"The greatest depository of archaeological material":

The Role of Pottery in Ploughzone Archaeology

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Summary

Defining residuality and redeposition during the excavation of rural sites is a recurring problem. In this paper, the use of ceramic data in the interpretation of those processes will be considered. Of necessity this has resulted in a paper that raises more questions than it answers, although some suggestions will be made in an attempt to define more clearly the problems in current, accepted methodologies.

Urban & Rural Sites

There are major differences between site formation processes in the urban and rural domains which are not always acknowledged. These need to be considered before methodologies for dealing with them are discussed.

On urban sites excavators are confident that boundaries between stratigraphic units can be clearly identified, leading to an emphasis on the recording of vertical stratification, within which well-defined, "sealed" groups of artefacts can be isolated. The primary formation processes on urban sites are, in order of importance: deposition, for example the build up of refuse or the dumping of constructional make-up; truncation, for example terracing or levelling; and re-working, for example agricultural activity leading to the formation of dark earth deposits.

On rural sites a different order of processes pertains. A major factor is truncation, usually the result of modern or medieval agriculture, resulting in what might be termed the "classic" rural site which consists of isolated cut features and few or no horizontal layers. A second factor is re-working, which may be either contemporary with occupation (and continuous on multi-period sites) or which relates to post-depositional processes within the soil, either physical or chemical in nature. The final factor for consideration is deposition, which obviously does occur on rural sites, but which is often complicated by truncation and re-working.

It can therefore be said that urban deposits are characterised by deposition and build-up, while rural deposits are characterised by truncation and re-working.

In the recent past, the methodologies and techniques of urban excavation have dominated archaeological thinking. As a result, rural sites are, in many ways, being excavated as if they were poorly preserved urban sites, with no thought given to the different formation process at work and the resulting major biases in artefact patterning and distribution.

For example, on many rural sites, it is still standard practice to machine strip topsoil to reveal "the archaeology", or rather that which is currently recognised as material of archaeological interest. This may be legitimate in the urban environment where valueless, modern overburden can be clearly identified. However, the processes of truncation and re-working on the rural site do not allow such easy decision-making. If most of the surviving, recoverable artefacts from a site have been re-worked into the topsoil, should that topsoil be ignored?

A typical rural finds assemblage might be regarded as poorly stratified and physically fragmented. In comparison with the sealed groups of an urban site, the majority of the material may indeed be either residual, or unstratified. But how is "unstratified" defined? Are the excavation and collection methodologies used on rural sites really exploiting the full potential of the assemblages and, therefore, of the sites themselves?

Ploughzone Pottery

At present, artefacts, particularly pottery, recovered piecemeal from the ploughsoil can only be used to supplement a regional type series or are only of intrinsic interest. The potential of this material for spatial analysis is lost.

Examples are known, however, where the systematic collection of artefacts from within the ploughsoil, preceding excavation, has shown the potential of this
Figure 1: Quantities of different forms (by vessel) in the ploughsoil
material to add to the interpretation of a site. Hillam Burchard is a deserted medieval village near Aberford in West Yorkshire with upstanding earthworks, gradually being ploughed flat. In 1981 excavations were carried out in the area most at risk (West Yorkshire Archaeology Service unpubl.). Preliminary surface collection indicated that the ploughsoil was rich in artefacts and an attempt was therefore made to assess the value of these artefacts, and in particular the pottery.

The ploughsoil sealing the settlement remains was hand excavated, and all material collected and recorded on a 10m x 10m grid. Of the total assemblage, collected from both the ploughsoil and the features, 74% came from the ploughsoil. The work on the ceramics focused on the spatial distribution of pottery in the ploughsoil and the examination of cross-joins both between features, and between features and ploughsoil (Slowikowski 1991, 216). Distributions of fabric types as chronological indicators are common, both in a fieldwalking context and from more detailed studies such as that at Maxey (Crowther 1983). The pottery from Hillam was examined not only by fabric type but also by form. The predominant forms were jars or cooking-pots, jugs and bowls. Unlike the jar and the jug, the ceramic bowl is not commonly found on every site, due to the prevalence of other, less durable, materials such as wood. At Hillam, however, there was a high percentage of this form. Of the total ploughsoil assemblage, 16% consisted of bowls, with jars making up 63% and jugs 21%. In grids with over 100 vessels, however, percentages of bowls are comparable to those of jugs (Fig.1).

The type of bowl found is distinctive, not only in its large size (up to 40cm diameter), but also in that it is uniformly straight-sided with occasional vertically applied thumbed strip decoration. This form of decoration also provided a firm grip when lifting such a heavy vessel. The presence of visible residues and external sooting, combined with their size and form, suggested that these bowls were used as dairying vessels (Moorhouse 1983, 48). The abnormally large number of these bowls and their distribution in the ploughsoil, concentrated at one end of a timber Structure 1, has led to this building being interpreted as a dairy, or at least the focus of some sort of dairying activity (Fig.2).

In addition to the spatial distribution of the pottery, an examination was undertaken of cross-context joins, an aspect of ceramic analysis that has often been cited but which is rarely routinely carried out (Brown 1985; Moorhouse 1986). Its value is clearly demonstrated at Hillam. From the date of the pottery, Structure 2 was dated to the 15th century. The same date was allocated to the pottery in a quarry, suggesting, at first glance, that the building was occupied while the quarry was being worked. However, cross-context joins were found between the pottery in the quarry and the building platform for Structure 2. The quarry must, therefore, have gone out of use and been filled in before Structure 2 was built. The lack of any stratigraphic relationship between the quarry and the structure meant that, without the cross-context pottery joins, the relationship between these two features would have remained undefined.

Pottery joins between features and ploughsoil can give an indication of how much movement there has been in the soil. The plough will bring material to the surface and cultivation will move it laterally across the surface. Clark and Schofield (1991, 93) have shown that displacement by agricultural activity is not as great as might be thought. At Hillam, cross-context joins between features and ploughsoil supported Clark and Schofield’s view. The joins between pottery from features and that from the ploughsoil, as well as the overall distribution of pottery in the ploughsoil, did indicate re-working away from the original point of deposition, but to a degree far less than might have been expected. Nearly all the joins in the ploughsoil were found within the distance of one grid square.

At Maxey, Cambs., systematic collection of material from the surface and from the ploughsoil preceded excavation (Cogbill and Lane 1985). Only 2% of the material from the ploughsoil was represented by surface material and was subject to weathering. Even on this site which had been intensively ploughed since the Saxon period, most of the pottery from within the ploughsoil was unabraded. Despite a collection bias due to sherd size, hardess, fabric colour and glaze iridescence, it was still possible to define areas where shallow features had been ploughed out, areas of pastoral use and dispersed middens (Crowther 1983, 39).

Despite the lack of vertical stratigraphy and the “horizontal” nature of rural sites, the complex relationship between depositional and post-depositional processes means that they are not “simple”. Residuality is as great, if not greater, than on urban sites, largely due to the process of re-working. Primary horizontal deposits are frequently ‘re-deposited’ in secondary or even tertiary contexts and constant intercutting of pits and ditches, occurring in the same plane, releases earlier material into later environments.

Anna M. Slowikowski - 17
Figure 2: Distribution of bowls (■) in the ploughsoil at Hillam Burchard, West Yorkshire
The status and value of an assemblage have to be established by determining the level of residuality. Identification of residuality helps to prevent the expensive and fruitless analysis of material that is not as chronologically sensitive as ceramics. The class of feature will, to a certain extent, determine whether its contents are likely to be high in residual material. Ditches, storage pits, quarry pits etc will all have differing levels of primary and/or secondary deposits, depending on how long they had been left open or how often re-cut and cleaned out. In this way rough structural models can be used to predict the potential for residuality.

Pottery, because of its nature, stability and ubiquity, is perhaps more valuable in helping to sort out this problem of residuality. No other type of artefact, except perhaps coins, can play this role. Abrasion is the main attribute to consider. The level of abrasion should be recorded routinely, if only on a simple and perhaps subjective basis: low, medium or heavy abrasion.

An example where the recording of the level of abrasion was used is the East Anglian Kingdom Survey for pottery recovered from fieldwalking (Wade 1983). High abrasion was the result of past agricultural activity (manuring), while low abrasion and, presumably, size of sherd indicated a settlement recently disturbed by modern agricultural activity. In this way, it was possible to distinguish between areas of settlement and areas of cultivation.

In addition to abrasion, what might be called the degree of brokenness of pottery must be considered. This is measured as the ratio of different measures of pottery quantification: sherd to either vessels or EVEs (estimated vessel equivalence, based on percentages of rim diameter), sherd to weight, or EVEs to weight. There are different views among ceramicists as to which are the best units of quantification; any one of these ratios, however, examined together with the level of abrasion, would give an indication of what and how much is residual in a feature. For example, twenty unabraded sherd representing a single vessel lend more weight to the date of a context and the other material within it, than twenty battered sherd each representing a different vessel. These methodologies can be applied equally well to unstratified as to stratified assemblages.

Conclusions

The methodologies used to examine rural sites must be different from those used on urban sites, due to the different formation processes. Thought must be given to the seemingly unstratified nature of ploughsoil material before it is wantonly machined away. Allied to this, there has to be an increased emphasis on spatial distribution and therefore the recording of artefacts in at least two dimensions, as on the sites described above, and, in certain circumstances in three dimensions, as is being done at West Heslerton by Dominic Powlesland. This is hardly ever done and even more rarely published, with the result that the true potential of what is machined away has not yet been recognised.

The Earth's surface has been, and will continue to be, the greatest depository of archaeological material. Modern ploughsoils distort old land surfaces but cannot destroy them utterly, and we ignore such a colossal data resource at our peril (Crowther 1983, 43).

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Anna M. Slowikowski - 19
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