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# COMPARING MUSEUM COLLECTIONS WITH ARCHAEOLOGICAL COLLECTIONS: AN EXAMPLE USING A CLASS OF CERAMIC ITEMS

Lynne Sussman

*An analysis of decorations and shapes is undertaken to examine the development of industrial slipwares. These materials are then compared with creamwares, pearlwares, and whitewares. The samples are drawn from archaeological, museum, and private collections. The author then offers a consideration of the nature of the differences between the archaeological and the museum collections.*

## Introduction

In 1984 I completed a study of an attractive group of ceramics called industrial slipware (mocha-banded, cable, etc.)—a factory-made fine earthenware with slip decoration. An important part of the study required statistical analysis to reveal historical change (or lack of change) in industrial slipware. The changes were observed by comparing relative frequencies of decorations and shapes on a series of chronologically-sequential bodies or fabrics—creamware, pearlware, and whiteware (Sussman 1985: Part III).

The sample consisted of 775 excavated artifacts, but originally had also included 242 pieces from museum and private collections. I knew that a sample made from museum and private collections might not be representative of objects acquired and used in the past. In an archaeological sample the pieces were originally acquired for normal household use. When they broke the sherds were all treated equally as garbage—none were saved for special treatment. Objects in museum collections, however, were selected for reasons entirely different from those motivating the original buyers. Mu-

seum pieces are never acquired for domestic use; rather, they are selected for any number of intellectual, aesthetic, or even accidental reasons.

While it is commonly believed that material from archaeological sites is representative, generally, of items which were made and used in the past, one cannot prove or guarantee that this is so. Only by comparing an archaeological assemblage that is unequivocally known to be representative of a given universe of objects is proof possible. One can, however, take steps to avoid obvious bias in the sample—by having one's assemblage composed of material from a number of sites which span a range of locales, dates, and types of occupants. The 25 archaeological sites from which the sample under discussion was drawn were Canadian and American sites occupied from the late-18th to the late-19th centuries and whose contexts include military, domestic, and commercial occupations. All the recognizable slipware from each site was recorded. There was some concern over a preponderance of artifacts from military contexts, but this was laid to rest after statistical tests comparing the slipware from military contexts with that from non-military contexts (the same tests were used to compare museum and archaeological assemblages) revealed that the two groups were not significantly different from one another.

An embarrassing question one might legitimately ask is the following: Why was the museum material even considered if, by definition, it was suspect? There are two reasons, each revealing a different aspect of human frailty. The museum material was seductively easy to use. Few archaeological sites have yielded large quantities of industrial slipware, whereas several museums have substantial collections. Moreover, artifacts in museums and private collections are complete and are easily accessible. The other reason for their selection concerned reliance on impressions. The museum material did not appear to be different from the archaeological material. Industrial slipware has a comparatively narrow range of wares,

functions, decorations, and prices. Perhaps for this reason the material did not evince the classic archaeology/museum dichotomy—archaeology has what broke whereas museums have what did not break (a simplified version of archaeology gets the everyday items vs. museums get the cherished heirlooms). My intuition told me that the two samples represented the same population and the dutifully-applied statistical tests were expected to confirm this. My intuition was wrong.

When the two samples were compared and tested by discriminant analysis, the results revealed that the decorations and shapes of the museum sample were a subset of the decorations and shapes of the archaeological sample. In other words, the archaeological sample was representative of the museum sample but not vice-versa (FIG. 1). The implications were disquieting. If only the archaeological sample were studied, little information would be missed by the omission of the museum pieces. On the other hand, if only the museum pieces were studied, a great deal of information would be overlooked. It was at this point that our statisticians advised me to abandon the museum sample.

## Discussion

With the industrial slipware study safely completed, there was time to consider two nagging questions: 1) How different were the two samples from each other? and 2) What were the specific differences? It transpired that the museum and archaeological collections of industrial slipware were even more distinct from each other than we originally suspected. Below are excerpts from a memorandum by Richard Aylesworth, Scientific Computing Division (Aylesworth 1985):

The hypothesis being tested is that the subset of your sample consisting of museum pieces can be considered representative of the entire sample. The significance statements are of the form: The hypothesis is rejected with xx% confidence . . . I have provided the significance results below, treating each ware as a separate

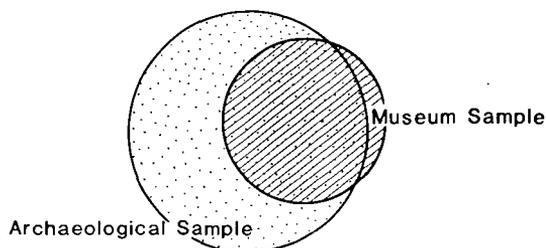


Figure 1. The entire sample of unmarked pieces included artifacts from excavated archaeological sites and items from museum and private collections. The archaeological sample was statistically representative of most of the sample, but the museum sample was not statistically representative of the archaeological sample.

population, and combining them into one population. See Table 1 [below]. And I have shown the significance results achieved if we use them all simultaneously. This will show which of the features is most important in defining the difference between the museum and archaeological pieces. The figures in the table are the significance levels achieved, as percents; a dash means that the level is less than 95%.

Thus, for example, we are 99.8% confident that there is a difference between museum and archaeological collections of pearlware with respect to the major decorations. In contrast, we are less than 95% confident that there is a difference between their white-ware collections with respect to the major decoration.

The most damaging result (if we were hoping to treat the two collections as one population) is the combination of all features on all wares. We are 99.999% confident that, as a group, the industrial slipware in museum collections differs from that in archaeological collections.

As becomes apparent from examination of Table 1, the only feature unaffected by the nature of the collection is the rim treatment. Museum collections of pearlware (which constitutes the largest proportion of industrial slipware in both collections) differ in all other respects from archaeological collections of pearlware. On creamware the major decoration and the shape define the differ-

TABLE 1  
RESULTS OF STATISTICAL ANALYSIS OF SIGNIFICANCE OF FEATURES OF MUSEUM VS.  
ARCHAEOLOGICAL SAMPLE

Feature	1 Creamware	2 Pearlware	3 Whiteware	4 Yellow ware	All
Major decoration	99.0	99.8	—	—	99.8
Ancillary decoration	—	99.95	—	—	99.98
Rim treatment	—	—	—	—	—
Shape	99.99	99.999	99.98	99.0	99.999
All	99.99	99.999	99.98	99.8	99.999

ences between museum and archaeological collections.

The results recorded in Table 1 answer the first question of how the two samples differed from one another. Table 2 specifies the sources of these differences.

### Interpretation of Results

Any museum or private collection, with the best of intentions, does not achieve or even aim at proportional representation. A military museum, for example, may have regimental uniforms from all ranks, but it will not have several thousand privates' uniforms to every general's uniform. An archaeological collection, while it may or may not be representative of the universe of artifacts, is much more likely to contain artifacts (of similar fragility) in the same proportion as they were when bought and used.

This understandable difference in the creation of the two types of collections is the basis of some of the observed differences in the collections of industrial slipware. The most commonly occurring slip-decorated form on archaeological sites and in historical documents is the bowl. Bowls constituted more than half of the slip-decorated objects recorded from archaeological sites. It was not surprising, therefore, that bowls were underrepresented in museums. The same reasoning also explains the relative dearth of banded items in museums; banding being the most common type (26%) of

slip-decoration in archaeological collections. There were, conversely, in museum and private collections, significantly more objects with some of the rarest decorations and shapes. In Table 2, those decorations and shapes are indicated whose scarcity or abundance in museum and private collections seems to be linked to this understandable failure in proportional representation of very common or very rare types.

The remaining differences, which are plentiful, are inexplicable. One can dream up reasons why museum and private collections may have more or fewer of certain types of objects, but it is impossible to verify these reasons. For example, the relatively small number of chamber pots in museums and private collections could be the consequence of collectors' prudery. Or the relatively large numbers of mocha-decorated objects may be the result of that decoration's aesthetic appeal.

If I were to characterize these remaining differences as a group, I would have to say that they are the result of idiosyncratic collecting. This does not mean to imply that the collections are eccentric, merely that they are peculiar to an individual or an institution. The motives for collecting and circumstances under which collections are formed are so varied, and sometimes so unpredictable, that it is impossible to judge how representative of a group any museum collection may be unless it is compared to another, trusted, collection. In the case of industrial slipwares, I would have been jus-

TABLE 2

	Major Decoration	Ancillary Decoration	Form
Museum Creamware had	— Fewer: <i>banded</i> , over-all slip More: mocha	Fewer: none More: rouletted	Fewer: <i>hemispherical bowls</i> More: Tankards, <i>salts</i> or <i>castors</i>
	No difference: marbled, diced, inlaid, covered with turned grooves, slip-trailed, cable, cat's eye, other*	No difference: inlaid, slip-trailed, turned grooves, applied relief, mocha, other and none or banded	No difference: other bowls, pitchers, chamber pots, teaware, egg cups and other*
Museum Pearlware had	— Fewer: <i>banded</i> , over-all slip, dicing, <i>cable</i> More: <i>marbling</i> , <i>cat's eye</i> , <i>granite inlay</i> and <i>fanning</i>	Fewer: none More: rouletting	Fewer: <i>bowls</i> (all types) More: pitchers, tankards, <i>castors</i> or <i>salts</i> and other*
	No difference: inlaid, covered with turned grooves, slip-trailed, other mocha, other and none or banded	No difference: inlaid, slip-trailed, turned grooves, applied relief	No difference: chamber pots, teaware, egg cups and other
Museum Whiteware had	— Fewer: none More: <i>cat's eye</i> , mocha	Fewer: None More: slip-trailed	Fewer: <i>carinated bowls</i> More: pitchers, tankards and other
	No difference: banded, marbled, inlaid, diced, over-all slip, covered with turned grooves, slip-trailed, cable, other	No difference: inlaid, rouletting, turned grooves, applied relief, mocha, other and none or banded	No difference: chamber pots, other bowls, teaware, egg cups, salts or castors
Museum Yellow ware had	— Fewer: none More: none	Fewer: none More: none	Fewer: bowls More: tankard and <i>castors</i> or <i>salts</i>
	No difference: all	No difference: all	No difference: pitchers, teaware, chamber pots, egg cups, other
Museum Collections had	— Fewer: <i>banded</i> , over-all slip — More: <i>marbling</i> , mocha, <i>cat's eye</i> , <i>granite inlay</i> , <i>sprig-and-twig</i> and <i>fanning</i>	Fewer: none More: rouletted	Fewer: bowls (all types) chamber pots and unidentified items More: pitchers, tankards, <i>castors</i> or <i>salts</i> and "other forms"
	No difference: diced, inlaid, slip-trailed, covered with turned grooves	No difference: inlaid, slip-trailed, turned grooves, applied relief, mocha, other and none	No difference: tea ware, egg cups

\*"other" refers to rare decorations and shapes (fewer than 3 occurrences)

tified in including the museum pieces if I had been interested only in rim decoration on whiteware and yellow ware.

I do not begrudge the time spent in examining and recording museum collections. The very fact that they contained items not

found on archaeological sites made them invaluable; they provided information that was unavailable elsewhere. The dangers of using museum collections for any statistical analysis that purports to reflect a real past are evident. Any statistical study that relied

wholly (or even largely) on museum pieces to interpret the past would be suspect. There is no reason, on the other hand, to underestimate the value of museum collections as rich sources of research material. Almost any student of material culture history will have gained a large part of his or her understanding of a group of artifacts through museum and private collections, either indirectly from publications or directly from the artifacts.

### References

#### **Aylesworth, Richard K.**

1985 Classification of Ceramics. Memorandum dated 05 November, from R. K. Aylesworth,

Scientific Computing Division, A. S. Q. M. E. Branch, Systems and Information Directorate, Environment Canada, Ottawa, Canada, to Lynne Sussman.

#### **Sussman, Lynne**

1985 Industrial Slipware: A Study of 'Dip't' Ceramics. Manuscript on file, National Historic Parks and Sites, Ottawa, Canada.

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