

WAS THAT MIDDLEPORT NECKED OR POUND OBLIQUE? A STUDY IN IROQUOIAN CERAMIC TYPOLOGY

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ABSTRACT

Difficulties encountered in the classification of a ceramic assemblage from the Late Middleport Wiacek site, Simcoe County, Ontario, indicate inadequacies in the ceramic type definitions for this period, such that various interpretations of the type boundaries have led to the incomparability of data reported by various researchers. Progressive simplification of the type array produces results that are internally consistent and at least as acceptable as more complex analyses.

INTRODUCTION

As every archaeologist is familiar with the classification of their materials to facilitate the communication of their findings to other researchers, we are also familiar with the frustration that accompanies this task, particularly where the extant classification system is inadequately described. Even when the existing system is well defined and easily accounts for most of our assemblage, there is inevitably a number of specimens that transcend the boundaries of two distinct artifact types and, as lumpers rather than splitters, force the analyst into a decision. Such is the nature of the beast.

The decision making that accompanies classification is of little consequence in purely descriptive reporting, however, if not in the same report, at some future date the reliability (or more aptly the comparability) of various analyses becomes critical to interpretation. We don't all make the same decisions, and even worse, we are rarely explicit about the decisions that we do make.

THE PROBLEM

During the 1983 field season, archaeological survey undertaken by the Ontario Ministry of Transportation and Communications in the area of a proposed highway interchange south of the City of Barrie, Ontario, identified and led to the salvage excavation of threatened portions of the Wiacek site, a small (2 acre) Iroquoian hamlet. While awaiting the results of C14 analysis, the site is broadly identified as a "Late Middleport" component.

In preparing the report of the Wiacek excavations the merits of the recent ceramic type versus attribute controversy (cf Wright 1966, 1967, 1974, 1980; Pratt 1960, 1976) are acknowledged and ceramic attributes are presented (Lennox, Dodd and Murphy 1984). At present however, existing comparative attribute analyses are sporadic in their spatial and temporal representation. Ramsden's extensive study (1977) provided attribute data for a large but generally later and more southern sector of the Late Ontario Iroquois Stage, while Kapches's (1981) examination of Middleport understandably presents detailed attribute analyses for only those sites of the Markham focus which formed the basis of that study. Even if attribute analyses were available for every comparable site excavated, the variability of the analyses and reporting would render much of the data incompatible.

At this transitional phase between the traditional typological approach and while building a repertoire of promising attribute studies, many of our needs will have to be met by the more consistently and widely available analytical format found in the typological approach. With exactly this dilemma close to heart, a typological classification of the Wiacek vessels was initiated.

Lennox, Paul, and Ian Kenyon

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In classifying the Wiacek rimsherds according to MacNeish's typology the subtle differences between a number of ceramic types were noted and considerable effort was required to sort out these differences to my own satisfaction and within the bounds set by the typology. Particular difficulty was encountered distinguishing Ontario Horizontal, Middleport Oblique, Pound Necked and Black Necked ceramic types which appear to describe a temporal and stylistic continuum (Fig. 1). In the following paragraphs the modal forms of the types initially defined, and the intergradations and relationships between them are described with reference to the Wiacek assemblage.

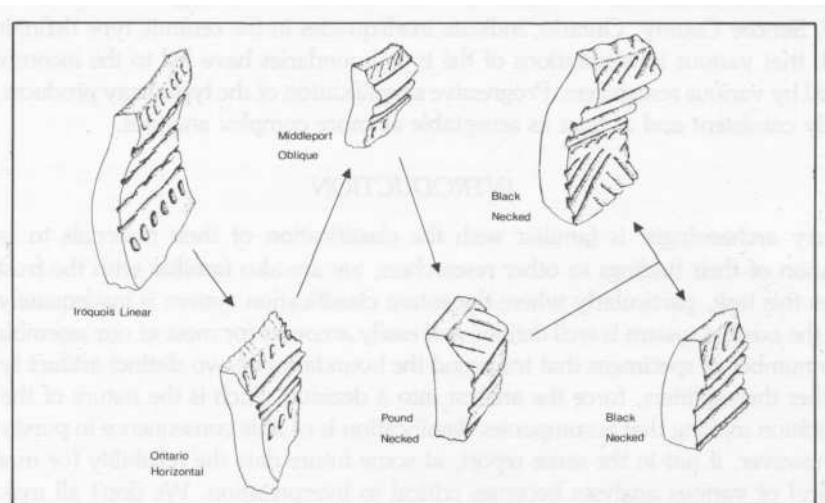


Fig. 1. Some Ontario Iroquois ceramic types, a temporal and stylistic continuum (examples from the Wiacek site).

THE TYPES

Ontario Horizontal

Diagnostic features of this type include horizontal lines on short channelled collars which tend to be poorly to well defined on early and later examples, respectively (MacNeish 1952:16). In addition, it is noted that early variants often have vertical or oblique gashes above and/or below the horizontal lines, while late types are more inclined to have ovoid notches at the base of the collar. Necks are weakly constricted and collar development is more pronounced in late times (MacNeish 1952:16). Wright (1966:43) regards Ontario Horizontal as predominantly a Middle Ontario Iroquois Stage type.

The seven Wiacek specimens follow the type definition closely. Collars are weakly defined, ovoid notches and rarely gashes are common below and/or above the horizontal elements. Oblique impressions on the lips and interior occur sporadically in the sample.

Middleport Oblique

According to the type definition " The most common motif is parallel oblique incised lines or gashes on the upper rim with horizontal lines on the lower rim and neck. Rims are slightly outflaring and have a poorly defined collar. Necks are very slightly constricted" (MacNeish 1952:17). While other variants are noted, the above accounts for all of the Wiacek rims assigned to this type except one collarless example. Middleport Oblique pottery has a temporal distribution that is very much restricted to the Middle Ontario Iroquois Stage (MacNeish 1952:17; Wright 1966:137, 145, 148) and along with Ontario Horizontal it is considered as a diagnostic of the Middleport Substage (Wright 1966:61).

It is notable that MacNeish (1952:17) sees the Middleport Oblique type as developing from Ontario Oblique. To the contrary, the differences between Ontario Horizontal and Middleport Oblique seem minute. Both possess nearly identical motifs and differ principally in the vertical scale of the motif and in collar development. As such, Middleport Oblique shows closest affinities to Ontario Horizontal and conceivably constitutes a Middle Ontario Iroquois Stage type variant. Though both types occur contemporaneously and are popular during this period, Ontario Horizontal extends bi-directionally beyond this stage apparently having its origins in the Pickering Branch (cf Wright 1966: Tables 1 and 12).

Lastly, and substantiating their similarity, there appears to be some difficulty in distinguishing the two pottery types. Wright (1969:61) for example notes that the combination of types: Middleport Oblique, Ontario Horizontal and Lawson Incised, dominate ceramic assemblages of the Middleport substage and that *the combined high frequency of the three types, and not just the dominant position of any one of the three types* may be regarded as one of the diagnostics of the Middleport substage. Does this imply that the relative frequency of the two types under study vary unsystematically through time or does this tendency also point out the problem of observer error? On the same note, Kapches's (1981:251) presentation of the Simcoe focus Middleport data derived from Ridley's notes and personal observation of some of the collections (Kapches 1981:249), indicates a high frequency of Ontario Horizontal rims to the virtual exclusion of Middleport Oblique rims. We concur that the two types are difficult to distinguish. In the case of the Wiacek sample, the distinction was based principally on collar development.

Pound Necked

As originally defined " The most distinctive features of the type are the horizontal incisions encircling the neck, coupled with oblique or vertical incisions on short poorly-defined, channelled collars "(MacNeish 1952:15).

Pound Necked is a late Middleport type that reaches its greatest frequency during the time of the occupation of the Pound site (MacNeish 1952:15), and continues into the Late Ontario Iroquois Stage where in the Huron sequence it is replaced by Black Necked. Pound Necked very closely resembles Ontario Horizontal and Middleport Oblique types and is best regarded as the third temporal and stylistic member of this typological continuum. The major distinction between Middleport Oblique and Pound Necked is a slight variation in the location of the motif with respect to the collar-neck juncture. Middleport Oblique sherds include obliques over one or more horizontal elements on the collar with the horizontal elements continuing onto the neck. On Pound Necked sherds the entire collar of the vessel is taken up with the oblique elements while the horizontal elements begin just below the juncture of the collar and neck and continue on down the neck. It is interesting in this regard to note that Pound Necked collars in the Wiacek sample are slightly shorter ($\bar{x} = 12.4$ mm) than those on Middleport Oblique rims ($\bar{x} = 16.2$ mm) and it is perhaps this single attribute that underlies the variation between types.

Black Necked

This type is a late Middle to early Late Ontario Iroquois Stage type which lingers on into historic times (MacNeish 1952:36). The type develops out of and replaces Pound Necked rims within the Huron series, but is largely absent from sites of the Neutral series in Southwestern Ontario (cf Wright 1966: Tables 15-20; MacNeish 1952: Fig. 7, 10).

With regard to the motif and form of the type, MacNeish (1952:36) notes that:

"Most of this type have opposed triangles filled with oblique lines on the neck; a few have only horizontal incisions on the neck. On the collars there is a variety of decorations consisting of vertical or oblique lines, opposed triangles filled with oblique lines, horizontal lines with or without basal collar notches, notches at the top and bottom of the collar, and oblique lines crossed by a broken or unbroken horizontal line. There is a tendency for the inner rim to be flat, though almost as many are convex."

In comparing Black Necked rims from the Wiacek site to MacNeish's type definition, one should keep in mind that the earliest site in his examination of Huron wares, and that which likely heavily influenced his definition, was the Black Creek site after which the pottery type is named. The Black Creek site represents an early Late Ontario Iroquois Stage component occupied later than the Wiacek site. Wright (1966:101) suggests a date of approximately AD 1500 for the Black Creek site. As such, the Wiacek specimens may be considered as representing some of the earliest examples of the type.

Thirteen rims classified as Black Necked from the Wiacek site may be divided into two subgroups. The first and largest subgroup containing 10 rims best fits MacNeish's type definition above. All exhibit convex rim interiors and rather well developed collars. Eight of these exhibit collar motifs consisting of parallel obliques or verticals, or parallel obliques above a horizontal trailed line. All eight rims possess trailed horizontal neck motifs and thus represent a minority variant according to the type definition. Many of these would otherwise be classified as Middleport Oblique or Pound Necked types except for their convex interior profile. The remaining two rims in the first group have neck motifs composed of parallel oblique lines (likely opposed triangles), and thus represent the most common variant according to MacNeish's definition.

The second subgroup is composed of three rimsherds which exhibit parallel oblique (1) and opposed triangular (2) collar motifs and neck motifs of opposed triangles filled with oblique lines. These rims all possess concave interiors, which do not appear under the MacNeish type definition but are exhibited by his referenced profiles and illustrated type examples (1952: Fig. 24: Nos. 90, 121, Plate) XII: Nos. 1, 3, 4, 6, 8).

It is notable that Black Necked rims at Wiacek include more of the rarer variants than suggested by the type definition. This assemblage appears to illustrate the early configuration of the type variants and seems to substantiate the type's derivation from Pound Necked, as well as the other earlier types.

The above considerations help illustrate some of the difficulties encountered in classifying the Wiacek ceramic assemblage and these same problems have no doubt been variously resolved by other researchers. Similar problems are discussed by Emerson (1968) and White (1961). Of particular note, because of their bearing on the following analysis, are discrepancies pointed out by White (1961:77) in interpreting interior rim form, a distinguishing characteristic between Lawson Incised and Opposed versus Huron Incised types. As a result of variable interpretations of interior rim form, White's reexamination of sherds that MacNeish also typed from the Buffam St. site resulted in the classification of 41% as Lawson Incised and 24% as Huron Incised (White 1961:95), whereas MacNeish reports 59% Lawson Incised and only 1% Huron Incised (MacNeish 1952:12, 21).

METHOD

The above considerations and realizations resulted in a feeling of confidence regarding the classification of the Wiacek rims, but raised a concern for the comparability of these data. Had other researchers made similar decisions? It would appear not.

Ideally the Wiacek site should be compared to other Middleport and early post-Middleport assemblages from the local area, in an attempt to understand its social and chronological position within this sequence. While numerous Middle and Late Ontario Iroquois Stage sites are known in the area, none have been extensively sampled and/or adequately reported. At best, Wiacek can only be compared to similarly dated assemblages from elsewhere in the province.

Given this state of affairs, 30 sites (Fig. 2 and Table 1) from southern Ontario for which reliable sample sizes and typological analyses exist were chosen for comparison with the Wiacek assemblage. In addition to these data, multiple analyses are available for several sites, consisting of either two researchers' analyses of the same assemblage or analyses of different assemblages from the same site.

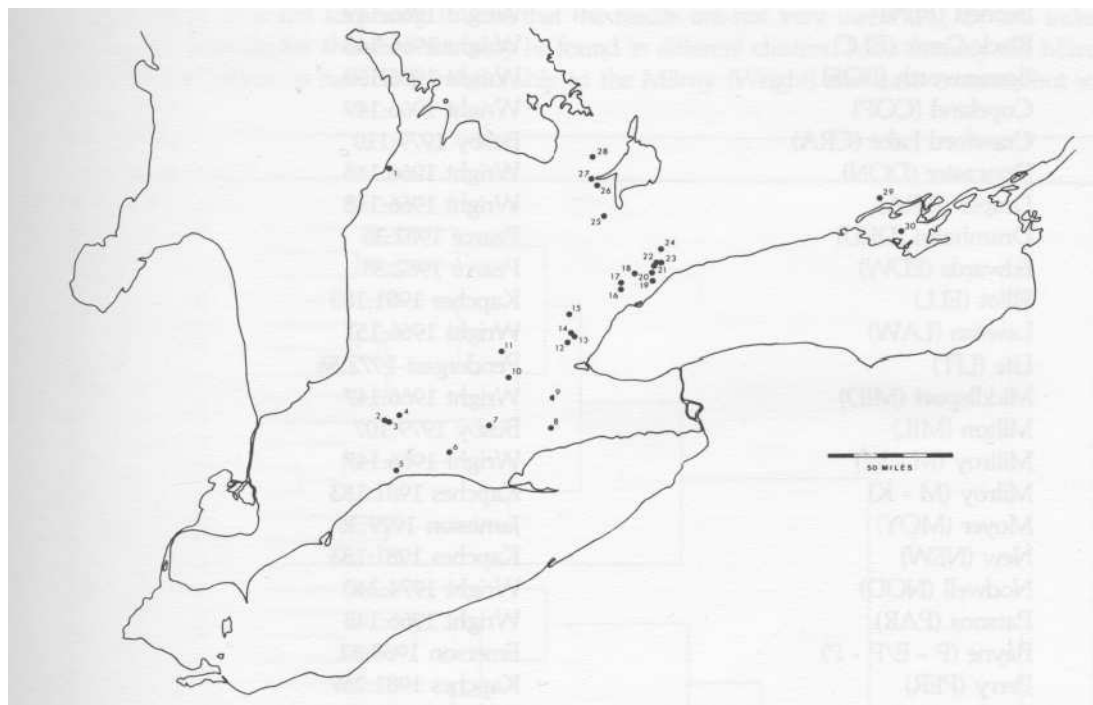


Fig. 2. Study site distribution in southern Ontario.

1. Nodwell	11. Moyer	21. Robb
2. Edwards	12. Bennett	22. New
3. Drumholm	13. Pipeline	23. Milroy
4. Lawson	14. Crawford Lake	24. Draper
5. Southwold	15. Milton	25. Bosomworth
6. Pound	16. Black Creek	26. Wiacek
7. Uren	17. Parsons	27. Barrie
8. Slack - Caswell	18. Doncaster	28. Copeland
9. Middleport	19. Thomson	29. Lite
10. Perry	20. Elliot	30. Payne

With these comparative data in mind and in an attempt to appreciate some of the problems inherent in the analysis of ceramic types, a sherd of each vessel rim from the Wiacek site was provided to each of two other researchers for typological classification. We might add that these two additional analyses were conducted rather hastily, but by experienced Iroquoian ceramicists with the aid of appropriate references, such that the variations between the ceramic type frequencies likely represent real problem areas.

TABLE 1
SITE ABBREVIATIONS AND DATA SOURCES

Site	<u>Data Source</u>
Bathe (BAR)	Wright 1966:146
Bennett (BEN)	Wright 1966:149
Black Creek (BLC)	Wright 1966:148
Bosomworth (BOS)	Wright 1966:150
Copeland (COP)	Wright 1966:149
Crawford Lake (CRA)	Busby 1979:110
Doncaster (DON)	Wright 1966:148
Draper (DRA)	Wright 1966:148
Drumholm (DRU)	Pearce 1982:35
Edwards (EDW)	Pearce 1982:35
Elliot (ELL)	Kapches 1981:183
Lawson (LAW)	Wright 1966:151
Lite (LIT)	Pendergast 1972:56
Middleport (MID)	Wright 1966:147
Milton (MIL)	Busby 1979:107
Millroy (M - W)	Wright 1966:147
Milroy (M - K)	Kapches 1981:183
Moyer (MOY)	Jamieson 1979:36
New (NEW)	Kapches 1981:183
Nodwell (NOD)	Wright 1974:240
Parsons (PAR)	Wright 1966:148
Payne (P - E/P - P)	Emerson 1968:82
Perry (PER)	Kapches 1981:267
Pipeline (PIP)	Busby 1979:107
Pound (POU)	Wright 1966:147
Robb (R - K)	Kapches 1981:183
Robb (R - W)	Wright 1966:147
Slack - Caswell (SLC)	Jamieson 1979:36
Southwold (SOU)	Wright 1966:151
Thomson (THO)	Kapches 1981:183
Uren (URE)	Wright 1966:146
Wiacek (W - 1/W - 2/W - 3)	Lennox, Dodd and Murphy 1984.

In the following section the 30 sites will be examined using cluster analysis, the multianalyst sites being treated as if the different analyses were from separate sites (in a better controlled context, this might be considered as a variant of the so-called split sample technique which is used to gauge the reliability of sample data). Hence there are 35 pottery type samples. Ideally, these "split-samples" should cluster together. Of course, a site should resemble itself, but, as we shall see, this is not always the case, observer error introducing differences where none exist. So in the following section it is important to keep track of the changing relationships of the multianalyst sites, for these intrasite differences will provide a crude measure of the reliability of both ceramic type analysis and clustering methods.

Hierarchical cluster analysis has been used by a number of archaeologists to investigate the relationships among the Ontario Iroquois sites. Cluster analysis is principally a method of data reduction, transforming unmanageably large tables of numbers into simpler and presumably more understandable dendrograms (Everitt 1974 and Sneath and Sokal 1973 provide useful discussions of cluster analysis). Like any other quantitative technique, you only get out of the analysis what you put in. Since in this case what is put in are the percentages of 24 pottery types, with all their attendant observer error, it is not surprising to find that the results are not very useful (Fig. 3) and indeed somewhat confusing for the same site may be found in different clusters. Most notably the Milroy (Kapches) site seems to have little relationship to the Milroy (Wright) site. Less extreme, but still

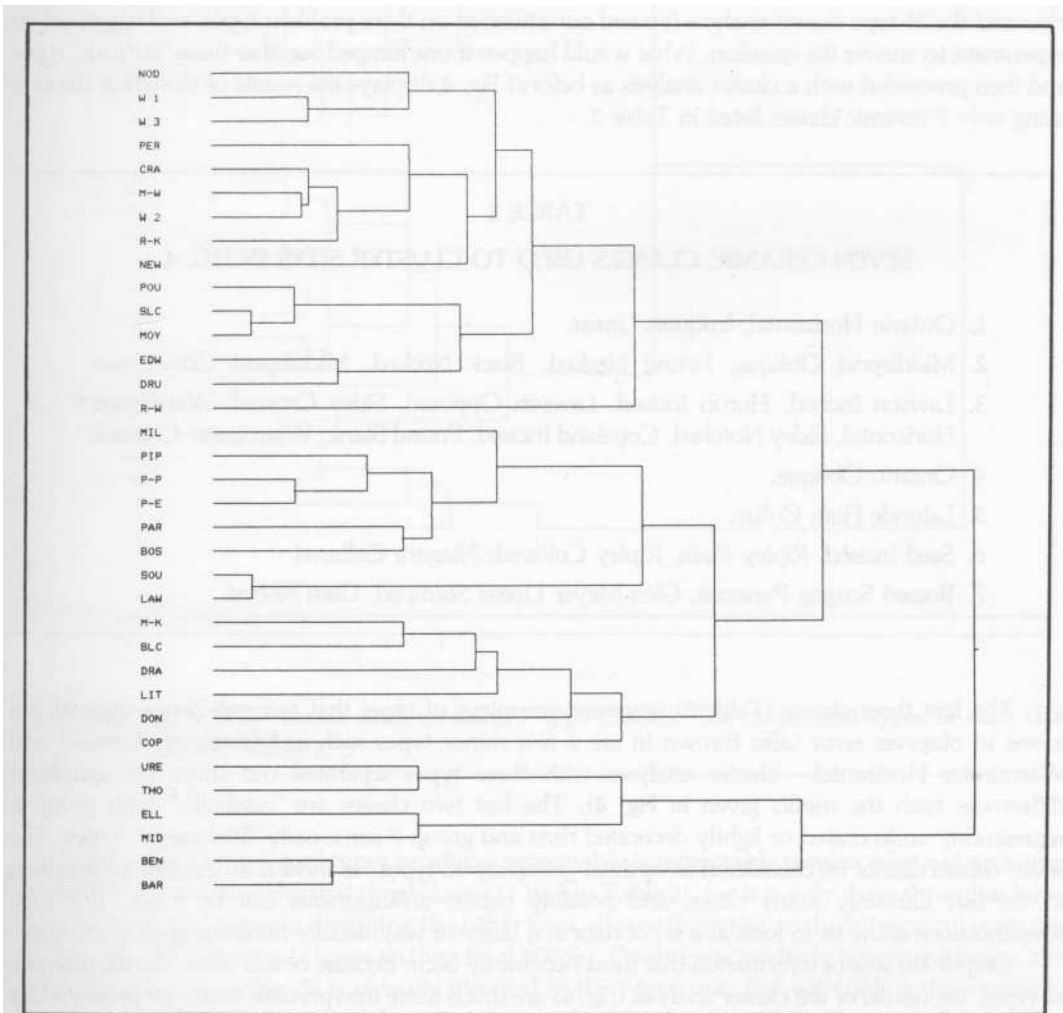


Fig. 3. Group average cluster analysis using 24 types. In this and the following two figures, the Brainerd-Robinson coefficient of similarity has been employed. In the analysis, miscellaneous rims - those that are either untyped or types found only on one site - have been eliminated and the remaining type percentages recalculated to total 100%. Site name abbreviations and data sources are detailed in Table 1.

showing a marked discrepancy, is the placement of the "two" Robb sites. The Robb (Kapches) site clusters quite tightly with Milroy (Wright) as well as with one analyst's version of Wiacek, but Robb (Wright) appears as an outlier not closely connected to any other sample. It is reassuring, however, to find that the Payne site is very similar to itself. Although in a loose sense the clusters sometimes group sites of similar age, the dendrogram of Fig. 3 cannot be said to inspire great confidence in the "scientific method."

The problem here should be clear enough by now: sites are different from one another not only because they have different artifacts but also because they have different investigators. As discussed earlier, observer error tends to occur only among certain types that have intergrading and overlapping attributes. There are groups of types that are difficult to differentiate (e.g. Black Necked -Pound Necked - Middleport Oblique; Lawson Incised - Huron Incised). The analysis of the Wiacek rims and the 24-type cluster analysis focused our attention on these problem types, and suggested an experiment to answer the question: What would happen if one lumped together these "difficult" types and then proceeded with a cluster analysis as before? Fig. 4 displays the results of clustering the sites using only 7 ceramic classes listed in Table 2.

TABLE 2

SEVEN CERAMIC CLASSES USED TO CLUSTER SITES IN FIG. 4

1. Ontario Horizontal, Iroquois Linear.
2. Middleport Oblique, Pound Necked, Black Necked, Middleport Criss-Cross.
3. Lawson Incised, Huron Incised, Lawson Opposed, Sidey Crossed, Warminster Horizontal, Sidey Notched, Copeland Incised, Pound Blank, Warminster Crossed.
4. Ontario Oblique.
5. Lalonde High Collar.
6. Seed Incised, Ripley Plain, Ripley Collared, Niagara Collared.
7. Bossed Scugog Punctate, Glen Meyer Linear Stamped, Uren Noded.

The first three classes (Table 2) represent groupings of types that our experience suggests are prone to observer error (also thrown in are a few minor types such as Warminster Crossed and Warminster Horizontal - cluster analyses with these types separated out show no significant differences with the results given in Fig. 4). The last two classes are "catchalls," with group 6 representing undecorated or lightly decorated rims and group 7 some early "Pickmeyer" types. The seven classes cannot be considered as optimal groupings of types for there is an evident arbitrariness in the list. Certainly many other, and possibly better, arrangements can be made. But such simplifications allow us to look at a set of data in a different way, ideally minimizing observer error.

Despite the loss of information that must necessarily occur because of this rather drastic lumping of types, the results of the cluster analysis (Fig. 4) are much more interpretable than that produced by using 24 separate types. Not only is the clustering structure tighter - the dendrogram has almost a textbook form - but also the multianalyst sites begin to cluster with themselves. Notably, the two Milroys cluster fairly closely, and the Robb (Wright) site is no longer an outlier. Only the two Paynes are pulled somewhat apart by this lumping process. There is one curious difference between the two cluster analyses. In the 24-type dendrogram (Fig. 3) Wiacek No. 3 clusters tightly with Wiacek No. 1, but in the 7-type analysis it clusters with Wiacek No. 2 - the reasons for this continue to be a matter of mutual recriminations.

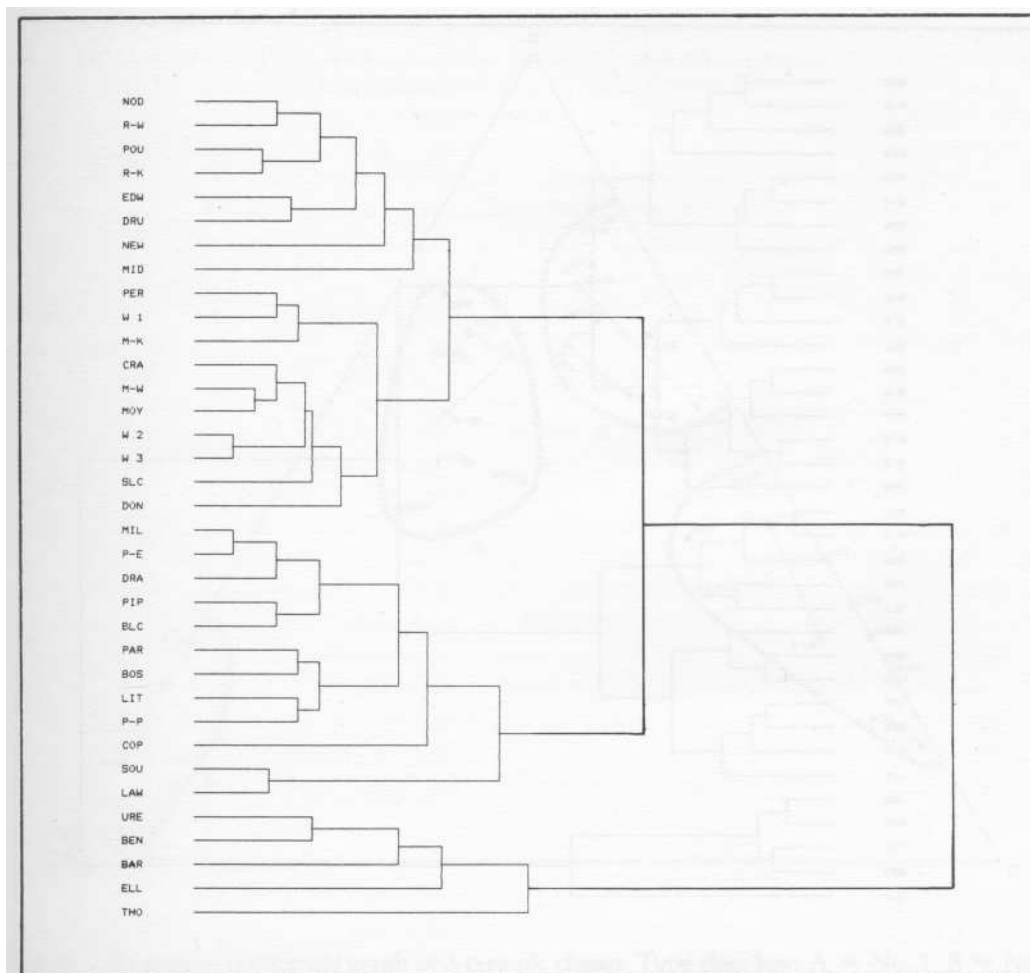


Fig. 4. Group average cluster analysis using 7 type Classes. The constituent types of each class are listed in Table 2.

But if such a lumping of types produces reasonably interpretable results, why not go a step further? Toss out all but the first three classes (1 to 3 in Table 2), for it is only these three that have large percentages, entirely dropping the other four classes from the analysis (recalculating the percentages of the retained classes so they total 100%). Despite so cavalierly ignoring 9 types, the 3-type cluster analysis (Fig. 5) is virtually identical to the 7-type one. But with only a three-variable data set, it is not a very meaningful exercise to calculate the cluster analysis dendrogram. A more efficient method of displaying this data set is to plot the sites on a triangular coordinate graph (Fig. 6) with each pole representing one of the three ceramic type groupings. The broken lines on this graph encircle four site clusters, as suggested by the dendrograms of Figs. 4 and 5. As discussed below, there appears to be some archaeological reality behind these four site clusters; however, the relative position of sites within these clusters may be unreliable as indicated by the variable placements of the multianalyst sites.

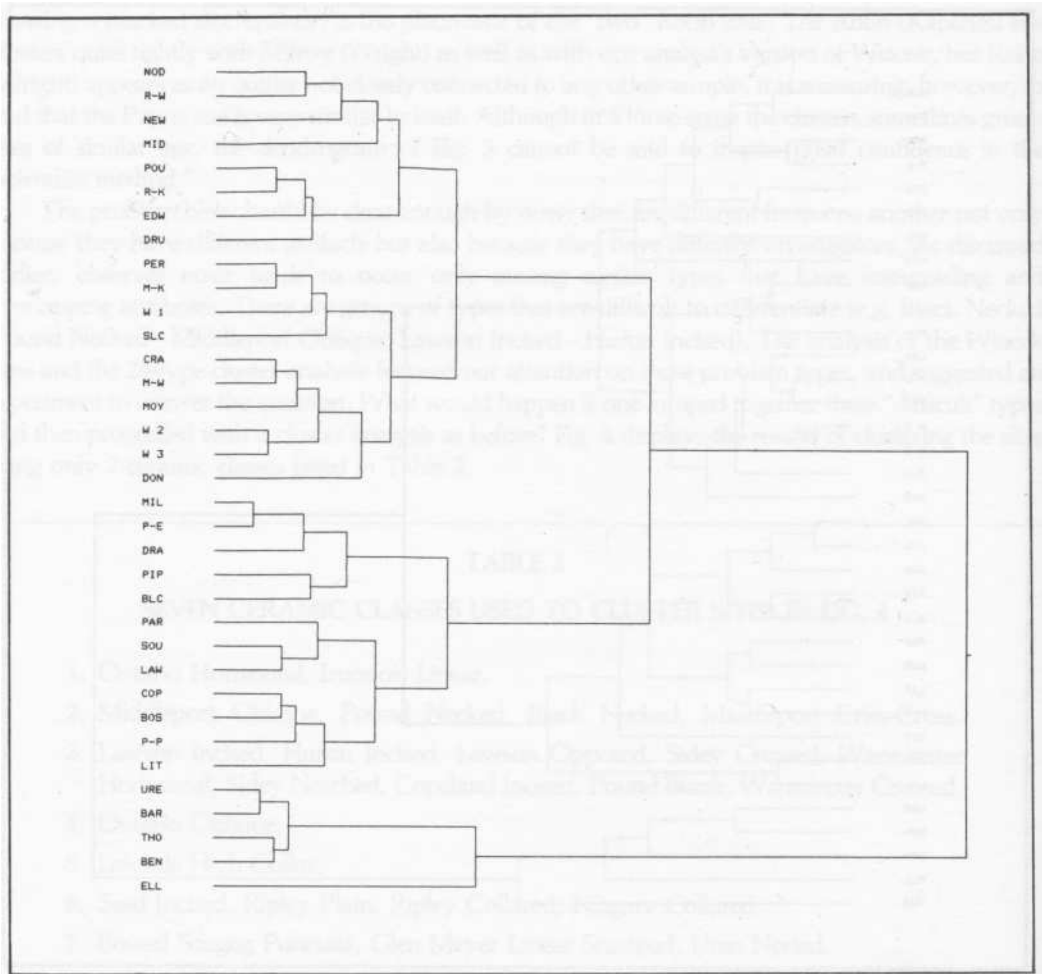


Fig. 5. Group average duster analysis using 3 ceramic classes.

The four major site clusters suggested by Figs. 4, 5 and 6 are reasonably good period groupings, with Cluster 1 (Fig. 6) being the earliest and Cluster 4 the latest. This can be seen by considering the radiocarbon dates for the sites.

Cluster 1

The sites in this cluster have been variously labelled as Pickering, early Middleport and Uren Substage. Apparently these subtle distinctions made little difference to the people who lived on these sites. The two dated components used here have similar radiocarbon determinations: Uren AD 1125 \pm 70, 1250 \pm 70, 1270 \pm 70, 1300 \pm 60; Bennett AD 1260 \pm 130, 1280 \pm 100 (these and all subsequent dates have been taken from the compilation in Fox 1983). A date range rounded to the nearest 50 years of AD 1200-1300 is consistent with the radiocarbon dates for Cluster 1 sites.

Cluster 2

This cluster includes the Middleport site itself, which unfortunately has never been dated. Radiocarbon dates exist for three sites: Edwards AD 1250 \pm 80, 1260 \pm 100; New 1310 \pm 85;

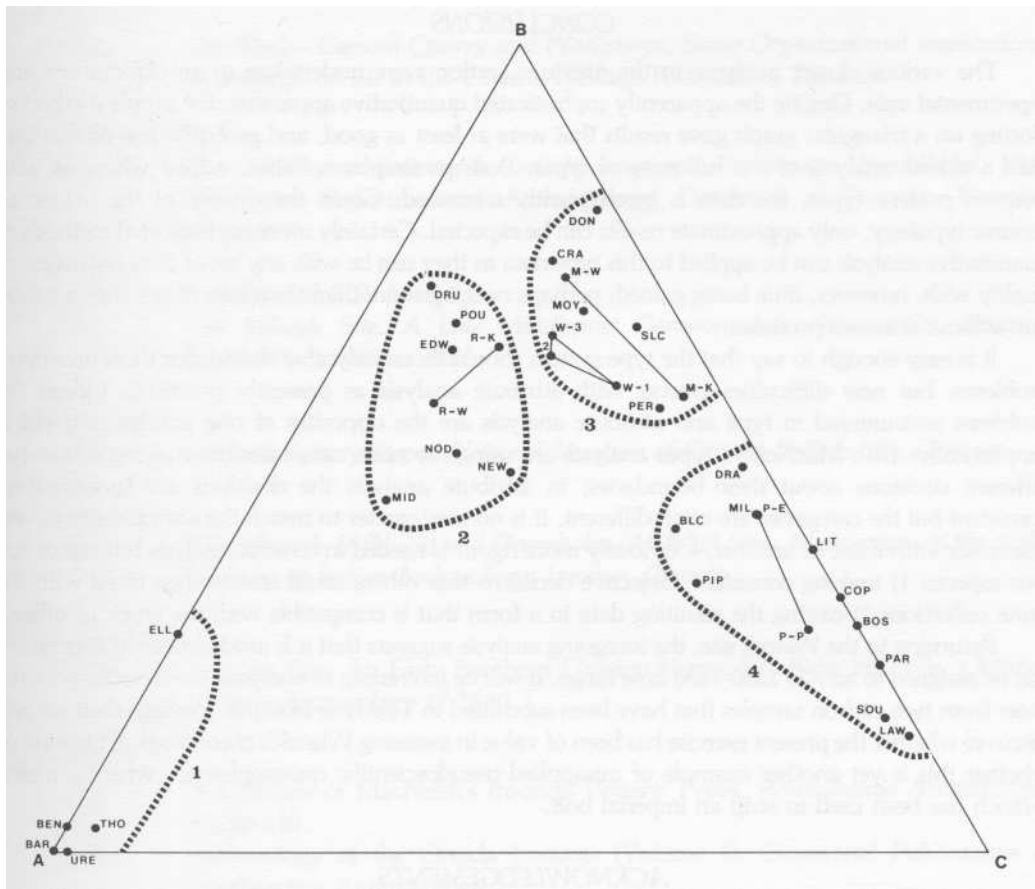


Fig. 6. Triangular coordinate graph of 3 ceramic classes. Type class key: A = No. 1, B = No. 2, C = No. 3. Group numbers as listed in Table 2.

Nodwell AD 1340 \pm 75. Sites of Cluster 2 would then appear to fall into the AD 1250-1350 period (the overlap with the dates given to the previous cluster represents imprecision introduced by both the inherent variations of the radiocarbon method and the vagaries of the ceramic type data).

Cluster 3

The only site with radiocarbon dates is Slack-Caswell with two readings of AD 1320 \pm 60 and 1420 \pm 35. Possible dates for Cluster 3 sites are AD 1350-1450, a range consistent with the AD 1435-1459 varve dates for Crawford Lake also in Cluster 3. The Wiacek site (all three analyses) fall into this cluster.

Cluster 4

This cluster consists of "Late Prehistoric" sites, four of which have radiocarbon dates: Pipeline AD 1405 \pm 85; Lite AD 1450 \pm 130; Lawson AD 1510 \pm 100, 1710 \pm 95; Draper AD 1360 \pm 75, 1380 \pm 95, 1455 \pm 65, 1520 \pm 85, 1545 \pm 65, 1740 \pm 80. A date range of AD 1400-1550 is consistent with the above data.

CONCLUSIONS

The various cluster analyses in the previous section were undertaken in an exploratory and experimental vein. Despite the apparently sophisticated quantitative apparatus, the simple method of plotting on a triangular graph gave results that were at least as good, and probably less misleading, than a cluster analysis of the full suite of types. Perhaps simpler is better, at least when, as with Iroquois pottery types, the data is inconsistently measured. Given the quality of the Iroquoian ceramic typology, only approximate results can be expected. Certainly more sophisticated methods of quantitative analysis can be applied to this type data as they can be with any set of data regardless of quality with, however, little being gained; perhaps nothing more than the allure of scientific method but without science's precision.

It is easy enough to say that the type system should be entirely abandoned, for there are severe problems, but new difficulties emerge with attribute analysis as presently practiced. Indeed the problems encountered in type and attribute analysis are the opposites of one another. To put it simplistically: with MacNeish's types analysts are using the same categories but making somewhat different decisions about their boundaries; in attribute analysis the decisions are (presumably) consistent but the categories are often different. It is no easy matter to match the attribute sets of one researcher with those of another. Obviously more rigour is needed in ceramic analysis but rigour has two aspects: 1) making consistent, objective decisions that others could make when faced with the same collection; 2) casting the resulting data in a form that is compatible with the work of others.

Returning to the Wiacek site, the foregoing analysis suggests that it is most similar to sites which can be assigned to an AD 1350-1450 time range. It will be interesting to compare these results with the dates from two carbon samples that have been submitted to Teledyne Isotopes. Perhaps then we will discover whether the present exercise has been of value in assessing Wiacek's chronological position or whether this is yet another example of misapplied pseudoscientific quantophrenia, where a metric wrench has been used to strip an imperial bolt.

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