VARIATIONS ON A THEME: THE CARSON SITE

VARIATIONS ON A THEME: THE CARSON SITE AND ITS IMPLICATIONS FOR A RE-EVALUATION OF THE LALONDE FOCUS

by

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Abstract

Using the recently excavated data from the Carson site (BcGw-9), near Barrie, Ontario, a re-examination of large Lalonde focus (c. A.D. 1400-1500) ceramic collections was undertaken. Statistical evaluation of the data led to the demonstration that:

1) samples taken only from middens are inadequate for a thorough understanding of Ontario Iroquois prehistory;

2)that there is much more variation among Lalonde sites than was previously acknowledged.

Further, a proposed chronology of six Lalonde sites is presented, based on the clustering of sites using 95% confidence limits as a statistical methodology.

Acknowledgements

A thesis is almost always the result of the hard work of a number of people and this one is no exception.

To Dr. Peter Ramsden go my sincerest thanks for sharing his knowledge of Ontario prehistory and his unpublished musings about the discipline. His keen editorial eye and demand for precision have made this a much better document than I alone could have produced.

If not for Dr. Ann Herring, however, there would have been nothing to edit. I could not possibly express my gratitude to her for taking on the task of supervising me for a year. A list of her contributions to this thesis would fill pages, so I hope that "Thanks for EVERYTHING" will suffice.

Dr. Dean Knight not only provided me with the Carson site material, the chance to work at Carson, and every other first opportunity academically and professionally, but he has also been a good friend over the last six (!!) years. My thanks to him for allowing me the chance to test myself in his projects.

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If not for the hard work of Elizabeth Kurucz I would still be at the data entry stage of

this thesis. Her offbeat sense of humour and friendship made the arduous tasks that much easier to deal with, and I simply can't imagine there being a better person with which to work.

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Finally I want to thank my family for their unflagging support of what I'm sure still seems like an odd vocation. Thanks to my Mom for encouragement and financial assistance, to Mike for all the late night drives and the serendipitous goofy adventures, and to my Dad for taking the time so long ago to show me how to read and write critically. I'm still learning, but I hope he sees some improvement.

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"St. Cedd's," he pronounced, "the college of Coleridge, and the college of Sir Isaac Newton, renowned inventor of the milled-edge coin and the catflap!"

"The what?" said Richard.

"The catflap! A device of the utmost cunning, perspicuity and invention. It is a door within a door, you see, a ..."

"Yes," said Richard, "there was also the small matter of gravity."

"Gravity," said Dirk with a slightly dismissive shrug, "yes, there was that as well, I suppose. Though that, of course, was merely a discovery. It was there to be discovered."

He took a penny out of his pocket and tossed it casually on to the pebbles that ran alongside the paved pathway.

"You see?" he said, "They even keep it on weekends. Someone was bound to discover it sooner or later. But the catflap ... ah, there is a very different matter. Invention, pure creative invention."

"I would have thought it was quite obvious. Anyone could have thought of it."

"Ah," said Dirk, "it is a rare mind indeed that can render the hitherto non-existent blindingly obvious. The cry 'I could have thought of that' is a very popular and misleading one, for the fact is that they didn't, and a very significant and revealing fact it is too. This if I am not mistaken is the staircase we seek. Shall we ascend?"

Without waiting for an answer he plunged on up the stairs. Richard, following uncertainly, found him already knocking on the inner door. The outer one stood open.

(Adams 1987: 186-187)

CHAPTER 1

Introduction

Just outside of the present day city of Barrie, Ontario, atop a prehistoric Lake Algonquin beach ridge, lie the remains of what was once a late prehistoric Iroquoian village. This unpalisaded settlement, today known as the Carson site (BcGw-9), consisted of eight large longhouses spread out over approximately seven acres. The site is attributed to the "Lalonde" focus (c. A.D. 1400-1500) (Ramsden 1990: 381) of Iroquois prehistory (Hunter 1978; Ridley 1966) because of the significant presence of Lalonde High Collar pottery. Lalonde is a distinct cultural stratum lying between the earlier Middleport and later Historic period Huron eras. The Carson site is located on the east half of Lot 16, Concession 5, Vespra Township, in Simcoe County (see Figure 1.1).

I became involved with the Carson site in the summer of 1989 as the lab supervisor for the excavation. Although the site was excavated under the restrictions of a rescue operation, everyone involved with the project understood the extraordinary research potential this site held. Not only is Carson the only completely excavated Lalonde site, but it has the second largest number of vessels (N=487) from any known Lalonde site. With these attributes in mind, I approached

Dr. Dean Knight about the possibility of using the Carson site as the focus of my Master's thesis.

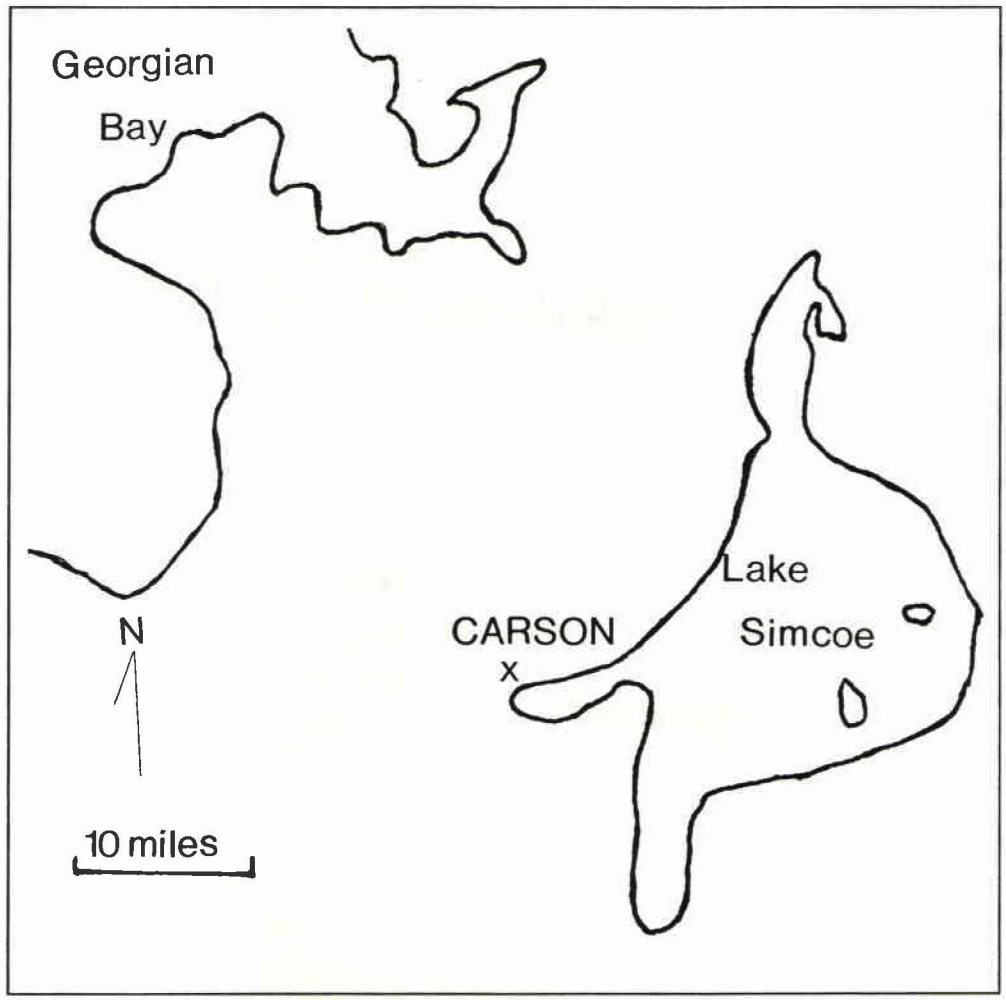


Figure 1.1 Location of the Carson Site (BcGw-9)

My original plans for the thesis were to examine some questions about the Lalonde occupation that could be considered to fit into a "post-processual" framework, as I understand the term. However, it soon became clear that there were some fundamental problems at the very foundation of Lalonde research, namely:

1) That there were only a few sites (n=4) with substantial collections that could be used as comparative samples for the Carson site.

2) That most of the previous scholarly analysis of the Lalonde phenomenon had been restricted to the examination of one or two sites.

3) That the Lalonde focus had been regarded as a generally homogeneous entity, with no exploration of variation between sites.

It was apparent that before any exploration of symbols and meanings of Lalonde ceramics could be undertaken we needed to have a much better handle on the very basics, including chronology, and the dismissal of the notion that variation between Lalonde sites was minimal and of no great import. To remedy this deficiency I set out four goals for this thesis:

1) To draw together the available comparative data from the large Lalonde collections and incorporate the Carson site collection into this body;

2) To examine intersite variation in the ceramic assemblages;

3) To attempt to recognise, investigate, and understand changes in the make-up of the Lalonde occupation;

4) To draft a preliminary structure from which to further explore the Lalonde phenomenon.

In the end my work led to: 1) the demonstration that there are significant and meaningful differences in the ceramic collections of Lalonde sites; 2) the recognition that there were problems with certain aspects of sample collection, namely that an emphasis on midden sampling was giving us a biased and inaccurate picture of ceramic remains on Iroquoian sites, and; 3) the development of a provisional chronology of Lalonde sites.

It is my belief that this thesis contributes a solid foundation from which we can explore more complex and imposing questions.

CHAPTER 2

The Lalonde "Focus", or:
The Invention of a Proto-Huron People

My initial examination of the Lalonde literature provided part of the impetus for examining the questions which will form the core of this work. It is important, therefore, that we have an understanding of Lalonde research that has been carried out to date. This chapter will outline the Lalonde literature and place it within its historical framework. Finally, it will detail the specific questions and issues that I examined for this thesis.

Previous Research on the Lalonde "Focus"

The concept of a separate, distinct occupation in Simcoe County was put forward by Frank Ridley in his paper "The Huron and Lalonde Occupations of Ontario" (Ridley 1952a). Ridley had become aware, after many years of researching and testing sites, that there was present in Huronia a distinct archaeological material culture that was very different from the one usually associated with the contact-era Huron. The fact that none of these sites contained European trade goods led Ridley to believe that they represented an earlier horizon of Iroquoian development in Huronia (Ridley, 1952a: 197-198).

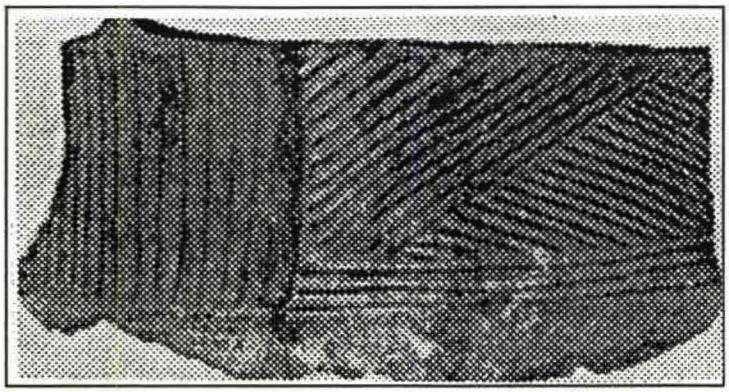


Figure 2.1 A Typical Lalonde High Collar Decorative Motif (Ridley 1952a: 202)

Ridley initially identified these so-called Lalonde sites by the appearance of a number of "traits", some of which were identifiable in the ceramics. These include: a very distinctive pottery type, Lalonde High Collar, with its flattened 'nubbin' type castellation, and series of vertical lines underneath the castellation that extend all the way to the bottom of the collar; trumpet and barrel type pipes, and cylindrical bone beads.

Most important for this study is the Lalonde High Collar pottery type (see Figure 2.1). This type consists of a high collar (usually greater than 40 mm) upon which is incised a complex motif of triangles of oblique lines, often interspersed with triangles of horizontal or vertical lines, or open triangles. Other decoration of horizontal lines or punctates can be found along the top and bottom of the collar in various combinations (Ridley, 1952a: 205). The ubiquity of this pot type on Lalonde sites is one of the distinctive characteristics of this earlier occupation.

Another paper of Ridley's (1952b) presented his interpretation of Huron prehistory based on the presence of these Lalonde sites. From the number of proposed Lalonde sites Ridley presumed a flourishing occupation that expanded. He believed it probable that the Lalonde people were undergoing "ever increasing

influence from the changes in the Mississippi Valley', which would in pottery "tend toward a globular, short necked vessel of thin, well fired ware" (Ridley, 1952b: 13). That this type of pottery showed up at Iroquoian sites in Prince Edward County and in material from the Roebuck site in eastern Ontario suggested to him that a Lalonde expansion and migration had taken place from the homeland in central Ontario, eastward and around the end of Lake Ontario into New York state (ibid: 13). As these people moved farther away from the Mississippian influence the rate of change in their ceramics decreased, and this relatively unchanged pottery became ancestral to the "later Mohawk, Onondaga and Susquehannock collared vessel" (Ridley, 1952a: 205). Another, later, migration over the Niagara River eventually became the Historic era Seneca, Erie, and Neutral, leaving the Huron and Northerly Neutrals in the old Lalonde homeland (Ridley, 1952b: 14).

Much of Ridley's evidence that the Lalonde occupation of Huronia preceded that of the Historic Huron was based on sites which he felt were stratified, encompassing Uren, Middleport, Lalonde, and finally contact period material (Ridley, 1952b; 1954). However, the evidence for multiple occupations is not convincing. At the Fallis site, for example, Ridley tested the site by digging test trenches and squares down to the subsoil, which occurred at a depth of fourteen inches. He then divided these fourteen inches into between four and six apparently arbitrary levels, depending on the square, each of three inches (Ridley, 1952b: 7-8). His evidence of two separate occupations is the observation that typical contact

Huron material was never found in the lower levels of the soil, whereas the early Lalonde material was (Ridley 1952b: 10).

Two problems are evident in his data, however. Nowhere on the site did Ridley find European trade goods which would support the belief that the upper material represented a contact era Huron site. Also, the lack of any defined strata leaves Ridley's interpretation of occupation levels open to question. Further, the extensive mixing of Lalonde and Huron materials in layers one through three, attributed by Ridley to disturbance by the later occupation, may simply represent a single occupation with diverse material culture.

At the Frank Bay site the evidence for a separate Lalonde occupation is even less convincing. Ridley documented seven different occupations at this site, including separate Lalonde and contact layers. The identification of the Lalonde stratum, however, was based on the presence of only ten artifacts of 'typical' Lalonde traits, only one of which was a Lalonde High Collar sherd (Ridley, 1954: 48), the rest being material found on both prehistoric and contact sites. In fact, the extensive European material also found at the site could result in the interpretation of two, and possibly three, occupations at this specific site, with the Lalonde material as part of the contact era assemblage.

Ridley's search for great time depth in his Lalonde sites would appear to be in response to an article by Popham and Emerson (1952) refuting Ridley's belief that there had been a south-easterly migration of Lalonde people that gave rise to some of the Historic groups in New York state. Part of their criticism of Ridley's

position was that it would be necessary for "considerable antiquity...to be assigned to Lalonde if it were to be the prototype for such a profound metamorphosis" (Popham and Emerson 1952: 162). Popham and Emerson instead proposed a northward migration of Toronto area Huron into the area historically known as Huronia, based primarily on the lower frequency of Lalonde High Collar pottery on sites in the south than in the north, and the greater number of contact era sites in the north (ibid: 163). This indicated to them that Lalonde High Collar began its development in the south and grew in popularity as it and its makers migrated northwards (ibid: 162). This meant that the peak of popularity of Lalonde High Collar occurred in the late prehistoric period "in those areas, such as Innisfil [township], immediately south of the historic home of the Hurons in north Simcoe County" (Ibid: 163).

A similar interpretation of Huron prehistory was expounded by MacNeish (1952) in Iroquois Pottery Types. By chronologically seriating pottery types MacNeish hypothesised that Huron culture had developed in the southern regions of the province and had been carried north. He inferred the paths that the Huron had taken by tracing typological developments in ceramics from site to site, following groups of Huron up the river valleys into Huronia (MacNeish, 1952). This theory of northward migration was later called the MacNeish-Emerson theory by Ridley (1958).

For the next decade a battle was waged between Ridley and those who followed the opposing theory (Ridley, 1954, 1958, 1963; Popham and Emerson,

1952; Emerson, 1959b, 1961; Trigger, 1962, 1963). The only point of agreement was that the Huron were in Huronia when the French explorers, traders, and missionaries arrived. For the most part Emerson, Trigger, and others convinced of the northward migration presented more and more evidence to support their position. On the other hand, Ridley made the astute criticism that these researchers were largely ignoring his Lalonde culture data (Ridley, 1963: 49).

In fact, both theories had flaws. Ridley never did indicate why the Lalonde people should be under the influence of people from the Mississippi valley, or why that influence should end as they migrated eastward and southward. Further, he offered no explanation for the fact that some of the population must have stayed behind to become the Huron. Also, many, if not most, of his described 'typical' Lalonde traits, such as trumpet pipes and bone beads, have since been shown to be widely spread among the Iroquoian cultures of Ontario (Wright 1966: 74, 77).

The MacNeish-Emerson theory has also been roundly criticised. Ramsden (1977a: 6) has suggested that its conclusions about Huron migration patterns are simply a function of the sites selected for analysis. There are, however, other problems with this theory. First, the tracing of groups from village to village up major river valleys presupposes that there was only a handful of groups in the province for almost all of Huron prehistory, and that suddenly upon their emergence into Huronia the population skyrocketed. Further, if all pre-contact Huron sites in Huronia were the result of immigrants, then Huronia must have been very suddenly,

and mysteriously, evacuated immediately after the Middleport period (see Map 3, Wright, 1966: 58).

Prior to the work at the Carson site, the most extensively excavated Lalonde site was the Copeland site (Channen and Clarke, 1965). Six years of fieldwork uncovered four "house" structures and well over 100,000 artifacts. One of these structures, House 1, was very unusual in that it was 55 feet in width, approximately double the width that would be expected (ibid: 5).

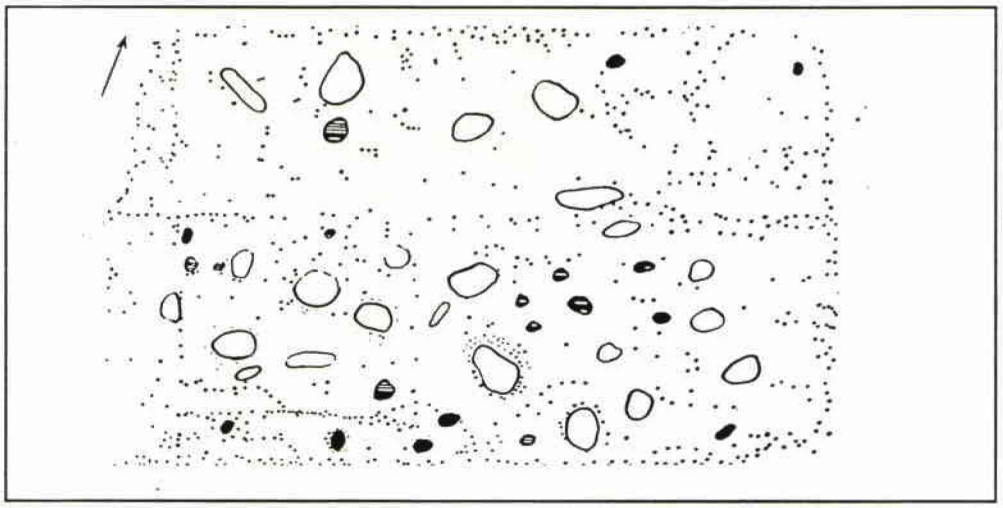


Figure 2.2 House 1, Copeland Site (Channen and Clarke 1965: 6)

The published house plan, however, suggests that House 1 may in fact be two houses side by side (see Figure 2.2). Houses 3 and 4 also do not fit the typical pattern of Iroquoian longhouses, and in fact appear to be more typical of the occasional small houses that are found on many Iroquoian sites (see Figure 2.3)(ibid: 9). Only House 2 seems to fit the typical pattern of a longhouse. All of

the houses, oddly enough, have few interior pits, suggesting either that the site was occupied for only a short time, or that this portion of the village was relatively new when the site was abandoned.

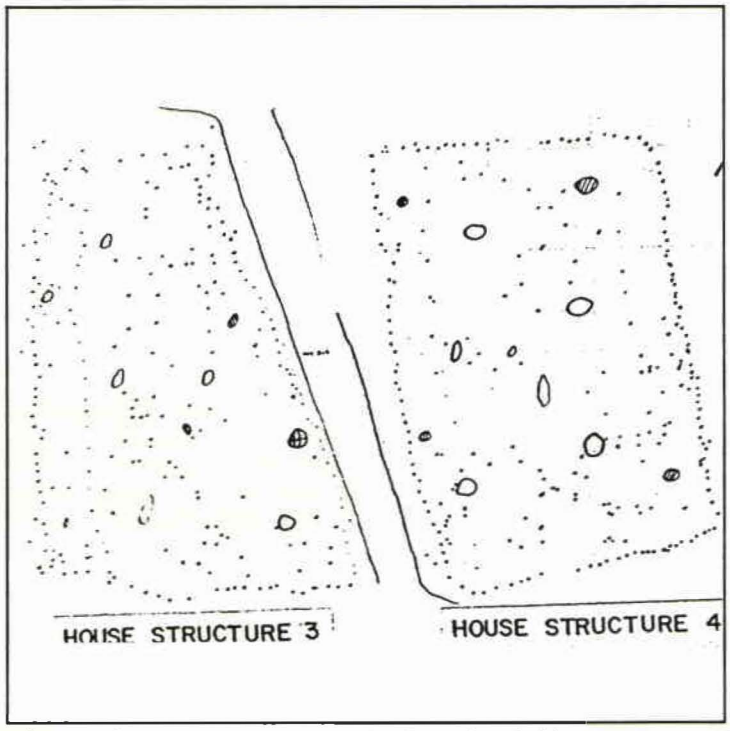


Figure 2.3 Houses 3 and 4, Copeland Site (Channen and Clarke 1965: 9)

The question of Huron migration northwards or southwards was further addressed by Wright (1966) in **The Ontario Iroquois Tradition.** Wright reconciled the argument by agreeing with Ridley that the Lalonde focus was a separate archaeological entity that had evolved out of the earlier Middleport era in Simcoe county, and by also agreeing with the MacNeish-Emerson theory that Toronto area Huron had migrated north to what eventually became Huronia. The historic era Huron and Petun developed from these two separate entities (Wright, 1966: 13). This reconciliation effectively took care of the problem of a suddenly empty Huronia after the Middleport stage that was a shortcoming of the MacNeish-Emerson proposal. Wright also took exception to the Emerson proposal that Lalonde High Collar was a development of the southern

division sites and grew in popularity as these groups moved northwards. Instead, he viewed Lalonde High Collar pottery as being developed in the "northern portion of southwestern Ontario" as witnessed by the high frequency of the type at the Middleport era village at Inverhuron (Wright, 1966: 79).

Wright saw a contemporaneous development of two distinct groups, a northern division of Huron that was the same as Ridley's Lalonde, and a southern division that was located along the north shore of Lake Ontario and that gradually migrated north along the major river valleys. The only means of distinguishing between the two, according to Wright, was by the frequent occurrence of one pottery type, Lalonde High Collar, on the northern division sites (1966: 66, 92). Wright was also quite perceptive in his recognition that similarities were evident between the two groups because of their common Middleport heritage and the fact that the two were not in isolation from one another (Wright, 1966: 98). Eventually these two groups fused into one cultural entity for a period, and then separated again into the historic Huron and Petun (Wright, 1972: 70).

The most recent examination of Lalonde settlement data and cultural materials is Stopp's (1982) work at the Baumann site. The major focus of this work was to recognise the "Lalonde presence in Huronia as a horizon within the Late Ontario Iroquois Stage, as opposed to" simply the Northern Division Huron as outlined by Wright (Stopp, 1982: iii). A variety of terms including culture, focus, division, and people had been used to describe the Lalonde occupation of Ontario and Stopp wanted to identify and clearly define the nature of Lalonde. Stopp also

made the astute observation that, other than the Baumann site, Copeland was the only other Lalonde site ever to have been examined beyond a rimsherd analysis (ibid., ii). The Baumann site data were obtained from one house structure, one extensively tested midden and a number of test trenches.

Stopp's designation of Lalonde as a horizon was based on Jennings' (1974: 30) definition which required spatial continuity of cultural traits over a wide geographic area, and which are believed to have diffused quickly over that region. Some Lalonde traits, such as Lalonde High Collar pottery vessels, do display such a distribution, and could validate the claim that Lalonde is a horizon, at least within the context of 'Huron' archaeology. This designation, however, was not conceptually different from how Ridley and Wright had perceived Lalonde, and our understanding of Lalonde was not much furthered by the change in terminology.

Stopp also made some sweeping statements about what she considered to be characteristic of the Baumann site, and perhaps by extension to Lalonde sites in general, from the rather meagre settlement data which she recovered. The statement that "[m]ost characteristic of the Baumann site are the following features: an unusually long house structure associated with a deep, rich midden...[and] an unusual northeast-southwest orientation of the structure" (1982: 121) are over-generalizations as both of these 'characteristics' are based on only a <u>single</u> house. Stopp goes on to suggest that this house conforms to "no size range nor common orientation" and represents a lack of settlement planning, based solely on the questionable comparative data from the Forget and Copeland sites. Further, this

apparent lack of settlement planning indicates to Stopp, following Noble, that the Lalonde people may have been lacking the lineages that were present in the contact era Huron (ibid.: 121). Being based on one house structure, these assertions are unwarranted.

The latest work to have been carried out on Lalonde ceramics is Bursey's (n.d.A and n.d.B). His ambitious project involves a reanalysis and coding of all of the identified Lalonde sites. The results of Bursey's work are his identification of two classes of Lalonde High Collar pottery, and the hypothesised origins of the people that eventually came to occupy the Lalonde site itself (n.d.A: 7).

The first pottery class he identifies is decorated by "opposed obliques above or between horizontals", and has a collar height between 41 and 75 mm, clustering around 56-60 mm. The second class has basically the same decorative motif, but incorporates open triangles into rectangular units, and has collar heights which cluster between 71-85 mm (Bursey, n.d.A: 4). Bursey sees the first class of Lalonde High Collar as a decorative transition and continuum from Middleport Oblique, which was present at the Lalonde site. The second is more problematic as there appears to be no clear continuum from any decorative style to the open triangle type. Unfortunately, Bursey offers no explanation of what these two 'classes' may represent. His identification of Lalonde High Collar as part of a decorative continuum originating in Middleport Oblique is also problematic. A pottery type whose major decoration is a series of oblique lines hardly qualifies it as the immediate precursor to what is obviously a very complex and intricate

decorative motif. The only real similarities between the two are that the lines on both are oblique and that both combine these oblique lines with basal rim secondary decorations (cf. MacNeish, 1952: 16, 95-6).

As for the origins of the Lalonde site occupants Bursey offers a possible Webb-McRae-Lalonde migration pattern from the southern part of Huronia northward. Again, these ancestral chains are built on the same assumptions made by MacNeish and others concerning the migration of the Huron as a whole, and the soundness of these site to site connections can, and should, be questioned.

In the years since Ridley's initial description of the Lalonde focus some changes in our understanding of this archaeological culture have come about. It is apparent that the group of sites defined as Lalonde represents another regional sequence of Ontario Iroquois prehistory, emerging from a Middleport antecedent, and later developing, under various influences, into the historic Huron. Although this perception is certainly very different from Ridley's and Emerson's opposing migration theories of the 1950's, it is unfortunate that research appears to have stopped there. After forty years of research it is rather disappointing to find ourselves no further ahead. Our lack of understanding of the Lalonde era is, I think, the result of three foibles.

Most importantly, Lalonde research has been hampered by a lack of good comparative data. Not only has there been a paucity of large collections, but attempts at understanding Lalonde have been undermined by the availability of what good collections there were. Although Ridley claimed to have identified a large

number of Lalonde sites in Simcoe County, the vast majority of them have very small collections, collections which are inappropriate for comparative analysis. The only large collection Ridley had was the Lalonde site itself.

When Wright (1966) was drafting his Huron development scheme his Northern Division was based on only two sites: Lalonde and Copeland. Later still, when Ramsden (1977a) was attempting to illuminate developments across Ontario the only Lalonde collection available to him was Ellesmere-Morrison. For Stopp (1982), because she was interested in examining more than just ceramics, the only comparative site for Baumann was Copeland. In all of these previous examinations of 15th century Simcoe County a maximum of two large collections were available for examination. Such minimal comparison has had deleterious effects for a thorough understanding of Lalonde. Clearly what has been lacking is a comprehensive examination of a number of Lalonde sites.

This problem is further compounded by the historical accident of a century of intensive research in Simcoe County. No other area of Ontario has been the subject of such continual and ardent interest. Beginning in the late nineteenth century A. Hunter made extensive surveys of the townships that comprise Simcoe County (1899; 1900; 1902; 1903; 1904; 1907). This work was expanded upon from the late 1940's through to the early 1970's by Frank Ridley (1952a; 1952b; 1954; 1966; 1967; 1969; 1971; 1973). Certainly part of the preoccupation with this area grew out of the fact that this was the land occupied by the Huron, and perhaps

more importantly that this was the scene of the meeting between Native and European cultures.

Most research, either explicitly or implicitly, views Lalonde as a chronological filler, holding the fort after Middleport had faded away until the really interesting people, the Historic Huron, got there. Not only was it necessary for early researchers such as MacNeish, Emerson, and Wright to get the Huron into Huronia in time to meet the French explorers and missionaries, but they also had to get the earlier Lalonde people out. Emphasis on the historic Huron, because of its association with European culture, has tended to overshadow other aspects of research in Huronia (Knight 1990).

A final problem in Lalonde research is perhaps a function of the archaeological material itself. Regional post-Middleport and pre-Huron groups have been demonstrated for a number of localised areas of Southern Ontario. These include sequences in the Trent River Valley (Ramsden 1977a, 1977b; Sutton 1990), the Oshawa area (Reed 1990), the Toronto area (Ramsden 1977a), and around Crawford Lake (Smith 1987). However, distinguishing these regional groups was based on attributes and types that are much less dramatic and not so instantly recognisable as Lalonde High Collar, the major marker by which Ridley (and Wright after him) distinguish Lalonde. Further, the number of known sites in Huronia was far greater than for other regions. This fact, combined with the distinctive material culture, meant that in the decade and a half after Ridley's initial description of the Lalonde occupation, Lalonde was the only recognised regionally

defined entity and presented serious interpretive problems. The presence of the Lalonde 'people' was seen as an abrupt development after Middleport in Simcoe County because archaeologists in Ontario at that time simply had no comparable entity. Coinciding with this seemingly abrupt development was a belief that Lalonde material culture was largely homogeneous. Imagining Lalonde as a homogeneous entity has precluded close examination of variation between sites.

Present Research Goals

In order to remedy the aforementioned problems I set out four goals for this thesis:

1) To draw together the available comparative data from the large Lalonde collections and incorporate the material from the Carson site into this data base;

2) To examine intersite similarity and variation in Lalonde site ceramic assemblages;

3) To attempt to recognise, investigate, and understand changes in the make-up of the Lalonde occupation of Simcoe County;

4) To formulate a preliminary structure from which we can further explore the Lalonde phenomenon.

The rest of this thesis represents my efforts at resolving these issues, and the future directions which I consider to be of importance. Clearly the Carson site has an important part to play in the resolution of these concerns, having the second largest ceramic assemblage (487 vessels) of any known Lalonde site, the largest

number of excavated houses (n=8), and not least importantly, only the second absolute date (A.D. 1507 +/- 27) for a Lalonde site. The next chapter will consider the other Lalonde sites examined for this study, the aspects of the sites that I analysed, and the specific analytical tools that were used.

CHAPTER 3

Sites, Ceramics, and Statistics: The Analytical Components

If one of the aims of this thesis is to compare Lalonde site ceramic assemblages, then choosing proper analytical techniques is critical. The available data places some limits on the analytical techniques which can be used, due to certain requirements of those individual techniques. The purpose of this chapter is to introduce and discuss the analytical techniques which were deemed suitable, the rationale behind such choices, and the requirements that each demands. It will also specify the sites that were used for analysis and comparison. Finally, the chapter will discuss the specific components of Lalonde ceramic assemblages which were examined.

The Sites

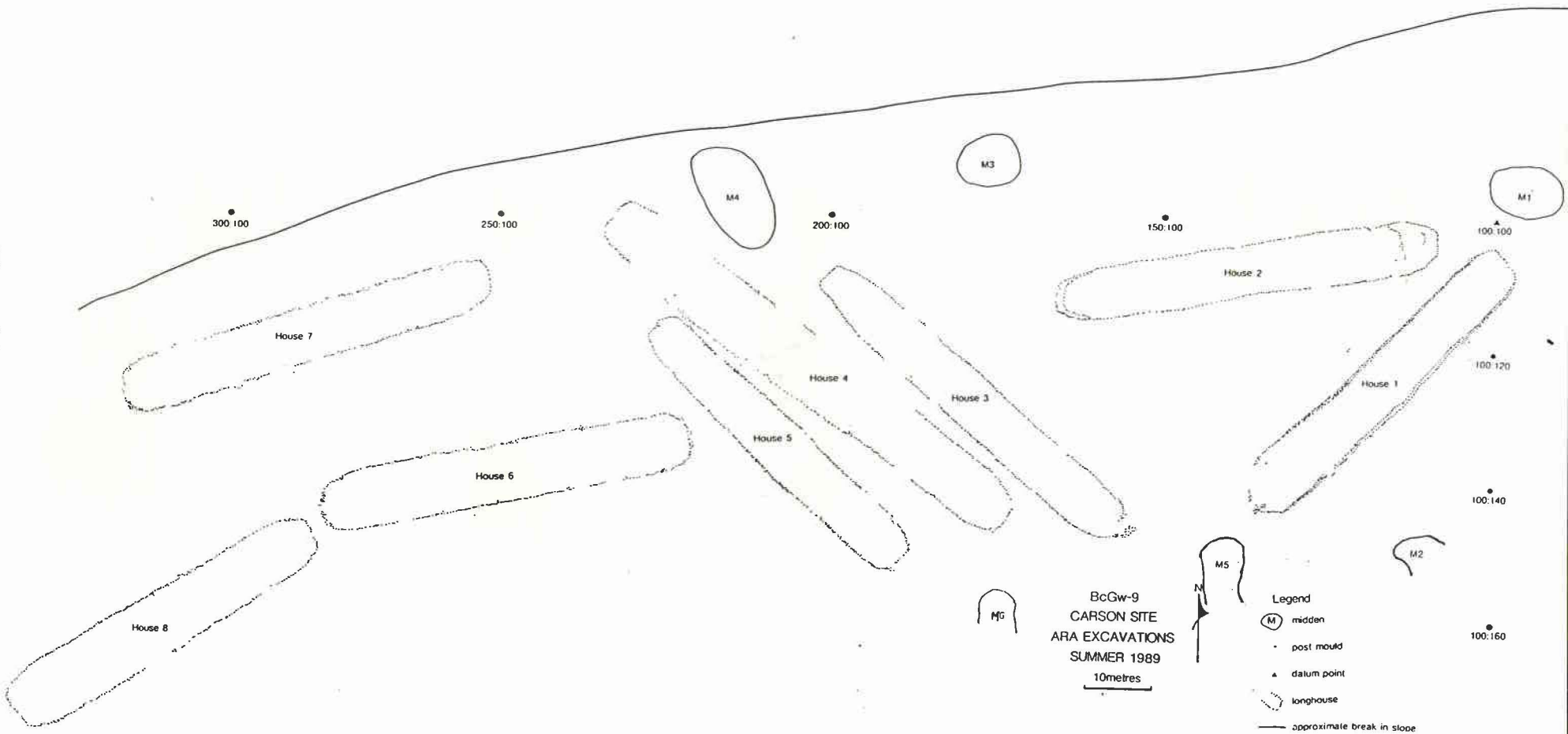
The Carson Site

The first mention of the Carson site was made by Andrew Hunter (1907: 54) in his report on archaeological sites in Vespra Township. Known as the "Paddy and Thomas Dunn Site" (after the landowners at the time) the site was listed as number 46 of the 54 sites that Hunter identified that summer.

Gravel quarrying operations on the site in 1956 initiated some survey and surface collection by Ross Channen, then of the Strathaven Indian Museum. He noted that the quarrying operations had caused disturbance over a large portion of the site but only to a depth of approximately 18 inches. He also recovered 85 artifacts during his surface collecting. Frank Ridley investigated the site in 1966 and estimated that it extended roughly 700 feet east-west. He deemed the site stony, badly disturbed, and largely unproductive (Ridley 1966).

In 1977 J. Hunter examined the site while conducting an archaeological survey of the Barrie area. He noted that, despite being badly damaged by the operations of the gravel pit, the site appeared to be more or less intact, and estimated its size at five to six acres (Hunter 1978).

The final chapter in the saga of the Carson site began in 1987 when a proposal for a planned subdivision on and around the Carson site was presented to the Vespra Township Council. As the site faced imminent destruction salvage procedures were initiated to completely excavate it before construction began. It was decided early on that the focus of the excavation would be on uncovering all of the houses, as no Lalonde site had been completely excavated. The excavation began in October of 1988 and carried on throughout the winter, during which time most of House 1 was excavated. The rest of the site was uncovered between May and August of 1989. These excavations revealed a large unpalisaded village with eight longhouses, ranging from 50 to 75 metres in length, and six midden areas (see Figure 3.1).


300:100
250:100
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100:120
100:140
100:160
M1
M2
M3
M4
M5
M6
House 1
House 2
House 3
House 4
House 5
House 6
House 7
House 8
BcGw-9
CARSON SITE
ARA EXCAVATIONS
SUMMER 1989
10metres
N
Legend
M midden
post mould
datum point
longhouse
approximate break in slope

Figure 3.1

The Carson site is an important contribution to Iroquoian archaeology in general and to Lalonde archaeology in particular for a number of reasons. First, it is the only Lalonde site to be completely uncovered, exposing all eight of its houses. These eight houses are not only the largest number of Lalonde houses from a single site, but are almost double the five houses previously available from the Baumann and Copeland sites. Further, the collection of artifacts is large (more than 30,000 specimens) and contains 487 ceramic vessels, second only to Copeland among Lalonde sites. Equally important is the fact that these specimens have excellent provenience data, something lacking in most of the other collections. Finally, Carson is only the second Lalonde site to have an absolute date. The date of A.D. 1507 +/- 27 years was obtained from a carbon sample from a pipe, and was provided by L. Pavlish at the University of Toronto (Pavlish, Per Com).

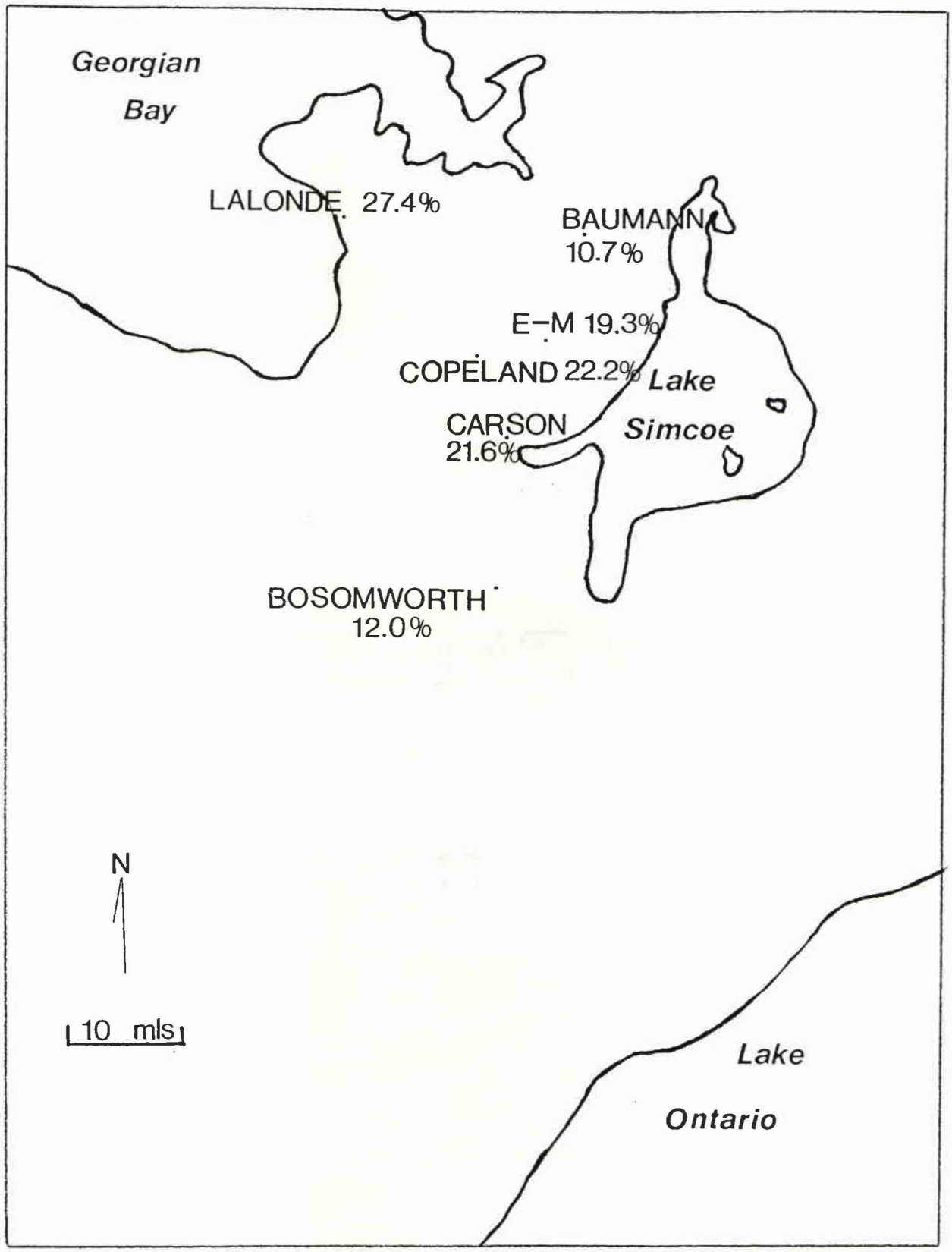
In choosing other collections for comparison with Carson three requirements for inclusion were considered:

1) the presence of relatively large amounts of Lalonde High Collar vessels (>10%);

2) ceramic samples could be analysed as vessel counts rather than rimsherd counts, and;

3) that there were sufficient numbers of vessels from each site to allow for confidence in statistical testing.

In addition to the Carson site, five other sites that met the above criteria were examined statistically (see Figure 3.2). The use of non-parametric statistical



Lalonde Sites and Frequencies of Lalonde High Collar Vessels

Figure 3.2

tests necessarily excluded small samples (eg. <20) because of the conditions required by the chi-square test. Brief descriptions of the five sites which satisfactorally met all three criteria are given below.

Baumann The Baumann site is located just outside of Warminster, near Orillia and has been identified as a Lalonde site. While excavation has taken place both in middens and in house structures the majority of the ceramic collection was retrieved from a midden (75.9%) (Stopp 1985). The ceramic collection consists of 327 vessels. The Baumann site also has a radio-carbon date of A.D. 1490 +/- 60.

Ellesmere-Morrison Located north-east of Barrie this site has also been identified as a Lalonde site (Ramsden 1977a: 70). The ceramics from this site were excavated from middens. The collection consists of 83 vessels.

Copeland Located in the heart of Simcoe County, the Copeland site is another Lalonde site. The 1509 vessels (Bursey Per Com) from this site were recovered from both house and midden excavations. However, it was not possible to determine where any individual vessel came from within the confines of the excavation.

Lalonde Recent work by Bursey has made it possible to include the Lalonde site itself in the present work. Located near the east shore of Nottawasaga Bay the 135 vessels from this site were taken from midden excavation and from general collection across the site (Ridley 1952a: 198). Bursey examined 126 vessels housed

at the Ministry of Culture and Communication in Toronto, while nine vessels housed at Ste. Marie Among the Hurons were analysed by the author.

Bosomworth The Bosomworth site is located near the town of Bradford on the Nottawasaga River and was first examined by Emerson and the University of Toronto (Emerson 1959: 61). Wright (1966: 150) has identified Bosomworth as a 'Fusion' site. Fusion sites, according to Wright, represent an amalgamation of Northern and Southern division Huron, and are partly identifiable by the lower occurrence of L.H.C. pottery on these sites than the Northern division sites. It was decided to include the site in this study because of the large amount of L.H.C. pottery and the availability of vessel counts (total number = 428) from published sources (Bush 1976: 22; Ramsden 1977a: 79). The ceramic collection is taken entirely from midden excavation (Emerson 1959: 62).

Analytical Entities

Certain limitations in the available data for Lalonde sites made choosing which facets of the archaeological collections to examine rather simple. Although it is very likely that there is more to "Lalondeness" than simply ceramic vessels, at the present time this is difficult to determine. Beside Carson, only Baumann and Copeland have available information beyond ceramic vessels, so I was faced with the choice of either limiting my analysis to these three sites, or limiting it to ceramic vessels. Fortunately, it is widely believed that ceramics on Iroquoian sites are the most sensitive archaeological indicators of a number of aspects of Iroquoian

prehistory, including chronology and social relations. It was evident that ceramic vessels would have to be the area of focus for an effective re-examination of our most fundamental beliefs about the Lalonde focus.

Rimsherds are especially important because of their decorative variation, thought to be important in an examination of the Lalonde focus. Variation is also found, however, on neck and shoulder sherds, and occasionally on body sherds. However, unless these sherds could be matched to a rim they were eliminated from the analysis. Following Ramsden (1977a: 61-63) only those rim sherds which were complete enough to show both the interior of the rim and enough of the neck to allow confident attribute identification were analysed.

Rimsherds were also subjected to a vessel sort before analysis. By matching rimsherds and obtaining vessel counts we can avoid biasing a sample in favour of vessels which are represented by large numbers of rimsherds. This is especially important in this study as Lalonde High Collar vessels, being large, could be wildly over-represented if only rimsherd counts were used. An example of such over-representation can be seen in the differences between Wright's typological analysis of the Lalonde site ceramics, based on rimsherd counts, and Bursey's investigation of the same collection using vessel counts. Wright (1966: 149) informs us that of the 228 rimsherds he examined, 39% (n=91) were Lalonde High Collar. Vessel count analysis by Bursey (n.d.A) and myself, on the other hand, shows that 37 of the 135 vessels from Lalonde (27.4%) are Lalonde High Collar.

Typological analysis historically has figured prominently in ceramic analysis. In other words, ceramic types are identified on the basis of certain combinations of decorative attributes and pottery forms. However, very few sherds actually fit into 'typical' type categories, leaving more variants than actual types. These variants are open to interpretation by an individual researcher examining a collection, depending on which traits are considered important by that individual. Unfortunately, the use of different criteria make comparisons between sites analysed by different people generally unfeasible (for examples see Ramsden 1977a: 16-17).

A further problem of typological analysis stems from the fact that, as a constellation of certain attributes, a type

> cannot be used to describe or analyse any of its constituent traits which have a spatial or chronological significance beyond that of the entire constellation without the proliferation of sub-types or new types whose numbers become unwieldy.
> (Ramsden 1977a: 17)

Consequently many researchers have abandoned types as the base unit of analysis in Iroquoian archaeology and instead focus on attribute analysis (Emerson 1968; Marois 1984; Ramsden 1977a; Smith 1987; Trudeau 1971; Wright 1967, 1980). By using a unit smaller than the type, Ramsden's concern above is resolved, allowing for more specific questions to be examined.

However, in searching for comparative data for this study it became apparent that much of the earlier material was analysed only by type. So, the idealism of attribute analysis aside, comparisons between sites that were reanalysed for this

study and sites examined only from the literature had to be reduced to a typological evaluation. Although such analysis might lack the precision of attribute analysis, it was felt that this concession was warranted by the larger amount of comparative data that could be included in the present work.

Having decided to examine the ceramic collection from these sites, one important factor was left to consider, namely how to compare the collections. A predominance of Lalonde High Collar vessels was the distinguishing factor for identifying Ridley's Lalonde sites (1952a) and Wright's Northern Division sites (1966). Of late, however, defining Lalonde sites has also emphasised the presence of both Huron Incised and Black Necked vessels as important indicators (Latta 1976: 76; Stopp 1982: 105). Specifically these latter two researchers tend to define a site as Lalonde if the three highest represented types are (in order) Lalonde High Collar, Huron Incised, and Black Necked. The validity of this assertion will also be tested based on comparisons of the relative frequencies of Lalonde High Collar, Huron Incised, and Black Necked vessels. Identifying Lalonde High Collar vessels has already been discussed in Chapter 1, but some attention should be given to the identification of the other two types.

Huron Incised

For this study Huron Incised was defined following MacNeish's (1952: 34) pottery typology. For MacNeish the defining characteristics of Huron Incised vessels are oblique or vertical lines on short outflaring collars and a convex inner

collar. Necks are not decorated. Huron Incised is present throughout the late Iroquoian period, and reaches its greatest popularity during the historic era.

Black Necked

Following MacNeish (1952: 36-37) the major distinguishing feature of this type is "necks decorated with opposed triangles filled with oblique lines". Interior rim profile tends to be flat or convex, and collar decoration can be a wide assortment of styles. Variants of this type show horizontal lines encircling the neck.

This final attribute is problematic, as it is characteristic of the supposedly closely related type Pound Necked. Another proposed attribute of Pound Necked is a concave interior rim profile, although according to MacNeish this is only a tendency and many profiles are evident, including some that do not have concave interiors (1952: 14-15). Distinguishing between Pound Necked and Black Necked vessels then becomes a tenuous affair. Other researchers have also had difficulty finding a comfortable division between the two (Latta 1973: 7, 12; Bursey n.d.A; Ramsden Per Com). Further, Stopp (1982: 102) suggests that the presence of either on Lalonde sites is an important characteristic.

In order to avoid discrepancies and confusion it was decided for the purposes of this study to combine the two categories into a single "neck decorated" category. I felt that this modification was justified for two reasons. First, comparative material from other sites was either already classified as if there were no distinction, or could be easily combined into a single category. Second, and more importantly,

the demonstration by Ramsden (1977a: 119) that neck decoration as a whole declines through time suggests that, because it is the most important characteristic of both, neck decoration as an attribute is a more meaningful category than the division into the two types. Therefore for the remainder of this thesis I will use the term Black Necked as a category that includes both of these 'distinct' types.

The Statistics

One of the more important considerations in choosing statistical tests for this study was that not only would I need to see overall variation between collections, but I also wanted to be able to see what specific factors were influencing this variation. However, the nature of archaeological materials, in general, immediately places certain limitations on which statistical methods can be used. For the most part archaeological data are categorical, either nominal or ordinal, rather than discrete or continuous quantities. Categorical variables are non-parametric, that is, it is inappropriate to assume that the population that these data come from follows a normal distribution curve (Rowntree 1981: 124). Pottery types fall into the nominal variable category and because vessel types are the units of analysis for this study, the choices for analytical statistics were limited to non-parametric tests.

The most commonly used non-parametric test of significance is the Chi-square test (Norman and Streiner 1986: 79). Chi-square is a measure of association between two or more samples using empirical, observed frequencies and computationally derived expected frequencies (Thomas 1976: 265). This

measurement is based on a contingency table, meaning that the expected frequencies for each cell in the test are contingent on the observed values. Chi-square tests generate both a measure of association, the Chi-square value, and a probability value, which indicates the probability that the samples being tested could have come from the same population. Any probability value less than .05 means that we can be confident ninety-five times out of one hundred that the samples were not drawn from the same universe of values and, hence, reject the null hypothesis of no difference.

Chi-square tests also generate residual values which indicate which cells in the test are significantly influencing the measure of association. Residuals can be either positive or negative integers, and indicate whether a cell has an over representation (a positive residual) or an under representation (a negative residual) of whatever is being measured. A residual value greater than 1.64, either positive or negative, indicates a cell which has a statistically significant influence on the measure of association.

The chi-square statistic fits very well with the requirements for this study. It shows both the large picture measure of association between collections and also provides values which indicate how this measure is derived.

One limitation of chi-square, however, must be considered. In any test where an expected cell frequency is less than five the accuracy of the test becomes suspect. This limitation influenced the selection of collections for analysis.

Another statistic generated in Chi-square tests and useful for the data in this thesis is the Odds Ratio, or Cross-Product Ratio. This statistic is used to determine association between two variables when one variable is considered to be independent (Moore 1985: 207). If no relationship between the variables is present the Odds Ratio will equal 1.0. A departure in either direction suggests association. The greater the deviation, the stronger the association (Reynolds 1977: 36).

Another statistic that plays an important part in this thesis is the 95% Confidence Interval. Estimations of confidence limits represent the **average** amount of sampling variability (Lilienfeld and Lilienfeld 1980: 333). For reasonably large samples (such that $n(1-p) > 10$) we can show that "the proportion estimated from approximately 95 percent of samples of a given size will lie within +/- 1.96 standard errors of the true population proportion" (ibid). These limits allow us to assess the reliability of the percentages used in certain analyses in this thesis. Further, any confidence limits which overlap are considered to be drawn from the same universe of values, as their true means could be the same (Rowntree 1981: 98-99).

Armed with these sites, ceramic categories, and statistics, let us begin our examination of variation within the Lalonde focus.

CHAPTER 4

Testing the Limits:
Analysis of the "Lalonde Assemblage" Vessel Distributions

One purpose of this thesis is to examine the ceramic assemblage at the Carson site within the context of other known Lalonde sites, especially those with substantial collections. This chapter will compare the distribution of Lalonde High Collar, Huron Incised, and Black Necked vessels between the Carson site and the five other sites chosen for comparison.

1. The Relative Representation of Lalonde High Collar Vessels by Site

The first aspect of Lalonde ceramic assemblages that I examined was the representation of Lalonde High Collar vessels at each of the sites. This seemed the logical place to start as it represents the most distinctive feature of Lalonde sites. Table 4.1 lists the sites, the frequency of Lalonde High Collar and non-Lalonde High Collar vessels, and the total vessels from each site.

Table 4.1 also demonstrates wide variation in both the total numbers and relative frequencies of Lalonde High Collar vessels from each site, the numbers ranging between 16 and 335 vessels and percentage ranging between 10.7% (Baumann) and 27.4% (Lalonde). As the Chi-square test shows, the differences are statistically significant (X^2=51.07, p=.000, df=5). It is evident, however, that the Copeland site, by

virtue of its 50.8% of the total study sample, might contribute disproportionately to the results of tests. Graphic illustration of this can be seen in Figure 4.1 which shows the 95% confidence limits of the relative contribution of vessels for each site. However, excluding Copeland from the chi-square test does not change the significance of either the chi-square value (39.32) or the p value (.000), so that Copeland does not have to be eliminated from any analyses because of its large sample.

Table 4.1 Lalonde High Collar and Non-L.H.C. Vessels By Site

SITE	L.H.C.		NON-L.H.C.		TOTAL	
	n	%	n	%	n	%
Carson	105	21.6	382	78.4	487	16.4
Baumann	35	10.7	292	89.3	327	11.0
Lalonde	37	27.4	98	72.6	135	4.5
Ellesmere-Morrison	16	19.3	67	80.7	83	2.8
Copeland	335	22.2	1174	77.8	1509	50.8
Bosomworth	51	12.0	377	88.0	428	14.4
TOTAL	579	19.3	2390	80.7	2969	99.9

Chi Square: 51.07
p: .000
df: 5

Of course the values in Table 4.1 represent only the actual numbers of L.H.C. and non-L.H.C. vessels recovered from each site. It could be argued that the differences in frequencies are due to sampling error. A useful method of assessing the reliability of the percentages of Lalonde High Collar vessels is to calculate the 95% confidence intervals. Figure 4.2 shows the results of running this test. Any sites whose confidence limits overlap are considered to be drawn from the same universe of values. Conversely, those sites whose confidence limits do not are not from the same universe of values.

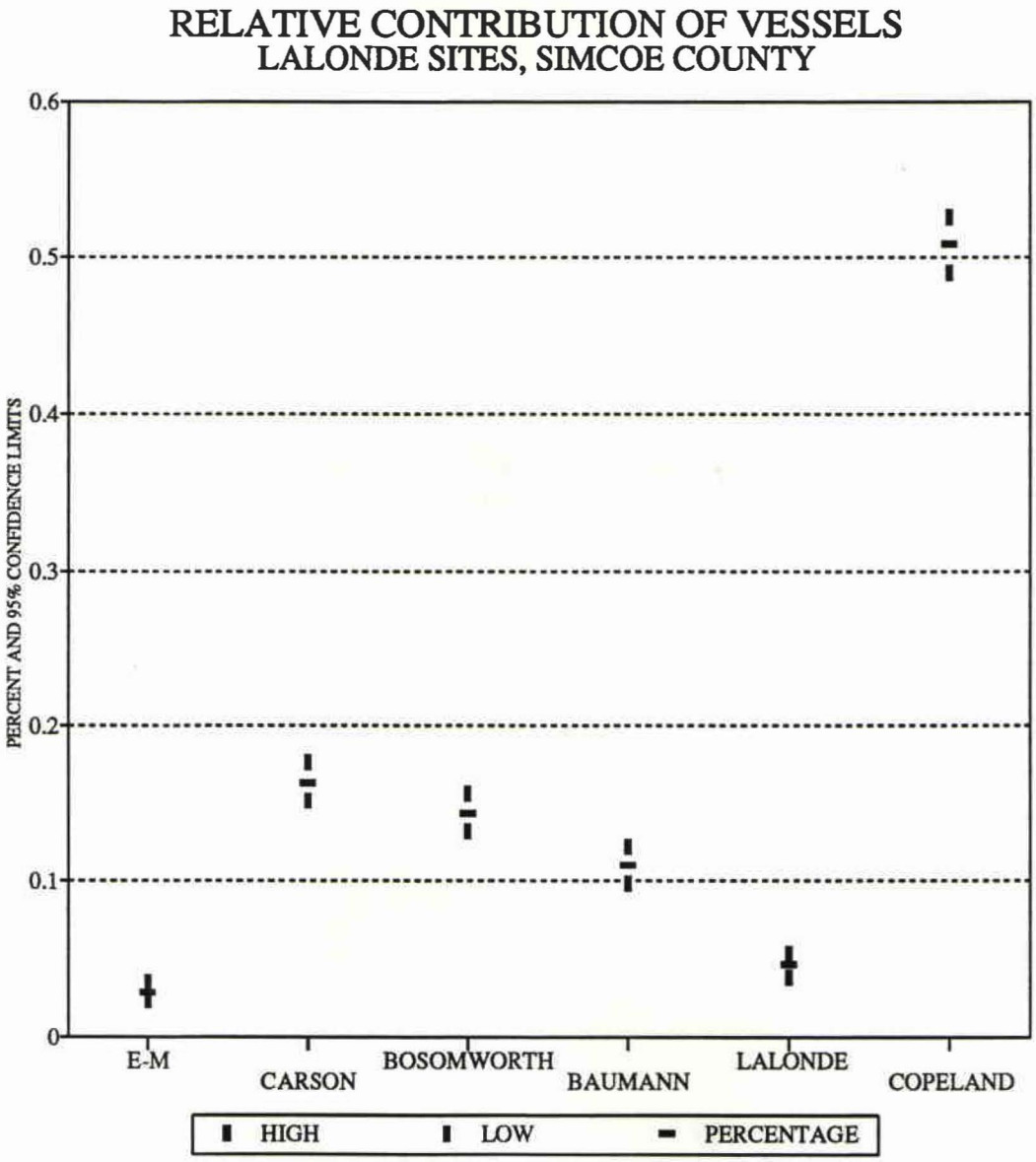

RELATIVE CONTRIBUTION OF VESSELS
LALONDE SITES, SIMCOE COUNTY
PERCENT AND 95% CONFIDENCE LIMITS
0.6
0.5
0.4
0.3
0.2
0.1
0
E-M
CARSON
BOSOMWORTH
BAUMANN
LALONDE
COPELAND
HIGH
LOW
PERCENTAGE

Figure 4.1

Figure 4.2 demonstrates that the six sites cluster into groups by virtue of their overlapping confidence intervals. The sites of the first cluster, Baumann and Bosomworth, exhibit relatively low frequencies of L.H.C. ranging from 7.35% to 14.05%. Their maxima do not approach the lowest expected frequencies in the second cluster of Copeland, Carson, and the Lalonde sites, which range from 17.86% to 34.9%, and so these two clusters can be considered to be statistically discrete. Ellesmere-Morrison is intermediate between the two and overlaps with both. The wide limits of this site's Lalonde High Collar are a result of its comparatively small assemblage (n=83).

In effect the graph shows that there is a great amount of variability between the sites with respect to the proportion of L.H.C. pottery, and that Lalonde as a cultural entity may not be as homogeneous as has been previously thought. Certainly the low percentage of L.H.C. at Baumann compared to the other Lalonde sites demonstrates that the ceramic assemblage at Baumann is not drawn from the same universe of values. Either the Baumann site has been misassigned, or there is considerably greater complexity to the Lalonde occupation of Simcoe County than has previously been considered. The status of the Bosomworth as an early "Fusion" site is also questionable simply because in at least the amount of L.H.C. pottery it is comparable to Baumann, a site considered to be from a different era in Huron history.

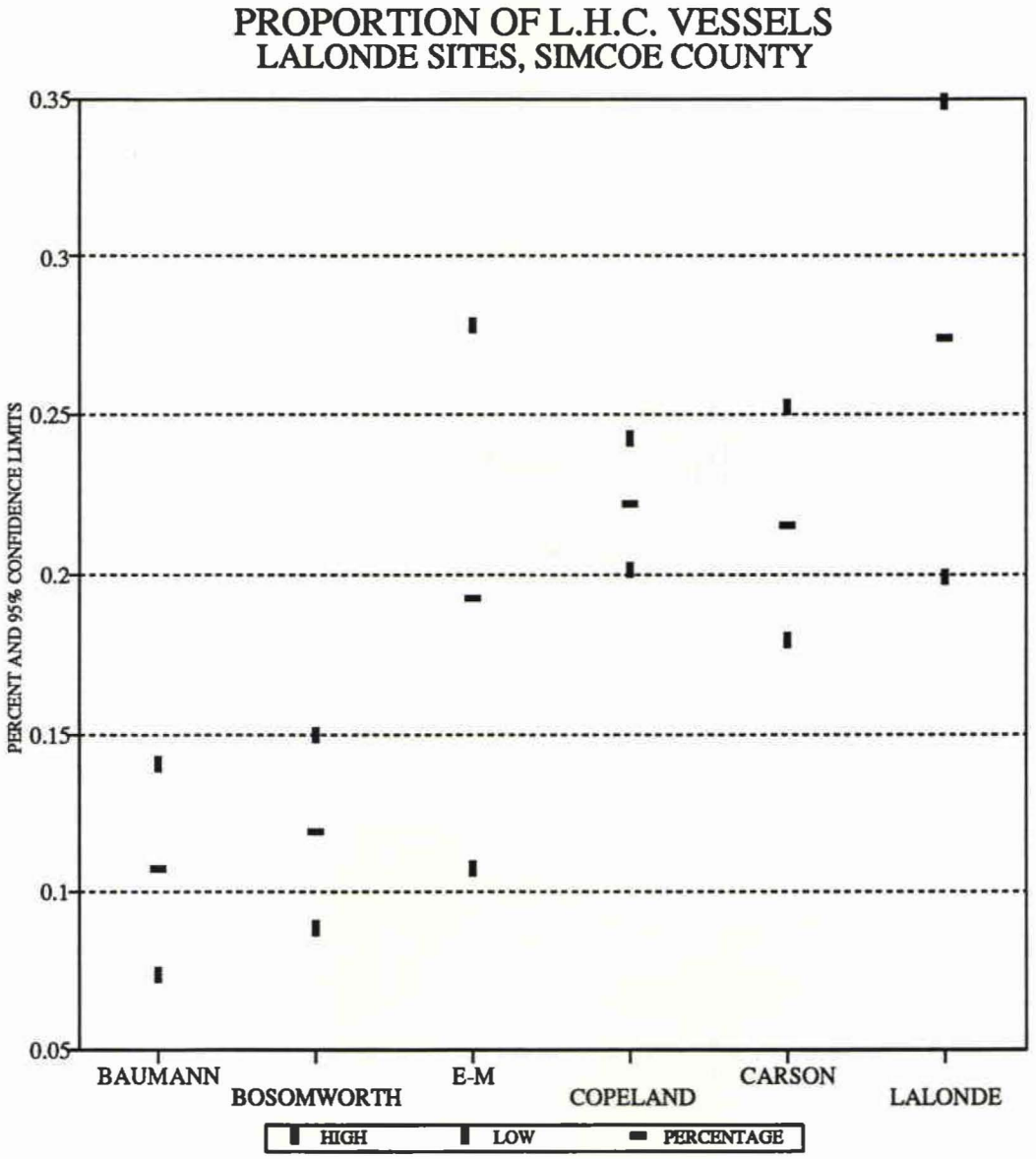

PROPORTION OF L.H.C. VESSELS
LALONDE SITES, SIMCOE COUNTY
PERCENT AND 95% CONFIDENCE LIMITS
0.35
0.3
0.25
0.2
0.15
0.1
0.05
BAUMANN
BOSOMWORTH
E-M
COPELAND
CARSON
LALONDE
HIGH
LOW
PERCENTAGE

Figure 4.2

2. Lalonde High Collar Vessels and Midden Samples

In looking at the Carson and Baumann data it became apparent that there were certain differences in sampling strategies at these sites which might affect how a site's ceramic assemblage might be interpreted. For example, much more emphasis was placed on the excavation of houses at Carson, while the Baumann collection draws heavily from midden samples. In this section the relationship between midden and house assemblages will be analysed.

It is possible that the lower than expected frequency of L.H.C. at the Baumann site is a result of a sampling bias since a very high proportion of this collection was excavated from a single midden (75.9% n=246). In order to test this hypothesis the Baumann collection was partitioned into midden and non-midden vessels and again into Lalonde High Collar and non-Lalonde categories (Table 4.2). Eighty-two percent of L.H.C. vessels were found in the middens, while 18% of the L.H.C. vessels were found in the house. The Chi-square value of .51 with a probability of .475 of occurring by chance alone shows no significant difference in the distribution of L.H.C. in the house and midden. It would appear that the low amount of L.H.C. at the Baumann site has nothing to do with the over-representation of vessels of all types in the middens.

When we look at the distribution of the Carson material, however, a very different picture emerges (Table 4.3). Eighty-nine percent of the L.H.C. vessels came from houses and the odds ratio value of 2.65 indicates that we are almost three times more likely to find L.H.C. in the Carson houses than in the middens (Chi-square = 8.54, p = .003, df = 1).

Table 4.2 Relationship Between L.H.C. Vessels From House and Midden at the Baumann Site

AREA	L.H.C.		NON-L.H.C.	TOTAL
House	6		72	78
Midden	28		218	246
TOTAL	34		290	324
Chi Square:			.51	
p:			.475	
Odds Ratio:			0.65	
95% Confidence Limits		OR(l):	.21	
		OR(u):	1.68	
df:			1	

Table 4.3 Relationship Between L.H.C. and Non-L.H.C. Vessels in Houses and Middens at the Carson Site

AREA	L.H.C		NON-L.H.C.	TOTAL
House	89		250	339
Midden	11		82	93
TOTAL	100		332	432
Chi Square:			8.54	
Odds Ratio:			2.65	
95% Confidence Limits		$OR_{(l)}$:	1.33	
		$OR_{(u)}$:	5.77	
p:			.003	
df:			1	

It is interesting to note, however, that the percentage of L.H.C. vessels found in middens is the same at the two sites (11.8% at Carson, 11.4% at Baumann), raising some interesting questions. If both sites had been sampled only from the middens then it is quite likely that we could not have identified any differences between them. Unfortunately midden sampling has long been considered the best way to optimise the artifact per minute ratio, and many sites have been interpreted solely from midden samples (Emerson 1968; Wright 1966; Ramsden 1977a). This is especially true of sites which comprise the so-called "Fusion" assemblage in Wright's scheme, and sites which have been subsequently labelled as Fusion (eg. Bush 1976). If we compare the

frequencies of L.H.C. vessels in the midden samples from Baumann, Carson, and Ellesmere-Morrison with those from the Bosomworth site (Bush 1976: 22; Ramsden 1977a: 79) a "Fusion" site with a high frequency of L.H.C. pottery (12%) and sufficient sample size, an intriguing picture emerges (see Figure 4.3).[1]

The 95% confidence limits for all four sites overlap, indicating that these midden samples are all drawn from the same universe of values. This implies that midden sampling may not reveal accurate counts of some vessel types across an entire site, namely Lalonde High Collar, and perhaps larger vessels in general.

The under-representation of larger vessels in middens may be a function of their size, and their continued utility even after small pieces have broken off. Larger vessels, like L.H.C. vessels, must require a great deal more effort to produce than do other smaller pots, not only in the quantity of clay involved, but also in the time and care required to make such immense containers. Further, when cracks in the pot become apparent it would seem much more likely that more effort would be expended in trying to repair large pots. This hypothesis is supported by the fact that the examples of mend holes from Carson are inevitably found on what would have been large vessels.

Also, vessels of this size are probably not subjected to the same degree of transportation, knocking around, heating and cooling, and other damaging environments as smaller pots, and so their frequency of breakage may not be as great. Along the

[1] The other two sites, Lalonde and Copeland, were excluded from this part of the analysis as it was not possible to determine which vessels came from middens and which came from within the confines of the village or of individual houses.

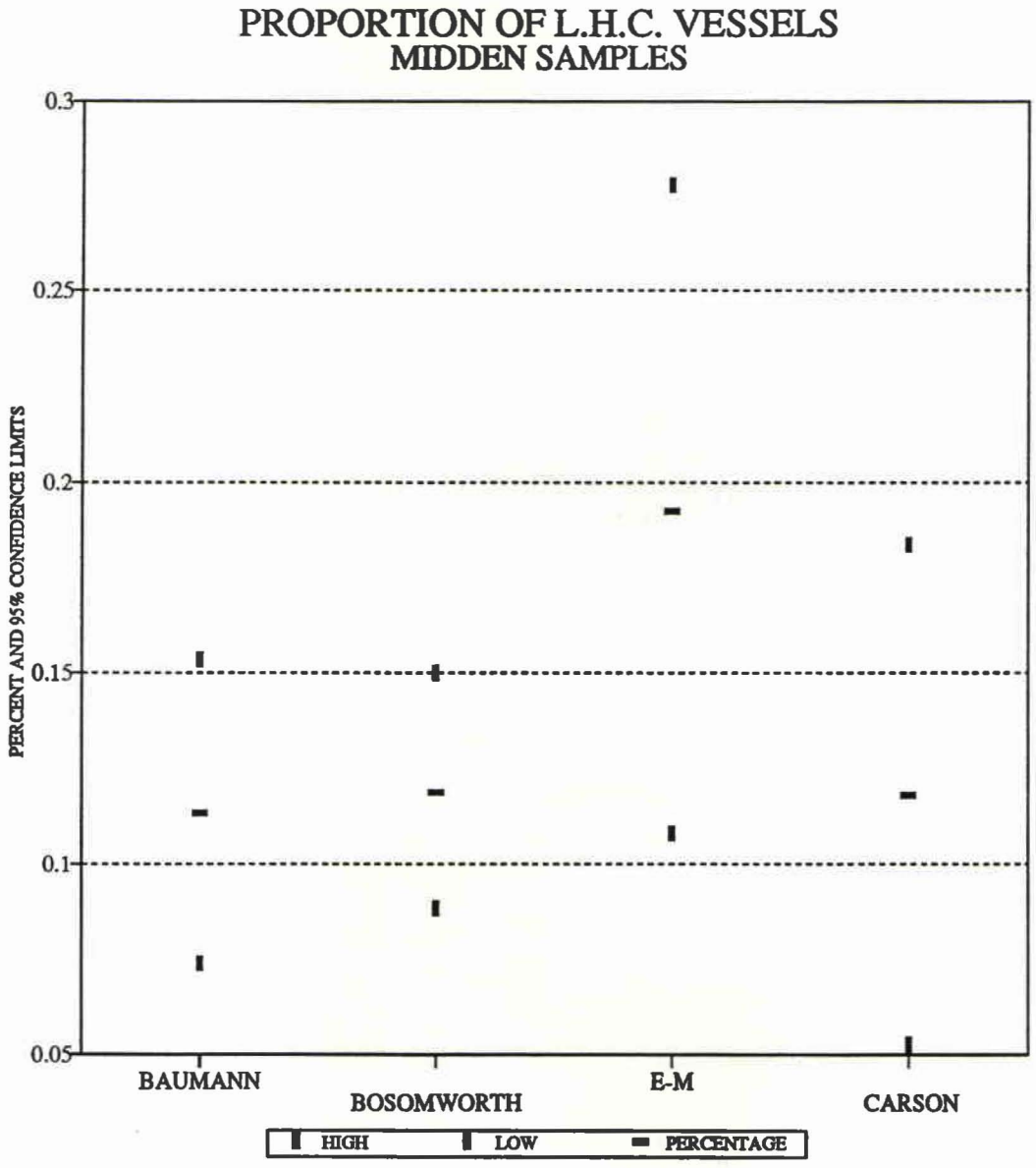

PROPORTION OF L.H.C. VESSELS
MIDDEN SAMPLES
PERCENT AND 95% CONFIDENCE LIMITS
0.3
0.25
0.2
0.15
0.1
0.05
BAUMANN
BOSOMWORTH
E-M
CARSON
HIGH
LOW
PERCENTAGE

Figure 4.3

same lines, even if a section of the collar of a large pot were to be broken off, this would not relegate it to the trash heap. This piece would represent a significantly smaller proportion of the pot than would an equal amount of breakage from a smaller pot. Further, one or two pieces of a large pot broken off in a house are probably more likely to be discarded in a refuse pit inside the house, rather than in a midden, further exaggerating the difference between house and midden samples. These factors would suggest that we are much more likely to find large vessels within the confines of the village and its constituent houses, rather than in the middens.

This sample bias only adds to other problems associated with midden samples, such as the secondary context of the materials. Further, middens can contain material from a number of different houses. The potentially wide catchment domain of a midden in conjunction with biases of represented materials means that inferences from midden samples should be viewed with caution (Ramsden Per Com), if not suspicion.

3. Comparison of House Samples from Carson and Baumann

If differences in the frequency of Lalonde High Collar pottery at Carson and Baumann are not the result of differences in their respective midden samples then this dissimilarity must be the result of differences of Lalonde High Collar representation in the houses.

The first step in testing such a hypothesis is to examine the Carson site houses for similarity. Table 4.4 shows a chi-square test on the relative frequency of Lalonde High Collar vessels in the eight Carson houses.

Table 4.4 Lalonde High Collar Vessels by House at Carson Site

HOUSE #	L.H.C.		NON-L.H.C		TOTAL	
	n	%	n	%	n	%
1	30	31.9	64	68.1	94	37.9
2	10	32.2	21	67.7	31	12.5
3	11	24.4	34	75.5	45	18.2
4	3	15.0	17	85.0	20	8.1
5	5	26.3	14	73.7	19	7.7
6	2	11.8	15	88.2	17	6.9
7	4	25.0	12	75.0	16	6.5
8	2	33.3	4	66.6	6	2.4
TOTAL	67	27.0	181	73.0	248	100.2

Chi Square: 5.36
p: .616
df: 7

As the chi-square test demonstrates there is no significant difference in the distribution of Lalonde High Collar vessels between the eight houses at the Carson site (Chi-square = 5.36, p = .616, df = 7). This allows us to use the house totals of Lalonde High Collar (n=67) and non-Lalonde High Collar vessels (n=181) for comparison with the house vessels at Baumann. A chi-square test comparing the two sites is shown in Table 4.5.

Both the chi-square value (11.66) and the p value (.000) demonstrate that there is a significant difference in the frequency of Lalonde High Collar vessels in the houses between Carson and Baumann. Further, the standardised residuals show that the significant deficiency of Lalonde High Collar vessels at Baumann (-2.82) largely accounts for this difference. This value demonstrates that the house at Baumann is not drawn from the same universe of values as the Carson houses.

Table 4.5 Lalonde High Collar Vessels in Houses, Carson and Baumann Sites

SITE	L.H.C. n	L.H.C. %	NON-L.H.C n	NON-L.H.C %	TOTAL
Baumann	6	7.7	72	92.3	78
Carson	67	27.0	181	73.0	248
TOTAL	73	22.4	253	77.6	326

Chi Square: 11.66
p: .000
df: 1

Standardised Residuals

SITE	L.H.C.	NON-L.H.C
Baumann	-2.82	1.54
Carson	1.46	-0.79

After demonstrating such wide differences in the occurrence of Lalonde High Collar vessels I decided to examine the other two vessel types in the same manner and see if similar differences were evident. In the following sections similar tests will be run first on Black Necked and then on Huron Incised.

4. The Relative Representation of Black Necked Vessels by Site

Table 4.6 below shows the number of Black Necked vessels that are represented at each site. Also included in this table is a chi-square result which tested the hypothesis that these samples all came from the same population.

Again the variation in the numbers (r = 18-331) and frequencies (r = 11.3-22.0%) between the sites is statistically significant (X^2=24.76, p=.000, df=5), demonstrating that these sites do not all come from the same universe of values. Even with the Copeland site removed due to its large sample the results remain significant (X^2=16.32, p=>.002 df=4).

Table 4.6 Black Necked and Non-Black Necked Vessels By Site

SITE	B.N. n %	NON-B.N. n %	TOTAL
Carson	79 16.2	408 83.8	487
Baumann	37 11.3	290 88.7	327
Lalonde	25 18.5	110 81.5	135
Copeland	331 21.9	1178 78.1	1509
Ellesmere-Morrison	18 21.7	65 78.3	83
Bosomworth	94 22.0	334 78.0	428
TOTAL	584	2385	2969
Chi-square:	24.76		
p:	.000		
df:	5		

The 95% confidence limits around the Black Necked vessels by site (see Figure 4.4) suggest that there are two clusters of sites. The first is composed of Bosomworth and Copeland; the second of Baumann. The fact that there is much more overlapping in this diagram than the similar Lalonde High Collar diagram suggests that the clustering of sites by Black Necked is less discreet than was seen in the Lalonde High Collar distribution.

It also seemed important to run a midden-house set of tests as a comparison to the earlier Lalonde High Collar results. Again using only the Carson, Baumann, Ellesmere-Morrison, and Bosomworth sites' midden samples another chi-square test was performed to test the hypothesis that the midden samples came from the same universe of values. The results of this test are shown in Table 4.7.

The chi-square test value of 12.4 is highly significant ($p = .006$), demonstrating that there are significant differences in the amount of Black Necked vessels in midden

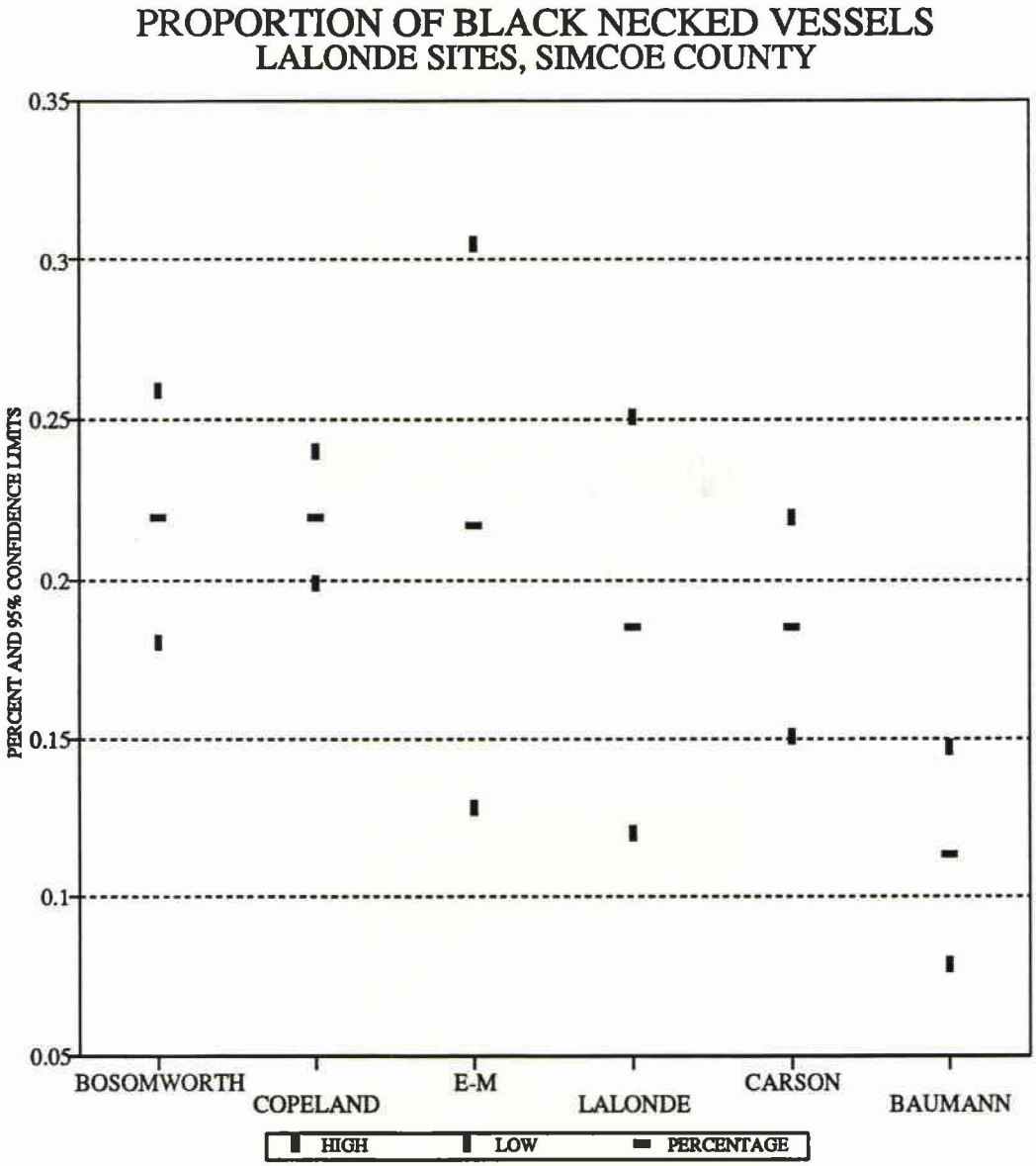

PROPORTION OF BLACK NECKED VESSELS
LALONDE SITES, SIMCOE COUNTY
PERCENT AND 95% CONFIDENCE LIMITS
0.35
0.3
0.25
0.2
0.15
0.1
0.05
BOSOMWORTH
COPELAND
E-M
LALONDE
CARSON
BAUMANN
HIGH
LOW
PERCENTAGE

Figure 4.4

samples. However, examination of the 95% confidence limits for these four midden samples shows that only Bosomworth and Baumann frequencies distinct from each

Table 4.7 Occurrence of Black Necked Vessels in Middens

SITE	B.N.	NON-B.N.	TOTAL
Carson	16	77	93
Baumann	28	218	246
Ellesmere-Morrison	18	65	83
Bosomworth	94	334	428
TOTAL	158	694	850

Chi-square: 12.4
p: .006
df: 3

other, and that Carson and Ellesmere-Morrison overlap with both of these (see Figure 4.5). These results indicate that there are significantly more Black Necked vessels at Bosomworth than at Baumann.

As for differences between houses and middens we are again limited to Carson and Baumann. The chi-square test for similarity between the two sites is shown in Tables 4.8 and 4.9 below.

These results demonstrate that at neither Carson (Chi-square = .24, p = .621, df = 1) nor at Baumann (Chi-square = .00, p= .969, df = 1) is there any difference in the occurrence of Black Necked vessels in houses or middens. These vessels are as likely to show up in either place, unlike the results obtained for Lalonde High Collar vessels.

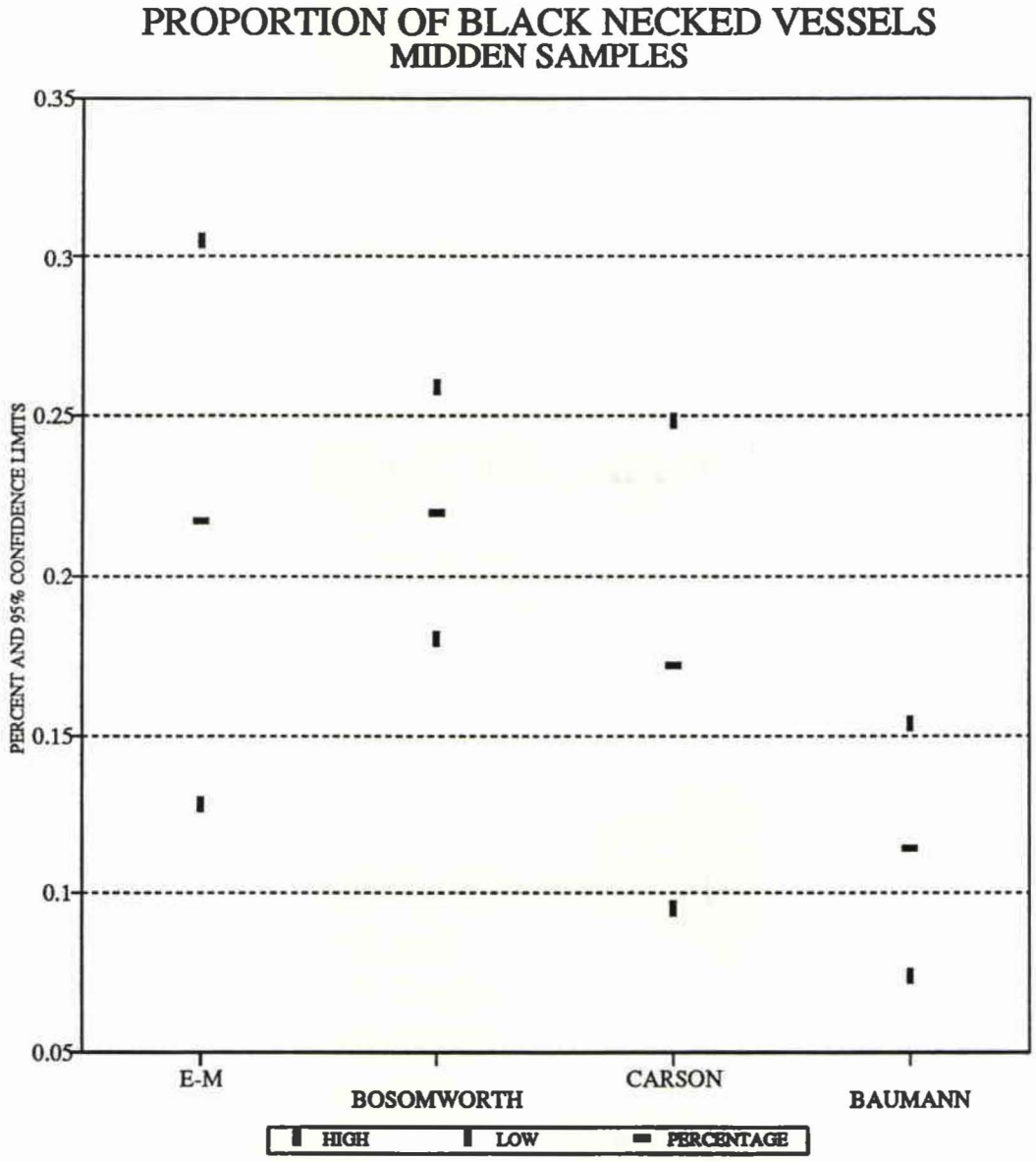

PROPORTION OF BLACK NECKED VESSELS
MIDDEN SAMPLES
PERCENT AND 95% CONFIDENCE LIMITS
0.35
0.3
0.25
0.2
0.15
0.1
0.05
E-M
BOSOMWORTH
CARSON
BAUMANN
HIGH
LOW
PERCENTAGE

Figure 4.5

Table 4.8 Occurrence of Black Necked Vessels in Houses and Middens at Baumann

AREA	B.N.	NON-B.N.	TOTAL
House	9	69	78
Midden	28	218	246
TOTAL	37	287	314

Chi-square: 0.00
Odds Ratio: 1.02
95% Confidence Limits OR(l): .42
OR(u): 2.39
p: .969
df: 1

Table 4.9 Occurrence of Black Necked Vessels in Houses and Middens at Carson

AREA	B.N.	NON-B.N.	TOTAL
House	66	273	339
Midden	16	77	93
TOTAL	82	350	432

Chi-square: 0.24
Odds Ratio: 1.16
95% Confidence Limits OR(l): .62
OR(u): 2.22
p: .621
df: 1

4. The Relative Representation of Huron Incised Vessels by Site

Table 4.10 below shows the frequency of Huron Incised vessels at the analysed sites. This exercise again tested the hypothesis that the frequencies of Huron Incised vessels at the various sites came from the same population.

The chi-square demonstrated that these frequencies were drawn from different universes of values (Chi-square = 55.86, p = .000, df = 5). Again I checked to see whether the Copeland assemblage was biasing the numbers in Table 4.10. A chi-square test excluding Copeland shows no significant difference (Chi Square = 5.4, p

= .248). Clearly the Copeland site is biasing the results of the first test. By using the 95% confidence limits (Figure 4.6) we can see that it overlaps only with Lalonde, indicating that it is from a different universe of values than are the other four sites. Besides this anomalous site, however, the rest of the sites demonstrate no difference in the frequency of Huron Incised.

Table 4.10 Occurrence of Huron Incised Vessels by Site

SITE	H.I. n	H.I. %	NON-H.I. n	NON-H.I. %	TOTAL
Carson	52	10.7	435	89.3	487
Baumann	40	12.2	287	87.8	327
Lalonde	23	17.0	112	83.0	135
Ellesmere-Morrison	7	8.4	76	91.6	83
Copeland	323	21.4	1186	78.6	1509
Bosomworth	47	11.0	381	89.0	428
TOTAL	492	16.6	2477	83.4	2969
Chi-square:	55.86				
p:	.000				
df:	5				

Table 4.11 Occurrence of Huron Incised in Midden Samples

SITE	H.I.	NON-H.I.	TOTAL
Carson	13	80	93
Baumann	33	213	246
Ellesmere-Morrison	7	76	83
Bosomworth	47	381	428
TOTAL	111	739	850
Chi-square:	2.22		
p:	.527		
df:	3		

Following the analysis of the other two vessel types, midden-house occurrence was examined to test for discrepancies in their distribution in houses and middens.

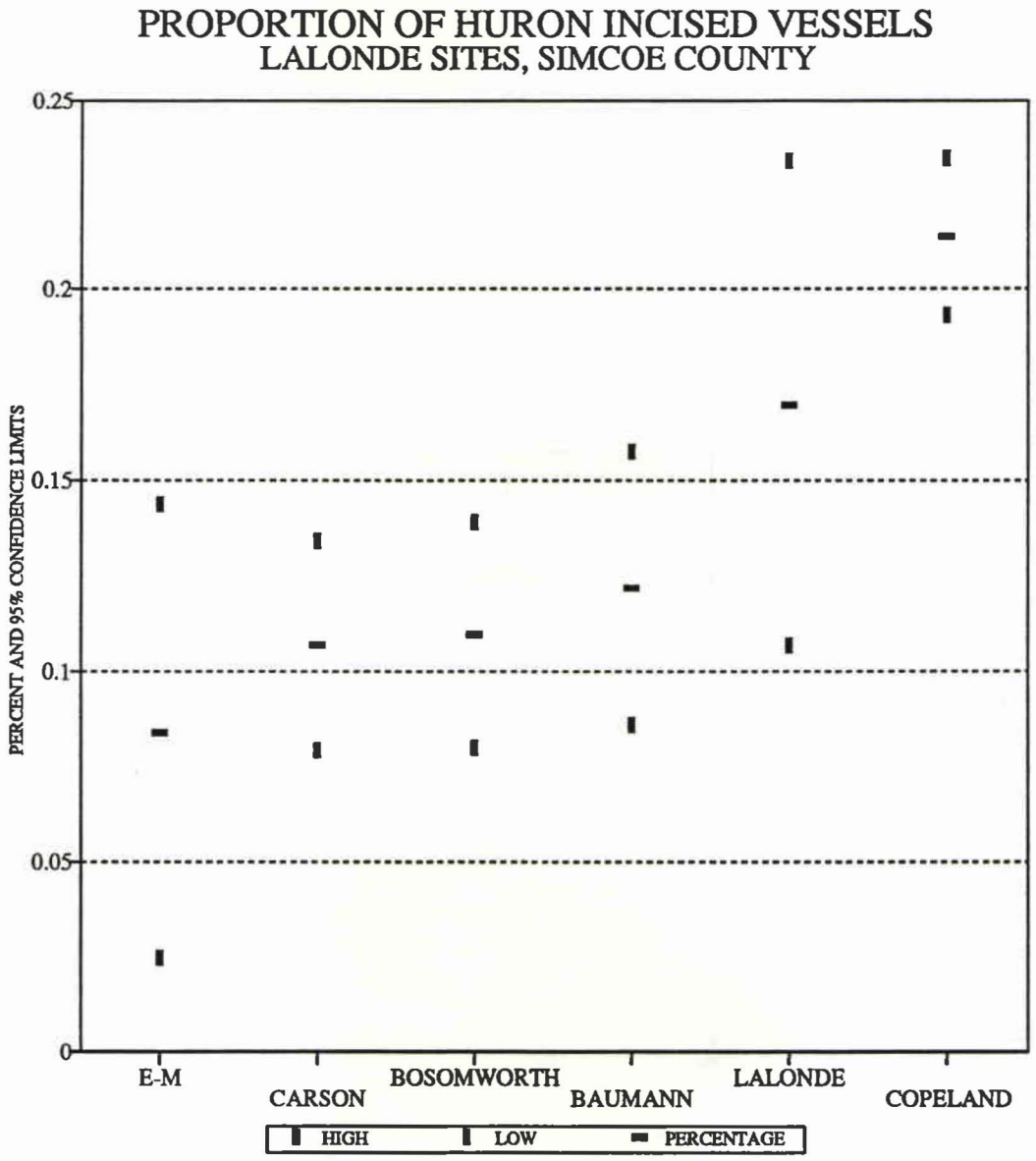

PROPORTION OF HURON INCISED VESSELS
LALONDE SITES, SIMCOE COUNTY
PERCENT AND 95% CONFIDENCE LIMITS
0.25
0.2
0.15
0.1
0.05
0
E-M
CARSON
BOSOMWORTH
BAUMANN
LALONDE
COPELAND
HIGH
LOW
PERCENTAGE

Figure 4.6

Using the same four sites (Carson, Baumann, Ellesmere-Morrison, and Bosomworth) gives the results in Table 4.11.

The test results demonstrate that there is no difference among these sites as to the likelihood of Huron Incised showing up in the middens (Chi-square = 2.22, p = .527, df = 1). The 95% significance limits in Figure 4.7 effectively demonstrate this consistency throughout the sites. This same lack of significance is carried over to the examination of the Baumann and Carson sites, shown in Tables 4.12 and 4.13.

Table 4.12 Occurrence of Huron Incised in Houses and Middens at Baumann

AREA	H.I.	NON-H.I.	TOTAL
House	7	71	78
Midden	33	213	246
TOTAL	40	284	324

Chi-square: 1.08
Odds Ratio: .64
95% Confidence Limits OR(l): .23
OR(u): 1.55
p: .299
df: 1

Table 4.13 Occurrence of Huron Incised in Houses and Middens at Carson

AREA	H.I.	NON-H.I.	TOTAL
House	32	307	339
Midden	13	80	93
TOTAL	45	387	432

Chi-square: 1.61
Odds Ratio: .64
95% Confidence Limits OR(l): .31
OR(u): 1.36
p: .204
df: 1

Again the tests indicate that there is no difference to be found in the location of Huron Incised vessels across the two sites (Chi-square = 1.61, p = .204, df = 1).

These results are similar to those for Black Necked, and again are dissimilar to the result of the Lalonde High Collar tests.

5. The Hierarchy of Types Model for Distinguishing Lalonde Sites

Finally, I would like to briefly examine the hierarchy of types model proposed by Latta (1976) and Stopp (1982) for distinguishing Lalonde sites. The numbers and percentages of the three constituent types for each site are shown below in Table 4.14.

Table 4.14 Frequency of Lalonde High Collar, Black Necked, and Huron Incised by Site

Site	Lalonde High Collar		Huron Incised		Black Necked		Total
	n	%	n	%	n	%	
Carson	105	21.6	52	10.7	79	16.2	236
Baumann	35	10.7	40	12.2	37	11.3	112
Lalonde	37	27.4	23	17.0	25	18.5	85
Ellesmere-Morrison	16	19.3	7	8.4	18	21.7	41
Copeland	335	22.2	323	21.4	331	21.9	989
Bosomworth	51	12.0	47	11.0	94	22.0	192

The table demonstrates that none of the sites follows a Lalonde High Collar-Huron Incised-Black Necked hierarchy. Part of the confusion about such a hierarchy may stem from the fact that both Latta and Stopp used rimsherd counts rather than vessel counts in their analyses. As was demonstrated previously vessel sorts can lead to disproportionate decreases in the number of Lalonde High Collar vessels represented at a site, as compared to the two other types examined in this thesis.

In any event it is clear that this proposed model for identifying Lalonde sites does not operate well with vessel counts. There will be more discussion about the identification of Lalonde sites in Chapter 5.

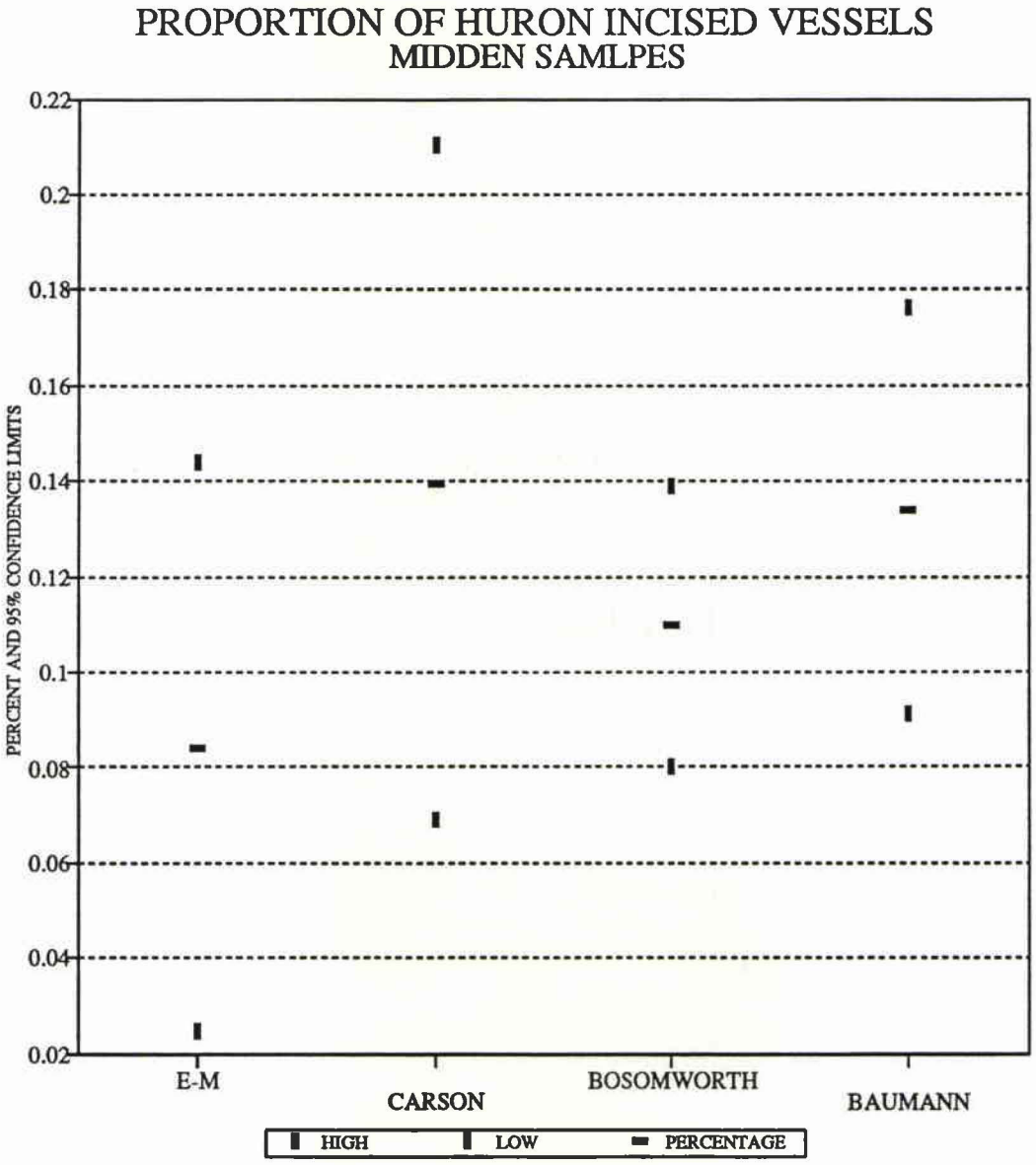

PROPORTION OF HURON INCISED VESSELS
MIDDEN SAMLPES
PERCENT AND 95% CONFIDENCE LIMITS
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
E-M
CARSON
BOSOMWORTH
BAUMANN
HIGH
LOW
PERCENTAGE

Figure 4.7

Conclusions

This chapter has demonstrated that there are fundamental problems with the way certain aspects of Late Ontario Iroquois archaeology have been defined and interpreted. It has been demonstrated that there is a great amount of variability in the occurrence of Lalonde High Collar pottery in the assemblages being studied, from a low of 10.7% at Baumann to a high of 27.4% at Lalonde. Further, using 95% confidence intervals reveals two discrete clusters of sites based on Lalonde High Collar vessel frequency; the first composed of Baumann and Bosomworth, the second of Carson, Copeland, and Lalonde. Ellesmere-Morrison was shown to be problematic in this test as its relatively small sample size resulted in wide confidence limits that did not allow discrete placement. Similarly there was wide variation in the frequency of the other two types. Black Necked vessels ranged from 11.3% (Baumann) to 22.0% (Bosomworth) of the total vessels, while Huron Incised ranged from 8.4% at Ellesmere-Morrison to 21.4% at Copeland. However, the 95% confidence limits do not reveal the same sort of very discrete clustering. These latter two types exhibit more continuity than does Lalonde High Collar. This variation will be further explored in Chapter 5.

This analysis has also shown that sampling from middens, while perhaps giving the greatest amount of data for the time spent, is most certainly giving us a very biased picture of what might have been happening at any given site. This bias not only affects the nature of what constitutes a Lalonde assemblage, but also reiterates Ramsden's concern about there being much greater complexity to prehistoric Huronia

than simply a fusing of Northern and Southern Divisions of Huron (Ramsden 1977a: 26).

Finally this analysis has demonstrated that a model for identifying Lalonde sites based on a Lalonde High Collar-Huron Incised-Black Necked hierarchy is not borne out by the data, and further attests to the greater utility of vessel counts as opposed to rimsherd counts in ceramic analysis.

CHAPTER 5

Time and the Others:
Putting Some Order to the Lalonde Focus

As was demonstrated in the previous chapter, there is a great deal of variation between the analysed sites in the 'Lalonde Assemblage' constituent types. Further, this variation has been shown to be statistically significant, and so should be archaeologically significant as well. The purpose of this chapter is to explore the utility of these differences as a means of arranging the sites into a provisional chronology. The importance of this arrangement can not be over emphasised. Without some knowledge of the temporal relationship between sites it is impossible to recognise, investigate, or understand changes in the make-up of the Lalonde occupation.

The seriation of the sites under study will be based upon the relative frequencies of Black Necked vessels rather than on Huron Incised. As Ramsden (1977a: 116-119, 184) has indicated, the attribute of neck decoration is a good indicator of relative chronology, much more reliable and consistent than simple collar decoration, a hallmark of Huron Incised (ibid: 100-102). Further the analysis of Huron Incised in the previous chapter also showed no difference in the relative representation of Huron Incised vessels at the sites, and therefore is not a useful discriminator of them. For the purposes of this chapter it will be assumed that

Black Necked pottery, as defined earlier in this thesis, is a sensitive chronological indicator.

In order to provide a framework for this chronology two further sites, Wiacek and CRS, will be used for comparison in this analysis. The addition of these two sites allows us to temporally situate the other six sites already examined.

Wiacek The Wiacek site is located south of Barrie in the southern end of Simcoe County. Identified as a late Middleport site (Lennox et al. 1984) it is included here as a comparative site for the beginning of the Lalonde period.

CRS The CRS site is located just south of Sturgeon Bay in Simcoe County. Identified as a Fusion site (Bush 1976) the site is included here to provide post-Lalonde comparative collection. The CRS material was obtained exclusively from midden excavations and is composed of 927 vessels (Bush 1976: 21).

Lalonde Sites Seriation

The method used in the creation of the seriation is relatively simple. First the sites were arranged from highest to lowest frequencies of Black Necked. The arrangement of sites according to the frequencies of Black Necked pottery is shown in Table 5.1 and in Figure 5.1 below.

Working under the assumption that this arrangement represents the proper chronological order of the sites the frequencies of Lalonde High Collar were plotted by this scheme. A graphic depiction of the Lalonde High Collar frequencies is represented in Figure 5.2, and its concomitant occurrence with Black Necked vessels

PROPORTIONS OF BLACK NECKED VESSELS

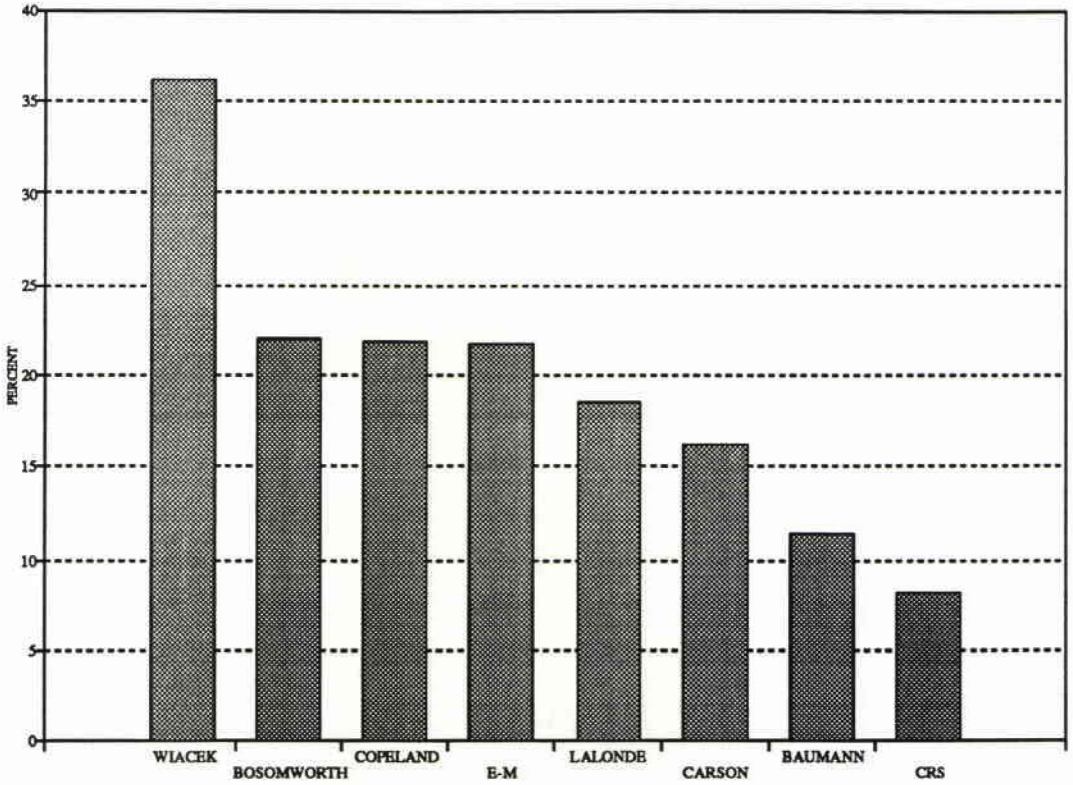


Figure 5.1

PROPORTIONS OF LALONDE HIGH COLLAR

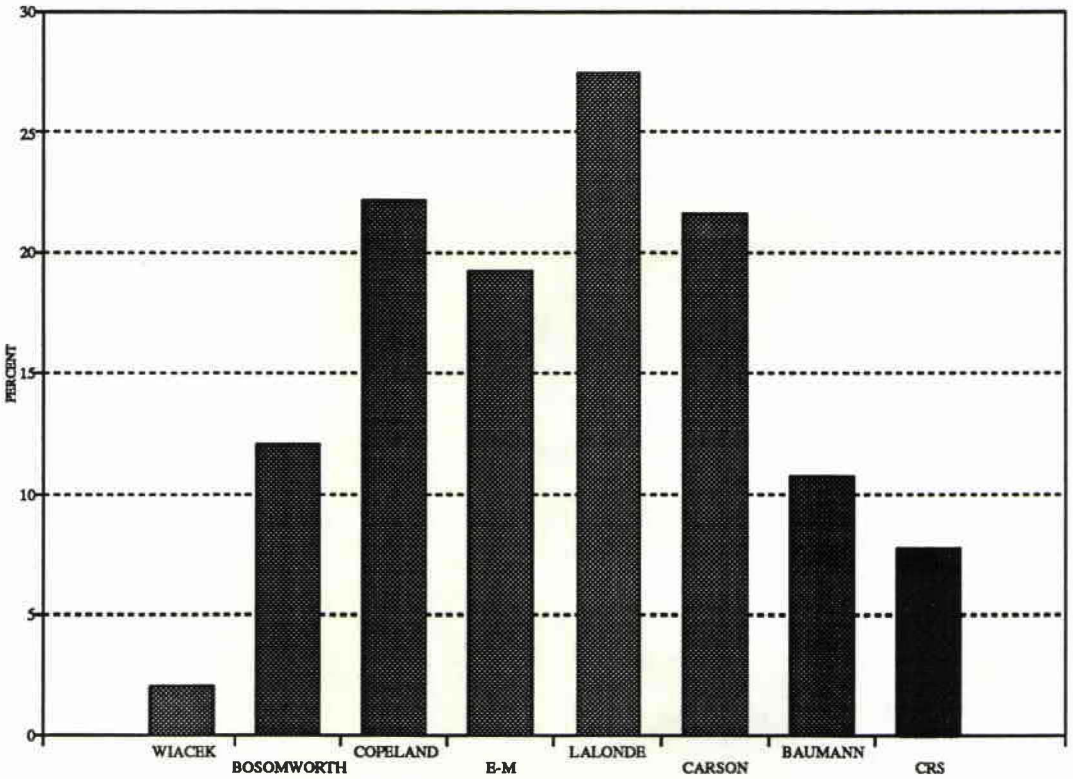


Figure 5.2

by site is shown in Figure 5.3 below. Using Black Necked as a measure of age, Lalonde High Collar appears to follow a roughly normal distribution. If we are looking at sites from across the entire Lalonde era this is the kind of distribution we would expect. At one end there is the emergence of the vessel type, followed by a gradual increase. After peaking at the Lalonde site itself there is a gradual decline in the occurrence of the type. Common sense would suggest that this arrangement is a good one. But, is it statistically valid?

Table 5.1 Arrangement of Sites Based on Black Necked Seriation

Site	B.N.		L.H.C	
	%	n	%	n
CRS	8.2	76	7.7	71
Baumann	11.3	37	10.7	35
Carson	16.2	90	21.6	105
Lalonde	18.5	25	27.4	37
Ellesmere-Morrison	21.7	18	19.3	16
Copeland	21.9	331	22.2	335
Bosomworth	22.0	94	12.0	51
Wiacek	36.2	34	2.1	2

This question can be addressed by using the 95% confidence limit values of Lalonde High Collar and Black Necked vessels again. If we look at Figure 5.4, the Lalonde High Collar vessels, we can see that the sites cluster into three groups. Clusters are defined as groups of sites whose confidence limits overlap but which do not overlap with others. Wiacek is off by itself at the low end of the scale, as is expected from a site that is used for comparative reasons. Next there is a cluster composed of CRS, Baumann, and Bosomworth. The third group consists of Copeland, Carson, and Lalonde. In between the second and third clusters is the

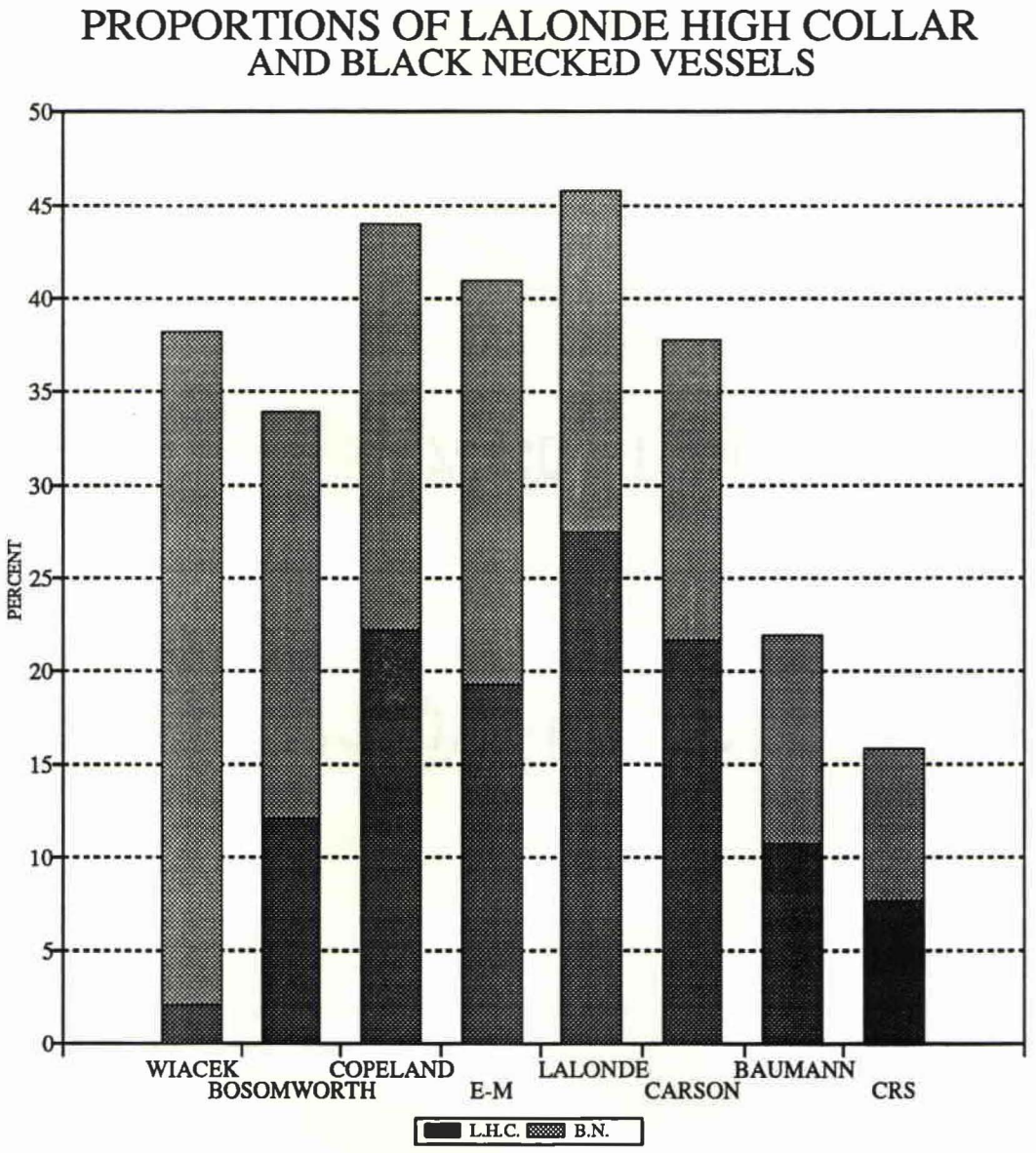

PROPORTIONS OF LALONDE HIGH COLLAR
AND BLACK NECKED VESSELS
PERCENT
50
45
40
35
30
25
20
15
10
5
0
WIACEK
BOSOMWORTH
COPELAND
E-M
LALONDE
CARSON
BAUMANN
CRS
L.H.C.
B.N.

Figure 5.3

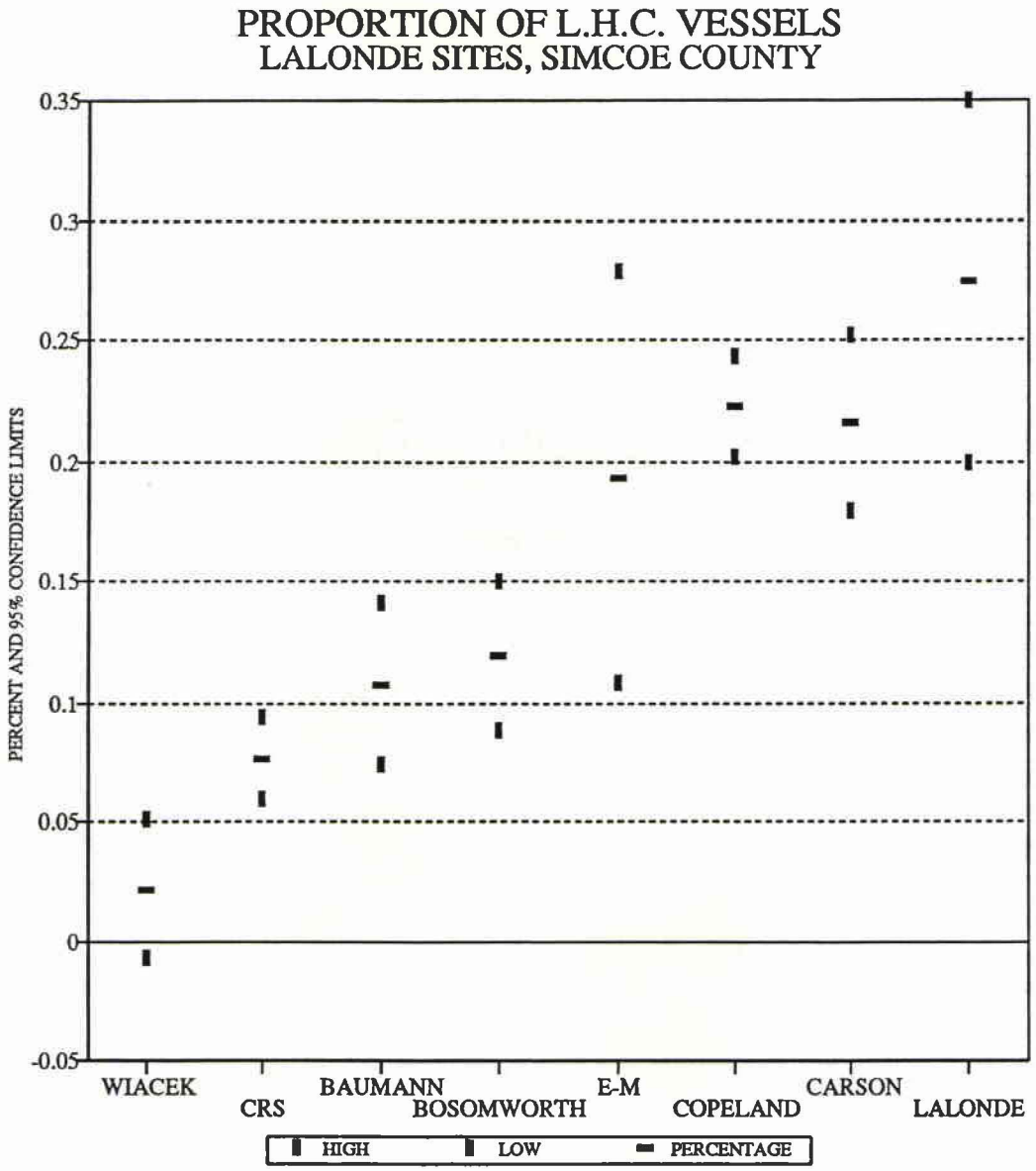

PROPORTION OF L.H.C. VESSELS
LALONDE SITES, SIMCOE COUNTY
PERCENT AND 95% CONFIDENCE LIMITS
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
WIACEK
CRS
BAUMANN
BOSOMWORTH
E-M
COPELAND
CARSON
LALONDE
HIGH
LOW
PERCENTAGE

Figure 5.4

Ellesmere-Morrison site, whose confidence limits allow it to fit with either cluster. However, it must be remembered that this site is problematic in this type of analysis because of its relatively small assemblage (n=83). Given a larger number of vessels to analyse we might be able to confidently place Ellesmere-Morrison. This situation can only be remedied by further work there: however, until such time its chronological place within the sequence remains somewhat tenuous.

Ellesmere-Morrison aside for the time being, what we can see in this figure is that each of the three clusters comes from a different universe of values. The fact that each of the clusters represents a different universe of values has important implications for the seriation. Due to their high frequencies of Lalonde High Collar we would expect Copeland, Carson, and Lalonde to fit somewhere in the middle of the normal distribution curve, which they in fact do (see Figure 5.2). Because CRS, Baumann, and Bosomworth are elements from a different population, however, we can not place them with the middle sites. If they do not fit into the middle of the curve then they must form the tail end(s) of the curve.

Although the confidence limits for Lalonde High Collar support the placement of sites either in the middle of the seriation or at the end(s), can we decide which end of the sequence any of the three sites should occupy? Figure 5.5 illustrates the 95% confidence limits for Black Necked vessels. Although clusters in this figure are not as clear cut across the board, Baumann and CRS clearly come from the same universe of values, but do not overlap with Bosomworth, indicating that Bosomworth comes from a different universe of values. This suggests that the

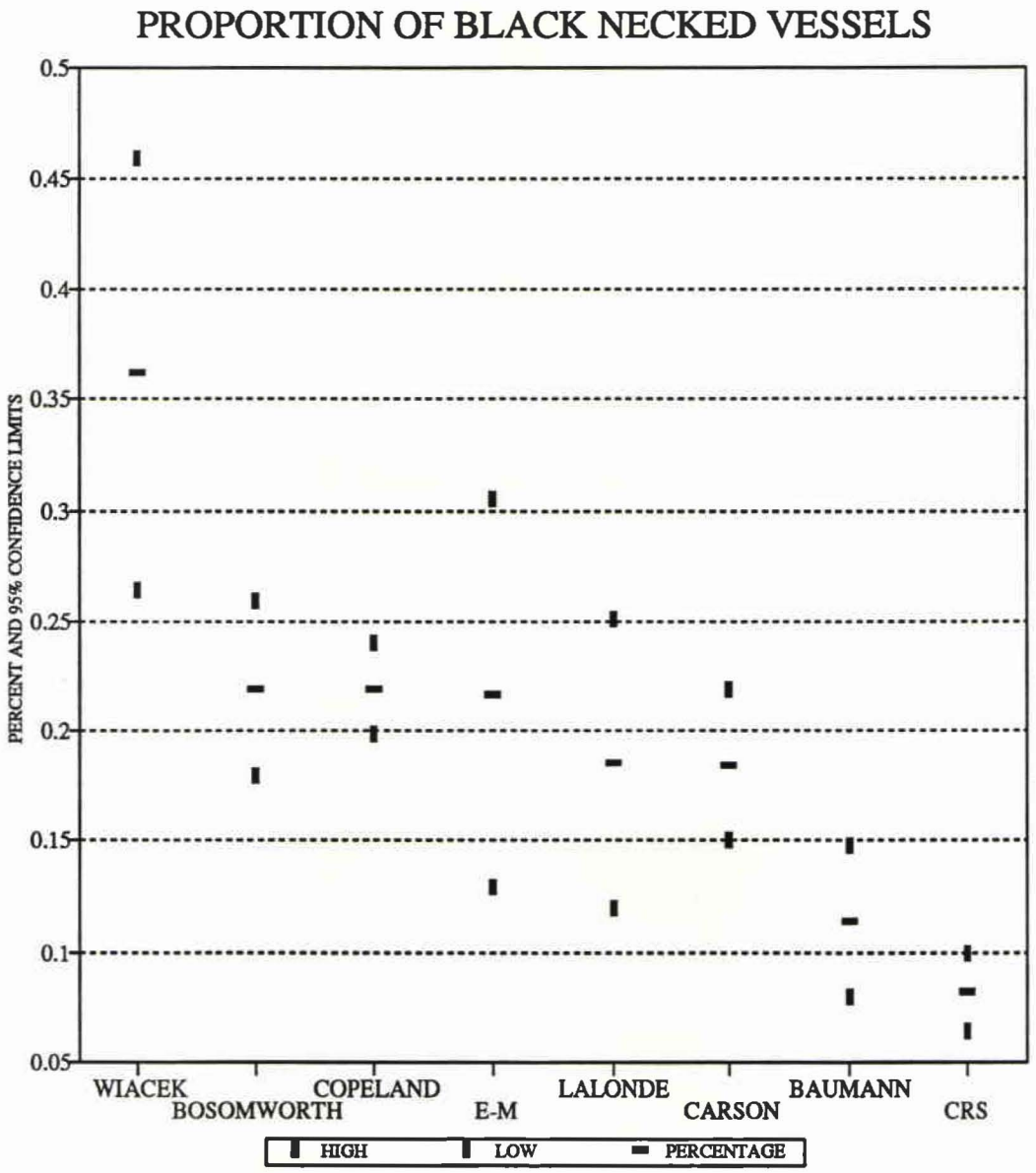

PROPORTION OF BLACK NECKED VESSELS
PERCENT AND 95% CONFIDENCE LIMITS
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
WIACEK
BOSOMWORTH
COPELAND
E-M
LALONDE
CARSON
BAUMANN
CRS
HIGH
LOW
PERCENTAGE

Figure 5.5

three sites do not come from the same ends of the distribution, and therefore represent sites from different eras.

Using the 95% confidence limits of these two pottery types allows four clusters of sites to be delineated. The first is composed of Baumann and CRS, the second of Carson, Lalonde, and Copeland. The other two "culsters" are each represented by a single site, one being Bosomworth, the other Wiacek. Again it is impossible to confidently place Ellesmere-Morrison within a cluster. These clusters can then be arranged as follows.

Bosomworth's high proportion of Black Necked vessels suggests that it should appear at the beginning of the sequence, specifically, after Wiacek but before the sites from the middle of the sequence, namely Copeland, Lalonde, and Carson. The low proportions of Black Necked pottery at Baumann and CRS further suggest that they should come at the end of the seriation. The placement of Baumann at the late end of the sequence is further supported by the radio-carbon date of A.D. 1490 +/- 60.

Of the other three sites in the middle of the sequence, the radio-carbon date for Carson of A.D. 1507 +/- 27 suggests that it also falls at the later end of the framework, before the Baumann site. The fact that Carson appears to have a later radio-carbon date than Baumann presents no problem as there is considerable overlap between the possible dates of occupation. As for the Copeland and Lalonde sites, they have neither statistically significant differences nor absolute dates to help arrange them within their cluster. Finally, because the limits for Ellesmere-

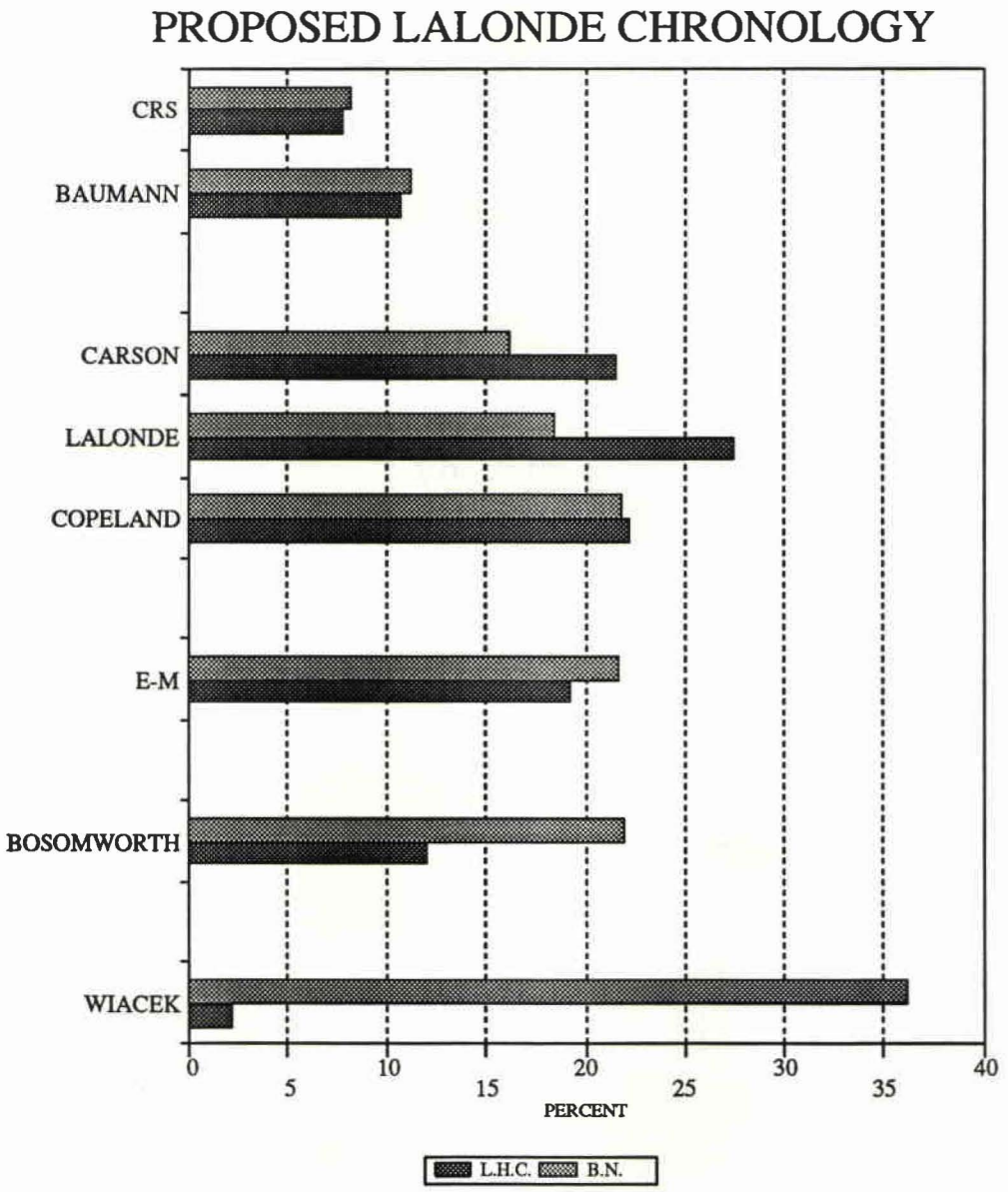

PROPOSED LALONDE CHRONOLOGY
CRS
BAUMANN
CARSON
LALONDE
COPELAND
E-M
BOSOMWORTH
WIACEK
0
5
10
15
20
25
30
35
40
PERCENT
L.H.C.
B.N.

Figure 5.6

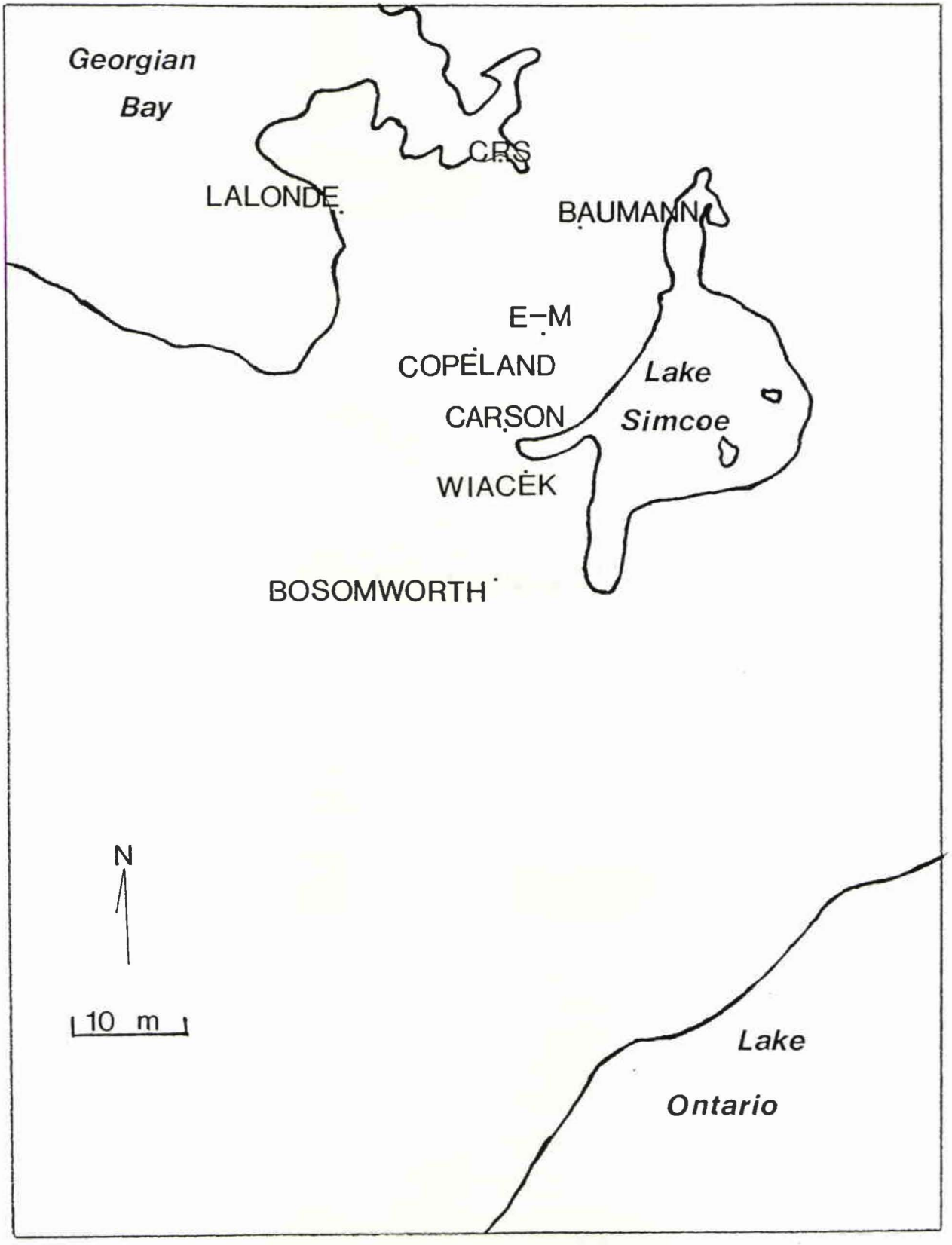
Morrison do not overlap with CRS for either vessel type I am tentatively placing it between the Bosomworth cluster and the Carson, Lalonde, and Copeland cluster. My suggested Lalonde site sequence is shown in Figure 5.6.

Finally, it is interesting to notice that there is correspondence between the chronological placement of a site and its relative spatial placement as well. In Figure 5.7 we can see that Bosomworth, at the early end of the chronology is located in the southwest region of Huronia. The middle sites chronologically, Ellesmere-Morrison, Copeland, Lalonde, and Carson are situated in the central belt of Simcoe County. The latest sites, Baumann and CRS, are located in the Northeast corner of the district. The correspondence of the chronological and spatial arrangements suggests that as time went on there was a general shift towards the northern part of Huronia, towards the very edge of arable land. Just north of Baumann and CRS we enter the Canadian Shield biotic province, where corn agriculture would have proved to be a difficult task.

Further, the close correspondence of the site groupings chronologically and spatially suggest that those groupings would also have much closer social ties. Delineating such social connections would require more indepth examination of not only ceramics but a wider sphere of artifacts than has been presently undertaken.

Conclusions

This chapter has demonstrated that the use of neck decorated vessels as an indicator of chronology can play an important role in determining the relative age of



Chronologised Sites

Figure 5.7

any given Lalonde site. By ordering sites based on the frequency of neck decoration on vessels a pattern in the distribution of Lalonde High Collar pottery emerges that strongly suggests its origins in late Middleport, its florescence, and its gradual decline prior to the historic era. This pattern exhibits a typical normal distribution curve for Lalonde High Collar pottery in Simcoe County. Simply put, a site with a high proportion of Black Necked (as used in this study) pottery and a relatively high frequency of Lalonde High Collar pottery should fit into the early part of the sequence. Conversely, a similar amount of Lalonde High Collar in association with a low proportion of neck decorated vessels would indicates a later site. Further, this chapter indicates that there is no basis for suggesting that Lalonde is 'disconnected' from the rest of the archaeological sequence in Huronia, or that it is somehow different from analogous foci from other parts of Ontario.

The value of the chronology presented in this chapter, provisional as it may be, lies in its capacity to provide a framework from which we can explore important questions concerning the transitions from Middleport to Lalonde to Realignment phases, and the meanings of such transitions. A major part of the impasse of Lalonde era research has been the result of assuming general homogeneity for Lalonde sites. Acknowledging that there are important internal variations within this archaeological culture is the first step to meaningful understanding of this era of Ontario prehistory.

Finally, this chronology, based on a distribution of Lalonde High Collar that follows a normal distribution curve, frees us from the problem of how to classify a

site as Lalonde or not. Any site from Huronia that has both Lalonde High Collar and Black Necked vessels can be placed somewhere into the continuum. The problem becomes not whether a site belongs in this sequence, but rather where that site fits. Through this we are rescued from playing semantic games about 'Lalondeness', and get on to more pressing issues.

CHAPTER 6

The Contributing Factors

Variation is really the meat and potatoes of archaeology. Without it there can be no discussion about the changing nature of material culture and its concomitant social extensions. Without variation there is no controversy, no debate, and no furthering of knowledge. These reasons alone make it remarkable that variation among Lalonde sites has not been thoroughly examined before. This is not meant to suggest that the foregoing analysis is definitive. Far from it: this study represents a beginning, a platform on which to build. This platform extends from what I see as the three major contributions of this thesis.

First it has demonstrated that there are problems with some aspects of Iroquoian site testing. The data and results from Chapter 4 make it clear that sampling only from midden deposits is simply inadequate. While comparing two sites can never be heralded as definitive, the analysis carried out on the Carson and Baumann sites does indicate certain problems. Although midden excavation may be the most productive for the amount of time invested, the fact that certain kinds of vessels, namely very large ones, may not be adequately represented in these samples makes it clear that such samples potentially can give us distorted pictures. Temporal and cultural distance makes the job of interpreting the past difficult enough without misleading archaeological samples adding to the challenge. It is

requisite that in the future artifactual samples be gathered from all areas of a site, not just from areas of high concentration.

Second, by ordering sites on the basis of the frequency of neck decorated pottery a provisional chronology has been developed in Chapter 5. The impetus for constructing this chronology was largely an attempt to understand Lalonde as an archaeological entity with both a growth and decline period, rather than as a cultural baby born fully grown at the beginning of the fifteenth century and ending abruptly with the arrival of the Huron a hundred years later. While it is true that the era as a whole is transitional between Middleport and Huron as others have indicated, Lalonde is no more, nor less, transitional than any other period of Iroquoian history. Cultural change and development are to be expected, and the Lalonde era demonstrates this. Along with this chronology comes the ability to start exploring more complex problems about how and why certain changes may have taken place. The lack of a basic chronology, I think, has been the largest part of our inability to move beyond the simple classification of sites as either Lalonde or some other era.

The development of this chronology has further implications. By demonstrating that Lalonde development is a smooth continuum we no longer have to concern ourselves with 'how' to classify a site as Lalonde or not. Sites can simply be fit into the chronology on the basis of their frequencies of Lalonde High Collar and Black Necked vessels.

This is not to say that frequencies of Lalonde High Collar or other types may not have some use in the refinement of future chronological placement. As was demonstrated by the 95% confidence limits analysis, certain sites come from different populations than others. This led to the placement of the Carson, Lalonde, Copeland, and possibly Ellesmere-Morrison, sites into a central place of the timeline. Such a 'vessel factor' may have implications for **where** any given site should appear in the chronology, but not necessarily **if** a site should be included there.

My main point is that 'Lalonde' itself may not be an entirely definable entity, and so we should no longer take pains to try and define it. The present work has made it clear that any definition of Lalonde would be based more on some arbitrary requirement(s) than on the historical reality of a smooth chronological and social development.

This study would not be complete if it did not include some suggestions for further research. It is clear that the most important problem in Lalonde research is to remedy the lack of good comparative data. Too many of the sites available for comparative purposes are midden samples. Much more house and village data is required before we can begin to formulate a less hazy picture of 15th century Simcoe County. Luckily, we are endowed with a number of midden collections that could be easily augmented by the excavation of a few houses from the village. Clearly the problems surrounding the exact nature of the Ellesmere-Morrison site could benefit from such work.

The conclusions presented in the present work also lay a small foundation for an indepth regional study of the Simcoe County region during the Lalonde era. Such regional studies have proven very fruitful in the Trent River system, the Crawford Lake area, and others. The extensive amount of data available for Simcoe County lends itself very well to such an exploration. Such a regional study would of course require the examination of many more artifactual categories than just ceramic vessels.

Another more widely encompassing question is why so many regional sequences in Ontario began to fluoresce at approximately A.D. 1400. There is evidence of a new vigour in trading networks at this time (Jamieson 1988), growth in both population and village size (Warrick 1989: 279, 282), as well as the introduction of new cultigens, specifically beans and squash (Wright 1972: 75). Clearly there are numerous coincidental events that require further elucidation.

It is apparent that the Carson site will be an important part of any such regional study. It has added immeasurably to our current understanding of the elusive Lalonde focus, and will continue to do so in the future. Perhaps the most gratifying aspect of this study is that it shows that sites excavated under the auspices of contract archaeology can be incorporated into scholarly debate. With so much of the archaeology of Ontario currently being undertaken by CRM firms, it is imperative that the information they uncover be added to our knowledge of this province's past.

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