section of the neck missing. There is no evidence for the presence of a handle on the surviving pieces, and there is a strong probability that there never was one, and that in fact it is a jar or bottle and not a jug. Although this vessel is part of a similar tradition to the small jugs in Humber ware fabrics, its fabric, form and rim shape are sufficiently different to make its use as a type-name unwise. Added to this, there is so far no known ceramic production at Skipton on Swale.

The term Humber ware is the well-known name for a tradition of potting in Humberside and North and East Yorkshire, and encompasses several of the production centres where many of the small jugs found in the area were made. It is therefore recommended that in future the small jugs of this type and fabric found in Yorkshire and Humberside are referred to as Humber ware drinking jugs, unless the specific manufacturing source is known.

Acknowledgements

I am grateful to the Yorkshire Museum for allowing me to publish this pot and its drawing, and for permission to publish the drawing of the Skipton on Swale bottle by Trevor Pearson.

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Note on the coins from the Ryther hoard

A total of 815 coins was recovered, having a face value of £6-12-7, a sum which, allowing for inflation, approximates to £2250 in our present currency.

Many of the coins present had been in circulation for many years prior to being deposited, a few of them indeed having been struck as early as the reign of Edward I. The majority were however found to be of fifteenth century date, with issues of Henry VI and Edward IV dominating. Unsurprisingly, issues of York were well represented. In addition to English groats, half-groats and pennies, six Irish and two Scottish coins were recovered. Of greater interest than these however were six double-patards of Flanders and one of Bradant, all of which were struck under the authority of Charles the Bold (1467–77), and which were granted legal tender status in England during the reign of Edward IV.

The latest coins represented in the hoard were three pennies of Richard III and four facing-bust York pennies of Henry VII. The absence of later coins of Henry VII strongly suggests that the hoard was concealed at the very beginning of his reign and a date of deposition of 1486–7 is probable.

The hoard was taken by the finder, Mr Stephen Pickles, to the Yorkshire Museum and the coins were declared Treasure Trove at the subsequent Coroner's Inquest. The pot was subsequently donated to the Museum by the finder.

Craig Barclay
Yorkshire Museum

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CERAMIC USE ZONES IN MEDIEVAL SCOTLAND

Introduction

The archaeological investigation of later medieval Scotland has in the past largely been restricted to the burghs, ecclesiastical and castle sites; from within this restricted sample, the bulk of evidence for patterns of ceramic usage comes from urban sites. Some of the problems that this creates for the study of medieval ceramics have been reviewed already (Cheer 1990) and the situation has changed little since then. Although this apparent imbalance has been created by an unconscious bias in excavation strategy that has favoured certain classes of settlement, it may also reflect to some degree an underlying reality.

An examination of the socio-economic structure of the West Highlands in the post-medieval period by Dodghson (1988) used a model derived from work in economics and anthropology to explain differences in material culture between Highland and Lowland Scotland. In essence, Dodghson proposed that social structures in the Highlands combined to form a redistributive exchange network (Hodder 1978, 106–8), within which a social elite controlled external contacts and the allocation of goods. This interesting theory prompted the idea that outside the burghs such systems may have existed more widely in the later medieval period. Such a suggestion appears to derive support from a number of sources: Smout (1972, 31–8) has presented a picture in which the craft industries of the royal burghs had a life largely separate from the socio-economic context of the countryside. This point has also been made more widely about medieval towns by Braudel (1976, 53–60), and the historical geographer I D Whyte (1983, 121) has written that:

> In the sixteenth century there was little practical difference between the social organisations in the Highlands and much of the Lowlands, where kinship played an important role with a feudal landholding system. Social differences between the two regions were of degree rather than kind.

The hypothesis that there were similarities between economic and social systems in parts of Highland and Lowland Scotland in the medieval period, finds further support from the work of geographers and economic historians upon the evolution of market systems in less developed economies. The characteristics of medieval urban settlement in Scotland match closely those of Polyani's ports of trade (1963), Hirths' gateway settlements and Bohannon and Daltons' peripheral markets (1962). The primary role of these settlements, to facilitate exchange between economically diverse systems rather than the generation of internal economic activity, is typical of societies with poorly developed market and distribution mechanisms.

Working with these models, five broad ceramic use zones have been defined for medieval Scotland, as shown in Fig. 1.

Ceramic Use Zone One

This zone includes the burghs and other sites of eastern Scotland north of the Tay, though its precise western and northern boundaries remain undefined. Ceramic assemblages from sites in this zone contain three major components: Scottish White Gritty wares, Redwares and imported wares.

White Gritty wares that are known to have been produced in Lothian, Tweeddale and Fife (Brooks 1980, Haggerty

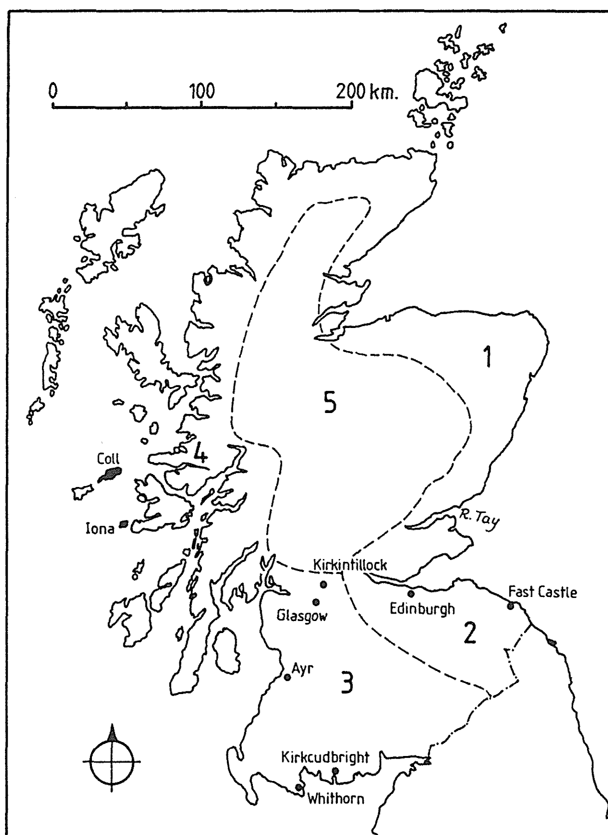

Fig. 1. Map of Scotland showing the five proposed ceramic use zones and locations mentioned in the text.

1984) form a diminishing percentage of ceramic assemblages over time. In the early 13th century White Gritty wares are the commonest fabric present, but this diminishes as the proportion of Redwares expands. By the fifteenth century, White Gritty wares, though still present, usually form only a minor component of most ceramic assemblages.

Redwares are found on sites throughout this zone. Samples subjected to both chemical and petrological analysis (Scott 1982; Cracknell 1982) have been shown to be produced from local clays.

Redwares change from being absent or forming a minor component of early thirteenth-century assemblages and rise to become the commonest fabric in fourteenth- and fifteenth-century assemblages. The proportion of imported wares falls over time and the number of different sources represented also declines. By the late thirteenth to fourteenth centuries imported wares form a small part of most assemblages (commonly less than ten percent) and the pattern of sources also changes. Initially, pottery from East Anglia and the London area are common imports but by the later thirteenth to mid fourteenth century these are replaced by Scarborough ware. By the later fourteenth century Scarborough ware is no longer the commonest imported fabric, losing this place to fabrics from Holland and the Low Countries (Verhaeghe 1982, Cheer 1991).

Interpretation of these changes purely in terms of market forces is probably over-simplistic since a variety of factors will have brought about this apparent shift over time from an English to a continental emphasis in trading patterns.

A review of other sources of evidence from the fifteenth century (Lythe 1977, 77) has also demonstrated this process, which may partly have been due to Anglo-Scottish tensions following the wars of independence and the effects of the Black Death, from which cities in the Low Countries escaped comparatively lightly (Gottfried 1983, 57). In addition to these specific events, Braudel (1984) has shown that from *c.* 1350 the European economy entered a long term cyclical downturn. This would tend to increase the relative importance of central economic areas such as the Low Countries (*ibid*, 96).

Ceramic Use Zone Two

This zone stretches down the east coast of Scotland south of the Tay with the precise western edge remaining undefined. Ceramic assemblages from this zone contain a similar range of fabrics to those from zone one and although present in different proportions they can be discussed in the same way.

White Gritty wares, which were produced in this zone (Brooks 1980, Hagggerty 1984) remain the commonest fabric present in ceramic assemblages throughout the later medieval period. Haggerty (1984, 395–6) has suggested that the early establishment of the White Gritty ware industry here was linked in some way with the foundation of monastic settlements. As yet this remains to be proven, but forms an interesting theory in need of further study. Redwares comprise a minor component of ceramic assemblages in this zone and it is possible that at least some of them derive from the Redware industries of zone one further north.

The general picture presented by the imported wares is, as far as it is known, identical to that of zone one. Lack of data may conceal significant differences in the pattern of imported wares present in these two zones but both would have formed a part of the same wider North Sea trading system. The sizeable assemblage of imported wares excavated from a large pit or quarry at Fast Castle (Haggerty and Jennings 1992) contains material from a diverse range of sources including much Rhenish stoneware but none from the Low Countries. This should sound a note of caution against generalisation, but it is probably due to the late fifteenth to early sixteenth century date of the assemblage.

Ceramic Use Zone Three

The third zone lies on the south western coast of Scotland, both its extent and attributes being difficult to define from the limited amount of excavation that has been carried out. White Gritty ware has been found in excavations at Ayr, Glasgow and Kirkintilloch (SUAT archive material). The source of this material has not been determined; it may originate in zone two but local production within this geologically diverse region cannot be ruled out. Little can yet be said about the relative abundance of White Gritty ware over time except that it is of little importance in the mainly fifteenth century assemblages from backland sites in Ayr.

As with the White Gritty wares, only limited conclusions can be drawn from the Ayr assemblages concerning Redwares. Redwares form the major component of these assemblages and although no scientific work was carried out, they may on analogy with zone one (above) have been produced close to or even within the town. The possibility of local urban-based pottery industries may derive some support from excavations in Kirkcudbright which found two possible Redware waster sherds (Dunning *et al.* 1959, 8).

Useful evidence for imported wares in this zone comes from unstratified or unpublished material. The unstratified material listed by Thoms in 1983 contrasts with the data available from zones one and two. Scarborough, Dutch and Low Countries wares are rare or absent and French material appears to dominate in the limited data available, to which can be added the presence of medieval French pottery from Whithorn (Hill 1992, 19–24). Evidence for French

dominance can also be sought from further south around the coasts of the Irish Sea, where in a summary of pottery imported into Dublin (Wallace 1983, 227) it was suggested that "the vast bulk of Dublin's and presumably Ireland's medieval pottery imports came from France". Iberian imported wares are also to be expected in this zone given their wide distribution in Ireland (Meenan 1992). In contrast a recent survey of medieval pottery from Cumbria (McCarthy and Brooks, 1992) found that there were few imports even into Carlisle. Such a finding is not completely surprising since the wealth of ceramic imports found in Southampton does not seem to be reflected in the small town of Romsey a mere ten miles distant (Newman 1992, 100, 101).

Ceramic Use Zone Four

This zone (Fig. 1) covers a large area of northern and western Scotland and lies outside the ceramic developments taking place in zones one to three. There are no large assemblages of later medieval pottery and no medieval burghs in this zone.

Throughout the zone there was a long-lived tradition of producing hand made domestic pottery in fabrics tempered with vegetable matter (Gaimster, 1986; Lane, 1990). This tradition may partly stem from a shortage of wood in island communities from which to make vessels that elsewhere were widely used as an alternative to ceramics (McCarthy and Brooks 1992, 36). There has been little study of these medieval and post-medieval Craggan wares compared with the prehistoric pottery from the same region ((Lane 1990). Fabrics produced using local materials should show some variation between geologically distinct areas, but the social and cultural basis of production is likely to have been similar throughout the zone (Peacock 1982, 13, 17).

In the medieval period this zone did not support the widespread importation of pottery from any source. In the absence of urban centres imported ceramics appear to be restricted to high status sites. This was probably also the case in the other zones outside the burghs and reinforces the arguments in favour of a redistributive exchange network. The sources of pottery imported into this zone appear to have been similar to those for zone three. Saintonge ware has been recovered from Iona (Redknap 1977) and post-medieval Merida ware, Saintonge Polychrome and Westerwald stoneware from Coll (Turner and Dunbar 1970).

Ceramic Use Zone Five

The highland area between zones one and four has produced little or no evidence of ceramic usage. Settlement within this zone was sparse, and outside a restricted number of high status sites it is probable that as elsewhere ceramics were little used. At present this assertion can only be supported by negative evidence and the logical similarities with the adjacent zone four.

Discussion

The initial stimulus for this study came from work comparing medieval pottery assemblages from Scottish burghs using similarity coefficients (Brainerd 1951, Robinson 1951). This project, after showing early promise, soon began to suffer from problems caused by a shortage of suitable data with which to work, but then developed into a wider survey of patterns of ceramic use.

Evolving differences between zones one and two are most likely to have arisen from economic factors. As local pottery industries became established in zone one, they gradually replaced the White Gritty and imported wares common in twelfth and early thirteenth century assemblages. Although White Gritty ware became less common in zone one, it remained the dominant fabric in zone two closer to its centres of production.

The greatest single cause for the patterning of imported wares that characterises zone three is geography, it being difficult for any site there to participate directly in the North Sea trading network that served zones one and two.

Throughout the medieval period zones four and five were linguistically and geographically distinct areas, and the low level of ceramic use within these zones, and perhaps elsewhere in rural Scotland, is probably in part connected with the persistence of a highly conservative society.

> Many of the constituent elements in the prevailing kin-based structure of society, [in the Lordship of the Isles] in terms of both organisation and law derive from a pre-twelfth century situation and their fullest expression in written form is often to be found in seventh and eighth century law tracts. A social system with such a long history behind it cannot fail to impose a similar conservatism on the organisation and attitudes of its learned orders and therefore on culture in general. (Bannerman 1977)

The importance of cultural acceptance of change has been recognised many times but perhaps most appropriately in this case by the economist Simon Kuznets. In his work on the characteristics of the growth process in developing nations, a key requirement was identified as the need to make institutional, attitudinal and ideological adjustments to take full advantage of new technology (Kuznets 1973).

This paper is founded upon a very limited and biased quantity of data and it can be confidently predicted that the picture that it presents is over simplistic, wrong at least in some respects and will almost certainly change in the future. However, whilst the patterning of the individual elements of material culture can be influenced by many factors it is likely that the underlying influence of wider geographical, economic and cultural realities is reflected by the existence of these ceramic zones.

Acknowledgements

This paper has had a long gestation period and originated in a presentation made to members of the Medieval Archaeology Research Group in Edinburgh in 1992 when I was employed by the Scottish Urban Archaeological Trust. I would like to thank all those present for the stimulating discussion that followed. Additional comments and reference material have been supplied by Colin Wallace and Irena Lentowicz, and I am also very grateful to Graham Reed for drawing the map of Scotland used here.

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ARTIFACTS FROM WRECKS: THE ARCHAEOLOGY OF MATERIAL CULTURE FROM SHIPWRECKS OF THE LATE MIDDLE AGES TO THE INDUSTRIAL REVOLUTION

This two day conference at the National Museum of Wales in Cardiff (9-10 Sept. 1994) was a joint venture by the Society for Post-medieval Archaeology and the Nautical Archaeology Society. It is impossible to review fully the numerous papers in the packed programme. The consensus was that this was an enjoyable and stimulating though also exhausting symposium. Papers varied from case studies of individual 16th and 17th century wreck sites such as those from Yarmouth Roads (Isle of Wight), the Cattewater (S. Devon) and Duart Point (Mull), to international reviews of artifact types. In the latter category were David Gaimster's summary of stoneware finds from wrecks and David Higgins' review of clay pipe finds. Our American colleagues (who rely heavily on stem bore analysis for dating Colonial sites) have yet to take on board the lessons of Jeremy Green's 1977 analysis of the *Vergulde Draeck* clay pipes. Green's classic study showed a bimodal rather than a normal distribution of stem bore diameters among a clearly contemporaneous group of pipes. Two papers by Alex Hildred and Maggie Richards on the *Mary Rose* finds demonstrated the potential of detailed analysis of wreck artifacts and their distribution. However, the long term funding of such show-case projects is in sharp contrast to many wreck excavations which are clearly underfunded especially in terms of post-excavation analysis.

One of the major projects currently in progress is the excavation of the *Kronan* (1676) in the Swedish Baltic. However, Lars Einarsson's attempt to apply a complex sociological scheme, derived from a Swedish historian, to