragmentation inherent in assemblages from settlement sites. British ceramic studies are still biased by the approaches of nineteenth- and early twentieth-century excavators who sought complete vessels from graves, although the vast mass of pottery excavated in recent years is from settlements and so has been recovered in fragments.
Where possible the analysis of shape in the Udal assemblage has been kept as objective as possible. Various measurements of length, angle and diameter have been recorded and noted in Appendix I, even if not fully used in synthesis. However, the crudity of the pottery and its visible variations (for example, in rim and base angles) have suggested that spuriously accurate recording could give positively misleading results in the study of a simple assemblage of handmade pottery.

The different fragments of the vessel, that is rims, bases, body sherds and miscellaneous sherds, produce different information, and each is discussed separately below. The aim of objectivity had to be modified by the necessity of adapting to the special characteristics of the Udal assemblage. Measurements have only been taken where they can be made with confidence; material that does not give reliable information has simply been classified by fabric, or taken to whatever stage of analysis seemed appropriate.

Much of the sherd material from the Udal provides no information about form and, in particular, the small body sherds (the miscellaneous group) are too small to give any information about shape. Consequently, they are ignored in the analysis of this variable. Even with the larger body sherds the irregularities of production by hand and the fragmentation of the pottery prevent any useful estimate of body diameter. Few shoulders or necks are recognisable, unless attached to rims, because the pottery
tends to break along the construction joins. Some information on the curvature of body sherds was recorded initially but, as it became clear that this would not assist classification, the analysis of body sherds after stage III is purely by fabric. Originally all rims and bases were recorded in detail and pencil drawings made of most of them at stage III. Thus at stage IV, base, wall and rim thickness measurements are given, and rimtop treatment, angles, diameters, and shape classifications are recorded. However, examination of the material suggested that many of these criteria were random and are of no use in classification. In addition, recurrent shapes were recognised and descriptive terms such as 'straight-sided' or 'shouldered' were adopted to define forms. This terminology was derived from analysis of the Udal assemblage and is crucial to the classification proposed.

Variation in rim form is traditionally one of the most important criteria for the definition of pottery groups. However, some of these traditional criteria are of questionable validity to the Udal assemblage. Examination of large numbers of rimsherds has clearly shown that minor variation in rim treatment is irrelevant to classification. The treatment of rimtops is always very simple. The surfaces of these rimtops can vary from curved to flat and can be slightly angled to the inner or outer surfaces of the vessel, but the evidence of large sherds and complete vessels suggests that these variations are not significant. For this reason, many of the rims are not classifiable in detail,
although it can be said with some confidence that they do not contradict the information obtained from the more complete forms. Occasionally a rimtop appears to have been flattened carefully, but most have evidence of only casual finger-smoothing. Data on treatment of rimtops was not used in synthesis, but is available at stages III and IV should this information seem worth utilising in the future.

Rims: The clarity of the construction slabs (as defined below) means that the rim is to be defined as the uppermost construction slab of a vessel. This definition can be applied to almost all the Dark-age pottery and to much of the Viking-age material. Some measurements are only possible on particular forms, but compatibility of classification has been maintained throughout the sequence, except where forms are so different as to require alternative approaches. Figure 6, no. 1 shows the section of a simple rim: this does not preserve information of its diameter, angle to horizontal, the shape of vessel it derives from, its construction technique or the size of its rim slab, so that it would be classified by fabric and appear in Appendix I as part of the numerical total. Figure 6, no. 2 shows a rim where the construction joins are clearly visible. In this case the rim is 4.4cm long and the second slab is not at an angle to the rim, but continues on the same axis. On the evidence of the rest of the assemblage this can be shown to be from
a straight-sided vessel; it would appear in Appendix I under its fabric group as '1 x 4.4 cm T.G. Straight'.

Figure 6, no. 3 shows another rim where the construction lines are clear, but in this case the second slab is at an angle to the rim and the vessel from which it comes appears to have had a slight shoulder. Such a rim would be described in Appendix I as '1 x 4.2 cm T.G. Shouldered'. The angle of the shouldered vessels is rarely well defined and no measurement of the angle of this form has been possible. Figure 6, no. 5 shows a similar rim which is at an angle to the body slab below. In this case the shoulder may be slighter and the rim more flaring than in Figure 6, nos 3 & 4. However, it is only possible to distinguish between the two alternatives, an upright rim with a marked shoulder, and a flaring or slightly everted rim with a slight shoulder, when the diameter and rim angle is preserved. This distinction is only possible occasionally and the degree of shouldering is not easy to define accurately. In addition, the range of variation seems to be continuous rather than consisting of sharply defined groups, and thus Figure 6, nos 3, 4 & 5 would all be defined as shouldered.

If sufficient of the rim survives to allow reconstruction of the diameter, this would be measured using diameter charts. As the pottery is all handmade and rather irregular, only a small percentage of the rims have been judged to be large enough to give reliable measurements. This has been applied rigorously and only those measurable with confidence
have been quoted. If sufficient of the rim survives to give a diameter, the rim angle to the horizontal is measurable. Only if the diameter can be measured is the rim angle calculable and the angle of the profile reconstructable with any confidence.

In Figure 6, no.5 the angle of the rim to horizontal is 63°. This is measured by taking a central axis through the rim-slab. It can vary by several degrees round the diameter of a vessel and in this case the variation noted elsewhere on the vessel was from 63° to 66°. This rim would be noted in Appendix I as an '1 x 3.1cm T.G. Shouldered, 13cm rad. 63° - 66°'.

In a number of cases enough of a rim survives to give a diameter, but no lower construction slab or change of body angle survives to indicate the shape of the vessel. These are noted in Appendix I as, for example, '1 x 10cm rad. 70°' and are classified as indeterminate forms.

Figure 6, nos 6&7 shows a different construction technique described as 'angled slab' or, if the join were flatter, it might be referred to as a 'coil' or 'flat slab-join'. The same general approach is followed with this material. The rim would be measured at a mid-point of the sherd, thus giving for Figure 6, no.6 a measurement 2.5 cm long. This would be noted in Appendix I as '1 x 2.5cm A.S. Straight'. Any change in body angle in relation to the rim would be noted, and diameters and rim angles measured as before. If the construction marks are not visible, but sufficient of the rim survives to indicate a change in body angle, an external measurement can be given as in Figure 6, no.8 where a short, sharply everted rim is shown. This measures
0.8cm externally. As the sharpness of this angle is clear, this can be measured using axes through the centre of the profile. This rim would be noted in Appendix I as '1 x 0.8cm everted, 125° R/B'; 'R/B' being an abbreviation for Rim/Body to distinguish this angle, from the rim angle to horizontal measurement, which would be made if the diameter and rim angle were sufficiently well preserved.

Bases: Base sherds have similarly been recorded in detail at stage III, and, where possible, basal thickness, wall thickness, wall angle, diameter and special characteristics were noted and pencil drawings made. Base sherds are recognisable, even as small fragments, because of their flattened lower surfaces. These small base fragments have been sorted into fabric groups, but unless they have special features they are not classifiable any further. The base sherds noted in fabric groups in Appendix I are from flat-based vessels, unless stated otherwise. Special features which require differentiation, and which may be recognised on small sherds, include external grassmarking, external grit impressions, internal fingering and a sagging profile. Some bias may be introduced into the figures by the difficulty in distinguishing between small sherds from sagging bases and small body sherds. However, base sherds are normally readily distinguishable from body sherds.

If the basal angle (the join between wall and base) survives it may be possible to characterise the base form more closely. Thus the nature of the angle, its
construction, the basal diameter and the wall angle are all criteria for classification.

Figure 6, no. 9 illustrates a flat-based sherd with an angular join between wall and base (a 'sharp' base angle) and a 'tongue-and-groove' construction. The angle of the wall to the base is measurable on a mid-line parallel with the wall edges. This is merely an approximate measurement and is only measurable with accuracy if a reasonable height of the vessel wall remains. If the wall is clearly curving the angle is of even less value. The wall angle is normally only given in Appendix I for those examples with surviving diameters. It has not proved a particularly useful trait in synthesis. The clarity of the construction marks in Figure 6, no. 9 is quite common in this type of base and the technique appears to have a direct influence on the base shape, giving its slightly 'footed' appearance (van der Leeuw 1976, 347). If sufficient of the sherd illustrated in Figure 6, no. 9 survived it would be listed in Appendix I as '1 x 6.5cm rad. 71°, 35.4g.'.

The final figure is the weight which is included to give guidance on the size of the sherd in question. If no diameter or angle were measurable, it would merely be listed under its fabric group as '1 angle', meaning a flat-based vessel with this type of basal angle.

Figure 6 no.10 shows a round-angled, sagging-based form. This basal angle is sometimes measured to give some indication of the degree of sag from horizontal, but it is often difficult to measure accurately the angle between
two curving surfaces. Accurate estimation of the correct relation of such a base to its original horizontal plane depends on the survival of large sherds and complete vessels to provide this information. In Appendix I this sherd is listed as '1 rounded angle and sagging'. In some of the sagging-based vessels a clear construction mark occurs at the join of wall and base (Fig. 6, no.11). This does appear to have a direct influence on the shape of the angle and it would be listed in Appendix I as '1 base/wall slab join, rounded angle, sagging base'.

Figure 6, no.12 shows a round-angled, flat-based sherd with a construction join at the basal angle. This would be listed as '1 base/wall slab join, rounded angle'. The fact that it has a flat base is not stated in the catalogue since all bases are assumed to be flat unless stated otherwise.

As in the treatment of rims, measurement of thickness has not been used in synthesis, but it was recorded at stage III and is available at stage IV in archive. The range of thickness variation present on complete vessels, and the comparatively small extreme limits within the assemblage, suggested this criterion was useless for classification.

Platter: The analysis of the 'platter' material has been slightly different from that of the standard vessels. The platters at the Udal are flat discs of pottery with no side walls and so consist solely of 'rims' (the edges of the disc) and 'base sherds'
(the remainder of the disc). All sherds of this material have been classified and counted. However, only the rims provide any information about shape and sometimes allow diameter measurements to be made.

Conclusion: The aim in this general approach to shape classification has been to use only such data as could be measured or observed with confidence. An hierarchy of evidence can be quoted to establish the validity of the classification. The few complete vessels provide the model by which the sherd material can be interpreted. From these it is easy to extrapolate to the sherds preserving profiles and diameters, and eventually to the very fragmentary material which does not independently provide very much information. However, even the fragmentary material can be used with some confidence, as it can be seen to be so similar to the better preserved pottery that the homogeneity of the assemblage is secure. Although a prolonged search for sherds which might join has not been possible, there is no indication from the surviving material that any major variant has been missed. The complete vessels, surviving profiles, rims, bases, and body sherds, are all interpretable with confidence as a coherent assemblage within the scheme as set out above.
Construction

The analysis of methods of pottery manufacture from the sherds and vessels found in excavation is not an approach commonly used in British ceramic studies. This is partly due to ignorance and lack of observation, related to the absence of local ethnographic parallels for manufacturing techniques, and partly to a belief that the information is not significant. In a seminal paper published in 1953 Stevenson drew attention to some of the known methods and suggested the potential of construction methods as an additional criterion for cultural analysis (Stevenson 1953). More recently van der Leeuw has proposed an analytical approach to pottery analysis based largely on methods of construction and manufacture (van der Leeuw 1976).

The clarity of the construction marks on much of the Udal pottery has led to the adoption of construction as an important trait in analysis and classification. None of the pottery from the Udal, with the exception of one glazed import from the Medieval phase, is wheelmade and all the construction marks traceable are evidence of various methods of producing handmade pottery. Detailed descriptions of the methods are given in the discussion of the pottery of each phase, but some outline of the different techniques is necessary inasmuch as they affect the classification and description of the material.

Figure 6, nos. 2-5 and Figure 13, nos. 1-5 show the technique described as 'tongue and groove' construction. This is a method of building a vessel in horizontal rings. Each
section, up to 4 or 5 cm in height, forms a horizontal ring round the entire diameter of the vessel. This is quite different from coiling where long thin strips are built up in a continuous, but angled circle round the vessel (Stevenson 1953, 65). Each ring is horizontal and in this technique the diagnostic feature is its jointing to the rings above and below. The top of the lower ring is thinned out, leaving a smooth curved surface rather like a rim. The ring above is then joined to the lower ring by having its bottom edge pulled down over both sides of the 'rim' of the lower one. This process forms a groove in the bottom edge of the upper ring. The technique produces an effect rather like that of a woodworking joint, hence the name 'tongue-and-groove' that has been given to it.

This method seems quite effective in joining the rings of pottery, but was probably liable to trap air in the joins. Pottery built in this way often tends to break at the joins, either due to low firing or to inherent weaknesses in the method. In breaking at the join, the top of the lower ring - the false 'rim' - is often trapped inside the groove of the upper ring, in which case it is clearly visible in section in such low fired pottery (Plate 6). If the false 'rim' comes out of the groove there is a risk that the false 'rim' may be mistaken for the top of a genuine vessel rim, but the groove in the upper ring, usually in a central position in the thickness of the vessel wall, is quite unmistakeable. Familiarity with the material allows the false 'rims' to be recognised fairly easily. Even when
the external surfaces have been smoothed over, these joins are often detectable as horizontal ridges on the interior surface of the sherd or vessel. The pottery of the Dark-age phase is largely built using this technique.

The alternative construction methods used at the Udal do not all produce such clear evidence as the 'tongue-and-groove' technique. One of these methods (Fig. 6, no. 7) uses a much flatter join than the 'tongue-and-groove' technique. The evidence is not clear as to whether this is a continuous coiling method or a technique using fairly horizontal rolls. It does not have the regular size and shape of the 'tongue-and-groove' method, but clear join lines are often visible on the interior surfaces of vessels (Plate 2a) and flattened joins (Fig. 6, no. 7), or more angular joins (Fig. 6, no. 6), are detectable in section. The angled join, nearly always angled down on the inside, appears to be the result of the coils or rolls of clay being forced together by pressure, on the outside in an upward direction and on the inside in a downward direction (van der Leeuw 1976, 332). These joins are referred to as 'slab-joins' or 'angled slab-joins'. The joining of base and wall by an angled join, simply pressed together, is a characteristic of this method (Fig. 6, no. 11). The breaks in the 'angled slab' technique are often less clear than the evidence of the 'tongue-and-groove' technique. This may be due to the instability of the tongue-and-groove joins, or to a lower firing temperature for the Dark-age pottery; but, whatever its explanation, there is a genuine contrast in clarity of evidence for the two techniques.
If no obvious evidence is visible in section, but the external or internal surfaces show signs of joins—often linear marks, or lumps,—these are usually described as 'fault lines' or 'construction lines' in Appendix I. These vaguer traces appear to relate invariably to the slab, or angled slab, joins of the less regular roll, or coil, construction method rather than to the tongue-and-groove technique.

The methods of construction appear to relate directly to the vessel shapes produced (Hodges 1965, 115-17). However, the question of whether a technique is chosen to produce a particular shape, or whether the shape is an accidental result of the technique, is not easily resolved (van der Leeuw 1976, 319-81).

The cultural significance of the different construction techniques is a matter of some doubt. The techniques of construction are comparatively few and they recur at various times and places in the archaeological record. Childe (1931, 127) described and illustrated the 'tongue-and-groove' technique on pottery from Skara Brae, and Stevenson (1953) records it in both 'Bronze-age' and 'Iron-age' contexts. However, within the Udal sequence clear changes in the methods used can be shown to have occurred through time. In spite of the possibility of the recurrence of simple techniques, methods of construction and production may have cultural significance within well-defined local sequences. This will only become apparent if archaeologists start to recognise and describe the construction traces.
visible on their pottery, although some of the better fired or more carefully constructed pottery may not show any clear construction traces. However, techniques such as X-ray photography, can produce clear results from vessels with no surface indications (Stevenson 1953, 68).

Firing
No pottery kiln has yet been recognised at the Udal and it seems quite probable that pottery was fired either in simple bonfires (Hodges 1964, 36), built round each group of vessels to be fired, or perhaps even on open domestic hearths (Holleyman 1947, 209), thus leaving few recognisable traces for excavation. The evidence of moulds and crucibles for metalworking, and the presence of iron slag in quantity, show that the technology was available at the Udal to reach fairly high temperatures. Nothing is at present known about firing temperatures or conditions, though there are new techniques available to examine such questions, given the availability of the appropriate equipment (Hulthen 1976b, 1-6). None of the pottery is very hard, and the colour variations in the pottery suggest that the firing was uncontrolled, as patching and zoning of colour can be irregular.

Use
Much of the pottery is covered in an external deposit of carbonised material. This soot was either deposited during firing or when the vessel was used on an open
fire. Carbonised deposits on the internal surfaces of sherds are likewise ambiguous. In some cases these clearly represent burnt or dried food remains, but the possibility of burning after breakage and of the adherence of refuse and carbon after deposition blurs any certainty on interpretation of use. It seems that many of the vessels were actually used as cooking pots, but no microscopic examination of food debris has yet been undertaken. Data on internal and external soot deposits was recorded at stage III, but it has not been used in synthesis.

The use the Udal pottery was put to is something which could be pursued in some detail. Examination of carbonised food remains would be one important method of approach. Equally important would be a study of the contexts the pottery occurs in, whether houses, pits, middens, or hearths, and of the general location of pottery within the settlement and in relation to other artefacts and patterns of activity. It has not been possible to undertake this work in this thesis, but once final stratigraphic detail is available the Udal would be an ideal site to investigate these features of the archaeological record (see next section).
Site Distribution

The concept of within-site distributions is something that has only entered British archaeology recently. The tendency to dig sites 'piecemeal', or merely to trench in order to establish stratigraphic sequences in section, has been common, and there have been few systematic excavations of cemeteries where 'horizontal stratigraphy' might be recognised (Hodson 1968). However, the new approaches to settlements and cemeteries, and the increasing size of excavations, have led to a growing awareness of possible variation in house-plan, artefact-distribution, and functional areas, and an interest in the possible social implications of this variation. As a result there have been demands for an increasing sophistication in the accuracy of recording (Biddle & Biddle 1969; Coles 1972, 193-202; Guilbert 1975, 116-17). As yet no British archaeologist has tried to identify residence patterns from pottery distributions (Clarke 1968, 601-05), but there is an increasing belief in the need to test for and observe possible variations in site distributions (Peacock 1977, 24).

The scale of the Udal excavations, with its sequence of settlements, and the methods used, predominantly area excavation with recording of finds from each layer in 20-foot squares, would allow the plotting of generalised distributions. It is likely that the apparent homogeneity of the pottery would prevent any sophisticated patterns from being recognised, but the variability of fragmentation might give crude information on activity areas. As yet no
such distributions have been analysed, as the necessary
detail of stratigraphic relationships has not been worked
out. Preliminary examination of the distributions does
show how little of the pottery was found inside the buildings,
and that in the Dark-age phase there is a high concentration
in the central midden. This is of some importance in
interpreting finds recovered from buildings and suggests that
some care must be taken in evolving excavation strategies
tendency for house floors to contain large quantities of
residual artefacts can severely distort chronological
interpretations, if external stratified middens are not
located (Hamilton 1956, 97, 128).

Quantification
Pottery studies have involved quantification for many years,
whether merely in terms of percentages of types present
in an assemblage, or as generalised sherd counts by
fabric or form. As the size of excavations and the
对应的 number of finds have increased, and the
information expected from the material recovered has
become more complex, so the need for more accurate methods
of quantifying pottery has been considered by archaeologists.
Where complete pots are the primary data, quantification by
number is accurate and informative, as each vessel
represents one complete unit. However, when the pottery
assemblage consists of sherd material from an unknown
number of vessels, number ceases to have such a direct
relationship to the original pottery unit. In a sherd collection, number is a function of the original number of pots present, the friability of different types of pottery, the method of destruction, conditions of deposition, subsequent disturbance and, finally, the method and care used in excavation. One hundred small sherds can represent less pottery, or less of one pot, than ten large sherds. Thus to calculate the relative percentages of different types of pottery by a simple sherd count is facile.

The possibilities of weight as a method of quantification have been recognised for a number of years, although not widely used in Britain. Its advantage is that fragmentation should not effect the total weight of material. No matter how many times pottery is broken, the total number of sherds should weigh the same as the original complete pot, although some minor loss through abrasion may occur. Weight can also be measured quickly, easily, and accurately, although the more individual pieces or units that have to be weighed the longer the process takes. The limitation on the use of weight is that sherds from a thick vessel will weigh more than those from a thin one, thus biasing percentages, if thickness is related to form or size. However, where locally produced pottery of fairly standard fabric is found, this thickness factor is not likely to be very significant (Evans 1973, 133). Hulthen (1974b, 1) has argued that both total weight and weight distributed over
different classes of sherd thickness should be recorded. This does, however, increase considerably the number of weighing operations and I have not adopted this approach in dealing with the Udal pottery since the variation of thickness on individual sherds is in some cases as great as the total variation of thickness in the whole assemblage. This is due to the crudity of the pottery and its method of construction. As stated already, thickness has not been used as a criterion in classification, but this information on rims and bases can be found at stage IV, in archive.

Recently, it has been suggested that surface area is a valid criterion for quantifying pottery (Hulthen 1974b, 1-5). This is a simple method for comparing complete vessels and is calculable by use of geometric formulae based on height and diameter, though in fact volume might seem a more valid criterion for comparison of size. However, application of surface area calculations to sherd collections has proved too complex to be of general use. Similarly, the calculation of sherd quantities as a volume measured by water displacement cannot really be considered a useful approach (Hinton 1977, 231-5).

A combination of number and weight seems the best way of quantifying pottery (Hinton 1977, 235; Evans 1973, 132-3). The relationship of weight to number is significant in itself, as it represents the degree of fragmentation of the pottery. This might appear irrelevant, but American studies have shown that it can be an indicator of purpose and use, if there is variation in friability between
different kinds of pottery (Solheim 1960, 326-7). An obvious example is that pottery produced for funerary purposes does not necessarily need to be as strong as storage or cooking vessels. Solheim has also suggested that variation in fragmentation across a site can be used to identify areas of activity including pathways, cattle enclosures or other sources of disturbance, which may have led to the intensification of fragmentation in certain areas (ibid., 328).

The division of the Udal sherds into four groups for analysis has already been described. These groups have received different treatment in quantification. The small body sherds (miscellaneous) have been counted and weighed as a group. Similarly the larger body sherds have been counted and weighed as a group, but the division of these into fabric groups has only been done by number. The process of weighing these was judged to be too time-consuming in relation to the likely information obtainable. Rims and bases have been counted and weighed as groups, but each rim and base has also been weighed individually. This was done as weighing was originally thought to be the likely method of defining percentages of types (cf. Evans 1973). However, examination of the Udal pottery has suggested that only a proportion of the pottery could be defined as types and the general homogeneity of the assemblage militated against useful weight definitions. Consequently, much of the evidence on individual weights of sherds and groups of sherds has not been taken beyond
stage IV. Total weights are used to indicate the real quantities of pottery being discussed and weights of individual sherds are only used in specific contexts, as in Appendix II with illustrated material. The weights of rims and bases which preserve diameters are quoted in Appendix I. These have been included to indicate the size of these sherds and consequently to give a rough guide to the reliability of the measured angles and diameters. This is only useful due to the homogeneity, in size and shape, of material from each major phase.

The calculation or estimation of the total number of vessels present in an assemblage is one aim of methods of quantification. In a recent examination of alternative methods of calculating vessel numbers, Orton suggested that rim diameters would indicate the most accurate total (1975). This involves calculating what percentage of a total circumference each measurable rim represents. Addition of these percentages gives a minimum number for vessels of each diameter (for example, eight rims, each 25% of the circumference of vessels of 20cm diameter indicate a minimum of 2 vessels). This may well be a useful measurement for wheelmade pottery, but, in an assemblage of the Udal type, the number of rims which give diameter measurements is so tiny as to render diameter totals useless as an indication of total numbers of vessels.

Total weight has been used to give some indication of the original number of vessels in the assemblage. A simple calculation based on the weight of the surviving
complete vessels allows a minimum number to be estimated for the site. The completeness of recovery during excavation and the proportion of the site excavated are inevitably crucial in relating vessel totals calculated in analysis to any meaningful conclusions about the numbers of vessels originally used on the site.

Although much data on quantity has not been used in the synthesis presented in this thesis, its recording in archive should permit further analysis where this seems likely to produce useful results.

Sampling
The explicit sampling of finds from modern excavations rather than the complete study of every object, is not yet a practice that has become established among British archaeologists. Total study is still the accepted ideal, though recent years have seen such an increase in the costs of publication that the feasibility of total publication is now being seriously questioned (Ancient Monuments Board 1975). The scale of excavation in Britain has grown enormously in the last two decades, but the volume of finds has not yet forced widespread reconsideration of the best approach to the study and drawing of finds. There are still excavators who sample their finds in a very subjective manner and only publish, and in some cases only preserve, the 'best' objects. This approach can, of course, lead to the complete absence of certain classes of objects from published reports and museums, and it is
partly responsible for our present ignorance of Hebridean artefacts. However, excavators in the Near East and Mediterranean have been faced with sites which produce enormous numbers of objects and some procedures have been developed to deal adequately with daunting quantities of pottery (Cowgill 1964). In the past, subjective approaches have been used, with the criterion for selection for study being that objects were seen as the best or most interesting, but the development of statistical analyses has necessitated the use of unbiased samples and, as a result, methods of random sampling have been developed (Mueller 1975).

As has been noted already, sampling has been rejected as a useful approach in this study of the Udal assemblage. Since the Hebridean sequence is virtually unknown, and the Udal sequence and stratigraphy is of such high quality, it was felt that the material should be studied as completely as was feasible. In addition, the complexity of the stratigraphy and its provisional nature within the major phase boundaries rendered any sampling strategy impossible until the entire stratigraphy had been finalised. However, with the completion of this analysis sufficient information may have been gained to allow recommendations to be made for future studies of similar quantities of this material. Future work on a similar large assemblage might be able to utilise a sampling strategy, but only if detailed stratigraphic information was available at the outset of the study.
Synthesis

It is on the process of synthesis of data that some recent classification studies have centred their attention (e.g. Clarke 1970, 24-32; Hodson 1969). The increasingly large number of artefacts recovered in excavation, and the complexity of information derivable from them, has made the processes of synthesis more difficult and more important, if the maximum information is to be derived from classification. Similarly, the adoption of an approach to classification involving independent analysis of variables requires that considerable care be taken in correlating the information on each variable. The use of computers or punch-card systems for collating information and delineating trends in the data has become an increasingly feasible approach (Doran & Hodson 1975). The application of computers to large sites and assemblages has recently been argued as an efficient and cost-effective method of handling data (Jefferies 1977). However, as Jefferies admits, there are great practical problems in applying this approach to pottery assemblages, particularly as the detail of information analysis would necessitate the input of many tens of thousands of individual records (ibid., 8). The potential of computer analysis of pottery is as yet unrealised and the problems await specialised research and resolution. In the absence of an appropriate example or approach using similar data, the time necessary to prepare a computer programme and to codify data, and the expense of computer time, was judged to outweigh any savings in time or flexibility that the use of a
computer might bring. Poulsen (1972) and Hulthen (1974a) have outlined two projects involving computerisation of ceramic data, but both involve considerably more varied pottery than that at the Udal, with many more variables. Consideration was made of the feasibility of incorporating the ceramic analysis in the data-retrieval system used by the excavator - an optic coincidence type of punch-card system (Wood 1966). This could have been used to search the data extracted in analysis for recurrent patterns and combinations of variables, and would also have served as the site archive for future studies. However, this type of system requires that each number represent an unique object if any significant manipulations are to be made, and the pottery, unlike the other site artefacts, has been recorded and bagged in groups of sherds numbering in some cases several hundred. In order to have made any use of this system it would have been necessary to give each sherd an unique number, thus requiring tens of thousands of cards; it would have been impossible to incorporate information on weight. Consequently, the use of this punch-card system has been rejected.

The information on, and descriptions of the pottery have been processed by hand. The stages of analysis have been outlined already in the discussion of the presentation of the data. This processing has involved a considerable amount of repetition in handling and manipulation of data. In addition traits such as thickness and colour have not been used in synthesis since examination of the pottery
suggested they were irrelevant. The decision to process the data by hand has prevented the testing of classification criteria which I considered unlikely to be useful. Only those of probable significance could be used without overwhelming the manual processing. Computerisation would allow the testing of minor characteristics and, with an assemblage the size of that from the Udal, it might prove efficient. However, the major variables have been examined and the data on other variables is available in archive, should the finance become available to computerise the assemblage. It was not, however, possible to do this in the course of the research work for this thesis.

Error
In handling an assemblage of the size of that from the Udal, the possibility of error must be considered. The analysis of a huge pottery assemblage by a single researcher in isolation is not an ideal approach to problems of this scale. It must be considered possible that occasional errors will be present particularly in the repeated manipulation of numbers, even using an electronic calculator. This possible error should not be of any real significance, as figures have been repeatedly checked through the several stages of synthesis. Most of the apparent discrepancies in totals in Appendix I and in archive are the result of the deliberate exclusion of particular sherds from the sub-totals. Thus small body sherds glued to rims prior to examination would appear
in page totals, but not in the totals for miscellaneous sherds, as they could not be weighed separately. The known discrepancies can be accounted for in this way. Any real errors in the figures cannot be of more than a fraction of one per cent, in view of the various checks, and would not have any significant effect on the recognition of changes in the ceramic sequence and the interpretations suggested for them.

**Stages of Publication**

The six 'stages of publication' have already been briefly outlined at the beginning of the discussion of the methods used in analysing the Udal assemblage. Having explained the methods adopted, detailed description of the content and format of each stage is possible. This will aid understanding of information presented in this thesis and of archived data.

**Stage I:** The primary data for any ceramic analysis is the pottery itself. This forms stage I of the record of the Udal pottery. It is currently held by the excavator, Mr I.A. Crawford, of Christ's College, Cambridge, but it will eventually be stored in the National Museum of Antiquities of Scotland, in Edinburgh.

The pottery was bagged on site and each bag given a unique number. It was excavated by levels and areas, normally a 20-foot square unit, and each bag represents the pottery from one level and square on one day. The
numbering of all finds from the site was in one consecutive series, from 1 to over 21,000; the magnitude of the number thus gives some indication of the year of the excavation in which an object was found, from 1963 to 1977. Artefacts of bone and metal normally have one number per object, but pottery, animal bones, and slag, etc., were bagged in groups as found. Thus one number may represent one sherd of pottery, or several hundreds, depending on the quantity found in the appropriate context on the day it was excavated. Over 2,000 finds-numbers were used for the pottery of the Dark-age and Viking-age phases.

Stage II: Stage II consists of the Site Record cards and small-finds notebooks. These have the same numbers as the finds and contain notes on the location, that is square or house floor, and levels, of all small-finds, with a superficial description of the finds themselves, for example '100 brown sherds'. These are at present held by the excavator, but should form part of the site archive once the site has been published. Most of my information on the stratigraphy of the pottery is from the record cards. The information on stratigraphy noted on the cards and books will presumably be finalised before they are archived.

Stage III: Stage III is the first stage of analysis. Each bag of pottery was fully described. Every rim and base was described, weighed and in many cases
drawn. The larger body sherds were counted and weighed, and then divided into fabric groups. The presence of internal and external sooting was noted, as were any construction marks. The small body sherds ('miscellaneous' sherds) were counted and weighed, and only described further if they were decorated. At this stage the pottery from each bag was separated into two groups so that any key sherds could be located easily for future work, without the need to sort through hundreds of tiny scraps of pottery. One bag contains all rims, bases, large body sherds, decorated sherds and examples of atypical fabrics. The other bag contains the miscellaneous sherds. These two groups are at present stored in numerical order by stratigraphic levels, for ease of access to the material.

The stage III notes are rough working notes, and they contain information which was in some cases revised as knowledge of the site pottery increased. It is not yet known what form the site archive will take and consequently the stage III notes will only be included if required.

Stage IV: Stage IV consists of printed forms which contain summaries of the pottery in each bag. On one side these forms have lists of finds-numbers, each with its stratigraphic level and square assignation, followed by a numerical listing of the bag contents, as numbers and weights of rims, bases, body sherds and miscellaneous sherds, with a final total number and weight for the whole group. These printed forms are in numerical order from
The page sequence is not in any final stratigraphical sequence and parts of levels occur on different, widely dispersed pages, relating in part to the magnitude of the finds number and thus to the year of excavation. All the numbers on one page are from the same level or group of levels where definition is uncertain. The information on levels and squares was obtained from the stage II record cards, and is not always clear or self-explanatory. This detailed stratigraphic information is only usable by reference to the final site publication or to site records. Thus the first number of Page 1 of stage IV (Fig. 7) is 10,215, level XI, trench 387.5, Square U. It contains 2 rims, 1 base, 98 miscellaneous and 6 body sherds, giving a total of 107, with a total weight of 371.4g. In some cases, for example, 11,894, the bag also contains platter sherds. These are denoted by the letter 'P', to the right of the bag total, which refers to the summary of platter (Fig. 7 bottom). At the bottom of the page there are totals for the entire page. Thus Page 1 has 33 bags of pottery, 47 rims, 36 bases, 763 miscellaneous sherds and 107 body sherds, and 9 platter, giving a total of 962, with a total weight of 4183.5g. The column totals for weights of rims and bases have not been added as this seemed unlikely to give useful information.

On the reverse of these sheets (e.g. Fig. 8) are abbreviated summaries of the rims, bases, body sherds and platter referring to each number listed. Each rim is described as fully as its preservation will allow, giving
thickness, rimtop treatment, rim length, construction marks, diameter angle to horizontal, fabric designation and occasionally a measurement of the angle between rim and body. Similarly, bases are described giving thickness, diameter, wall angle, basal angle form, fabric and any special features (for example, grassmarking). Weight is noted for sherds which preserve diameters. Body sherds and platter are listed by fabric, and 'miscellaneous' sherds are normally only noted if they are decorated. The fabrics are described by the provisional fabric types with final fabric designations written in above each sherd.

The information on the printed forms of stage IV is derived directly from the stage III notes, but presented in an abbreviated style. An explanation of the abbreviations is given in Appendix I. The forms were filled in by hand, and consequently are rather crude and untidy in appearance. If finance was available, these could be presented in a more formal manner, in typescript, but direct computerisation of the data might be a better use of finance. Although these are working notes, it is hoped that they can be archived. They are not intended for publication, but they are of importance as they contain the key data of finds-numbers and stratigraphy which relates the later stages of analysis and synthesis to stage I, the pottery itself.
Stage V: Stage V consists of summaries of the contents of stratigraphic levels, or parts of levels, and is derived from the data described in stage IV. This is the major catalogue of the Udal pottery contained in this thesis in Appendix I. It is upon this that the synthesis and analysis of the assemblage is based.

The amount of material on each page of stages IV and V varies considerably, as it depends on how small the context or level was on site, and how much pottery was found there. Thus some pages summarise information on many hundreds of sherds, while others refer to only four or five. Each thesis page of Appendix I may contain more than one page of stage V - to avoid wasting space. The stage V page numbers are noted on the left of each thesis page. Consequently page 396, the first page of Appendix I, has a summary of all Page 1 and the beginning of Page 3 of stage IV. The numbering of stages IV and V is a direct cross-reference between these two stages (i.e. Page 1 of IV = Page 1 of V). The page numbering of the thesis does not relate to this.

The Appendix is presented in sections representing the material from each phase or level according to the way the material is discussed in synthesis. Thus, Appendix I.1 contains the pottery from the Dark-age phase, levels XIV to XI. Appendix I.2 contains the pottery from level X, the primary Viking-age level. Appendix I.3 contains the pottery from level IXc, the second Viking-age level. Appendix I.4 contains the pottery from the Viking-age phase which cannot be assigned to either of the major levels, either
due to present stratigraphic vagueness, for example, the house floors, or because it is not defined as being from a single level. Thus pottery described as coming from level X - IXc or X - IXb, is all grouped within this Appendix I.4. Appendix I.5 contains the pottery which cannot yet be assigned to within either of the major phases, but which is known to be either Dark-age or Viking-age in date. Most of this material will eventually be assigned to one of these phases, but the information was not available at time of writing.

As already noted, the page sequence of stage IV and V is not related to stratigraphy, but rather is related to the sequence of finds numbers. As a result, material from major levels (for example, level XI) occurs on several widely dispersed pages in the Appendix. No attempt has been made to summarise all the material from each subdivision of XI to XIV because the stratigraphic information was not available to put the pages into a logical sequence and it seemed better to maintain the original stage IV page sequence to avoid confusion in cross-referencing. Thus the dispersal of material from single stratigraphic units is dictated by the stage IV and V numbering sequence.

Page 1 of stage V (Appendix I) is outlined below to explain the layout of the data.

Page 1 of stage V (Appendix I.1, thesis p.396) describes the material from level XI. The general range of finds-numbers of the pottery described, that is 10,215 to 16,466, is stated, and the total number of bags of pottery within
this number range is given (i.e. 33). The finds-numbering is not always consecutive in stage IV and V, as it relates to material excavated over fourteen years, and, as explained above, the number of bags on each page varies considerably. Below this is a numerical summary of the pottery components. Thus Page 1 has 47 rims, 36 bases, 763 misc., 107 body, and 9 platter sherds. The total number (962) and total weight (4,183.5g) follows. Below this, summary descriptions of the rims, bases, body sherds and platter are given, divided into fabric groups. The abbreviations and summaries are explained in the introduction to Appendix I. The general discussion of methods and, in particular, the discussion of fabric and form has explained how this format was arrived at and the general principles of classification involved. It will be clear from comparison with the stage IV, page 1 illustrated in Figures 7 and 8 that considerable information has been dropped from the summaries of stage V. The explanation of this has already been given in the discussion of methods, but essentially only data that appeared useful in synthesis was presented at stage V. Information not included in stage V is available in archive stage IV.

Stage VI: Stage VI is the synthesis and discussion of the Udal pottery presented in the following chapters. The stage VI discussion is concerned with the material in Appendix I. Appendix I.5 is largely ignored,
as it cannot be defined within the major phases and thus is useless for general discussion.

Appendix II contains detailed descriptions of material used to illustrate the discussion of stage VI. This pottery is described more fully than the summaries of stage V, and specific numbers, levels, and squares are given. These detailed descriptions are included to help maximise the information of the illustrations and also to assist the interpretation of the summaries of stage V. Where necessary, lists of particular sherds and their contexts have been given in Appendix III, but this has only been done when it seemed necessary to provide detailed evidence of particular points outlined in the discussion.

The approach to illustration is related to the general concept of stages of publication. A complete corpus of rims and bases would require thousands of drawings conveying minimal information. The repetition of identical rim forms (e.g. Young 1956, figs 8 & 9) is an approach which does not seem useful in a large assemblage. It merely produces a mass of repetitious and costly information, which is unnecessary with the classification and presentation adopted here. Rims and bases have been classified within defined groups and illustrations are only included to define the groups or to clarify particular points. This minimalist approach to drawings may seem extreme, but the accuracy of this ceramic analysis depends on the reliability of the classification for which large numbers of drawings are not necessary.
Numerous pencil drawings are available in the stage III notes, but it is not yet known if these will form part of the archive. The demands of time, money, space and equipment are partly responsible for this approach, but it was evolved in response to the nature of the pottery and the sheer size of the assemblage.

Conclusions
The visualisation of six stages of handling and analysis of the pottery may seem an unnecessarily complex one. However, until a final site sequence is worked out and the finds-designations are corrected and put into sequence, any other approach would be a waste of time and energy. As stated already, a description of every bag and its context would produce an enormous corpus. Even a summary of every level, divided into squares, would produce over 900 divisions in an assemblage which is strikingly homogeneous within its phase boundaries. The present approach is an attempt to present the ceramic data in a concise, but usable form. Since each major level sub-division is given a separate page or group of pages at stage V in Appendix I, and at stage IV in archive, some testing of the claimed homogeneity of the major phase sub-divisions is easily possible. The information in Appendix I allows the examination of the finer level divisions and, when the site stratigraphy is published, it should allow closer definition of the pottery sequence.
The problem with presenting the data in the summarised form of stage V, in Appendix I, is that this is a synthesis of up to thirty bags of pottery and sometimes 1,000 sherds for each page. It separates the critical reader from the finds-data, i.e. the site-numbers, from the square nomenclature which divides up the area excavated and from some subdivisions of the layers. Thus in order to find which bag number, and square, a particular sherd has come from, it is necessary to go to the previous stage of analysis, stage IV. However, the quantity and homogeneity of the material has necessitated this summary approach. Only those who wish to locate specific sherds, or test spatial distributions, need approach stage IV. Such specialists are likely to wish to examine the pottery itself at stage I and will require either the stage II site records or the final publication in order to make any meaningful observations concerning the finds-locations.

It is not claimed that these 'stages of publication' are necessarily the ideal approach and, with adequate finance and personnel, a more accessible and formalised archive could be developed. However, given the limitations of finance, time and personnel, the present approach seems the best use of the resources available. It is hoped that sufficient data is contained in this discussion of methods and in the information presented to permit evaluation of the site sequence without the need for frequent resort by other interested researchers to the archive or the finds themselves.
This presentation of the Udal ceramic data was evolved for this thesis. It is not at present known if this format will be used when the site is published by the excavator.
CHAPTER 4

POTTERY QUANTITIES AND THE FABRICS PRESENT IN THE UDAL ASSEMBLAGE

Introduction
The methods of analysis and classification, and the approach to the presentation of data, used in this study of the Udal pottery assemblage were discussed in chapter 3. This chapter outlines the size of the assemblage and discusses the pottery fabrics identified in the study. It thus represents part of stage VI of the publication of the ceramic evidence.

Pottery Quantities
In total 72,477 sherds of pottery, weighing c. 335 kg. (or c. 7.5 cwt.), have been recovered from the levels XIV to IXb under study at present. This represents some 2,249 bags of pottery with c. 2,200 small-find registration numbers. 261 locations including squares, combinations of squares, trenches and house floors have been used to denote the location of find positions. Consequently, a total of 927 stratigraphic attributions were used on site to denote contexts producing this pottery. As I have already explained, most of this stratigraphic detail is not usable until the full site stratigraphic sequence is finally worked out. The discussion of the pottery is presented in phases or levels as appropriate, and more detailed stratigraphic information is only introduced when it is crucial to an understanding and interpretation of the material.
The reasons for dividing the pottery into five basic groups have already been noted. Each of these groups has its material summarised in a section of Appendix I, and the four clearly stratified groups are each discussed in a separate chapter below.

Thus chapter 5 discusses the pottery from the Dark-age levels XIV to XI. Chapter 6 discusses pottery from level X, the primary Viking-age level. Chapter 7 discusses the pottery from level IXc, the second Viking-age level. Chapter 8 discusses the pottery bracketed as IXb to X, which comes from these Viking-age levels, but which could not be attributed to a specific level at the time this analysis was undertaken. The poorly defined pottery bracketed as levels XIV to IXb has not been discussed in any detail, but a brief note is made in chapter 8 of a few probable Viking-age vessels of importance in this group. The bulk of this fifth group will eventually be attributable with confidence to the Dark-age or Viking-age phase.

Figures 9 and 10 illustrate the quantity of pottery firmly attributed to each of the first four stratigraphic groups noted above, expressed in both numbers and weights. The predominance of the Dark-age material is quite clear, representing some 67 per cent of the assemblage by number and 73 per cent by weight. It is not clear whether this is merely the result of the differing lengths of time of the two major phases. The Dark-age phase can be estimated as lasting 400 or more
years. The Viking-age may be only 250 or 300 years long. However, various other factors could be responsible for this difference and, although a genuine cultural difference between the two phases is possible, post-depositional factors may make comparison futile— for example, the degree of survival and disturbance of each phase by subsequent activity. The difference between the numbers and weights may be due to the recovery of much of the Dark-age pottery from a major midden deposit where it was protected from further fragmentation. However, the thinness of some Viking-age sherds could also have an effect on these percentages.

The material from group 5, the XIV to IXb pottery, has not been illustrated in figures 9 & 10. Although it comprises over 7½ thousand sherds, it is unlikely to seriously alter the interpretation of the pottery since the bulk is thought to come from the Dark-age levels, in which it will represent a fairly small percentage of the total.

The analysis of the pottery in terms of vessel fragments was noted in discussion of the methods of analysis in chapter 3. Table I below shows the totals for the vessel fragments from levels XIV to IXb, with the percentage each fragment group represents of the total.
TABLE I

<table>
<thead>
<tr>
<th>Vessel fragment</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims</td>
<td>4,734</td>
<td>7%</td>
</tr>
<tr>
<td>Bases</td>
<td>2,875</td>
<td>4%</td>
</tr>
<tr>
<td>Body sherds</td>
<td>6,021</td>
<td>8%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>56,590</td>
<td>78%</td>
</tr>
<tr>
<td>Platter</td>
<td>2,235</td>
<td>3%</td>
</tr>
</tbody>
</table>

These numerical totals are misleading in some ways, for both the miscellaneous group and the platter group appear as exaggeratedly high percentages of the assemblage. By presenting a sherd count, no allowance is made for the tiny size of most of these sherds. Although I have not calculated the total weights of all the vessel fragments, two examples have been calculated to demonstrate this distortion. Table II shows two groups of pottery. By weight, the miscellaneous sherds represent only 42 per cent and 45 per cent of the assemblage. Thus the fact that they cannot be classified by fabric or form is not as significant as it would be if they formed over 75 per cent of the assemblage.
TABLE II

<table>
<thead>
<tr>
<th>Vessel Fragment</th>
<th>Number</th>
<th>Percentage</th>
<th>Weight</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1: Stage IV, page 22. Level XI.1 (cf. Appendix I thesis p.403)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rims</td>
<td>87</td>
<td>6%</td>
<td>541.7g</td>
<td>7%</td>
</tr>
<tr>
<td>Bases</td>
<td>83</td>
<td>6%</td>
<td>1,404.1g</td>
<td>17%</td>
</tr>
<tr>
<td>Body sherds</td>
<td>144</td>
<td>10%</td>
<td>2,706.2g</td>
<td>34%</td>
</tr>
<tr>
<td>Misc.</td>
<td>1,155</td>
<td>79%</td>
<td>3,427.9g</td>
<td>42%</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Vessel Fragment</th>
<th>Number</th>
<th>Percentage</th>
<th>Weight</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims</td>
<td>155</td>
<td>7%</td>
<td>1,489.9g</td>
<td>10%</td>
</tr>
<tr>
<td>Bases</td>
<td>96</td>
<td>4%</td>
<td>1,216.4g</td>
<td>8%</td>
</tr>
<tr>
<td>Body sherds</td>
<td>306</td>
<td>13%</td>
<td>5,304.5g</td>
<td>36%</td>
</tr>
<tr>
<td>Misc.</td>
<td>1,804</td>
<td>76%</td>
<td>6,549.1g</td>
<td>45%</td>
</tr>
</tbody>
</table>

The platter percentage is likewise misleading. These sherds were recognisable even as small fragments and thus were counted as one group rather than divided into 'body sherds' and 'miscellaneous'. The platter percentage does indicate its frequency in the assemblage, but is not comparable to the rim, base and body totals.

These diagrams and tables indicate the size of the assemblage and the way it is distributed in phases and levels. The numerical totals for fragment groups indicate the varying size of these groups. The data for each level or group of levels is presented in the appropriate chapters of discussion.
The IJdal Fabrics

The methods of analysis of pottery fabrics were discussed in some detail in chapter 3. Since the same fabrics occur in both major phases, albeit with varying frequency, they are described below rather than repeated in each section.

The fabric groups were defined by visual analysis of the sherds used to denote the provisional fabric types after the entire assemblage had been examined. A binocular microscope was used for this process. These fabric groups were based principally on the presence or absence of inclusions, but colour and texture influenced the separation of certain groups.

Seven basic groups were recognised, of which only three are particularly common. From these groups, sherds were selected for thin-section analysis, X-ray diffraction analysis, and neutron activation analysis. These sherds were chosen to cover the possible range of variation in each group and it was hoped that the results of these analyses would clearly establish the significance of each group. Since the fabric definition was done before any analytical results were available, I shall first discuss these basic fabric definitions and then present the results indicated by the scientific analyses. Consequently, the fabrics are defined below on the basis of visual and microscopic analysis.

Some variation in colour, thickness and texture was included in each group, and only summary descriptions of these are included to assist understanding of the fabric
groups. The letters used to define the fabrics are used throughout the discussion of the pottery.

Fabric A:
Inclusions: angular quartz and dark minerals; considerable variation in the density of grit, which often has the appearance of crushed rock fragments.
Colour: normally buff-brown, but with some variation; core often darker than surfaces.
Thickness: c. 5mm - 10mm, with some exceptions beyond these limits; most of the pottery clusters around 7mm - 8mm.
Texture: varies considerably but normally rather rough, sandy feel.

Fabric C:
Inclusions: quartz and plentiful mica; density varies from plentiful to sparse.
Colour: brown, buff, grey, black.
Thickness: c. 4mm - 10mm, with a tendency to cluster at the thinner end of the range.
Texture: fairly hard, with dense smooth surfaces.

Fabric E:
Inclusions: organic-tempering (probably grass), rare quartz, rare mica.
Colour: black, grey, brown.
Thickness: c. 5mm - 10mm.
Texture: fairly hard.
Fabric G:

Inclusions: dense grass-tempering.
Colour: brown with black core.
Thickness: c. 6mm - 10mm.
Texture: soft and crumbly.

Fabric L:

Inclusions: quartz, rare mica, dark minerals.
Colour: brown, grey, buff.
Thickness: 5mm - 10mm, with occasional thicker examples.
Texture: fairly hard and dense.

Fabric H:

Inclusions: rare mica, rare quartz, rock fragments.
Colour: red-yellow core with black surfaces.
Thickness: 4mm - 10mm.
Texture: fairly hard, with dense smooth surfaces; there are a few 'waster-like' sherds with irregular surfaces in this fabric.

In addition to these, there is a small group of Iron-age sherds which were found in levels XIV to IXb. These have not been analysed as a fabric in the same way as the bulk of the pottery. Sherds of this group were not always very distinctive in terms of their inclusions, but were recognisable by texture and decoration. Some of the Iron-age sherds in level XV had been in contact with iron slag and subjected to great heat, allowing such intrusives in higher layers to be recognised with ease.
Iron-age Fabric:

Inclusions: not systematically examined, but include a little quartz.

Colour: buff-light brown.

Thickness: fairly even, c. 6mm.

Texture: smooth, even texture.

As noted already in chapter 3, platter sherds were processed differently from the rest of the pottery. Since the platter sherds were recognisable even as tiny fragments, every sherd was separated from the remainder of the assemblage. A separate provisional fabric series was used for this material until the fabric groups were defined, following Stage IV. Examination of this material suggested that no useful fabric divisions could be made, as the sherds seemed fairly homogeneous within an acceptable continuous range of variation. The major distinction recognised was in surface appearance, determined by the presence or absence of exterior grassmarking. A description of the basic fabric range is given below.

Platter:

Inclusions: quartz and plentiful mica; in a few examples quartz is rare.

Colour: buff-brown-grey, with rare red; often the upper surface is slightly darker than the lower surface; a buff lower surface and a grey upper surface is a common combination. Dark cores are rare, and the light colour throughout the sherd is a distinctive characteristic.
Thickness: 4mm - 10mm, but clustering around 6mm.
Texture: fairly hard, dense surfaces.

The platter sherds were recognised on the basis of form. The majority were similar to fabric C, but a range of variation would allow some to be classified as fabric L. However, since there seemed no obvious division in a continuous range of variation, no such fabric division was made. All platter sherds were sufficiently similar to be treated as one fabric. The division made on the presence or absence of grassmarking is not a fabric criterion. However, since it is used in Appendix I, rather like a fabric distinction, the grounds for differentiation are noted here.

Pa. (Platter A): this denotes platter sherds with exterior grassmarking.

Pb. (Platter B): this denotes platter without grassmarking, but includes sherds with exterior grit impressions or roughened surfaces.

Pc. (Platter C): one platter sherd was noted which appeared to have organic tempering (probably grass). As there is only one sherd of this fabric among the thousands of platter sherds, it seems likely that the grass in the body of the sherd was an accidental inclusion. However, this sherd was sufficiently distinct to separate it from the remainder of the material, and the possibility of the deliberate use of grass-temper for platters must be considered.
Fabric Analysis

Although the fabric types described were normally quite distinct visually, it was apparent that there was some similarity and overlap between them. Consequently, analytical work was undertaken to test the petrological distinctiveness of the fabrics defined in this stage of analysis. Three methods of petrological analysis were pursued after the fabric groups, described above, had been defined. These techniques included neutron activation, X-ray diffraction, and thin-sectioning.

Neutron-activation analysis: The neutron activation work on the Udal pottery was agreed to be done by the Research Laboratory of the NMAS in Edinburgh. 110 sherds, encompassing all the major fabric groups and a number of unusual sherds which might have been imports, were sent to Dr H. McKerrell for analysis in 1977. As yet, no results have been received from this work.

X-ray Diffraction: Eight sherds were sent to Mr R. McGill of the Department of Geology, The University, Dundee, for X-ray diffraction analysis. These sherds were of fabrics A, C, H and L, and one sherd of platter. The X-ray diffraction patterns indicated the presence of quartz, felspar, mica, amphibole and clay minerals.

Mr McGill suggested that the clay used was probably a residual type, that is derived from natural weathering of rocks. In two cases there was some uncertainty and the clay might have been residual or fluvial,
that is derived from river sediments. He observed that the minerals present were appropriate to the local geology of the site and of North Uist as a whole. The clay could be locally derived, but had no distinctive features which would allow it to be localised with certainty. Mr McGill's description of his methods of sample preparation, and the results obtained, are available in archive.

Thin-sections: 20 sherds were sent to Dr. D.F. Williams of the Department of Archaeology, University of Southampton, who kindly undertook petrological analysis on my behalf. These 20 sherds included finds from both Dark-age and Viking-age levels. Several examples of fabrics A, C and L were included, as were single examples of E, G, H and platter. Dr. Williams' report in included in Appendix III.1 of this thesis, but I shall discuss his results below.

All the sherds were studied macroscopically with the aid of a binocular microscope and then examined in thin section under a polarizing microscope (cf. Shepard 1965: 139-40). Dr. Williams' analyses indicated that 17 out of 20 samples had the same range of principal inclusions, namely: ill-sorted sub-angular grains of quartz, plentiful discrete grains of hornblende, felspar, mica, a small amount of pyroxene and garnet, and occasional fragments of hornblende-gneiss.
Three sherds were separable from the main group, though sharing several characteristics with the other sherds. One sherd (fabric C) had frequent grains of biotite as well as hornblende and felspar, and a grass-tempered sherd (fabric G) had hornblende and felspar. The platter sherd was also distinguished as being finer textured and containing hornblende, altered felspar, garnetiferous hornblende-gneiss and some discrete red minerals which may be serpentine. It is possible that the sherd with biotite was gritted with material derived from a biotite-gneiss, but all three sherds are very similar to the rest of the 17 examined.

Dr Williams observed that it was difficult petrologically to draw a distinction between Dark-age and Viking-age samples, but that this material was undoubtedly derived from the Lewisian Gneiss and associated rocks which make up much of the Outer Hebrides. The thin sections seemed to be fairly homogeneous and so he thought that a source for the material in the Udal area would be likely.

The overwhelming majority of the sherds examined contained angular or sub-angular grains of quartz as the main inclusion. This appears to be derived from rock rather than sand and has been identified as derived from the Lewisian Gneiss. During the excavations at the Udal, it was noted that boulders of this rock were often so crumbly that they disintegrated into crystalline particles merely under pressure of hand. It seems possible that this is the source and method of production of much of the tempering material used on the site.
The thin-section analysis did not recognise any significant petrological differences in the fabrics, or between Dark-age and Viking-age sherds. This might mean that local resources were used throughout the period. Unfortunately, the nature of the local geology does not allow a firm conclusion to be drawn. Similar rocks and minerals occur throughout the Hebrides and in parts of the Scottish mainland (Phemister, 1960, 7-16). Geological characterisation has become fashionable in ceramic studies (e.g. Peacock 1977), but there are significant limitations to its application. Only in areas of unusual or localised geological deposits are clear results likely to be obtained.

It is unfortunate that the neutron activation work has not produced results. This method might have been able to pinpoint changes in the use of specific clay sources since it examines trace elements (McKerrell 1977). Clay sources might be more likely to show local variation and their exploitation might have had cultural controls. However, even this could not be guaranteed to produce clear differentiation since the local clays are likely to be derived from the same very general geological resources of the area.
Fabric Distinctions

Since the petrological work has not recognised geological distinctions in the pottery, the significance of the fabric division must be considered.

The major distinction between the three commonest fabrics A, C and L is based on the presence or absence of mica. Mica was common in fabric C, rare in fabric L, and absent in fabric A, using visual identification of types. It might be argued that there was a continuous range of variation between the types, but in conjunction with more subjective factors, such as texture and surface appearance, these fabrics were generally readily distinguishable. Some difficulty was occasionally experienced in distinguishing fabric A and L, particularly when freshly broken surfaces were not available, but surface indication normally allowed the distinction to be made.

Since thin-sectioning has confirmed the basic similarity in the inclusions present in the fabrics, the distinction between the fabrics may be related to technological or cultural criteria involved in the preparation and manufacture of the pottery. Different clay sources may have been used, but they have insufficiently distinct petrological characteristics to be distinguished by the methods used. Alternatively, identical clays and filler may have been in use, but the preparation of the clay and manufacture of the vessels may have differed enough to alter the appearance of the fabrics. Thus the glossy, micaceous appearance of much of fabric C could be the result of a higher firing temperature or a different
method of clay preparation to that used for the other fabrics. The nature of the fabric differences cannot be fully explained on present evidence, but the variations in frequency of the different fabrics in the various levels and phases of the Udal make it clear that these fabric differences are significant (cf. fig. 11, nos 1, 2, 3, & 4).

Some fabrics are clearly distinct. In defining fabrics E and G the terms 'organic-tempering' and 'grass-tempering' have been used. The term 'grass-temper' has been used very loosely in the past with no real attempt to define precisely what is meant. Thus, pottery from Jarlshof is said to be 'grass-tempered' or 'grass-backed' (Hamilton 1956, 12 and 188). Some accounts are more cautious in defining the nature of organic inclusions, for example Childe refers to 'vegetable temper' at Freswick (1943, 14). That this caution is justified is perhaps supported by the identification of grain impressions, probably of barley, on organically tempered pottery from two Iron-age sites in the Hebrides (Ritchie & Lane 1980, 213). No detailed botanical examination of the Udal pottery has yet been undertaken. Consequently, the precise nature of the organic inclusions in the Udal fabrics is not known, though a range of possibilities, for example, grass, chaff, leaf material, dung, roots or other substances, has been considered.

Fabric G is represented by a small group of sherds (possibly from one vessel) which appears to contain no other tempering agent apart from a mass of stalks of
what appears to be grass. This vegetable material could be chaff derived from any cereal crop, but in the absence of its identification. I shall use the traditional term 'grass-tempering'.

Fabric E, however, appears to contain both organic-tempering and rock-tempering. It is not known whether the rock inclusions, principally quartz and mica, are merely natural constituents of the clay or were actually deliberately added, but the distinction between fabric G and E would remain. In some of the sherds defined as fabric E the organic matter does appear to be grass (or chaff) in an apparently chopped form, but still visible as stalks. However, there are also sherds in which the organic inclusions seem too thin and rootlike to be grass, unless in a very altered form. Van der Leeuw has noted similar surface marks on prehistoric pottery which he attributes to the use of sheep or goat dung as a tempering agent (1976, 334-6, and Plate 3). David Brown has shown that the appearance of Anglo-Saxon 'grass-tempered' pottery can be replicated by mixing horse-dung with clay. The grass or chaff has been chewed and part digested by a horse thus breaking it down into small fragments and filaments. When the clay is fired, small hollows are left in the pottery (Brown 1978, 100-01). Salt and oxides in the dung also aid firing (van der Leeuw 1976, 335-6). Consequently, grass-tempering can be seen as a simple manufacturing technique used at different times and places, from at least as early as the
Bronze Age till the Medieval period or later (Ritchie & Lane 1980, 217). Since extensive botanical examinations of such pottery have not been undertaken, it seems generally preferable to use the term 'organic inclusions' for the varied remains of such tempering. Where a mass of stalks is visible, the term grass-temper may be reasonable as long as the possible use of chaff is not excluded. As fine strands of rootlike material appear in fabric E, the term 'organic-temper' is used here.

The remaining fabric, H, was the only one for which an exotic source seemed possible, on the basis of simple visual identification. This fabric was easily distinguishable from the remainder of the assemblage. It normally has a red core (occasionally tending towards yellow) with dense, smooth black surfaces; it is the only fabric defined largely on the basis of colour. The inclusions are not very prominent, but rare mica, quartz and rock fragments were noted. However, since neither X-ray diffraction nor the thin-sectioning differentiated this fabric, there are no petrological grounds for postulating an exotic source. In addition, some of the fabric H sherds have been found in an unusual 'waster-like' condition. Fabric H sherds, with their surfaces cracked and flaked, and mixed up with sand, shell and bone, but nevertheless clearly recognisable as sherds, were found in Viking-age contexts. This seems to suggest that this pottery was being made on the site. It is possible that the red core and black surfaces result from some technological factor in preparation or, more
probably, in firing, rather than from the use of different clay or filler.

Conclusion

Six main fabric groups have been defined in examination of the Dark-age and Viking-age pottery from the Udal. A seventh Iron-age type was treated separately, as were the platter sherds. These six groups were recognised by a combination of various factors including inclusions, colour and texture. The petrological analyses suggest that all these pottery fabrics are derived from the Lewisian Gneiss and associated rocks. Although this is found at the Udal, it is also found throughout the Outer Hebrides and in some parts of the Inner Hebrides and western Scottish mainland (Phemister 1960, fig. 4). Consequently the petrology does not prove that local resources were used. It merely shows that no petrological distinction can be made in the fabrics, no matter how distinctive they may appear visually. This does not, however, invalidate the fabric divisions since other criteria are just as significant, even if their evaluation is less 'scientific'. Examination of the clay has suggested that natural weathered 'residual' clays may have been used. The size and shape of the rock inclusions indicates that rock has been broken up for use in manufacturing the pottery rather than indicating the use of sand.

As will be clear in the discussion of the pottery in the next four chapters, most of the fabrics are not confined to one phase or level. However, their varying
quantities through time indicate that genuine differences are indicated by the fabric divisions used.
CHAPTER 5

THE UDAL POTTERY FROM LEVELS XIV - XI

Introduction
The reasons for treating the entire Dark-age assemblage as one unit in the discussion of the ceramic evidence have already been noted. Until sufficient final stratigraphic detail is available, the final sequence of the level subdivisions will not be known. The homogeneity of the bulk of the pottery throughout these levels does, however, allow the Dark-age material to be examined and discussed as one unit without any crucial loss of evidence. The material from each level subdivision is summarised in Appendix I so that the claimed homogeneity of the pottery throughout these levels, from XIV to XI, can easily be evaluated.

The Udal Pottery: Levels XIV to XI.
Table III below lists the numerical totals for each fragment group and the total numbers and weight of the pottery from these levels.

TABLE III

<table>
<thead>
<tr>
<th>Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims</td>
<td>3,050</td>
</tr>
<tr>
<td>Bases</td>
<td>1,580</td>
</tr>
<tr>
<td>Body sherds</td>
<td>4,068</td>
</tr>
<tr>
<td>Misc.</td>
<td>34,197</td>
</tr>
<tr>
<td>Platter</td>
<td>64</td>
</tr>
</tbody>
</table>

Total number: 42,959   Total weight: 216,310.9g.
The reasons for not defining the miscellaneous sherds other than by number have already been examined in Chapter 3. Although this group is numerically the largest, the bias caused by counting was shown in chapter 4. These sherds are not discussed any further, except with regard to the rare instances of decoration.

The remainder of the pottery was classified according to fabric. Figure 11, no. 1 shows the relative percentages of all the fabrics occurring in levels XIV to XI. The most striking point to emerge is the overwhelming predominance of Fabric A in these totals. It represents over 89 per cent of the classifiable sherds. Fabric L, that most similar to fabric A, represents nearly 6 per cent and fabric C over 3 per cent. The remaining fabric groups, H, E, G and the Iron-age sherds, together form less than 2 per cent of the total.

The forms used in each fabric are described separately below in order of their frequency and, in the following section, the pottery from levels XIV to XI is discussed more generally as an assemblage.

Fabric A
Fabric A represents 89.49 per cent of the pottery, which has been classified by fabric, in levels XIV to XI. This includes 2,648 rims, 1,396 bases, and 3,740 body sherds over 2.5cm square.
Rims: There are 2,648 rim sherds of fabric A in these levels. Each piece of rim is counted individually, even if it has been glued to other sherds to reconstruct a diameter or profile. Of this total, the majority are fragmentary sherds which provide little independent evidence of vessel form, but which do not contradict the evidence of the well-preserved pottery. This was noted in the discussion of methods in Chapter 3, and is the type of material illustrated in figure 6, no. 1. These sherds are noted as fabrics in Appendix I, but are not attributed to specific forms.

There are 235 rim sherds which preserve sufficient of their profiles to indicate that they derive from straight-sided vessels. These rims have been measured from rimtop to construction join and range in size from 1.3cm to 6.3cm, though most are at the centre of this size range. Each of these rims preserves evidence of tongue-and-groove construction. The individual size of each rim is noted in Appendix I.

There are 26 measurable diameters (85 rim sherds),* varying from 13cm to 34cm, from these straight-sided vessels. Figure 12 illustrates the diameters plotted out as a bar chart. No distinctive clustering in size is noticeable, as the diameters are spread fairly evenly from 13cm to 34cm, with only a slight peak at 22cm - 26cm. The small number of samples does not allow any certainty in interpretation, but the evidence is best interpreted as showing a continuous and considerable size range.

* Each measurable diameter may be made up of several rim sherds glued together.
Figure 13, nos. 2 & 3 indicates the extreme limits of diameter variation of this type. There is a little doubt about the accuracy of the measurement of the large diameter of figure 13, no. 2, but since there are other diameters of similar or slightly smaller size in the assemblage there seems no reason to deny that some vessels were as large as this. The considerable variation in size of these straight-sided vessels might suggest some variation in function and use. However, there is no clear evidence of function other than the presence of external soot deposits on both, which may imply a common function as cooking vessels.

The angle of the rim to horizontal, and consequently the angle of the wall, in these straight-sided vessels was measured when this could be done accurately. Only vessels with measurable diameters could provide reliable rim angles. These angles to horizontal varied from 73° to 87°, though the majority lie in the range 81° to 87°. There is, however, considerable variation on some vessels; for example, the complete vessel noted below varies from 80° to 86°. In view of this variation and the absence of significant clustering in the measurements (fig. 14), the entire group seems best regarded as one continuous range. The data on individual diameters and angles is included in Appendix I.

Only one completely reconstructable vessel of this type was recovered. This is registration number 14,947, noted on page 69 of Appendix I, 1 (thesis page 423), and described more fully on page 474 of Appendix II;
it is illustrated in figure 13, no. 1. This vessel has a diameter which suggests that it falls at the centre of the size distribution of this group of vessels. It was constructed in five sections added onto a basal piece and, although the wall curves closer to the vertical at the rim, the basic wall shape is fairly straight. There is a slight kink in the wall at the bottom of the rim slab, but it is too slight to be regarded as more than a construction feature. It is essentially a simple bucket-shaped form.

The whole group of straight-sided rims and diameters appears to be from similar simple bucket-shaped vessels. It is impossible to estimate the vessel numbers represented by these sherds. The 24 diameters might be as few as 14 vessels, or as many as 24, but there seems no reason to think these are useful estimates.

210 rim sherds preserve sufficient of their profiles to suggest that they derive from shouldered vessels. As was noted in the discussion of methods, no accurate measurement of the shoulder was possible. In addition, the distinction between an upright rim with a pronounced shoulder and a more everted rim with a weak shoulder can only be made when the profile is well preserved and the real angle to the horizontal is measurable. There seems to be a continuous range of variation between the two forms, figure 13, no. 4 and no. 5, and this group of rims seems best regarded as one shouldered form, within the limits set out. In a few cases, the
degree of shouldering is more pronounced and this has been noted in Appendix I, but none of the sherds has angular shoulders and the weak shoulder seems more typical.

206 of these rims retain evidence of tongue-and-groove construction, with the four remaining not showing any clear construction marks. The rim slab varies in size from 1.8cm to 5cm, though most cluster at the centre of this size range.

33 diameters (comprising 99 rimsherds), which range in size from 8cm to 34cm, are preserved from these shouldered forms. Figure 15a shows their size distribution. The distribution falls into two main groups, of 8cm - 22cm and 26cm - 34cm, but the small number of diameters involved does not suggest that this division is necessarily significant. The two smallest diameters, of 8cm and 12cm, seem very small for the vessel type. The measurement of diameters of coarse handmade vessels has to be undertaken with caution since variation or irregularities in shape may give misleading results. In consequence, only fairly large rims with reliable diameters were measured. Moreover, these measurements are only approximate since some vessels produce slightly different measurements on different parts of their circumferences - the variation being as much as ± 2cm in some cases. Nevertheless, the possibility of there being vessels with an 8cm diameter (fig. 13, no. 6) cannot be ruled out. Clearly some of the vessels were small.
Figure 13, no. 7 shows the largest of the shouldered forms which has the same diameter as the large bucket-shaped vessel shown in figure 13, no. 2. In this case the shoulder is very slight and the form is clearly not very different from that of the straight-sided forms.

The rim angles vary from $63^\circ$ to $89^\circ$, measured from horizontal (see fig. 6, no. 5). The lower example of $63^\circ$ is from the large vessel in figure 13, no. 4, with an everted rim and a very weak shoulder. This degree of eversion seems to be at the extreme end of the range, though at other parts on its circumference it measures $66^\circ$. The higher example ($89^\circ$) is an almost vertical rim on a shouldered vessel (fig. 13, no. 5). These two examples are the extreme ends of the range and the majority fall much closer to the centre (fig. 16). Three fall in the $63^\circ$ to $68^\circ$ range and can be regarded as everted. 18 lie between $73^\circ$ and $83^\circ$ and could be termed 'flaring', whilst six fall between $86^\circ$ and $89^\circ$ and are nearly vertical. Although these groups can be distinguished within the rim angle range, they all appear to be variations on a basic slight to moderately shouldered form. Again the vessel numbers are impossible to estimate accurately, but the diameters indicate a maximum of 32.

A further 119 rims provide some information, but are not sufficiently well-preserved to classify as specific forms, giving either measurements of rim slab sizes or diameter measurements. 88 of these rims show
tongue-and-groove construction and vary from 1.5cm to 4.5cm in size. 16 diameters (comprising 38 rims) are measurable on these indeterminate forms, ranging from 12cm to 34cm (fig. 15b). 9 rim angles (comprising 22 rims) are measurable giving a range of 79° to 84°. Although these rims are not independently informative, they clearly fall within the range of size and profile indicated by the bucket and shouldered-jar forms discussed already. Figure 13, no.8 illustrates one of these vessels. It could easily belong to either form, particularly as it is broken above the second construction slab where the change in wall angle would occur if the vessel was shouldered.

Bases: There are 1,396 base sherds of fabric A.

The majority of these sherds do not preserve their basal angles - the join between wall and base - and consequently do not permit the measurement of wall angles or basal diameters. These base sherds are all from flat-based vessels. In a few cases the basal angle survives at the bottom of a wall sherd, but insufficient of the base survives to securely estimate basal angles. These are classified as bases, but of indeterminate form.

Originally, it was hoped that measurement of the angle between wall and base would provide a criterion for distinguishing different groups of bases. However, since many of the walls are slightly curved and change angle between the base and lower wall, no useful distinction
seems possible on this criterion. Consequently, a more subjective distinction between a rounded basal angle, often with a sagging base, and a 'sharp' basal angle is used, cf. figure 6, no. 10 and no. 9. Some bases have a slight 'foot', a raised area of base before the wall begins (cf. van der Leeuw 1976, 347), but this appears to be a minor variant of a general, flat-based steep-sided form.

212 basal angles without diameters are preserved of the 'sharp' angled form (e.g. fig. 6, no. 9). Many of these preserve construction traces of the tongue-and-groove form in the lower part of the sherd wall, just above the basal angle. These 'sharp' angles are listed in Appendix I merely as 'angles', in contrast to 'rounded angles'. There are 3 'rounded angles' in fabric A. None of the examples is from a sagging base and, as in figure 13, no. 11, this seems to be merely a slightly abnormal variant of the steep-sided form represented by the sharp angles.

73 diameters, comprising 197 sherds, are measurable, varying from 6cm to 20cm. These have been plotted out in figure 17. The overwhelming majority clearly fall between 8cm and 14cm. These figures may be biased by a higher survival rate of the small basal diameters. An alternative explanation is that the base of the vessels was normally a controlled size, but that the rim diameter was often affected by accidental splay and sag in the walls (Hodges 1965, 116-17). The range of variation is shown by figure 13, nos. 9 and 10, while the more
normal size can be seen in figure 13, nos. 1 & 4. The basal angles vary between 57° and 80° (measured externally from horizontal—see figure 6, no. 9), but no useful division seems possible within these figures, particularly in view of the inherent inaccuracy and variability of such measurements.

Three bases preserve evidence of finger-marked crosses on the inside surface of the base. Only one, the smallest, is complete (fig. 13, no. 12) but the other two seem to be crosses as well (fig. 13, nos. 13 & 14). All three are different in size; two are straight crosses whilst the third is a saltire cross. All were made with a finger or thumb when the clay was wet, probably before the walls were added to the base. There is no evidence of any functional purpose for these marks and they may best be interpreted as the foible of one potter or a group of potters. No other bases bore any convincing signs of deliberate decoration, or finger-marks, other than those inherent in working clay by hand.

All of the fabric A bases, which were sufficiently well preserved, are from flat-based and steep-sided vessels. The remainder of the fabric A base sherds, which were less well preserved seem nevertheless to derive from similar vessels.

Body sherds: There are 3,740 body sherds of fabric A. No detailed information about these has been retained, beyond archive, as neither shoulders nor necks gave reliable measurements. The only construction marks noted on these sherds are of the tongue-and-groove method, though some sherds do not have clear traces of their exact construction (see Appendix III.2).
Summary: The entire fabric A assemblage appears to derive from flat-bottomed, shouldered jars and bucket forms, with a considerable variation in size. Although only a percentage of the pottery gives positive indications of shape, the remainder is best interpreted in terms of the shapes which survive, and there is no reason to suppose that any important variant has not been recognised.

Fabric L
Fabric L represents 5.77 per cent of the pottery in levels XIV to XI which has been classified by fabric. This includes 242 rims, 80 bases, and 180 body sherds over 2.5cm² in size.

Rims: There are 20 rims which derive from straight-sided vessels. These rims all preserve evidence of tongue-and-groove construction, and vary in size from 2.1cm to 5cm. Only two diameters, 18cm (fig. 18, no.1) and 26cm were measurable, but the fabric L rims appear to fall as a group within the angle and size range indicated for the similar vessels of fabric A.

Ten rims derive from shouldered vessels. These all preserve evidence of tongue-and-groove construction, and vary in size from 2.9cm to 4.4cm. Only one diameter, of 24cm (fig. 18, no.2), was measurable but the whole group appears to be identical in shape to the fabric A shouldered vessels.

Twelve rims derive from indeterminate forms. Insufficient of these rims survive to indicate whether they are from shouldered or straight-sided vessels. They all preserve evidence of tongue-and-groove construction, and vary in size from 2.2cm to 4cm. Two diameters are measurable, 12cm and 14cm.

One anomalous example (2 sherds) curves in at the rimtop rather than out (fig. 18, no.3). It is of
tongue-and-groove construction and appears to be an unusual variation of the normal form.

The fabric L rim forms appear to be very similar to those of fabric A. In size they fall well within the range of forms already indicated. The actual number of vessels is clearly more than the minimum number indicated by the five diameters since the rim slabs show such variation in size as to imply greater numbers.

Bases: There are 80 base sherds of fabric L. The majority of these are from flat-based vessels, but do not preserve any positive evidence of wall angles. 18 have 'sharp' basal angles and appear to derive from steep-sided vessels. Of these 4 diameters are measurable, varying from 8cm (fig. 18, no. 4) to 10cm. This is consistent with the peak concentration of fabric A bases.

Two sherds have rounded basal angles, and one sherd has a very slightly sagging base, but none of these is very well preserved. In addition, one base has grassmarking on its lower (external) surface, and two sherds have a pitted exterior which appears to be analogous to grass marking. These sagging bases and grassmarked bases do not appear to relate to the bulk of the fabric L bases in levels XIV to XI. They are discussed in more detail below and their registration numbers and contexts are listed in Appendix III.3.

The majority of fabric L base sherds appear to derive from flat-bottomed, steep-sided vessels.
Body sherds: There are 180 fabric L body sherds. Most of these preserve evidence of tongue-and-groove construction.

Miscellaneous: There is one miscellaneous sherd of fabric L which has incised decoration (fig. 18, no. 5). This is in a dubious stratigraphic context and seems likely to be intrusive in these levels. It is discussed, in relation to decoration in the assemblage as a whole, at a later stage.

Summary: The fabric L sherds seem to derive from shouldered jars, and bucket-shaped forms, which are virtually identical to those of fabric A. A few sherds do, however, seem to be unrelated to this pottery tradition.

Fabric C
Fabric C represents 3.38% of the pottery in levels XIV to XI. This includes 143 rims, 62 bases, and 89 body sherds.

Rims: There are 4 rims which derive from straight-sided vessels. These all preserve evidence of tongue-and-groove construction and vary in size from 2.4cm to 4.3cm. No diameters are preserved in this group.
11 rims are from shouldered vessels. These are all of tongue-and-groove construction and vary in size from 2.8cm to 5.5cm. Two diameters are preserved, one of 17cm (fig. 18, no. 6) and one of 13cm. The former diameter is that of a nearly complete vessel, with a slightly flaring rim and pronounced shoulder. The rim of this example is almost upright. The diameter of 13cm belongs to a vessel with a pronounced shoulder, and a rim slab which has been pulled in and then slightly everted at the top (fig. 18, no. 7). This is unusual in that the angle of the rim slab changes in the middle of the slab. It is, however, still basically a shouldered form similar to vessels of fabric A and L.

There is one rim of indeterminate form which has tongue-and-groove construction.

All of these tongue-and-groove rims are very similar to the bulk of the rims and vessel forms already discussed in fabrics A and L. There is however also material in fabric C which is very different in form.

There are 8 rims of sharply everted form. These vary in size from 0.5cm to 2cm. None of them preserves a diameter, but the approximate angle to horizontal is shown in figure 18, no. 8, which shows how sharply everted these rims are - in this case the angle between rim and body being 127°. Figure 18, no. 9 shows a slightly more sharply everted rim. The angle between rim and body is quoted if sufficient of the wall survives to measure it. However, as the walls often curve, this measurement is an arbitrary estimation at the top of the wall. These
short, sharply everted rims appear to be very different from the bulk of the XIV to XI rims and do not have the same construction technique. Construction marks are less clear, but seem to be of a simpler flattened join, or angled join type (e.g. fig. 6, nos 6&7). As the rim construction slabs are rarely visible, the rim measurement is made externally. They can still be compared to the tongue-and-groove rims and it is clear that these everted rims are shorter.

In addition to these sharply everted rims, there is one short (1cm) slightly everted rim. Insufficient of this is preserved for accurate measurement, but it appears to be related to the sharply everted rims (fig.18, no.11), although less sharply everted. Another fabric C rim, 2cm in size, is slightly out-turned (fig. 18, no. 10), and has an angled tongue-and-groove construction. No form is reconstructable for this anomalous form.

No complete forms are reconstructable for these everted rims in levels XIV to XI. They are discussed later in the assessment of the pottery types, and their locations are listed in Appendix III.3. They are clearly different from the bulk of the shouldered and bucket-shaped vessels.

Bases: There are 62 base sherds of fabric C. Most of these are from flat-based vessels, or at least give no indication that they are from sagging bases. 7 examples have flat bases and sharp
basal angles. Only two diameters are preserved of these flat-based steep-sided vessels; one of 11cm is the base of the complete shouldered jar (fig.18, no.6) and the other, 6cm in diameter, is broken at the beginning of the wall, giving no measurable angle, although it appears to be from a steep-sided vessel.

All of these sherds are very similar to the forms encountered in fabric A and seem to derive from the same shouldered jars and bucket-shaped forms indicated by the rims. In addition, however, there are sherds with features that are not found among the fabric A sherds.

15 sherds from probable flat bases show exterior grassmarking. These sherds appear to be from flat bases, though it should be remembered that sherds broken from the centre of a sagging base may well appear to be flat. 7 sherds have rounded basal angles, sagging bases and exterior grassmarking. Another example has a rounded basal angle, and another a slightly sagging base. None of these is well preserved, but figure 6, no. 10 indicates the forms involved. These base sherds do not show the tongue-and-groove joins typical of the flat-based steep-sided vessels and appear to belong to the same construction tradition indicated by the everted rims.
Body sherds: There are 89 body sherds of fabric C. Many do not preserve any construction traces, but a few appear to relate to the everted rim forms which are not made by the tongue-and-groove technique.

Summary: Fabric C appears to contain two different pottery traditions. The first, represented by the tongue-and-groove rims and bases, relates consistently to the shouldered jars and bucket-shaped forms which comprise the overwhelming bulk of the pottery in levels XIV to XI. The second tradition has everted rims, sagging and flat bases and a less clearly defined construction technique; it also contains a proportion of grassmarked bases. The bulk of this second tradition, which forms a tiny percentage of the entire assemblage, is found in a few specific squares, and in levels near the top of the XIV to XI phase on site. The contexts of everted rims, sagging bases, and grassmarked sherds are listed in Appendix III.3, and the significance of this material is discussed in a later section.

Fabric E
Fabric E represents 1.07 per cent of the pottery in levels XIV to XI. This includes 14 rims, 25 bases and 54 body sherds.
Rims: Most of the fabric E rims are too fragmentary to give any secure indications of shape. 4 rims are from a straight-sided bucket form. These rims have rim-slabs of 4cm, tongue-and-groove construction, and a diameter of 28cm (fig.18, no. 12). This is identical to the bucket-shaped forms of fabric A.

Bases: There are 25 fabric E bases. These are all flat-based forms, but no diameters are measurable. One example (2 sherds) has a rounded basal angle but, with tongue-and-groove construction, it appears to derive from a steep-sided vessel (fig. 18, no.13).

Body sherds: There are 54 body sherds, many of which have tongue-and-groove construction.

Summary: The fabric E sherds appear to derive from bucket-shaped forms similar to the standard shapes found in the fabric A material.

Fabric H
Fabric H represents 0.25 per cent of the pottery in levels XIV to XI. This includes 2 rims, 16 bases and 4 body sherds.

Rims: Neither of the rims is sufficiently well preserved to indicate any form.
Bases: There are 16 base sherds of fabric H. These include 5 sagging base sherds, 3 with rounded basal angles and sagging bases, 1 sagging base with exterior grassmarking and 3 grassmarked sherds. 2 sherds have a flat base and a steep wall. No diameters survive but the best preserved examples are shown in figure 18, no. 14 and no. 15. The construction marks on the fabric H sherds are not clear, but appear to be of angled slab or flat slab construction.

These fabric H sherds are all from square T in the top levels of XI. The grassmarked sherds and sagging bases are listed in Appendix III.3. The distribution coincides with that of the sharply everted rims and fabric C grassmarked sherds, and the significance of the fabric H sherds is discussed with them in a later section.

Iron-age sherds
The Iron-age sherds represent 0.02 per cent of the pottery in levels XIV to XI which have been classified by fabric. This consists of 1 rim and 1 body sherd.

The rim does not give any diameter or measurable rim angle and as it has been subjected to considerable heat during ironworking its profile is not illustrated. Iron slag is attached to the rim which is partly vitrified. One similar body sherd was also found in these levels. No bases were found, possibly due to the difficulty of recognising this material in the absence of decoration or vitrifaction.
One sherd in the miscellaneous category has a cordon decoration (fig. 18, no. 16). This is in a softish fabric, not unlike fabric A, but the decoration, an arched cordon, is clearly of Iron-age style, and it must be attributed to disturbance of earlier levels or collection in antiquity.

Fabric G
Fabric G represents 0.01 per cent of the sherds in levels XIV to XI which have been classified by fabric. This consists of 1 base sherd which is derived from a flat-based vessel; insufficient of it survives to reconstruct a wall angle.

The majority of fabric G sherds are found in a limited part of a level not currently assigned stratigraphically to any major phase. It does, however, probably fall within the phase represented by the levels XIV to XI; the form represented by these sherds seems to be a flat-based bucket shape. There are so few sherds of this fabric, possibly representing only one vessel, that fabric G may represent a single experiment, the results of which proved a failure. The fabric is very crumbly and tends to flake. Until the remainder of fabric G is stratigraphically located, it cannot be usefully discussed further.

Platter
There are 64 sherds of 'platter' in levels XIV to XI, comprising 0.15 per cent of the assemblage in these levels. These weigh 172.8g, and by weight they represent 0.01 per cent of the assemblage.
Most of these sherds are very small, the average weight being 2.7g. The majority have grass impressions on their lower surfaces (termed exterior) and are listed as 'Pa' in the Appendices. 5 are listed as 'Pb' denoting the absence of grass impressions. One of these has a roughened exterior surface. Three rims were noted out of the 64 sherds. These 'platter' sherds are easily distinguishable from base sherds because their upper surfaces are covered with finger impressions, finger-made grooves, and finger-nail marks, and are punctuated intermittently with small circular stab marks. They are normally light in colour and fairly evenly fired, thus allowing differentiation by colour from grassmarked bases, which often have dark cores and dark interior surfaces.

The presence of rims associated with these features shows that the 'platters' are not merely bases from normal vessel forms (fig. 18, nos 17-19). None of the rim sherds is large enough to give diameter measurements, but they can clearly be seen to derive from platters, large circular discs of pottery, which are common in level IXc (e.g. fig. 21, no.12) and are discussed below (chapter 7).

The occurrence of sherds of platter in levels XIV to XI is contrary to the expectation of the excavator who was of the opinion that the grassmarked platters were confined to level IXc (Crawford & Switsur 1977, 131). The precise locations of these sherds are noted in Appendix III.4. The majority are found in the upper parts of level XI, certain areas of which were ploughed into from level X (per comm. J. Graham-Campbell).
Those which occur in lower levels appear to be in areas of disturbance by pit-digging and rabbit activity. In addition, the occurrence of platter in squares T and C is very similar to the distribution of the few everted rims and grassmarked bases in these levels (cf. Appendix III.3 and III.4). The significance of this material is discussed in a later section, but the small size of the sherds and their occurrence in disturbed levels suggests that the platter sherds in levels XIV to XI may be stratigraphically intrusive.

Although these pottery discs have been termed 'platters', it should be remembered that they have no side walls and are thus quite different from the Cornish 'platters' described by Charles Thomas (1968, 322).

Levels XIV to XI - Summary and Discussion

Fabric A forms the overwhelming bulk of the pottery assemblage in levels XIV to XI. The only vessel shapes recognised in this material are shouldered jars and bucket forms. All the bases are flat, and the construction method is invariably the tongue-and-groove technique. Almost 90 per cent of the assemblage appears to be of this type.

The other fabrics are less homogeneous. The bulk of fabric L appears to belong to the same tradition as fabric A. Most of the fabric L sherds derive from flat-bottomed bucket forms and shouldered jars. However, a few sherds, one sagging base, one grassmarked base and two pitted bases, seem to belong to a different pottery tradition.
Fabric C includes material derived from both traditions. The majority of sherds are from the bucket shapes and shouldered jars typical of fabric A. However, eight rims of sharply everted type occur and the alternative construction technique, of angled-slab join, appears to have been used. The bases show a similar division; the majority appear to be from flat-based forms similar to the fabric A material, but a proportion indicate sagging bases, rounded basal angles, and grassmarked exteriors.

Of the remaining fabrics, fabric E appears to be in the tongue-and-groove tradition, and fabric H has sagging bases and exterior grassmarking. Fabric G forms such a small percentage of the definite Dark-age material that it cannot be usefully discussed, and the Iron-age sherds are clearly residual.

Only one Iron-age sherd and one tiny (miscellaneous) fabric L sherd are decorated and in both cases the sherds are almost certainly stratigraphically intrusive in these levels. None of the Dark-age pottery is decorated.

Sagging bases and grassmarked bases do not occur in fabric A or on fabric C and L vessels of the bucket and shouldered jar form. These traits are typical of the Viking-age construction tradition which has its own distinct forms. It seems unlikely that sagging bases would be used on the tall vessels of the Dark-age tradition as this would severely decrease their stability. Theoretically grassmarking could be used with these vessels, but the association of grassmarked bases with
the second construction technique seems convincing. In addition the distribution of the grassmarked sherds and sagging bases is so localised and similar to that of the everted rims that all of these traits seem likely to be closely associated. None of these sherds was large enough to permit the reconstruction of complete shapes, but the forms indicated can be seen among the Viking-age material described in the next chapters.

These sherds with everted rims, sagging bases and exterior grassmarking, occur in a few squares and a few subdivisions of level XI (Appendix III.3). They belong to the construction and shape tradition typical of the Viking-age pottery. Most of these sherds are very small and only eight rims show the sharply everted form. The bases, however, probably give a better indication of the true proportion of the assemblage represented by this material. Thus 1.71 per cent of the bases are grassmarked, 1.07 per cent have sagging bases and 0.95 per cent have rounded basal angles. These are overlapping categories, and it is unlikely that much more than 2 per cent of the bases belong to this pottery tradition. The distribution of these sherds also coincides closely with that of the platter sherds which represent 0.15 per cent of the assemblage in levels XIV to XI and, as I have already stated, platter was thought to be typical of the Viking-age level IXc.

In view of the location of the sherds which are identical to Viking-age pottery in disturbed areas, it is likely that
all of them are intrusive and not part of the assemblage in use in the Dark-age levels. I will return to this question after discussing the Viking-age pottery in the next chapters.

The overwhelming mass of the pottery in levels XIV to XI appears to belong to a tradition of pottery manufacture using tongue-and-groove construction to produce simple shapes consisting of flat-based, steep-sided buckets and shouldered jars. This includes material in fabrics A, L, C and E. The construction methods are described in more detail in chapter 9 after the Viking-age pottery has been described.

The actual number of vessels present in the assemblage is impossible to estimate accurately given the nature of the pottery. A simple calculation based on the weight of one of the complete vessels gives a figure of 85 complete vessels. This could only be a useful estimate if every sherd of every vessel had been recovered. This is highly improbable and this figure is probably a drastic underestimate of the real number. A considerable variation in size occurs in these vessels, but no functional differentiation has been recognised.

A high percentage of the sherds had internal and external sooting, suggesting that they were possibly used as cooking pots, but the difficulty in distinguishing between soot resulting from the original firing of the vessels and soot resulting from later exposure to a fire precludes any certainty. Some vessels certainly had
food remains stuck to the inside of the walls and bases.

Although no change through time has been documented for this material, it should be noted that the bulk of it is found in level XI. This may reflect the growth in size of the settlement rather than an increase in the use of pottery, but examination of this question must await the publication of the site buildings and their phases, and clarification of the site's stratigraphy.

The pottery of the Dark-age phase is clearly a homogeneous assemblage of undecorated bucket- and shouldered-jar forms, using a distinctive tongue-and-groove construction technique. The small percentage of sherds which do not conform to this tradition are thought to be residual Iron-age material and stratigraphic intrusives from the Viking-age levels.
CHAPTER 6

THE UDAL POTTERY FROM LEVEL X

Introduction

The reasons for describing the pottery from the Viking-age levels in three groups have already been discussed. The historical importance of these levels requires that each be examined separately and sufficient pottery has been defined stratigraphically to permit this. Consequently, the pottery is assessed in three groups: level X, level IXc, and, finally, level X to IXb which comprises all the material that cannot be attributed with certainty to either of the first two groups.

Only such material as could definitely be assigned to level X has been included in this section. Consequently, some of the pottery from this level is currently included in the discussion of unassigned material from the whole phase (level X to IXb).

There are 236 bags of pottery attributed to level X. Table V (below) lists the numerical totals for each fragment group and the total number and weight of the pottery from this level.

TABLE V

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims</td>
<td>390</td>
</tr>
<tr>
<td>Bases</td>
<td>271</td>
</tr>
<tr>
<td>Body sherds</td>
<td>376</td>
</tr>
<tr>
<td>Misc.</td>
<td>5,346</td>
</tr>
<tr>
<td>Platter</td>
<td>62</td>
</tr>
<tr>
<td>Total no.</td>
<td>6,497</td>
</tr>
<tr>
<td>Total weight</td>
<td>25,336.7g</td>
</tr>
</tbody>
</table>
(N.B. It should be noted that the figure for the number of sherds includes body sherds which are glued to rims or bases and not counted in the component totals).

Fabric
The relative percentages of each fabric in level X are presented in figure 11, no. 2. As in the last chapter on the level XIV to XI material, the miscellaneous sherds have not been classified by fabric and are only described further in the rare instances of decoration. Fabric A represents over 63 per cent of the remaining sherds which were classified by fabric. Fabric L represents 27 per cent; fabric C over 5 per cent; fabric H over 2 per cent; and fabric E and the Iron-age sherds together represent less than 1 per cent.

Fabric A
Fabric A represents c. 63.7 per cent of the pottery in level X which has been classified by fabric. This includes 255 rims, 182 bases and 223 body sherds.

Rims: There are 255 rims of fabric A in level X. 16 examples (29 rim sherds) give some information about shape. All preserve evidence of tongue-and-groove construction and vary in size from 2.1cm to 5.4cm. 12 rims preserve sufficient of their profiles to show that they derive from straight-sided bucket forms. These have rim-slabs varying in size from 2.1cm to 3.7cm. Only one diameter, of 13cm, is measurable (fig.
14 rims are derived from shouldered vessels. These have rim-slabs varying in size from 3.6cm to 5.4cm. Only one diameter, of 20cm, is measurable (fig. 19, no. 2). Three rims are not sufficiently well preserved to indicate a vessel shape, but preserve a diameter of 18cm (fig. 19, no. 3).

The overwhelming majority of fabric A rims are too fragmentary to give any certain indications of their vessel profiles. However, those which are indicative of vessel profile derive from simple bucket forms and shouldered jars. These are identical to the vessel forms present in levels XIV to XI; the fabric A rims in level X show no sign of innovation or change.

Bases: There are 182 base sherds of fabric A from level X. The majority of these are fragmentary, but all appear to be from flat-based forms. 18 sharp base angles from steep-sided vessels are recognisable. Only three of these have measurable diameters, one of 12cm and two of 13cm (e.g. fig. 19, no. 4).

All these base sherds are identical in form to the fabric A bases from levels XIV to XI. They derive from steep-sided vessels and must relate to the fabric A rims from shouldered vessels and bucket forms. They show no sign of innovation or change.

However, in addition to these base sherds, there are some which may indicate some innovation. One base sherd has a rounded basal angle (cf. fig. 9, no. 13).
Unfortunately, it is too fragmentary to indicate its vessel profile. Five sherds have exterior grassmarking and two have cracked exterior surfaces which appear to be analogous to grassmarking (see pp. 237-9, below). None of these sherds is very well preserved, but they appear to indicate the introduction of new techniques to fabric A. There is no way of establishing whether new forms have been introduced or if grassmarking occurs on the bucket forms and shouldered jars, but grassmarking does not occur on any of the recognisable examples of these types so that it may be confined to other vessel forms.

Body sherds: There are 223 body sherds of fabric A in level X.

Conclusion: The fabric A sherds form the bulk of the pottery in level X; almost all indicate the same shapes and construction techniques as were used in levels XIV to XI. Only one small group of base sherds, 8 in total, suggests the introduction of new traits.

Fabric L
Fabric L comprises c. 27.3 per cent of pottery in level X which has been classified by fabric. This consists of 99 rims, 60 bases and 124 body sherds.
Rims: There are 99 rims of fabric L in level X, but only 19 are sufficiently well preserved to indicate the form they derive from.

11 rims show tongue-and-groove construction; they vary in size from 1.5cm to 3.7cm. Two of these are from straight-sided bucket forms (e.g. fig. 19, no.5). Four rims are from slightly shouldered vessels (fig.19 no. 6). The shoulders on these sherds are very slight, and although they are similar to the Dark-age shouldered jars, these rims seem shorter, thinner and finer in texture, and slightly atypical in form. Five of the tongue-and-groove rims are not sufficiently preserved to indicate what vessel form they derive from.

Three rims of an indeterminate form preserve the only measurable diameter of these fabric L rims. This is 28cm in diameter and appears similar to the tongue-and-groove rims noted above, though it is broken above the construction join (fig.19, no. 7).

All these rims are very similar to the material in levels XIV to XI and appear to derive from the simple bucket forms and shouldered jars. No sign of any significant innovation can be observed.

There is one rim of fabric L with a short (1cm), sharply everted rim. This is too small to give any secure information on vessel shape; it may be an incomplete construction element and consequently not a true rim (fig. 19, no8).

Four rims are of 'angled-slab' or coil construction and vary in size from 0.6cm to 2.4cm. Three of...
them appear to be from fairly straight-sided vessels, or ones with a slightly convex shape. Only two of these rims are illustrated as the others are too small to give much information (fig. 19, nos. 9 and 10).

These four sherds with angled-slab construction are quite distinct from the tongue-and-groove rims which make up the bulk of the level X fabric L rims. They do not give diameters or profiles, but are clearly similar to the better preserved examples which can be found in other parts of the Udal Viking-age assemblage (e.g. fig. 22, no. 38, Plate 1b). Although they are described as straight-sided, they are quite different in shape from the Dark-age bucket forms. The Viking-age straight-sided rims appear to derive from bowls and cups, which are much wider in relation to their height than the bucket forms. The walls can be convex even if the rim top appears to be fairly straight; in addition the rims do not flare outwards in the manner common in the Dark-age forms, but are usually fairly upright or slightly incurved.

Thus fabric L rims represent two distinct traditions: the tongue-and-groove buckets and shouldered jars, and the angled-slab bowl forms.

Bases: There are 60 fabric L base sherds. The majority are derived from flat-based forms. 13 sherds preserve evidence of sharp basal angles, but of these only two basal diameters are measurable. One (two sherds) of 7cm is too fragmentary to illustrate. The
second, 13 - 14cm in diameter, is clearly derived from a tongue-and-groove constructed bucket or jar (fig. 19, no.11). It is broken before the rim slab begins. These base sherds all appear to relate to the fabric L rims showing tongue-and-groove construction from bucket or shouldered jar forms. They are identical to the material in levels XIV to XI.

Three sherds are derived from sagging-base bowl forms, with rounded basal angles. These have been constructed with thick 'sausage-shaped' coils of clay and have a characteristic flattened slab join. Two sherds show the construction join at the junction of base and wall (fig. 19, no.13). These sherds are not sufficiently well preserved to give diameters, but they are clearly from sagging-based bowls like others in the Viking-age assemblage (e.g. fig. 22, no.39). One thinner-walled sherd shows the base/wall slab join (fig. 19, no.14). This normally produces an effect similar to the rounded basal angle, and the two traits are clearly related. This sherd is broken just below the basal angle, but it appears to be flat based. It may be derived from a cup-form (e.g. fig. 20, no.19), but is too fragmentary for certainty.

In addition, 10 bases have exterior grassmarking, 14 have a combination of grass and angular grit impressions, and two bases have cracked exterior surfaces. None of these sherds can be shown to derive from the shouldered jars and bucket-forms of the tongue-and-groove tradition.
They seem to relate to the new tradition of sagging and flat based bowls and cups, though the fragmentary nature of the material precludes certainty.

Body sherds: There are 124 body sherds of fabric L. These show tongue-and-groove construction marks or alternatively angled-slab construction joins.

Conclusion: Fabric L is the second largest fabric group in level X. The bulk of these sherds appear to derive from flat-bottomed bucket forms and shouldered jars of the tongue-and-groove tradition. These are identical to the fabric A forms found in levels XIV to XI. In addition, there are rims, bases, and body sherds derived from sagging- and flat-based bowls and cups, many of which have grassmarked bases.

Fabric C
Fabric C represents 5.6 per cent of the sherds in level X which have been classified by fabric. This consists of 35 rims, 9 base sherds and 14 body sherds.

Rims: There are 35 rims of fabric C, but only five give any indication of form. Three of these are short, sharply everted rims varying in size from 0.6cm to 1.5cm (e.g. fig. 19, nos. 15 & 16). No diameters or profiles are reconstructable. One of these rims has an angled tongue-and-groove construction join (fig. 19, no. 16).
Their rim/body angles vary from 112° to 118°. Two rims derive from a straight- or convex-sided vessel and have angled-slab construction marks (fig. 19, no. 18). One rim is decorated with small spatulate impressions on its rimtop (fig. 19, no. 19). This sherd is very small — it weighs only 0.4g — and no profile is reconstructable.

These rims are clearly different from those of the Dark-age tradition and relate to the everted rims and open-mouthed bowl forms which predominate in level IXc.

Bases: There are 9 bases of fabric C. Two bases have slightly sagging profiles (e.g. fig. 19, no. 22). One has a rounded basal angle and a sagging base (fig. 19, no. 21); a second with a rounded basal angle has dense exterior grassmarking. Another base has a little exterior grassmarking.

None of these bases is like the tongue-and-groove constructed buckets and jars which predominate in levels XIV to XI.

Body sherds: There are 14 body sherds of fabric C, none of which shows tongue-and-groove construction marks. One small bodysherd (miscellaneous) has two stab-marks on the outer surface (fig. 19, no. 23).

Conclusion: The bulk of the fabric C material in level X is extremely fragmentary. No diameters or profiles are reconstructable. However, the sherds which
do indicate shapes are clearly related to the better preserved forms found in other parts of the Viking-age levels. Thus both everted rim and straight or convex-sided vessels are present among the rims, and both flat and sagging bases occur. These appear to derive from cup and bowl forms similar to figure 22, no. 37 & 38 and fig. 20, no. 19. Grassmarking occurs on a small percentage of sherds.

The tongue-and-groove tradition of buckets and jars appears to be absent, though one everted rim appears to use a form of tongue-and-groove construction. The presence of one decorated rim and one decorated miscellaneous sherd seems unlikely to be of relevance to the level X material. In all probability they indicate stratigraphic intrusions, perhaps due to rabbits introducing material from higher levels where decoration is more common.

In addition to this material, mention must be made of another group of fabric C sherds which has not yet been included in the level X discussion. This is a group of six sherds listed in Appendix I.5 (page 106) as an undefined stratigraphic group. This material is now known to be derived from level X and consequently is described here though it was not included in the level X numerical totals and percentages. Two rims, three base sherds and one small body sherd (miscellaneous) allow the reconstruction of a complete profile (fig. 19, no. 24). This is a small flat-based bowl (or cup) with a convex wall and incurved rim. The rim diameter is 17 cm and base diameter 11 cm. It is built up with fairly thick coils or slabs of clay and has a clear base/wall construction join in one section.
(Plate 2a). The base is flat and rather irregular.

This complete profile illustrates one of the types of vessel indicated by the other more fragmentary rims and bases in level X. In shape, dimensions, and construction technique, it is totally different from the Dark-age tradition of bucket- and jar-forms.

Fabric H

Fabric H represents 2.7 per cent of the pottery in level X which has been classified by fabric. This includes one rim, 16 bases and 11 body sherds.

Rims: The only rim is too small to securely indicate any vessel shape.

Bases: There are 16 bases of fabric H. One example (2 sherds) has a flat base and an apparently sharp basal angle, though the wall is broken just above the angle (fig.19, no.26). Three sherds show rounded basal angles and have flat bases (e.g. fig.19, nos.27 & 29). These indicate convex-sided walls. Two sherds have a rounded basal angle, with a slight foot and a sagging profile (e.g. fig. 19, no.28). Five sherds preserve a sagging profile but no basal angle, and five sherds have dense exterior grassmarking.

Body sherds: There are 11 body sherds of fabric H, some of which preserve evidence of angled-slab or coil construction. None shows any evidence of
tongue-and-groove construction.

Conclusion: No diameters or complete profiles are reconstructable, but fabric H is clearly similar to the fabric C material in level X. The forms present seem to be convex-sided bowls and cups, with flat and slightly sagging bases.

**Fabric E**

Fabric E represents c. 0.7 per cent of the pottery in level X which has been classified by fabric. This includes four base sherds and three body sherds.

**Bases:** The base sherds are all flat but no angles survive.

**Body sherds:** One body sherd has tongue-and-groove construction.

The fabric E sherds in level X are too few to be usefully discussed, but it is possible that they are rubbish survivals from levels XIV to XI.

**Iron-age Pottery**

The Iron-age sherds represents 0.1 per cent of the pottery in level X classified by fabric. This consists of one body sherd.

**Body sherds:** This single Iron-age sherd is a vitrified body sherd which is identical to the material
in level XV. The vitrification and adherence of iron slag allows this sherd to be identified with certainty. It is irrelevant to the level X material, other than as an indication of the presence of residual material in the level X assemblage.

**Platter**

There are 62 sherds of platter, weighing c. 212.3g., in the level X deposits. These represent less than 1 per cent of the assemblage by number and by weight.

53 sherds show some signs of grassmarking. This includes five rims (e.g. fig. 19, nos. 30 & 31); all are too small to allow diameters to be measured, but they serve to differentiate this material from the grassmarked bases. The fingered and stabbed interiors, and grassmarked exteriors, are quite distinctive. No side walls occur on any of these flat pottery discs (e.g. fig. 21, no. 12). Nine sherds do not have grassmarking but have roughened exteriors or angular impressions.

One rim (fig. 19, no. 32) has small fragments of shell impressed on one side, but this seems to be equivalent to grassmarking as the sherd appears to be from a platter. The presence of shell is rare, though some of the sherds with angular impressions may have had shell fragments burnt out.

Although no diameters are preserved, these sherds are clearly derived from 'platters', the flat pottery discs which occur as more complete examples in level IXc.
As noted already, the platter in level X represents less than 1 per cent of the assemblage. The majority of the sherds are small, weighing less than 3g. They are not evenly distributed through the assemblage but concentrate in specific areas, occurring in less than 5 per cent of the bags. This material is discussed in more detail in the light of the evidence from level IXc.

Summary
The pottery assemblage in level X has few sizeable profiles and no complete vessels. As a consequence, it has been necessary to interpret it with the knowledge of better-preserved vessels in other levels. However, the relative simplicity of the pottery and the exact nature of the parallels does allow the assemblage to be interpreted with some confidence.

Fabric A comprises the bulk of the pottery in level X. Much of it is fragmentary, but the only forms recognisable are of the shouldered jar and bucket types typical of levels XIV to XI. All these forms are of the standard flat-based type. However, a few sherds of this fabric show grassmarking or gritmarking. This was not found on these vessel forms in the Dark-age levels. It is not clear from these sherds alone, if this represents the use of a new technique on the traditional pottery style, or if new forms and shapes have been introduced to this fabric.

Fabric L represents the other major percentage of the pottery in level X. The bulk of this fabric appears
to belong to the tongue-and-groove construction tradition with shouldered jar and bucket forms, but in addition material belonging to a new tradition of construction and shape is found. This includes sagging and flat-based bowls and cups. Grassmarking and gritmarking occurs on a substantial proportion of the base sherds and appears to be part of the new pottery tradition.

The fabric C pottery is rather fragmentary but, when it is sufficiently well preserved, it includes vessels with everted rims and straight-sided bowls and cups. Grassmarking occurs, as do sagging bases and rounded basal angles. The few construction marks recognisable are of the angled-slab tradition. This material is thus very different from that of the Dark-age tradition.

Fabric H has forms very similar to fabric C and appears to belong to the same construction tradition. The remaining fabrics are not represented by enough sherds to allow useful discussion.

In addition to these pottery vessels and sherds, there are 62 sherds of platter. The use of grassmarking relates this material to the new tradition, but the small quantity of pottery and fragmentary nature of the sherds does not aid its interpretation.

The construction techniques and their relationships to specific forms are discussed in more detail in a later section, after all the Viking-age pottery has been described, but the present evidence suggests two distinct traditions. As noted already, where pottery shapes are preserved, the angled-slab and coil technique is used for the straight-sided
or everted rim bowls and cups with flat and sagging bases. Although a few fabric A bases have grassmarking, none of the buckets or shouldered jars can be shown to have this feature. Grassmarking appears to be part of the new construction technique.

The bulk of the pottery in level X clearly belongs to the Dark-age tradition of buckets and jars, with no convincing indication of any innovation in style. However, the fragmentary nature of much of the pottery renders its interpretation difficult. In view of the large quantity of pottery present in level XI, it seems quite likely that the succeeding level X could contain a considerable amount of residual pottery derived from the earlier level. Similarly, if there was continuity of some sort between the Viking-age settlement and the Dark-age village which it superceded, it is quite possible that pottery vessels continued in use through the change-over though no new vessels of the old style were made. This question is examined in more detail in chapter 10, when the interpretation of the pottery sequence and its significance is discussed.

Although the bulk of the level X pottery is in the Dark-age tradition, a significant proportion of the identifiable sherds belongs to the new Viking-age style. It has been necessary to interpret this material in the light of the better preserved forms in other parts of the Viking-age assemblage. Given acceptance of the traits used to define the new tradition, some indication of its presence in this level is shown by the fact that some 13 per cent of
the base sherds are grassmarked, c. 5 per cent have sagging bases, and c. 4 per cent have rounded basal angles. Thus, while the Dark-age tradition predominates in level X, the new pottery tradition has a significant presence in this level. The presence of the new Viking-age style may also be underestimated by the exclusion of contexts such as houses which have not yet been stratigraphically allocated to levels.
CHAPTER 7

THE UDAL POTTERY FROM LEVEL IXc

Introduction
Level IXc is the second major Viking-age level. A small group of material from level IXb has also been included in this chapter, as IXb is interpreted as the terminal layer of the major level IXc. Only such material as could definitely be assigned to level IXc and IXb has been included in this section. Consequently, some of the pottery from this level is currently included in the discussion of the material from the whole phase, that is level X to IXb.

There are 498 bags of pottery attributed to level IXc. Table VI below lists the numerical totals for each fragment group and the total number, and weight, of the sherds from this level.

<table>
<thead>
<tr>
<th>TABLE VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims     : 603</td>
</tr>
<tr>
<td>Bases    : 524</td>
</tr>
<tr>
<td>Body sherds: 619</td>
</tr>
<tr>
<td>Misc.    : 8,751</td>
</tr>
<tr>
<td>Platter  : 1,426</td>
</tr>
<tr>
<td>Total no. : 11,999</td>
</tr>
<tr>
<td>Total weight 43,342.1g.</td>
</tr>
</tbody>
</table>

(N.B. Total number includes body sherds glued to rims or bases which are not counted in the component totals.)
The relative percentages of each fabric in level IXc are presented in figure 11, no.3. As in the previous two chapters, the miscellaneous sherds have not been classified by fabric and are only described further in the rare instances of their having decoration. Of the sherds which have been defined by fabric: fabric A represents c. 13 per cent; fabric C represents 41 per cent; fabric E represents c. 4 per cent; fabric H represents c. 3 per cent; and fabric L represents 38 per cent. These are discussed below in order of their frequency in the assemblage.

**Fabric C**

Fabric C represents 41.6 per cent of the pottery in level IXc which has been classified by fabric. This includes 276 rims, 193 bases, and 262 body sherds.

Rims: There are 276 rims of fabric C in level IXc. 58 rims are of short, sharply everted form. These rims vary in size from 0.7 cm (fig. 20, no. 9) to 2 cm (fig. 20, no. 10). The angle between the rim and body was measurable in 10 examples, where it varied from 94° to 139°. However, all of these rims can be regarded as sharply everted. Only four diameters were preserved, varying from 13 cm (fig. 20, no. 12) to 18 cm, in an atypical form (fig. 20, no. 13). The angle of the rim to horizontal (which denotes the true angle of the vessel profile) was only accurately measurable in three cases. It varies from 63° to 76° (fig. 20, no. 14). This variation is of
little significance since two examples which may derive from the same vessel almost encompass the whole range (fig.20, nos 11 and 12). One everted rim has decoration on its rim-top and body (fig. 20, no.15). Its body has a series of parallel incised lines running almost vertically from the bottom of the rim down the outside of the sherd for c. 2.5cm. Between each line is a parallel row of dots of similar length. The top of the rim has a similar row of dots along its length. None of the everted rim forms in IXc has preserved a full profile.

Eight rims are from fairly straight-sided vessels with angled-slab construction (fig. 20, no.16). These rims vary from 1cm (fig.20, no.17) to 2.3cm in size. One example (4 rims) of this type has incised decoration on the rim-top. This consists of a series of cuts or incisions across the rim-top, at right angles to the circumference, with a 3mm spacing between cuts (fig.20, no. 18; cf. fig.20, no.56). These rims appear to be from straight- or convex-sided bowls.

One example (3 rims) has a slightly inturned rim and preserves a complete profile. This is a small convex-sided cup with a rounded angle and sagging base (fig.20, no. 19). No clear rim-slab is measurable, although fault lines occur elsewhere in the body of the vessel indicating that it is related to the angled-slab type of construction. This has a diameter of c. 9.5cm. The irregularity of the rim is of some interest; it curves inwards on one part of the vessel and is very
slightly everted on another. Another slightly incurved rim may derive from a similar vessel (fig.20, no.20).

There are two rims from slightly different forms. One is a long flaring rim with tongue-and-groove construction (fig.20, no.21). This may be a rim from a shouldered vessel of Dark-age type, but it is not typical of that vessel form and cannot be readily interpreted. Another sherd has an upright rim and a slight shoulder. This has a diameter of 24cm and is one of the largest vessels recognised in level IXc. Although this upright rim is unusual, it may simply be a somewhat atypical form related to the everted rim series (fig. 20, no.22).

Decoration has already been noted on one everted rim and one straight-sided form. It occurs on eleven other rims in fabric C. Some of these are probably from everted rims, but do not preserve sufficient of their profiles to be classified. Seven rims have incised or grooved rimtops. These incisions appear to have been produced with a narrow implement at intervals of between 3mm and 8mm (e.g. fig.20, no.23). One rim has stab-marks on the rim-top (cf. fig.20, no.15), and another one has such marks on its external surface. These appear to have been made with a fine pointed instrument. Two rims have decoration made with a tubular object, such as a reed or broken bone, or piece of shaped metal. One has these impressions on its rim-top and exterior surface and the other has an incised rim-top together with 'reed' impressions on its exterior surface (fig. 20, no. 25; fig. 20, no.24).
None of these decorated sherds is sufficiently well-preserved to indicate its profile or full decorative scheme, but the everted rim described already (fig. 20, no.15) does indicate the existence of a recurrent, if crude, form of decoration.

The fabric C rims are mostly everted rim forms, though straight-sided forms are present. Simple decoration occurs on a small percentage of the rims; the significance of this is discussed at a later stage.

Bases: There are 193 bases of fabric C in level IXc. 12 examples have sharp basal angles. Most of these are rather small sherds with little indication of their wall profile (fig. 20, nos.26 and 27). One example indicates a diameter of 9cm, but is broken just above the basal angle. Another sharp basal angle has evidence of construction fault-lines in its wall. One example has grassmarking on its lower surface (fig. 20, no.23).

23 examples have a rounded basal angle. This includes nine bases with clear evidence of a base/wall slab construction join (e.g. fig. 20, nos. 29 and 30). One base has clear angled-slab construction joins in the walls but no visible join at the basal angle (fig. 20, no. 31). Most of these round-angled forms have flat bases (fig. 20, nos. 32 & 33), but three examples (16 sherds) have rounded or slightly sagging bases (fig. 20, nos. 34 & 35). The best preserved example of the round-angled sagging-base form in IXc is the small cup with the slightly
inturned rim which has already been described (fig. 20, no. 19). However, considerably larger forms are to be found (cf. fig. 22, no. 38). Six of the round angled base forms have exterior grassmarking.

In addition, there are 25 sherds from sagging-base forms. 14 of these have exterior grassmarking. Of the remaining base sherds, 64 have exterior grassmarking and seven have exterior grit-impressions.

Although many of the fabric C bases are fragmentary, the reconstructable forms are quite consistent. Round-angled forms are predominant. 41 sherds (21.2%) are derived from sagging-based forms, and 94 sherds (48.7%) have evidence of grassmarking or gritmarking. The absence of diameters makes full reconstruction difficult, but viewed in the context of the few complete vessels this material is quite coherent; there is little suggestion of any forms other than flat- and sagging-based bowls and cups.

Body sherds: There are 262 body sherds of fabric C. None has any decoration.

Miscellaneous: There are 16 small body sherds (the miscellaneous category) with evidence of decoration. Eight sherds have dot decoration (e.g. fig. 20, no. 37), although most do not have the coherent lines of the example illustrated. These dots are of the 'fine point' type already illustrated among the rims (fig. 20, no. 36). One sherd (fig. 20, no. 38) has a series
of incised lines with dots above them. Five sherds have incised lines on their outer surfaces, but are too small to indicate any coherent pattern. One sherd has three roughly parallel lines; one has a series of parallel and converging lines which may represent a triangular pattern (fig. 20, no. 40 and fig. 20, no. 39).

None of these sherds is large enough to reveal a coherent decorative scheme, but with the exception of the last mentioned sherd, they clearly belong to the simple, decorative types indicated by the few decorated rims with incised lines and stab, or dot marks.

Summary: It will be clear that much of the fabric C pottery in level IXc is in a rather fragmentary condition. Only one complete profile has been reconstructed. However, the rims and bases appear to form a coherent and consistent group and it seems legitimate to interpret them with the aid of the few complete vessels of similar type in the assemblage.

Everted rims make up the largest group in fabric C. However, there is only one complete profile of a vessel with an everted rim and this is in the undefined stratigraphic group. More recent stratigraphic information suggests that this vessel should be attributed to IXc, but it will be described in detail in a later chapter. This profile (fig. 22, no. 37) shows that the everted-rim vessels may have straight or slightly convex sides, sagging bases and grassmarking. Presumably, flat bases might also be associated with the everted rims.
The other forms indicated are the straight-sided or slightly inturned bowl and cup forms. Bases are of both flat and sagging types; rounded basal angles for the first time form the majority. In addition, grassmarking and the angled-slab construction technique are recognisable on many of the sherds.

The fabric C pottery in level IXc clearly indicates a pottery tradition totally different from that of the tongue-and-groove buckets and shouldered jars in the Dark-age levels. Only one unusual rim has tongue-and-groove construction marks.

The small quantity of decorated pottery poses certain questions, with only 16 rims (c. 5.8%) having any signs of decoration. It is not clear whether this material represents the beginning of the Medieval and later decorative tradition, or whether these sherds are stratigraphic intrusives. This problem is discussed in more detail in a later chapter.

Fabric L

Fabric L represents c. 37.6 per cent of the pottery in level IXc which has been classified by fabric. This includes 194 rims, 299 bases and 229 body sherds.

Rims: There are 194 rims of fabric L in level IXc. Six rims are of the short sharply everted type. These vary in size from 0.9cm to 2.6cm. One preserves evidence of angled-slab construction (fig.
20, no. 50), and one has an angled tongue-and-groove form (no. 51). None of them preserves its diameter or full profile, and none is decorated.

Twelve rims are from straight-sided vessels. Of these, nine have angled-slab construction with rim-slabs varying in size from 1.2 cm to 3 cm (e.g. fig. 20, nos. 52 and 53). One rim has a 'flat' slab construction join (fig. 20, no. 54), but this is merely a slight variant on the angled-slab form. One rim has an angled tongue-and-groove join (fig. 20, no. 55). The significance of the construction techniques is discussed in a later chapter.

Two of these straight-sided rims are decorated. One, with angled-slab construction marks, has a series of incisions across its rim-top at c. 5 mm spacing (fig. 20, no. 56). The other has an unusual 'rippled' effect, produced by wide grooves running obliquely across the rim-top (fig. 20, no. 57). This sherd is unique within the IXc material though related forms occur at other sites.

Three rims are slightly inturned, or have noticeably convex walls (e.g. fig. 21, no. 1).

In addition, three other rims, without diagnostic profiles, are decorated. Two have incised rim-tops similar to figure 20, no. 56, and one has impressed circular marks on its rim-top (fig. 21, no. 2).

Most of the fabric L rims in level IXc are too small to indicate any form reliably. However, the rims which are preserved do form a coherent group. The everted rims are similar to those in fabric C, which have already been
discussed. The straight- or slightly convex-sided rims are similarly paralleled elsewhere amongst the IXc material and would all appear to derive from open-mouthed bowl or cup forms. Decoration occurs on a small percentage of rims, but this is discussed in more detail later.

Bases: There are 229 base sherds of fabric L in level IXc. 24 examples have sharp basal angles and flat bases. One of these has a diameter of 5cm (fig. 21, no. 3), and two have exterior grass impressions (e.g. fig. 21, no. 4). 26 examples have rounded basal angles (e.g. fig. 21, nos. 5 & 6). One (2 sherds) preserves a diameter of 8cm and a flat base (fig. 21, no. 7), and may derive from a convex-sided cup (cf. fig. 20, no. 19). Six of these bases have evidence of base/wall construction joins (fig. 21, no. 8 and fig. 21, no. 9). One example has both a rounded basal angle and a sagging base (fig. 21, no. 10).

17 other base sherds are of sagging type, though in some cases the degree of sag is slight. Two of these have exterior grassmarking. 66 sherds from flat bases have exterior grassmarking. In addition, two bases have grit impressed into their external surface, six have cracked exteriors and five have roughened exteriors. All these features appear to be analogous to grassmarking as a manufacturing technique (see below).

Many of the fabric L base sherds are fragmentary, but those which preserve diagnostic features form a coherent group. Only two diameters survive, but the bases are similar to the fabric C, H and E types found in the Viking-age levels. Most sherds are from flat-based
only 18 (7.9%) are of the sagging-base type, though it must be remembered that small sherds derived from slightly sagging bases can appear flat. Rounded basal angles comprise more than half of the angles which are preserved, and grassmarking or gritmarking occurs on 83 sherds (36.2%).

Miscellaneous: Three small body sherds in the miscellaneous category have evidence of decoration. Two of these have fine dot decoration (e.g. fig. 21, no.11). One has two incised lines on its external surface (cf. fig. 20, no. 40 ). None is large enough to reveal its full decorative scheme.

Summary: The fabric L sherds in level IXc are in general very fragmentary. However, they appear to represent a coherent group of everted-rim vessels and straight-sided bowls and cups; these can be paralleled in the other fabrics in IXc, as well as in the other Viking-age levels. Both flat-based and sagging forms are found with grassmarking. Although no complete profiles are reconstructable, the similarity of the pottery and the use of the same construction techniques confirms the homogeneity of the group which can be interpreted in the light of the few complete vessels of Viking-age date. Decoration occurs on a small percentage of the pottery and its implications are discussed in the summary of all the fabrics from this level.
Fabric A

Fabric A represents c. 13.2 per cent of the pottery in level IXc which has been classified by fabric. This includes 98 rims, 54 bases and 78 body sherds.

Rims: There are 98 fabric A rims in level IXc. Of these only three examples (6 rims) provide any information on shape or construction. One (2 rims) is derived from a straight-sided vessel with tongue-and-groove construction (fig. 20, no. 1). Not enough of this vessel survives to reconstruct it with complete certainty, but it appears to be identical to the bucket-shaped vessels typical of the Dark-age tradition.

Two examples (4 rims) have evidence of the angled-slab construction technique. The rim slabs vary in size from c. 3cm to 4.1cm, and appear to be derived from straight-sided bowl-forms (fig. 20, nos 2 and 3).

The bulk of the fabric A rims are too fragmentary to give any secure indication of shape and even those listed above are too small to indicate diameters, or to provide measurable rim-angles. However, these rims are so similar to better preserved forms found in the Udal assemblage that it seems legitimate to interpret them in terms of the two traditions of construction and shape noted in the previous chapters.
Bases: There are 54 fabric A bases in level IXc.

The majority of these are from flat-based forms, although some sherds are too small for any certainty.

17 'sharp' base angles are recognisable. These appear to be from steep-sided vessels, but no diameters survive and their profiles are, consequently, uncertain. One steep-sided example preserves evidence of tongue-and-groove construction (fig. 20, no. 4), but most are too small to indicate their form clearly (e.g. fig. 20, no. 5). Two of the bases with sharp basal angles have exterior grassmarking, but neither is sufficiently well-preserved to indicate vessel profile (e.g. fig. 20, no. 6).

Three rounded basal angles are recognisable. One indicates a diameter of c. 12cm, with a flat base and with evidence of angled slab construction in the wall. This seems to be derived from a convex-sided cup, or small bowl (fig. 20, no. 7). Five other base sherds have exterior grassmarking and one sherd has impressions of both grass and grit. Another sherd is recognisable as deriving from a sagging base.

Level IXc contains fabric A bases with both construction traditions. Although the small size of the base sherds hinders identification, both bucket-shaped and bowl-shaped vessels appear to be present, but many of the bases could derive from either form.

Body sherds: There are 78 body sherds of fabric A.
Miscellaneous: One miscellaneous sherd of fabric A has decoration. This small body sherd has two parallel lines incised on its external surface (fig. 20, no. 8). No other sherds of fabric A have any decoration.

Conclusion: Much of the fabric A material in level IXc is too small to indicate form or construction technique. However, those sherds which are sufficiently well-preserved show the presence of tongue-and-groove rims and bases, and some angled-slab forms. The tongue-and-groove sherds are identical to the material in levels XIV to XI and seem to derive from flat-based buckets of the Dark-age tradition. The angled-slab sherds indicate convex- or straight-sided bowls.

11 per cent of the bases are grassmarked, but there is no evidence of the use of this technique on the tongue-and-groove bucket-forms. The significance of the use of Viking-age construction techniques in fabric A sherds is not clear. The use of similar clay and inclusions may be the most likely explanation, but this need not imply any cultural continuity. The problem of residual material on long-occupied settlement-sites is discussed in a later chapter, but it should be noted that the fragmentary nature of the bulk of the fabric A sherds suggests that they may be derived from the lower Dark-age levels.

The presence of one decorated 'miscellaneous' sherd has been noted. The area of decoration is too small to
show any coherent pattern, but this sherd should relate to the decorated material in fabrics C and L in this level, and to the decorated pottery which becomes much commoner in the Medieval levels. It is possible that this sherd is intrusive from a higher level, but I shall discuss the occurrence of decoration in the Viking-age assemblage in a later section.

Fabric E

Fabric E represents c. 4.1 per cent of the pottery on level IXc which has been classified by fabric. This includes 14 rims, 20 bases and 37 body sherds.

Rims: There are 14 rims of fabric E in level IXc. Some of these are too small to reliably indicate shape. Eight sherds (2 examples) have angled-slab construction. One example has a rim-slab of c. 2.2cm and appears to derive from a straight-sided form (fig. 20, no.41 ). The other (5 sherds) has a rim-slab of 2.9cm and a second slab of 3.3cm, and has a slightly convex profile (fig.20, 42) Both examples could derive from the same vessel which appears to be a bowl.

Bases: There are 20 base sherds of fabric E. Four examples appear to have sharp basal angles, though none is sufficiently well-preserved to illustrate. Three examples have rounded basal angles. Of these, one has evidence of a base/wall construction join and a sagging base (fig. 20, no.43), and another has
a less certain sagging base (fig. 20, no.44). Two other sherds appear to derive from sagging bases but are broken at the basal angle. No diameters or reconstructable vessels survive.

Body sherds: There are 37 body sherds in fabric E.

Summary: Although the fabric E material in level IXc is rather fragmentary, the better preserved examples appear to indicate sagging- and flat-based bowls (cf. fig. 22, no.38). The construction method is of the angled-slab type representative of the new Viking-age techniques.

Fabric H

Fabric H represents c. 3.6 per cent of the pottery in level IXc which has been classified by fabric. This includes 21 rims, 28 bases and 13 body sherds.

Rims: There are 21 fabric H rims in level IXc. Most of these are too fragmentary to indicate any vessel form. Five rims preserve evidence of angled-slab construction or have fault lines which indicate a similar construction technique. The rim-slabs vary from 1cm to 2.7cm in size (fig. 20, no.45) and all appear to be from straight or slightly convex-sided vessels (fig. 20, no.46). One preserves the second slab of its wall construction and would indicate an open-mouthed bowl-form. Two examples do not have measurable rims, though
fault lines of the angled-slab construction technique are visible externally (fig. 20, no. 47).

No diameters are preserved, but the construction marks and general appearance of the rims suggest that they form a homogeneous group. All the fabric H rims appear to derive from similar straight- or convex-sided vessels; the best preserved example suggests bowl forms.

Bases: There are 28 base sherds of fabric H in level IXc. Most of these are fragmentary, but appear to derive from flat-based forms. Four examples have sharp basal angles (fig. 20, no. 48). There are two round basal angles of which one has clear evidence of a base/wall slab join (fig. 20, no. 49). Only one rounded or sagging base sherd is recognisable, though this may in part be because the sherds are too small to identify this trait. 15 sherds have exterior grassmarking.

No diameters or profiles are reconstructable from these sherds.

Body sherds: There are 13 body sherds of fabric H in level IXc.
Summary: The condition of the fabric H sherds in level IXc is such that no complete profiles are reconstructable. However, the construction technique, and the evidence of the better preserved sherds, suggests that its vessel forms are straight- or convex-sided bowls and cups with sagging or flat bases similar to those found elsewhere in the Viking-age levels (e.g. fig. 22, nos. 37 & 38).

Platter
There are 1,426 sherds of platter, weighing c. 5,106.3g., in level IXc. This represents c. 12 per cent of all the pottery in this level (11.78% by weight and 11.88% by number). Since the majority of platter sherds and the best preserved examples were found in IXc, I shall discuss platter fully at this stage.

The fabric of the platters was discussed in chapter 4. Essentially, the platter material was treated as a single homogeneous fabric, although variation was noted within it. Thus the basic inclusions, where visible, were of quartz, with mica as a frequent component. In a few examples mica was rare or absent, but these sherds were visually so similar to the remainder, in respect of colour and texture, that no fabric division has been made. The homogeneity of the sherds and their colour consistency suggested that they should be separated from the rest of the pottery and analysed as a separate group.
Colour has been regarded as a significant criterion in regard to the platters; their flat form allowed firing to be more consistent than the firing of the true vessels. Dark cores are very rare in platter sherds, and a uniformly light colour is a distinctive characteristic. Colour varies from buff to brown, to grey, with a rare occurrence of red. The upper surface is often slightly darker than the lower surface. A buff lower surface and a light grey upper surface is a common combination. Sherds vary in thickness from c. 4mm to 10mm, but the bulk of the material clusters around 6mm.

Since the platter, with one exception, is regarded as one fabric, the only major distinction that has been made is based on the presence or absence of grassmarking. The majority of the platter sherds has dense grass impressions on the exterior (i.e. lower) surface. These have been listed as Pa. or Platter A. A sizeable minority of sherds has no grassmarking, but these often have grit impressions, or roughened or cracked surfaces, which appear to be analogous to grassmarking as techniques. The one exception to this single fabric group of platter sherds is a single anomalous rim which appears to be grasstempered. This has been termed Pc. or Platter C.

Form: It is the form of the platters which is their most distinctive feature and which clearly separates them from other vessel types. The majority of the platter fragments consist of small
sherds with one flat surface. These are similar to base sherds and, individually, they would probably be regarded as slightly odd bases from normal pottery vessels. However, the presence of 'edge' sherds, or 'rims', on the same horizontal plain as the 'bases' proves that these are not normal vessels.

Small rim sherds might appear to be from slightly anomalous vessels with grassmarked walls, but the more complete examples show the curvature of a disc. These prove that the 'platters' are flat pottery discs without side walls (e.g. fig. 21, no.12). The rims are thus the edge of the disc and of the same thickness.

In addition to their shape, the platters are notable for the treatment of their upper surface. These are normally covered in finger marks, fingernail marks, or shallow grooves, produced apparently by moving fingers through the clay when wet. These finger marks are probably a constructional feature produced in the process of manufacture. The clay has been pushed and fingered until the flat disc is produced, but the fact that no attempt has been made to remove the marks suggests that they had an additional role. These finger marks show some variation, in style and density, and in some cases the platter merely has a gently undulating surface (cf. Plates 3a, 4a and 4b).

In addition to the finger marks, which could be superficially compared to the occasional fingering on the bases of pottery vessels, some of the upper surfaces of the platter sherds have 'stab' marks. These consist of
small cylindrical holes in the upper surface of the platter. They appear to have been made with a blunt cylindrical object with a diameter of c. 5mm. These holes sometimes break the bottom surface of the platter, leaving a perforation, but as this is not habitual it cannot have been the primary aim of this stabbing.

The few large pieces of platter show that they were stabbed repeatedly, but rather irregularly, over much of their upper surfaces, with between 20 to 30 stab marks occurring on some discs (e.g. Plate 2b).

It is the combination of stab-marks, fingering, and lightness of colour which allows platter sherds to be identified even from small fragments. Consequently, small sherds which would otherwise be termed 'miscellaneous' can be identified and included in the platter statistics.

Having described the evidence for identifying the platters as a group, it is possible to demonstrate divisions within that group. The manufacture and possible function of these platters is discussed in greater detail in the later chapter on construction techniques.

**Platter A**

There are 1,287 sherds of Pa. in level IXc. These all have exterior grassmarking on their lower surfaces. The function of grassmarking is discussed in more detail in a later section, but Plate 3b gives an indication of the typical density of the marks.
There are 165 rims of Pa. These are normally flat, and slope inwards, giving the platters a bevelled appearance. However, both rounded and concave rims occur.

Four groups of glued rims comprising a total of 27 rim sherds preserve measurable diameters. Three of these groups (18 rims) appear to belong to one platter with a diameter between 34cm and 36cm. This is illustrated by a reconstruction drawing (fig. 21, no.12 and Plate 2b). These sherds comprise the most complete platter from the Udal. Found as a group of associated sherds, it may have been warped in firing or in use. In addition this example is unique in that it has a clear zone of sooting on its lower surface. This is a band of blackening, c. 4cm wide, which edges the underside of the platter (Plate 3b). It is not known if this is an indication of manufacture or use.

The other diameter is of 28cm. This example is slightly unusual in the closeness of the finger marks on its upper surface (fig. 21, no. 13 and Plate 4a).

Platter rims are normally readily recognisable, even in small fragments, by the flatness of their lower surface (fig.21, no.15). In some examples, however, the rim bends below the horizontal axis of the rest of the platter. This appears as a small kink in profile, near the rim edge (e.g. fig. 21, no.14), and may indicate that the platter has been manufactured or pressed out on a disc-shaped surface; if the rim had been pressed out slightly
beyond the edge of such a support, it would have sagged slightly in this manner.

Platter B
There are 138 sherds of Pb. which have no signs of grassmarking. It is possible that some of these are merely parts of otherwise grassmarked platters that did not themselves touch grass. However, as some of the sherds have impressions of other substances, it seems likely that Pb. sherds form a distinctive group. The Pb. platters are identical to those of Pa., except for the treatment of their lower surface. Some have smooth lower surfaces with no impressions of any kind. However, there are 32 with grit impressed into their bases; 24 have angular impressions probably caused by grit; 56 have roughened 'exteriors'; 5 have roughened 'exteriors' with a few impressed pieces of grit; and 8 have cracked 'exteriors'. All these variations appear to be analogous to the grassmarking technique or, in the case of the cracked examples, the result of the failure to use the techniques. (Plate 5a and 5b).

There are 11 rims of Pb. These are identical to the Pa. forms (e.g. fig. 21, no.16). None preserves measurable diameters. Some also show a kink in the rim of the type already noted on Pa. forms (e.g. fig. 21, no.17).
Platter C

In addition to the sherds of Pa. and Pb., there is one anomalous sherd of Platter C. This appears to be grass-tempered. Its small size poses the possibility that it is a wrongly identified vessel rim, but its surface appearance suggests that it derives from a platter. As no other sherd of Pc. has been identified in the assemblage, this rim may be regarded as an anomaly (fig. 21, no.18).

Summary: The sherds of Pa. and Pb. in level IXc show the presence of an unusual pottery component in the assemblage, consisting of flat discs of pottery which are fingered and stabbed on their upper surfaces and grassmarked or gritmarked on their lower surfaces. The surviving diameters suggest a variation in size, from 28cm to 36cm. Their function is obscure, but they comprise a substantial portion of the assemblage — c. 12 per cent of the total number of sherds in level IXc.

Level IXc: Summary

The IXc pottery described above, is the largest group of pottery securely stratified in the Viking-age levels. Some material, which may belong to IXc, has not been sufficiently defined stratigraphically to allow it to be discussed in this chapter, but this will be described in the following chapter.

Although there are variations in the frequency of
certain attributes between the different fabrics, the four fabrics, C, E, H, and L, which comprise 87 per cent of the pottery, appear to represent a coherent and homogeneous tradition. This employs a construction technique of angled-slab or simple coiled type. Forms consist of bowls and cups with straight sides or everted rims and flat or sagging bases. Rounded basal angles are frequent and grassmarking occurs on many bases.

The fabric A sherds in level IXc include a few examples which are clearly related to the earlier tradition of tongue-and-groove jars, although some of the sherds belong to the new angled-slab bowl tradition. The bulk of this fabric A pottery is too fragmentary to indicate anything of its form or construction and it is possible that it represents residual Dark-age pottery, disturbed from lower levels.

The most distinctive features of the new Viking-age tradition only occur on a minority of the pottery, but the larger sherds and reconstructable vessels enable identification of the less well-preserved examples. Thus 57 per cent of the diagnostic rims are of the short sharply-everted type, while 39 per cent are of straight- or slightly convex-sided forms. The latter appear to derive from open-mouthed bowl-forms. Round angles or base/wall construction joins occur on c. 48 per cent of the preserved bases, while sharp angles comprise 52 per cent. Sagging bases form c. 12 per cent, and grassmarking or gritmarking occurs on c. 38 per cent. These
figures give some indication of the relative occurrence of the traits typical of the Viking-age construction tradition.

In addition to these features, ornamentation is a new trait present in the assemblage. One fabric A sherd, 32 fabric C sherds and 9 fabric L sherds have some form of decoration. This decoration consists of stabbed dots, impressed circles and incised lines, except for a single 'rippled' rim which seems to be unique. It is clear that decoration is only a minor trait, as it occurs on only c. 4 per cent of rims and c. 0.2 per cent of all small body sherds. Since decoration becomes a more important element on pottery in the Medieval and later levels it is possible that some of the decorated sherds, particularly the more elaborate ones, may be stratigraphic intrusions from the upper layers. This possibility cannot be tested until the Medieval pottery has been studied, but there is a sufficient number of decorated sherds in this level to suggest that ornamentation is a trait, albeit a minor one, of the Viking-age pottery.

In addition to the Viking-age cups and bowls described above, the recognition of 'platters' is of some importance. The bulk of the platter sherds is from level IXc and it is clear that these represent a major and distinctive component from this level. Their function is discussed in a later chapter when the construction traditions of the whole sequence are assessed in more detail.
CHAPTER 8

THE UDAL POTTERY FROM THE PHASE-GROUP
LEVEL IXb - X

Introduction
The pottery definitely ascribed to level X and level IXc has been described in the last two chapters. Some material which is known to be of Viking-age date cannot yet be assigned to any specific level and consequently is discussed in this chapter. In addition, the bulk of the finds from the Viking-age house floors have been included in this chapter. Some of these floors have been defined as sub-divisions of level IXc, but since many of the finds cannot yet be set in stratigraphic sequence they have all been retained in this section.

There are 113 bags of pottery attributed to the phase-group, IXb - X. Table VII below lists the numerical totals for each fragment group, and the total number and weight of the sherds as a whole.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rims</td>
<td>148</td>
</tr>
<tr>
<td>Bases</td>
<td>110</td>
</tr>
<tr>
<td>Body sherds</td>
<td>231</td>
</tr>
<tr>
<td>Misc.</td>
<td>1,739</td>
</tr>
<tr>
<td>Platter</td>
<td>437</td>
</tr>
<tr>
<td>Total no.</td>
<td>2,670</td>
</tr>
<tr>
<td>Total weight</td>
<td>12,282.2g.</td>
</tr>
</tbody>
</table>

(N.B. Total number includes a few sherds not included in component totals).
Fabric
The relative percentages of each fabric in levels IXb - X are presented in figure 11, no. 4. As in the previous chapters, the 'miscellaneous' sherds have not been classified by fabric and are only described further in the rare instances of decoration. Of the remaining sherds, which have been defined by fabric, fabric A represents c. 21 per cent; fabric C represents c. 44 per cent; fabric E represents c. 1 per cent; fabric H represents c. 11 per cent; and fabric L represents c. 22 per cent. These are described below in order of their frequency.

Fabric C
Fabric C represents c. 44.2 per cent of the pottery which has been classified by fabric. This includes 73 rims, 37 bases and 106 body sherds.

Rims: There are 73 rims of fabric C in this phase-group. 22 rims are of the short, everted type. These vary in size from 0.8cm (fig.22, no. 3) to 2.5cm (fig.22, no. 4). The rim/body angle varies from 113°, a sharply everted form, to 133°, a slightly everted form. The slightly everted rims appear to be almost upright in profile (e.g. fig. 22, no. 5). Four of the everted rims show angled-slab construction joins, while one has a crude tongue-and-groove join (fig. 22, no. 6).

Two short, sharply everted rims (2 joining sherds) are decorated (fig.22, no.7). The rim-top has a central line of fine stab-marks round its circumference, and the
shoulder of the vessel has similar marks, some of which lie in roughly horizontal lines while others have a more haphazard distribution. These sherds have a rim/body angle of 113°, a diameter of 12cm and a rim/horizontal angle of 55°. This is the only preserved diameter of fabric C in this phase-group.

Seven rims are straight-sided or slightly inturned. These have rim-slabs varying in size from 0.7cm to 2.3cm. Four of these are straight-sided (e.g. fig. 22, nos. 8 & 9). Three are slightly incurved (fig. 22, nos. 10 & 11). No diameters are measurable. One of the incurved rims has incisions along its rim-top (fig. 22, no. 11).

In addition, seven other rims have incised or slashed rim-tops. These do not have preserved profiles. The decoration consists of grooves made at right-angles to the circumference, with spacing varying from 3mm to 6mm (fig. 22, no. 13).

The fabric C rims are clearly part of the Viking-age tradition of everted rim vessels and straight-sided bowls and cups. There is no evidence of Dark-age forms.

Bases: There are 37 bases of fabric C in this phase. Nine examples have rounded basal angles (fig. 22, no. 14). One base has a base/wall slab join and a fairly steep basal angle (fig. 22, no. 15).

1 example (3 sherds) has a base/wall slab join and sagging base. The convex wall of this vessel has angled-slab construction joins. These sherds appear to derive
from a small bowl or cup (fig. 22, no.16).

In addition, there are five sagging bases, of which two are grassmarked. Twelve other sherds have exterior grassmarking. Three sherds have sharp basal angles.

None of the fabric C bases preserves diameter, but they appear to be a coherent group in the Viking-age tradition of sagging- and flat-based bowls and cups.

Body sherds: There are 106 sherds of fabric C in this phase-group. One is a shoulder sherd broken below an everted or upright rim. This has a series of parallel incised or stab-and-drag lines running from the neck down to the edge of the sherd (fig. 22, no.17).

Miscellaneous: Twelve of the small body sherds are decorated. Five have stab-marks, mostly with no coherent pattern (fig. 22, no. 18), but on some a linear tendency is apparent (fig. 22, no.19). Six sherds have traces of incised lines but no pattern.

One very small body sherd has traces of lightly tooled or impressed horizontal lines on its exterior surface (fig. 22, no.20). This sherd is comparable with fabric C. However, the combination of its colour - light brown exterior, with black core and interior - with the decoration, possibly light combing, suggests that this is a 'Beaker' sherd of prehistoric date, in a derived context. An alternative explanation would be that the surface traces are a fabric
impression, but the small size of the sherd (17mm x 7mm) precludes certainty.

Summary: The fabric C pottery in this phase-group (IXb to X) is mostly fragmentary, with only a few measurable diameters and no complete profiles.

Everted rims form the majority of diagnostic forms though a few rims are almost vertical. The remainder of the preserved rims are straight sided or are slightly inturned. Most bases are flat, though rounded basal angles are also common. Sagging bases and grassmarking both occur. Decoration occurs on a minority of rims and a small percentage of body sherds. One small body sherd may be of prehistoric date.

As a group this pottery is identical to the fabric C pottery in IXc, and it all appears to belong to the Viking-age tradition of sagging- and flat-based bowls and cups with straight sides or everted rims.

Fabric L

Fabric L represents c. 22.3 per cent of the pottery in this group, which has been classified by fabric. This includes 36 rims, 26 bases and 47 body sherds.

Rims: There are 36 rims of fabric L in this phase-group, but only six rims preserve any indication of shape or construction technique.

One rim has tongue-and-groove construction and a
rim-slab of 3cm. This derives from a straight-sided vessel (fig. 22, no. 23).

Three rims with angled-slab construction joins have rim-slabs varying in size from 0.9cm (fig. 22, no. 24) to 1.8cm (fig. 22, no. 25). The latter rim has a slightly convex wall while the other two are straight sided.

Two rims (joining sherds) have an angled tongue-and-groove construction join (fig. 22, no. 26). However, this appears to be a slight variation of the angled-slab construction technique. These two sherds have an irregularly grooved rimtop with c. 2mm to 3mm spacing (fig. 22, no. 26). One other fabric L rim has an incised rimtop with a 5mm spacing.

Two construction and shape traditions can be seen in the fabric L rims. One rim is clearly derived from a straight-sided tongue-and-groove bucket-form. The other diagnostic rims are all of the angled-slab tradition, with one rim suggesting a convex-sided vessel.

Bases: There are 26 bases of fabric L in this phase-group.

One base sherd has a sharp basal angle but is too fragmentary to illustrate. One sherd has a rounded basal angle and a clear base/wall slab construction join (fig. 22, no. 27). This appears to derive from a convex bowl form. Another rounded angle is too small to illustrate.

Four base sherds have base/wall construction joins, one with a fairly sharp basal angle (fig. 22, no. 28). The
remaining three of these sherds, which have a little exterior grassmarking, join to indicate a diameter of 11cm. However, the sherds are not well-enough preserved to fully indicate vessel shape (fig. 22, no.29).

Four other base sherds have exterior grassmarking.

In addition, there are two base sherds from an uncertain stratigraphic context. These have the best-preserved profile of fabric L in this IXb to X group and are included to help illustrate the forms represented by the other more fragmentary bases. The two sherds derive from a small convex-sided bowl of 12cm diameter, with a slightly sagging base, a base/wall construction join, and exterior grassmarking (fig. 20, no.30).

The surviving bases of fabric L show a clear preference for rounded basal angles and the angled-slab construction technique. Although the bases are fragmentary, they suggest derivation from the bowl forms of the Viking-age tradition.

Body sherds: There are 47 body sherds of fabric L in this phase-group. None is decorated.

Miscellaneous: One of the small body sherds counted in the miscellaneous group has dot decoration on its outer surface. This consists of four stab-marks widely spaced across the surface, with three of them in a line. The sherd is too small to indicate whether or not this is part of a coherent pattern (fig. 22, no.31).
Summary: The bulk of the fabric L sherds in phase-group IXb to X is fragmentary. However, those sherds which preserve construction marks and partial profiles suggest a coherent group. With the exception of the one tongue-and-groove rim which may be a residual stray from the Dark-age levels, the other rims and bases appear to be derived from the everted-rim vessels, and the straight- and convex-sided bowls of the Viking-age tradition. Rounded basal angles and flat bases predominate, and grassmarking occurs on a substantial minority of sherds. Simple decoration is present, though only on a few sherds.

Fabric A

Fabric A represents c. 21.3 per cent of the pottery which has been classified by fabric. This includes 29 rims, 18 bases and 57 body sherds.

Rims: There are 29 rims of fabric A in this phase-group. Most of these preserve no construction marks and are too small to indicate profiles with any certainty. One rim appears to derive from an out-turned or slightly everted form, but it is too small to be interpreted with any certainty (fig. 22, no. 1).
Bases: There are 18 base sherds of fabric A. Seven sherds derive from one vessel. This is the lower part of a pot which has been truncated, probably at the bottom of its rim-slab. It is a flat-bottomed, tongue-and-groove pot of bucket type, though it may have had a very slight shoulder (fig. 22, no. 2). Its basal diameter is c. 9.5cm though its upper body is in fact oval in plan. It was found in a pit and seems to have been badly crushed. Its texture is coarse and its visual appearance might suggest a degeneration of the tongue-and-groove technique and its vessel forms. However, its present distorted appearance may be due to soil pressure after deposition rather than crude manufacture.

In addition to this one well preserved vessel, there are eight grassmarked sherds and one sharp basal angle.

Body sherds: There are 57 body sherds of fabric A in the phase-group level IXb to X.

Summary: The bulk of the fabric A material in this group is not sufficiently well-preserved to indicate any form or construction tradition. None of the rims is really diagnostic, the one out-turned rim, described above, being rather atypical of any group. The large basal wall sections of the truncated vessel appear to derive from a tongue-and-groove bucket form. However, the crudity of its appearance and its distorted
oval form may indicate that it belongs to a late and degenerate continuation of the tongue-and-groove tradition. As this vessel was found standing upright in a small pit in one of the Viking-age houses, its context is rather different from those of the bulk of the pottery. It could be interpreted as a late continuation of the Dark-age tradition, or perhaps as a residual vessel derived from lower levels and re-used set into a pit.

The eight grassmarked sherds appear to indicate that this technique was being used with fabric A pottery, though there is no evidence to associate these fabric A sherds with the tongue-and-groove buckets of the Dark-age tradition. It is quite possible that many of the other fabric A sherds are of a residual nature, derived from the lower pre-Viking-age levels.

**Fabric H**

Fabric H represents c. 10.84 per cent of the pottery in this phase-group which has been classified by fabric. This includes 9 rims, 28 bases and 16 body sherds.

**Rims:** There are 9 rims of fabric H. None of them is sufficiently well preserved to indicate construction techniques or forms.

**Bases:** There are 28 base sherds of fabric H. Two sherds have rounded basal angles
and flat bases (fig. 22, nos. 21 and 22). 23 bases have exterior grassmarking.

Body sherds: There are 16 body sherds of fabric H.

Summary: No diameters or complete profiles are reconstructable from the fabric H sherds in this phase-group, IXb to X. However, these sherds show the same characteristics as the fabric H sherds in levels IXc and X and as the bulk of the fabric C and L sherds in those levels. The rounded basal angles and grassmarked bases indicate that these sherds derive from the Viking-age tradition of convex- and straight-sided bowls with flat or sagging bases.

Fabric E

Fabric E represents c. 1.5 per cent of the pottery in this phase-group which has been classified by fabric. This consists of one rim, one base and five body sherds.

Rims: There is one rim of fabric E in this group of pottery. It does not preserve construction marks and is not diagnostic.

Bases: There is one base sherd of Fabric E in this group of pottery. This does not preserve a basal angle but appears to derive from a flat base.
Body sherds: There are five body sherds of fabric E.
One of these has clear angled-slab construction marks.

Summary: The fabric E pottery in this group lacks diagnostic traits. No profiles are preserved and there are too few sherds to allow any meaningful interpretation of the group.

Platter
There are 438 sherds of platter in this phase-group. The basic description of the platter shape and fabrics has already been outlined in chapter 7. Consequently, that information is not repeated in this section.

Platter A
There are 377 sherds of Pa. in this phase-group. These all have grassmarking on their lower surfaces.

There are 57 rims of Pa. These are normally flat and sloping, thus giving the platters a bevelled appearance, but both rounded and concave rims do occur (fig. 22, nos. 32 & 33). The rim treatment is not consistent and has not been used as a criterion for subdividing the sherds.

Only two diameters are measurable among these rims. Three rims (joined) give a diameter of c. 30cm. These have simple, slightly rounded rims (fig. 22, no. 35). Five (joined) rims give a diameter of c. 36cm. These have a 'kinked' rim-edge (fig. 22, no. 34) which may indicate that the wet clay has been pushed beyond the edge of a support
or working surface, during manufacture (see chapter 9). Both these diameters are of the same magnitude as the measurable platter diameters in level IXc.

Platter B

There are 61 sherds of Pb. in this phase-group. These are all linked as a group by the absence of grassmarking. The lower surfaces of the sherds show a variety of treatments, which all seem analogous to grassmarking. 39 sherds have a roughened lower surface. Four sherds have black grit pressed into their lower surfaces. Six sherds have a few scattered grits impressed into the lower surface. Twelve sherds have no sign of gritmarks or of roughened surfaces, but have cracked lower surfaces. This is discussed more fully in chapter 9, but it may indicate that the clay has dried on a slab surface with no intervening layer of grass or grit and, consequently, has cracked as the result of surface tensions.

Only one diameter is measurable in the 16 rims. Four rims give a diameter of 32cm. These have the cracked lower surface noted above (fig. 22, no. 36).

Summary: The platter sherds in this phase-group are all comparable with the material described from level IXc. These sherds derive from flat pottery discs which have stabbing and fingering on their upper surface. The majority of sherds have grassmarking on their
lower surfaces (undersides), but gritmarked, roughened and cracked surfaces also occur.

**Level IXb to X: Summary**

The pottery described in this chapter consists of finds from the Viking-age levels which cannot be assigned at present to specific levels.

Since this chapter includes material from both level IXc and level X, it might be expected that the pottery would show characteristics and percentages which would reflect a mixture of the two levels. The fabric percentages do indeed reflect this (cf. fig. 11, nos. 2, 3, & 4). Fabric A represents a larger percentage in this group than it did in level IXc. However, though the fabric percentages are 'midway' between level X (fig. 11, no. 2) and level IXc (fig. 11, no. 3), the bulk of the diagnostic sherds is comparable to level IXc.

Thus the fabric C, H and L pottery, some 77 per cent of the total by fabric, is almost entirely in the Viking-age tradition of bowls and cups. Only one rim of fabric L is clearly derived from a tongue-and-groove bucket.

The fabric A pottery is largely fragmentary, but some of it clearly belongs to the Dark-age tradition of tongue-and-groove buckets and shouldered jars. However, it is very difficult to establish whether these sherds are residual rubbish or a continuation of the Dark-age pottery tradition. This problem has already been noted in relation to the level X pottery.

As mentioned already, the bulk of the diagnostic pottery
in this phase-group can be attributed to the Viking-age tradition, as seen most clearly in level IXc. This employs a construction technique of angled-slab, or simple coiled type. Its forms consist of straight-sided, or everted-rim, bowls and cups with flat or sagging bases. This does appear to represent a coherent tradition, although there are variations in the frequency of certain attributes between each fabric.

As noted in level IXc, the most diagnostic features of the Viking-age tradition only occur on some of the sherds, but the well-preserved material enables the identification of more fragmentary pieces to be made with some confidence.

Of the diagnostic rims, c. 63 per cent are of the short everted type, while c. 34 per cent are from straight or slightly incurved forms. Both of these appear to derive from bowl forms (e.g., fig.22, nos.37 and 38). Round angles or base/wall construction joins occur on c. 69 per cent of the preserved bases, while sharp angles comprise c. 31 per cent. Sagging basform c. 9 per cent and grassmarking occurs on c. 49 per cent of the bases.

These percentages are slightly different, though clearly comparable, to those for level IXc. They give an indication of the relative frequency of the traits typical of the Viking-age construction tradition.

In addition to these features, decoration is also present in the assemblage. 9 per cent of rims and 0.71 per cent of body sherds (both large and small) have some form
of decoration. This ornament is all of the simple incised line or stabbed dot variety, with the exception of the one possible prehistoric sherd noted above. As stated already, the significance of this decoration within the assemblage will be impossible to assess until the Medieval and later pottery is examined in detail. Stratigraphic intrusions may explain the presence of some of these sherds, but decoration must be regarded as a minor trait of the Viking-age pottery.

Platter is an important part of the assemblage comprising c. 16 per cent of the assemblage. However, the platter finds in this group merely confirm the information derived from the level IXc assemblage; the bulk of platter finds are still to be attributed to level IXc.

The pottery included in the phase-group IXb to X is largely in the Viking-age tradition. As might be expected, the percentages of the various attributes are slightly different from those in level IXc. However, until final stratigraphic information is available, no useful comment can be made on this variation. At present, this phase-group can only be used to confirm the general outline of the pottery of the Viking-age levels.
Addendum to chapter 8

Having described the pottery from both Dark-age and Viking-age levels, one group of material remains. This comprises the 292 bags of pottery catalogued in Appendix I.5 which could not be attributed to a specific phase at the time of cataloguing but which are known to belong within the general group of levels XIV to IXb. No detailed discussion is intended of this material since its chronological range is as much as 700 years or more and none of it contradicts the evidence of the better stratified material already described. Much of this will eventually be precisely attributed to specific levels and phases, but this information was not available when this thesis work was carried out.

The remains of three vessels are worth noting: one is a nearly complete vessel - the best example of its type; the second has a complete profile; and the third is a substantial part of a vessel profile.

One vessel profile was reconstructed from sherds from level IXe (see Appendix I.5, page 463). This is a sagging-base bowl with a short, sharply-everted rim. Its base has dense exterior grassmarking. Although this has been included in the unattributed levels section, it is almost certainly from the Viking-age levels. Unfortunately, the precise stratigraphic definition of this part of the site was not available at the time of writing. This vessel profile (fig. 22, no.37) is of importance because it is the only complete vessel profile of the everted-rim type. Not all everted rims are necessarily derived from such vessels, but it does provide one example of the likely vessel shape represented by the more fragmentary forms in levels X and IXc.
Another vessel profile was reconstructed from uncertainly stratified sherds. This almost complete vessel (fig. 22, no. 38) is the best example of the sagging-base bowl-form characteristic of the Viking-age levels. This vessel was at one time thought to belong in level XIII, and Crawford identified it as an Irish type 'cognate to early Irish souterrain ware as at Dundrum and at Lough Faughan crannog' (Crawford & Switsur 1977, 130). However, my examination of the Dark-age and Viking-age assemblages has shown it to be quite unlike the rest of the Dark-age pottery, but very similar to stratified Viking-age finds. This observation was reinforced by the discovery of platter sherds with a body sherd which fitted this vessel. Reconsideration of the contexts and associations of this vessel by the excavator suggested that the level XIII attribution was untenable, and until further stratigraphic work is completed it should be regarded as unstratified.

In spite of its uncertain stratigraphic context, it may be regarded as the best preserved example of the Viking-age sagging-base bowls which are common in more fragmentary form in levels IXc and X.

The third profile is reconstructed from a group of sherds to form a large part of a sagging-base bowl in fabric E (fig. 22, no. 39). This too is uncertainly stratified, but it is of interest as one of the best preserved vessels of its type in this fabric.

All three of these examples are in uncertain stratified contexts, but further stratigraphic analysis may allow them to be attributed with certainty to the Viking Age.
CHAPTER 9

THE CONSTRUCTION TECHNIQUES USED ON THE UDAL POTTERY

In describing the Dark-age and Viking-age pottery from the Udal I have suggested that two distinct construction techniques can be recognised. The study of construction methods has not been used to any great extent by British archaeologists to analyse handmade pottery groups. As long ago as 1953, Stevenson argued that construction methods had as much cultural significance as decoration or other traits, but pottery reports only occasionally include such information. This is partly because more obvious traits such as decoration or shape have been used, and partly because the traces of construction methods on well-made pottery may not be obvious or may be concealed by surface finishing or decoration. Difficulty in recognising construction traces is clearly a factor which has discouraged analysis of construction traditions. However, as the evidence for construction methods becomes better known, the frequency with which the evidence is recorded is increasing significantly. As with many aspects of archaeology, only those who know what to look for can recognise the evidence.

Some recent work has emphasised the importance of understanding manufacturing techniques. Van der Leeuw
has argued that differentiation of genuine cultural differences in pottery groups requires an understanding of variations in techniques (1976). Thus some traits, including aspects of vessel shape, may be the result of a specific construction method rather than any other. He illustrated this by analyses of handmade 'Beaker' pottery and Medieval wheel-made pottery aided by a potter who carried out replication work. Hulthen has argued that major discontinuities in technique are more indicative of either direct importation of pottery or an influx of potters than other traits which could be the result of local copying (Hulthen 1976a,120). Foster also emphasises the technical conservatism of potters observed in ethnographic studies (1965).

Although it is important that a spurious 'scientific' ethos should not elevate technique or fabric analysis to a predominant position over stylistic analysis, the study of methods of production should be regarded as being of equal importance as other methods. Recent American work has suggested a considerable conservatism in pottery 'forming' techniques, and a link through 'motor habit patterns' to linguistic groups (Arnold 1981, 37-8). While these are still culturally learned and hence changeable, this work does emphasise the possible importance of continuity and change in construction methods for cultural studies.

Stevenson's paper in 1953 was largely concerned with obvious construction joins on low-fired prehistoric pottery, but he did note the potential of X-ray photography for the study of the concealed construction traces on
better-made pottery (1953, 68). Arnold has now reported
the use of X-ray radiography and other techniques to
distinguish wheelmade, coil-made and paddle-and-anvil-

My own work on the Udal assemblage has been restricted
to the study of surface traces. This has been possible because the Udal pottery is low-fired and in
some cases has very obvious breaks or surface marks at its
construction joins. In the following sections I shall
outline the evidence for the construction methods which
were recognised in the course of analysing the
assemblage. The two basic techniques recognised seem
to have chronological significance, although they occur together
in some levels.

The Dark-age Pottery
I have already described, in chapter 3, the basic evidence
for the tongue-and-groove joins found on most of the
Dark-age pottery, so shall concentrate here on the likely
sequence of events in the production of the pottery.

There is no evidence for the methods of digging clay and little
for its preparation for use though lumps of unfired clay
were found on the site.

Once the clay had been prepared the base of the pot
was made. Bases seem to have been shaped from single lumps
of clay as no clear joins were found in any of them.
The base was flat and the bottom of the vessel wall was
pulled up from it leaving a 'false' rim (fig. 23).
The wall pieces were then added in a series of horizontal rings which vary in size from 4cm to 7cm in the example shown (fig. 23). Each ring must have been rolled out as a strip of clay and then attached to the vessel in sequence – the first fixed to the basal piece and so on until the rim was attached.

It is the junction of these different rings of clay which constitutes a distinctive feature of the Dark-age pots – the so-called 'tongue-and-groove' joins. These were probably caused by the potter pulling wet clay down from the higher strip onto the lower one simultaneously on the inside and outside surfaces. An alternative possibility would be that a groove was cut in the upper ring before being placed over the lower element, but this is unlikely because of the thinness of some of the pottery. The evidence for closure of the rings, that is how each horizontal ring was vertically joined at its ends, is unclear. Only in a few cases were vertical joins recognised, either as shallow tongue-and-groove joins or as angular joins, where the two ends of the strip were pressed together.

Each ring may have been allowed to dry before the next was attached because the vessel might have collapsed if built up while the clay was moist. Van der Leeuw has drawn attention to this problem in building tall vessels and to the various methods available to resolve it (1976, 330–7). The result of allowing the lower ring to dry would be that the join between the
two would be fairly weak and air might become trapped in the join. This helps to explain why the 'false' rims, and the joins as a whole, are so clear on this pottery (Plate 6).

No definite evidence for the tools used in this process was recognised, but some sort of basal support must have been used. Since the pots are all flat-based and of some size they must have been placed on a flat board or stone; the potter would have carried out building processes either by moving round the pot to attach the ring of clay or by turning the pot or its support with a hand or foot (cf. van der Leeuw 1976, 350-1 and figs 94-95).

This building method, using the tongue-and-groove technique, seems to have been used consistently in the production of the flat-based buckets and shouldered jars of the Dark-age tradition. This distinctive construction technique is a significant trait of the Dark-age assemblage.

The Viking-age Pottery
I have already described the construction joins of the Viking-age pottery. These are often not as clear as the tongue-and-groove marks of the Dark-age tradition - a fact which may in itself indicate that the new technique was more efficient. Basically, the Viking-age pottery seems to have been built up in a series of strips or 'coils' of varying size.
As with the Dark-age pottery, there is evidence for the digging or preparation of the clay. The base was made first, shaped out of a single lump of clay. Coils were then directly added to this basal pad (cf. Addyman 1964, 50) unlike the tongue-and-groove pottery in which the bottom of the wall was pulled up from the base. This results in a distinctive base/wall slab-join (fig. 6, nos 11 & 12), because the first coil is merely pressed onto the base. The subsequent strips of clay were then pressed onto the wall – some with fairly even pressure from above, giving a flattened join (fig. 6, no. 7), others by pressure up and down on the inside and outside of the vessel, resulting in an angled join (fig. 6, no. 6) (see van der Leeuw 1976, 332, for a full description and explanation of this process). These strips seem much less regular in size than the tongue-and-groove rings of clay, but difficulty in tracing the strips around complete vessels makes this difficult to establish. Even small pots were built up in this way rather than being pulled out of a single lump (e.g. fig. 20, no. 19).

Some pots were built on a flat surface – perhaps a wooden board or flat stone. Others with sagging bases cannot have been built in this manner. Some could have been made without any basal support, the potter working the clay on her/his lap. Alternatively, a curved support might have been used – a hollow in the ground, a broken sherd, a wooden vessel or a 'turning board' consisting of a hollowed out piece of wood. It is also possible that a sagging base
might result from pressure on the base after manufacture but clay wet enough for this would be liable to slump back. There is no evidence of knife-trimmed bases.

It is in this context that grassmarking and gritmarking probably served a function. In pressing out the base on a curved or flat surface, and in fixing the wall to the base, the clay would be liable to adhere to the surface below, damaging the pot when it was removed. By scattering chopped grass or sand on the working surface the clay could be prevented from sticking to it. This is analogous to dusting a surface with flour before kneading bread dough.

Thus chopped grass or sand would be pressed into the clay of the base when it was wet. On drying and being fired the grass would be burnt out, leaving grass-impressions on the basal surface of the vessel. The sand would probably fall off leaving either a roughened surface, angular indentations or, occasionally, small grits pressed into the exterior surface of the base.

The use of grass or chaff to separate a pot from its 'forming' support is ethnographically documented. Mary Braithwaite has reported it in the Sudan, but in that instance the grass impressions were removed after the pot was formed because the surface of the pot, including the base, was smoothed and decorated (per comm. Braithwaite). Both ash and sand have been reported in Guatemala as being used to prevent pottery tortilla griddles from sticking to the curved moulds in which they are shaped - the resulting
impressions being very similar to those noted at the Udal (Arnold 1978, 335-9). Archaeological parallels in Britain are rare, but both grassmarking and gritmarking are known from Irish Souterrain Ware assemblages (Archaeological Survey 1966, 133-4), and grassmarking is common in the Cornish ceramic sequence of the mid-1st to early 2nd millennium A.D. (Thomas 1968).

My interpretation of the causes of grassmarking is slightly different from the explanation favoured by Thomas. He thought that the impressions were the result of placing vessels on a bed of grass when they were drying (Thomas 1968, 322-3). Although this is a possibility, the depth of some impressions seems more likely to be the result of deliberate pressure onto a grass-strewn surface during manufacture. This also explains why grassmarks occur on the Cornish platters, something which Thomas thought was functionally valueless and ascribed to cultural conservatism (ibid., 324). These platters are too light to acquire deep grass impressions if merely laid on a grass-strewn surface but would do so if pressed out on such a surface.

The presence of small surface cracks on the lower surfaces of some of the Udal bases, and on some platter sherds was noted above (Plate 5a). In view of the explanation for grassmarking and gritmarking suggested here it seems likely that this surface cracking was caused at the same stage of manufacture, either by the clay sticking to the forming support beneath it, or by cracking as it dried on that support or on another surface (cf. Arnold 1978, 339; Thomas 1968, 323). Some modern potters use sand to prevent their pots sticking to drying slabs.
The other distinctive Viking-age form at the Udal is the platter, already described in some detail, but a few comments need to be made about its manufacture.

The platters were probably made out of one lump of clay which was pushed and fingered into shape. This was done on a flat disc-shaped support, for in a number of cases the rim was pushed beyond the edge of the support, leaving a slight kink on the bottom of the platter (e.g. fig.22,no.34). A similar kink is reported on bar-lug pots from Cornwall (Hutchinson 1979, 83). The process of fingering and pressing the clay into shape explains the presence of finger marks and grooves on the top of the platters, although there may also have been a functional reason why the resulting irregularly undulating upper surface was not smoothed out. The discs of clay were then irregularly stabbed on the upper surface with a blunt cylindrical punch. These stabs only occasionally puncture the platter and their function is unclear. As with the other Viking-age vessels, grassmarking and gritmarking is common, and only a small proportion of platter sherds are unmarked on their lower surfaces, perhaps because of the need to prevent the platter sticking to the 'forming' support on which it was made.
Firing
There is no evidence for the methods of firing pottery in either Dark-age or Viking-age phases. It could have been done in simple bonfires or 'clamp' kilns (Shepard 1965, 74-93). Such kilns can be very effective given suitable fuel and weather conditions. Alternatively individual pots could have been fired on domestic hearths in the manner Mitchell describes being used at Barvas on Lewis in the nineteenth century (1880, 25-32).

Conclusions
As should have been clear from my description and discussion of the pottery from the Udal Dark-age and Viking-age levels, the two construction techniques are associated with specific vessel shapes and are stratified in chronologically separate phases, albeit with some overlap. There is no evidence to show any significant use of techniques of one tradition on the vessel types of the other. Nor is there evidence to show a gradual transition from one tradition to the other. If Arnold is correct in arguing the significance of vessel forming techniques as an ethnic indicator (1981), the contrast between the two techniques may be of considerable importance. I shall consider the interpretation of this below.
CHAPTER 10
THE SEQUENCE OF DARK-AGE AND VIKING-AGE POTTERY AT THE UDAL AND ITS DIAGNOSTIC FEATURES

Introduction
In the last six chapters I have described the pottery in the Dark-age and Viking-age levels at the Udal. Before examining other sites where similar or related material can be found some discussion of the site's ceramic sequence is required. In this chapter I shall summarise the evidence for the Dark-age and Viking-age pottery sequence and discuss those diagnostic features of the pottery which can be used to identify and date similar pottery on other sites. I shall discuss the historical and cultural interpretation of the site in chapter 13.

The Dark-age Pottery
The excavation of the Dark-age levels, XIV to XI, produced large numbers of pottery sherds from a homogeneous range of forms. These were straight-sided bucket shapes and slightly shouldered jars with flaring or upright rims. All of these had flat bases. A range of fabrics was recognised, including a few organically tempered sherds, but none of the inclusions noted seemed to be diagnostic of specific sources. The pots were quite competently
made, but probably not fired to a very high temperature.

A few grassmarked sherds and decorated sherds were found in these levels. Two of the decorated sherds can be positively identified as of Iron-age date; a third sherd is probably also Iron-age. Decoration does not occur on any of the Dark-age forms and all decorated sherds in levels XIV to XI appear to be residual or stratigraphic intrusives. Grassmarking, likewise, does not occur on the Dark-age vessel forms. The few such sherds in these levels are from forms typical of the Viking-age assemblage. Since they occur in contexts which are known to be disturbed, they have been interpreted as stratigraphic intrusives from the Viking-age levels and consequently irrelevant to the Dark-age assemblage.

One recurrent and distinctive feature of the Dark-age pottery is the construction technique of the vessels. The frequency of the evidence for tongue-and-groove construction will be obvious from even a brief examination of the illustrations or the catalogue. The fact that these construction marks are so clear may be a sign of inherent weakness in the pottery and may also indicate a low firing temperature. Nevertheless, the frequency of its occurrence makes it an important diagnostic feature.
The Viking-age Pottery
The pottery in level X, the first Viking-age level, includes new and old features. Some of it is exactly the same as that found in the preceding layer XI - flat-based buckets and shouldered jars using the tongue-and-groove technique of construction.

In addition, there is a substantial percentage of new forms often with a slightly harder glossier finish. The forms consist of sagging and flat-based bowls and cups and flat pottery discs - the platters. These types are constructed quite differently from the Dark-age pottery and some are grassmarked.

The interpretation of these two groups of pottery is difficult. There are differences in form, fabric and construction between the two. What is not clear is whether both were being made and used at the same time.

Much or all of the pottery in the Dark-age style could be residual. Level XI has substantial quantities of pottery in it. If Crawford is correct in seeing no chronological gap between it and the establishment of the level X settlement, there could have been whole pots in buildings or general scatters on the surface which could then be reused or incorporated in the primary Viking-age layers. The problem of residual pottery has been demonstrated by Philip Crummy at Colchester where between 70 per cent and 90 per cent of the pottery in some contexts is clearly derived residual material. Although Colchester is an intensively used Roman, Anglo-Saxon and
Medieval town, similar problems could arise on any long-occupied site (Crummy & Terry 1979).

Alternatively, some vessels may have survived the cultural upheaval indicated by the new building types and been reused in the new settlement. It is also possible that people with a tradition of making their pots in the Dark-age style may have been present in the level X settlement. It is possible that consideration of sherd size and the contexts of the pottery will allow evaluation of these alternative explanations, but the stratigraphic evidence available for the present study is inadequate for this purpose.

I will consider the historical interpretation of this pottery in the final chapter.

The interpretation of the new pottery shapes and techniques must also be considered. Is the introduction of new pottery types and manufacturing techniques to be associated with the arrival of a different population, or is it merely some alteration in the needs and requirements of the same people who were present in the Dark-age settlement? Could the new style be derived from the Dark-age style?

The fact that this new pottery is quite different in its shapes suggests different cultural requirements and perhaps a different tradition of food preparation and serving. The adoption of new techniques of manufacture is also striking, particularly in view of the importance attached to vessel 'forming' methods by Hulthen (1976a) and Arnold (1981). Though the new Viking-age pots
are probably made from local clay, they are so different from the Dark-age pots in shape and construction that it is difficult to believe that the one type derives from the other. There are no transitional forms. That this is in some way to be explained by the 'Viking' settlement of the area seems likely. I shall discuss this in the final chapter.

In the second major Viking-age level (IXc), the character of the new style is confirmed. Thus there are sagging and flat-based bowls and cups with everted, upright or slightly inturned rims. There is also a small group of decorated sherds - slashed, impressed, or 'wavy' rims and a few incised or impressed bodysherds. Some 40 per cent of the bases are grassmarked or gritmarked. The Dark-age style is still present as a handful of sherds, but these are almost certainly residual and do not indicate continued production and use of this style.

**Diagnostic Features of the Dark-age and Viking-age Styles**

Having outlined the changes through time at the Udal, we must consider whether it is possible to use the evidence of this sequence to recognise contemporary pottery on other sites. In view of the simplicity of the types recognised at the Udal, it is reasonable to ask if these styles are at all distinctive and if it is useful to seek parallels for them at other sites.

Within the Udal sequence, in total perhaps 4,000 years or more, the Dark-age and Viking-age styles seem
quite distinct. As I have already argued, the Dark-age pottery is quite different from the classic 'wheelhouse' style material of level XV and the Udal South wheelhouse. It is also quite distinct from the pottery of the 'Viking-age style. The occurrence of Dark-age pottery in the Viking-age levels does not alter this. As a style the Viking-age pottery is distinctive.

Since the Medieval and later pottery of levels IX to I has not yet been fully studied, it is difficult to say which traits of the Viking-age style continue after the site destruction marked by IXb; neither grassmarked bases nor platters are thought to be a feature of the later material. However, simple decoration of rims and shoulders does occur in levels IX to I. Only after the Medieval pottery has been studied will it be possible to identify all the features of continuity and discontinuity in the transition from the Viking Age to the Medieval period.

However, recognising that these assemblages are distinctive at the Udal does not prove that these types will be recognisable elsewhere. Taken out of the context of the Udal stratigraphy, how distinctive are the Dark-age and Viking-age assemblages?
Diagnostic features of the Dark-age style

As complete vessels the Dark-age pottery seems quite distinctive. It differs from the types found in classic Hebridean Iron-age assemblages as known at present. Nor is it likely to be confused with earlier material of Neolithic or Bronze-age date. Bucket-shaped vessels do occur, but they are normally decorated or in distinctive fabrics or have different general proportions (see, for example, MacKie 1963, fig. 5, no. 103). Some uncertainty in identification may be introduced if Young is correct in thinking that the decorated Iron-age pottery of a' Cheardach Mhor and Allasdale developed in some way into the undecorated or sparsely decorated forms of Dun Cuier (1966). By this argument a phase prior to that represented by the Udal Dark-age pottery might look similar to the Dark-age style but would include a few cordon-decorated vessels.

The problem of seeking comparative material for sherds is more difficult. Crawford's work at the Udal has confirmed Lethbridge's suggestion that handmade pottery continued to be made in the Hebrides from the Iron Age to the nineteenth century A.D. (1954, 192). Consequently, if sherds are to be dated correctly, they must be distinctive in decoration, form or fabric. Although there are changes in the visual appearance of the pottery through time there are no clear cut fabric changes that can be used to date the pottery. Consequently, most undecorated body sherds are not distinctive or datable. Flat-based sherds could belong to a whole range of periods. Only rims which incorporate substantial elements of the upper
portions of a vessel can really be said to be diagnostic. The tongue-and-groove construction technique is distinctive within the Udal assemblage, but can be shown to occur on earlier pottery in other areas, for example at Rinyo, Orkney (Childe & Grant 1939, fig. 4; 1948, fig. 7). In conjunction with the appropriate forms, it may be a useful chronological indicator but only of moderate certainty.

In view of the simplicity of the undecorated Dark-age pottery, it is arguable how widely comparisons can be sought. Clearly, if contemporary assemblages of identical pottery were found elsewhere, some connection could be looked for. However, similarities with chronologically disparate assemblages elsewhere, such as English Iron-age pottery, cannot be thought to be relevant to the Hebridean Dark Age. Consequently, I have only considered approximately contemporary pottery for possible parallels.

The Date of the Dark-age Style
I have already discussed the problems of defining precise dates for the Dark-age phase at the Udal and, in particular, the uncertainty of the initial date. However, the date bracket, c. 400 to c. 800 A.D., can be accepted as approximate. Whether these dates can be transferred to other sites is dependent on resolution of the problem of the origin and end of the Dark-age style. If the pottery is introduced into the Hebrides by an invasion, as Crawford has implied (Crawford & Switsur 1977, 129), the
initial date at the Udal may be loosely applicable elsewhere in the area. If these undecorated buckets and jars develop out of the preceding Iron-age styles, then a longer period of gestation may be required and the Udal date need not indicate the first emergence of the style in the Hebrides. Similarly, the possibility that the Dark-age style continues in production after the beginning of the Viking Age cannot be ruled out. The entire Outer Hebrides may not have been as overwhelmingly culturally transformed as the Udal seems to have been at this time and, even at the Udal, as we have seen, there is doubt about how quickly the Dark-age style ceased. Thus a Dark-age style can be recognised, but only dated approximately within a general bracket. I shall discuss this further in chapter 13 after considering comparable pottery from other sites.

Diagnostic features of the Viking-age Style

The Viking-age style was recognised first at the Udal. Its complete vessels seem quite distinct from earlier ceramics in the Hebrides, but the question of differentiation from subsequent Medieval pottery cannot be fully resolved until that pottery is studied in detail. The evidence of the Late Medieval ceramics at Breachacha on Coll (Turner & Dunbar 1970, fig. 13), of the nineteenth-century 'craggans' illustrated by Mitchell (1880, figs. 20-23), and of my own superficial examination of the later pottery from the Udal, suggests that some features of the Viking-age style are quite distinct. Thus, as yet, no open-
mouthed bowls or cups, and no platters, have been reported among later dated material. Nor has grassmarked material been shown to occur at a later date. Decoration of rims and shoulders is, however, an important later feature and, without detailed study, the fairly rare use of ornamentation on the Viking-age pots cannot be used as a diagnostic feature.

Similar restrictions to those already outlined for the Dark-age finds apply to dating sherds in the Viking Age. Undecorated body sherds of almost all periods are not datable. Rims which preserve their construction marks, and which are large enough to indicate vessel form, may be diagnostic, but everted rims are difficult to differentiate from Iron-age material (cf. Young 1966, fig. 4). The rounded basal angles and sagging bases of some vessels are of some value, but round bases apparently occur on some late 'craggans' and so this feature may be of limited use.

Thus, the recognition of cup or bowl forms, the presence of grassmarking, and the occurrence of platter sherds are used as the most diagnostic features of the Viking-age assemblage. Platter sherds in particular are of great diagnostic value since they are identifiable from small fragments and are thought to be manufactured only in the Viking Age.
The Date of the Viking-age Style

The Viking-age assemblage is regarded as dating to the period c. 800 to 1100 A.D. at the Udal. Whether these dates are applicable elsewhere depends on the origin of the style and the manner of its termination or transformation into something else. Both dates must, in any case, be regarded as approximate. No attempt has been made to differentiate between early and late phases in the Viking-age pottery, though this may be possible once detailed stratigraphic information is published. The assemblage is consequently attributed to the Viking Age as one phase.

Conclusions

In this chapter I have summarised the sequence of pottery at the Udal in levels XIV to IXb and have suggested diagnostic features of two distinct pottery traditions. In the next two chapters I shall consider other sites which have been reported as having Dark-age or Viking-age pottery, or which I have recognised as having such pottery on the basis of the evidence of the Udal. These will all be discussed in the light of the Udal sequence. Although it would be methodologically unsound to reject out of hand evidence that contradicts the Udal sequence, I shall examine the evidence of other sites critically since the Udal evidence may be the more reliable. Whether the Udal dates are applicable elsewhere can only
be established after examining the evidence of other sites. In the final chapter I shall consider briefly the pottery sequence at the Udal and at other sites in the Hebrides, and the historical interpretation of that evidence.
CHAPTER 11
DARK-AGE POTTERY FROM OTHER SITES IN THE
HEBRIDES AND POSSIBLE COMPARABLE GROUPS
ELSEWHERE

Having described the pottery in levels XIV to XI at the Udal and defined the diagnostic characteristics of the Dark-age assemblage, I now intend to discuss other sites where similar pottery has been found. Finds and sites in the Hebrides are firstly examined, and then potentially relevant material elsewhere. In the course of this research work, a thorough search was made through the pottery in the NMAS, the Hunterian Museum, and Glasgow Art Gallery and Museum, the three museums where all major assemblages of Hebridean and relevant Scottish finds are stored. This incorporates all material known up to 1978. Some finds of pottery subsequent to that date have been included, but subsequent accessions to the Museums may have been missed.

Only one major published site assemblage is available for comparison with the Udal within the Hebrides. This is the galleried dun - or broch according to Feachem (1977, 163) - of Dun Cuier on Barra, excavated in the 1950s (Young 1956). It is this site which has been used by MacKie to denote Dark-age pottery in the Hebrides - viz. 'Dun Cuier Ware' (MacKie 1965a, 115, fig. 5; MacKie 1966, 202-03).

Dun Cuier, Barra (Site 2)
The descriptions and divisions of the pottery from Dun Cuier have been modified in a series of accounts of the site and its finds. In her initial report on the site, Young did not divide the pottery into stratified groups
or suggest any longevity of activity on the site (1956). On the evidence of a decorated bone comb, a date in the early seventh century A.D. was suggested for the site (ibid., 304). By the time of her report on a' Cheardach Mhor she was quoting a fifth-to seventh-century date for Dun Cuier (Young & Richardson 1960, 159). In her discussion of the whole sequence of Hebridean pottery in The Iron Age in Northern Britain, Young suggested that the Dun Cuier pottery could be divided into two groups - an earlier group with long flaring rims, a few of which have cordon decoration at the neck; and a later group, coarser and undecorated with 'weak profiles' (Young 1966, 54).

Unfortunately, there is no indication in the Dun Cuier report of any stratigraphic support for this proposed division of the ceramic assemblage. Nor are sufficient of the published finds closely enough attributed to allow reconstruction of stratified groups, or structures, within the site. It seems clear that the change in interpretation of the Dun Cuier assemblage was due to the recognition at a' Cheardach Mhor that the plain pottery and coarser fabric sherds were clearly stratified above the decorated wares (Young & Richardson 1960).

Even a fairly superficial examination of the Dun Cuier report would suggest that more than one phase of activity has been conflated in the published plan (Young 1956, fig. 6A). The 'dun' itself may be seen as a single phase structure, but it seems unlikely that the irregular circle of internal walling is contemporary with it. This is probably a subsequent building inserted into the 'dun',
perhaps after a considerable period. The positions of
the three reported hearths within this structure are not
stated clearly enough to establish whether they were
contemporary or not (ibid., 300-01). Similarly, the
date-range of the finds from the site is
uncertain. The bone dice may be Iron Age in date, as
suggested by MacKie (1971a, 52), but Clarke (1970) has
queried the Iron-age attribution of parallelopiped dice in
Scotland and cites similar items from Lagore (Hencken
1950, 196, fig. 106). The sherd stamped with the impression
of a ring-headed pin should be Iron-age, as should the few
few incised sherds (Young 1956, 312). Otherwise few of the
other artefacts can be securely dated.

As already noted, by 1961, Young was postulating at
least two phases in the pottery, but without stating any
stratigraphic evidence. Examination of the pottery held
in the NMAS suggests that Young's division of the
material must be reconsidered. Some of the long rimmed
sherds illustrated in Young's figure 9 (1956), are very
similar in fabric to that of the supposed coarse ware
(ibid., fig. 7). Using the Udal sequence for comparison,
it could be suggested that everted rims (ibid., fig. 8,
nos 23, 25 and 27) and cordon decorated vessels (ibid.,
figs. 10 and 11) are earlier in date than the plain flaring
rims (ibid., fig. 9). These undecorated rims are close
in form to the bucket and shouldered vessels of the Udal
Dark-age levels. They also use tongue-and-groove construction
(fig. 24, nos 6&9).

It is not possible here to completely re-analyse the Dun
Cuier pottery. However, a few examples are given to support my contention about the date of the pottery and its similarity to the Udal assemblage. GU 159 is of a fabric very similar to Udal fabric A and probably derives from a slightly shouldered vessel (fig. 24, no. 6; cf. Young 1956, fig. 8, no. 12). GU 139 and GU 130 are of similar fabric and form (fig. 24, nos. 7 & 8; cf. Young 1956, fig. 7, no. 9; and fig. 7, no. 1). GU 149 flares rather more than the Udal forms, but still belongs to a similar shouldered vessel type (fig. 24, no. 9; cf. Young 1956, fig. 9, no. 49).

The cordon decorated sherds, GU 145, 147 and 148 are in a rather harder fabric though not unlike some of Udal fabric L (fig. 24, nos. 2-4). These are clearly fairly similar to the Udal Dark-age forms except in their use of cordons. In view of the absence of decoration at the Udal and the slight supporting evidence elsewhere for a progressive loss of decoration in the Hebridean sequence (Young 1966, 54-6), these sherds might be argued to be somewhat earlier in date. The more sharply everted forms GU 166&88 (fig. 24, nos. 1&5) might likewise be seen as earlier and closer in date to the everted rim cordoned vessels from a' Cheardach Mhor and Tigh Talamhanta (Young 1966, fig. 4, nos. 4, 5 and 6).

It may be objected that one site sequence is being used to re-interpret another and that what happens in North Uist cannot necessarily be expected in Barra. However, the suggestion of a development from decorated to undecorated wares was argued by Young (ibid., 1966). I would merely suggest that the division within the
groups comes at a different point.

If it is accepted that some of the Dun Cuier sequence is closely comparable to the Udal finds, what conclusions can be drawn about the site? Some of the other artefacts can easily be paralleled in other Dark-age assemblages, e.g. bone combs and pins, but few of these are closely datable. Young tried to date Dun Cuier by historical arguments, and by the comparison of one decorated bone comb with one from Lagore (Young 1956, 304). By this means she argued an early seventh century date for both the comb and the site. While not rejecting the comparison neither Dun Cuier nor the comb can be as closely dated as she said - the Lagore comb is unstratified - and a much more general date bracket in line with the Udal, of c. 400 to 800, seems appropriate for the Dark-age assemblage. An additional importance of the site is the presence of cordon decorated, flaring rim vessels (fig. 24, no. 3), which suggests a possible source from which the Udal Dark-age style might have developed. This will be considered at a later stage (below, chapter 13).

The second site sequence of significance is that of a' Cheardach Mhor in South Uist.

a' Cheardach Mhor, South Uist (Site 3)

This site, a wheelhouse with subsequent occupation, was excavated in the 1950s as part of the 'rocket range programme' (Young & Richardson 1960). It is of importance because five distinct phases of activity were recognised -
each with associated finds (ibid., 137-60). The earliest activity, phase I, associated with the wheelhouse, has a variety of incised and cordon decorated pottery - some with everted rims - which is clearly of Iron-age date. Young dated it to the first to second century A.D. on the evidence of a yellow bead (Young 1966, 55). Phase II has a more simply decorated vessel - an everted rim jar with applied cordon decoration - again probably of Iron-age date. Phase III has coarser cooking pots which Young compared to those from Dun Cuier and dated as fifth to seventh century A.D. (Young & Richardson 1960, 159). Phase IV has no pottery other than a dubiously stratified sherd identified as an import of the seventh to eighth century A.D. (ibid., 159).

This sequence of artefacts and related, if fragmentary, structures is of importance in the present context. The phase II vessel helps to confirm the suggestion that a phase of sparsely decorated vessels, as argued above for Dun Cuier, occurs before the introduction of undecorated forms in Phase III.

Examination of the phase III pottery confirms that it is very similar to the Udal assemblage. The shouldered jar (fig. 24, no. 10, cf. Young & Richardson, fig. 10, no. 45) is in a fabric like the dominant Udal fabric A, while the other sherds found are not dissimilar. The other associated artefacts are not closely datable, but Dark-age parallels can be cited for the bone pins and crucible fragments. The fragmentary stone structures could have been similar to the Udal 'figure-of-eight' buildings (ibid., fig. 12; cf. Crawford 1975a, fig. 3).
Phase IV also has a structure which might be
tentatively compared to the Udal Dark-age structures.
This phase can be approximately dated by the finding of
spiral-ringed pin. Young suggested a date of the seventh
to eighth centuries A.D., but a wider date bracket of the sixth
to ninth centuries may be indicated by Fanning's work
(1969). The presence of a supposed import in this
phase is worthy of note. Radford identified this
unstratified sherd as an import, related to the class B
amphorae (Young 1958, 94), but re-examination of the
sherd in the NMAS suggests that it is quite unlike
these Dark-age imports and is most probably a sherd of
local Iron-age date (per comm. Leslie Alcock).

Viking-age activity in the vicinity was suggested by
the presence of a steatite lamp and a length of straight
walling, but no ceramics from this period were found
(Young & Richardson, 158-60).

Young suggested other sites as having pottery comparable
to the Dun Cuier finds, and these will be considered
before covering other published and unpublished
material. She quoted parallels for long flaring rims
at Dun Scurrival on Barra, and at Clettraval and Unival
on North Uist (Young 1966, 54).

Dun Scurrival, Barra (Site 4)
Dun Scurrival is a 'galleried dun' in the north of Barra
(R.C.A.H.M.S. 1928, 132) from which, Young reported, pottery
and bone artefacts had been recovered, presumably from
eroding deposits (1956, 291). She argued that the long
flaring rims found at the site were comparable to pottery from Dun Cuier. The illustrated sherds include plain and decorated forms (ibid., fig. 2). One rim from the site, GU 353, is similar to the Dark-age types of the Udal – a flaring rim from a slightly shouldered vessel using tongue-and-groove construction (fig. 24, no. 11). No date can be offered for the site, nor the length of its occupation suggested, but some Dark-age activity seems possible.

Clettraval, North Uist (Site 5)

Clettraval, on North Uist, is the site of an 'aisled roundhouse', built on the ruins of a Neolithic chambered tomb which was excavated by Sir Lindsay Scott in the 1940s (Scott 1948a, 46-68). In addition to the roundhouse, a rectangular barn, other miscellaneous structures and an enclosure wall, were regarded as integral parts of a contemporary farm; indeed, MacKie has argued that this is a classic 'Wessex' enclosed farmstead, transmogrified into stone (1971a, 55-7). The pottery from Clettraval is one of the classic Iron-age groups from the Hebrides and MacKie (1965a, 116) has used the term 'Clettraval Ware' to denote one facies of the tradition of decorated Iron-age pottery in the area. It is not intended here to review the interpretations of Clettraval, nor its place in Iron-age ceramic typologies. Young does, however, cite pottery from 'high levels at Clettraval' as being of the long rimmed form of Dun Cuier (1966, 54).
Scott recognised four stages of activity on the site - from the building and use of the aisled round house, and its associated structures, through to the construction of a small hut in the ruins (Scott 1948a, 48). Phases I and II at the site are marked by the use of decorated pottery with finger channelled grooves, applied cordons, and incised patterns, while the later phases, III and IV, were thought to have undecorated straight-sided pots and cordon decorated globular forms (ibid., 60-66). The report is very vague on the nature of the late occupation and on the finds to be associated with it, but the late hut seems to have been in the vicinity of the entrance (ibid., fig. 3). The one rim cited by Young is from this area, or from the adjacent bay VI. This sherd, HD 1312, is broken or abraded at the top, but seems to be a flaring rim from a slightly shouldered vessel using tongue-and-groove construction (fig. 24, no. 13; cf. Scott 1948a, fig. 6, no. VI.3). Another less flaring tongue-and-groove rim, HD 1311, in the NMAS collections cannot be located in the report (fig. 24, no. 12).

Although these sherds are quite thin, they can reasonably be compared with the Udal Dark-age assemblage. The Clettraval report does not assist further interpretation of this site other than to allow the suggestion that the secondary structure by the entrance is Dark Age in date. The bulk of the assemblage is too fragmentary for positive cultural or chronological attributions, but it must be said that the association of the 'byre' and aisled house, and the other elements of the 'Wessex farm', may be
fallacious and a whole range of periods may be represented by the structures.

**Unival, North Uist (Site 6)**

The site of Unival is that of a Neolithic chambered tomb with an Iron-age house structure inserted into it - both excavated by Sir Lindsay Scott in the 1930s (Scott 1948b). Young, citing Scott (1948b, fig.3, A6), quoted long flaring rims as occurring at the 'Iron Age working-place' at Unival, (Young 1966, 54). Scott saw two stratigraphically separate phases of Iron-age activity at this site. It is the later phase to which Young is referring. This consisted of finds in levels within the tomb chamber and in pits outside the tomb (Scott 1948b, 2-7). The pottery includes everted and cordoned sherds which would fit into a late Iron-age context.

One slightly flaring rim (EO 876) (fig.24, no.14), was noted among the Unival finds which can be compared to the Udal Dark-age finds. However, the site report does not provide enough information to establish whether this was stratigraphically separate from the decorated material. Consequently, Unival can only be regarded as a possible, but uncertain, site of Dark-age activity with pottery similar to the Udal.

In addition to the sites listed by Young, three further sites have since been published where pottery similar to 'Dun Cuier Ware' was found. These are Gress Lodge and Dun Carloway on Lewis and, less certainly, the site of Dun Mòr Vaul on Tiree.
Gress Lodge, Lewis (Site 7)

Gress Lodge on the east coast of Lewis is another site where 'Dun Cuier' ware has been reported (MacKie 1966, 202-03). MacKie published a small group of sherds which had been found in 1946 in the vicinity of an underground passage - 'earthhouse' - which may have related to the structure previously reported under the lawn of the modern house (R.C.A.H.M.S. 1928, 17). He suggested that the coarser sherds should be associated with the building of the 'earthhouse', and consequently dated the structure to the fourth or fifth century A.D. on the basis of his evaluation of the development of 'Dun Cuier Ware' (MacKie 1966).

As MacKie commented, the 15 sherds sent to the Hunterian Museum can only be a small proportion of the 'large quantity' of pottery originally found (ibid., 200). Since none of the pottery was specifically ascribed by the finder to the lower of the two layers reported by him, some considerable doubt must attend any attempt to date the construction or use of the 'earth house' by dating the sherds. This doubt is strengthened by even a superficial examination of the published sherds (ibid., fig. 1). Numbers 3 and 6 are decorated sherds of Iron-age date, but the handled sherd (no. 8) could be late Medieval or Modern (cf. Curwen 1938, Pl.IV ). Consequently, even if the remaining sherds were accepted as 'Dun Cuier Ware', the assemblage could not be regarded as a single phase group nor could the 'earthhouse' be dated.

I have already argued that the Dun Cuier pottery has been wrongly seen as a purely Dark-age assemblage
(above p.254-7). If I am correct, the cordoned sherds from Gress (MacKie 1966, fig. 1, nos 2/1, 4/1 and 4/2) should also be seen as Iron-age, even if they could belong to a phase shortly before the emergence of the plain undecorated style of the Udal Dark-age levels.

Examination of the Gress finds in the Hunterian Museum has suggested that some of the pottery is comparable to the Udal Dark-age finds. 1946 1/2 is a slightly flaring or shouldered rim (fig. 24, no.15, cf. MacKie 1966, fig. 1) and 1946 1/1 is from a similar form but with clear tongue-and-groove construction (fig. 24, 16). To these may be added another two rims held by the NMAS but uncatalogued. Both of these are from slightly flaring rims with tongue-and-groove construction marks (fig.29, 17&18). All four sherds can be well paralleled with the Dark-age finds from the Udal.

Inspection of the site in 1978 (Cowie, forthcoming) has confirmed the futility of trying to date the 'earthhouse' by reference to unstratified pottery. In addition to the end of a passage visible on the shoreline, the site consists of a substantial series of stratified deposits several metres deep, undergoing sea and wind erosion. The pottery finds already discussed would suggest that this is a multi-period site of some longevity. No specific Dark-age structural phase can be demonstrated.

Dun Carloway, Lewis (Site 8)
Dun Carloway is one of the best known brochs in the Hebrides (R.C.A.H.M.S. 1928, 68). It has been in State
care since 1887; in the ensuing time debris has been removed from its interior. In 1972 small-scale excavation was undertaken in the north-western intramural chamber prior to masonry consolidation (Tabraham 1977). Tabraham excavated deposits, some 0.70m deep, consisting of layers of ash, clay and at least one hearth, which he interpreted as indicating several periods of activity. The quantity of pottery found, and the evidence of burning, led him to suggest that the chamber might have been used as a kiln (ibid., 160-61). Though this is not impossible, none of the sherds was recognised as a waster and the bulk of the assemblage consisted of a mass of small body sherds. In character, this seems more like a rubbish deposit and, in view of the evidence for chronological inversion suggested below, it seems possible that some of this material may have been dumped in the chamber from occupation or activity elsewhere in the broch. In describing the pottery Close-Brooks wrote 'of the 450 plus sherds from level AF, it is very difficult to find any two sherds that seem to be from the same pot. This may suggest that broken pots were not thrown into the chamber, but that they had been broken and scattered around elsewhere before final deposition' (ibid., 167). This questioning of the simple stratigraphic sequence of use and deposition in the chamber must be reinforced by the discovery of a sherd of Viking-age platter (ibid., fig. 6, no. 43) in layer AF, stratified below the double cordoned globular vessel (ibid., fig. 6, no. 49) in layer AH (see
ibid., fig. 2 for stratigraphy). This double cordoned vessel can be paralleled at Dun Cuier (Young 1956, fig. 10, no. 92) and is to be regarded as Iron-age.

In discussing the date of the pottery, Close-Brooks drew parallels with Dun Cuier and attributed the whole pottery assemblage to a short period somewhere in a general bracket of the fifth to seventh centuries A.D. (Tabraham, 1977, 167). Although the pottery may have seemed homogeneous, the Udal evidence for the longevity of pottery production in the Hebrides militates against interpreting the apparent homogeneity of such small sherds as necessarily implying their closeness in date.

If the suggestion (above) that Dun Cuier needs to be reconsidered is accepted, a tentative division of the Dun Carloway pottery might be made. The cordoned sherds could belong to the phase prior to the development of the totally undecorated pottery of the Udal Dark-age phase. Thus, the double cordoned vessel from layer AH (fig. 24, no. 24) which is rather finer in texture than the Udal Dark-age pots, and the four other cordoned sherds from layer AF, might be regarded as earlier than the Udal 'marker' date of c. 400 A.D. Two rim sherds from AF (fig. 24, no. 20 & 21) and one from AO (fig. 24, no. 23) and 2 base sherds from AO (fig. 24, no. 22) are all comparable to the Udal Dark-age pottery - i.e. slightly shouldered or straight vessels with flat bases. In the same layer (AF) as these rims was also the one platter sherd.

In view of the apparent contradiction between the pottery dates and the reported stratigraphy, it may be suggested that the deposits as a whole are not as coherent
and homogeneous as the excavator thought. The C14
date of A.D. 1300 ± 150 from the upper ash layer (Tabraham
1977, 160) would tend to confirm the longevity
of activity represented by the deposits in the chamber.
Some Dark-age activity at the site may be suggested on
the evidence of the above noted sherds.

Dun Mor Vaul, Tiree (Site 9)
Dun Mor Vaul is a broch on Tiree excavated by Dr E.W.
MacKie in the early 1960s. Two rim sherds from the site,
exhibited in the Hunterian Museum, are described as
'Dun Cuier Ware'. These come from contexts 'Omicron'
(MacKie 1974, fig. 19, no. 483), a secondary capping
of the outer wall outside the broch, and 'Sigma' (ibid.,
fig. 18, no. 362), the 'drifted earth' fill of the outer
court, both of which MacKie attributed to the 'post-
fort demolition' phase which is dated to pre-300 A.D.
(ibid., 95).

In the final publication of his excavations, MacKie was more
circumspect. The sherds are variously said to —
'correspond approximately to Dun Cuier style', 'be
tending to Dun Cuier style', or 'closely approaches'
the post-Clettraval style for which the name Dun Cuier
style has been suggested'; but he also said that 'the
manufacture of everted rim pottery at Vaul ceased well
before the emergence of the Dun Cuier style' (MacKie 1974,
90, 154). He has not fully defined 'Dun Cuier style', but seems
to mean the style represented by Young's (1966) long
rimmed vessels, some of which have cordon decoration.
Examination of the Dun Mor Vaul sherds suggests that they are not exactly similar to the Dun Cuier or Udal Dark-age finds. The rim is thicker and more sharply everted (fig. 25, no. 1 ) than the suggested Dark-age style as found on the Outer Hebridean sites. In the absence of other sherds it is difficult to establish whether these rims are part of a distinct style emerging late in the site's occupation. They may merely be a slightly aberrant local form of the Iron-age everted rim style. In either case there is no reason to question the Iron-age date attributed to them, or to link them particularly closely to the Udal Dark-age style. Until a site is dug on Tiree, or in adjacent areas, which produces other diagnostic Dark-age finds, the question must remain open as to whether the more southerly islands had pottery comparable to that at the Udal. At present, the above noted sherds from Tiree are the only reported finds from the islands south of Barra.

The nine sites discussed above are the only Hebridean sites which have been suggested in print as belonging to the Dark-age phase which the Udal sequence is now being used to define. Pottery from a few other sites has been claimed as Dark-age, principally on supposed comparisons with Irish Souterrain Ware. These will be discussed at a later stage.

The sites next listed and discussed are those where I have recognised pottery as being similar to the Udal Dark-age phase. This includes all material which could be located in the NMAS, the Hunterian Museum, and Glasgow
Museum and Art Gallery, in 1977 and some finds from survey work carried out in 1978. Sites are listed alphabetically.

Bac Mhic Connain, Vallay, North Uist (Site 10)
The site of Bac Mhic Connain was excavated by Erskine Beveridge in 1919. The structures uncovered, circular and quadrangular compartments with connecting passages, were published by J.G. Callander in 1932 from notes made by Beveridge before his death (Callander 1932) This 'earth-house' was clearly a settlement site of some complexity. I.A. Crawford has suggested that the polycellular structure D (ibid., fig. 2) could be a much rebuilt example of the Udal 'figure-of-eight' houses (per. comm. Crawford).

None of the finds which reached the NMAS can be attributed to specific structures or layers within the site and, in addition, there is some doubt as to the proportion of original finds which were given to the museum. Nevertheless the finds reported are a rich assemblage of stone, bone, metal and clay artefacts (Callander 1932, 49-66). Some of the finds, e.g. the stone ingot moulds, the bronze disc-headed pin, crucibles and clay moulds (ibid., fig. 17), may well be of Dark-age date. More certainly a bone knife-handle bearing a Pictish ogham inscription (ibid., fig. 11) is certainly Dark-age, and has recently been ascribed to the seventh century A.D. (Padel 1972, 27). However, other finds are probably Iron-age, e.g. the long-handled weaving combs (Callander 1932, fig. 5).
According to the excavation report, 150 sherds of pottery were found of which about one quarter had applied wavy or zigzag decoration (ibid., 63). This pottery is likely to be Iron-age, but only a handful of sherds were given to the NMAS. Among these there is one sherd of note in the present context. This is a flat-based sherd with a fairly steep wall angle and traces of tongue-and-groove construction. This is quite similar to the Udal Dark-age bases, but since flat bases are ubiquitous to a whole range of periods I have not considered this to be a diagnostic feature. However, this base has a short diagonal cross finger-pulled on its inner surface (fig. 25, no. 2). This is exactly paralleled by two bases at the Udal (fig. 13, nos. 12 & 14).

Ornamented bases occur on earlier Iron-age vessels, as at Dun Mor Vaul (MacKie 1974, fig. 11, no. 31) and a' Cheardach Mhor (Young & Richardson 1960, fig. 6, no. 37). However, no exact parallels are known for the Udal and Bac Mhic Connain sherds. Two sherds from a' Cheardach Mhor are fairly similar, but on these a concentric groove links the intersecting central grooves and deep thumb prints appear in each quadrant (ibid., fig. 6, nos 35 & 36).

Since the Udal and Bac Mhic Connain sites are within a few miles of each other, it seems reasonable to suggest that these base sherds are of similar date. Consequently, Dark-age pottery production is to be associated with the other evidence for a major Dark-age phase at Bac Mhic Connain.
Berneray (Site 11)
The island of Berneray is one of the larger islands in the Sound of Harris. Pottery was found at an eroding site on the west side of the island. This includes one long slightly flaring rim with possible tongue-and-groove construction (fig. 30, no. 3). This is similar to the Udal Dark-age assemblage and may indicate activity on this site at a similar date.

Bruthach a' Sithean, South Uist (Site 12)
Bruthach a' Sithean, on Kilpheder machair, is the site of an aisled roundhouse excavated in the 1950s by T.C. Lethbridge (1952). Lethbridge sometimes referred to the site as Kilpheder. Although the report is vague, it seems that he found classic cordoned and incised pottery in the main early deposits inside the house (ibid., 188-9). This includes material similar to that from Clettraval and Dun Mor Vaul and is clearly of Iron-age date (ibid., fig. 7). To this phase is attributed the sherds with incised decoration depicting two stags (ibid., fig. 9). These Iron-age sherds may be tentatively dated by association with a Romano-British trumpet brooch of the 2nd century A.D. (ibid., 182-4).

In one cell of the house, Lethbridge recognised an upper occupation level which had pottery described as 'unornamented and largely shapeless' (ibid., 189). None is illustrated in the report and no associated finds were reported, though Lethbridge thought that no long period need have intervened between the two occupations.
Neither the published account, nor the records in the NMAS, allow the Kilpheder pottery to be attributed to specific layers, but there is some pottery which might have been described as 'unornamented and shapeless'.

The NMAS has one tongue-and-groove rim from a slightly flaring or shouldered vessel and four base sherds from a flat-based vessel, with a fairly steep wall angle and likewise of tongue-and-groove construction (fig.25, nos 4 & 5). These are similar to the Udal Dark-age pottery. Although no great depth of deposit separated the layers that Lethbridge recognised, it may be suggested that this pottery indicates a re-occupation of the site some time in the Dark-age period indicated by the Udal sequence.

**Cnoc a' Comhdhalach, North Uist (Site 13)**

The site of Cnoc a' Comhdhalach was excavated by Erskine Beveridge in 1905 and 1907. No detailed report was published, but an account of the site was given in his book on North Uist (Beveridge 1911, 200-06). The structure apparently consisted of a well-preserved wheelhouse (R.C.A.H.M.S. 1928, 87-8), with attached cells, and other structures of a less coherent nature, indicating multi-period activity (Beveridge 1911, 204).

Some of the pottery is of the cordon and incised decorated types recognised as Iron-age on other sites (ibid., plates between pp. 204-05). In addition Beveridge reports 'unpatterned pottery' from an 'annexe' area (ibid., 204). This annexe consisted of a whole series
of small irregular cells which may again indicate a misunderstood Dark-age house form. Other possible evidence of Dark Age activity is given by the discovery of a bronze spiral-ringed pin (ibid., 206).

Among the pottery three sherds are of interest. GT 806 is a straight rim, with tongue-and-groove construction, which probably comes from a straight-sided vessel (fig. 25, no. 6). GT 803 is a longer rim from a flaring or shouldered vessel (fig. 25, no. 7) and GT 850 is a flat base with tongue-and-groove construction (fig. 25, no. 8). All these can be compared to the Udal Dark-age assemblage and a Dark-age phase suggested for the site.

Dun Toloman, North Uist (Site 14). According to R.C.A.H.M.S., Dun Toloman is a mound 70' long, 55' wide and 4' high (1928, 93). Although it has not been excavated, the name would suggest that it is some kind of fortified site. The NMAS has pottery found at this site. Among this are four rims (GT 554) from a large, slightly shouldered vessel, with a gently flaring rim and possible tongue-and-groove construction (fig. 25, no. 9). This is similar to the Udal Dark-age pottery.

Eilean Maleit, North Uist (Site 15) Eilean Maleit is an aisled round house situated on a small tidal islet on Vallay Strand, North Uist. It was excavated by Erskine Beveridge and published in his book on North Uist (1911, 207-09). The structure as it appears on his plan (ibid., opposite p. 208), and
slightly differently on the R.C.A.H.M.S. plan (1928, fig. 142), appears to be of considerable complexity and probably represents several periods of activity.

Beveridge recovered decorated pottery comparable to finds from Iron-age sites such as Clettraval (1911, plate opposite p. 209). In addition to the cordoned sherds, finger channel decoration, and everted rims of probable Iron-age date, there is other material in the NMAS which indicates activity of a different date. One base sherd (GT 613) is from a flat-based vessel with a tongue-and-groove wall (fig. 25, no. 10). This is comparable to the Udal Dark-age assemblage, but is not diagnostic enough to allow a certain date to be attributed. However, it can be suggested as possible evidence for Dark-age activity. No particular area of the site can be attributed to Dark-age activity.

Foshigarry, North Uist (Site 16)
The site of Foshigarry is another complex of wheel-houses and other structures excavated by Erskine Beveridge before 1914, and published after Beveridge's death by Callander (1931). The plan of the site is of some complexity and Beveridge recognised that there were different phases of activity, but no attempt seems to have been made to link finds to structural phases or to really understand the site sequence. In 1948, Sir Lindsay Scott published a brief account of the site in which he attempted to establish a structural sequence, but few of the reported finds can be related to this
addition, it seems likely that Scott assumed far too short a chronology for the site (1948a, 74-5).

Although many of the finds are clearly of Iron-age date, e.g. incised and cordoned pottery (Callander 1931, 23-4), there are some which indicate later, and specifically Dark-age, activity. Among these the most obvious are the composite bone combs with ring and dot decoration (ibid., fig. 5), the bone pins (ibid., fig. 19), a bronze pin (ibid., fig. 8), and perhaps also the bone die (ibid., fig. 6), since this can be paralleled at Dun Cuier, Bac Mhic Connain, and Lagore (Clarke 1970). The Ordnance Survey did suggest that Foshigarry might be a Viking site, on the basis of some of these finds (Ordnance Survey 1973, 65), but they are much more likely to indicate Dark-age activity (Laing 1975, 85-6).

As with most of Beveridge's excavations, only a limited percentage of the finds can have reached the NMAS or were even mentioned in published accounts (Callander 1931, 322-3). In particular the pottery is a highly selective sample for, as Callander observes, more than 400 sherds were found but only 65 fragments reached the museum, of which 61 were decorated (ibid., 343). In view of the Udal evidence for the importance of undecorated pottery at particular periods, this selection process has clearly drastically biased the surviving assemblage in favour of decorated Iron-age ceramics.

Nevertheless, the NMAS has a few sherds from Foshigarry which are of interest. GNA 316 is a flaring rim from a slightly shouldered vessel of tongue-and-groove construction
(fig.25,no.11). GNA 314 is more upright but again seems to derive from a slightly shouldered vessel using tongue-and-groove construction (fig.25,no.12). Neither can be located specifically in relation to the various structures Beveridge excavated.

Survey work in 1978 by I.A.G. Shepherd (per oomm.) recovered further finds and suggested that substantial settlement remains still survived on the site. One pot rim from the area of Beveridge's 'earthhouse A' is a slightly flaring form with tongue-and-groove construction (fig. 25, no.13).

All three rims compare closely with the Udal Dark-age assemblage, and pottery evidence for Dark-age activity at Foshigarry can consequently be added to the other artefactual evidence noted above.

Garry Iochdrach, North Uist (Site 17)
Garry Iochdrach is another ailed roundhouse excavated by Erskine Beveridge in 1912 and 1913, but not published till 1932 (Callander 1932, 32-42). In addition to the roundhouse which was in use for some considerable time, other structures on the site imply several phases of activity.

The finds from the site are not illustrated in the published report, although brief descriptions are given, and only a few of the finds seem to have reached the NMAS. Nevertheless, recognition of a major Iron-age phase of activity seems assured from the reported finds,
e.g. a weaving comb, ornamented pottery, etc. (ibid., 40-2). In addition, Dark-age or later activity is indicated by a 'small-toothed comb with dot and circle ornament', some bone pins, and more interestingly a painted pebble, which by its description (ibid., 37) is similar to those defined as Pictish by Ritchie (1972). A small hammerstone was also reported as having similar markings (Callander 1932, 37).

Among the pottery from the site is a rim sherd from a large slightly shouldered vessel (fig.25, no.4). The rim slab is large and upright and the vessel uses tongue-and-groove construction, but the fabric is not very close to the Udal types. This may be suggested as a possible, but not certain Dark-age find.

Northton, Harris (Site 18)
The site of Northton on the southern side of Toe Head, Harris, is well known as a result of D.D.A. Simpson's excavation of prehistoric sites there (Simpson 1966). Approximately one mile to the east beside the modern village, the R.C.A.H.M.S. reported an 'earthhouse' (1928, 46). One sherd in the collections of NMAS from this site is of note. This is a flaring rim possibly from a slightly shouldered vessel of c. 20cm diameter, using tongue-and-groove construction (fig.25, no.15). This is similar to the Udal Dark-age pottery and a similar date may be suggested. There is no apparent record of the relationship of this pottery find to the 'earthhouse', so the pottery does not provide a secure date for the
structure itself.

The Udal, North Uist (Site 1)

In addition to the pottery from Crawford's excavations at the Udal, the NMAS has pottery from previous work and surface collections in the area. Amongst this material is the substantial upper portion of a vessel found near the site. The precise location of the findspot is uncertain and, as a result, it is unclear whether this find actually comes from the Udal itself or from another, unknown, site in the close vicinity. The vessel is a shouldered jar with an upright rim and tongue-and-groove construction (fig.25, no.16). The fabric is similar to the Udal fabric C and could be incorporated in the Udal Dark-age assemblage without difficulty. However, since the location of the findspot is uncertain, the pottery cannot be further interpreted.

Vallaquie, North Uist (Site 19)

The site of Vallaquie is an underground passage and chamber eroding out of a shore line. Midden deposits occur above and below the structure (per comm. I.A.G. Shepherd). One rim from the eroding deposits is of note. This is a flaring rim from a slightly shouldered vessel using tongue-and-groove construction (fig.25, no.17). It compares well with the Dark-age pottery from the Udal and Dun Cuier. Another rim (fig. 25, no. 18) with a flaring rim and tongue-and-groove construction is similar but not identical to the Udal pottery.

Both of these pieces were found in the upper midden and, consequently, probably post-date the building of the
'earthhouse'. None of the pottery recovered by Shepherd from the lower midden is diagnostic. Consequently, no conclusions are possible about the date of the structure.

In addition to the pottery already discussed, various other sites have had pottery identified as Dark-age, often on the basis of a supposed similarity to Irish Souterrain Ware. Alison Young did suggest that some of the Dun Cuier pottery might relate to northern Irish finds (1956, 311) and used that suggestion to date her final coarse-ware phase in the Hebridean sequence (Young 1966, 54). I intend to discuss Irish Souterrain Ware in a subsequent section, but as will be clear from even a superficial comparison of Irish forms with the Dun Cuier or Udal pottery there is no significant correlation. Ryan, too, in his consideration of the Irish material, concluded that no connection was observable (1973, 629, note 78).

In 1971 Charles Thomas suggested that grassmarked pottery from Iona, and from two islands in the Sound of Harris, could be attributed to Irish missionary activity and dated to the sixth century A.D. or slightly later (Thomas 1971, 54). He also suggested that the sherds from Killegray, in the Sound of Harris, should be referred to early Irish settlement (1972, 265). I have already argued that grassmarking is not a feature of the Dark-age assemblage at the Udal. Examination of the sherds from Killegray (Lane 1981a, 50) has shown them to belong to the platters which are diagnostic of the Viking-age levels. Since these platters do not occur in Ireland, the suggestion that the sherds from Killegray and Ensay (the second island referred
to by Thomas) denote early Irish settlement can be discounted. The finds from Killegray and Ensay are discussed in the next chapter on the Viking-age material.

The case of Iona is more complex and requires full discussion. Iona is the best known of all the early Christian sites in Scotland. It has been the scene of several major excavations, by Charles Thomas, Richard Reece and John Barber over the last three decades.

Thomas reported finding 'grassmarked' sherds in early levels at Iona (1971, 55), and Megaw, in discussing Thomas's results, reported similar sherds below the Medieval 'Street of the Dead' and in the early ditch silt of the vallum (Megaw 1965, 228). The presence of pottery comparable to Irish Souterrain Ware on one of the major monastic sites of the west coast would be of considerable interest, if it could be shown to belong to an early phase of the monastery. This is in fact what Thomas claimed - about half-a-dozen sherds from the 'lowest, presumably Columban or else 7th century, levels at Iona' (1972, 265). Unfortunately, this seems to be a misidentification, since none of the 14 sherds from his excavations is grassmarked and none is a base sherd (catalogued on page 541-2). Barber's work in the same area as Thomas' previous trenching suggests that he misunderstood the deposits encountered (per comm. J. Barber).

At time of writing, only Richard Reece's excavations have been published (1981). He also found a small quantity of pottery, though little of it is diagnostic in the terms defined here. A few points emerge from the evidence of
his excavations. No handmade pottery was found in the deposits recognised as early, though two sherds of imported wares - Class A and Class E - and other diagnostic Dark-age finds did occur in those deposits. Small quantities of organically-tempered pottery occurred in deposits which Reece dated from the ninth to thirteenth centuries A.D.

I have already argued that such pottery is not particularly diagnostic chronologically or culturally. The two base sherds (Reece 1981, fig. III.1b, no. 2 and 22) could be compared to the round angled bowls of the Udal Viking-age levels, but are not well-enough preserved for certainty. Number 2 is from Reece's Guest House area, but was apparently outside the building and unstratified (Lane 1981, 51).

No. 22 which has only sparse organic inclusions was found in deposits which also contained Medieval pottery (ibid., 52). Neither can be regarded as closely stratified.

Two grassmarked sherds were found. Number 3 which seems to come from a flat-based steep-walled vessel (fig. 25, no. 20), was found in the Old Guest House above an early post-hole, but in association with thirteenth-century glazed sherds (Reece 1981, 36). Number 24, a small grassmarked sherd from a flat-based vessel, was found in the dark sand layer in the Old Guest House (ibid., 32). The radiocarbon dates for the site suggest that this deposit is later than a major burnt layer of c. 800 A.D. These two grassmarked sherds could belong to the Viking Age, as has been argued for this technique in the Hebrides. The association of sherd no. 3 with glazed medieval sherds may indicate that grassmarking
continued in this area later than the Viking Age, but the sherd could be explained as a rubbish survival from disturbance to earlier deposits. On Reece's evidence, there is nothing to suggest that handmade pottery was in use or production on Iona in the pre-Viking period, but if Irish Souterrain Ware was being produced before this it would not be surprising if at least small quantities had reached Iona. Whether any of the Iona handmade sherds can be established as imports would require petrological analysis to be conducted and as yet this has not been possible; in any case, geological similarities in the two areas may vitiate such work.

Barber's work on Iona is due to be published in 1982. He calls into question the nature of the deposits excavated by Reece, suggesting that much of the soil was deliberately introduced for agricultural use and thus implying that much of the stratigraphy is meaningless. In support of this hypothesis he cites the wide spread of contradictory radiocarbon dates which Reece tried to explain (Reece 1981, 103-10). Barber found a few more sherds of grassmarked pottery, but in deposits which he brackets as from sixth to thirteenth centuries A.D. (per comm. J. Barber).

Barber's interpretation of the excavated areas casts doubt on Reece's interpretation of his work. This might imply that some of the pottery could be pre-Viking-age, though none is certainly so. However, Barber's excavation of the waterlogged vallum ditch produced substantial quantities of leather artefacts and wooden bowls, but no pottery, from
what seem to be the earliest Columban deposits on the site. There is still no pottery from definitely early levels.

Although there are clearly problems in the interpretation of the site, the Iona evidence tends to confirm the rarity or absence of native ceramics in the southern Hebrides in the pre-Viking Dark-age period. Thus Iona was perhaps culturally linked more to the western mainland of Scotland than to the ceramic-rich province of the north-western islands.

Two other sites, a' Cheardach Bheag, South Uist (Fairhurst 1971) and Aignish, Lewis (Curwen 1939) produced pottery which has been compared to Irish Souterrain Ware. Neither site has evidence to show that it has Dark-age occupation and the pottery is not comparable to the Udal Dark-age finds. In view of possible comparisons between Irish Souterrain Ware and Hebridean Viking-age pottery these two sites are discussed in the next chapter.

No large, handmade ceramic assemblages are known from Dark-age sites in the southern Hebrides or western Scottish mainland, but a few sherds of uncertain date occur on the known Dark-age sites of Dunadd, Argyll and Kildonan, Kintyre.

The site of Dunadd is one of the best known Dark-age sites in Scotland. In common with most mainland Scottish sites of the period it has produced very little locally produced pottery. Imported wares occur at a number of sites, including Dunadd which has D-ware, E-ware and possibly F-ware (Thomas 1959). Among the finds from the 1904-05 excavation was one handmade base sherd. CP 247 has a flat base with a diameter of c. 10 cm, a convex lower wall, and
a marked protruding 'foot' - i.e. a protruding piece of clay below the junction of wall and base (fig.25, no.21). Insufficient of this vessel survives to allow full reconstruction of its shape. It is quite unlike the many crucible and mould fragments from the site and appears to be part of a vessel of some sort. No close parallels are known and its date must remain uncertain since objects found in the old excavations range in date from the Bronze Age, if not earlier, to the early twentieth century. However, the sherd was found in the 'lower fort', according to records in the NMAS and so, in view of the overwhelmingly Dark-age character of the finds from the site, it is probably to be attributed to the main period of occupation of the site from the sixth to ninth centuries A.D.

Two potsherds were found in the 1981 excavations on the site (Lane 1981a). The two sherds, which join, are broken from the basal angle of the pot with slight traces of grassmarking. Insufficient of the vessel survives to indicate its shape. They were found in association with a rich assemblage of metalworking moulds and other debris for which an eighth- to ninth-century date is probable (Lane 1981a, 6-7). These sherds could be compared either to the Irish Souterrain Ware assemblages or to the Hebridean Viking-age assemblage, but the smallness of the sherds precludes certainty.

The occurrence of such sherds might seem to pose a weakness in using grassmarking as a diagnostic Viking-age trait in the Hebrides; but, since other features of the Viking-age assemblage have not been found in the southern Hebrides or on the mainland of Scotland, it may be argued that there are two distinct, but possibly related, ceramic
traditions of which grassmarking is one common trait. If this suggestion is accepted, these Dunadd sherds may be interpreted as imports from northern Ireland or as indicating the local adoption on a very small scale of an Irish ceramic tradition. Some contact at this time between Ireland and Scotland is indicated by aspects of the penannular brooch traditions of the ninth century (Graham-Campbell 1974, 55), and perhaps by the mould assemblage at Dunadd. An eighth- or ninth-century date for these sherds would be quite in keeping with stratigraphic and stylistic considerations, although they could easily be earlier, or even later, in date.

The site of Kildonan in Kintyre is a small galleried dun excavated by Horace Fairhurst in the 1930s (Fairhurst 1939). The R.C.A.H.M.S. argued that it was an Iron-age structure re-occupied in the Dark Age to which period various diagnostic finds, e.g. a penannular brooch and an enamel disc could be attributed (R.C.A.H.M.S. 1971, 88-90). Given this interpretation, it was possible to argue that the few coarse handmade sherds from the site were Iron-age (Fairhurst 1939, fig. 10, nos 3 and 4). Laing, however, argued that the site was built in the seventh century A.D. and disputed the relevance of the small Samian sherd which was used to date the site to the second century A.D. (Laing 1975, 77-8). Laing's argument now seems to be supported by recently reported radiocarbon dates; these suggest construction or 'primary' use of the site in the ninth century A.D. (per. comm. E.J. Peltenberg). I have not seen the sherds from the site, which are
probably in the Campbeltown Museum, but the published drawings do not suggest that these sherds are diagnostic. They may imply some local pottery production in Dark-age Argyll, but are not at present supported by any other evidence.

In this chapter I have discussed finds of pottery which I think are comparable to the Udal Dark-age material. In addition, I have mentioned sites where other people have reported Dark-age handmade ceramics. The material comparable to the Udal is restricted at present to the Outer Hebrides from Lewis in the north to Barra in the south (fig. 29). The overwhelming concentration on North Uist can be explained by the activities of Erskine Beveridge (five of the sites on the map) and Sir Lindsay Scott (two sites). There is no reason to believe that this concentration is a genuine cultural cluster; the map distribution should only be seen as a location map of archaeological activity. Whether the restriction of finds to the Outer Hebrides is genuine may also be open to question. The Hebridean Iron-age tradition is found more widely, in Skye and south as far as Coll and Tiree. If the Udal Dark-age style develops out of the preceding Iron-age groups, it would not be surprising if Dark-age finds were to occur on those other islands. Only the uncertain occurrence of flaring rims at Dun Mor Vaul on Tiree hints at the possible development of the plain style in the south. Until a Dark-age site is dug in this area, this question must remain open.
I have discussed 18 Hebridean sites which have pottery which might be regarded as related to the Udal plain style. Three of these may be regarded as uncertain as they do not produce firmly diagnostic sherds. However, a fair degree of certainty attends the other attributions. Dependence on one site sequence, no matter how good, to characterise the pottery of the entire Outer Hebrides could be a weakness, but the small assemblage from a' Cheardach Mhor confirms the suggested nature of the Udal plain style. The supposed sequences at Dun Cuier and Dun Carloway might seem to contradict this, but I have argued already why I think the previous interpretations of those sites are suspect.

Few conclusions can be made about the nature of the sites where this pottery is found, and few coherent structures can be recognised. In eight cases there are secondary structures or other activity in or beside wheelhouses (or aisled roundhouses) and, in two of these cases, curvilinear celled buildings might be compared to the Udal structures. There are three instances of activity in duns; one of secondary activity in a broch; three examples are of sites with souterrains; one uncertain instance is at a chambered tomb; and one is a midden site with no known structures.

Most of these have evidence of Iron-age activity and some show Viking-age activity (see below). Whether this implies a significant continuity in site usage, or merely an archaeological bias in favour of digging Iron-age sites, is not clear, but continuous use of settlement foci may
be significant. Little other coherent interpretation can be attempted in view of the poor nature of the archaeological documentation.

There is no evidence yet that this pottery is to be found in the southern Hebrides or western mainland. Islay has comparable machair areas to those of the Outer Isles with eroding archaeological sites but as yet has produced no similar pottery. This would seem to be confirmed by the recent excavation of an aceramic Dark-age site at Machrins on Colonsay (D&E 1977, 52). The sites outside the northern Hebrides which I have mentioned, e.g. Iona, Kildonan and Dunadd, have produced nothing like the Udal pottery. The small quantities of handmade pottery they do produce are not comparable to the huge Udal assemblage and, at least in the case of Iona, may well be of ninth-century or later date and hence strictly speaking belong to the Viking Age.

There is still little evidence of Dark-age pottery production elsewhere on mainland Scotland. Sites such as Dunollie, Dumbarton, Dundurn, Buston and Mote of Mark produce moulds and crucibles but not local handmade pottery vessels. Although there might be a social explanation for this, since all of these sites could be of high status and consequently only using imported wares, there is no evidence for lower status sites with handmade pottery elsewhere. If Hope-Taylor is correct in attributing very coarsely gritted pottery to his seventh-century buildings at Yeavering (1977, 170-7), it may be that simple forms will become recognised as part of the northern British Dark-age cultural assemblage, but there are no particular
reasons to see the Yeavering vessels as related to the Hebridean series.

If one moves beyond the immediate area to look for other ceramics which might be comparable or from which the Hebridean Dark-age style might be derived the field is sparse. I have already argued that Irish Souterrain Ware is not at all similar to the Udal Dark-age series and, in any case, may not have been produced until late in the period. This is discussed in slightly more detail below (chapter 12).

In the early 1970s, it appeared that a ceramic precursor to Souterrain Ware might be recognisable on certain hillfort sites in Ireland. This was termed 'Freestone Hill Ware' after its reported stratified occurrence at the hillfort of that name (Alcock 1971, 258). Even at that time it seemed likely that the pottery - coarse handmade bucket-shaped vessels - might be indistinguishable from Late Bronze Age pottery (Raftery 1976, 352). It is now clear that most of the occurrences are in fact Bronze Age in date, as at Rathgall (ibid., 252). The pottery at Freestone Hill, which was 'considered as firmly dated to the 4th century A.D.' on coin evidence (Alcock 1971, 258), may well be from mixed deposits. Warner dates metalwork from this ditch context to the eighth century so that the status of the associated artefact group must be regarded as suspect, particularly in view of the extensive evidence for Late Bronze Age activity on the site (Warner 1981, 47).

Another Irish occurrence of handmade pottery has recently been published from the Early Christian site of
Reask in County Kerry. Fanning reports grass-tempered pottery and a heavily gritted ware from early occupation deposits inside the monastic enclosure (1981, 112). These sherds are loosely associated with a radiocarbon date of 385 ± 90 ad and are stratified below deposits which contain imported amphora sherds of class B (ibid., 155). The sherds are all fairly small and although Fanning argues that the likely forms are 'large, simple bucket shaped vessels' (ibid., 157), this is not particularly apparent from the published drawings. The Reask group is of interest since it does show some handmade pottery on an Irish site, of this period. However, there is no reason to relate it to the Hebridean series.

Since Cornish grassmarked pottery has been claimed as derived from Irish Souterrain Ware, it too is of little assistance in searching for comparable material to Hebridean pottery. A comparison between the Udal forms and those illustrated by Thomas confirms the lack of similarity (1968, fig. 72).

Apart from Irish and Cornish groups, the 'Celtic West' appears to be largely aceramic (Laing 1975) and though Anglo-Saxon England had flourishing handmade pottery production from the fifth century A.D. until the later Saxon adoption of wheel technology, it too is quite unlike the Hebridean series (Hurst 1976).

On present evidence there are two other parts of the British Isles where local ceramic sequences are known or becoming known - the Orkney and Shetland Islands. Orkney has in many ways been as badly understood in terms of Dark-age archaeology as other parts
of Scotland, in spite of the number of excavated sites in the islands. Iron-age pottery is known, but not well documented. However, until recently, it would have been difficult to point to any competently excavated Dark-age sites where Dark-age pottery might be identified. Dark-age structures were reported outside the broch of Gurness (Ritchie & Ritchie, 53-4) and Dark-age finds are known from other sites, but in no case were securely stratified groups of finds published. In the case of the Broch of Burrian only an approximate reconstruction of a rich Dark-age assemblage has been possible (MacGregor 1974).

I examined the pottery in NMAS from various sites in the Orkneys (see site list), and in addition the finds from Gurness in possession of the Scottish Development Department. None of it is comparable to the Hebridean Dark-age sequence.

Dr. A. Ritchie's excavation of a Dark-age settlement at Buckquoy produced only a handful of pot-sherds (Ritchie 1977). None of these is particularly diagnostic (ibid., fig. 8), but there seems no reason to link them to the Hebridean styles. Mr. P. Gelling kindly allowed me to see his pottery finds from a Dark-age site at Skaill in Orkney. This too is quite unlike the Hebridean pottery.

In view of the rarity of pottery from Buckquoy, it did seem possible that Dark-age Orkney might have been aceramic. However, recent excavations of a post-broch settlement, the Howe, near Stromness, has revealed a substantial settlement of curvilinear buildings. Initial reports on the site refer
to a sizeable pottery assemblage. Although undecorated, some of it is well-burnished and reportedly of better quality than earlier Iron-age types from the brochs (Hedges & Bell 1980). The Howe evidence suggests a local pottery sequence for the Orkneys will emerge with further work, perhaps indicating continuous pottery production from the Iron Age to the Dark-age period. The initial descriptions, and the one illustrated vessel (ibid., 50), are quite unlike the Udal pottery and, on present evidence, there seems no reason to suggest any connection between Orkney and the Hebridean sequence. The finds from Skaill and Gurness may well relate to the new material from Howe, but thorough comparison of the Hebridean and Orkney sequences must await publication of these sites.

The Shetland Isles are the other area where there is evidence for a local ceramic sequence in the Dark-age period. Our knowledge is totally dependent on the single site sequence at Jarlshof on the southern tip of the main island (Hamilton 1956). Here Hamilton excavated a series of structures and associated deposits indicating occupation from before the Late Bronze Age to the Medieval period. Of relevance here are the Iron-age, Dark-age and Viking-age levels and their associated structures. The activity Hamilton attributed to the pre-Viking Dark-age period includes late occupation of the wheelhouses, the building and use of passage-houses and of simple huts (ibid., 66-92). The pottery of this phase seems to consist of: Hamilton's class III, flat-based cooking bowls (ibid., fig. 41, nos 1 and 2) which he derives from his earlier
wheelhouse pottery class II; black-burnished ware
globular vessels with everted rims (ibid., fig. 41,
nos 27-30); and class IV thin-walled straight-sided vessels
with a clear evidence of knife-paring (ibid., fig. 43).

None of this material is particularly like the
Hebridean Dark-age style. The class III pots might be
regarded as having a general similarity in their 'bucket
shapes', but most of the illustrated rims are inturned
(ibid., fig. 41) and there seems no reason to link this
pottery with that of the Udal. It is not clear if any
of the Shetland pottery relates to the Orkney sequence,
as seen at Howe, but it may be that the ceramics of
both groups of islands are quite independent.

It will be clear from this brief review of other
Dark-age ceramics in the British Isles that there are
none which can be shown to have any significant similarity
to the Hebridean series. Much of the rest of Scotland
and of the 'Celtic West' in general seems to be almost
aceramic in the Dark-age period. The few major ceramic
groups - in northern Ireland, Cornwall, Orkney and Shetland -
show no obvious connection with the Hebridean types.
Similarly, no obvious connection can be shown with Anglo-
Saxon England or for that matter with any continental
area. The Hebridean plain style seems to be sui generis
and the origin should most probably be sought in the earlier
Iron-age ceramics of the area. Why the ceramic forms and
use of decoration should change in this way is not known,
but there seems no grounds for invoking the invasion
hypothesis to explain it. I will discuss the longer term
ceramic sequence of the Hebrides below, after reviewing the evidence for Viking-age pottery in the area.
CHAPTER 12

VIKING-AGE POTTERY FROM OTHER SITES IN THE HEBRIDES AND POSSIBLE COMPARABLE GROUPS ELSEWHERE

Having described the pottery in levels X to IXc at the Udal and defined the diagnostic characteristics of the Viking-age assemblage, I now intend to consider other sites where similar or related material has been found. As in chapter 11 discussing the Dark-age finds, the sites in the Hebrides are discussed first and then relevant material elsewhere.

I have already discussed the paucity of known Viking-age sites in the Hebrides and the belief that 'Viking' sites would be aceramic. Young, for example, did not trace the Hebridean pottery sequence beyond the sixth or seventh century A.D. (Young 1966), although other scholars have implied a continuity of pottery production in the area from the Iron Age to the Medieval or later periods (Curwen 1938, 280-2; Lethbridge 1954, 192). Only three sites in the Hebrides, apart from the Udal, are listed by the Ordnance Survey as being Viking settlement sites. These are Foshigarry on North Uist, Drimore on South Uist and Laggan on Islay (1973, 65). However, Foshigarry and Laggan appear to have been included on extremely dubious grounds. I have already discussed Foshigarry (in chapter 11) which has a decorated bone comb and other finds of Dark-age date, but no convincing evidence for a Viking-age settlement. Laggan seems to have been included on the evidence of a rectangular structure but had no diagnostic finds to indicate date or cultural associations. Cruach Mhor, another site on Laggan Bay, has since been suggested on the evidence of 'grass-tempered' pottery (Alcock & Alcock 1980, 66). Since I have already shown that such pottery is not culturally or chronologically diagnostic, I would reject the identification of this site as a Viking-age settlement.
Viking burial activity should probably be accepted in view of the discovery of two Norse oval brooches at the site (Alcock & Alcock 1980, 66), but as yet no convincing evidence for settlement has been reported. Consequently, only the Drimore site can be accepted from the Ordnance Survey list.

Drimore, South Uist (Site 20)
The site at Drimore was one of the group excavated in 1956 in advance of the Uist rocket range construction programme (MacLaren 1974). Excavation was very limited in extent being confined to one structure, and locating no midden deposits. Consequently, Graham-Campbell has argued that no significant conclusions can be reached from the evidence of this site (1975c, 355). Even a brief examination of the site plan (MacLaren 1974, fig. 1) would suggest that multi-period activity took place, rather than the short single phase occupation envisaged by the excavator. In addition to this structural evidence, Graham-Campbell refers to a supporting silver fragment of medieval or later date, as evidence that 'this is in fact a multi-period site which has suffered severe erosion before being covered again by drifted sand' (1975c, 355).

In spite of these strictures, Drimore remains of some significance as the only published Viking-age settlement in the Hebrides. Sveinbjarnardottir has argued that the excavated structure fits within our concepts of the buildings of the Scandinavian Viking-age Atlantic settlements (1976) and the diagnostic stratified finds seem to be reasonably dated to the ninth and tenth centuries A.D. (MacLaren 1974, 14-15).
Only five pottery sherds, all undecorated, were found at Drimore. None of these has diagnostic features and they consequently cannot be usefully compared to the Udal assemblage. In contrast to the Udal, there were seven steatite spindle whorls and 16 fragments from steatite vessels, including two of sub-rectangular shape (ibid., 14-15). It is not clear whether this steatite had been imported from Shetland, or even from Scandinavia, since Ritchie has reported a nearer source on Harris (1981, 10), but in the use of steatite and the concomitant rarity of pottery Drimore seems much more like Jarlshof, and the other northern Scandinavian settlements, than the Udal. No steatite was found at the Udal during Crawford's excavations though Beveridge did claim that some steatite vessels, of unknown date, had been found at the site (1911, 238).

It may be argued that too little of Drimore has been excavated to allow valid inference, and it clearly would be desirable to see a more extensive area including middens excavated, but the contrast between the thousands of pottery sherds at the Udal and the use of steatite at Drimore seems genuine. The use of steatite may be an indicator of direct contacts with the Northern Isles or Scandinavia and conversely the use of pottery could be an index of the strength of non-Scandinavian influence. I will return to this suggestion after discussing the remainder of the Viking-age evidence.

In view of the paucity of material from Drimore, and my rejection of Foshigarry and Laggan, there are no excavated Viking-age sites to which one can look for comparative pottery
in the Hebrides. There are, however, a few pot-sherds from the area which have been claimed as belonging to the period for other reasons.

**Chicken Head, Lewis (Site 21)**

In 1953 Alison Young published a photograph of a sherd from the Eye Peninsula, noting that the impressions on the sherd had been made with a ringed pin (1953, 94 and plate IX, no. 4). In 1966 she quoted this sherd to show that the custom of stamping pottery in the Iron Age with the head of a projecting ring-headed pin continued in some fashion into a later period, and quoted R.B.K. Stevenson as dating it to the eighth/ninth century A.D. (Young 1966, 50 and 57, note 19). She did not elaborate on this remark, although it did imply the use of pottery in the Hebrides after her final coarse-ware phase. Stevenson, however, saw this as evidence of continuity, stating that 'it would seem that the Hebrideans continued the custom of decorating their pots with their pins from the wheel-house period to the 8th or 9th century' (1955, 292). Fanning has suggested that the impression on the sherd was probably made with a 'plain-ringed, loop-headed type' which occurs in Scotland mostly in Viking grave contexts. He dates them from the ninth to the eleventh century A.D. (Fanning in litt 1977). The Ordnance Survey record cards state that it was a surface find from the chapel at Chicken Head on the south side of the Eye Peninsula. In view of the suggested date for the pin type, this sherd can be regarded as of Viking-age date. It is not, however, closely comparable to the Udal
Viking-age pottery (fig. 27, 1). No such pin-stamping occurs at the Udal and the rim form - an expanded T-shape - is rather more elaborate than any at the Udal. However, the apparent vessel shape - an open bowl perhaps with a slightly inturned rim - would be comparable to the Udal bowl forms. The exterior striations of the Eye sherd are also absent at the Udal.

The site at Chicken Head is a small chapel with other surrounding structures (R.C.A.H.M.S. 1928, 14). No record exists for the exact relation of the sherd to the structures and consequently no positive relationship can be suggested.

Although decoration does occur on pottery in the Viking-age levels of the Udal, it has not been taken as a key chronological indicator in view of possible confusion with the medieval material. The Eye sherd can, however, be positively identified on the basis of its pin impressions. But since it is unique, it can only be seen as an interesting example of the use of decoration on Viking-age pottery. There seems to be no basis for any suggestion of continuity from the Iron-age pin-stamped sherds to the Eye sherd, since there is no intermediate evidence from the undecorated Dark-age pottery. The chance copying of an Iron-age sherd found in the area cannot be excluded but although this is possible it is unprovable and chance repetition may be as likely an explanation.

A few other sherds have been claimed as possibly Viking-age, again on the basis of decoration. A small number of sherds with incised animal motifs are known from Hebridean sites. Charles Thomas quoted these as evidence for a North
British Iron-age tradition of animal ornamentation to which he linked Pictish animal art (1963, 14-16). Morna MacGregor, in her study of *Early Celtic Art in North Britain*, appears to accept an Iron-age date for the sherds (1976, 155-6). However, in challenging Thomas’s interpretation of the date and origin of Pictish art, Stevenson has argued that there is only one sherd, which has an elaborate animal depiction with a hatched joint ornament (ibid., 327), that is comparable with metalwork and manuscript art of the seventh to ninth centuries A.D. (Stevenson 1970, 67). More recently Stevenson has suggested an eighth-ninth century date (in litt. 1981) for this sherd from Bragar, Lewis.

None of the sherds listed by Thomas is very closely stratified or unquestionably dated by association, but the Kilpheder sherd, at least, does seem to have been found with other fragments of Iron-age pottery, though I have already noted the probable presence of Dark-age material at this site. Since Thomas wrote two further sherds with incised animal figures have been published, from Dun Mor Vaul on Tiree (MacKie 1974, 31-2 and fig. 19, nos 469 and 471). Though there was evidence of Viking-age activity on the site (ibid., 90-1 and 230-1), there seems no reason to see any of the pottery from the site as much later than 300-400 A.D. (Ritchie & Lane, 220). Consequently, some of the sherds with simple incised animals can be regarded as Iron-age. Examination of the sherds in the NMAS would suggest that the Dun Borbaidh sherds and the Kilpheder sherd, severely abraded though it is, are of Iron-age date. My discussion of the Dark-age material has shown that
decoration is totally absent and none of the vessel forms indicated by the decorated sherds is appropriate to the Udal plain ware. Consequently, there seems no reason to suggest a Dark-age date for any of the sherds. Stevenson has made it clear that a range of dates as late as the ninth century might be appropriate for the hatched scroll from Bragar, so a Viking-age date for this pottery can be considered.

Bragar, Lewis (Site 22)
This sherd was apparently a surface find from a midden-deposit at Bragar on Lewis (Thomas 1963, 15). The vessel shape is not determinable as the sherd is a non-diagnostic body sherd. I have already quoted Stevenson's opinion of the likely date range for the decoration, and have also suggested why I would reject a Dark-age date. The fabric of the sherd is quite appropriate for Viking-age material and the surface striations on the sherd, which Thomas attributes to brushing the unfired pot with grass (ibid., 15), can be paralleled on the sherd from Chicken Head. Consequently, I would argue that this incised sherd is another unusual example of Viking-age pottery.

If the Bragar sherd is accepted as Viking-age, we might consider whether any of the other animal incised sherds are also of that date. None of the other sherds has more than simple outline depictions and I have already argued on contextual grounds that the Dun Mor Vaul, Dun Borbaidh and Kilpheder sherds are likely to be of Iron-age date. The date of the remaining example, that from Galson, is less certain. The decoration is quite simple,
the very partial outlines of two animals (ibid., fig. 1). Consequently, this sherd cannot be dated stylistically in the manner of the Bragar sherd. On the basis of its fabric and form the Galson sherd could be regarded as Viking-age - being possibly the rim of an open-mouthed bowl, showing evidence of angled slab construction. Consequently, the Galson sherd can be regarded as a possible, but uncertain example of the use of incised animal decoration on Viking-age pottery. The site at Galson is discussed further below.

Having defined one sherd (Bragar) as definitely Viking-age, five as Iron-age (Dun Borbaidh, Kilpheder, and Dun Mor Vaul) and one as uncertain, but possibly Viking-age (Galson), we should consider if there is any connection between the two groups. Since decoration is totally absent in the intervening Dark-age phase, it is difficult to postulate any continuation of this decorative trait in pottery. Animal ornamentation in various forms does appear in other artistic media intermittently throughout the period, but it seems unnecessary to postulate any direct connection between Iron-age and Viking-age incised ceramics.

Having examined the pottery which could be regarded as Viking-age on the basis of context, i.e. at Drimore, and on the basis of style, i.e. at Chicken Head and Bragar, we may now move on to consider material identified on the basis of the Udal evidence. Some pottery has been included as possible rather than certain examples. Traits, such as everted rims, may be common in the Viking-age
levels but cannot be taken as diagnostic on their own in view of the occurrence of that feature on Iron-age pottery. In a few cases I have included material with non-diagnostic traits, either because of associated finds or because of other specific, possibly significant, features. The degree of certainty is stated in each case. This list of sites incorporates all pottery recognised in searching the collections of the NMAS, the Hunterian Museum and Glasgow Art Gallery and Museum in 1977. Some pottery acquired by the museums after that date may have been missed but, new finds recognised after survey work in 1978 and 1979 are included. The sites are discussed in alphabetical order.

**Allasdale, Barra** (Site 23)
The excavation of 'Tigh Talamhanta', Allasdale, begun by Sir Lindsay Scott in 1950, was completed and published after his death by Alison Young (1953). Allasdale is one of the wheelhouse sites on which Young based her analysis of the sequence of Hebridean pottery (1966). The bulk of the diagnostic finds appear to be Iron-age (e.g. Young 1953, fig. 6 and 7). Allasdale is also one of the sites which Euan MacKie described as 'Woodbury farmsteads' - the combination of wheelhouse, rectangular outbuildings and an enclosing wall being seen as analogous to southern English Iron-age sites (1971a, 55-7). Unfortunately, the site report does not provide evidence of convincing stratigraphy nor any clear attribution of finds to specific phases. The interpretation of the site is further confused...
by Young's remark that 'Scott ... spoke of a third and later stage of occupation ... but in his working plans no evidence of this can be quoted' (1953, 96). With the exception of the wheelhouse and perhaps the souterrain, which Young said was a primary feature (ibid., 87), none of the other structures can be regarded as dated. Although the bulk of the diagnostic finds are Iron-age, there are some for which a later date is appropriate, e.g. the rim with 'stab-and-drag' ornament may be Medieval in date (ibid., fig. 8, no. 78).

Three sherds can be fairly confidently attributed to the Viking Age. GU 109 has a rounded basal angle, slightly sagging base and a little exterior grassmarking (fig. 27, no. 2). Two rims (GU 25 and 30) are from slightly incurved open bowls (27, no. 3&4) and one (GU 30) shows clearly angled slab construction joins. These three sherds fit well into the forms recognised as Viking-age at the Udal. A number of other sherds may belong to the same phase of activity, but cannot be identified with such certainty. It is interesting that GU 25 and a number of other open bowl sherds (ibid., fig. 5, nos 21-4) come from the so-called 'working area' (ibid., 97). Although the nature of this structure is unclear, the presence of a drain and hearth may imply that it was originally more substantial than Young allowed (ibid., 88). This might be regarded as a possible Viking-age house, albeit one which has subsequently been badly robbed. None of the other rectangular structures shows such a marked concentration of late sherds, but it may be doubted that any of them are pre-Viking-age in date.
Barvas, Lewis (Site 24)
The site on Barvas machair was located by Trevor Cowie in the course of fieldwork on behalf of the Scottish Development Department (Ancient Monuments) in 1978. The identification of sherds from eroding deposits as being of Viking-age date led to a small-scale excavation of the site. Cowie reports coherent stratified midden deposits and structural features, as well as substantial quantities of pottery (D. and E. 1979, 47). Recent examination of the pottery by J. Page and myself for SDD (AM) confirms a Viking-age date for the assemblage. The pottery includes platter fragments and rims from the surface collections; and from the limited scale excavations several hundreds of sherds of platter and a number of sagging base bowl forms. Although no other diagnostic finds were recovered, the location of probable house structures (per. comm. Cowie 1981) makes this site of some considerable interest and it is to be hoped that these can be fully excavated before they are damaged by further erosion.

Carinish Machair, Lewis (Site 25)
Carinish was included in the survey carried out by Cowie for SDD (AM). Some three sherds were found in an erosion hollow near the village. One of these is clearly identifiable as a platter sherd, with one interior stab mark and slight exterior grass impressions. No further information is known about the site, but Viking-age activity can be postulated in the vicinity.
Cornaig, Tiree (Site 26)

In the course of examining Hebridean pottery in the Glasgow Museum, I found sherds marked as coming from Cornaig, Tiree. No precise location or circumstance of discovery was recorded by the Museum. It seems likely that these were from the sand dunes to the west of Cornaigmore, although this is not at present provable. Ludovic Mann and other early twentieth-century Scottish archaeologists were active in this area of the island (R.C.A.H.M.S. 1980, 16).

Among the sherds, which include Bronze-age, Iron-age and possibly Medieval material, is one sherd of a platter with four stab marks, interior fingering and a grassmarked exterior. As yet this is the only such sherd to have been found on Tiree, but its identification as platter of Viking-age type is quite certain.

Fieldwork in the NW of Tiree might locate the site with more precision. The discovery of Viking-age pottery in this area is of some interest in view of the reported find of weapon-accompanied burials at Cornaigbeg (ibid., 234), nearby. Although the finds are not extant, the identification of the burials as Viking may be accepted as probable and so a loose association of Viking-age settlement and burial evidence suggested.

Cornaig on the north coast of Coll is one area where archaeological finds have been recovered from eroding sand deposits over a period of years by a local resident, Mr John Crawford. Some of these finds have already been published (Ritchie et al 1978, 92-4), but further material
has since been given to the NMAS. Crawford distinguishes two sites in this area - Cornaig Lodge and Cornaigmore.

**Cornaig Lodge, Coll (Site 27)**

The Cornaig Lodge material published by Ritchie includes both Bronze-age and possible Medieval sherds (1978, 92 and 97-9). Of particular note here is an unusual low walled platter (ibid., fig. 8, no. 10). This vessel is c. 22cm in diameter, with a roughened basal exterior and slightly bevelled rim (fig. 27, no. 5). The wall/rim piece is only 2.5cm high at maximum. This shallow dish is at present unparalleled in Scotland. It does, however, have a marked resemblance to the 'platters' which Charles Thomas has reported in Cornwall and which are dated by him from the sixth to the early twelfth century A.D., though the form is derived from earlier Roman and sub-Roman styles (Thomas 1968). The closest published parallels appear to be the undecorated examples in the early phase at Gwithian (ibid., 315 and fig. 72, nos 9 and 11), but since the pottery is not published in detail it is difficult to establish the degree of variation of the platters through the sequence. An apparent contrast with the Cornish finds is the absence of grass-marking on the Cornaig dish, but its basal surface is roughened in a way I have argued is probably analogous. When Mr Crawford's finds from Coll were published, this unique 'platter' was the only find from the site which was analogous to the Udal pottery. However, subsequent collections, now in the NMAS (seen in 1981) have produced other finds of interest. The NMAS now has Udal-type disc
platters, possible grassmarked bases and at least one sagging base bowl with a roughened exterior. This pottery was apparently found at Cornaig Lodge at the grid reference of NM 244632. This is from the same general vicinity as the dish-platter noted above. These new finds are easily paralleled among the Udal Viking-age assemblage and similar finds elsewhere in the Hebrides. The date and significance of the unique dish-platter will be examined subsequently, after I have discussed the possible relationship between the Cornish and Hebridean sequences. It should be remembered, however, that this vessel is quite unlike any Hebridean Dark-age pottery and the other sherds allow us to postulate Viking-age activity in the area.

**Cornaigmore, Coll (Site 28)**
Cornaigmore is situated not far from Cornaig Lodge, but has been differentiated by Mr Crawford as a separate midden site. This has produced both grassmarked base sherds and Hebridean disc platter sherds. It is not clear whether this should be regarded as a continuation of the Cornaig Lodge site, but in view of their spatial separation they are here treated as separate. The pottery would suggest Viking-age activity in the vicinity of Cornaigmore.

**Cul na Muice, Vallay, North Uist (Site 29)**
Cul na Muice is an erosion site on the north side of the tidal island of Vallay. Surface finds were handed in to the NMAS in 1961. These include five certain and one probable sherd of platter. Grassmarked exteriors, stab
marks and in one case a roughened exterior allow this pottery to be identified with confidence and Viking-age activity recognised at the site.

**Daliburgh, South Uist (Site 30)**

Pottery was recovered from eroding middens in sand hills to the west of Daliburgh, South Uist (R.C.A.H.M.S. 1928, 119). The NMAS records are unclear as to which of three reported middens these sherds are from. Among the pottery are three sherds of platter (HR 618), with fingered inner surfaces, stab marks and roughened exterior surfaces. A rim (HR 619) with angled slash marks across the top (fig. 27, no. 7) could also be of Viking-age date though the possible use of such decoration on Medieval and Iron-age sherds precludes certainty. However, Viking-age activity can be postulated with confidence.

**Dun Beag, Skye (Site 31)**

Dun Beag is a broch near Struan on Skye excavated by Countess Vincent Baillet de Latour between 1914 and 1920 and published by J. Graham Callander in 1921. According to Feachem, the site is one of the best preserved brochs on Skye (1977, 172). Large quantities of finds, many layers of peat ash, and a series of drains were encountered in digging out the four to six feet of deposits in the interior, but little or no note of stratification was kept (Callander 1921). The finds appear to range in date from the Iron Age to the modern period, with a coin range of Henry II to George III. Some finds seem to be Viking-
age - Callander attributing a bronze buckle and a gold finger ring to 'Scandinavian ... rovers' (1921, 127). Whether the buckle can be accepted may be open to doubt, but Stevenson and Graham-Campbell accept the identification of the gold finger ring (Stevenson 1954, 238; Graham-Campbell 1976, 131).

Callander reported that pottery was found throughout the deposits - some of which was clearly of Iron-age date and some which he believed to be 'craggans' of comparatively recent date (1921, 129). One vessel, the only one which could be fully reconstructed, was of particular interest. He wrote 'It is an interesting vessel of a type which I have never met with in Scottish hand-made pottery' (ibid., 129). This vessel and Callander's observation are of some note since this can be attributed to the Viking Age. It is a small flat-bottomed pot with straight sides and a slightly inturned rim (fig.27, no.8). Though no exact parallels exist at the Udal in the fully reconstructed pots, this is sufficiently like the Viking-age pottery to be positively identified. The likelihood that Dun Beag had a period of Viking-age occupation can consequently be affirmed from the pottery. Callander's statement concerning the unique nature of the vessel would help to explain the non-recognition of this ceramic type prior to the excavation of the Udal.
Dun Carloway, Lewis (Site 8)
Dun Carloway has already been discussed in the context of the Dark-age pottery. One sherd of platter was recognised in the material from layer AF at the site (fig. 24, 19). Although the sherd was sufficiently abraded to make its identification as a rim tentative, it has enough diagnostic characteristics of platter to make its Viking-age attribution convincing. None of the other sherds can be positively identified as Viking-age, but since most of the sherds are too small for identification and dating this is not significant. This ceramic evidence would suggest Viking-age activity at Dun Carloway, but of unknown longevity or scale.

Dun Chlif, Barra (Site 32)
Dun Chlif is a probable broch site on the north-west coast of Barra (R.C.A.H.M.S. 1928, 132). Pottery from surface collecting is held by the NMAS. One rim (GU 369) is of a short, sharply everted form which might be compared to Viking-age pottery (fig. 27, no. 9). It is not sufficiently diagnostic to allow positive identification.

Dun Cuier, Barra (Site 2)
The site of Dun Cuier has already been discussed in some detail in the previous chapter. No evidence of Viking-age activity was reported by the excavator and none of the artefacts has been so interpreted. One rim, however, (GU 192) is very similar in form and fabric to the Viking-age bowl forms of the Udal (fig. 27, no. 10). Young saw this
rim and another similar one as a small and distinct group, which she compared to the similar sherds from the 'working place' at Allasdale (1956, 311 cf. 1953, 80 and fig. 5, nos 21-4). I have already argued a Viking-age date for some Allasdale sherds and a similar date seems appropriate for this rim. Since no stratigraphic information is reported for this sherd at Dun Cuier, it is impossible to separate any other finds on the grounds of association. Young's report of 'grassmarked' pottery (1956, 313) at this site is incorrect - stray impressions do occur, as well as burnt out inclusions which may indicate organic tempering, but no 'grassmarked' bases as such were found. Nevertheless the bowl rims indicate Viking-age activity.

**Eilean Maleit, North Uist (Site 15)**

Eilean Maleit has already been discussed in the previous chapter, as a base sherd from the site was identified as similar to the Udal Dark-age pottery. A more positive identification of Viking-age pottery can be made. GT 613 is a platter rim. It has a cracked exterior surface, a fingered interior and a flattened rim. It curves up at the rim, (fig.27, 13), giving a slightly dished effect but can nevertheless be positively identified as a piece of platter of Viking-age date. In addition, two rims may be of similar date. GT 604 and 605 are short sharply everted rims (fig.27,11&12). Everted rims per se have not in general been used as a diagnostic Viking-age trait because this feature occurs on Iron-age pottery. However,
these two rims are similar in fabric and form to the Udal rims and are associated with platter, so that a Viking-age date can be suggested with reasonable confidence. The stone structure at the site is of some apparent complexity (R.C.A.H.M.S. 1928, fig. 142), but no particular area can be attributed to Viking-age activity on present evidence.

**Eilean Mhuire, Shiant Islands (Site 33)**

Eilean Mhuire is the second largest of the small group of islands known as the Shiants which lie a few miles to the south-east of Lewis. The NMAS has sherds from surface collections on the island. Two base sherds (HR 1281) have dense exterior grassmarking. Although the vessel shapes cannot be reconstructed, it seems likely that these are of Viking-age date. Nothing is known about the circumstance of discovery.

**Ensay, Sound of Harris (Site 34)**

The island of Ensay is one of the smaller habitable islands in the Sound of Harris between North Uist and Harris. During fieldwork in the area, D.D.A. Simpson made surface collections of pottery from an erosion area 'beneath the present wall of the graveyard' (per. comm. Simpson 1977). This graveyard, which was in use into the twentieth century, is set on top of a sand hill which appears to contain substantial archaeological deposits. Erosion on the top and sides of this hill is depositing large quantities of pottery on the surface. Although most of the pottery
collected by Simpson is not closely datable, as it consists largely of abraded undecorated body sherds, three of the sherds are readily identifiable. These are two 'body sherds' and one rim sherd of grassmarked platter (fig. 27, 14). The presence of a rim and the occurrence of stab marks on the interior surfaces of the 'body sherds' make this identification quite certain. Further surface collections in 1978 by T. Cowie have produced more platter from the same site.

The context of discovery of these sherds is not very enlightening, other than to suggest that this sand hill has eroding Viking-age deposits. Medieval and later pottery is also present. Simpson's finds from Ensay have already figured in discussions of 'Irish migrations' in the post-Roman period. Though not specifically named, Ensay is one of the sites reported by Thomas in his discussion of 'souterrain ware' outside Ireland (1971, 54-5), and mentioned in passing by Ryan (1973, 629, note 78). These grassmarked sherds were attributed to 'missionary activity rather than agricultural pioneering' (Thomas 1971, 55). However, my discussion of the Dark-age and Viking-age pottery has shown that there is no evidence that grassmarking occurs in the Hebrides before the Viking Age. Since the Ensay sherds are from 'disc platters', which are unknown outside the Hebrides, there seems to be no basis for claiming a pre-Viking-age or Irish origin for these sherds. The Ensay sherds are evidence for Viking-age activity on this site.
Feall Bay, Coll (Site 35)

Feall Bay is in the south-west of Coll. Mr J. Crawford has collected material from this area, as reported in Ritchie et al (1978, 97). One base sherd was of particular note (ibid., fig. 10, no. 2). This is a round angled, slightly sagging base form with exterior grassmarking (fig. 27, no. 15). Another base with rounded angle and sagging base was also found (fig. 27, no. 16). Both these can be paralleled at the Udal and a Viking-age date postulated for activity in the area.

Galson, Lewis (Site 36).

I have already mentioned Galson in the context of a sherd decorated with simple animal figures. This I argued was not stylistically diagnostic. Galson is one of the few Hebridean sites where structures and stratigraphy have been observed. In 1923 A.J.H. Edwards excavated hearths, a souterrain and a complex series of linked drystone cells (1924). Although Edwards encountered clearly separated structures and midden deposits, he did not publish the finds in such a way as to distinguish items from separate stratigraphic contexts. In 1937 Baden-Powell and Elton published a discussion of the relation of midden deposits to the underlying raised beach, but did not clearly relate their finds to Edwards' work (Baden-Powell & Elton 1937). In 1948, 1949 and 1953, R.B.K. Stevenson excavated several long-cist burials and reported other structural evidence from the site, noting that a substantial area of deposits had been removed by erosion (1952). Stevenson was of the
opinion that the long-cists could be related to the structural activity noted by Edwards and shown to predate the upper midden (Stevenson 1952, 108). This upper midden is of some interest since it contained a silver Anglo-Saxon penny of Edgar (959-75) and a ringed pin dated similarly by Stevenson (ibid., 106). Other objects from the midden which might be of similar date include another ringed pin, a steatite cup, some composite bone comb fragments and various bone pins (Edwards 1924, 198-9). Consequently, there are good reasons for regarding the upper midden at Galson as of Viking-age date. Unfortunately, Edwards did not separate the pottery from different deposits on the site.

Among the large Galson assemblage in the NMAS there is some pottery which is clearly Iron Age in date, although it is not stratigraphically located. There is also pottery which can be attributed on stylistic grounds to the Viking Age, as well as a few sherds from Stevenson's excavations which can be stratigraphically attributed to the upper midden.

HR 943 and 944 are recorded in the NMAS catalogue as coming from the 'lower part of the midden'. 943 is a slightly incurved rim with a flat slab construction join (fig.27,17). 944 has a rounded basal angle and sagging base (fig.27,18&19). Both sherds could derive from a sagging base bowl. One unusual feature not paralleled at the Udal is the presence of finger marks along the bottom of the wall, at the join between base and wall. This is a feature known from pottery of many periods, including Medieval material,
but since in this instance it is in part structural - pressure at the join between wall and base - there seems no need to postulate a medieval date.

HR 964 is a sherd from the 'kitchen midden at Galson' collected by R.B.K. Stevenson. This has a round basal angle and a flat base (fig.27, no.25). HR 796 and 798 are sherds found in the earlier excavations, but not assignable to particular levels on the site. HR 798 includes five sherds from a sagging base vessel with rounded basal angle (fig.27, no.24), and another sherd from a similar vessel, but showing angled slab construction and a cracked exterior surface (fig.27, no.23). HR 796 includes three rims. These are all short sharply everted forms (fig.27, nos.20-22), which can be compared to similar rims at the Udal. Further material has been recently handed in to the NMAS from the still eroding deposits, but is as yet uncatalogued. Both bases illustrated (uncatalogued (1) & (2); fig. 27, nos.26 & 27), are from sagging base forms.

All the bases illustrated (fig.27, 17-27) are of similar type and closely comparable to the Viking-age bowls from the Udal. The rims too can be paralleled there, though of course their identification is less chronologically secure than that of the bases. In view of the stylistic similarity of this pottery to the Udal finds and the stratigraphic location of some of the sherds in a midden with ringed pins and a tenth-century silver coin, we can identify the pottery as being Viking Age in date. The animal-incised sherd cannot be stratigraphically located and consequently could be of Iron-age or Viking-age date. It
should be regarded as a possible, but uncertain example of decoration on Viking-age pottery. No structures can be associated with this evidence of midden deposits, though such structural evidence may still survive on the site.

If Galson is accepted as a Viking-age assemblage, a number of points arise concerning the nature of the pottery. No platter sherds or grassmarked bases have yet been reported from the site. This might just be chance since only 38% of the Udal bases in level IXc have grassmarking or gritmarking. But some hundreds of Galson sherds have now been examined so this explanation seems unlikely. Consequently, it must be considered whether this absence could have chronological or cultural implications. Grassmarking is rarer in the first Viking-age level at the Udal so the Galson pottery might be argued as being early. Alternatively, if grassmarking dies out (and Crawford has not reported it from the Medieval levels at the Udal), the absence of grassmarking might be taken to indicate a post-Viking-age date for the pottery. However, the silver coin and ringed pins would tend to support a Viking-age date. Perhaps then the absence of platter and grassmarking at Galson is a cultural indicator implying some variation in the pottery assemblages of the Viking-age Hebrides. I will return to this point after reviewing the evidence of other sites.

Garry Iochdrach, North Uist (Site 17)
The site of Garry Iochdrach has already been discussed in the context of the Dark-age pottery. In addition to a
wheelhouse and related structures. Beveridge recognised another stratified group of structures a few yards to the north. These included a modern sheepfold, sealing a sub-rectangular building 7 feet wide and 18 feet long, and beneath this an earlier structure (Beveridge and Callander 1932, 39-40). No precise date was suggested for the sub-rectangular building, but a Viking-age or later date seems most probable since there is no evidence for such rectangular buildings in the Hebrides at an earlier date. Beveridge did not distinguish the finds from different levels of this site, but from the general area records a broken ringed pin with an ornamented head, and a block of soapstone (ibid., 40). Both of these could be of Viking-age date. Pottery described as coarse plain fragments was also found (ibid., 40).

Examination of the small group of Garry Iochdrach pottery in the NMAS does not indicate any sherds which can be positively attributed to the Viking Age, although two sherds can be suggested at least tentatively.

GT 464 is an incurved rim from what may be an open bowl form (fig.27, no.28). This has light finger impressions on the rimtop. In form this can be compared to the Udal Viking-age pottery - some of which has simple rim decoration. Decoration does of course occur on the Medieval pottery of the Hebrides, and finger print decoration occurs on a wide range of prehistoric ceramics. Nevertheless a tentative Viking-age attribution can be made.

GT 458 is a short, sharply-everted rim (fig.27, no.29) which might be compared to the Udal finds, but this too must be regarded
as tentative. Although neither piece is very diagnostic, a possible Viking-age presence on the site can be suggested.

Hougharry, North Uist (Site 37)

Ian Shepherd carried out a survey of sites in North Uist in 1978 on behalf of SDD (AM). This identified eroding middens and structures on the eastern shore of the headland west of Hougharry. Shepherd recognised collapsed walling of a building with at least five floors and two main midden deposits (per. comm. 1978). The bulk of the sherds recovered was undiagnostic, but one sherd of platter was also found. This has a fingered interior and a densely grassmarked exterior. Viking-age activity on the site can be firmly postulated, but it is uncertain whether this can be associated with the eroding structure. Augur examination of deposits c. 10m inland from the exposure failed to produce definite traces (D and E 1979, 47).

Kildonan Machair, South Uist (Site 38)

Kildonan is an eroded machair site from which surface collections have been made. The finds appear to range in date from the Iron Age, with decorated pottery, to the Medieval period, with the find of a silver ring dated to c. A.D. 1300 (Graham-Campbell 1975b, 213). In all probability the site is a multi-period settlement.

A find of a small fragment of a Scandinavian oval brooch of ninth- to tenth-century date was recently reported (ibid., 213). A few sherds of pottery were found in the
in the same area as the brooch fragment by Mr C. Maclean who kindly allowed me to catalogue them. These sherds include one fragment of grassmarked platter and six fragments of grassmarked bases of other vessels. These latter base fragments appear to be from sagging-base vessels, though their small size prevents complete certainty (fig. 27, no.30). These all have close parallels with the Viking-age sherds from the Udal.

The discovery of these sherds in the same area as the brooch fragment must increase the probability that Kildonan is a Viking-age settlement site. It is not clear if any intact deposits exist in this area, but Mr. I.A. Crawford has suggested that the occupation levels have been re-deposited (ibid., 213).

Killegray, Sound of Harris (Site 39)

Killegray is another small uninhabited island in the Sound of Harris. During fieldwork in the area D.D.A. Simpson collected large quantities of pottery from eroding midden deposits on the north-east side of the island, just north of Killegray House. Simpson also sent sherds found by another fieldworker on the site to Charles Thomas. Subsequent to this, further material was collected by T. Cowie. This later work in 1978 showed that occupation and midden deposits of some metres depth were actively being eroded (per comm. Trevor Cowie).

Thomas' sherds include five definite and two possible platter sherds, with grassmarking, grit impressions and one roughened exterior. Simpson's collections include several hundreds of sherds, listed as from two contexts - the midden north of house' and the 'Iron Age midden'.
Both these terms refer to the same midden deposits encountered by Cowie in 1978. The 'northern' midden has probable platter sherds and some base sherds. No. 4 is a round angled sagging base with a cracked exterior surface (fig.27, no. 31). No. 5 is from a small bowl or cup with incurved wall, rounded angle, sagging base and cracked exterior surface (fig.27, no. 32). No. 6 is a round angle sagging base (fig.27, no. 33). From the so called 'Iron Age midden' have come more platter, including rims and a number of base sherds. Some of the platter is not grassmarked, but has cracked exterior surfaces. One base has a round angled sagging base and cracked exterior surface. Another group of sherds allows reconstruction of a complete profile. Two rims, three body sherds and five base sherds all derive from one organically tempered pot. This is a straight sided bowl with rounded basal angle, slightly sagging base and slight exterior grass impressions (fig.27, no. 34).

All these sherds can be closely paralleled in the Udal Viking-age assemblage - the platters and sagging base bowls being particularly notable. Although Simpson collected pottery in two different groups, it is clear that all the sherds come from the major stratified deposits already mentioned. Cowie's finds, which definitely derive from these midden deposits, include further platter, and rims and bases from similar open bowl forms.

I have already mentioned Charles Thomas' identification of his Killegray sherds as being Souterrain Ware. Killegray was one of the sites mentioned in 1971 (Thomas 1971, 55), when it was attributed to missionary activity, and in 1972
when it was said to be indicative of early Irish settlement (Thomas 1972, 265). In support of the Irish identification Professor Thomas mentioned a primitive ruined chapel and holy well with the 'suggestive place-name of Annat' (1972, 265) on the island - the implication being that the pottery could be indicative of Irish Christianity or of secular activity. Although the 'annat' place-name may well be associated with early Christianity, there are no particularly good grounds for linking the name and the midden site. The R.C.A.H.M.S. linked the name of the chapel and holy well with sites on the north-west of the island rather than with the midden site at Killegray House (1928, 37).

Since platter does not occur in Ireland, and since I have already argued a Viking-age date for this general assemblage, the midden site at Killegray must be attributed to the Viking Age. In view of the quantities of finds and the substantial depth of deposit, this site must be regarded as a prime site for further work.

**Kneep Headland, Lewis (Site 40)**

Kneep Headland is the site of the excavations of a Bronze-age cairn complex undertaken in 1976 and 1978 by Joanna Close-Brooks of the NMAS (D and E 1976, 56-7 and 1978, 34). At the same time, sherds were collected from eroding sand dunes in the vicinity of the site. From adjacent to the kerb cairn came one base sherd (fig. 28, no. 1), with a slightly sagging base and roughened exterior surface. From NB 099364 came a possible platter rim, found by J.C. Wallace (NMA 1223).
From Dr Close-Brooks' Site E, at the same grid reference, is another platter sherd. Dr Close-Brooks has also reported the discovery of a decorated bronze fragment, described as probably Norse, from this area (Proc. Soc. Antiq. Scot. 108 (1977), 385, note 26).

In addition to the pottery collected by Close-Brooks et al., there are sherds from earlier work in the area. In 1937 A.D. Lacaille published a report on work undertaken on the southern slope of Kneep Headland. Although no Ordnance Survey grid reference was given, it is apparent that Lacaille's site is very close (i.e. 10-20m south) to Close-Brooks' site (Lacaille 1937, 237-80). Lacaille described structures and middens spread over an area some 75 by 30 yards. In 'association' with these he found struck quartz fragments and pottery sherds. Lacaille was of the opinion that, 'failing controverting evidence', the pottery and quartz should be regarded as of contemporary date. Since he regarded the pottery as Iron-age (ibid., 294), he was prepared to date the stone assemblage to the same period (ibid., 287), although he thought its nearest typological parallels were Mesolithic (1954, 301). Although Lacaille accepted this apparent association of quartz and pottery, he rejected as coincidental the recovery of a decorated bronze pin on the same site - 'its character points to a date long posterior to the fashioning of the artefacts noted in the foregoing paragraphs' (ibid., 295).

The sherds Lacaille illustrated are not closely datable, but he did describe one base as if it might be grassmarked.
Examination of the pottery in the NMAS shows this to be a round angled, sagging base vessel with dense exterior grassmarking (fig.28,no.2). With a diameter of 16cm, this looks as if it may be part of a small open bowl and so easily paralleled in the Udal Viking-age assemblage. In view of this, the bronze pin noted above is of some interest (ibid., fig. 9). This is a type of pin which Laing has described as a 'kidney ring skeuomorph pin' (1973, 71). He observed that it was current in Dublin and elsewhere in Ireland from the later Viking period to the twelfth century (ibid, 71) and that it is found in Scotland 'mainly from Viking or later Norse sites' (1975, 331). Since Fanning's work on the ringed pins, from which this form derives, has not yet been published, no precise dates can be suggested. However, it seems clear that the pin could easily be taken as contemporary with the sherds noted above.

If any further evidence is required to show Viking-age activity on the east side of Kneep Headland, the discovery in 1979 of a classic 'Viking' burial in the same area must be regarded as incontrovertible (per.comm. T. Cowie). Lacaille mentioned that graves had been found previously but did not record any gravegoods (1937, 281). This report, and the presence of the bronze pin, may imply that other Viking burials have already eroded out of the dunes in this area. The presence of pottery probably implies adjacent settlement activity since no pottery accessory vessels have been recorded in association with Viking burials in Scotland.

If it is accepted that the bronze pin and some of the pottery are of Viking-age date, what is the significance of
Lacaille's stone industry? Megaw and Simpson accepted that such a stone industry could be associated with 'wheel-house pottery' (1961, 70). MacKie too, though with some reservations, could accept an Iron-age date for this industry (1971b, 68-9). However, Close-Brooks' excavation of the adjacent Bronze-age cairns has shown that some earlier prehistoric activity was taking place, and consideration of the site itself must cast doubt on the validity of associating all the debris with one period. The Kneep Headland and the wider area of Berie Sands reported by the R.C.A.H.M.S. (1928, 29) are the location for multi-period settlement and funerary activity. In all probability, the stone industry is Early Bronze-age in date since Close-Brooks found four struck quartz flakes under the kerb cairn (D and E 1976, 57), and similar quartz industries have been reported from Rosinish (Shepherd 1976, 212) and Northton (Simpson 1976, 224).

Consequently, I would argue that the quartz industry is early prehistoric in date, but the pottery, bronze pin and Viking grave are to be associated and accepted as a possible example of the proximity of settlement and funerary activity in the Viking Age. Further work in the area may be useful, although the Kneep site appears to be badly eroded.

Mangersta, Lewis (Site 41)

Mangersta is on the west coast of Lewis. It is another eroding midden site which has produced quantities of pottery, animal bone and shells. Some finds collected
in 1974-76 were published by M. Carson (1977). Further material was collected by Cowie in 1978.

The finds from Carson's work include Iron-age sherds and other material of uncertain date (ibid., fig. 1, nos 2-10; and fig. 2, nos 29-33). One base is of interest (ibid., fig. 3, no. 71) as it appears to be a sagging base form. In this context the discovery of a fragment of a Norse oval brooch (ibid., fig. 3, no. 72) is of note, but whether this should be interpreted as a grave find, or perhaps more likely, a fragment from a domestic midden is unclear. However, the likely Viking-age nature of some of the midden deposits is confirmed by the recovery of a possible platter sherd by Cowie in 1978. Examination of Carson's finds has not yet been possible, but in view of the loose association of the sagging base, the brooch fragment, and the possible platter sherd, I would suggest that Mangersta be accepted as another locus of Viking-age activity.

**Mingary, Chinish, Mull (Site 42).**

There is a small fort near Mingary in the north-west of Mull. This has an oval plan, 30m by 15m, delineated by a drystone wall. Within its interior are two enclosures described by the R.C.A.H.M.S. as being of comparatively recent date (1980, 84-5). One 'enclosure' is a sub-rectangular foundation 12m by 6m.

The NMAS has a few sherds from surface collections within the dun. One of these (HH 697) is a base sherd with some organic inclusions, dense exterior grassmarking and a few grit marks (fig. 28, no.4). This could be compared with the *Udal*
Viking-age finds. It is, however, a small sherd and there must be some uncertainty about the identification. The relationship of the sherds to the interior structures or the fort itself is not known. The pottery may indicate Viking-age activity in the fort.

Northton, Harris (Site 43)
The site at Northton on the southern shore of Toe Head is that of the major prehistoric settlement excavated by D.D.A. Simpson (1966). No detailed account of the excavation has yet appeared. It seems, however, that stratified deposits some 5m in depth were encountered in the course of examining Neolithic and Bronze-age settlement debris (Simpson 1976, 221; Evans 1972, 293). The later deposits, which were thought by the excavators to be Iron-age, were recognised as being of two main phases separated by blown sand - the topmost being related to turf covered enclosures visible on top of the dune (Evans 1972, 292-6). In 1971 Simpson suggested that activity continued to the Medieval period (1971a, 138). The only detailed published discussions of the site stratigraphy are by John Evans in his analysis of snail fauna changes at the site (1971, 52-62; 1972, 292-7).

Examination of the Northton finds in Leicester suggested that the 'Iron Age II' occupation (the upper horizon) may be of late Medieval date, with appropriate decorated pottery. The Iron Age I horizon is less certainly datable, but may be Early Iron-age. The late medieval date for Iron Age II is confirmed by Evans who recognises a marked horizon
in his snail faunas with the introduction of Helicella itala and Cochlicella acuta (1972, 295). These occur at the Udal in deposits of the sixteenth century A.D. (1972, 183), and a similar date seems appropriate for Northton.

None of the pottery recovered by Simpson is similar to the Udal Viking-age and Dark-age types. However, further material recovered by Cowie in 1978 suggests activity other than that found by Simpson. At least four pieces of platter have now been recovered from eroding deposits at the site. It is fairly clear that substantial stratified deposits are still preserved. The absence of Viking-age material from Simpson's finds may indicate that deposits of some periods may be limited in extent and that erosion has only recently reached the Viking-age levels.

Whatever the explanation, Viking-age activity can be suggested at Northton. Further evidence for Viking activity in the area is suggested by Graham-Campbell's report of a fragment of a Scandinavian type equal-armed brooch of ninth-century date found in the sand dunes on the south-east of Chaipaval (1975b, 212-13). This is within a mile of the Northton settlement, but in view of the fragmentary nature of the brooch it is unclear if this represents funerary or other activity.

Port an t-Saoir, Coll (Site 44)

Port an t-Saoir is a sand dune site on the south-west coast of Coll from which J. Crawford has collected material. This is apparently an extensive erosion site from which many pot sherds, flint and stone implements, and iron
slag, have been recovered. Rectilinear stone structures have also been reported (Ritchie et al 1978, 94). Among the finds from this site are rims for which I have already suggested a Medieval or later date (ibid., 98).

Further material has since been handed in to the NMAS and this includes one possible grassmarked base. Although this is not a certain identification, this site may be worth further examination for material of definite Viking-age date. At present it can be regarded as a possible, but uncertain Viking-age site.

Rosinish, Benbecula (Site 45)
Rosinish is a sand dune area on the north-east coast of Benbecula. It appears to be a multi-period site of some complexity which has suffered severe erosion. Finds of Bronze-age, Iron-age and later material have now been recognised though excavation has concentrated on the earlier prehistoric facies of the site (Crawford 1977; Shepherd 1976, and 1981).

In the course of these later excavations, Shepherd undertook controlled surface collections in the vicinity of his main site. In the southern part of this area he examined a stratified deposit on the edge of the uneroded machair (Shepherd 1981, fig. 4). A light sandy midden c. 0.2m thick gave onto a highly humic midden of similar depth with decorated Iron-age pottery (ibid., 28). From the upper midden came sherds of platter. These include seven definite and ten probable platter sherds and one grassmarked base. The presence of platter rims
makes the identification quite certain. In another part of the erosion area, Shepherd found a rim from what may be an open bowl. The sherd has an angled construction join and is of a very similar fabric to some of the Udal bowls (fig. 27, no. 5). In view of this ceramic evidence Viking-age activity can be postulated at Rosinish.

**Sithean a Phiobaire, South Uist (Site 46)**

Sithean a Phiobaire was the site of a wheelhouse which Lethbridge reported had been destroyed to extract building stone (1952, 176). The NMAS has pottery 'from a field' near the site collected by Werner Kissling. In addition to pottery of probable Bronze-age date, there is one rim of interest.

GS 193 is a rim from a straight-sided or slightly inturned vessel - possibly an open bowl. It has angled slab construction with three joins visible. The rim is decorated with a 'rippled effect' by the impression of three deep fingermarks on the rim top (fig. 28, no. 6). This 'wavy' or 'rippled' effect occurs on a few rims in the Viking-age levels at the Udal. In general I have not used decoration as a diagnostic feature because of possible confusion with Medieval pottery. However, in view of the similarity of this sherd in form and decoration to the Udal finds, this can be regarded as a possible Viking-age site.
Skellor, North Uist (Site 47)

Beveridge reported midden debris and finds from the sandhills near Skellor graveyard (1911, 234-5). The NMAS has finds from this area. Among the pottery is one sherd of probable platter. Although abraded, this has deep interior finger marks and one stab mark. Consequently, it is a fairly certain identification. Since nothing else is known about the circumstances of discovery, the nature of the site is unknown. However, Beveridge's description makes it clear that considerable midden deposits were visible early this century (1911, 234-5). A probable Viking-age date can be postulated for activity in the area.

Sorisdale, Coll (Site 48).

The sand dunes to the north of Sorisdale on the north-east tip of Coll have produced substantial quantities of finds from surface collection. Some of these, including both prehistoric and Medieval pot-sherds, have already been published (Ritchie et al 1978). Further material was subsequently handed in to the NMAS. This includes one base with a roughened exterior surface. I have already argued that this trait is analogous to grassmarking. Consequently, this can be regarded as a possible, but uncertain instance of Viking-age activity.

The Udal, North Uist (Site 1)

The NMAS has sherds found at the Udal during surface collecting prior to Mr I.A. Crawford's work on the site.
These include one platter rim (GT 916). There is no record of its precise provenance, but there is no reason to think it is not from the areas which Crawford has investigated.

**Valtos, Lewis (Site 49)**

Traigh Valtos is the sand area which extends from Valtos village south-east to Kneep Headland. In addition to the finds of Viking-age material on the east side of Kneep Headland (Site 40), further finds have been reported at NB 097366 west of the headland near the south-east end of Traigh Valtos. These finds include one sherd of platter and one bodysherd very similar in fabric to some of the Udal Viking-age bowls. If this find is correctly located, Viking-age activity may be more widespread in the area than the single Kneep locus. Another Viking grave is known from west of Valtos less than a mile from Kneep Headland (Macleod et al. 1916) and a 'Pictish' penannular brooch pin was found nearby (Gibson 1934, 430; Wilson 1973, 90). Consequently, Viking-age activity can be postulated on both sides of Kneep Headland. Whether this indicates a single extensive settlement focus is unclear.
I discussed the finds from Iona and Dunadd in the last chapter. The excavations at Iona produced a handful of grassmarked sherds of uncertain date. Although Reece supported a Viking-age or later date for them, this is disputable. For Dunadd I have argued a ninth-century date on the grounds of associated finds, although this too could be disputed. If an early ninth-century date is accepted, and it is arguable for the brooch moulds (Lane 1981b), this find would pre-date the Viking-age activity at the Udal. Thus the finds at Iona and at Dunadd could be contemporary or earlier than the Hebridean Viking-age material. In the absence of diagnostic forms, such as platter or sagging base bowls, no clear relationship can be postulated between these two more southerly finds and the remainder of the Hebridean distribution.

In addition to the sites with pottery recognised as Viking-age, there are two further sites, Aignish and a' Cheardach Bheag, which were noted in the last chapter and which must now be considered. Both sites produced pottery which was compared to Irish Souterrain Ware. I have already pointed out the considerable dissimilarities between Hebridean Dark-age pottery and Souterrain Ware, and shall discuss the possible similarities between the Viking-age pottery and Souterrain Ware below, but first I shall consider how the pottery from these two Hebridean sites relates to the Viking-age ceramics just discussed.
Aignish, Lewis (Site 50)

Aignish is a sand dune site on the narrow neck of the Eye Peninsula discovered by E.C. Curwen (1939). The finds included a fragment of a composite bone comb (ibid., fig. 1), iron fragments and cinder. The pottery was thought by Edwards to be 'contemporary with the earth houses and the brochs', but the Irish archaeologist Jackson was quoted as comparing the pottery to that from northern Irish souterrains and caves (ibid., 57). According to the excavation report, the finds were deposited in the Nicholson Institute in Stornoway, but no record of the material could be found there in 1978. Examination of the illustrated sherds suggests a close similarity to the Udal Viking-age finds (ibid., fig. 2). The rims are from upright or slightly incurved vessels, with signs of narrow slab or coil construction. One sherd appears to be from a round-angled basal angle and possibly a sagging base form. In view of these the pottery could be regarded as being of Viking-age date. One possible supporting piece of evidence can be cited. Curwen's report mentions the recovery of snail shells of the type *Xerophila itala* Linn. (ibid., 57). This is the species which Evans records at Northton as appearing above his Iron Age I deposits, but before his Iron Age II (1972, 294). Since I have already suggested that the Iron Age II deposits are of late Medieval date, the possibility exists that this species reached the area in the late 1st millennium or early 2nd millennium A.D. Clearly this could be tested by the sampling
of appropriate deposits, but can at present be used as an approximate dating.

Curwen's finds were made in a sand pit west of Aignish Church. In addition to the finds, he reported a hearth and stone walls in association with them (ibid., 55-6). In view of the evidence cited above, this can be regarded as a probable Viking-age site. An additional piece of supporting evidence is the reported discovery of a bronze penannular brooch 'in a kitchen midden on a beach near Aignish Church' (Gibson 1934, 430). This has decoration (ibid., fig. 1, no. 4) for which a ninth-century date may be appropriate (cf. Smith 1914, fig. 11; and Graham-Campbell 1974), and, although it is an Irish/Scottish type, it would not be out of place on a Norse site. Although it is not certain that Gibson and Curwen are referring to the same midden, the two finds indicate Viking-age activity in the vicinity.

The second site which has pottery said to be comparable to Souterrain Ware is a'Cheardach Bheag on South Uist. This site was excavated in 1956 by Horace Fairhurst in advance of construction of the South Uist rocket range (1971). The site consisted of a wheelhouse with a smaller secondary wheelhouse attached to it. It is of interest in the present context because of the suggestion made by Estyn Evans that some of the pottery resembled that 'from the northern Irish souterrains' (Fairhurst 1971, 95).

Fairhurst thought that two-thirds of the pottery consisted of typical Hebridean wheelhouse wares. However, the remaining third was described as 'coarser, normally
undecorated, and the potting technique was different' (ibid., 91). Although the finds were described as largely being poorly stratified, this group was thought to occur principally in late contexts. The characteristic form was described as 'a thick-walled basin' (ibid., 92, fig. 6; fig. 9, no. 3; and plate II, right).

Evans' comments and its general description made examination of the pottery worthwhile in the light of the Udal sequence. The finds were deposited in the Hunterian Museum, but unfortunately only part of the assemblage seems to have reached the museum. Fairhurst states that the assemblage consisted of 960 sherds, including one third coarse ware (ibid., 91), but the museum has only a small coarse ware group and a total well below 900. In addition, the pottery drawings are inaccurate and the description of vessels as 'basins' is rather misleading.

The forms present in the coarse ware are not particularly distinct though no. 80 could be from a bowl (fig. 28, no. 12), and no. 85 a small cup (fig. 28, no. 10). In the absence of complete profiles and the total absence of basal forms, no real definition is possible. None of the other artefactual evidence gives any indication of Dark-age or Viking-age activity. This group is best regarded as an enigmatic and undated coarse ware aspect of the Hebridean sequence and, in the absence of diagnostic features, cannot be usefully compared to Souterrain Ware or the Hebridean Viking-age ceramics.
The sites discussed above include all sites in the Hebrides known to have produced Viking-age pottery up to 1981. Before looking at the evidence for ceramics outside the area, I shall look briefly at the nature of these sites and any generalisations which can be made about them.

I have listed 35 sites including the Udal with pottery. Six were regarded as possible but not certain, i.e., Dun Chlif, Garry Iochdrach, Mingary, Post an t-Saoir, Sithean an Phiobaire and Sorisdale. The remaining 29 can be regarded as positive identifications, though some have more certainty than others. Two instances, Bragar and Chicken Head, are identified by the presence of particular forms of decoration which are not features of the Udal assemblage. 19 examples have platter or possible platter sherds. The remainder have grassmarked bases, sagging bases or forms that are in some way related.

The information about the contexts or types of site from which the pottery derives is of varied quality and no attempt has been made to assess each site in the field. On the basis of published or accessible information the sites, other than the Udal, include:

one chapel site; four associations with midden deposits
three late horizons above, in or near wheelhouses;
two instances of middens associated with buildings; 15 examples of eroding or eroded archaeological deposits of uncertain nature; four unknown; two brochs; and three probable dun sites.
Some of these show activity on Iron-age sites, i.e. wheelhouses, duns and brochs, but always in secondary deposits. Only five instances are of sites which have evidence of Dark-age activity, though in view of the difficulty of recognising Dark-age pottery and the multi-period nature of many sites, this may be a misleadingly small number. Only at the Udal do we have any clear evidence of the nature of that pre-Viking-age evidence, or of the process of takeover.

The majority of finds are from eroding middens, or eroding deposits of uncertain nature. None of the positive identifications is of pottery from burials, though burials occur nearby in a few instances, but then pottery has not been found in any 'Viking' burials anywhere in Scotland. Consequently, I would interpret the pottery as having a purely domestic function, i.e. for cooking, storage, etc. Thus I would argue that all the pottery finds are likely to represent settlement activity, though whether of a permanent or temporary nature is difficult to say. Though there are obvious biases in the nature of the material, and in its recovery, these finds are an indication of Viking-age settlement sites. That this is a reasonable suggestion is supported by the presence of structures, hearths and in a few cases the recovery of Viking-age metalwork. The first excavation of a site identified by the recovery of this pottery, i.e. Barvas, has revealed rectangular buildings and thus again supports this settlement interpretation. Further attribution, e.g. secular/religious; permanent/temporary; large scale/small scale, is not possible without large scale excavation,
or at least extensive sampling.

Evidence for the proximity of 'Viking' burials to these supposed settlements can be suggested for three sites. Cornaig, the unlocated Tiree site, may be close to the possible 'Viking' burials from Cornaigbeg (R.C.A.H.M.S. 1980, 118). The Ensay finds are within half-a-mile of the possible site of a grave reported by Martin Martin (R.C.A.H.M.S. 1928, liv), and the Kneep finds are in the immediate vicinity of the recently discovered grave (per. comm. T. Cowie). In view of the paucity of 'Viking' burials in the northern Hebrides (Wilson 1976, fig. 1), this possible correlation of pottery with suspected or known burial sites is quite striking.

The majority of sites are in the machair areas of the islands. Undoubtedly erosion and discovery factors contribute to this - the sand has helped to preserve sites such as the Udal; its subsequent susceptibility to erosion allows the collection of artefacts and thus draws the sites to archaeological attention. However, Crawford's work on post-medieval settlement in the Uists shows a genuine preference for machair edge sites at that time (1978b, fig.2) and he has argued that this machair distribution is a permanent feature of Hebridean archaeology (ibid., 54). So the predominantly machair distribution of the known Viking-age finds may provide a real picture of settlement. Some of the finds away from the machair are in any case less indicative of permanent settlement. Thus Chicken Head is a peat-covered cliff-top site, while Eilean Mhuire may
be too small to support settlement.

At a more general level, the sites are fairly evenly spread from north Lewis to Barra, with single finds on the west of Skye, the West of Mull and a group of finds on Coll and Tiree (fig. 29). The Coll finds - all the result of John Crawford's work in recent years - indicate how the distribution can be altered by field work in suitable areas. However, the only finds outside this area which might be related are those from Iona and Dunadd which I have already discussed. The sherds from Iona are of uncertain date, but are near enough to the rest of the distribution to be possibly related. No other finds are known from the southern Hebrides or anywhere on the western mainland, bar the one sherd at Dunadd. In the absence of platter or other diagnostic forms, the Iona and Dunadd finds may be regarded as uncertain and, consequently, Cornaig on Tiree is the most southerly definite find.

The general distribution of Viking-age pottery is more widespread than that of the Dark-age finds (cf. fig. 26 and fig. 29), but shows a marked similarity to the distribution of Iron-age ceramics (cf. MacKie 1971a, fig. 3; this distribution should probably include Lewis). I shall discuss the possible significance of these wider distributions at a later stage.

If we look beyond the Hebrides, is there any pottery which can be related to the Hebridean sequence? No evidence for Viking-age pottery has yet been recognised in the more southerly islands, or on the western mainland.
of Scotland - the adjacent geographic areas. No contemporary settlements have been excavated or located in those areas, but fieldwork has been carried out on Islay so the absence of finds may well be genuine. There is no comparable pottery assemblage anywhere on the Scottish mainland. In view of the attribution of this pottery at the Udal to a 'Viking' phase, it would be obvious to look for parallels at known 'Viking' sites elsewhere in Scotland. However, as I have already described pottery is not a feature of these sites.

The only areas of Britain where a number of Viking settlements have been excavated are Orkney and Shetland. These settlements appear to be aceramic in the Viking Age. Excavations of Viking sites at Skaill (per. comm. Gelling) Birsay (Cruden 1965), and Gurness (finds with SDD) on the Orkneys; and at Jarlshof (Hamilton 1956), Underhoull (Small 1966), and Sandwick (D and E 1979, 27) in the Shetlands; have not produced local pottery in levels dated pre-1100 A.D. At Jarlshof pottery was thought to be a late feature, not occurring till the early twelfth century (Hamilton 1956, 157); prior to this steatite was the non-perishable material used for containers and other utensils. This seems to be paralleled at other settlements in the Northern Isles. Buckquoy on Orkney produced evidence for neither pottery nor steatite in use in the Viking occupation which ended before the later tenth century, so Ritchie postulated that wood and leather was used for now perished containers (1977). At Birsay, Cruden argued that pottery was a twelfth- and thirteenth-century phenomenon (1965, 28), and
attributed this dating to Freswick in Caithness as well (ibid., 28). Although Freswick has some finds of an earlier nature, the handmade pottery is associated with glazed Medieval wares (Curle 1939). These late dates for pottery have not been contradicted by more recent work at Birsay and Freswick (per. comm. Morris) and Bigelow now has radiocarbon dates for pottery from Sandwick confirming the late dates attributed to Jarlshof (D and E 1979, 27).

Since the pottery from the Northern Isles and northern mainland is thought to be later than the Viking Age, these finds are later than the Hebridean material I have been considering. However, I examined pottery from the northern sites with a view to establishing any connections with the Hebridean sequence that might be recognisable, and also to see if the dating of these sites was correct.

Only one find attributed to the area was closely paralleled in the Hebridean sequence. This is a grassmarked sagging base bowl in the Hunterian Museum said to have come from Orkney or Shetland (fig. 28, no. 13). In view of its similarity to the Udal finds, it may be doubted that it was found in the Northern Isles. Since no precise provenance is known, it must be regarded as doubtful.

The NMAS has one rim sherd from the broch of Mousa exhibited as 'probably Norse'. Although this short everted rim is not dissimilar to some of the Udal finds, the absence of more positive features must make identification uncertain (fig. 28, no. 14).
Excavations at Papa Stour have also produced pottery said to be of twelfth/thirteenth-century date (D&E 1978, 18). One rim from the 'lower levels' of the site (per. comm. B. Crawford) is comparable in form to the Udal open bowls (fig. 28, no. 15), but again no positive diagnostic features have been recognised.

Only two large assemblages were available for study—those from Jarlshof and Freswick in the NMAS. Examination of the Jarlshof pottery proved fairly difficult. Some vessels have been heavily restored in such a way that their original forms may be unclear. Other sherds are catalogued by the NMAS but cannot be easily related to the published account.

The possibility of some relationship between the Jarlshof pre-Viking pottery and the Hebridean Viking-age sequence was considered, but Hamilton's pottery groups III and IV seem quite different in form and finish (1956, fig. 41 and 43). No connection is observable. Since the Jarlshof 'late Norse' pottery is later than the Hebridean finds I have described, no direct influence could have reached the Hebrides from the north, though the reverse would be possible. Hamilton described the Jarlshof pottery as having three forms: type 1 being small square-sided bowls; type 2 being 'barrel' or bowl-shaped vessels; and type 3 small jars with everted rims (Hamilton 1956, 187-9 and plate 36).

The square bowls were thought to be modelled on square steatite bowls and are unparalleled in the Hebridean sequence. The everted rim jars have quite different
proportions to the Udal finds, although the rims themselves are similar (fig.28,no.24). The second type, the 'barrel shaped' vessels, may be more comparable.

HSA 1053 is a heavily restored organically tempered vessel. It appears to be an open bowl with rounded basal angle and may have had a sagging base, though the restoration makes this impossible to prove (fig. 28,no.21). Although this is a simple form, it is fairly similar to the Udal bowls and in dimensions quite similar to the well-preserved vessel from Killegray (fig.27,no.34). Organic temper does occur at the Udal, but as I have shown it does not appear to be a culturally or chronologically useful indicator in the Hebrides. Another sherd HSA 1260 shows a rounded basal angle and a base-wall angle join - again paralleled at the Udal (fig. 28,no.20).

Thus some similarity can be seen between Hamilton's type 2 and the Hebridean sequence. However, this simple open bowl form at Jarlshof could be a copy in clay of the agesteatite bowls in use from the earliest Viking phase on the site (Hamilton 1956, plate 38, nos 1 and 2). Whether any connection should be postulated for the adoption of pottery in the northern settlements is unclear since many of the diagnostic Hebridean features, i.e. sagging bases, platters and grassmarking, do not appear to be present. This late adoption of pottery cannot be shown to be related to the older ceramic production in the Hebrides.

The other major ceramic assemblage in the north is from Freswick in Caithness. Like the finds from Jarlshof, much of the pottery has organic temper. The site is
another sand site which has seen partial excavation of eroding areas. In the late 1930s A.O. Curle (1939), and in 1941 V.G. Childe, excavated houses at the site. These excavations revealed a complex site of some longevity and finds largely of early Medieval date. The local handmade pottery was associated with thirteenth-century glazed sherds in some deposits (Curle 1939, 103-06) and in general Cruden's twelfth/thirteenth-century date for the local ware seems reasonable (1965, 28). As with the Shetland finds, there seems no particular reason to link the Freswick pottery to the Hebridean sequence. The current work at Freswick (Batey et al. 1981) may establish whether pottery was used on the site prior to the twelfth century, but on the basis of present evidence there is no overlap with the material I am considering here.

The Freswick pottery is not particularly similar to that from the Udal — there being no platters, or sagging based bowls. Everted rims do occur, but the general proportions of the vessels are quite different (fig. 28, no. 30). Only in the simplest vessel forms or fragments can any comparison with the Udal be made and, in view of the chronological separation of the two assemblages, these similarities may be meaningless.

No close connection can be shown between the pottery of the Hebrides and that of the 'late Norse', early Medieval, settlements of the Northern Isles and northern mainland. There is a local northern tradition of potterymaking by the twelfth century, possibly influenced by Medieval imports (Hamilton 1956, 188), but no
useful comparisons can be made with the Viking-age Hebrides.

I have already noted that the absence of pottery appears to be a diagnostic feature of the northern 'Viking' settlements. This appears to apply not only to Orkney and Shetland, but to Iceland and Greenland as well, though by the Medieval period pottery does become available (Sveinbjarnardottir 1976, 74-75). The one exception to this rule is the 'Viking' settlements of the Faroe Islands. Pottery occurs at a number of sites (Dahl 1965, 138-41), but there is some uncertainty as to the precise date of the sites (Sveinbjarnardottir 1976, 75; Thorsteinsson 1981, 196-7). Some are Viking Age in date, but later, Medieval, activity casts some doubt on the certainty of dating of the artefacts. Thus it is not clear whether the Faroese pottery is to be seen as contemporary with the Hebridean sequence. Very little of this pottery has been published making comparison particularly difficult. However, Mr Torben Diklev has kindly allowed me to see drawings of some of the pottery which suggests possible similarities between the Faroese and Hebridean pottery assemblages. Pottery from two sites, Sorvagur and Sandavagur, seem comparable. That from Sandavagur includes a series of sagging-based bowls which seem very similar to those from the Hebrides (fig. 30, no. 1-4). The finds reported by Dahl - 'bowl-shaped vessels' - may be similar (1965, 138). Although no grassmarking or platter has yet been recognised, a connection between the two groups seems possible. Dahl
has noted other links between the Faroes and the Hebrides. Some of the first settlers came to the islands from Scandinavian settlements in the Hebrides (Dahl 1970, 60). Thus the recognition of ceramic similarities which do not occur in the other north Atlantic settlements is of some interest. Positive identification must await fuller publication of the Faroese finds or first-hand inspection of the pottery.

Having looked at the north Atlantic Scandinavian settlements, we can now consider what other ceramic assemblages might be comparable to the Hebrides either in or outside areas of known Scandinavian settlement. As I have already said, there is no pottery tradition known on mainland Scotland at this time until the introduction of wheelmade wares in the twelfth century A.D. This absence of evidence may reflect a failure to locate and excavate pre-Norman sites, but as yet the picture is blank. Pottery industries of considerable variety are widely found in late Anglo-Saxon England, including many of the areas of Scandinavian settlement, but these wheel-thrown, kiln-fired products are quite unlike the Hebridean sequence (Hurst 1976). The west of Britain remains largely aceramic with the exception of Cornwall where the already noted tradition of Dark-age ceramics continued through this period. In view of possible comparisons with the Hebrides this group is considered below. The only other area in the British Isles with similar ceramics is the north of Ireland, where the pottery known as Souterrain
Ware is regarded as being current in the appropriate period. However, apart from Souterrain Ware and the Cornish pottery, no other ceramic group in the British Isles seems similar to the Hebridean Viking-age material. Since the Irish finds are closer geographically to the Hebridean distribution, I shall consider Souterrain Ware first.

Souterrain Ware is the term used to describe the pottery found principally on sites of the late 1st millennium AD in the north-east of Ireland. Although this pottery occurs on many sites in that area, there is no detailed modern synthesis of the finds. Michael Ryan published a paper in 1973 summarising views at that time and publishing a site list, but did not provide many illustrations of the pottery. Ryan did provide a fairly detailed description of the pottery (1973, 620-3) so it is sufficient here to say that it is a handmade ware in fairly simple shapes—mostly flat bottomed, splay walled with straight or slightly incurved rims. Decoration occurs on some pots in the form of pinched cordons, incised or finger-marked rims, occasional lugs and stabbed body surfaces. Many bases show grassmarking, though this is not invariable.

Souterrain Ware occurs on many sites (Ryan lists 91), principally in the north-eastern counties of Ireland—Antrim, Down, Armagh and Derry—but with one southern outlier in Dublin (Ryan 1973, fig. 4). Its date has been a matter of some debate. In 1971 Leslie Alcock argued
that it was most abundant on sites of the tenth and later centuries, but that it occurred on sites with E-ware and hence may also be of earlier date (1971, 258-9). Charles Thomas had already argued that Souterrain Ware was in production pre-600 A.D. because he derived certain aspects of the Cornish ceramic tradition from Ireland (1968, 319). Ryan accepted that there was a similarity between Souterrain Ware and Cornish grass-marked pottery and thought an introduction from Ireland attractive (1973, 630). He argued that the late dates for Souterrain Ware were methodologically unsound and tentatively argued a date range of sixth to twelfth centuries A.D. for the pottery (ibid., 623-7).

Current opinion at least among archaeologists in northern Ireland still seems to favour a later initial date. Warner states that Souterrain Ware dates somewhere between the eighth and twelfth centuries A.D. (Warner 1980, 122). Lynn quotes two sites where Souterrain Ware is stratified above E-ware (1978, 36) and appears to accept a seventh/eighth-century date for its introduction (ibid., 33). The terminal date is less disputed and the twelfth century A.D. is often quoted, but as Lynn has pointed out the contention that Souterrain Ware went out of use at or before the advent of the Anglo-Normans may be oversimplistic (ibid., 30).

However, if we accept Warner's and Lynn's view of an eighth-to twelfth-century floruit for Souterrain Ware, in the absence of convincing earlier evidence, it will be clear that there is a considerable chronological overlap
with the Hebridean Viking-age assemblages. How similar is the pottery? Ryan's descriptions and illustrations would suggest major differences - 'flat bottomed ... splay or cylindrical walls ... the walls curve inwards towards the rim giving a somewhat barrel-shaped appearance ...' (Ryan 1973, 620; fig. 2 and 3). Likewise the frequent use of cordons is not a feature of the Hebridean assemblage. However, grassmarking is a feature of both groups and Alcock has pointed out how rare this is within the British Isles (1971, 200). Some vessels do not fit the general description given above and Ryan notes round-bottomed vessels at several sites (1973, 620). The illustrated pottery in the Larrybane reports in particular seemed similar to the Udal finds (Childe 1936; Proudfoot & Wilson 1962).

Consequently, a general search of the Irish Souterrain Ware assemblages seemed worthwhile to establish how similar any of the pottery was to the Hebridean sequence and whether any connection between the two groups could be established. It was not possible to undertake a full study of Irish Souterrain Ware in the available time, but rather an extensive search for parallels was made. Consequently, I have not listed or illustrated the pottery which is dissimilar. More than 20 sites have produced material which seemed comparable and these are listed below:

'The Potter's Cave', Ballintoy, Co. Antrim (Jackson 1934) has grassmarked sagging bases, and rounded basal angles
(fig. 31, 1-3). One vessel is reconstructable as an open bowl with rounded basal angle and sagging base (fig. 31, 5). One rim has a slashed rim top (fig. 31, 4). Another is a short everted form (fig. 31, 6). Some sherds are grass-tempered.

Ballyaghagan, Co. Antrim (Evans 1950; Proudfoot 1958) has a base with a rounded basal angle (fig. 31, 9).

Ballykennedy, Co. Antrim (Ryan 1973, 634), has a small dish with a rounded basal angle (fig. 31, 10).

Ballylackey, Co. Antrim (ibid., 634) has one straight-sided vessel (fig. 31, 12), and a base with rounded basal angle and slightly sagging base (fig. 31, 11).

Ballywee, Co. Antrim (Excavations 1974, 4-6) has a small flaring-walled vessel (fig. 31, 14), and a rim with slashed rimtop and stabbed outer surface (fig. 31, 13).

Castle Skreen, Co. Down (Dickinson & Waterman 1959) has an open bowl with rounded basal angle and sagging base (fig. 31, 15).

Craig Hill, Co. Antrim (Waterman 1956) has sherds with rounded basal angles and slightly sagging bases (fig. 31, 16 & 17).

Craigywarren, Co. Antrim (Ryan 1973, 635) has an open bowl with rounded basal angle and a flat base (fig. 31, 18), and a small straight-sided bowl (fig. 31, 19).

Derryhollagh, Co. Antrim (Wilde 1861) has a small cup with rounded basal angle (fig. 31, 20).

Dunshammer, Co. Antrim (Jackson 1934, 108) has a sherd with a rounded basal angle and possible sagging base (fig. 31, 21).
Dunsilly, Co. Antrim (Excavations 1975-6, 6-7) has a rounded basal angle and slightly sagging base (fig.31,22).

Glassaneeran, Co. Antrim (Inf. Ulster Museum) has a rounded basal angle and possible sagging base (fig.31,24).

Glarryford, Co. Antrim (Inf. Ulster Museum) has a sherd with a rounded basal angle and sagging base (fig.31,25).

Gransha, Co. Down (Excavations 1972, 10) has a small straight-sided vessel with a cracked and grit impressed basal exterior (fig.31,26). It also has a small bowl with flat base and cracked exterior, and an incurved rim (fig.31,27). Another vessel has a short slightly everted rim (fig.31,28), and another sherd has a rounded basal angle and sagging grassmarked base (fig.31,29).

Kilbride, Co. Antrim (Ryan 1973, 635) has a flat-based vessel with a short everted rim (fig.32,1).

Larrybane, Co. Antrim (Childe 1936; Proudfoot & Wilson 1962) has rounded basal angles, sagging bases, short everted rims and finger-marked wavy rimtops (fig.32,2-11).

Lissue, Co. Antrim (Bersu 1947 and 1948) has a round angle slightly sagging base (fig.32,12), a small bowl with flaring walls and a flat base (fig.32,14), a rim with a wavy fingered rimtop (fig.32,13), and one rounded basal angle (fig.32,15).

Lough Faughan, Co. Down (Collins 1955) has a sherd with a rounded basal angle and sagging base (fig.32,16), and a flat-based vessel with incurved wall (fig.32,17).

Moylarg, Co. Antrim (Ryan 1973, 636) has rounded basal angles, slightly sagging bases (fig.32,18-26), one rim with a
slashed rimtop (fig.32,20), a small cup with an incurved rim (fig.32,21), and one large open bowl with a flat base (fig.32,26).

Murlough Bay, Co. Antrim (Ryan 1973, 635) has rounded basal angles, sagging bases (fig.32,28&30), a flat-based open bowl form (fig.32,27) and a fingered rimtop (fig.32,29).

Tully, Co. Antrim (Excavations 1970, 2) has a small flat-based vessel with an incurved rim (fig.32,31).

An unprovenanced vessel in the National Museum of Ireland, Dublin has a rounded basal angle, and sagging base (fig.32,32).

More than 20 sites have pottery that has some similarities to the Hebridean finds and some finds are very similar indeed. However, it must be stressed that the bulk of the unpublished pottery from Lissue, for example, is quite unlike that which I have illustrated. That site has tall incurved bucket forms, decorated with cordons, similar to those illustrated by Ryan from Moylarg (1973, fig. 2, no. 1), or those from Hillsborough (Brown & Brannon 1978, fig. 4, nos 5 and 6), and these are not found at the Udal.

Thus only some vessels or vessel-traits can be seen in both groups. In general terms what are the similarities?

Both groups of pottery have grassmarking or gritmarking (Archaeological Survey 1966, 33-4) – in the case of Souterrain Ware, Laing quotes 40% of the bases (1975, 278) – and I have shown that at the Udal it varies between 13% and 38% in different levels. Both have open bowls with rounded basal angles, some with sagging bases. The vessels from Ballintoy and Castle Skreen are very similar to examples from the Udal (cf. fig. 22, no.38).
and fig. 31, nos. 5 and 15) and many of the sites have pieces which may derive from such vessels. Some smaller flat-bottomed cups can likewise be paralleled closely in both areas (cf. Gransha, fig. 31, no. 27 and Lough Faughan fig. 32, 17 with Udal fig. 19, 24). The presence of incised rims, fingered rims and stabbed bodysherds can also be found in both areas.

However, some features do not occur in both areas. In spite of careful examination of all the accessible Souterrain Ware assemblages in the Belfast and Dublin Museums no sherds of the Hebridean-type disc platters were recognised. Very few everted rims occur in the Souterrain Ware groups, but these are fairly common at the Udal. This may be an archaeological bias caused by the belief that in Ireland everted rims are Medieval. Short everted rims do occur, as at Ballintoy and Kilbride (figs. 31, no. 6 and 32, no. 1), but they seem to be rare. More importantly cordons are a common feature of the Irish material, but do not occur at the Udal. It has been suggested that the presence or absence of cordons is a chronological feature - decorated Souterrain Ware being 'late' (Ryan 1973, 628). In this case comparisons might be sought between this hypothetical early phase in Ireland and the Viking-age Hebridean finds, but it should also be remembered that cordoned sherds would be likely to be regarded as Iron-age in the Hebrides. Finally, some Irish vessel shapes - the splay-walled vessels (fig. 31, no. 14) and the large flat-based 'barrel' shapes (e.g. Hillsborough and Lissue) - are quite unlike the Hebridean finds.
Can we draw any conclusions about the sites where there is pottery comparable to the Hebridean finds? The 21 sites listed cover a range of ring-forts, souterrains, crannogs, promontory forts, caves and open sites. Many cannot be closely dated since their most distinctive finds are the pottery we are considering. Of those with the closest parallels: Ballintoy has a composite bone comb (Ryan 1973, 625); Castle Skreen has a decorated bronze disc (Dickinson & Waterman 1960, fig. 5, no. 4); at Gransha, the Souterrain Ware was stratified above E-ware (Excavations 1972, 10); Larrybane has a decorated glass bangle (Childe 1936, plate 36, no. 2); Lough Faughan has E-ware (Collins 1955). None of this material gives particularly precise dates, but if we accept Warner's suggestion, i.e. eighth to twelfth century A.D. (1980, 122), it could be earlier than and contemporary with the Hebridean finds.

No attempt has been made to assess the distribution pattern of these sites, but it may be worth noting that 18 are from Co. Antrim and only three from Co. Down. Thus it may be to the Antrim area that we should look in particular. Ryan noted that decorated rimtops were the predominant form of decoration in the north, while the plain cordon was more common in South Antrim and Down (1973, 628), but the possibility of quite distinct groups within Souterrain Ware has not yet been fully explored (per. comm. Warner). Some of the best parallels in terms of assemblages are with sites such as Murlough Bay, Larrybane and Ballintoy on the North Antrim coast.
In short there are distinct similarities between some Irish Souterrain Ware, particularly that from Co. Antrim the most northerly county and closest to Scotland, and the Hebridean Viking-age pottery. Although the Irish finds are not closely datable, they are likely to be contemporary or at least overlap in date with the Hebridean finds.

The other area with possibly comparable pottery is Cornwall. As I have stated already, some connection has been postulated between the Cornish and Irish groups. The character of the Cornish pottery sequence of the first millennium A.D. has been established by Charles Thomas in a series of excavations in the county, in particular at Gwithian (1968). Gwithian is another multi-period settlement preserved in calcareous sand deposits (Thomas 1958). Unfortunately, it has not yet been published and only a summary account is available for the ceramic sequence (Thomas 1968, 313-16). This suggests continuous production of pottery in Cornwall from 'Gwithian-style' in the late-Roman or sub-Roman period, through the introduction of 'grassmarked pottery', followed by the introduction of 'bar-lug pottery', and a final style known as 'Sandy Lane' (ibid., 313-16). After the Sandy Lane style, the local sequence comes to an end and standard southern English Medieval ceramics occur. Although this sequence was seen as continuous, in that some forms or traits continued throughout the period, two major breaks were thought to occur at the introduction of grassmarked
pottery and of bar-lug pottery. These breaks occurring in the late sixth century and later ninth century respectively. Sandy Lane style was argued to run from c. 1000 to 1150 A.D. (ibid., 326-7).

I do not intend to discuss the Cornish sequence fully, but rather only to consider issues which are relevant to the Hebrides and Ireland. If the Cornish grassmarked style was in existence pre-600 A.D., did it have any relationship to Irish Souterrain Ware? Is there any similarity between the Hebridean and Cornish finds; if so, what chronological or cultural significance does this have for either group?

I have examined some of the Cornish finds in Truro Museum but, in the absence of full publication of Gwithian, the key site sequence, use has been made of Professor Thomas' interim statements (e.g. Thomas 1968). Cornish Grassmarked pottery does show certain similarities to Souterrain Ware. Simple, flat-bottomed 'bucket-shaped' pots occur in both series (cf. Alcock 1971, fig. 11; Thomas 1968, fig. 72; Ryan 1973, fig. 1). Grassmarking does appear to represent a break in the local Cornish sequence, with associated forms being quite different from the previous local styles. Some continuity is argued, however, in that Thomas derives the low-walled platters of his Grassmarked style from the preceding Gwithian style. However, if we accept that the similarity between Irish and Cornish groups is significant, what does this mean? The date of the 'introduction' of the Grassmarked style
is uncertain: Thomas argues for a late sixth century date on the basis of dating evidence from Gwithian and Tean (1968, 314-17). However, as Gillian Hutchinson has pointed out, the chronology of neither site is secure and the introduction of grassmarking may be as late as the seventh or eighth century (1979, 89). This would of course make it contemporary with the period Warner argues for the beginning of Irish Souterrain Ware (1980, 122); it might also allow the speculation that any influence that occurred between the two areas was south to north rather than vice-versa. However, this is not a question I wish to pursue at present.

What of the similarities and links with the Hebrides? In general the Hebridean finds seem much more similar to Irish material than to the Cornish. Thomas' illustrations show flat-based steep-walled vessels of rather different shape to the Hebridean forms (cf. Thomas 1968, figs. 72, 73 and 74; and figs. 19-22). No sagging base vessels or Hebridean type disc-platters have been reported. Similarities include the use of grassmarking (on an unknown percentage), the slashing and finger-marking of rims, and the rare use of everted rims.

Grassmarked pots continued to be made in Cornwall until the twelfth century, so a chronological overlap does occur with the Hebridean Viking-age material. However, no bar-lug pottery has been found in the Hebrides so that direct links between Cornwall and the north-west are unlikely. Only one Hebridean find might be thought to call this into question. This is the shallow-walled
dish from Cornaig Lodge on Coll (fig.27, no.5). This seems very similar to the Cornish platters (Thomas 1968, fig. 72 and 74). These platters apparently continue from the first grassmarked phase till the end of the Sandy Lane style, though some of the illustrated early examples seem most similar (ibid., fig. 72, nos 9 and 11). These platters are not found in Ireland, though there are small shallow dishes from sites such as Ballykennedy and Tully (figs. 31,10 & 32,31). Consequently, unless the similarity is regarded as coincidental, some contact may have taken place between the two areas. Nevertheless, the dissimilarities between Cornish and Hebridean groups are such as to suggest that direct contact was not important. The Antrim finds are much more similar to the Hebridean finds.

In summary, there are similarities between the Cornish, Irish and Hebridean groups of pottery though each area has its own distinct morphological features. They all overlap chronologically, but although the initial date of both Cornish and Irish groups is open to dispute, these do seem to be earlier in date than the Hebridean finds. If the similarities between the groups are to be regarded as significant, it may be argued that the process of origin is from north-east Ireland to Cornwall (or vice-versa) and separately from north-east Ireland to the Hebrides. Alternatively, some other process of external influence may be postulated, but in the absence of any known groups this possibility must at present be regarded as unlikely. The fact that the origin of Souterrain Ware
in Ireland is unknown, and no convincing local progenitor has been identified, means that the question of direction of any influence postulated between Ireland and the Hebrides must be considered. I will discuss this in the next chapter in relation to the historical context and to the interpretation of the Hebridean ceramic sequence discussed in the preceding chapters.
In the course of this thesis I have examined the evidence for Dark-age and Viking-age ceramics in the Hebrides, basing my interpretation on the pottery sequence at the Udal. In this chapter I shall outline the sequence and discuss how it may be interpreted. As I made clear in my first chapter, I do not believe culture histories can be written on the evidence of one artefact type. Understanding of the material culture and history of the Hebrides will only be possible with a synthesis of all available evidence. Nevertheless, it is legitimate to examine the evidence of a single artefact type and make interpretative suggestions that will contribute to a full regional synthesis when more information is available.

I shall discuss the sequence of pottery in the Hebrides through the first and early second millennium AD, concentrating on the Dark-age and Viking-age material which is central to this study. It will, however, be necessary to refer to both earlier and later material in order to interpret both Dark-age and Viking-age pottery.
The Iron Age

I have not attempted to discuss the Hebridean Iron Age or its pottery in any detail. That is a quite separate and major research topic in its own right. However, the relationship of the Iron-age pottery to the Dark-age style, as defined at the Udal, is central to an understanding of the origin of the Dark-age material.

I have already discussed some of the uncertainties of dating with regard to Iron-age pottery in the Hebrides. Its absolute chronology is weak and many more radiocarbon dates are required before some problems can be fully resolved. Alison Young did suggest a sequence based on the evidence of several sites, from the classic decorated wheelhouse types through a process of gradual change to sparsely decorated forms such as she found at Dun Cuier (1966). Although aspects of her sequence can be challenged, this basic sequence seems plausible. Thus incised decorated 'vases', and cordoned or finger-channeled, everted rim vessels are found at sites such as Clettraval, a' Cheardach Mhor and Allasdale (ibid., 48-52 and fig. 4). This pottery is associated with the primary use of wheelhouses and relates in some way to the pottery reported by MacKie at the broch of Dun Mor Vaul on Tiree. This is the classic 'wheelhouse style', dated loosely to the period from third century B.C. to first/second century A.D. by Young (1966, 54-5). No evidence has yet emerged to disprove this wide date-bracket or allow closer dating (Ritchie & Lane 1980, 217-20).
Subsequent to this phase of fairly elaborately decorated pottery, Young believed that there was a phase of sparsely-decorated material with irregular cordon decoration. This occurred in secondary contexts at a'Cheardach Mhor and in some duns such as Dun Cuier (Young 1966, 54 and Plate 4b). The only stratified sequence showing this is at a'Cheardach Mhor, but similar material is recognisable at other sites. The date of this sparsely decorated pottery was uncertain — merely being bracketed as later than the primary wheelhouses and earlier than the plain coarse-ware pots which Young attributed to Scotic invaders in the sixth century AD.

The pottery from the Udal level XV and from the Udal South wheelhouse is of classic wheelhouse type, as seen at a'Cheardach Mhor and Clettraval. Crawford has not reported the existence of any subsequent sparsely decorated pottery, such as that found by Young, though he has reported post-wheelhouse structures which seem to pre-date the Dark-age phase on the Udal North (Crawford 1979, 2-3). No independent dates are yet available for the Iron-age horizons at the Udal.

The Dark Age

Dark-age pottery is one of the central themes of this thesis. As I have tried to show in the previous chapters, a distinctive Dark-age Style is recognisable which occurs in substantial quantity in levels XIV to XI at the Udal.
Similar pottery can be recognised at sites in the Hebrides from Lewis in the north to Barra in the south. The bulk of this comparable material is unstratified and only occasionally is it associated with datable artefacts. Thus my attribution of this material to the period is largely based on a stylistic identification. A few sites have stratified material. Of these a' Cheardach Mhor, on South Uist, is the most important (Young & Richardson 1960), for it has a sequence of structures and artefacts. Decorated pottery associated with a wheelhouse is replaced by sparsely decorated vessels associated with secondary structures which are then replaced by undecorated pottery and exiguous curvilinear structures (ibid., figs. 5, 6 and 10). It is this last group of pottery, the plain coarse-ware type, which is closely comparable to the Udal Dark-age pottery. Although this phase at a' Cheardach Mhor can be shown to be Dark-age, it cannot be more closely dated. Similar pottery occurs at Dun Carloway, on Lewis. At this site, however, the presence of a Viking-age platter sherd stratified below decorated Iron-age pottery casts doubt on the nature of the context and I have argued that these deposits, and thus the pottery they contain, are probably redeposited. Consequently, I do not think the Dun Carloway evidence can be accepted.

Dun Cuier, on Barra, likewise, has a substantial assemblage of pottery. However as I have shown in chapter 11, none of it can be regarded as stratified and
Alison Young's later reinterpretation of the pottery can be shown to be incorrect. Dun Cuier has pottery very similar to the Udal Dark-age style, but Young's division of the pottery into long-rimmed vessels and a later coarse ware must be rejected. On the evidence of the Udal sequence I have suggested that this site has the plain undecorated Dark-age style, which includes some long flaring rims, but also has pottery of earlier date. This earlier pottery includes cordoned vessels which are not totally dissimilar to the Dark-age style, but which can be linked to an earlier phase - the sparsely decorated pottery of a' Cheardach Mhor phase II.

Similar cordoned vessels with long flaring rims can be seen at Dun Scurrival, Dun Carloway and Gress Lodge. If the evidence of the Udal and a' Cheardach Mhor is applicable, such pottery was current in a phase earlier than the Udal level XIV. Thus the Udal Dark-age style could have developed out of earlier sparsely decorated Iron-age pottery.

None of the other sites, which I have suggested have similar Dark-age pottery, provides any independent evidence to date the pottery though they may have other evidence of activity which can be dated to this period. Many of these occurrences are adjacent or within Iron-age structures, that is, brochs, wheelhouses and souterrains, but where evidence survives the pottery is from secondary structures. It is not clear whether this indicates the frequency of continuity of occupation from the Iron Age
to the Dark Age or whether our knowledge is severely biased by an archaeological preference for Iron-age sites. A few sites have evidence suggestive of curvilinear structures like those at the Udal.

The distribution of the Dark-age pottery is restricted to the Outer Hebrides (fig. 26). This may partly be a bias in excavation and the concentration on North Uist is certainly to be explained in that way. In addition, the simplicity of the pottery makes positive identification dependent on the survival of large diagnostic rimsherds, so any site with very fragmentary pottery would be missed. If this restricted distribution is genuine, it would seem that this undecorated Dark-age style is more restricted in its distribution than the earlier Iron-age pottery of the Hebrides. Decorated Iron-age pottery is known from the Outer Hebrides, from Skye, and the Inner Hebrides as far south as Coll, Tiree and Iona (Ritchie & Lane 1980, 217). However, until datable Dark-age settlement sites are excavated on these other islands, it would be premature to place too much reliance on the present distribution.

The absence of parallels on the islands further south and on the mainland may well be genuine, however, since considerable survey work has been undertaken on Islay and a number of Dark-age sites have been dug on the mainland. Thus the absence of comparable Dark-age pottery from the Columban monastery of Iona, and from the fortified sites of Dunadd and Dunollie, from Kildonan and other
As in Argyll, and from the crannog at Loch Glashan, d-Argyll, would suggest that no such pottery was being made and used in these areas. Consequently, a contrast may exist between the Outer Hebrides on the one hand and the Hebrides and western mainland on the other. The occurrence of imported Dark-age pottery at Iona and on several Argyll sites could be seen as confirming his contrast (Thomas 1981).

I have already argued that no close parallels can be drawn between the Dark-age pottery from these northern Hebridean sites and any assemblages elsewhere in the British Isles. How then is its appearance at the Udal to be explained and what, if any, historical interpretation can be put on the ceramic evidence or the Udal in general?

Crawford argued in 1977 that level XIV, the beginning of the Dark-age phase, represented such a total and precise watershed in the archaeological record as to compel an invasion interpretation (Crawford & Switsur 1977, 129). As argued in chapter 2, this interpretation of the site is open to dispute and there may be a chronological gap between the assemblages Crawford was comparing. Crawford's subsequent work on the Udal South would seem to support my suggestion, as he has now discovered evidence of a protracted secondary occupation of his late wheelhouse which is probably earlier than the Udal North level XIV and the beginning of the Dark-age phase (1979, 2-3). Thus he has suggested that these secondary structures could represent the origins of the 'ventral' houses of the Udal North (ibid., 3). As yet,
he has not reported any distinctive artefacts from these secondary structures on the Udal South and the nature of the deposits may hinder recognition of securely stratified contemporary artefacts. The likelihood that there is a chronological gap between levels XV and XIV at the Udal would thus seem strengthened, although it cannot be proved until there are independent dates from the Iron-age levels or diagnostic stratified finds from the Udal South secondary structures.

As I have already argued, other sites in the Hebrides have pottery suggestive of decorated material similar to the Udal undecorated forms and Young's suggestion of a sequence of development from decorated to undecorated seems quite tenable.

What then of the invasion? If there is a complete break in types at the Udal, it would now have to be argued as coming between the wheelhouse occupation and the secondary structures proto-typical of the 'ventral' buildings on the Udal South. It is impossible to evaluate this possibility until the artefact assemblages, structures and stratigraphy of the Udal South are published.

Is the suggestion of an invasion tenable on present evidence? As I have argued there is probably not a major break in the ceramic sequence on the appearance of the Udal plain style. However, the incised vases of the wheelhouse are clearly very different from the plain buckets of the Dark-age levels. Is the unbroken process of ceramic change, suggested by Young for the earlier part of the sequence,
credible? Although major distinctions can be seen in particular vessels, a gradual trend within assemblages to larger jars can be argued on the evidence of a' Cheardach Mhor, Allasdale and Dun Cuier. The evidence is by no means certain because the number of stratified assemblages is few. If there is no major break, there is nevertheless a major transformation in pottery forms, fabrics, decoration and probably construction methods. On the basis of form, the small incised 'vases', such as the Udal level XV vessel (fig. 22, no. 40), presumably had a different function from the plain bucket in level XII (fig. 13, no. 1), but the disappearance of decoration may indicate a marked change in the social significance of these two pottery-types. Braithwaite (1982) has argued for the social significance of decoration on items; such an argument is supported also by Donley (1982) and Hodder (1981a, 204-07). The absence of decoration is not a sign of 'cultural degeneration', but of the role these vessels play within society (Braithwaite 1982). Interesting as this suggestion is, it cannot be pursued here because its evaluation requires not only detailed analysis of the contexts of use and deposition of the pottery on several sites, but also an analysis of other artefacts and structures, and the use of decoration on them.

The importance of this suggestion, and of the theoretical work it is part of (see Hodder 1982b, 1-16), lies in the recognition that major transformations in material culture can take place without any influence from external factors
(e.g. invasion or 'cultural contact') - although these latter factors are not necessarily ruled out. This work also argues that 'invasion' or 'culture contact' are not sufficient explanations for changes in material culture. Thus a major change in ceramic types implies a major change in the use and significance of pottery within that society's social practices, whether or not an invasion has occurred. In any case, it is well known that invasions are often notoriously difficult historical events to recognise in archaeological data since the change in material culture is dependent on the relationship between indigenous and invading peoples. In other words, social relationships are crucial to understanding material culture.

That a major transformation took place at the Udal, and more widely in the Hebrides, between the Iron Age and Dark Age is undeniable. The contrast Crawford pointed to between his level XV wheelhouse material and the level XIV Dark-age finds is genuine (Crawford & Switsur 1977, 129). The abandonment of wheelhouses and their replacement by round houses or curvilinear structures, such as the Udal 'ventral' houses, is a major structural transformation. Likewise, few if any of the artefact types of the Dark-age levels, apart from pottery, can be shown to have evolved from earlier Iron-age forms. However, as with the ceramic
evidence, an invasion may not be the most likely explanation. Crawford's work on the Udal South has now recognised that a round house replaced the late wheelhouse there (1979, 2-3). This structure has features—cells, platforms and internal roof supports—which Crawford has suggested may be prototypical of the Udal North house forms. Does this change require an invasion to explain it?

As I have already said, many of the other artefact types do not seem to have local progenitors. However, at the generalised level of description available now for these artefacts, the Udal Dark-age assemblage of moulds, pins, combs, ironwork, etc., seems very similar to Dark-age finds throughout the 'Celtic West'. Thus, similar finds occur in Ireland, Wales, Cornwall, and on the Scottish Mainland (e.g. Laing 1975). This suggested similarity might be taken as evidence that these artefact types were spread by invasions. The alternative is that they are not specific to any one ethnic group but indicate cultural links of other kinds between these areas. Holly Duncan has recently demonstrated the similarity between Dark-age assemblages in Dalriada and the North British kingdoms (per comm. Duncan). All the types seem ultimately to derive from 'late Roman' prototypes, as Warner has argued for Ireland (1980, 135; 1981, 46). That there were population movements in the 'Celtic West' in the course of the Dark Age seems undeniable, but it is difficult to explain the widespread nature of artefact types as the result of invasions.

It may be, of course, that closer study of the Udal artefacts will allow specific regional characteristics to
be recognised. The pottery, for example, does seem specific to the Outer Hebrides. However, the general similarities in at least some artefacts throughout the 'Celtic West' may mean that the concept of the Irish Sea Province or something similar may have to be invoked (Alcock 1970).

If the evidence for an invasion at the beginning of the Dark-age phase or earlier is lacking, can anything be said about the ethnic nature of the population of the Udal, or of the islands in the Outer Hebrides, where the Dark-age pottery style is found. Crawford has referred to the Dark-age phase as Scotto-Pictish (Crawford & Switsur 1977, 130). In invoking an invasion at level XIV, he appears to have envisaged Irish settlement as a possible explanation, although he noted that there were 'no Ulster parallels at present' to the Udal (ibid., 130). What evidence is there for the ethnic or cultural links of the Udal population?
Crawford's report of grassmarked pottery cognate to early Irish Souterrain Ware in fifth/sixth-century levels at the Udal has been shown to be incorrect (Crawford & Switsur 1977, 130; Crawford 1975a, 13), and I have shown that Dark-age pottery has no close parallels outside the Hebrides. A few of the bronzes have 'Irish' parallels. Thus, Graham-Campbell argued that a gilt-bronze pin-head has Irish affinities, though the lack of information about Hebridean brooch traditions made further interpretation difficult (1975a, 17-18). A brooch pin of 'Irish-Scottish' type which was found in the Viking-age levels cannot be taken as a reliable ethnic indicator for the Dark-age
settlement since it may have been brought from outside the area by Scandinavian settlers.

The reason there is uncertainty about the ethnic nature of the Dark-age Hebrides is of course because there is no historical documentation for the northern Hebrides before the Viking Age. Bannerman has argued that Scottish Dairiada probably reached no further north than Ardnamurchan on the mainland, and Coll and Tiree in the islands, at least in the later sixth century A.D. (1974, 115-16).

The status of the islands to the north is unclear. Bannerman sees Skye as probably Pictish (ibid., 114), but the Outer Hebrides are not documented. Crawford has alluded to evidence that may imply Gaelic-speaking Scots in Skye, Lewis and Harris in the seventh/eighth centuries A.D. (1975a, 2). Until this is documented in some detail, it is impossible to evaluate.

Isabel Henderson argued that the territory to 'the west, north of Mull' was in Pictish hands in the sixth and early seventh century, but may have later come under Dalriadic control (1971, 41). Since the historical evidence for the Outer Hebrides is non-existent, both these suggestions can be challenged. There is some archaeological evidence to support the Pictish attribution of the area. 'Pictish' symbol stones occur on Skye, Raasay, Benbecula and Pabbay (Henderson 1967, fig. 15). These would seem to indicate Pictish cultural influence in those areas at the time they were made - the seventh/eighth centuries A.D., according to Stevenson (1970, 66-70; cf. Thomas
To this can be added a Pictish ogham inscribed knife-handle from Bac Mhic Connain, Vallay, North Uist (see page 269), and perhaps the painted pebble from Garry Iochdrach, North Uist (page 277), which seems to be of the type regarded as Pictish by Ritchie (1972).

None of this evidence is unequivocal, but it does tend to suggest that Pictish influence was felt in the Outer Hebrides. The absence of later Pictish sculpture in the area may indicate the loss of the area to the Norse or possibly, if Crawford is correct, the rise of Dalriadic influence in the area. Alcock has suggested that the term 'Peripheral Picts' is appropriate for the people of this area (1980, 62). General parallels for the Udal Dark-age houses at Buckquoy, Orkney (Ritchie 1977, figs 2 and 3) and less certainly at mainland sites (Ritchie 1975, fig. 1) may support this idea of the Hebrides being 'Peripheral Pictish', but the ceramic evidence of the Udal, and the comparable material I have listed, shows that in some ways the area had a distinctive material culture. Only the Peripheral Picts and not Mainland Picts made and used their own pottery. The failure of the imported wares to penetrate the northern Hebrides would also seem to indicate some sort of cultural barrier, or cultural resistance to them, to the N.W. of Iona (Alcock 1971, map 6).

As will be clear from this discussion, the ethnic character of the Dark-age Hebrides is uncertain. The
evidence I have quoted would seem to imply Pictish influence, but local characteristics are recognisable. There seems to be no evidence for an invasion during the Dark-age phase, as characterised by the sequence of the Udal North.

None of the other sites provides evidence to refine the chronology of the Dark-age pottery, although some sites have artefactual evidence which supports a general Dark-age attribution. We are thus dependent on the dates of the Udal North as a bracket for the general occurrence of the pottery. Obviously, this is not satisfactory since the history of one site may not be characteristic of the history of the whole area. It does, however, at least give a starting point for comparisons. As I have already argued, no precise date can be given for the start of the Dark-age phase. The single radiocarbon date from level XIV spans the mid-third to late fifth centuries A.D. at only one standard deviation. More radiocarbon dates, and publication of the other artefacts from this level, will be required before any certain dates can be offered for the beginning of the Dark-age phase.

The Dark-age settlement at the Udal with its distinctive houses and artefacts, including the pottery I have described, develops for the span of time represented by levels XIV to XI. There is then a change at the site, and this settlement dies in an abrupt and dramatic way. That this is the result of the documented 'Viking' incursion into the area seems undeniable. The date
of that abrupt change and its significance is discussed in the next section.

The Viking Age

Since distinctive Hebridean pottery of the Viking Age was only recognised for the first time at the Udal, I shall begin by considering the interpretation of the pottery in the Viking-age levels of that site.

There is pottery of two distinct traditions in the Udal Viking-age levels. The majority of diagnostic sherds in level X, the primary Viking-age level, are indistinguishable from the Dark-age pottery. Level IXc, the second major Viking-age level, has a few sherds of Dark-age type. Level X also has a substantial percentage of pottery in the new Viking-age style and, by the period represented by level IXc, this new style comprises the overwhelming majority of the pottery.

How is this to be interpreted? Are the two styles in use contemporaneously in the Viking-age settlement? Is there any connection between the two styles; that is, could the new Viking-age style develop out of the Dark-age style?

At present, it is difficult to answer the first of these questions. Residual finds are a problem on any long-occupied site and there are no hard and fast rules for distinguishing residual from contemporary material. In view of the sheer quantity of pottery in the Dark-age levels, it would not be impossible for all the Dark-age
style sherds in the later levels to be derived material and thus irrelevant to the material culture of the Viking-age settlement. It is possible that examination of the finds from the Viking-age house floors will allow resolution of this problem, but the stratigraphic information necessary for such an analysis was not available to me. If the two styles were in use together, this would indicate an element of continuity between the two settlements and extend the date range of the Dark-age style into the earlier part of the Viking Age.

I can see no evidence to derive the Viking-age style from the Dark-age style. The difference in forms and construction methods seems overwhelming. I have outlined the claimed significance of changes in vessel 'forming' methods, though it must be admitted that a major change in vessel forms might necessitate or encourage adoption of different construction methods. The open mouthed bowls and cups of the new style are quite different in form from the buckets and jars of the Dark-age style. These new forms may indicate new cooking or eating habits, such as Hurst argues is implied by the abandonment of late-Saxon vessel types and the adoption of large medieval cooking pots (1976, 342-3). The adoption of new dietary forms in the Hebrides may be most obviously indicated by the use of platters in the Viking-age levels, if Crawford is correct in seeing them as baking plates (Crawford & Switsur 1977, 131). This might suggest the adoption of 'flat bread', or perhaps oat cakes, and thus be analogous
to the iron griddles reported by Ross in use in the nineteenth-century Hebrides (1895, 34-43; cf. Klindt-Jensen 1955, 842-3).

Thus, whether there is any connection between the two styles, and none can be demonstrated, a major change has taken place in the ceramics on the site. As I have already said, the Udal was the first site at which this new ceramic style was recognised. However, in the course of this thesis I have listed 34 sites with comparable material or with pottery which, for other reasons, can be dated to this period. Most of these sites do not provide additional information, as the sherds are from eroding deposits of an unknown nature, though in some cases other finds, and in particular metalwork, may point to Viking-age activity on the sites. Of the few sites where the pottery is stratified, only the partly excavated site of Barvas has a definite association of pottery and rectangular houses of Viking-age type, though rectangular structures were noted at Allasdale, Garry Iochdrach and Mingary. Galson has a midden dated by a silver coin of Eadgar (957-975 A.D.) and two ringed pins, but the pottery from the midden is not well documented.

Only five sites also had evidence of Dark-age pottery, but it is not clear whether this is merely an indication of the difficulty of recognising the Dark-age style or whether it is a genuine sign of discontinuity in site location between the Dark Age and the Viking Age.
The Viking-age style is found more widely than the earlier Dark-age pottery. It is found in the Outer Hebrides from Lewis south to Barra, but also occurs on Skye, Coll, and Tiree, with a possible occurrence on Mull. The Tiree find is the most southerly yet recognised, unless the pottery on Iona and the sherd from Dunadd are accepted as the same type. There do seem to be reasonable grounds for seeing those two more southerly finds as more possibly related to Irish Souterrain Ware rather than to the more northerly Viking-age style, but this is not provable. The distribution from Lewis to Tiree is more like that of the Iron-age ceramics I have already discussed, but since there is some doubt about the genuineness of the limited Dark-age distribution no conclusion can be reached on these grounds.

Although the bulk of the finds was very homogeneous, a few sites produced features that were exceptional. Thus Galson, though it has independent evidence of a Viking-age date, did not produce any platter sherds or any evidence of grassmarking. Its other vessel forms were otherwise easily paralleled at the Udal. Although it could be argued that a chronological difference explains this, it seems more likely that some cultural variation occurs within the Viking-age pottery assemblages. Likewise, the site of Cornaig Lodge on Coll produced a low-walled dish which is unique in the Hebrides, but which can be paralleled in Cornwall. The other finds from this site are indicative of a Hebridean Viking-age assemblage. Two other sites,
Chicken Head and Bragar, produced evidence of the use of decoration in a manner not found at the Udal, though simpler forms of decoration are found at the latter site. Thus there is evidence that the Udal Viking-age assemblage does not encompass all the variations to be found in the ceramics of the Viking-age Hebrides.

I have thus isolated a ceramic style which occurs quite widely in the Hebrides but which does not occur in the more southerly islands, nor on the Scottish Mainland. Before discussing the significance of parallels elsewhere, we must look at the context of the pottery at the Udal and the other sites in the Hebrides.

The Viking-age levels at the Udal produced a whole range of artefacts in bronze, iron and bone that show a major contrast with the Dark-age levels (Crawford 1981, 267). Crawford stresses this contrast as a precise transition between levels XI and X. The houses change too— from the long-developed native curvilinear or 'ventral' forms to rectangular houses with different internal arrangements. There can be little doubt that this cultural transformation at the Udal is the result of the 'Viking' Scandinavian intrusion into the Western Isles.

Crawford argues that this intrusion was forcible that it took place in the ninth century, and that it was sudden and totally obliterative in terms of local material culture (ibid., 267). The complete transformation of the settlement and its material culture might seem
persuasive of this view and the ceramic evidence could be argued in support, but some aspects of the evidence cannot be completely explained in this way.

There is a substantial quantity of Dark-age pottery in the Viking-age levels. Is this the only artefact class of the Dark-age village to occur in Viking-age levels? If this is the case, then the Dark-age pottery may have genuinely been in use in the Viking-age settlement, and thus imply some kind of continuity. If other Dark-age artefact types also occur in the Viking-age levels, the problem of residuality precludes easy interpretation, but does raise the possibility of some continuity of population and practices between the two phases.

I have said that the new settlement was the result of the Scandinavian settlement. The reason for arguing this is of course primarily the historical, placename, and linguistic evidence for the area, as for the whole of the north and western parts of the British Isles (Wilson 1976). Does the archaeological evidence support this other evidence?

The rectangular houses and other structures are probably the strongest evidence for Scandinavian settlement, for these are paralleled in all the 'Viking' settlements of the north Atlantic islands (Sveinbjarnardottir 1976). However, very few of the other artefact types can be shown to be specifically Norse (it is Norwegian settlers who are thought to dominate the northern settlements), or even Scandinavian in general. Crawford
cites one Norwegian silver penny of the mid-eleventh century, bronze pins - one of which is a crutch-headed pin dated by Graham-Campbell to the eleventh/twelfth century (1975,20-1) - bone work, glass beads and a silver inlaid casket mount (1981, 266). The Borre style ornamented bronze strap-end from level X was regarded by Graham-Campbell as an amalgam of Celtic, Norse and Anglo-Saxon features (1973). Until the artefacts as a whole are published, consideration of their further significance is impossible.

What of the Viking-age pottery? Pottery is not a feature of the early Norse settlements of Orkney or Shetland, or apparently in Norway (Foote & Wilson 1973, 186-7). Instead, steatite was used, as well as iron, and possibly also wood and leather (Graham Campbell, 1980, 15-17; Ritchie 1977, 180-7). Thus the use of pottery cannot be seen as a Norse feature. It is possible to argue that the Viking-age forms are skeuomorphs in pottery of vessel shapes in other materials. Thus the open-mouthed bowls could be modelled on wooden bowls or steatite vessels (cf. Hamilton 1956, plate XXXVIII). Similarly, the pottery platters may be analogous to the steatite baking plates reported from Jarlshof and Underhoull (Small 1966, 244), and known in Scandinavia (Hamilton 1956, 180). However, it is not clear why a non-pottery using group of Scandinavian settlers should adopt pottery on reaching the Hebrides. One explanation would be that they adopted pottery from the local population, thus implying some continuity in population, even if at a subservient level. Alternatively,
since I could see no obvious connection between the two pottery styles, the Scandinavian settlers could have adopted pottery from elsewhere.

The absence of steatite at the Udal is quite striking. Likewise the use of steatite at Drimore and the rarity of pottery there is a dramatic contrast. Although, as Graham-Campbell (1975c, 344) argues, there are problems in using the Drimore evidence it seems legitimate to offer an interpretation of this. Could Drimore indicate a settlement, apparently short-lived, of Scandinavian settlers direct from the Northern Isles or Norway? In contrast, the Udal evidence might indicate other influences, though the fact that the Viking-age style pottery occurs in level X suggests that a time gap is not the explanation of these differences.

The only area where I could cite close parallels for the new Viking-age style was northern Ireland. There, among the Souterrain Ware assemblages, are vessels of similar shapes, similar decoration and with grassmarked bases. The best parallels were with sites in N. Antrim such as Larrybane and such evidence as there is would suggest that these sites may date to the Viking Age (discussed in chapter 12).

Is there any historical explanation for similarities between pottery on Irish sites and that on a Hebridean 'Viking' site? One explanation would be that these 'Irish' sites are actually Scandinavian settlements. This would, however, be regarded as rather heretical for
it is generally believed that the Scandinavians made little impact in this area. In 866 Aed Finnlaith, King of the Northern Ui Neill is recorded as having rooted out all the nests of pirates (i.e. Scandinavians) on the coast from Donegal to Antrim (O'Corrain 1972, 94). We would have to assume that pottery had been adopted by the Norse in the Hebrides and that they now introduced it to Ireland. Against this it can be argued that Souterrain Ware is probably pre-Viking Age in origin and the forms found in other parts of northern Ireland are quite unlike those of north Antrim (see chapter 12), and thus it is not easily explicable in the manner suggested above.

Alternatively, some explanation for Irish influence in the 'Viking' Hebrides could be argued. Crawford has argued that the general material culture of level IXc is that of the 'Gall-Gaidheal', the Norse Gaelic speakers of the Hebrides, attested at this time in the literature (Crawford & Switsur 1977, 131). In view of the Irish parallels for the pottery, this is a tempting view. However, the pottery at the Udal shows these features in level X, the primary Viking phase. Who were the Gall-Goidil (I have followed the spelling used by O'Corrain 1972 and 1979), and how early were they in existence?

O'Corrain writes:

The likeliest explanation of the term Gall-Goidil is one that accords with the etymology and with common sense, that they were a racial mix of Vikings and Gaelic Scots (with whatever others of whatever provenance who attached themselves to them) who were adventuring in Ireland on their
own account. There need be no suggestion that they formed a single unit or came exclusively from the Hebrides. (1979, 301).

They are first recorded by the Annals of Ulster fighting in Ireland in 856 (Anderson 1922, 285). This clearly implies that contact between Vikings and Scots (or Irish ?) prior to this was not totally hostile. Thus O'Corrain has argued that:

"By the middle of the ninth century, a whole generation of mixed Norse-Irish had grown up." (1972, 96)

Where did this 'racial mix of Vikings and Gaelic Scots take place'? Smyth argues that in the ninth century 'the only possible location for such a people was in Scotland, and the Western Isles in particular' (Smyth 1977, 115). However, there are uncertainties in the historical sources and some writers have seen the Irish and Scottish Gall-Goidil as quite separate, and post-eleventh-century documentation places the latter in Galloway (ibid.). However, most modern writers seem to accept that Gall-Goidil were present in the Hebrides. If O'Corrain is correct, intermarriage and perhaps alliance had taken place a generation before the mid-ninth century. Since he does not believe there was Scandinavian settlement in Ireland prior to 840, this places this meeting of Gael and Scandinavian in the Western Isles of Scotland or its western mainland. One late source tells us that some of the Gall-Goidil had been fostered by 'Northmen'
Anderson 1922, 285, note 6). If this is a genuine tradition, it would seem that intermarriage was the result of alliance between the two groups such as is documented for Ireland by 850 AD (O'Corrain 1972, 90). However, this implies a meeting of relative equals rather than the overwhelmingly destructive depredation seen by some as the impact of the Scandinavians on the Western Isles (Crawford 1981).

Another source, the Chronicon Scotorum, seems to imply some settlement of Gall-Goidil in northern Ireland prior to 859 (Anderson 1922, 290), so these could be some of the settlers driven out by Aed Finnlaith in 866.

Later saga sources suggest that there was considerable intermarriage between Scandinavians and Scots or Irish. The genealogies of the Icelandic settlers of the ninth century include many who came from the Hebrides - some with Gaelic names or nicknames, and many of mixed descent (Scott 1954, 197-201). Evidence of language, place and personal names, and blood groups, has been advanced to show a major Celtic element in the Viking-age population of both Iceland and the Faroes (Duncan 1975, 85; Saugstad 1977, 80).

Two annalistic references have been used to indicate early Scandinavian control of the Hebrides, and intermarriage between Norse and Gael. O'Corrain rejects the record of the death of 'Gofraid mac Fergusa toisech Innsi Gall' in 853 as an unacceptably early occurrence.
of a Viking/Irish name only documented in an unreliable annalistic compilation (1980, 178). Duncan and Sawyer have seen the record of the son of a king of Lochlann, recorded in 853, as referring to a Hebridean Viking chief of this date (Duncan 1975, 84; Sawyer 1970, 89), but Greene implies this is conjecture (1976, 76-7). The historical sources are neither explicit nor reliable for the ninth century Hebrides.

Place-name evidence from the Hebrides may indicate a varying degree of Scandinavian impact in different parts of the Hebrides, for the ratio of Norse to Gaelic names declines southward from Lewis, estimated as 80%, through the Uists and Skye, with 66%, to Islay, with 33%, and Arran, with 11% (Scott 1954, 190; McNeill & Nicholson 1975, 6-7 and fig 6). This is of course merely an estimate, and Oftedal's work has shown an important distinction between settlement names and topographic names (1981). One problem with interpretation of these maps of place-names is that they are modern distributions. Is a declining percentage of Scandinavian names indicative of the Viking-age place-names, or of the subsequent Gaelicisation of the area? (cf. Duncan 1975, 84-6).

Crawford suggested one interpretation of this evidence positing three distinct areas with varying experience of Gaelic and Norse interaction: south of Ardnamurchan a Gaelic Scottish political unit persisted but with close Norse contact; a middle region, including the Uists but south of Skye, overwhelmed
by Norse intrusion, but having Gaelic language and population reasserted from the south; and a northern area which remained Norse till the later medieval period (1975, 3 and fig. 1). Oftedal, however, argued that in Lewis a Norse-speaking ruling class named the farms and villages, whereas a subjugated Celtic-speaking class attended to agricultural tasks (1981, 187). It is not clear, however, whether he sees these people as local native survivors or as an introduced slave population.

This discussion does of course touch on the vexed problem of the scale of Scandinavian settlement in the British Isles and the interaction between native and 'Viking' settlers (e.g. Sawyer 1971, 120-76). There is no dispute that there was intermarriage between Scandinavians and the native population of western Britain and Ireland (e.g. Sawyer 1970, 88), but how early and where is disputed. Dolley has recently argued in support of the case for a mixed Norse/native population on Man and for bilingualism throughout the period (1981; cf Megaw 1976). The suggestion of cultural admixture in Orkney and Shetland has also been argued recently by Ritchie (1975 and 1977). Crawford rejects this and appears to argue for extermination of the native population in the Northern Isles and the Hebrides - 'total expulsion, extinction or complete cultural de-characterisation of a most improbable kind' (1981, 264-8).

Though the evidence for specific parts of the
Hebrides is scanty, some native survival in strength must be posited if O'Corrain is correct about the Gall-Goidil. Crawford's suggestion of variation through the area would of course permit this, though whether a sliding scale from north to south is correct requires more documentation (1975a, 3).

How does the archaeological evidence fit these historical interpretations? The Udal does appear to suggest an abrupt and probably violent termination of the Dark-age settlement. However, although the artefacts change, they do not indicate the imposition of pure Scandinavian material culture. Until the whole artefact assemblage from the Viking-age levels is published, this is difficult to evaluate, but the fact that most of the artefacts are not distinctively Norse must be explained (e.g. Crawford 1975a, 12). If the local material culture is obliterated (Crawford 1981, 267), why do the Scandinavians adopt non-Scandinavian traits?

The pottery is the only artefact type which can yet be discussed in detail. As I have shown, there is uncertainty as to whether the Dark-age style continues in level X at the Udal. The use of pottery at all is however, a break with Norse material traditions and suggests a distinction between the Hebrides and the Northern Isles where native pottery production ceases and steatite is used instead. Either the habit of using pottery continues in the Hebrides, or the Scandinavians have come into contact with another pottery using group.
A third, environmental determinist, explanation, i.e. the Vikings adopt pottery because they have no steatite, wood or other materials for containers, seems highly unlikely in general and demonstrably untrue in parts (e.g. Crawford & Switsur 1977, 130-1; Ritchie 1981).

It could be argued that native Hebridean survivors began to make pottery in the shapes required for Scandinavian diet and kitchen requirements. But there is no sign of a gradual change from Dark-age to Viking-age pottery styles. Perhaps more importantly, the change in construction traditions seems abrupt and, as I have already discussed, there are grounds for seeing this as a major discontinuity. It may imply different potters rather than an adopted new style.

If pottery is not a local Hebridean survival, where did these Scandinavians acquire this cultural trait? Could Scandinavian settlement in northern Ireland have led to a subsequent reintroduction of pottery to the northern Hebrides? If so, why is there no pottery in most other areas settled by the Hiberno-Norse or Hebrido-Norse? The distribution of the Viking-age style pottery in the Hebrides (fig. 29) may imply a continued cultural resistance to pottery in the southern Hebrides and other areas settled or affected by the Scandinavians. Thus only in certain areas is pottery used on Scandinavian settlements and only in the Faroes have I been able to find possibly similar pottery to that from the Hebrides.
There are major unresolved problems, however. What date are the Souterrain Ware assemblages of northern Ireland and could people have brought similar pottery to the Hebridean settlements? This can only be answered by investigation of suitable Irish sites.

Is there a connection between the Dark-age and Viking-age styles in the Hebrides? More stratified sites need to be excavated to assess this problem and date the two styles.

How close is the connection with Faroese pottery, and is there any connection with the Cornish sequence? These problems require analysis and publication of pottery in both areas.

What other influences do the other artefact types at the Udal, and more generally in the area, indicate? This problem must await the publication of the Udal, and more general research in the area.

Most of these questions cannot yet be answered. The pottery can be interpreted as showing connections with Ireland, and less clearly with Cornwall, but only a tentative suggestion that this may relate in some way to the Gall-Goidil can be made.

The pottery appears to indicate sites occupied in the Viking Age, but its chronology is crude. We cannot use it to indicate the beginning of 'Viking' settlement in the area, though pottery does appear in the first Viking-age level at the Udal. As I have argued, this can only be loosely dated and gives no more precision than
hypothetical dates based on historical sources. Level X can be bracketed later than 750 AD and probably earlier than 900 AD. Likewise, the end of the phase is uncertain and, though it is tempting to adopt a date of c. 1100 AD on archaeological grounds, it could have lasted well into the twelfth century. The pottery can, however, be used to locate sites and date them to the Viking Age and this will facilitate site location and selection in future. Its historical interpretation is at present equivocal.

Conclusions
In the course of this chapter I have outlined the sequence of pottery in the Hebrides and discussed its interpretation. I have suggested a transition from the decorated Iron-age styles to the undecorated Dark-age style, followed by a distinct Viking-age style. The problem of the later, Medieval pottery could not be dealt with.

Many problems remain. Some can be resolved through further analysis of the Udal evidence. Thus the beginning of the Dark-age phase and its relationship to the Udal South sequence may be explained by publication of the Udal stratigraphy and other artefact types. The termination of the Dark-age style and the beginning of the Viking-age style may likewise be at least partly illumined by analysis of the 'Viking' house floor finds and of the more detailed stratigraphy of the Viking-age levels.
The absolute chronology of the various phases at the Udal is still weak. This may be improved by publication of other artefact types, but further radiocarbon dates from the Udal are also necessary.

Other problems require work at other sites. Is the Udal typical of the area? That can only be resolved by excavation on other sites. What of the comparisons with Ireland, Cornwall and the Faroes? These too can only be resolved by further work in the appropriate areas. Much of the pottery evidence from other sites has lacked any stratigraphic support. Some of the sites which are known to be actively eroding could be recorded and sampled with this view in mind. Others will require larger scale investigation.

In examining a single artefact type I was aware that there would be a limit to the inference likely to stem from the work. I have increased the number of dated sites in the Hebrides significantly and in the case of the Viking Age quite dramatically. However, this can only be regarded as a first step in the process of understanding the cultural history of the area. Other artefact types and other sites must now be studied. The analysis of the pottery has, however, helped to break through the barrier of site location and selection mentioned in chapter 2, and has begun the process of attempted synthesis and questioning of possible interpretations which will, I hope, lead to a full regional synthesis at a later date.