THE WOODLAND TRADITIONS IN SOUTHERN ONTARIO

Neal FERRIS*
Michael W. SPENCE**

Abstract

This article reviews the archaeological record for southern Ontario during the 2000-year Woodland period. This review demonstrates that archaeologists have a good, basic understanding of the archaeological record and chronological sequence for much of the Woodland period, and indeed had established such a working framework quite some time ago. Nonetheless, traditional interpretations of how and why changes occurred through this period are still subject to much debate and difference of opinion, reflecting our inability to adequately "stretch" the archaeological record to address complex cultural behaviour. As new information is presented, archaeologists have drawn back from, or abandoned altogether previous reconstructions of the past which relied on broad, spatial generalizations of shared artifact traits and other aspects of cultural history, since they tended to blur local variation and could not adequately accommodate this new data. Instead, there has been an increased reliance on regionally-based approaches to interpreting the archaeological record. Reconstructions of local prehistoric sequences have demonstrated how complex and variable response to change was from region to region, and how limited normative approaches to measuring cultural behaviour are in understanding this change. Ironically, archaeologists increasingly see this movement away from generalization, while still using the basic cultural-chronological framework which originally gave rise to these generalizations, as our best opportunity of achieving a better understanding of the complex cultural events which took place across southern Ontario over the Woodland period.

* Ministry of Culture, Tourism and Recreation; Cultural Programs Branch, London, Ontario, Canada.
** University of Western Ontario, Department of Anthropology, London, Ontario, Canada.
Resumen

Las tradiciones Woodland en el Sur de Ontario. Este artículo revisa la información arqueológica para el Sur de Ontario durante los 2,000 años del período Woodland. Esta síntesis demuestra que los arqueólogos tienen un entendimiento básico y adecuado del record arqueológico y de la secuencia cronológica, para la mayor parte del período Woodland, y, de hecho, establecieron ese marco de trabajo hace bastante tiempo. Sin embargo, las interpretaciones tradicionales de cómo y por qué ocurrieron cambios durante este periodo están todavía sujetas a mucho debate y a diferencias de opinión, reflejando nuestra poca habilidad de "utilizar" adecuadamente el record arqueológico para tratar comportamientos culturales complejos. A medida que se presenta información nueva, los arqueólogos han ido dejando, o han abandonado completamente las reconstrucciones previas del pasado, que dependían de generalizaciones espaciales amplias sobre atributos artefactuales compartidos y otros aspectos histórico-culturales, ya que éstas tienden a obviar la variación local y no pueden acomodar adecuadamente la nueva información. En su lugar, ha habido un aumento de la dependencia de enfoques de base regional para interpretar el record arqueológico. Las reconstrucciones de las secuencias prehistóricas regionales han demostrado qué tan complejo y variable fueron las respuestas al cambio de región a región, y lo muy limitados que son los enfoques normativos de medición del comportamiento cultural para entender ese cambio. Íronicamente, los arqueólogos, cada vez más, ven este movimiento como separado de la generalización, y todavía siguen usando el marco cronológico-cultural básico que originalmente dio origen a esas generalizaciones, como la manera mejor de lograr el mayor entendimiento de los complejos acontecimientos culturales que se dieron en el sur de Ontario durante el período Woodland.

Résumé

Les traditions du Sylvicole dans le sud de l’Ontario. Cet article fait le revue de l’enregistrement archéologique qui s’est effectué au cours des 2,000 ans de la période du Sylvicole dans le sud de l’Ontario. Cet examen démontre que les archéologues ont une bonne compréhension générale de l’enregistrement archéologique et de la séquence chronologique de la période du Sylvicole, ce qui explique pourquoi ils avaient en fait établi un cadre de travail il y a déjà un bon moment. Néanmoins, les interprétations traditionnelles de la manière et des raisons des changements survenus au cours de cette période sont toujours sujets à débat et à une différence d’opinion, réflétant notre incapacité “d’étirer” adéquatement l’enregistrement archéologique impliquant un comportement culturel complexe. En raison de la compilation de nouvelles données, les archéologues ont graduellment pris leur distance
Ciento. Este artículo revisa la infor-
mación durante los 2,000 años del pe-
riodo arqueológico y de la secuencia
Woodland, y, de hecho, está
ante tiempo. Sin embargo, las in-
formaciones cambiaron durante el
debate y a diferencias de opi-
nion utilizan adecuadamente el record
arqueológico. Las reconstruccio-
nales han demostrado que tan com-
ún sea de región a región, y lo muy
mente el comportamiento de los arqueólogos, cada vez
al generalización, y todavía
ral básico que originalmente dio ori-
enera mejor de lograr el mayor en-
entos culturales que se dieron en el
and.

de l’Ontario. Cet article fait le revue
s’est effectué au cours des 2,000
s de l’Ontario. Cet examen démontre
une compréhension générale de la période
ont fait en établi un cadre de travail
les interprétations traditionnelles de
ments survenus au cours de cette
à une différence d’opinion, reflétant
ent l’enregistrement archéologique
complexe. En raison de la compilation
ont graduellement pris leur distance

et ont finalement abandonné les reconstructions antérieures du passé. Ces dernières reposaient sur des généralisations générales et spatiales mettant en jeu un partage de traits culturels observés dans la culture matérielle et d’autres aspects de l’histoire culturelle. Elles avaient donc tendance à brouiller la variation locale et ne pouvaient pas adéquatement accommoder ces nouvelles données. On s’est plutôt tourné vers des approches régionales pour interpréter l’enregistrement archéologique. Les reconstructions des séquences préhistoriques locales ont démontré comment les réactions au changement étaient complexes et variables d’une région à l’autre, et combien les approches normatives susceptibles de mesurer le comportement culturel restreignaient la compréhension de ces changements. Ironiquement, les archéologues tout en utilisant encore le cadre fondamental culturel-chronologique qui a originellement engendré ces généralisations, considèrent que cet éloignement des généralisations nous donne une excellente occasion de parvenir à une meilleure compréhension d’événements culturels complexes qui ont eu lieu dans tout le sud de l’Ontario au cours de la période du Sylvicole.

Resumo

A tradição Woodland no sul de Ontário. O artigo faz uma revisão do registro arqueológico no sul de Ontário durante os 2000 anos do período Woodland. Esta síntese demonstra que os arqueólogos têm um entendimento básico e adequado do registro arqueológico e da sequência cronológica, para a maior parte do período Woodland, e de fato, estabeleceram este quadro de trabalho há bastante tempo. Entretanto, as interpretações tradicionais de como e porque ocorreram mudanças durante este período estão ainda sujeitas a muito debate e a diferenças de opinião, refletindo a nossa pouca habilidade de “utilizar” adequadamente o registro arqueológico para tratar do comportamento de um complexo cultural. Na medida que se apresentam novas informações, os arqueólogos tem deixado para atrás, ou tem abandonado completamente as reconstruções prévias do passado, que dependiam de generalizações espaciais amplas sobre atributos artefatos compartilhados e outros aspectos históricos culturais, já que estas tendem a tornar óbvia a variação local e não podem acomodar adequadamente novas informações. No seu lugar, tem havido um aumento da dependência de enfoques com base regional para interpretar o registro arqueológico. As reconstruções das sequências pré-históricas regionais tem demonstrado como foram complexas e variáveis as respostas às mudanças de região a região, e como são limitados os enfoques normativos de mediação do comportamento cultural, para entender esta mudança. Ironicamente, os arqueólogos, cada vez mais, vêem este movimento como separado da generalização, e ainda seguem usando o marco cronológico cultural básico que originalmente deu origem a estes generalizações, como a melhor maneira.
de conseguir entender os eventos dos complexos culturais, que ocorreram no sul de Ontário durante o período "Woodland".
Introduction

Southern Ontario is defined here as that area north of the St. Lawrence River and lower Great Lakes (Ontario and Erie), and east of Lake Huron and the St. Clair and Detroit Rivers to the Ottawa River (Figure 1). The physical setting of this region has been shaped by extensive glacial activity during the Wisconsinan period. It is generally characterized by a gently rolling to flat topography, smaller river courses and limited lake systems, and soils formed by glacial outwash deposits or lake beds (Chapman and Putnam 1984; Karrow and Warner 1990). A prominent feature of the region is the Niagara Escarpment, which bisects southern Ontario, extending from Niagara Falls to the tip of the Bruce Peninsula in northern Lake Huron. For much of the Woodland, southern Ontario can be defined as maintaining a temperate climate, with a mixed deciduous and coniferous forest cover (Karrow and Warner 1990). Due to seasonal variations in climate, plant and animal availability varied considerably during the course of the year.

Historic documentation of the human occupation of southern Ontario began with the arrival of Europeans in the late 16th century. These travellers described large communities of Algonquian- and Iroquoian-speaking peoples. Iroquoian speakers were organized into large tribal clusters, primarily around the western end of Lake Ontario and north to Georgian Bay, and identified as Huron, Petun and Neutral (e.g. Heidenreich 1971; Trigger 1976, 1985). To the west end of the lower Great Lakes and extending along the north shore of Georgian Bay and Lake Huron were a number of Algonquian-speaking native communities, ancestors of the Central Algonquian tribes documented more fully in later centuries (e.g. Heidenreich 1988, 1990). South of Lake Ontario were another series of Iroquoian communities—the Five Nations confederacy: the Seneca, Cayuga, Onondaga, Oneida and Mohawk. In addition, Iroquoian groups were noted along the St. Lawrence River in southern Quebec by the earliest French explorers of the region (e.g. Heidenreich 1990, Trigger 1985). However, these communities had disappeared by the arrival of more French explorers in the late 1500s (J. Jamieson 1990b; Pendergast 1985; Trigger 1985).

Archaeological research in Ontario extends well back into the 19th century (Kidd 1952, Noble 1972). Traditionally much of this work has focussed on the past 1,000 years, examining the prehistoric and historic Iroquoian occupations of the region (Bamann et al. 1992; D. Smith 1990). Not surprisingly, then, a review of the Woodland period in southern Ontario tends to be biased towards the Late Woodland development trajectories of historically identified Iroquoian peoples. Indeed, research on Late Woodland material culture trends, shifts in settlement-subsistence, and cultural development all tend to be examined in terms of a "linear" Iroquoian developmental sequence. The underlying assumptions inherent in this perspective can often muddy ar-
chaological interpretations and unduly occupy research efforts. As well, this focus has meant that the other 9,000 years of prehistory in this region have received much less attention. It has also meant that Late Woodland cultural traditions on the “periphery” of the Iroquoian homeland have generally been relegated to the fringe of mainstream archaeological study.

However, this bias towards Late Woodland Iroquoian archaeology has been muted in the last fifteen years, due in large part to the explosion of archaeological resource management activities in the province. Legislative requirements associated with all forms of public and private land use planning in Ontario specifically identify archaeological resource conservation as an integral part of development activity. This has meant that consultant archaeologists have generated large amounts of data on all aspects of the archaeological record (Ferris 1995). While we are still grappling with the implications of this change to the discipline, data arising from this activity are beginning to enhance summaries of the region’s archaeological record (e.g. Ellis and Ferris 1990).

For the purposes of this presentation, the Woodland period will be presented in the cultural-chronological classifications of Early, Middle, Late and Terminal Woodland. Material culture, settlement-subsistence and mortuary patterns will be reviewed for each period, along with the major theoretical and interpretive issues currently debated by archaeologists working in the region. We have chosen to forego many of the traditional labels for cultural complexes previously defined for each of these periods, in recognition of current trends away from the use of relatively arbitrary and broad cultural terminologies. However, while we recognize the pitfalls of applying a cultural-linguistic classification to the prehistoric period, we will utilize traditional Late Woodland Iroquoian chronological classifications (e.g. Early Ontario Iroquoian, etc.) when reconstructing Late Woodland culture history from south central Ontario, since these provide a convenient nomenclature for explaining local chronological and geographical distinctions.

**Early Woodland**

The transition between the Archaic and Woodland stages can be placed sometime in the 9th century B.C. Early Woodland cultures evolved smoothly out of their Terminal Archaic “small point” predecessors. The latest of these Terminal Archaic complexes, Glacial Kame, shows a number of particularly close similarities to the earliest Early Woodland culture, Meadowood (Spence and Fox 1986:8-12), which persisted from approximately 900 to 400 B.C. Indeed, the distinction between the Terminal Archaic and Early Woodland cultures can be defined by a single criterion: the addition of pottery to the roster of material culture. Although ceramics eventually became very important, to archaeologists as well as to their prehistoric users, they initially played only a minor role in local lifeways (Chapdelaine 1990). The earliest ceramics were thick, friable, and often underfired, and must have been of only limited utility.
Meadowood

Meadowood was first defined in the state of New York (Ritchie 1955; Granger 1978), and later recognized in the provinces of Quebec (Clermont 1978, 1990; Clermont and Chapdelaine 1982; J.V. Wright 1964) and Ontario (Spence and Fox 1986). Meadowood sites have produced a number of distinctive material culture items that can be considered diagnostic criteria of this Early Woodland phase. These include artifacts that function in both the domestic and ritual spheres, allowing us to correlate habitation with mortuary sites to achieve a reasonably well-rounded, view of the culture.

A principal diagnostic is Vinette 1 ceramic ware (Ritchie and MacNeish 1949). It has been identified over a wide area (Peterson and Hamilton 1984), but in Ontario is restricted primarily to the south, while in the north Archaic (non-ceramic) lifeways persisted (but note J. Wright 1990:495-496 for a contrary view). Vinette 1 is a relatively thick, crudely made and friable ware, formed by the coil technique applied with cord-wrapped paddles to compress the vessel walls and blend the coils together (Figure 2). Decoration is absent, except very late in the Early Woodland. Vessels have conoidal or sub-conoidal bases, poorly defined necks, and collarless rims.

Although Vinette 1 is a Meadowood culture ware, it is often absent on sites that exhibit other Meadowood diagnostics. This may be due to a rather limited functional role for this pottery. Its fragility and frequent underfiring would have severely constrained its use. It is also possible that the ware slightly postdates the appearance of other diagnostics (particularly distinctive chipped stone artifacts). However, such a gap, if it existed, could not have been more than a century.

Ozker (1982:76-79) suggests that a similar ware in Michigan, Schultz Thick, was used to make nut oil by placing crushed nuts in boiling water held by the vessels, then skimming off the oil as it rose to the top. She notes that the vessels did not have to be durable or well made; they were manufactured as needed, used for that one episode, then discarded. The idea has become widely accepted, and has been extended to Vinette 1 (Bald 1991; Jackson 1986; Wilson 1993a). However, the extension, if not the original application of the idea, is problematic (Spence and Fox 1986:39). There are some Meadowood sites in southern Ontario which, though involved in nut collection, have no Vinette 1 pottery, and some sites with Vinette 1 sherds lie beyond the normal range of the favoured nut-bearing trees. In fact, some Vinette 1 sherd interiors bear encrusted carbonized material, suggesting their use in other forms of food preparation.

The other principal diagnostic of Meadowood is a highly distinctive and formal chipped stone technology (Figure 3), based on well-made preforms known as cache blades or “quaternary blanks” (Granger 1978). From these a variety of tool types were derived by secondary chipping: side-notched pro-
WOODLAND POTTERY DEVELOPMENT IN ONTARIO

<table>
<thead>
<tr>
<th>METHOD OF CONSTRUCTION</th>
<th>VESSEL BASE FORM</th>
<th>VESSEL RIM FORM</th>
<th>DECORATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Make</td>
<td>Oblate</td>
<td>Collared</td>
<td>Vertical</td>
</tr>
<tr>
<td>Peddle and Awl</td>
<td>Conical</td>
<td>Collared and Collared</td>
<td>Denticulated</td>
</tr>
</tbody>
</table>

**EARLY WOODLAND**
- 900 B.C.
- Middle Woodland
- A.D. 700
- Late Woodland
- A.D. 1400
- Terminal Woodland

Figure 2. Chronological Development of Ceramic Vessels Through the Woodland Period. Illustration courtesy of Nick Adams.
Figure 3. Diagnostic Woodland Lithic Artifacts From Southern Ontario. a-c: Early Woodland Meadowood points; d: Adena; e: Kramer; f: heavily reworked Vanport point made of Flint Ridge (Ohio) chert; g-h: Middle Woodland side-notched "Saugeen" points; i-j: Jack’s Reef corner-notched points; k: Port Maitland side-notched point; l-m: Levanna-like triangular points; n-o: Madison-like triangular points; p-q: MOI period side-notched points; r-s: Early Woodland cache blades; t: Middle Woodland cache biface; u: Early Woodland T-shaped drill; v: Early Woodland perforator; w: Middle Woodland blade from a core of Flint Ridge chert.
The Woodland Traditions in Southern Ontario

...jectile points/knives, expanded base drills, haftable end scrapers, strike-a-lights (used to strike a spark from iron pyrites), and perforators (Granger 1978:16-17, fig. 1.2; Ellis et al. 1988). Much of this tool kit was derived directly from the Terminal Archaic Glacial Kame predecessor of Meadowood. The Glacial Kame lithic complex includes a number of forms that are very comparable to the Meadowood types: well-made (though relatively broader) preforms, expanded base and T-shaped drills, and corner-notched points that are called Hind in Ontario and Feeheley in Michigan (Spence and Fox 1986: 8-11; Lovis and Robertson 1989:232-233).

Most Meadowood chipped stone artifacts were made from Onondaga chert, which is available in primary deposits along the northeast side of Lake Erie. These deposits were exploited for material to manufacture the preforms, some of which were circulated in large sets over a considerable area. Some of these sets have been found intact, as caches, and include from a dozen to as many as 166 preforms (Fox 1984a; Williamson 1988). Some of the other Meadowood tool types may also have been circulated through this network, but probably more often they were simply made locally by retouching the preforms.

The preform exchange network was widespread, extending into Quebec and Vermont to the east (Clermont and Chapdelaine 1982; Loring 1985) and Michigan and Ohio to the west (Beld 1991; Stothers and Abel 1993). Although Meadowood tools were certainly used in daily utilitarian tasks, it should not be assumed that the exchange was purely economic (Beld 1991:33-34). Social factors were certainly involved, and some Meadowood preform caches had a clearly ritual aspect, occurring covered with red ochre in mortuary contexts (e.g. Williamson 1980). A few other items, functioning in the social/ritual realm, also characterize Meadowood. These include birdstones of the pop-eyed type (Figure 4), and trapezoidal gorgets (Spence et al. 1990:129, fig. 5.2).

The settlement-subsistence system of Meadowood is poorly understood. Two contrasting models have been suggested, one based on the pattern suggested by Granger (1978) of large base settlements occupied through the winter (Ellis et al. 1988), and one of small bands circulating through their territories but amalgamating only briefly, if at all, into larger groups (Spence et al. 1990:136; Wilson 1993a). The problem is that only a few settlement types have been adequately investigated, and not all of these are from the same physiographic region.

Fall nut collecting and deer hunting sites are known from several areas (Spence and Fox 1986; Spence et al. 1990), but may actually encompass two different kinds of occupation: very brief visits by small special task groups (e.g. Jackson 1986, 1988; Timmins 1992a), and somewhat more prolonged use with the preparation of sizable storage/refuse disposal pits and the construction of houses (Fox 1983; Wilson 1993a). Only one definite spring-summer site is known, a brief occupation by a very few people near the Lake Huron shore (Fox 1984b). Although large fall-winter base camps have been sug-
Figure 4. Distinctive Artifacts of the Woodland Period. a: Early Woodland pop-eyed birdstone; b: EOI period pipe; c-d: Terminal Woodland bulbous ring and effigy pipes; e: European manufactured iron lance or harpoon head; f: European manufactured iron clasp knife blade; g-o: European manufactured glass trade beads; p-r: marine shell discoidal beads; s: marine shell columella pendant.
gested on the basis of surface observation and limited test pitting at some sites (Ellis et al. 1988), other investigators believe these may be merely the cumulative result of briefer visits by small groups (Timmins 1992a; Wilson 1993a).

Only two mortuary sites have been extensively excavated in Ontario, neither directly associated with a habitation site (Spence et al. 1978; Williamson 1980). Demographic estimates based on the burial pattern suggest a contributing population of roughly 35 individuals (Spence 1986). The meagre osteological evidence indicates a flexible social structure, with no fixed rules of postmarital residence. The distribution of grave goods shows that status was not highly differentiated, and was based on age, sex and achievement, rather than ascribed (Spence 1986).

The presence of special mortuary sites, set apart from habitation areas, did not begin with Meadowood. The same pattern characterizes Glacial Kame (Ellis et al. 1990). However, it is not clear what this pattern implies about the societies that practiced it. Several possibilities can be suggested. One is that southern Ontario was becoming fully settled and band territories were accordingly circumscribed, leading to some concern about who should, or should not, have access to local resources. A cemetery, or rather the periodic mortuary rituals conducted there, would offer a public venue for statements about group membership and rights (Spence 1986; Spence et al. 1990: 167). Also, a cemetery would constitute a very forceful claim to a particular territory and its resources, discouraging impingement by rival groups (Charles and Buikstra 1983). However, although Meadowood sites occur widely throughout southern Ontario, there is no evidence to suggest populations of a size or sedentism that would tax resources or lead to inter- or intra-band competition. If the existence of large, long-term base camps is established (Ellis et al. 1988), one might then suspect population growth, some pressure on resources, and the development of carefully defined territories (Brown 1985). The functional role of cemetaries would then become clear. However, the evidence remains ambiguous (Wilson 1993a).

Material recovered from earlier Glacial Kame cemeteries reveals a long-distance trade of a variety of goods, particularly marine shell from the east coast of the United States, copper from the Lake Superior area, and galena from several deposits (Farquahr and Fletcher 1984). Somewhat surprisingly, marine shell and galena are absent from Ontario Meadowood contexts and copper is not common. Nevertheless, the trade links through which these materials had previously entered appear to have remained intact. Meadowood artifacts of Onondaga chert are not uncommon in Michigan (Lovis and Robertson 1989; Beld 1991), presumably the proximate source for Lake Superior copper, and ties with the Meadowood occupants of New York should have allowed access to marine shell goods and some galena sources. Thus the wide trade networks of the preceding period seem not to have been lost.
so much as refocused, the earlier goods being eclipsed by a new preference for Onondaga chert preforms for social display and ritual, as well as for ordinary domestic use.

The wide distribution of Vinette 1 pottery and distinctive stone tools, together with an earlier archaeological emphasis on mortuary sites, have led some to refer to Meadowood as a "cult" (Ritchie 1955). However, Meadowood seems to have been both considerably more, and considerably less, than this. The identification of Meadowood lithic tools on habitation sites allows us now to go beyond simply its ritual component. At the same time, it is now apparent that there is a good deal of localized heterogeneity in burial practices, ceramic technology, and settlement-subsistence (Spence et al. 1990:137; Wilson 1993a:13). To suggest that Meadowood is a cult is to assume a uniformity of belief and ritual that seems not to have existed.

Late in the Early Woodland period (ca. 550-400 B.C.), changes appear in Vinette 1 ceramics, reflecting a growing technological sophistication of Early Woodland potters. In southwestern Ontario a thinner and more finely made variant of Vinette 1, called Pinery ware, is widely present (Spence et al. 1990:137; Wilson 1993a). The cord roughening of vessel exteriors becomes more regular, even decorative. Punctates appear on some vessels (Spence et al. 1978). In eastern Ontario thinner vessels with pointed lips and punctates appear as precursors to decorated Vinette 2 ceramics of the Middle Woodland period (Jackson 1980, 1986).

The Middlesex Complex?

The Middlesex complex of northeastern North America has often been placed in the Early Woodland because of its presumed ties with Adena (Ritchie and Dragoo 1960). However, it remains a problematic construct. For example, it is really only a mortuary complex, defined exclusively on the evidence of burial components excavated in the 19th century, during which only the more spectacular items of material culture were conserved and reported. Thus its chronological placement remains obscure. There certainly is reason to believe that at least some components in Ontario and Quebec will prove to be Middle Woodland (Spence 1957; Clermont 1990:15). However, in Vermont, Middlesex burials have been found with incised Vinette 1 variants (Loring 1985; Heckenberger et al. 1990). Nonetheless, radiocarbon dates suggest the survival of Middlesex into the first century B.C., which would certainly place it in the Middle Woodland (Spence et al. 1990:141-142). Perhaps a span of about 400-1 B.C. might be suggested, though there could be considerable local variation in the time of the complex's presence.

Two stemmed point types, Kramer and Adena (Figure 3), may prove to be useful indicators of Middlesex-related habitation sites. They co-occur on sites in Michigan (Ozker 1982; Garland 1988; Beld 1991), Ontario (Parker 1993;
being eclipsed by a new preference for play and ritual, as well as for ordinary and distinctive stone tools, toponymy on mortuary sites, have led me (1955). However, Meadowood and considerably less, than this. Less on habitation sites allows us now to see. At the same time, its data is a matter of opinion that the patina of widely traded exotics masks a considerable amount of localized variation (Loring 1985:106; Spence et al. 1990:142). For much the same reasons, the original idea that these sites are the burial places of Ohio Adena migrants forced to flee their homeland has been discarded (Griffin 1961; Spence 1967).

Given their spectacular nature, often including burial mounds, it is surprising that more Middlesex components have not come to our attention in Ontario. Most that have are in the east, along the Ottawa and St. Lawrence rivers. One exception, the Killarney Bay I site on the north shore of Georgian Bay, may turn out to be an intrusion from the south (Greenman 1966; Fitting and Brose 1971). It seems likely that most of southern Ontario will prove to have more attenuated versions of Middlesex, with burial sites which show only a sprinkling of southern exotics, but which can be fitted comfortably into local cultural sequences.

**Middle Woodland**

The Middle Woodland covers a long time span (ca. 400 B.C.-A.D. 700), though we are now gaining some understanding of its internal chronology (Finlayson 1977; Johnston 1968; Wilson 1990). The period is defined by the development of a series of decorated ceramics (Figure 2), called Vinette 2 in eastern Ontario and New York (Ritchie and MacNeish 1949; Johnston 1968). Pinery ware and Dawson Creek pottery from late in the Early Woodland herald the appearance of these decorated Middle Woodland wares, which were certainly in place before 200 B.C.

Middle Woodland ceramic decoration was applied by impressing or “stamping” an implement into the wet clay of the vessel. Decorative styles included pseudo scallop shell (“wavy-line” stamps resembling the edge of a shell), dentate or rocker dentate stamping (“toothed” or multiple circular or square shaped impressions in a row), linear (plain) tool stamps, and punctates (deep holes made in the clay with a pointed object). Late in the period, incising (drawing or carving a line across the clay with a pointed implement) and stamps of cord-wrapped decorative tools appear.
J.V. Wright (1990:496) suggests an early appearance in the north of Middle Woodland ceramics and their coexistence with late Vinette 1 ceramics in southern Ontario. Most others, however, place the development in the north of the Laurel culture (characterized by these Middle Woodland ceramics) somewhat later in time, around 200 B.C. (e.g. Reid and Rajnovich 1991:206, 214). Also, there is some evidence in the south for the development of Middle Woodland wares out of Vinette 1 (Jackson 1986; Williamson et al. 1994; Wilson 1990, 1993a). Although the database is admittedly meagre, most of the available evidence points to the continual occupation of southern Ontario, with no major population intrusion or displacement, since at least the Terminal Archaic period.

The Middle Woodland was also a period of some important changes in settlement. In many areas sites are more common than in the Early Woodland, with larger and denser covers of artifact debris. This may be due in part to the longer time span of the Middle Woodland. However, increased population and a greater degree of sedentism were also major factors.

Previous syntheses of the region have recognized three distinct cultural complexes: Couture, in the southwestern corner of the province; Saugeen, occupying the rest of southwestern Ontario as far east as the Niagara Escarpment; and Point Peninsula, in south central and eastern Ontario and adjacent Quebec and New York (Spence and Fox 1986; Spence et al. 1990; J.V. Wright 1967). However, the distinctiveness and homogeneity of these complexes have been challenged (Wilson 1991; Williamson et al. 1994). Indeed, given the dynamics of hunter-gatherer societies, with high levels of interaction and intermarriage among neighbouring groups, one would not expect the existence of discrete cultures (Spence 1986:92-93; Spence et al. 1990:143, 148, 157). Rather, it has been suspected for some time that the territorial borders of these three complexes would blur and eventually disappear as our knowledge of the intervening areas increased, revealing a cultural continuum across the province, with each local group differing only slightly from its immediate neighbours (Spence 1986:93; Spence et al. 1990:148).

This local variability has in fact been demonstrated within the Saugeen complex (Wilson 1991), and eventually may be recognized across southern Ontario. Also, there is overlap and some confusion in areas that had been assumed to mark the boundaries between Couture and Saugeen, and between Saugeen and Point Peninsula (Spence et al. 1990). It may be, then, best to follow Wilson's (1991:10) suggestion and drop these terms, except perhaps as spatial designations, and concentrate instead on the definition and analysis of much more localized complexes.

**Culture History**

A ceramic chronology has been defined that seems to hold broadly true across southern Ontario (J.V. Wright 1967; Johnston 1968; Finlayson 1977; Wilson
appearance in the north of Middle
with late Vinette 1 ceramics in
place the development in the north
these Middle Woodland ceramics)
ge Reid and Rajnovich 1991:206,
outh for the development of Middle
1986; Williamson et al. 1994; Wil-
admittedly meagre, most of the
occupation of southern Ontario, with
ment, since at least the Terminal
period of some important changes in
a common than in the Early Wood-
acids. This may be due in part
Woodland. However, increased popula-
were also major factors.
recognized three distinct cultural
ner of the province: Saugeen,
ario as far east as the Niagara Es-
central and eastern Ontario and ad-
and Fox 1986; Spence et al. 1990;
neness and homogeneity of these
1991; Williamson et al. 1994). In-
umber societies, with high levels of inter-
uring groups, one would not ex-
ance 1986:92-93; Spence et al. 1990:
pected for some time that the terri-
would blur and eventually disappear
increased, revealing a cultural con-
ocal group differing only slightly from
n demonstrated within the Saugeen
may be recognized across south-
ome confusion in areas that had been
Couture and Saugeen, and be-
Spence et al. 1990). It may be, then,
estion and drop these terms, except
centrate instead on the definition and
exes.

that seems to hold broadly true across
hston 1968; Finlayson 1977; Wilson
1990). In the earliest part of the Middle Woodland stamped pseudo-scallop
shell motifs dominated assemblages. Subsequently they fell off as dentate
stamps grew to become the major form. Dentate persisted throughout the
period, but its application in a rocker stamping technique was important pri-
arily in the middle part of the sequence. A variety of complex dentate deco-
rations, made by dragging the stamp across the clay between deeper
impressions, have a lengthy history.

Paralleling this is a chronology of projectile point forms. Kramer and Adena
stemmed types appear early in the sequence (Parker 1993). A series of ex-
anding stem and widely side-notched forms (Figure 3), generally referred to
as Saugeen points but more finely subdivided by Wilson (1990), charac-
terize much of the period in the southwest. Two finely made corner-notched
forms, Snyder 2 and Vanport (Figure 3), occur infrequently in the middle part
of the period. They are often made from exotic materials and were traded from
the south (Spence and Fox 1986:37).

Other items, often found in burial offerings, also distinguish the Middle
Woodland: antler-hafted beaver incisors, large antler combs with incised
decoration, small ground and pointed “whetstones”, platform pipes, cut mica
forms, copper- and silver-covered ear ornaments and panpipes (W. Kenyon
1986). In addition there was a wide range of both ornamental and utilitarian
items. Antler and bone harpoons and bone fishhook barbs and gorges were
common, and bespeak a considerable emphasis on fishing. Ornamental items
included a variety of polished stone gorget and pendant forms, and copper,
silver and marine shell beads. Marine shell beads were of the disk form for
much of the period, but in the latter part were more likely to be of whole small
shells, primarily marginella and olivella.

One of the new developments in the Middle Woodland is the appearance
of large occupation sites with dense debris covers, usually by lakes or major
rivers (e.g. Finlayson 1977; Johnston 1968; J.V. Wright 1956; J.V. Wright
and Anderson 1963). There are several factors that may have been involved in
the development of these sites. Some may simply represent the cumula-
tive result of numerous visits, as a group returned repeatedly to exploit some
particularly rich resource (Finlayson 1977). This would imply the existence
of well-defined territories and a fixed annual cycle, perhaps evidence that a
degree of circumscription had developed in some parts of the region. Another
factor may be a prolonged seasonal occupation of these sites; their use as
base camps through a longer part of the year (Wilson 1990, 1991). A third
possibility is their use by a larger group, either an enlarged local band or a
series of seasonally amalgamating bands, along with more sporadic and in-
formal use of the locale at other times of the year (Spence et al. 1984).

These factors are not, of course, mutually exclusive, and the environmen-
tal diversity of the region makes it likely that superficially similar sites may
have evolved in different areas for different reasons. However, there are only
a few areas with enough data available to really explore the question. The best known of these is the Bruce Peninsula and adjacent zones, between Lake Huron and Georgian Bay. Broad survey, the careful excavation of several sites, and the detailed analysis of floral and faunal remains have produced a picture of several band territories, each encompassing a major river, its tributaries, and adjacent stretches of lakeshore (Finlayson 1977; I. Kenyon 1980; J. Wright and Anderson 1963). Band segments amalgamated in the spring at major rapids to take advantage of rich fish runs, then dispersed to smaller sites along the lakeshore for much of the summer to exploit a variety of lacustrine resources. In the winter they retired to small inland camps, though we have very few candidates for this part of the cycle.

Bands in other parts of southern Ontario probably had different settlement-subistence systems, tailored to their own environmental imperatives (Wilson 1991). There has been extensive investigation of Middle Woodland sites in the Rice Lake region, though much of it unfortunately preceded the general use of flotation analysis (Johnston 1968). Thus the reconstructed pattern of large macroband settlements through the warm season where major rivers enter the lake, followed by dispersal into small inland winter camps, remains largely hypothetical (Spence et al. 1984). The middle Thames River drainage has been examined by Wilson (1990, 1991, 1994) and Timmins (1989, 1992a), who have suggested somewhat contradictory settlement patterns for the area. Timmins (1989) believes that there were warm season macroband occupation sites along the Thames River, exploiting fish and other local resources, followed by relatively large cold season base camps by inland ponds, with broader exploitation of the area accomplished through brief forays by special task groups. Wilson (1990, 1991), on the other hand, believes that the large riverine sites were actually occupied through much of the year, including the winter, as base camps, while the rest of the area was exploited through brief visits by task groups. He believes that the more substantial of the inland winter sites were not created by large and/or prolonged stays, but rather by repeated brief visits by small groups.

All of these reconstructions have a common thread: the implication of increased sedentism. Although nobody is advocating year-round occupation, these reconstructions assume prolonged use of certain sites by a larger group, and/or repetitive visits in a tightly constrained annual cycle. This increased sedentism may have been made possible by the intensified exploitation of certain local resources, like shellfish or spawning fish (Spence et al. 1984, 1990), but not through the addition of plant cultivation to the subsistence system. While a variety of plants had been under cultivation for some time to the south (B. Smith 1989), there is no acceptable evidence for cultigens in Middle Woodland Ontario.

Mortuary practices show a good deal of variation across the province, more so than in previous periods. Some of this is probably due to differing external
to really explore the question. The 1 and adjacent zones, between Lake 1, the careful excavation of several 1 and faunal remains have produced a ncompassing a major river, its tribu-

ture (Finlayson 1977; I. Kenyon 1980; 1gments amalgamated in the spring 1fish runs, then dispersed to smaller 1summer to exploit a variety of lacsu-
d to small inland camps, though we-

the cycle.

1 probably had different settlement-

1wn environmental imperatives (Wil-

vestigation of Middle Woodland sites 1it unfortunately preceded the gen-

688). Thus the reconstructed pat-

lough the warm season where major 1ratsal into small inland winter camps, 1: al. 1984). The middle Thames River 1(1990, 1991, 1994) and Timmins 1ewhat contradictory settlement pat-

lieves that there were warm season 1hames River, exploiting fish and other 1large cold season base camps by in-

the area accomplished through brief 190, 1991), on the other hand, be-

actually occupied through much of the 1s, while the rest of the area was ex-

p. He believes that the more substan-

ated by large and/or prolonged stays, 1small groups.

common thread: the implication of in-

is advocating year-round occupation, 1ed use of certain sites by a larger group, 1strained annual cycle. This increased 1ible by the intensified exploitation of 1spawning fish (Spence et al. 1984, 1 of plant cultivation to the subsistence 1een under cultivation for some time to 1 acceptable evidence for cultigens in 1al of variation across the province, more 1 this is probably due to differing external

interactions, but in a few places it may also represent increased organiza-
tional complexity. In some areas, like the Bruce Peninsula, burial practices 10 not seem radically different from earlier periods (e.g. J.V. Wright and Ander-
son 1963; Finlayson 1977). There, special burial sites are set apart from (but 1often quite near) occupation sites. Most individuals were buried at about the 1ime of death, although cremation and occasionally dismemberment and 1efleshing indicate special treatment in some (not very well understood) circum-
stances. Secondary burial did occur, but was not very common. Grave goods, 1en a mix of utilitarian and exotic items, were placed with many burials.

Although their nature and distribution among the burials indicate some con-
cern with status, it was one based on fundamentally egalitarian principles. Age,

sex and achievement were important, but there is nothing to suggest organi-

zation in a rank system (Spence 1986; Spence et al. 1990:150).

The Rice Lake area may have been an exception to this generally egalitar-

pattern. Between A.D. 1 and 250, bands in the area erected burial mounds.

Most of these were linked to peripheral Hopewellian manifestations in New York (W. Kenyon 1986; Johnston 1968; Spence and Harper 1968).

The mounds often show a bipartite burial pattern. A minority of the burials 1ere fully or partially articulated, resting on the mound floor or in pits beneath 1, and frequently had grave offerings. A larger number were in the mound fill,

usually disarticulated and incomplete (and occasionally cremated), and without 1ave goods. Both sexes and all age categories are represented in both 1roups. To judge by the number of secondary burials in some of the mounds, 1his burial programme apparently covered a much longer period than the 1nnual cycle. The event triggering mound burial is not known, but it may have 1een the death of a principal figure in the community. Also, the population 1ontributing to a mound may have been large, perhaps 100 or more individu-

als. The rather sharp distinction between floor and fill burials points to a sys-

tem of ascribed rank, a suggestion supported to some degree by osteological 1vidence (Spence et al. 1984; Spence 1986:90-91; Spence et al. 1990:164).

Nevertheless, there are other possible explanations, ones that do not ne-

cessarily assume rank distinctions. Spence (1986:91) outlines a multi-stage 1ural programme in an egalitarian context that would result in the same burial 1attern. Wilson (1993b) believes that the one fully excavated mound at the 1ameron’s Point site was actually formed from three consecutive smaller 1tructures. Johnston (1968:20) states that the famous Serpent Mound itself is 1robably the result of similar accretion. If Wilson is correct, the contribut-

ing population would have been much smaller than Spence’s estimate, and 1he status differentiation expressed in the burial programme could have been 1ased on achievement, rather than ascribed.

**Exchange Networks**

As described above, early in the Middle Woodland period some Ontario groups 1ere peripherally involved in a Middlesex-Adena network through which a
variety of exotica circulated (Ritchie and Dragoo 1960; Spence 1967). That network was replaced by, or more probably evolved into, the Hopewelian interaction sphere, which dominated long distance exchange and the circulation of exotica throughout much of eastern and central North America between A.D. 1 and 250 (Brose and Greber 1979). Goods moving into Ontario through this network were usually involved in ritual and status expression, and generally ended up in burials, particularly in the Rice Lake area. A local contribution to this Hopewelian network was silver from northern Ontario, which appears in mounds in New York, Ohio, Georgia, Mississippi and elsewhere (Spence et al. 1990).

Most of southwestern Ontario, however, seems to have been linked into networks different from those in which the Rice Lake bands participated. Hopewelian goods like panpipes and silver are absent in southwestern Ontario, with the exception of some items in the Donaldson cemetery. Instead, blades (Figure 3), Vanport points, and bifacial preforms of Flint Ridge (Ohio) chert are frequently found in southwestern Ontario, the preforms often in large caches (Spence and Fox 1986:37-38; Spence et al. 1990:144-145). Flint Ridge material is rare in most of south central and eastern Ontario, but Onondaga chert is common there and must have been imported from source areas to the south or southwest. The caches of Onondaga chert bifacial preforms in New York burial mounds may indicate the source (Ritchie 1938).

Generally, Ontario societies were peripheral participants in the Hopewelian interaction sphere. Although some goods circulated into Ontario and mounds were even raised in some areas, there does not seem to have been a great deal of uniformity in their participation. Rather, each group seems to have entered exchange relationships on its own terms, using the goods to express its own particular social truths.

The Transition between the Middle and Late Woodland

While most researchers would agree that the transition between the Middle and Late Woodland occurred sometime during the second half of the first millennium A.D., it is difficult to be more precise (Fox 1990a). In part, this is due to the low number of archaeological components that have been documented between ca. A.D. 600 and 800. As well, many of the assemblages from this period come from large, multi-component occupations extending over several hundred years, or from small, diffuse, short-term occupations of limited interpretive value. Also, variation occurs across the province, so that "classic" Middle Woodland cultural traits persist later in some regions than elsewhere (e.g. Fox 1990a; Spence et al. 1990).

The emphasis on "Iroquoian" prehistory has led some to define the start of Late Woodland by the appearance of what could be termed hallmarks of Iroquoian archaeology: increased reliance on maize agriculture, larger forti-
fied settlements, and associated population growth (e.g. Ritchie 1980; Ritchie and Funk 1973). However, these characteristics do not appear evenly through time across southern Ontario, and are not easily quantifiable. Consequently, numerous additional features have been proposed to mark the arrival of the Late Woodland, depending on whether or not the emphasis is on material culture change, mortuary patterns, settlement subsistence patterns, or biocultural data (e.g. Griffin 1983; Mason 1981; Molto 1983). Indeed, identifying a start date for the Late Woodland can be more a task in defining one's own methodological and conceptual framework, than recognizing a point in time of substantial change to the archaeological record.

As Fox (1990:171-173) points out, the beginning of the Late Woodland will vary between A.D. 700 and 1000, depending on the definition used. Given that most researchers would be comfortable, when looking at material dating prior to A.D. 500 or 600, to classify it as Middle Woodland, and would view material dating after A.D. 900 as Late Woodland, we have chosen to simply identify the intervening period as transitional.

Culture History

The best documented series of sites associated with this transition are found between the Grand River and the western end of Lake Ontario, and have been identified as the Princess Point complex (Fox 1990; Stothers 1977). Sites from this complex are defined primarily through the identification and seriation of ceramic vessels. Princess Point vessels continue to be manufactured through the use of the coil and paddle technique, and are characterized by everted rims, rounded shoulders and semi-conical bases (Figure 2). The hallmark of Princess Point ceramics is a heavy reliance on cord-wrapped stick impressions applied to the upper portion of the vessel, appearing as multiple rows of horizontal and/or oblique decoration. Often accompanying these impressions is a single row of exterior punctates, leaving corresponding bosses or bumps on the interior of the vessel (Fox 1990; J. MacDonald 1986; Stothers 1977).

The lithic industries of this transition period are characterized by a range of expedient and bifacially-flaked tools. Corner and side-notched projectile point forms common early on give way to triangular, Levanna-like types by the end of the transition (Figure 3). Ground stone tools are rare, and worked bone, antler and shell industries are under-represented (Fox 1990:175-176).

Settlement-subsistence patterns are not well-documented for Princess Point. However, Stothers (1977:122) has suggested groups gathered at larger camp sites best suited to take advantage of seasonally abundant resources, while maintaining a smaller, more dispersed pattern of single family camps during periods of less abundance (i.e. late fall through early spring). It is also likely that some marginal "garden plot" horticulture occurred during this transi-
tional period (Chapdelaine 1993). This notion is supported by recent work on the Grand River, where maize recovered from Princess Point sites has been dated to the late 8th century A.D. (D. Smith, pers. comm., 1994). However, the findings from these recent investigations also suggest that the scheduling of seasonal round activities was not as formally proscribed as suggested by Stothers. In either case, the settlement-subsistence patterns proposed suggest a continuation of seasonal round activities comparable to earlier Middle Woodland groups.

The archaeological record is weaker for other areas. In the southwest, materials associated with the earliest part of the Western Basin Tradition, the Rivière Aux Vase phase, are found exclusively at multi-component sites. Murphy and Ferris (1990:225) suggest that, given the paucity of data, the only real observation of this period that can be made is the impression of local group continuity. Even less is known for eastern Ontario. Cultural manifestations dating to the A.D. 500-900 period are referred to as the Sandbanks Tradition (Fox 1990a). Ceramics are also characterized by a great deal of cord-wrapped stick and punctated decoration (Fox 1990a:182). Indeed, cord-wrapped stick decoration may appear slightly earlier in this part of the province (Johnston 1988; Daechsel, pers. comm., 1995). Again, the little that is known for this period suggests local group continuity from the earlier Middle Woodland into the Late Woodland.

Burial patterns are also poorly understood. In most areas burials are generally primary interments, placed singly in special cemetery areas and often provided with grave goods (Emerson and Noble 1966). Also, multiple secondary burials may have been practiced in some places (Johnston 1968).

Iroquoian Origins

While cultural continuity is seen to the west and east, it has been suggested that in central Ontario there was a cultural hiatus or abandonment of the region sometime between the 7th and 10th centuries A.D., and that the Princess Point complex appears “full-blown” in the region, without antecedents (Stothers 1977). This suggestion has been used to argue that Princess Point represents a migration into south central Ontario of northward-advancing Iroquoian speakers (Stothers 1977:155-158), contrary to the more traditional, and more widely accepted, hypothesis of Iroquoian cultural development arising from earlier, local Middle Woodland groups (often referred to as the In Situ Hypothesis). However, the lack of a substantial database undermines our ability to effectively refute or support such a notion. For instance, along the Grand River in the Princess Point heartland little has been done to document earlier Middle Woodland occupations, despite the presence of a substantial number of sites dating from that period. Thus, determining whether or not cultural changes occurred “overnight” still awaits the identification and documentation of components from the A.D. 600-900 period.
tion is supported by recent work on from Princess Point sites has been
ith, pers. comm., 1994). However,
ons also suggest that the schedu-
s formally proscribed as suggested
bsistence patterns proposed sug-
ivities comparable to earlier Middle
for other areas. In the southwest,
 of the Western Basin Tradition, the
clusively at multi-component sites.
nt, given the paucity of data, the only
be made is the impression of local
ern Ontario. Cultural manifesta-
s referred to as the Sandbanks
so characterized by a great deal of
ation (Fox 1990a:182). Indeed, cord-
ently earlier in this part of the prov-
omm., 1995). Again, the little that is
up continuity from the earlier Middle
stod. In most areas burials are gen-
 in special cemetery areas and often
 Noble 1966). Also, multiple second-
some places (Johnston 1968).

vest and east, it has been suggested
ural hiatus or abandonment of the re-
th centuries A.D., and that the Prin-
n in the region, without antecedents
en used to argue that Princess Point
onal Ontario of northward-advancing
, contrary to the more traditional,
of Iroquoian cultural development aris-
groups (often referred to as the In
 f a substantial database undermines
 such a notion. For instance, along
 heartland little has been done to docu-
tions, despite the presence of a sub-
at period. Thus, determining whether
ight” still awaits the identification and
 e A.D. 600-900 period.

Likewise, biological continuity across the Middle-Late Woodland transition
is also difficult to establish. Samples are few and small, and changes can be
expected in cranial and facial form as a result of shifts in diet, quite apart from
any changes in the biological composition of the population (Molto 1983:236-
237). Nevertheless, studies based on non-metric traits point to biological
continuity between the Middle and Late Woodland populations of southern
Ontario (Anderson 1968; Molto 1979:46, 1983:236-241). None of these
studies can be considered conclusive, but the convergence of their results is
suggestive.

Recently, Snow (1992, 1995) has breathed new life into the debate on
Iroquoian origins. He has argued that Iroquoian-speaking communities only
migrated into their historic heartland of southern Ontario and New York some-
time after A.D. 900, bringing with them maize agriculture, as well as the char-
nacteristic longhouse architecture of Iroquoian settlements and a matrilocal
residence pattern —the essential ingredients of an agriculturally-based tri-
bal community. These Iroquoian communities simply displaced or absorbed
local hunter-gatherer (essentially Middle Woodland) peoples along the way.

Other researchers have challenged both specific aspects and the more
philosophical underpinnings of Snow’s proposal (e.g. Chapdelaine 1992).
Moreover, despite Snow’s assertions (1995:67-68), the available data from
southern Ontario strongly suggests continuity between Princess Point and
Late Woodland cultural groups: ceramic vessels from the late Princess Point
and early Late Woodland share multiple decorative, stylistic and manufactur-
ing traits; lithic assemblages are indistinguishable; and settlement-subsistence
patterns show a slow, gradual change, with a truly agriculturally-based tribal
community developing only after A.D. 1100 (e.g. Fox 1990a; Timmins 1992b;
Williamson 1990). Thus for Snow’s hypothesis to hold true in Ontario, Iroquoian
migration at the end of the first millennium A.D. had to consist of this ethno-
linguistic group slipping seamlessly into the lifeways of pre-existing Princess
Point peoples. Should this be the case, it is extremely unlikely that the ar-
chaological record will ever confirm the notion.

However, it would be premature to dismiss altogether notions of an Iroquoian
migration into southern Ontario, and it is certainly appropriate to re-examine
and challenge the underlying linguistic and cultural assumptions inherent in the
In Situ Hypothesis. After all, given the increasing trend in Middle Woodland
studies to dismiss broad cultural classifications in favour of local group
variability, it becomes incumbent upon us to explain how some Middle Wood-
land communities developed into proto-Iroquoians, while their neighbours
presumably became proto-Algonquians. And if the concept of an Iroquoian
migration is ultimately validated, we expect that it would be tied to the arrival
of the Princess Point complex into south central Ontario at around A.D. 600.
But unfortunately, the available data for this transition period remain woefully
inadequate. Given this, it is worth being cautious. After all, processes such as
migration and cultural displacement are difficult enough to document in the archaeological record. So, until researchers can point to more than the arrival of a cord-wrapped stick ceramic stylus as the defining proof that the Princess Point complex represents advancing Iroquoian groups, the In Situ Hypothesis will remain the model of most currency in southern Ontario.

**Early Late Woodland**

Post A.D. 900 research in southern Ontario has focussed on Iroquoian developments. The first part of this period, known as the Early Ontario Iroquoian period (EOI), has traditionally been divided by a cultural-geographic classification: sites west of Lake Ontario were labelled Glen Meyer, and sites to the east were labelled Pickering (J.V. Wright 1966). This classification was based on the presence-absence of a suite of material culture, settlement-subsistence and mortuary traits observed for each group. However, while this classification has remained part of Ontario nomenclature for over two decades, it has been increasingly challenged as a result of new data, which have blurred assumed geographic and chronological distinctions (e.g. Fox 1980a; Pearce 1984; Timmins 1985, 1992b; Williamson 1990; Williamson and Robertson 1994; M.J. Wright 1986; but note J.V. Wright 1990, 1992). Increasingly, archaeologists have developed local EOI occupation sequences, which display internal cultural continuity, but differ from even immediately adjacent EOI communities. This suggests that the EOI period should be seen as a broad cultural continuum, consisting of a number of discrete communities, rather than two distinct but adjacent cultural-political entities (D. Smith 1990:287-288; Williamson 1990: 295). Given these trends, our discussion here will forego the traditional dichotomy of Glen Meyer-Pickering.

**Culture History**

While early EOI ceramics reflect continuity with earlier sub-conoidal vessel forms, later vessels exhibit a globular shape and rounded bottoms (Figure 2). They are well-made, and are no longer built from coils or strips of clay. Rather, vessels during this period are manufactured by working or modelling a lump of clay, stretching it by paddling the exterior of the vessel to make relatively thin walled pots. Generally, the markings created by this method are either visible on the vessel body as ribbed or corded paddle marks, or are smoothed over (Noble 1975; Williamson 1990).

Decoration occurs on the interior and exterior of the rim portion of the vessel, and can also occur on the necks and rim lips. Both decorative motifs and techniques vary greatly during this period, and from region to region, although bands of oblique tool impressions are most common. Techniques include the impressing of dentate or linear stamps into the clay. Cord wrapped stick im-
difficult enough to document in the ers can point to more than the aryx as the defining proof that the ncing Iroquoian groups, the In Situ t currency in southern Ontario.

ario has focussed on Iroquoian den- nown as the Early Ontario Iroquoian ed by a cultural-geographic classifi- labelled Glen Meyer, and sites to the 1966). This classification was based eal culture, settlement-subsistence roup. However, while this classifica- for over two decades, it has of new data, which have blurred ass- tions (e.g. Fox 1980a; Pearce 1984; Williamson and Robertson 1994; M.J. 1992). Increasingly, archaeologists have nces, which display internal cultural tely adjacent EOI communities. This seen as a broad cultural continuum, unities, rather than two distinct but ith 1990:287-288; Williamson 1990: on here will forego the traditional di-

unity with earlier sub-conoidal vessel shape and rounded bottoms (Figure 2). built from coils or strips of clay. Rather, tured by working or modelling a lump terior of the vessel to make relatively gs created by this method are either coded paddle marks, or are smoothed d exterior of the rim portion of the ves- and rim lips. Both decorative motifs and nd, and from region to region, although most common. Techniques include the into the clay. Cord wrapped stick im-

pressions are common on early assemblages, while incising is more common on later assemblages (Williamson 1990:298). A single row of punctates con- tinues to be applied, though interior punctates and exterior bosses become common in some regions.

Ceramic pipes are found in relatively small numbers (Figure 4), the bowl and stem usually joined at an obtuse or right angle. Bowls are barrel-shaped or cylindrical, and decoration is infrequent, consisting of incised lines or punctates (Williamson 1990:299). Lithic technology continues to reflect the use of bifacially flaked and expedient tools. Triangular points with concave bases are common, and some exhibit a noticeable tang or spur on one side of the base (Williamson 1990).

Settlement patterns during the EOI reflect substantial developments from earlier periods, yet appear to be less organized and less formal than those reported subsequently (Williamson 1990). A large number of palisaded communities have been documented, primarily from the western part of southern Ontario (e.g. Fox 1986; Noble 1975; Noble and Kenyon 1972; Timmins 1992b). In addition, numerous smaller sites have been reported, consisting of small, resource extraction camps or slightly larger “hamlets” of one or two longhouses, sometimes surrounded by a single row of palisade (Williamson 1985, 1990:313-317). These multi-family longhouses, in both villages and camps, are relatively small (i.e. usually less than 25 metres), often exhibit episodes of rebuilding, and exhibit a greater variability in length and house plan, both between and within sites. Average house length appears to increase from the beginning to end of the EOI (Dodd 1984). Houses tend to be randomly distributed in villages, often superimposed on earlier ones (Figure 5). This is seen to reflect a lack of formal village organization; short term, multiple occupations of fixed locations over long periods; and relatively small populations consisting of distinct, multi-family units (Timmins 1992b; Warrick 1984; Williamson 1990). Also, not all villages were surrounded by palisades, and these structures may have served simply as a visual means of defining the area of occupation, a wind break, or some other, non-militaristic function.

Current reconstructions of EOI subsistence suggest that it represents a transition from earlier, basically hunter-gatherer patterns, to later, agriculturally-based ones (Williamson 1990:312). The data emerging suggest that communities maintained a diverse subsistence strategy, in which the harvest of game, fish and wild plant resources played as important a role as maize horticulture. Indeed, a majority of short-term camp and hamlet sites appear to be situated to take advantage of seasonally abundant resources such as fish and deer, while villages took advantage of locales better suited to culti- vating maize (Williamson 1985, 1990). This mixed subsistence strategy also seems to be supported by the biological data (e.g. Katzenburg 1984; Patterson 1984; Schwarz et al. 1985). Such a pattern of livelihood is thought to reflect a cautious acceptance of, and slowly increasing reliance on, maize horticulture (Chapadelaine 1993; Fecteau 1985; Williamson 1990).
Figure 5. Village Settlement Pattern from the EOI period, 10th Century Calvert Site. Modified from Timmins 1992b:72, and reproduced with permission.
Burial practices during this period show considerable heterogeneity across southern Ontario, apparently in response to various social and environmental pressures acting on local communities (Spence 1994). The final stage in the burial trajectory of most individuals was inclusion in a multiple secondary burial, though these varied a great deal in their size, timing, and contributing populations. In some areas they apparently held only the annual dead from a single community, while in the Grand River and Rice Lake areas ossuaries of 20 or more individuals have been found, indicating a longer burial cycle, perhaps based on village relocation (Johnston 1968, 1979; Mullen and Hoppa 1992). Grave goods are rare and, when present, are not usually associated with any particular individual (Johnston 1968:50).

Early Ontario Iroquoian sites are believed to extend through much of the lower Great Lakes and southeastern Lake Huron drainage basins (Williamson 1990). As well, related materials are found in eastern Ontario, such as along the Ottawa River valley, but archaeologists are much less sure whether these sites represent prehistoric Iroquoians, or Algonquian communities who may have adopted Iroquoian material culture traits (H. Daechsel, pers. comm., 1995).

To the west, EOI sites are recognized as far as the Caradoc Sand Plain mid-way up the Thames River. Further west, sites from the A.D. 800-1200 period are identified as part of the Western Basin Tradition Younge phase (Murphy and Ferris 1990). These communities exhibit a broadly generic Late Woodland material culture assemblage, although ceramics differ from adjacent EOI collections. As well, Younge phase groups appear to maintain a mobile seasonal round, moving to locales where seasonally abundant resources such as fish, deer and nuts were available for harvest and subsequent caching. There is no evidence of villages, and Younge phase occupations seem to be extremely informal, with community coalescence and dispersal occurring several times over the course of a year, particularly in the summer and fall when a large number of resources were available for harvest at widely spaced locales (Murphy and Ferris 1990:243-244). There is little evidence of maize horticulture on Younge phase sites. There is some indication, primarily from Michigan and Ohio, that Western Basin communities across the western basin of Lake Erie may have gathered together for large-scale social encounters associated with mass secondary burials, perhaps tied to the harvest of spring fish runs (Murphy and Ferris 1990:268-269).

**Middle Late Woodland**

Archaeologists tend to differ over the exact placement of the EOI-MOI transition, although most agree that it had occurred by the end of the 13th century A.D. (Dodd et al. 1990; S. Jamieson 1992; Timmins 1985; Williamson 1990). Traditionally, the rise of the Middle Ontario Iroquoian period has been
characterized as a time of great change, lasting only to the start of the 15th century A.D. Substantial shifts in material culture and settlement-subsistence are noted, which are believed to have resulted in a more uniform cultural horizon across southern Ontario. However, as more MOI sites are investigated, this cultural uniformity may prove to be less a fact of the archaeological record than a bias of archaeological research (Dodd et al. 1990:356-359).

The causes for this shift from the EOI to MOI have been the focus of much debate. The traditional proposal, put forth by J.V. Wright (1966, 1990, 1992; J.V. Wright and Anderson 1969), is commonly known as the Conquest Theory. Wright argues that eastern EOI (Pickering) village communities, around the end of the 13th century, had developed an overarching social structure which led to the formation of a Pickering confederacy. Subsequent to this there occurred a militaristic expansion westwards. In the succeeding decades of the early 14th century, western EOI communities (Glen Meyer) were defeated in war, and assimilated into a Pickering way of life. As substantiation of this hypothesis, J.V. Wright has pointed to the presence/absence of a large suite of material culture, settlement-subsistence and mortuary traits.

J.V. Wright's hypothesis is now generally rejected by most Ontario archaeologists as an adequate explanation of EOI-MOI change (e.g. Dodd et al. 1990; S. Jamieson 1991; Noble 1975; Pearce 1984; D. Smith 1990; Spence 1994; Timmins 1985, 1992b; Trigger 1985; White 1971; Williamson 1990, M. Wright 1986). Criticisms include: a general lack of data to suggest militaristic activities in the 13th century on the scale proposed; disagreement over the importance of individual artifact traits, or whether their occurrence reflects conquest or simple diffusion; questions regarding the database from which the Conquest Theory was originally formulated; disagreement over supposed changes in mortuary patterns; increasing evidence that the shift to the MOI period first occurred in the west, and only later in the east; and the argument that regional sequences of EOI-MOI sites in the west clearly demonstrate continuity through the 13th and 14th centuries.

Recently, some researchers have argued that the changes which led to the development of a MOI "horizon" were ultimately caused by influences exerted on Iroquoian communities by more complex and sophisticated cultural groups situated in the American midwest (Dincauze and Hasenstab 1989; S. Jamieson 1991, 1992). Dincauze and Hasenstab's Core-Periphery model argues that the process of "Iroquoianization"—the appearance of maize horticulture, village communities, and related social and ideological structures—occurred as a result of Iroquoian involvement in a broad communication and exchange network directly controlled and influenced by Mississippian cultural centres. S. Jamieson suggests a more interactive model, where Iroquoian communities went through a period of "Mississippification," created by the importation of material culture and ideological "exotics" which then triggered internal cultural change. Basically, both models ultimately point to
lasting only to the start of the 15th century and settlement-subistence resulted in a more uniform cultural mosaic, as more MOI sites are investigated, be less a fact of the archaeologi-
search (Dodd et al. 1990:356-359). MOI have been the foci of much work by J.V. Wright (1986, 1990, 1992; only known as the Conquest Theory.
g) village communities, around the key to overarching social structure which predictors. Subsequent to this there are movements. In the succeeding decades of unities (Glenn Meyer) were defeated way of life. As substantiation of this is the presence/absence of a large suite of mortuary traits. Illy rejected by most Ontario archaeologists (e.g. Dodd et al. 1984; D. Smith 1990; Spence 1971; White 1971; Williamson 1990, M. lack of data to suggest militaristic e proposed; disagreement over the whether their occurrence reflects concerns the database from which the ated; disagreement over supersed evidence that the shift to the MOI is later in the east; and the argument is in the west clearly demonstrate ascribed. Lived that the changes which led to are ultimately caused by influences more complex and sophisticated cul-
west (Dincuaue and Hasenstab 1989; Hasenstab's Core-Periphery model-
dation" —the appearance of maize related social and ideological struc-
involved in a broad communicative and influenced by Mississippian ts a more interactive model, where period of "Mississippification," created ideological "exotics" which then trig-
ally, both models ultimately point to Mississippian influences, either direct or indirect, as the essential ingredient in creating a "classic" Iroquoian cultural expression.

These external-agent models also have been challenged. The Core-Periphery model has been dismissed as misinterpreting basic aspects of Mississippian cultural development, and ignoring chronological and cultural inconsistencies arising from the archaeological record in both the Northeast and Midwest (e.g. Griffin 1993:9-11; Timmins 1992b:443-445). S. Jameson's model has been criticized as underplaying the role Iroquoians had in shaping and influencing the flow of ideas and materials along these inter-regional exchange networks (e.g. Brose 1993:108-109). It has also been argued that this model underestimates the ways in which cultural groups incorporate, re-interpret and "re-signify" imported ideological and material culture "exotics" into their existing world view (Williamson and Robertson 1994). While Iroquoian communities were indeed a part of a larger regional network of cultural groups, they were active participants in that network, not passive receptors of external fashions.

So, as an alternative to unicausal militaristic or external-influence models, Ontario researchers have generally pointed to an increased reliance on maize horticulture, the need to better manage decision-making and social organization at the village level, and increasingly formal social organization within and among individual communities at the end of the EOI period. These internal pressures led to larger, more formally laid-out villages consisting of multiple family lineages, more organized distribution of labour, and larger regional spheres of communication and exchange. In some cases this likely led to the amalgamation of previously distinct EOI communities (e.g. Timmins 1992b: 483-490; Williamson and Robertson 1994).

We would agree that explanations invoking internal pressures at the individual community level seem most suited to the data available. Moreover, if researchers such as Timmins (1992b) and Pearce (1984) are correct in suggesting that smaller EOI village communities amalgamated by the beginning of the MOI period, then incest and marriage rules amongst these communities would necessarily have required major re-organization, likely leading to larger and more formally defined lineage segments. Community amalgamation also would have left a void, since previous social and political contacts between neighbouring EOI communities were gone (Timmins 1992b). Consequently, these larger, amalgamated communities likely reached further afield to the next amalgamated community, and beyond. This wider "neighbourhood" would have greatly facilitated the regional spread of change and innovation, and ultimately may have served as the precursor to the later political organization of regional Iroquoian groups.

Culture History
In discussing the MOI, researchers have chosen to either retain traditional early and late chronological divisions (i.e. Uren and Middleport, e.g. Dodd et
al. 1990:321-322), or to simply speak of a Middle Ontario Iroquoian horizon (e.g. Kapches 1981; Timmins 1992b:489). Regardless, most would agree that changes to the archaeological record can be observed within this relatively short stage of the Late Woodland.

MOI vessels continue to be globular in shape (Figure 2). Ribbed paddle marks are common early in the MOI period, but later body surfaces are plain. Collars (essentially thickened rim sections) become common only in late MOI assemblages. Castellations (upward projections on the top of the rim) become more frequent on MOI vessels. Early MOI vessels exhibit concave rim interiors, so that the upper portion of the rim projects inwards. This feature first appears in terminal EOI assemblages, and generally disappears by the late MOI (Dodd et al. 1990).

The degree to which individual vessels are decorated decreases, with application mostly confined to upper rim sections and/or collars. A hallmark of early MOI ceramic decoration is the appearance of multiple horizontal lines on rims, applied either by incising or by push-pull (staggered pushing and pulling of a stylus across the clay). Other forms of decoration include single or multiple rows of incised or impressed obliques, sometimes occurring in combination with horizontals. Later MOI assemblages show an increasing preference for obliques, usually over horizontals, while exclusively horizontal decoration declines rapidly, as do impressing and push-pull techniques (Dodd et al. 1990:330-331, 335-336).

The large ceramic assemblages from Late Woodland sites have always posed a problem: how to adequately distil meaningful data for presentation and comparison? Simple ceramic typologies often have limited use, due to observer bias and an inability to use consistent terminology (J.V. Wright 1980). Due in part to increased homogeneity of the ceramic assemblages from the MOI period onwards, researchers have tried to isolate major, primarily decorative attributes in ceramic assemblages, to aid in distinguishing variation between sites (D. Smith 1983). While this method may have some usefulness, it too suffers from observer bias (Lennox and Kenyon 1984), and is probably most effective when used in unison with well-defined types.

Ceramic pipe assemblages from MOI sites show both a continuation of earlier trends, and a precursor to later developments. Late in this period, or at the start of the succeeding one, some pipe bowls exhibit a trumpet (widely everted and flattened rim) form (Dodd et al. 1990:338). Narrow, triangular projectile points are common, although side and perhaps corner notched specimens become more frequent during the latter part of this period (Figure 3).

Organic artifacts are frequently found on MOI sites. The full range of utilitarian (e.g. bone awls, projectile points, needles, pins; antler flakers; shell scrapers and polishers), and personal (e.g. bone beads, combs, whistles or flutes; turtle shell rattles; drilled deer phalanges) artifact classes is documented (Dodd et al. 1990:334-335).
a Middle Ontario Iroquoian horizon. Regardless, most would agree that this horizon is found in shape (Figure 2). Ribbed paddle-bottomed, but later body surfaces are plain. MOI vessels exhibit concave rim interiors, projecting inwards. This feature first appears in late MOI. It generally disappears by the late archaeological period.

MOI vessels are decorated decreases, with incised lines and collars. A hallmark of multiple horizontal lines and incised decoration is the use of orange and black colors, sometimes occurring in multiple layers. Assemblages show an increasing use of horizontals, while exclusively horizontal and push-pull techniques of decoration are also employed.

Late Woodland sites have always been rich in archaeological sites. For presentation, the site location is generally in the north part of this period (Figure 3). It is difficult to determine the number of sites. The full range of utilitarian, non-utilitarian, and ceremonial artifacts are documented.

Settlement patterns reflect greater formalization of village life and an increase in size (Dodd et al. 1990:357). Given the large number of MOI villages that have been investigated, it is surprising that so few smaller camps are known. However, it is still considered appropriate to include smaller hamlets or special purpose, resource extraction camps as a part of the MOI settlement pattern (Dodd et al. 1990). Houses notably increase in length throughout this period, and adopt the “cigar-shaped” plan typical of historically recorded longhouses (Dodd 1984). Houses are also “busier” interiors, with centrally aligned hearths and numerous features and post molds reflecting internal infrastructure, as well as work, living and storage functions. Houses tend to be formally aligned into closely spaced, parallel groupings, and there is much less evidence of structural overlap in villages. This is thought to reflect more intensive, perhaps year round occupation of villages, though over a shorter period of time, than was seen during the EOI period (Dodd 1984; Dodd et al. 1990:343).

A distinctive feature of the MOI is the appearance of large (2-3 metres wide), square to circular pits, sometimes exhibiting a small projection at one end, found both outside and inside longhouses. Usually at the bottom of these features is a single row of post molds encircling the interior edges of the pit. Frequently the projections found on these features extend into a longhouse, with the larger section located outside. While there remains some disagreement over their function, the interpretation that these are semi-subterranean sweat lodges (R. MacDonald 1988) seems most plausible. Based on recent excavations, these features may appear quite early during the MOI period. These semi-subterranean features disappear from Iroquoian sites by 1600, although above-ground variants (appearing as dense, circular concentrations of post molds) continue through the 17th century (R. MacDonald 1988:24).

Historically, sweat lodges are a common feature of native life, serving curative and spiritual purposes, as well as establishing and maintaining social relations. If the features found on MOI sites are indeed sweat lodges, their appearance during this time may indicate the incorporation of a way of life into the daily lives of people. The pressures arising from the shift in family and community organization (R. Williamson, pers. comm., 1995). Indeed, the fact that these features tend to be associated with individual longhouses in a village (i.e. access to these features largely seems to be through the interior of houses) suggests that their social function was tied to the particular expression of social and/or family organization arising from individual longhouse residence (perhaps matrilocus family lineages), and was distinct from the larger pattern of village social organization.

Subsistence patterns exhibit an increasing reliance on maize, as well as on other cultigens such as beans and squash (Fectau 1985:169). M.J. Wright (1986) has suggested that MOI groups may have occupied villages through the winter, planting crops in the spring nearby, then largely abandoning vil-
lages in favour of warm weather hunting and fishing camps. While data are
not yet in place to substantiate such a scenario, the settlement data would
tend to imply increased organization of communities where lineages and/
or village population segments shared work responsibilities at both perma-
nent village sites and at resource extraction locales.

During the MOI, burial patterns are characterized by larger ossuaries,
though in a few places more limited reburial features persist (Dodd et al.
1990:353-356). The best known burial feature from this stage is undoubtedly
the Fairly ossuary, which included over 500 individuals (Anderson 1964).
Infants are present, but far less common than would be expected, suggest-
ing that many had been left in their original burial places in villages.

The MOI period was also a time of regional expansion into other parts of
southern Ontario, perhaps as a result of the increased efficiency in commu-
nity-based subsistence strategies, which would have led to population growth,
eventually requiring group fissioning. As well, increased use of more frost-
resistant varieties of maize likely allowed settlement in areas to the north and
east of the lower Great Lakes. In the east, MOI populations appear to have
extended up the St. Lawrence River, and into adjacent waterways (J.B.
Jamieson 1990a; Pendergast 1975). MOI occupations have also been noted
near the base of the Bruce peninsula (e.g. J.V. Wright 1974), and west into
areas previously occupied by the Western Basin Tradition (Riddell 1993).

In the extreme southwest, Western Basin Tradition development between
A.D. 1200-1400 (the Springwells phase) also exhibits change from earlier
times. Ceramic assemblages suggest that Western Basin communities in
southwest Ontario and southeast Michigan were more influenced by Iroquoian
trends, while Western Basin communities in northwest Ohio reflect stylistic
influences arising from adjacent Mississippian groups. Springwells phase
groups in Ontario also show modifications to settlement/subsistence, with
warm weather occupations reflecting community coalescence at base camps,
or “quasi” villages (Murphy and Ferris 1990:254-255). These sites tend to be
situated at locales in close proximity to a wide range of environmental zones,
as well as being suited to grow maize. This suggests that, in order to ac-
commodate an increased use of cultigens, Springwells groups re-oriented warm
weather occupations to areas where the full range of subsistence activities
could be conducted while still tending plots of maize (I. Kenyon 1988). How-
ever, cold weather dispersal of single families into traditional hunting territo-
ries continued during this phase (Murphy 1991).

Murphy and Ferris (1990:255) suggest that this reorientation may have left
some regions of southwestern Ontario underutilized by Western Basin peoples
during warm weather. This lack of an intensive occupation from spring through
fall may have been a key reason why MOI groups expanded into this area.
Certainly Riddell’s (1993) investigations along the Sydenham River suggest
that there was a period of time when the frontier between MOI and Springwells
and fishing camps. While data are
'stricto sensu', the settlement data would
characterize larger ossuaries, with features persist (Dodd et al.,
urial features persist (Dodd et al.)
state from this stage is undoubtedly
500 individuals (Anderson 1964),
than would be expected, suggest-
that would have led to population growth,
well, increased use of more frost-
settlement in areas to the north and
st, MOI populations appear to have
and into adjacent waterways (J.B.
100 occupations have also been noted
100, and west into the
sions to settlement-subsistence, with
MOI basin tradition (Riddell 1993).
also exhibits change from earlier
that Western Basin communities in
were more influenced by Iroquoian
ies in northwest Ohio reflect stylistic
groups. Springwells phases
itions to settlement-subsistence, with
coalescence at base camps, 1990:254-255). These sites tend to be a
range of environmental zones,
that, in order to accom-
Springwells groups re-oriented warm
range of subsistence activities
plots of maize (I. Kenyon 1988). How-
families into traditional hunting terri-
that this reorientation may have left
underutilized by Western Basin peoples
ensive occupation from spring through
MOI groups expanded into this area.
ions along the Sydenham River suggest
ne frontier between MOI and Springwells
phase groups was a shared territory, perhaps because seasonal round sched-
ules for each group didn’t greatly overlap. This suggests a relatively peaceful
co-existence. However, the increased use of palisades and even earthworks
(essentially fortified palisade walls with ditches and earthen embankments)
late in the Springwells phase suggests that this relationship changed during
the 14th century, pointing to increased hostility and conflict (Murphy and Ferris
1990).

Terminal Woodland

Traditionally, Iroquoian sites dating after A.D. 1400 in southern Ontario are
assigned a political-ethnic label borrowed from the historic records of the 17th
century, applied broadly as geographic classifications. Thus sites post-dating
A.D. 1400 and roughly located by the Niagara Escarpment and points west
are referred to as historic Neutral. Sites found east of that line, and located
between Lake Ontario and Georgian Bay, are referred to as historic Huron.
Sites found further to the east along the St. Lawrence River are referred to as St. Lawrence Iroquoian, a term that is more archaeologically-derived,
given the paucity of historical data for this group.

Certainly there is a strong Iroquoian connection to these sites, since by
this time the archaeological record in much of southern Ontario reveals an
extensive suite of material culture, settlement-subsistence and mortuary traits
which ultimately appear on sites from the 17th century, and which are clearly
associated with the historic Iroquoian-speaking peoples of the region. This
continuity is seen as demonstration that Iroquoian systems of ideology and
thought display a considerable degree of persistence and stability through time
(von Gernet 1992; Fox and Molto 1994). Some of the fundamental tenets of
Ontario Iroquoian belief, which are strongly communal and egalitarian,
can be seen at work in a variety of Late Woodland mortuary traits, in particular:
1) the rarity of grave offerings; 2) the disinclination to differentiate individuals
in the final burial; 3) a two-stage mortuary programme, tied to the community
cycle; 4) the use of the final burial to confirm or even redefine the relevant
social universe of the community; and 5) the presence of distinct mortuary tracks for some whose inclusion in the final burial would be detrimental to the community (Ramsden 1981, 1990b; Spence 1994).

Nonetheless, labelling sites from the 15th or 16th centuries as belonging to
historically identified groups should be considered more of a convenient
graphic taxonomy than a reflection of ancestral relationship. As researchers
have argued for quite some time (e.g. Ramsden 1977), there is a big differ-
ence between archaeologically-defined cultural traditions and labels such as
"Huron" and "Neutral," which are poorly defined in the available literature
and may well reflect loose political groupings which may or may not have had
temporal depth. Not surprisingly, then, the archaeological data cannot ad-
equately determine when these political constructs were formed; where around the Niagara Escarpment prehistoric Neutralia ends and prehistoric Huronia begins; how to distinguish prehistoric Petuns from prehistoric Hurons; or even if there are archaeological justifications for these distinctions. Consequently, we will review this period by discussing broader Terminal Woodland trends across southern Ontario, using the term Late Ontario Iroquoian (LOI) to maintain consistency with earlier "Iroquoian" period nomenclature, and to distinguish this archaeological group from adjacent traditions (i.e. the Western Basin).

**Culture History**

Ceramic vessels continue to be globular in form, with slightly constricted necks and collars on straight to slightly everted rims (Figure 2). Single or multiple castellations are common. The size range of vessels increases during this period. For example, smaller and medium sized (1-5 litre capacity) vessels are found, along with very large (10 litre+) vessels that were likely used for storage (Fox 1990b; Lennox and Fitzgerald 1990). Vessels generally are plain, utilitarian objects, with decoration (applied mostly through incising and tool impressions) limited to a narrow collar, often accompanied by a single row of punctates and/or oblique incised lines at the junction of the neck and shoulder of the vessel. A notable exception to this is the mostly 15th century appearance in central and eastern areas of high-collared vessels with elaborate rim and neck decoration (J.B. Jamieson 1990a; Ramsden 1990a).

LOI sites in southwestern Ontario often yield ceramic assemblages with significant percentages of decorative styles reflecting more westerly influences (Lennox and Fitzgerald 1990). Also during the 16th century, the Western Basin use of shell as an ingredient in tempering ceramic paste is adopted by some western LOI communities. Interestingly, Lennox and Fitzgerald note the persistence of these 16th century decorative and manufacturing traits on certain 17th century Neutral sites located east of the Grand River (1990:418-419).

Ceramic pipes are common (Figure 4). trumpet, ring and conical bowl forms decline, while corronet, barrel-shaped, collared and especially effigy varieties increase in popularity (Lennox and Fitzgerald 1990:419; Ramsden 1990a:369). Chipped lithic industries continue earlier trends, with side-notched and triangular varieties of projectile points noted across the region.

Organic artifacts are abundant on LOI sites, and represent a full range of functional and personal artifact classes. Distinctive bone artifact types on St. Lawrence Iroquoian sites include rectangular or spatulate-shaped tools, thought to be used as hide scrapers or corn huskers, and deer scapula pipes (J.B. Jamieson 1990a:393-394). On historic Neutral sites, particularly after A.D. 1630, a large number of polished bone "sucking tubes" have been reported, made from mammal long bones, sometimes intricately carved (Prevec
In form, with slightly constricted necks and rims (Figure 2). Single or multiple range of vessels increases during this um sized (1-5 litre capacity) vessels and vessels that were likely used for (ald 1990). Vessels generally are plain, varied mostly through incising and tool often accompanied by a single row of the junction of the neck and shoul-

to this is the mostly 15th century ap-

of high-collared vessels with elaborate (on 1990a; Ramsden 1990a).

Often yield ceramic assemblages with yles reflecting more westerly influences ing the 16th century, the Western Basin ing ceramic paste is adopted by some, Lennox and Fitzgerald note the persis-


4). Trumpet, ring and conical bowl forms, collared and especially effigy varieties Fitzgerald 1990:419; Ramsden 1990a; and earlier trends, with side-notched and s noted across the region.

LOI sites, and represent a full range of es. Distinctive bone artifact types on St. rectangular or spatulate-shaped tools, or corn huskers, and deer scapula pipes historic Neutral sites, particularly after died bone "sucking tubes" have been re-
es, sometimes intricately carved (Prevec and Noble 1983). These are interpreted as implements used in shamanistic or curative rites to "suck" a malady out of the patient. Lennox and Fitzgerald (1990: 423-425) note that the appearance of sucking tubes occurs during a period of large scale epidemics, and may reflect one response to this episode of mass sickness and death.

Late in the 16th century LOI sites begin to yield increasing numbers of "exotics" - Native and European manufactured items which reflect long distance trade (Figure 4). These include marine shell, in the form of beads, ornam ents and whole whelks arriving from Chesapeake Bay (S. Jamieson 1981; Prevec and Noble 1983), and red slate and later red catlinite beads, ornaments and other items from the upper Great Lakes (Fox 1980b). However, it is the appearance of European trade goods that is most dramatically reflected in artifact assemblages from sites of the 17th century. European goods either replaced previous, less efficient forms (e.g. iron axes), or augmented existing artifact types (brass and copper kettles; glass beads; etc.). Researchers have seriated some of these goods, based in part on documentation of European political, economic and industrial change during the first half of the 17th century (Fitzgerald 1990; Fitzgerald et al. 1995; I. Kenyon and Kenyon 1983). These studies have generated very precise chronological seriations, so that sites containing trade goods can be dated to a 10-20 year period. This ultimately has led to a better understanding of 17th century developments in the Northeast.

Settlement-subsistence patterns also continue earlier MOI trends. Villages become larger, although there is a great deal of variation in size, suggesting to some that larger villages, particularly those dating to the 17th century, may have functioned as regional towns (Lennox 1984; Noble 1984). Smaller sites, including resource extraction camps and larger occupations identified as cabin sites or hamlets, are also documented (J.B. Jamieson 1990a; Ramsden 1990a). Cabins and/or hamlets usually consist of one to a few longhouses, sometimes without a palisade, situated away from the nearest village. These have been interpreted as seasonally occupied locations, used by a small number of village inhabitants for tending agricultural fields (e.g. Pearce 1983; Williamson 1983), or as a base from which to conduct intensive hunting and processing activities. The suggestion that some cabin sites served as places from which to tend fields of maize and other cultigens is a reflection of just how substantial community reliance on horticultural activities had become during the LOI period. Hunting, fishing and wild plant gathering certainly continued, but as sources of food these simply augmented the dietary staple of maize (Heidenreich 1987:Plate 34).

A number of LOI villages have been extensively excavated in the last two decades, and these reflect well-organized community settlement patterns, characterized by a formal arrangement of longhouses (Figure 6). Houses during the 15th century become increasingly long, with several documented
examples exceeding 50 metres in length (Lennox and Fitzgerald 1990:448). From the 16th century onwards, however, average house size decreases (Dodd 1984). A number of smaller structures (less than 10 metres) are also noted in villages of the late 16th and 17th centuries, though suggestions that they served as store houses, single family houses, guest houses, menstrual privacy houses, etc., remain largely speculative.

Many of the villages from this period (e.g. Damkjær 1990; Finlayson 1985) exhibit multiple episodes of village expansion, characterized by expanded palisades encompassing larger areas, the addition of new houses in the village, and the expansion of existing houses. Given that historic records suggest villages were occupied for 10-30 years before a complete relocation took place (Dodd 1984), these expansions are often explained as being a result of population growth, or the accommodation and amalgamation of communities or families from adjacent regions (Ramsden 1990a:375). It is also interesting to note that a large number of excavated villages have at least one longhouse situated outside the palisaded community. It has been suggested that these served either as residences for visitors to the village (Ramsden 1990a:374), or as a “holding area” for migrating families wishing to gain membership in the village (e.g. J.V. Wright 1974).

By the early LOI, historically documented burial programmes were largely in place. Ossuary burial was the common form of final interment for the community’s dead, although a number of subadults and some adults were left in primary burials in the village (Lennox and Fitzgerald 1990:452-455; Williamson 1978). One cemetery in southwestern Ontario contains only the dismembered primary burials of several adult males, each in a separate pit (Molto et al. 1986). The cemetery was apparently devoted to war victims, either foreign captives who were executed there or local casualties whose bodies had been recovered.

The disruptive effect of incoming European trade wealth during the 17th century seems to have been effectively neutralized, at least by the Huron, who maintained their egalitarian and community-oriented burial practices (Ramsden 1981). However, their Neutral neighbours were somewhat more willing to recognize individual identity and status at death, to judge by the evidence from the Grimsby cemetery (W. Kenyon 1982). Nevertheless, even here we might actually be seeing the effects on the burial programme not only of variations in individual status, but also of the disruption caused by European epidemic disease (Lennox and Fitzgerald 1990:453). Certainly early 17th century ossuary pits among the Neutral have more communal grave offerings than individual gifts.

Not surprisingly, with the development of larger and more sedentary communities, infectious disease loads inevitably increased during the LOI period. Higher population densities, more concentrated refuse disposal practices, growing dependence on cultivated foods, and prolonged occupations in one
Lennox and Fitzgerald 1990:448). In general, average house size decreases (less than 10 metres) are also evident in the southern Plains. Houses, guest houses, and menstrual huts are also evident in the southern Plains. Given that historic records suggest that movement and expansion, characterized by expanded or small additions to the site, were often explained as a result of war and hostility, and amalgamation of communities (Ramsden 1990a:375). It is also important to note that these villages have at least one burial area. It has been suggested that visitors to the village (Ramsden 1990a:375) of great importance, including families wishing to gain membership.

Burial programmes were largely community-oriented, and were perhaps the most important aspect of burial practices. Burial programmes were somewhat more common in the settlement, and status at death, to judge by the work of W. Kenyon (1982). Nevertheless, factors such as the disruption caused by European trade wealth during the 17th century, and the neutralization of the Huron population, community-oriented burial practices may have been more important in the past. Neighbouring communities were somewhat more common during the LOI period. The most important aspect of larger and more sedentary communities, such as the Huron, is the use of communal grave offerings, centralized refuse disposal practices, and prolonged occupations in one place. Figure 6. Detailed Section of the Settlement Pattern From the Terminal Woodland, 16th Century MacPherson Site (the section of the site depicted is indicated as darkened structures in the village map insert, top right). Modified from Lennox and Fitzgerald 1990:447, and reproduced with the permission of the London Chapter, OAS, and D.R. Poulton on behalf of Mayer, Poulton & Associates.
place resulted in a variety of endemic and epidemic diseases, like tuberculosis, that had been less common or absent earlier (Pfeiffer 1984; Saunders et al. 1992). In the 17th century these were compounded by the appearance of severe epidemics introduced by Europeans, like smallpox, measles and influenza (Pfeiffer and Fairgrieve 1994).

During the 16th century there appears to be a general contraction in the territory occupied across southern Ontario by LOI communities. For example, communities along Lake Ontario and the Trent River waterway appear to have coalesced with others located between Lake Simcoe and Georgian Bay, in the area historically identified as Huronia (Heidenreich 1971; Ramsden 1990a). To the west, while 15th and early 16th century LOI communities expanded as far as Lake St. Clair, after the mid part of the 16th century there seems to have been a general abandonment of the region (Lennox and Fitzgeral 1990). This coincides with a significant increase in LOI villages east of the Grand River towards Lake Ontario.

These changes are seen to be the result of ever-increasing social complexity, which had begun during EOI times and eventually led to the formation of the multiple-village, regional political entities documented during the 17th century. These regional groups were likely tribal societies, where inter-marriage and inter-village clan membership (a by-product of extended lineages) helped maintain political and social bonds between village communities. Regional and inter-regional political and economic decisions were probably co-ordinated through tribal councils of village representatives, usually people with leadership status within their community. Individual villages likely maintained some degree of autonomy, particularly over domestic matters.

While some variant of tribal organization is presumed for the Ontario Iroquoian communities of the 17th century, a few researchers have argued that the historic Neutral had developed beyond tribal organization, into a chiefdom (Noble 1978, 1984, 1985; S. Jamieson 1981). This notion generally lacks supporters. Noble (1985), however, has suggested that the proof can be found in historic documentation and in an anonymous oral history, reportedly maintained by the women of a Neutral family lineage over the last 350 years and released, in confidence, only to Noble. Frankly, a single 17th century Jesuit reference to an individual reported to have referred to himself as an important chief, and an unauthentic oral history manuscript in the private possession of the chief advocate of the chiefdom hypothesis, place the whole discussion on extremely problematic grounds.

While increasingly formal social organization was at least one reason for territorial contraction during the 16th century, an additional reason was an increase in sustained inter-regional conflict. For example, both Western Basin and LOI sites in southwestern Ontario exhibit substantial fortifications. And
pandemic diseases, like tuberculosis, had likely contributed to a general contraction in the size of many LOI communities. For example, the Trent River waterway appears to have been used to trade with Lake Simcoe and Georgian Bay populations (Heidenreich 1971; Ramsden 1985). The decline of the 16th century LOI communities is also significant in the context of the region's history, as it is now recognized to have been a period of significant increase in LOI villages east of the region's lake boundary.

This result of ever-increasing social contacts and eventual contraction of the regional populations documented during the 16th century, when the Huron and Iroquois peoples were engaged in the Mississauga and Neutral political and economic decisions of the region, was a result of the interplay between local and external factors. Individual villages, particularly over domestica...
joined Five Nations Iroquoian communities (Heidenreich 1990; J.B. Jamieson 1990a, 1990b). Certainly the suggestion that St. Lawrence Iroquoian groups were dispersed because of the desires of rival groups for European trade is questionable (e.g. Heidenreich 1990:483). There simply is no evidence to suggest that prior to the 1580s there was any kind of formalized trade with Europeans along any part of the St. Lawrence River waterway. Unless the Huron or Five Nations Iroquois were able to anticipate the events and trading partnerships of several decades hence, access to European trade has been greatly overstated as the cause for this dispersal.

**Europeans and Native North Americans**

Traditionally, early European-Native contact in the Northeast has been described as reflecting the dominance of European economic interests and influences over Native communities, leading to the rapid decay of indigenous ways of life by the mid 17th century (e.g. Hunt 1940; Ramsden 1978; Trigger 1960, 1976). These interpretations often imply that Native communities across the Northeast exhibited an immediate and almost obsessive desire for European trade goods, a desire which explains many of the events of the late 16th and 17th centuries. Economically-driven explanations of Native responses to Europeans have been used to argue that: 16th century warfare and regional coalescence occurred largely in anticipation of later trade networks; changes in subsistence and a break-down in village social organization occurred because of a single-minded pursuit of furs to trade for European manufactured items; populations of fur-bearing animals were decimated due to over-hunting; and the large-scale warfare of the 1640s was due to the Five Nations Iroquois’ desire to gain access to and control of territories rich in fur-bearing animals, as well as lucrative European trading partnerships.

In recent years, however, refined site chronologies have greatly improved our understanding of how change occurred during the 17th century (e.g. Fitzgerald 1990; Lennox and Fitzgerald 1990), and careful consideration and qualification of historic records have allowed researchers to better evaluate the events of this period (e.g. Heidenreich 1987, 1990). These studies have demonstrated that economic motivations have been over-emphasized.

Heidenreich (1987, 1990) and Trigger (1976, 1985) have reviewed in detail the events of the late 16th and 17th centuries in southern Ontario. The arrival and eventual settlement of European groups in the Northeast occurred during a period when Iroquoian communities had been experiencing substantial social change, and were still accommodating shifts in family and community organization, as well as a rise in inter-regional interactions. In part, these changes had led to the development of broad alliances, exchange networks and regional conflict, although there is no indication that warfare occurred at anywhere near the scale seen in the mid 17th century. Indeed, entrenched
conflict and raiding between regional political groups probably played an important role in fostering political and/or trading alliances with others. In this context, late 16th century Native response to European political and economic interests appears to have been to simply incorporate these interests into an existing inter-regional political-economic structure.

There is no question that European trade goods were readily accepted into Native material culture assemblages. These goods were also important as raw materials in the manufacture of other items, such as the use of cut pieces of brass kettles as projectile points (e.g. Heidenreich 1990:492; Lennox and Fitzgerald 1990:437). As well, it is historic fact that Five Nations Iroquois warfare with Ontario Iroquoian groups had devastating consequences, ultimately leading to the dispersal of southern Ontario Native communities by the early 1650s. But it is one thing to say Native groups in the Northeast incorporated European interests and goods into existing political-economic frameworks and material culture assemblages, and another altogether to suggest that a single-minded pursuit of trade goods necessarily led to an abandonment of traditional lifeways and community organization, and to the large-scale, destructive conflicts of the 1640s.

Fitzgerald (1990; Lennox and Fitzgerald 1990) has demonstrated that the development of European trade, at least as it is manifested on southern Ontario Iroquoian sites, occurred gradually over a number of decades after about A.D. 1580. While the quantity and variety of trade goods increased over the next 50 years, there is no strong archaeological evidence to support the notion that a major shift away from Native lifeways occurred during this period. Archaeological patterns of village life largely reflect a continuation of earlier trends, and Native artifact analogues to European items continue to be manufactured, despite European manufacturers' efforts to provide specific items for trade in order to compete against Native-made counterparts (e.g. Fitzgerald et al. 1995; I. Kenyon 1984; I. Kenyon and Fitzgerald 1986).

However, between the 1630s and 1650s there is a noticeable decline in the range of Native-made goods, and a sizeable increase in European manufactured goods (Fitzgerald 1990; Lennox and Fitzgerald 1990:432). This period coincides with a number of epidemics that had devastating effects on Native communities. Four major epidemics of sickness, triggered by measles, influenza, smallpox and other, unspecified diseases, spread across large portions of the Northeast between 1634 and 1641. This was followed in 1646-1647 by an epidemic that led to a large number of deaths among the Five Nations Iroquois (Heidenreich 1967:Plate 35). It is estimated that Native communities lost close to 50% of their populations during this period, and deaths would have been especially high among the young and elderly. Given that the elderly would have included many of the leaders, epidemics greatly undermined social and political leadership during a crucial time of increased external pressure and conflict (Heidenreich 1967:Plate 35). This would also
have had a devastating impact on Native artisans responsible for production of a wide range of artifact categories (Lennox and Fitzgerald 1990:433).

While the archaeological record can clarify the developmental sequence of events in southern Ontario between the late 16th and mid 17th centuries, the simple presence of European trade goods on archaeological sites cannot adequately explain why the events of the mid 17th century occurred, or substantiate economic explanations of these events. And to be fair, these explanations have relied more on historic documentation than on the archaeological record. Yet economic explanations have also been seriously undermined by subsequent historic analyses (e.g. Heidenreich 1990). These efforts have critically re-examined the historic sources originally used to formulate explanations of economic motivation, and have also reviewed less well-read sources left by French and particularly Dutch writers of the period. Heidenreich (1987, 1990; pers. comm., 1995) and others have concluded that economic gain was either a secondary aim or by-product of the Five Nations Iroquois aggressions of the 1640s.

Rather, it is argued that more plausible motivations for these events can be found in the Five Nations Iroquois desire to incorporate other Iroquoian communities into the Iroquois Confederacy, and their need to survive the devastating losses of the epidemics through the wholesale adoption of defeated enemies into existing communities (Heidenreich 1990:488-490). Heidenreich also argues (1990:488, 491), based on available Dutch and French records, that the Five Nations Iroquois’ military success was due in part to the large number of flintlock muskets obtained from Dutch traders; they had at least 400 muskets by 1644, and perhaps as many as 1000 by 1649.

Certainly the Five Nations Iroquois had the political and social flexibility to accept individuals, families and even entire communities into their Confederacy, as either willing converts or captured adoptees. For example, it was noted in the late 1660s by the Jesuits Julien Garnier and Jacques Fremin that New York Seneca villages included large numbers of Neutral Iroquoians, and that one of these villages was almost entirely populated by Neutral, Huron and other, non-Seneca Iroquoians, “...formerly overthrown by the Iroquois” (as cited in G. Wright 1963:57). And, as Heidenreich points out (1990:489), while there are no recorded instances of the Five Nations Iroquois stating that the wars of the 1640s were due to their need for fur-bearing lands, to loot booty, or to control trade with European settlements, there are many references to Five Nations Iroquois stating that the wars were intended to join all Iroquoian peoples under one confederacy, and to replace those people who had died during the epidemics. Given this primary aim, it is perhaps not surprising that, despite devastating losses in the epidemics, population estimates for the Five Nations Iroquois at the start and the mid point of the 17th century are similar (Heidenreich, pers. comm., 1995). It is increasingly difficult, in light of these perspectives, to continue to rely on culturally simplistic, eco-
The Woodland Traditions in Southern Ontario

Motivations for these events can be incorporated in the Iroquoian tradition, and their need to survive the wholesale adoption of sedentary ways was later developed by Dutch and Iroquois military success due in part to the political and social flexibility of the communities into their Confederacy. For example, it was Garnier and Jacques Fremin that members of the Neutral Iroquois, and the many Neutral Iroquois stating that they were fur-bearing lands, led to the abandonment of Iroquois settlements. There are many reasons why the wars were intended to join all, and to replace those people who primary aim, it is perhaps not surprising, that population estimates, and the mid-point of the 17th century, (1995). It is increasingly difficult, to rely on culturally simplistic, economi-

cally driven models to adequately explain the events of the first half of the 17th century in the Northeast.

Not all Ontario Iroquoians and Algonquians were adopted by the Five Nations Iroquois or died in battle, however. In the early 1650s a large number of Petun, and some Huron and Neutral, as well as most of the Lake Huron Algonquian groups, left southern Ontario and eventually resettled in the western Great Lakes (Heidenreich 1990:490). Also, about 300 Christian Hurons fled with the Jesuits to Quebec. Following these events, southern Ontario was largely abandoned.

This abandonment by 1653 is often marked by archaeologists as the "end date" for discussing the archaeological record for Ontario's Aboriginal peoples. However, after the 1660s the north shore of Lake Ontario was settled by the Five Nations Iroquois, who stayed there until the 1690s (Konrad 1981). Subsequently, southern Ontario was resettled by Algonquian and Iroquoian groups (Ferris 1989; Tannen 1987). These communities have received very little archaeological attention, due in part to the assumptions held by most researchers that Native communities from this period had lost distinctive cultural identities and were completely dependent on European powers. However, the little work on Aboriginal sites undertaken for this period (Ferris 1989; Ferris et al. 1985; L. Kenyon and Ferris 1984) demonstrates that these groups maintained distinct cultural identities and continued to pursue traditional ways of life well into the 19th century, and illustrates that notions of cultural dependency are an oversimplification of an extremely interesting and complex period of cultural interaction in the Northeast.

Thus, this recent work conducted on late historic Native archaeology echoes the central theme found in current investigations of the Woodland period in southern Ontario: the more data recovered, the more complex the picture, and the greater the need for us to abandon previous archaeological interpretations and classifications of cultural groups, and refine our understanding of the peoples who have lived in this region for the past 10,000 years or more.

Acknowledgements

Our presentation and discussion of the southern Ontario Woodland period greatly benefited from discussions and insights offered by a number of our colleagues, notably Nick Adams, Hugh Daechsel, Christine Dodd, Chris Ellis, Conrad Heidenreich, David Smith, Peter Timmins, Gary Warrick, Ron Williamson and Jim Wilson. Nonetheless, and as is always the case, any errors, omissions, or flaws in thinking are the sole responsibility of the authors.

References

Anderson, J.

Bamann, S., R. Kuhn, J. Molnar and D. Snow

Beid, S.

Brose, D.

Brose, D. and N. Greber (editors)

Brown, J.

Chapdelaine, C.


Chapdelaine, C. (editor)

Chapman, L.J. and D.F. Putnam

Charles, D. and J. Buikstra

Clermont, N.


Clermont, N. and C. Chapdelaine
Damkjar, E.
1990 *The Coulter Site and Late Iroquoian Coalescence in the Upper Trent Valley*, Occasional Papers in Northeastern Archaeology No. 2, Copetown Press, Dundas.

Dincauze, D. and R. Hasenstab

Dodd, C.F.

Dodd, C.F., P.A. Lennox, D.R. Poulton, D.G. Smith and G.A. Warrick

Ellis, C., J. Fisher and D. Deller

Ellis, E., I. Kenyon and M. Spence

Ellis, C. and N. Ferris (editors)

Emerson, N.

Emerson, N. and W. Noble

Farquhar, R. and I. Fletcher

Fecteau, R.

Ferris, N.

Ferris, N., I. Kenyon, R. Prevec and C. Murphy
1985  "Bellamy: A Late Historic Ojibwa Habitation,"Ontario Archaeology 44: 3-21.

Finlayson, W.

Fitting, J. and D. Brose

Fitzgerald, W.R.
1990  Chronology to Cultural Process: Lower Great Lakes Archaeology, 1500 to 1650, unpublished Ph.D. Dissertation, Department of Anthropology, McGill University, Montreal.

Fitzgerald, W., D. Knight and A. Bain

Fox, W.A.


Fox, W. and J.E. Molto
Garland, E.

Granger, J.
1978 Meadowood Phase Settlement Pattern in the Niagara Frontier Region of Western New York State, Museum of Anthropology, University of Michigan, Anthropological Papers No. 65.

Greenman, E.

Griffin, J.

Heckenberger, M., J. Petersen and L. Basa

Heidenreich, C.
1971 Huronia, A History and Geography of the Huron Indian, 1600-1650, McClelland and Stewart Limited, Toronto.

Hunt, G.
1940 The Wars of the Iroquois: A Study in Intertribal Trade Relations, University of Wisconsin Press, Madison.

Jackson, L.J.
1988 *Dawson Creek Site Feature Analysis: 4,000 Years of Ontario Prehistory*, Trent University, Occasional Papers in Anthropology No. 5.

Jamieson, J.B.


Jamieson, S.


Johnston, R.


Kapches, M.


Karrow, P. and B. Warner


Katzenburg, M.


Kenyon, I.


1988 "Late Woodland Occupations at the Liahn I Site, Kent Co.," *Kewa* 88(2):2-22.

Kenyon, I. and N. Ferris

Kenyon, I. and W. Fitzgerald
*Man in the Northeast* 32:1-34.

Kenyon, I. and T. Kenyon
1983 "Comments on Seventeenth Century Glass Trade Beads From 
by C. Hayes III, Rochester Museum and Science Center, Research 
Records 16:59-74.

Kenyon, W.
1982 *The Grimsby Site: An Historic Neutral Cemetery*, Archaeological Mono-
graph Series, Royal Ontario Museum, Toronto.
Museum, Archaeology Monograph No. 9.

Kidd, K.
1952 "Sixty Years of Ontario Archaeology," in *Archaeology of the Eastern 
United States*, edited by J. Griffin, pp. 71-82, University of Chicago 
Press, Chicago.

Konrad, V.
1981 "An Iroquois Frontier: The North Shore of Lake Ontario During the Late 
Seventeenth Century," *Journal of Historical Geography* 7(2):129-144.

Lennox, P.
1984 *The Hood Site: A Historic Neutral Town of 1640 A.D.*, National Mu-
seum of Man, Archaeological Survey of Canada, Mercury Series No. 
121:1-183.

Lennox, P. and W. Fitzgerald
1990 "The Culture History and Archaeology of the Neutral Iroquoians," in *The 
Archaeology of Southern Ontario to A.D. 1650*, edited by Chris J. Ellis 
and Neil Ferris, Occasional Publications of the London Chapter, 
Ontario Archaeological Society, No. 5:405-456.

Lennox, P. and I. Kenyon
1984 "Was That Middleport Necked or Pound Oblique? A Study In Iroquoian 

Loring, S.
1985 "Boundary Maintenance, Mortuary Ceremonialism, and Resource 
Control in the Early Woodland: Three Cemetery Sites in Vermont," 

Lovis, W. and J. Robertson
1989 "Rethinking the Archaic Chronology of the Saginaw Valley, Michigan," 

MacDonald, J.
1986 "New Dates for Old Chronologies: Radiocarbon Dates for the Varden 
Site," *Kewa* 86(9):8-22.
MacDonald, R.  
Mason, R.  
Molto, J.E.  
Molto, J.E., M. Spence and W. Fox  
Mullen, G. and R. Hoppa  
Murphy, C.  
Murphy, C., and N. Ferris  
Noble, W.C.  
1972 "One Hundred and Twenty-Five Years of Archaeology in the Canadian Provinces," *Canadian Archaeological Association, Bulletin* 4:1-78.  
Noble, W.C., and I.T. Kenyon  
Ozker, D.  
1982 *An Early Woodland Community at the Schultz Site 20SA2 in the Saginaw Valley and the Nature of the Early Woodland Adaptation in*

Press, New York.

f the Second Cemetery at the
Ontario Woodland Peoples: The
morphology, National Museum of
a, Mercury Series No. 117.

Salvage Osteology," Canadian
49-61.

ly Ontario Iroquois Burial Fea-
adian Journal of Archaeology
Kent County, Ontario," Kewa

in Tradition of Southwestern
ern Ontario to A.D. 1650, ed-
ional Publications of the London

of Archaeology in the Canadian
Association, Bulletin 4:1-78.

in Meyer Development," Ontario

Northeastern Anthropology in
Publications in Northeastern

Patterns," Canadian Journal of

Historic 17th Century Neutral
Journal of Archaeology 9(2):131-

ly Glen Meyer Village in Brant
19:11-38.

he Schultz Site 20SA2 in the
"Early Woodland Adaptation in

the Great Lakes Region, Anthropological Papers, Museum of Anthro-
ology, University of Michigan, No. 70.

Parker, L.
1993 "Archaeological Investigations at the Fitzgerald Site (AfGw-82) in the
Former Township of Rainham, Town of Haldimand, Regional Munici-
pality of Haldimand-Norfolk," Licence Report on File, Ministry of Cul-
ture, Tourism & Recreation, Toronto.

Patterson, D.
1984 A Diachronic Study of Dental Palaeopathology and Attritional Status
of Prehistoric Ontario Pre-Iroquois and Iroquoian Populations, National
Museum of Man, Archaeological Survey of Canada, Mercury Series
No. 122

Pearce, R.J.
1983 The Windermere, Ronto and Smallman Sites: Salvage Excavations of
Prehistoric Hamlets, Museum of Indian Archaeology, Research

1984 Mapping Middleport: A Case Study in Societal Archaeology, unpub-
lished Ph.D. Dissertation, Department of Anthropology, McGill University,
Montreal.

Pendergast, J.
1975 "An In-Situ Hypothesis to Explain the Origin of the St. Lawrence

1985 "Huron-St. Lawrence Iroquois Relations in the Terminal Prehistoric

1989 "The Significance of Some Marine Shell Excavated on Iroquoian Sites
in Ontario," in Proceedings of the 1986 Shell Bead Conference, ed-
ted by C. Hayes III, Rochester Museum and Science Center, Research
Records 20:97-112.

1993 "More on When and Why the St. Lawrence Iroquoians Disappeared," in
Essays in St. Lawrence Iroquoians Archaeology (edited by J. Pendergast and C. Chapdelaine), pp. 9-47, Occasional Papers in
Northeastern Archaeology 8, Copetown Press, Dundas.

Peterson, J. and N. Hamilton
1984 "Early Woodland Ceramic and Perishable Fiber Industries from the
Northeast: A Summary and Interpretation," Annals of the Carnegie
Museum 53(4).

Pfeiffer, S.
1984 "Paleopathology in an Iroquoian Ossuary, with Special Reference to

Pfeiffer, S., and S. Fairgrieve
1994 "Evidence From Ossuaries: The Effect of Contact on the Health of
Iroquoians," in In the Wake of Contact: Biological Responses to Con-
quest, edited by C. Larsen and G. Milner, pp. 47-61, Wiles-Liss,
Chichester.
Prevec, R. and W. Noble
Ramsden, P.G.
Reid, C., and G. Rajnovich
Riddell, D.
Ritchie W.
Ritchie, W. and D. Dragoo
Ritchie, W. and R. Funk
Ritchie, W., and R. MacNeish
Saunders, S., R. Ramsden and D. Herring
Schwarz, H.P., J. Melbye, M.A. Katzenberg, and M. Knyf 

Smith, B. 

Smith, D. 


Snow, D. 


Spence, M. 


Spence, M. and W. Fox 

Spence, M. and J. Harper 

Spence, M., R. Pihl and J.E. Molto 

Spence, M., R. Pihl and C. Murphy 
Spence, M., R. Williamson, and J. Dawkins

Stothers, D.M.

Stothers, D. and T. Abel

Tanner, H. (editor)

Timmins, P.A.

1989 "The Butler's Woods Site (AfHj-82) and the Middle Woodland Occupation of the Middle Thames River Drainage," *Kewa* 89(8):2-18.


Trigger, B.G.


1985 *Natives and Newcomers: Canada's "Heroic Age" Reconsidered*, McGill-Queen's University Press, Montreal.

von Gernet, A.

Warrick, G.A.

White, M.
Williamson, R.F.
1983 The Robin Hood Site: A Study in Functional Variability in Late Iroquoian Settlement Patterns, Monographs in Ontario Archaeology 1.
Williamson, R., R. Pihl and S. Austin
Williamson, R. and D. Robertson
Wilson, J.A.
1990 The Boresma Site: A Middle Woodland Basecamp in the Thames River Valley, unpublished M.A. Thesis, Department of Anthropology, McMaster University, Hamilton.
1993a "The Preliminary Investigations at the Pocock Site and the Meadowood Phase Along the Middle Thames Drainage," Kewa 93(3):2-22.
Wright, G.
Wright, J.V.


Wright J.V. and J.E. Anderson


Wright, M.J.

1986  *The Uren Site AfHd-3: An Analysis and Reappraisal of the Uren Substage Type Site*, Monographs in Ontario Archaeology 2.