

# The Conquest Theory of the Ontario Iroquois Tradition: a Reassessment

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*My original formulation of the Ontario Iroquois tradition maintained that the Pickering culture of eastern Southern Ontario invaded the territories of their Glen Meyer neighbours to the west near the end of the 13th century. Glen Meyer sites were replaced by the Uren sites of the Middle stage representing the continuing evolution of Pickering culture. This theory has been rejected by a number of Iroquoianists on the following grounds: a lack of evidence for cultural discontinuity in western Southern Ontario; calibrated radiocarbon dates; a lack of differences between the Pickering and Glen Meyer cultures; evidence for cultural continuity in western Southern Ontario; and a belief that events in Ontario mirrored those in contemporary New York State (Trigger 1985:96). These grounds for rejection are faulty in fact, methodology, and/or theoretical perception. Evidence accumulated over the last twenty-five years supports the conquest theory. Economic and social changes underlying the conquest were critical to the development of historic Ontario Iroquoian society and these changes can be detected by archaeological means.*

## Introduction

The conquest theory was originally proposed to explain the sudden and massive cultural changes which took place in the Ontario Iroquois Tradition around the end of the 13th century (Wright, 1966). The substantive evidence for the proposal appeared in a later publication (Wright and Anderson, 1969). While reception of the theory has included rejection (White, 1971), doubt regarding the actual causes of change (Noble, 1975b), and suspicion that the Uren site itself (Wintemberg, 1928) represents a mixed sample of Middle Ontario Iroquoian (Middleport) and late Glen Meyer materials (Noble, 1975a:50 citing personal communication from William A. Fox) contradictory evidence has never been provided, nor has a viable alternative explanation for the agreed upon cultural changes. This paper reassesses the conquest theory in the light of the substantial increase in the data base over the last quarter century, and also considers the arguments of its detractors.

## Evidence for the Distinctiveness of the Glen Meyer and Pickering Cultures and for a Late 13th Century Cultural Discontinuity in Western Southern Ontario

The rejection of the conquest theory hinges on three major interrelated assumptions: that evidence of cultural discontinuity in western Southern Ontario is lacking; that evidence of cultural continuity exists; and that there is no significant cultural distinction between the Pickering and Glen Meyer cultures. Other assumptions, relating to the evidence from calibrated radiocarbon dates and comparisons with Iroquoian cultural developments in New York State, are relatively minor issues. The major thrust of this paper will be to attempt to demonstrate the distinctiveness of the Pickering and Glen Meyer cultures and the late 13th century occurrence of a cultural discontinuity in western Southern Ontario.

There are demonstrable discontinuities between the late Glen Meyer culture and the immediately following Uren substage of the Middle Ontario Iroquois stage in settlement pattern distributions and characteristics, in most aspects of technology, and in burial practices. The reinvestigation of the Uren site (M.J. Wright, 1986) has demonstrated that it is a single component site, contrary to the suggestion of Noble, (1975a). As an immediate post-conquest site well inside former Glen Meyer territory, the Uren site is of critical importance to the comparative process. A recent examination of the Uren substage has re-established its validity as a useful construct (Dodd et al., 1990), contrary to earlier views (Noble 1975a:52, M.J. Wright, 1986:67). Pertinent to the controversy is the fact that a number of researchers have classified the Uren site and even the Middleport substage Crawford site (Jury, 1948) as Glen Meyer (Fox, 1978:4-5, Pearce, n.d.:136-137, 140-142, Timmins, 1985:65, and Williamson, 1990:296, Table 9.1). If Uren and Middleport substage sites are classified as Glen Meyer sites then, of course, there is cultural continuity from Glen Meyer to the

historic Iroquoian communities of western Southern Ontario. But it will be shown that Middle Ontario Iroquois sites in the region are distinct from the Glen Meyer sites which they replaced. The rapidity with which this replacement occurred and its one-sided nature suggests that we are not dealing with other processes of cultural change, such as rapid acculturation.

Although the radiocarbon method is a blunt tool with which to demonstrate the contemporaneity of two geographically disparate cultures and the subsequent replacement of one by the other, Table 1 does indicate the temporal proximity of all of the main actors. The averages of the radiocarbon dates and of the calibrated ranges (Klein et al., 1982) of 670 ± 109 BP, AD 1151 to 1428 and 689 ± 79 BP, AD 1205 to 1404 for the Pickering and Glen

Meyer sites, respectively, and 656 ± 80 BP, AD 1216 to 1451 for the following Uren substage sites does reflect the contemporaneity of Glen Meyer and Pickering, and the slightly later dating of the Uren substage. The post-Pickering position of Uren substage sites is also supported by stratigraphy (Ridley, 1954). (The following notes are pertinent to Table 1: the late Pickering and Glen Meyer radiocarbon dates were taken from Table 10.1 of Dodd et al., 1990 but with unadjusted sigmas; following Dodd et al. a Force site, a Bonisteel site, and two Uren site dates are rejected; the corn dates from the Stafford and Bonisteel sites have been normalized for isotope fractionation by adding 240 BP to the radiocarbon date following Hall (1967); and a Roeland site date with multiple calibration ranges has been excluded (see Klein et al., 1982:supplementary tables).)

Table 1. Radiocarbon dates and their calibrated ranges from Glen Meyer, Pickering and Uren sites.

	<u>BP Date</u>	<u>Calibrated Date Range</u>
<b>GLEN MEYER SITES</b>		
Force	715± 75	AD 1195 - 1400
	705± 75	AD 1200 - 1405
	625± 90	AD 1240 - 1420
Stafford	' 730± 100	AD 1165 - 1395
Boyd Lake	- 720± 75	AD 1180 - 1400
Slack Caswell	630± 60	AD 1260 - 1405
Roeland	700± 80	AD 1200 - 1405
<b>PICKERING SITES</b>		
Five Acre Field	' 730± 100	AD 1165 - 1395
Bennett	690± 130	AD 1055 - 1425
	670± 100	AD 1220 - 1410
Gunby	• 695± 135	AD 1055 - 1425
	565± 80	AD 1260 - 1485
<b>UREN SITES</b>		
Uren	/ 700± 70	AD 1200 - 1405
	■ 680± 70	AD 1215 - 1410
	650± 60	AD 1230 - 1415
Bonisteel	/ 710 ± 80	AD 1195 - 1400
	v 540 ± 120	AD 1240 - 1625

Much has been made of regional cultural variability and site sample validity within the Ontario Iroquois Tradition in order to argue for in situ cultural development instead of conquest from the east (Williamson, 1990:311-312, M.J. Wright, 1986:66). While there is certainly regional cultural variability within the Ontario Iroquois Tradition it cannot account for the magnitude of the cultural changes which took place near the beginning of the

14th century, nor for the apparent rapidity with which they took place. It has also been suggested that the conquest theory is primarily based upon ceramic attributes (Williamson, 1990:311, M.J. Wright, 1986:66) but this has never been the case. Indeed, if any one aspect of these culture systems is to be given preference, it should be settlement pattern. Actually it was the combined evidence of settlement pattern, technology, and burial practices

which was used to support the conquest theory (Wright and Anderson, 1969). These will now be re-examined, taking into account new data.

## Settlement Pattern

The relevant settlement pattern evidence includes: preconquest site distributions; the replacement of Glen Meyer villages with Uren substage villages; and the general structural differences between Glen Meyer longhouses and Pickering and Middle Ontario Iroquois longhouses.

The preconquest frontier of the Pickering and the Glen Meyer cultures appears to have been located between Burlington and Hamilton (Figure 1). Twenty years of archaeological research by the Museum of Indian Archaeology (Finlayson et al. 1989) has focused on the western frontier of Pickering culture in the Crawford Lake area and has produced no evidence of Glen Meyer culture (Figure 2). The Glen Meyer King's Forest Park seasonal campsite in Hamilton (Donaldson, 1964) is only situated 10 km. to the south of the aforementioned Pickering villages although the nearest known Glen Meyer village is 18 km. away (Williamson, 1990:Fig. 9.2). Subsequent excavation of a midden at the King's Forest Park site recovered a minor increment of Pickering culture pottery suggestive of a culture contact situation (Fox, 1967:26). It is also pertinent that, "Compared to Pickering sites in the Toronto area, those on Bronte Creek are three times as large. This larger size may be due to the location of these sites on the western frontier of the Pickering occupation of southcentral Ontario and that larger, more readily defended settlements were necessary" (Finlayson et al., 1989:3&5).

Uren substage sites appear suddenly in the territory formerly occupied by the Glen Meyer villages. These Uren villages tend to cluster into small groups (Dodd et al., 1990:Fig.10.1), one of the clearest instances being the 1.1 ha. Uren village itself (Wintemberg, 1928, M.J. Wright, 1986) and its two satellite villages (Fox, 1976:170). Such clusterings can be most parsimoniously explained as part of a defensive strategy.

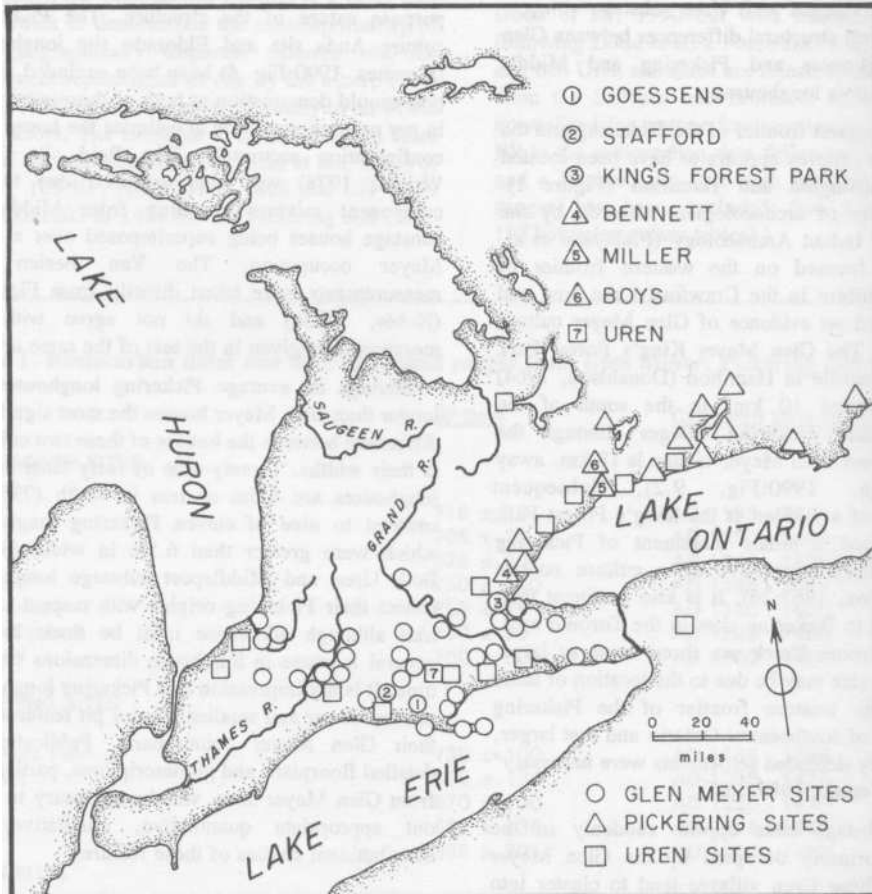
Allowing for possible regional variation, there are certain differences between Glen Meyer and Pickering/Middle Ontario Iroquois longhouses which suggest different histories of development. Table 2 compares length and width measurements from six Glen Meyer sites, three Pickering sites, one Uren substage site and one Middleport substage site. Measurements were obtained from the following reports: the Porteous site (Noble and

Kenyon, 1972) and Stothers (1976); the DeWaele site (Fox, 1976); the Calvert site (Fox, 1982); the Elliott site (Fox, 1986); the Berkmortel site (Williamson, 1986); the Miller site (Kenyon, 1968); the Boys site (Reid, 1975); the Bennett site (Wright and Anderson, 1969); the Uren site (M.J. Wright, 1986); and the Nodwell site (Wright, 1974). The House 5 measurements from the Nodwell site were excluded due to the special-purpose nature of the structure. The Pickering culture Auda site and Eldorado site longhouses (Kapches, 1990:Fig. 4) have been excluded as the post-mould demarcation at both of these sites was, in my opinion, too poor to estimate the house wall configuration accurately. The Reid site (M.J. Wright, 1978) was also excluded due to the component mixture resulting from Middleport substage houses being superimposed over a Glen Meyer occupation. The Van Besien site measurements were taken directly from Figure 2 (Noble, 1975a) and do not agree with the measurements given in the text of the same article.

Although on average Pickering longhouses are longer than Glen Meyer houses the most significant difference between the houses of these two cultures is their widths. Twenty-nine of forty Glen Meyer longhouses are 6.5m or less in width (73%) in contrast to nine of eleven Pickering longhouses which were greater than 6.5m in width (82%). Both Uren and Middleport substage longhouses reflect their Pickering origins with respect to this trait although allowance must be made for the general increase in longhouse dimensions through time. It is my impression that Pickering longhouses possess fewer and smaller interior pit features than their Glen Meyer counterparts. Publication of detailed floorplans and pit descriptions, particularly from Glen Meyer sites, will be necessary to carry out appropriate quantitative, qualitative, and distributional studies of these features.

## Technology

Despite the fact that Iroquoianists opposed to the conquest theory have tended to focus on the pottery technologies of the Glen Meyer and Pickering cultures to support their position, current evidence confirms the significant qualitative and quantitative ceramic attribute differences which exist between the two cultures. Differences are also apparent in other areas of technology. The detailed evidence of technological differences between the Glen Meyer and Pickering cultures has, with a single notable exception (M.J. Wright, 1986), not been countered with equivalent types of data. More in vogue are unsubstantiated generalities regarding the



**Figure 1.** Distribution of Glen Meyer culture, Pickering culture and Uren substage sites in western and central Southern Ontario and environs (adapted from Wright and Anderson, 1969: Figure 7 with updated site distributions from Williamson 1990: Figures 9.1 and 9.2 and Dodd et al., 1990: Figure 10.2).

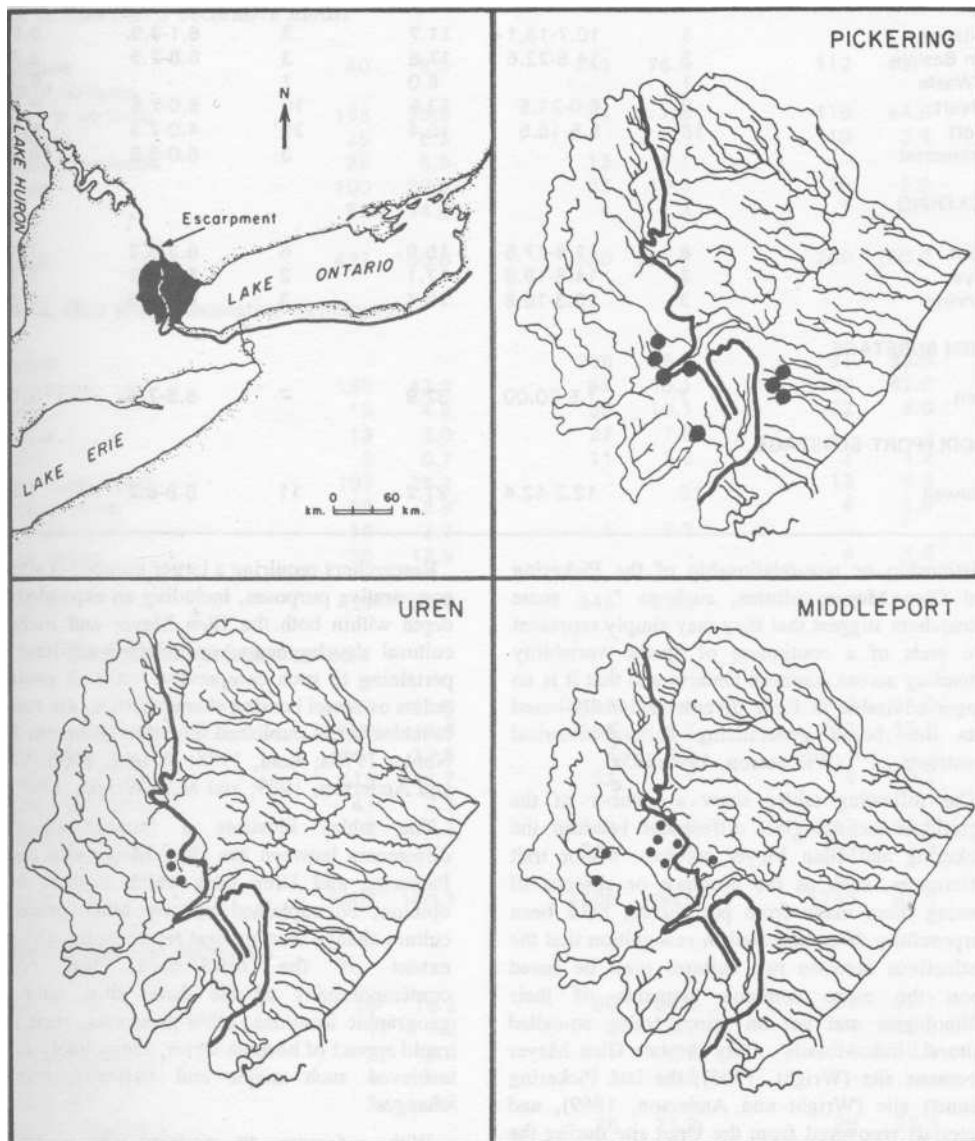


Figure 2. The western frontier of the Pickering culture in relation to the Niagara Escarpment, showing the locations of Pickering, Uren and Middleport villages (adapted from Finlayson et al., 1989: Figure 3).

**Table 2. Lengths and widths of Glen Meyer, Pickering, Uren and Middleport longhouses.**

Cultural Unit and Site	n	House Length (m)		n	House Width (m)	
		range	mean		range	mean
<b>GLEN MEYER</b>						
Porteous	3	10.7-13.1 +	11.7	3	6.1-6.9	6.6
Van Besien	2	14.8-22.6	17.6	3	5.8-7.3	6.7
DeWaele	1	-	8.0	1	-	6.0
Calvert	9	6.0-21.5	13.5	10	5.0-7.5	6.3
Elliott	18	5.5-16.5	10.4	20	4.0-7.3	6.3
Berkmortel		-		3	6.0-6.5	6.3
<b>PICKERING</b>						
Miller	6	11.6-17.5	15.9	6	6.3-8.2	7.1
Boys	2	14.3-19.8	17.1	2	8.1-9.2	8.7
Bennett	3	13.3-16.8	15.4	3	6.9-7.0	6.9
<b>UREN SUBSTAGE</b>						
Uren	7	7.5-50.00	32.9	7	6.5-7.5	7.0
<b>MIDDLEPORT SUBSTAGE</b>						
Nodwell	10	12.2-42.4	27.2	11	5.8-8.2	7.0

relationship or non-relationship of the Pickering and Glen Meyer cultures, such as " ... some researchers suggest that they may simply represent two ends of a continuum of spatial variability extending across southern Ontario and that it is no longer advisable to force diverse regionally-based data into broad generalizing cultural-historical constructs ... " (Williamson, 1990:295).

The following tables show a number of the significant technological differences between the Pickering and Glen Meyer cultures. Minor trait differences, such as the presence or absence of gaming discs made from pot sherds, have been purposefully de-emphasized in recognition that the distinctions between two cultures must be based upon the more common elements of their technologies and not on minor traits, so-called cultural index-fossils'. Only the late Glen Meyer Goessens site (Wright, 1966), the late Pickering Bennett site (Wright and Anderson, 1969), and materials recovered from the Uren site during the 1977 excavation (M.J. Wright, 1986), are considered. The Goessens site, situated close to the Uren site, compares very closely with the Stafford site and should date to the same period. Thus, the three sites used are all relatively close to one another in time (see Table 1) and technological differences and similarities should reflect historical realities which were not significantly influenced by the time factor.

Researchers requiring a larger number of sites for comparative purposes, including an expanded time depth within both the Glen Meyer and Pickering cultural developments, or detailed attribute data pertaining to such comparative units as projectile points or vessel bossing characteristics, are referred to tables in the published literature (Kenyon, 1968; Noble, 1975a; Reid, 1975; Wright, 1966; Wright and Anderson, 1969; and M.J. Wright, 1986).

The tables illustrate a number of major differences between the Glen Meyer site and the Pickering and Uren sites which cannot, in my opinion, be explained by any other process of culture change than cultural replacement. Given the extent of the differences, the relative contemporaneity of the three sites, and their geographic locations, other processes, such as the rapid spread of horizon styles, are unlikely to have achieved such major and basically one-sided changes.

With reference to pottery rim motifs the outstanding differences and similarities are the following: the dominance of horizontal motifs on rims from Pickering and Uren sites, and the significantly higher frequencies of undecorated vessels and vessels with chevron designs from Glen Meyer sites. It should be noted that the motifs in Table 3 refer to core motifs where 'horizontals', for example, includes minor elements such as

	GOESSENS		BENNETT		UREN	
	n	%	n	%	n	%
<b>Table 3. Rim sherd decorative motifs</b>						
Horizontals	40	9.5	246	76.9	112	43.1
Bands of obliques or verticals	168	39.9	24	7.5	116	44.6
Criss-cross	25	5.9	-	-	10	3.8
Obliques or verticals	29	6.9	13	4.1	-	-
Chevron	100	23.8	33	10.3	15	5.8
Plain	59	14.0	4	1.3	7	2.7
TOTALS	421	100.0	320	100.1	260	100.0

**Table 4. Rim sherd decorative techniques**

Push-pull	-	-	205	59.4	94	38.5
Linear stamp	185	43.3	66	19.1	104	42.6
Incised	19	4.4	35	10.1	22	9.0
Punctate	13	3.0	27	7.8	-	-
Dentate	3	0.7	11	3.2	3	1.2
Cord wrapped stick	107	25.1	-	-	13	5.3
Crescent stamp	29	6.8	-	-	4	1.6
Cord malleated	16	3.7	1	0.3	-	-
Suture stamp	55	12.9	-	-	4	1.6
TOTALS	427	99.9	345	99.9	244	99.8

**Table 5. Body sherd surface treatment**

Plain	189	10.5	2547	51.9	540	31.0
Cord impressed	810	44.8	237	4.8	229	13.1
Fabric impressed	244	13.5	6	0.1	-	-
Scarified	518	28.7	52	1.1	4	0.2
Scarified over cord	41	2.3	-	-	-	-
Ribbed paddle	5	0.3	1842	37.6	917	52.6
Check stamp	-	-	221	4.5	53	3.0
TOTALS	1807	100.1	4905	100.0	1743	99.9

**Table 6. Bone tool categories**

Awls	19	79.2	66	58.9	82	63.1
Arrowheads	1	4.2	3	2.7	14	10.8
Beads and tubes	2	8.3	7	6.3	4	3.1
Antler flakers	1	4.2	2	1.8	-	-
Worked rib	1	4.2	-	-	-	-
Worked phalanges	-	-	26	23.2	29	22.3
Incisor knives	-	-	6	5.4	-	-
Chisels	-	-	1	0.9	1	0.8
Bracelet	-	-	1	0.9	-	-
TOTALS	24	100.1	112	100.1	130	100.1

	GOESSENS		BENNETT		UREN	
	n	%	n	%	n	%
<b>Table 7. Stone tool categories</b>						
Flake scrapers	40	18.0	92	20.3	288	41.3
End scrapers	21	9.5	31	6.8	27	3.8
Arrowheads	65	29.3	29	6.4	85	12.1
Abraders	24	10.8	103	22.7	105	15.0
Wedges	4	1.8	82	18.1	41	5.8
Celts	18	8.1	31	6.8	37	5.3
Hammerstones	5	2.3	13	2.9	21	3.0
Anvilstones	6	2.7	17	3.8	13	1.9
Slate pendants	8	3.6	-	-	2	0.3
Biface knives	20	9.0	16	3.5	-	-
Drills	7	3.2	2	0.4	-	-
Strike-a-lights	1	0.5	-	-	17	2.4
Mica chunks	2	0.9	-	-	-	-
Chopper	1	0.5	-	-	-	-
Spokeshaves	-	-	6	1.3	31	4.4
Gravers	-	-	2	0.4	25	3.6
Manos	-	-	13	2.9	3	0.4
Drawshaves ?	-	-	-	-	3	0.4
Paintstones	-	-	9	2.0	-	-
Stone beads	-	-	5	1.1	-	-
Metate	-	-	1	0.2	-	-
Stone pipes	-	-	1	0.2	4	0.6
<b>TOTALS</b>	<b>222</b>	<b>100.2</b>	<b>453</b>	<b>99.8</b>	<b>702</b>	<b>100.3</b>

obliques above and/or below horizontals. The table was adapted from M.J. Wright (1986:Table 9). Minor motifs, seventy-three from the Goessens site and fifteen from the Bennett site, were excluded but can be found in Wright (1966) and Wright and Anderson (1969), respectively.

Coefficients of similarity (Brainerd, 1951) are arrived at by the subtraction of the percentages of specific characteristics between any two sites. The total differences are then subtracted from 200; the total of the combined percentages. A coefficient of 200 suggests the compared sites are identical, a zero coefficient suggests they are totally different. A low coefficient of 65.5 for the Glen Meyer and Pickering sites reflects the differing motif frequencies between the two cultures. The coefficients of 123.4 for the Glen Meyer and Uren sites and 115.3 for the Pickering and Uren sites, however, do not follow the expected pattern. The high frequencies of the bands of obliques or verticals on the vessels of Glen Meyer and Uren sites largely accounts for this situation. It is possible that some of the increase in this motif in the Uren site, in contrast to the Pickering site, was caused by the adoption of captive Glen Meyer women into the former site, a possibility supported

by other minor Glen Meyer cultural traits at the Uren site (Wright and Anderson, 1969).

Exterior rim sherd decorative techniques are listed in Table 4 although combined techniques and minor varieties totalling less than five specimens are excluded. The data are drawn from M.J. Wright (1986:Table 10) but with the Goessens site suture stamp category (Wright, 1966:112) isolated from the original linear stamp category. The most striking features of Table 4 are the dominance of the push-pull decorative technique on the Bennett and Uren site rim sherds and the corresponding high frequencies of cord-wrapped-stick and, to a lesser extent, turtle-shell-suture linear and crescent-stamped techniques on the Glen Meyer site rims.

As with the rim sherd decorative motifs the lowest coefficient of similarity is between the Glen Meyer and the Pickering site. This coefficient is 55.2. The highest coefficient of 135.9 is between the Pickering and Uren sites but the Glen Meyer and the Uren sites also have a relatively high coefficient of 112.7. This latter situation, similar to that encountered in the motif coefficients, does suggest some degree of attribute blending between Glen Meyer and Pickering ceramics by Uren substage times. If the historic Iroquoian pattern of



adopting enemy women and children prevailed, the influx of Glen Meyer attributes into the Pickering-based cultural development is not unexpected.

Table 5 provides the comparison of the pottery vessel surface treatment techniques. It is apparent that the smoothing of the surface of the vessel (plain) is more characteristic of the Pickering and Uren sites. Cord impressions, including smoothed-over cord and cord malleation, dominate the Glen Meyer sample. Other surface treatments common on the Glen Meyer site but rare or absent from the Pickering and Uren sites are the fabric impressed and scarified treatments. Ribbed-paddle impressing, on the other hand, is a major surface treatment technique on the Pickering and Uren sites.

The very high coefficient of similarity of 153.3 is recorded for the Pickering and Uren sites and the correspondingly low coefficient of 33.5 for the Glen Meyer and Pickering sites. The slightly higher coefficient of 48.2 for the Glen Meyer and Uren sites reinforces the suggestion of some ceramic attribute blending between Glen Meyer and Pickering cultures by Uren site times. With reference to the attributes of surface finishing on pottery vessels it is worth noting that the 700 sherds from the Glen Meyer Stafford site, when compared with the Goessens site, provides an exceptionally high coefficient of 169.7.

Table 6 lists the occurrences of bone tools from the three sites. While the small samples, particularly from the Glen Meyer site, weaken the comparative exercise, there do appear to be some significant differences such as the high incidence of worked deer toe bones from the Pickering and Uren sites but their absence from the Glen Meyer site. Such items, however, can occur on Glen Meyer sites like Van Besien where seven are recorded (Noble, 1975a).

The highest coefficient of similarity is 175.4 between the Pickering and the Uren sites while the coefficient for the Glen Meyer and Pickering and Glen Meyer and Uren sites are similar at 139.2 and 140.6, respectively.

There may be an unavoidable bias in Table 7, which compares the stone tools from the three sites. The collections from both the Bennett and the Uren sites are basically the results of excavations. A much larger portion of the Goessens site materials were surface collected and this can introduce a bias in favour of the more finished stone tool categories. On the other hand, as anyone who is familiar with collections made by Thomas E. Lee or who worked for him in the field will know, everything was picked up. Given this caveat, projectile points are more common on the Glen

Meyer site as are biface knives and drills. Wedges are more frequent on the Pickering and Uren sites.

The Pickering and Uren sites have the highest coefficient of similarity at 129.6. The coefficients between the Glen Meyer and the Pickering and Glen Meyer and the Uren sites are approximately the same at 119.0 and 113.4, respectively.

Fortunately, as an aid to evaluating the significance of the coefficients of similarity, the ceramic collections from the 1920 excavations (Wintemberg, 1928) and the 1977 excavations of the Uren site were isolated as comparative units (M.J. Wright, 1986). These two large collections from the same single component site provided the following coefficients of similarity: rim motifs (M.J. Wright, 1986:Table 9) - 145.4; rim decorative techniques (Ibid:Table 10) - 154.2; and body surface treatment (Ibid:Table 6) - 176.6. The three coefficients have the high average of 158.7. The equivalent coefficient average for the Glen Meyer and Pickering sites considered in the preceding tables, however, is a low 69.3, while the Glen Meyer and Uren and Pickering and Uren sites coefficient averages are 100.8 and 133.7, respectively. The coefficients of similarity reflect differences and similarities in the attributes considered, and highlight the similarities between the Pickering culture and the Uren substage, the differences between the Glen Meyer and Pickering cultures, and the lesser degree of difference between the Glen Meyer culture and the Uren substage which is inferred to be a product of an incursion of Glen Meyer females into Uren substage sites in western Southern Ontario.

Two major factors are responsible for what I regard as frequently inadequate comparisons between the Pickering and Glen Meyer cultures. First, the recent focus on regional studies has been carried to extremes and researchers have become myopic about broader considerations. The problem has been compounded by an either/or attitude which assumes that detailed regional studies are not only better but are somehow in conflict with broader syntheses. Second, there appears to be an ignorance of or, more accurately, an indifference to evidence from the Pickering culture. It is given a superficial consideration that is often either qualitatively and/or quantitatively in error or is incomplete. In a recent article, for example, two paragraphs are dedicated to the Pickering culture in contrast to the more than four and one-half pages of text devoted to the Glen Meyer culture (Williamson, 1990:314,317-319). Major Pickering sites such as Miller, Bennett and Boys are not even mentioned. Such an approach is incapable of providing a balanced comparison between the Glen

Meyer and Pickering cultures. Suffice it to say that nothing which has been published since the Glen Meyer and Pickering comparisons presented in the Bennett site report contradicts the distinct technological differences between these two cultures nor the evidence that Uren technology owes its origins to that of the Pickering culture.

## Burial practices

A significant difference exists between Glen Meyer and Pickering burial practices. In the Pickering culture small ossuaries, bundle or bundle-and-flexed burials frequently occur within longhouses and within the confines of the village (Kenyon, 1968. Wright and Anderson, 1969). Despite the more extensive excavations of Glen Meyer villages only a single flexed burial within a Roeland site longhouse has been reported (Williamson, 1990:308). I am assuming that the Force site is a Glen Meyer site but I am uneasy, as its cultural identification was made by Fox who also identified the Uren site as a late Glen Meyer site (Fox, 1978:4-5). If the cultural identification is correct then the two burial features recorded at the site, one containing eight individuals (Williamson, 1990:308), are pertinent to the discussion. A single bundle burial has been recorded for the Stafford site (Lee, 1952:65), and some disturbed burials from the Boyd site fishing station may be Glen Meyer (Fox, 1976:169). The two small ossuaries from House 3 at the Reid site (M.J. Wright, 1978), on the other hand, belong most probably to the Middleport substage occupation of the site. In addition to the late radiocarbon dates from this house, its 7.6m width and the presence of Middle Ontario Iroquois pottery and pipe styles (Ibid:30) suggest that it does not belong to the earlier Glen Meyer occupation. It can be suspected that the decision to incorporate the dead within the village, even temporarily, reflects deeply held cultural values. The relative scarcity of burials from Glen Meyer villages suggests a significantly different set of values from those of the contemporary Pickering culture. It may even be speculated that the Glen Meyer people typically disposed of their dead by methods which left little or no archaeological record, such as scaffold burial or some other form of exposure. Indeed, one of the reviewers of this article referred to the Glen Meyer Zamboni burial site. This may suggest that, unlike the situation in the Pickering culture, special burial sites were used by the Glen Meyer people. Pickering ossuary pit

burials (Johnston, 1968:66) appear to have preceded Middle Ontario Iroquois ossuaries, such as Fairty (Anderson, 1963), and the Late Ontario Iroquois ossuaries which develop into historic Neutral (M.J. Wright, 1981) and Huron (Kidd, 1953) communal burial pit features.

## Minor Reasons for the Rejection of the Conquest Theory

One of the minor reasons for rejecting the conquest theory rests with the claim that radiocarbon dated Middleport substage sites in western Southern Ontario are earlier than those to the east (Timmins, 1985).

The Middleport substage is irrelevant to the conquest theory since it is the preceding Uren substage which was involved in this event. The Middleport substage people were their descendants. Further, Timmin's method of modifying the calibration tables of Klein et al. (1982) is mathematically flawed and thus his calibrations are in error. Instead of entering the Klein calibration tables with a radiocarbon date and determining a calendrical interval, Timmins, "For ease of comparison with non-calibrated dates, in applying the calibration the mid-points of the calendrical ranges have been calculated and the confidence statement has been reduced to the standard one sigma level (66%) by halving the plus-minus figures," (1985:43-44). Though I am in full agreement with the necessity to calibrate radiocarbon dates I feel that Timmins has attempted, through mathematically unacceptable procedures, to introduce a greater degree of date specificity than the radiocarbon method and the calibration procedures are able to accommodate.

Finally, it has been suggested that cultural development in Southern Ontario was similar to that in New York State, with regional continuities being maintained from Owasco through an Oak Hill transition to the historic Iroquoian tribes of the Five Nations. What happened in New York State is essentially irrelevant to the conquest theory except for the incursion of the Middle Ontario Iroquois stage into the Niagara Frontier area of New York State (Lenig, 1965, Ritchie, 1927, White, 1961) and its influence upon the formative Seneca-Cayuga populations of the Genesee Valley (Niemczycki, 1984). In this regard, the expanding Uren populations appear to have forced the consolidation of the ancestral Seneca-Cayuga peoples into large fortified villages.

## Conclusions

In my opinion the conquest theory is still the most reasonable explanation for the sudden and massive cultural changes which took place in one geographic area of the Ontario Iroquois Tradition around the end of the 13th century. The theory implies that by the 13th century a number of Pickering culture villages had developed an interlocking social structure which permitted the formation of a highly effective militaristic confederacy. These dramatic developments in social organization would have been based on a changing economic base, horticulture, with women becoming the main food producers. Hypothetical reasons for the conquest could consist of any one or a combination of the following: warfare required for male prestige following economic changes which reduced the prestige value of hunting; crop failures in the environmentally less favoured regions of eastern Southern Ontario during the critical period when shorter growing season varieties of northern flint corn were being developed; and the appearance of an exceptional leader or leaders (Wright, 1990:498-499).

In summary, nearly thirty years ago Rouse (in Hole and Heizer, 1973:391) stipulated five necessary procedures for identifying population migration in the archaeological record:

1. the identification of the migrating people as an intrusive population in the region being penetrated;
2. the tracing of these people back to their original homeland;
3. the establishment of the contemporaneity of the populations involved;
4. the identification of the conditions favourable to migration; and
5. the demonstration that other forces of cultural change such as diffusion and independent invention were not involved.

Sanger (1975:73) has added a 6th crucial procedure,

6. the demonstration that all cultural subsystems were involved, not just single, isolated ones such as the mortuary system.

All of these procedures are fulfilled by the conquest theory. Twenty-five years of published archaeological research has reinforced, not weakened the theory. By a theory I mean an assumption based upon principles independent of the phenomena under consideration. And, as I have stated elsewhere, "Certainly, until some of the questionable handling of basic archaeological data changes, this critical stage in the development of

the Ontario Iroquoian Tradition will remain confused. This would be unfortunate given the existence of an exceptional, testable data base which is capable of shedding considerable light on how changing economic bases can affect social structure and the seeming rapidity with which some of these changes can occur." (Wright, 1990:499).

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## References Cited

- Anderson, J.E.  
1963 The People of Fairty: an Osteological Analysis of an Iroquois Ossuary. National Museum of Canada, Bulletin 193:28-129.
- Brainerd, George W.  
1951 A Place of Chronological Ordering in Archaeological Analysis. American Antiquity Vol.16(4):301-313.
- Dodd, Christine F., Dana R. Poulton, Paul A.  
Lennox, David G. Smith and Gary A. Warrick  
1990 The Middle Ontario Iroquoian Stage. The Archaeology of Southern Ontario to A.D. 1650. Chris J. Ellis and Neal Ferris (eds.). Occasional Publication of the London Chapter, Ontario Archaeological Society, No.5:321-359.
- Donaldson, William S.  
1964 The King's Forest Park Site. Ontario Archaeology, Series B, No.3:3-10.
- Finlayson, William D., Mel Brown and Charles Turton  
1989 "A Sedimental Journey" Twenty Years of Archaeological Research in the Crawford Lake Area. The Palisade Post, Vol.10, No.4:1-8. Museum of Indian Archaeology, an affiliate of The University of Western Ontario.

- Fox, William A.  
 1967 A Hillside Midden, King's Forest Park Site. Ontario Archaeology, No.10:18-28.  
 1976 The Central North Erie Shore. The Late Prehistory of the Lake Erie Drainage Basin. David S. Brose (ed.):162-192, Scientific Publications of the Cleveland Museum of Natural History.  
 1978 Southwestern Ontario Radiocarbon Dates. Kewa, Newsletter of the London Chapter, Ontario Archaeological Society, 78-6:1-5.  
 1982 The Calvert Village: Glen Meyer Community Patterns. Kewa, Newsletter of the London Chapter, Ontario Archaeological Society, 82-7,8:5-9.  
 1986 The Breaks on the Elliott Site. Kewa, Newsletter of the London Chapter, Ontario Archaeological Society, 86-2:28-29.
- Hall, Robert L.  
 1967 Those Late Corn Dates: Isotopic Fractionation as a Source of Error in Carbon 14 Dates. Michigan Archaeologist, 13(4):1-9.
- Hole, Frank and Robert Heizer  
 1973 An Introduction to Prehistoric Archaeology. Third Edition, New York.
- Johnston, Richard B.  
 1968 The Archaeology of the Serpent Mounds \_\_\_\_\_ Site. Royal Ontario Museum, Art and Archaeology, Occasional Paper No.10.
- Jury, Wilfrid  
 1948 Crawford Prehistoric Village Site, a Report on Excavations made on an Early Indian Village in Bosanquet Township, Lambton County, Ontario. Museum of Indian Archaeology, Bulletin of the Museums No.7.
- Kapches, Mima  
 1990 The Spatial Dynamics of Ontario Iroquoian Longhouses. American Antiquity 55(1):49-67.
- Kenyon, Walter A.  
 1968 The Miller Site. Royal Ontario Museum, Art and Archaeology, Occasional Paper No.14.
- Kidd, Kenneth E.  
 1953 The Excavation and Historical Identification of a Huron Ossuary. American Antiquity 18:359-379.
- Klein, Jefferey, J.C. Lerman, P.E. Damon and E.K. Ralph  
 1982 Calibrations of Radiocarbon Dates: Tables based on the consensus data of the Workshop on Calibrating the Radiocarbon Time Scale. Radiocarbon, Vol.24(2):103-150.
- Lee, Thomas E.  
 1952 A Preliminary Report on an Archaeological Survey of Southwestern Ontario for 1950. National \_\_\_ Museum of Canada, Bulletin 126:64-75.
- Lenig, Donald  
 1965 The Oak Hill Horizon and its Relation to the Development of Five Nations Iroquois Culture. Researches and Transactions of the New York State Archaeological Association 15(1).
- Niemczycki, M.A.P.  
 1984 The Origin and Development of the Seneca and Cayuga Tribes of New \_\_\_ York \_\_\_ State. Rochester Museum and Science Centre, Research Report No. 17.
- Noble, William C.  
 1975a Van Besien (AafHd-2): a Study in Glen Meyer Development, Ontario Archaeology 24:3-83.  
 1975b Canadian Prehistory: the Lower Great Lakes - St. Lawrence Region. Canadian Archaeological Association, Bulletin 7:96-121.
- Noble, William C. and Ian T. Kenyon  
 1972 Porteous (AgHb-2): a Probable Early Glen Meyer Village in Brant County, Ontario. Ontario Archaeology 19:11-18.
- Pearce, Robert J.  
 n.d. Mapping Middleport: a Case Study in Societal Archaeology. PhD. thesis, Department of Anthropology, McGill University.
- Reid, C.S.  
 1975 The Boys site and the Early Ontario \_\_\_ Iroquois \_\_\_ Tradition. National Museum of Man, Archaeological Survey of Canada, Mercury No. 42.

- Ridley, Frank  
 1954 The Frank Bay Site, Lake Nipissing, Ontario. American Antiquity 20:40-50.  
 1958 The Boys and Barrie Sites. The Ontario Archaeological Society, Publication No. 4:18-42.
- Ritchie, William A.  
 1927 Some Algonkian and Iroquoian camp sites around Rochester. Researches and Transactions of the New York State Archaeological Association, Vol. V, No. 3.
- Sanger, David  
 1975 Culture Change as an Adaptive Process in the Maine-Maritimes Region. Arctic Anthropology, Vol. XII (2):60-75.
- Stothers, David G.  
 1976 The Princess Point Complex: a Regional Representative of an Early Late Woodland Horizon in the Great Lakes area. The Late Prehistory of the Lake Erie Drainage Basin. David S. Brose (ed.):137-161. Scientific Publications of the Cleveland Museum of Natural History.
- Timmins, Peter Andrew  
 1985 The Analysis and Interpretation of Radiocarbon Dates in Iroquoian Archaeology. Museum of Indian Archaeology, Research Report No. 19.
- Trigger, Bruce G.  
 1985 Natives and Newcomers, Canada's "Heroic Age" Reconsidered. McGill-Queen's University Press.
- White, Marian E.  
 1961 Iroquois Culture History in the Niagara Frontier Area of New York State. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 16.  
 1971 Review of "The Bennett Site" in American Antiquity 36:222-223.
- Williamson, Ronald F.  
 1986 The Mill Stream Cluster: the other side of the Coin. Studies in Southwestern Ontario Archaeology. London Chapter of the Ontario Archaeological Society, Occasional Paper No. 1:25-31.
- 1990 The Early Iroquoian Period in Southern Ontario. The Archaeology of Southern Ontario to A.D. 1650. Chris J. Ellis and Neal Ferris (eds.), Occasional Publication of the London Chapter, Ontario Archaeological Society, No. 5:291-320.
- Wintemberg, W.J.  
 1928 Uren Prehistoric Village Site, Oxford County, Ontario. National Museum of Canada, Bulletin 51.
- Wright, J.V.  
 1966 The Ontario Iroquois Tradition. National Museum of Canada, Bulletin 210.  
 1974 The Nodwell Site. National Museum of Man, Archaeological Survey of Canada, Mercury No. 22.  
 1990 Archaeology of Southern Ontario to A.D. 1650: a Critique. The Archaeology of Southern Ontario to A.D. 1650. Chris J. Ellis and Neal Ferris (eds.), Occasional Publication of the London Chapter, Ontario Archaeological Society, No. 5:493-503.
- Wright, J.V. and J.E. Anderson  
 1969 The Bennett Site. National Museum of Man, National Museums of Canada, Bulletin 229.
- Wright, Milton J.  
 1978 Excavations at the Glen Meyer Reid Site, Long Point, Lake Erie. Ontario Archaeology 29:25-32.  
 1981 The Hamilton Site: a Late Historic Neutral Town. National Museum of Man, Archaeological Survey of Canada, Mercury No. 103:vi-209.  
 1986 The Uren Site AfHd-3: an Analysis and Reappraisal of the Uren Substage Type Site. Monographs in Ontario Archaeology, No. 2. The Ontario Archaeological Society.

