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January 21,
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O.A.S. Monthly General Meeting -- Toronto -- November 19, 1980

Reported by: Janet C. Cooper

"LOCATION AND MOVEMENT OF NATIVE GROUPS IN THE GREAT LAKES AREA DURING THE 17TH CENTURY"

Dr. Conrad Heidenreich
Dept. of Geography
York University, Toronto.

For the past year, Dr. Heidenreich has been involved with the Historical Atlas of Canada Project which will result in the production of a three-volume atlas, each volume containing approximately 70 plates. Volume 1 will end about 1780, Volume 11 about 1880 and Volume 111 about 1945; consideration is being given to the production of single plates from each of these volumes, so that those whose field of interest spans less than the period covered by any one volume will have the opportunity to purchase only those plates they wish to have in their collection.

As the only member of the project's Planning Committee with any archaeological knowledge, Dr. Heidenreich fought very hard to have some archaeological plates incorporated into the atlas; as a result of his efforts, the volume with which he is concerned (Volume 1) will include 20 archaeological plates. This figure does not include a number of ethnohistorical plates which will also appear in this volume. When the Historical Atlas of Canada is completed, the number of archaeological and ethnohistorical plates it contains will represent a higher total than any other country in the world has devoted to its prehistory.

The first three plates of Volume 1 cover the Palaeo-Indian phase in Canada; for the Ontario portion, the main contributors of plates include Jock McAndrews, Arthur Roberts and Peter Storck. The next group of plates will cover the period from about 8,000 B.C. to European contact; these have been produced by the National Museums of Canada under Jim Wright and are currently circulating within approximately 20 institutions across Canada for comments and additions. Included within these are individual plates covering subsistence patterns, trade, cosmology, and burial practices; in addition, there is also a series of regional plates illustrating such topics as barren ground prehistory in relation to climatic change, northwest coast prehistory relative to cultural continuity, the peopling of the Arctic, the role of agriculture, and the development of Iroquoian-speaking populations.

Dr. Heidenreich's contribution, centring on the early 17th century, is incorporated in a series of plates which dovetail archaeology and ethnohistory. He and Bruce Trigger are working together to produce plates for Ontario between 1600 and 1650; in the course of this, the only contoversy arising was that surrounding Sainte Marie and here the decision was made to include only

the evidence recovered from Kenneth Kidd's excavations based on his (updated) map of the site.

Slides of the cross-sections that Dr. Heidenreich was asked to prepare were shown and discussed. The first was a cross-section of Canada at about 1630. Dr. Heidenreich stressed the word "about" as it applied to this cross-section and to the dates on the four Great Lakes cross-sections which he will also prepare and which are to be dated at 1630, 1680, 1730 and 1760. The latter was dictated by the fall of New France and proved, paradoxically, to be the period for which the least amount of data was available for north of the Great Lakes -- although data are excellent for south of the Great Lakes. The choice of periods for the remaining cross-sections rested on two criteria: the availability of adequate data in the form of primary sources, and a relative stability of populations in a period which was essentially one of high mobility. For the Canada and Great Lakes cross-sections dated to about 1630, a few contemporary maps are available and there is fairly good ethnographic data from sources such as Champlain, Sagard, and the Jesuit Relations. The distribution of the three linguistic groups of this period -- Algonkian, Iroquoian and Siouxan -- are plotted for this period; in this connection, Dr. Heidenreich made the observation that modern anthropologists often made distinctions between the groups that are different from those made by contemporary observers and he attributes this phenomenon to a blending and amalgamation of some dialects which he believes must have taken place between the period of study and the 19th and 20th century study of the period. As our documentation disappears for areas west of the Great Lakes, the plotting of groups from archaeological reports is incorporated into the map which, when completed, will be forwarded to archaeologists so that amendments may be made as required. An illustration of the well-known problem of attempting to relate archaeological assemblages to ethnohistoric data is provided by this map of Canada at about 1630 when we consider the ethnohistorically-recorded split between the Assiniboine and the Dakota relative to the origins of Black Duck and Selkirk; to the larger problem Dr. Heidenreich feels there really is no satisfactory answer, but in this particular case he is inclined to believe that Black Duck is Assiniboine. As Dr. Heidenreich pointed out, archaeologists are mapping the remains of material culture which does not necessarily relate to, for example, linguistic groups. What Dr. Heidenreich is mapping is named groups, that is, people who perceive differences between themselves on bases such as political alliances or social relationships; there may be no perceivable difference in the material remains of a number of such named groups.

The 1680 cross-section incorporates data ranging from about 1665 to 1680 and attempts to capture the period of peace after the last great push of the Sioux in 1671 until the Iroquois wars broke out again in 1681. The data for the next cross-section, about 1730, are the best for any period, incorporating as it does the information from the French census of 1736 and its accompanying maps. This census was taken by the French for the

purpose of locating all of the known native villages and assembling a count of all the warriors they could depend on in each village; it was very thorough and, according to Dr. Heidenreich, it was not until fairly recently that the maps accompanying this census were examined with relation to the actual documentation. As mentioned earlier, the final cross-section in the series is dated at the fall of New France in 1760.

Before his work on the project started, Dr. Heidenreich had already assembled photocopies of some 200 contemporary maps, most of which were obtained from the archives in France through the National Archives in Ottawa. Included were both manuscript and printed maps, and the former were found to be by far the more useful. As Dr. Heidenreich noted, printed maps -- which are usually out of date at the time they are printed and are often composites -- must be used with great caution. In this connection, he remarked that too many historians use printed maps without paying due attention to the derivation of the material they present. Manuscript maps, too, have their pitfalls: since at least 70% of these contain no direct information as to authorship, a researcher's first task is to determine this. Once this large assemblage of contemporary maps had been examined, Dr. Heidenreich turned to the contemporary documentation and began the task of summarizing all of the relevant geographical information it contains: place names, locations of native groups, forts, French settlements, rivers, mountain ranges and so on. To date, after four months of such research, Dr. Heidenreich has almost reached the year 1670. Working his way through the Jesuit Relations, he has come to the conclusion that, despite the excellence of the indices, the documents should be read through page by page since much information is lost by reliance on the indices alone. Archaeological data were not found to be very helpful in his research, for reasons alluded to earlier. The examination of secondary sources is also planned, but Dr. Heidenreich prefers to study these after he has completed his work with primary sources, in order to avoid drawing any conclusions from the latter that are influenced by the former.

In order to work out the movements of peoples on the four cross-section maps for the atlas, Dr. Heidenreich found it necessary to prepare a number of preliminary maps. The first of these dates from about 1638 to about 1647 and illustrates the Wenro dispersal to Huronia by the Seneca in 1638, the dispersals caused by Mohawk raids in the early 1640s, and the great Huron dispersion which started in late 1647 and continued through 1648 and 1649. The next preliminary map covered the period from about 1650 to about 1653 and showed such movements as those of the Huron and Petun caused by the Iroquois, westward dispersal of the Ottawa with the initiation of the Neutral Wars, the movement of the Iroquois up the Georgian Bay shoreline to the Nipissing from about 1650, and other Iroquois movements into Michigan in 1653. The dispersal of other groups into the Green Bay area as a result of the Iroquois movement into Michigan is very well documented indeed: at Quebec City, reports in 1653 of the intended dispersal were followed by information from the first canoe

into Quebec in 1654 that the dispersion had taken place. A cross section map dated from about 1654 is based on good data from the Jesuits who moved south of the Great Lakes to the New York Iroquois. This provides much information on the Iroquois push southward and the movements of the Huron and others which resulted from the fact that the Mohawk, who were the only group that did not agree to the peace made by the French in the 1650s, continued to war. Yet another cross-section map prepared by Dr. Heidenreich and dated from about 1660 illustrates the results of the earlier dispersions: westerly movement was now prohibited further by the Dakotas and large depopulated areas appear on the map; the retreat of refugee groups which had unsuccessfully attacked their Sioux neighbours early in the 1660s is indicated by their movement away from border areas; and the movement of many Lake Superior groups back eastwards once they received the news that the Iroquois had all sued for peace in 1666 (thanks to the Tracy Expedition of that year) is plotted. The appearance of Iroquois villages on the north shore of Lake Ontario is seen on a cross-section map dating from about 1670; the Seneca, Cayuga and Oneida had all settled here by the early 1670s, although it was the Oneida who built the first Iroquois village, in the Bay of Quinte area, at about 1668. A cross-section map dated to about 1680 shows all of the Iroquoian villages along the north shore and the Ojibwa for the most part all back where they started from. A cross-section map dating between about 1680 and 1730 illustrates several very important events of the period: the western expansion of the Saulteaux occurred under a peace concluded with the Sioux; the long Iroquois peace began in 1701 (and lasted until 1759 when the Iroquois took the side of the British in the final dissolution of New France); many Mississauga moved in small groups into southern Ontario in 1701; some Saulteaux moved into the Hamilton area; and the Ottawa occupied the Michigan peninsula. By 1730, the Iroquois are seen to have abandoned the north shore of Lake Ontario; the effects of the peace can clearly be seen in the general loosening up of group locations, the disappearance of depopulated "no-man's" lands and the much more rational use of territory. The final cross-section dating to 1760, shows the solid line of British and French settlements in the year of the fall of New France.

Following his discussion of the cross-sectional maps which are in preparation, Dr. Heidenreich provided us with a glimpse of his primary source material by showing a number of slides of ethnohistoric maps, both manuscript and printed. The problems encountered in analyzing these and the potential information obtainable from each were pointed out. Although printed maps must be utilized with caution and a number of difficulties must be overcome with both these and manuscript maps, there is a vast store of valuable information to be extracted from both types. Perhaps it is just these difficulties which, in part, explain why maps have until recently been a much-neglected source of data. The information conveyed by Dr. Heidenreich's presentation would certainly preclude the neglect of any relevant cartographic data

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O.A.S. Monthly General Meeting -- Toronto -- October 15, 1980

Reported by: Janet C. Cooper.

"ONTARIO FORESTS AND PREHISTORY - A MISCELLANY"

Dr. John H. McAndrews
Curator, Department of Botany
Royal Ontario Museum

The subsistence possibilities in Ontario's forests will vary as we move south to north through the southern deciduous forest to the mixed deciduous-hardwood forest, then into the boreal forest and through taiga until we reach the open tundra along Hudson Bay. This variation, broadly correlated with latitude, will be reflected in the quantity and quality of natural products -- such as nuts, berries or roots -- available to man and in the suitability of soils and climate for horticulture. In addition, it should be remembered that, for hunting purposes, each type of forest provides its own unique faunal assemblage, since animals as well as plants have preferential or obligatory habitats.

As an illustration of the floral variation within only southern Ontario, Dr. McAndrews showed forest inventory maps on which contour lines indicated the percent abundance of deciduous tree species. It was clear from these that trees such as butternut and hickory, which provide nuts favoured by humans for consumption, are infrequent in southern Ontario, although there are many other types of nut trees -- such as beechnut and oaks -- in abundance. North of the deciduous forest in southern Ontario the mixed forest provides the sugar maple, known to have been tapped by the native peoples in the past and still so exploited today. Other tree species common to the mixed forest -- for example, red pine and white pine -- offer nothing in the way of significant subsistence products. White birch, which provides the preferred material for bark canoes, is also readily obtainable in the mixed forest, but would be unavailable to anyone living along the north shore of Lake Erie; here, Dr. McAndrews speculates, natives constructed dugout canoes for water transportation.

Northern Ontario's boreal forest is dominated by white spruce and jack pine, and -- especially northward -- by black spruce. With the exception of some berries, little in the way of forest products can be harvested here. Wild rice, which grows on lakeshores, is sparse; but it is more abundant southward in the mixed forest and in deciduous forest regions.

Realizing that forests are not static systems but change in their distribution and composition over time as a function of climate, we as archaeologists are interested in the appearance of the forest map of Ontario at various times in the past. There have, of course, been some dramatic and many subtle changes in this map since the Pleistocene; one way to demonstrate these changes is through the application of palynological (pollen) analysis.

As an introduction to the sampling techniques employed in pollen analysis, Dr. McAndrews showed a number of slides taken on Second Lake in Huronia during the winter when the lake was frozen over. Here, the Livingstone Sampler was used to collect the mud core with its pollen content, and this was first extruded from the sampler tube and then sealed in aluminum foil on site. Later, Dr. McAndrews showed slides of mud collection on Crawford Lake near Toronto, where we saw the application of another technique employing an instrument tantalizingly termed the Frigid Finger.

In order to demonstrate some of the changes which have taken place in Ontario's forests through time, a selection of pollen diagrams constructed from analysed core material was shown and the interpretation of each was discussed. That of Pond Mills Pond near London, Ontario, indicated that a boreal forest existed in the area during the Palaeo-Indian period from 12,000 to 10,000 B.P., but that this changed to mixed forest and then to the deciduous forest typical of today, at about 8,000 B.P. It may be concluded, therefore, that the Early Archaic occupants of the area (dated ca. 10,000-8,000 B.P.) would not have had the products of a deciduous forest to exploit.

The pollen diagram of Edward Lake on the shores of glacial Lake Algonquin near Owen Sound indicates that, between ca. 10,000 and 5,000 B.P., the area consisted of conifer forest; around 5,000 B.P., hemlock disappeared and was replaced by a sunny mixed forest. This change would have provided Late Archaic peoples living around Edward Lake with the opportunity to obtain a more reliable harvest of white-tailed deer moving into their preferred open woodland habitat. Between the Paleo-Indian and Late Archaic periods, this area was apparently unoccupied; at this time, the forest would have been as yet uninhabited by sizeable populations of deer, but would have suited moose rather well. However, as moose tend to be solitary and individuals to be widely spaced, this species is unlikely to sustain large concentrations of people in any given area; in southern Ontario moose was a somewhat fortuitous food item in the prehistoric diet. The Bass Lake diagram showed essentially the same picture for the Barrie area.

Analysis of a boreal forest core sample from Lac Yelle near Cochrane indicated that the region has been boreal forest since deglaciation, but that about 7,000 B.P. the climate was warmer than it is today. This conclusion was drawn from observation of lower pine and higher spruce frequencies previously, followed by a peak in white pine around 7,000 B.P.

The emergence of land from the sea in the Hudson Bay Lowlands was revealed by a pollen diagram from R Lake near Winisk. Today, the area is taiga, dominated by black spruce; this situation first appears at around 5,000 B.P. on the pollen diagram, and is confirmed by the concomitant disappearance of herbs, an event which would be expected to accompany such land emergence.

The application of pollen analysis to a recent faunal discovery made by Paddy Reid and Grace Rajnovich near Kenora may well provide the most recent date for the extinction of one Pleistocene megafauna species, Bison crassicornis. The entire skeleton of a bison was recovered from peat deposits around Hayes Lake and was subsequently identified as B. crassicornis by George Lammers of the Manitoba Museum of Man and Nature. Matrix samples were taken from within the skull and from both the base and the surface of the peat deposit at the discovery site. A control sample was also taken from another area of the peat deposit. Results obtained from pollen analysis show a high correlation between control and bone recovery areas for basal through surface environments; importantly, the sample taken from within the bison skull appears on the pollen diagram at the period around 7,000 years ago, when the environment consisted of an open jack pine forest. It would appear that at least one relict population of B. crassicornis existed in northern Ontario well after the postulated widespread extinctions of Pleistocene megafauna ca. 10,000 years ago.

The results of work carried out in 1973 and 1974 near Toronto includes the documentation, through pollen analysis, of a shift from a beech-maple forest to an oak-pine forest around 1,500 A.D. at Crawford Lake. The associated increase in grass pollen, including maize (Zea mays), in Crawford Lake sediments dating between 1310 and 1535 A.D. allowed the prediction -- later confirmed by archaeological excavations -- that prehistoric agriculture was being practised in the immediate vicinity by Iroquoian villagers. Subsequent refinement of the data analysis permitted the suggestion that those sites excavated were occupied between 1435 and 1459 A.D.

The work carried out at Crawford Lake provided a unique opportunity to investigate a number of archaeological problems, not the least of which was that concerning some of the effects of prehistoric agriculture on the southern Ontario landscape. From all of the foregoing examples cited, it can be seen that palynological studies have made important contributions to our understanding of the parts played by mans' activities, natural phenomena such as forest fires, and climatic change in the history of Ontario forests.

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...continued from page 6

available by those present; at the same time, it has doubtless greatly increased our eagerness to see the final results of the research that has gone into the production of the Historical Atlas of Canada. Not only is Dr. Heidenreich's knowledge of his subject both broad and deep, but his enthusiasm is boundless; to members who missed this most enjoyable evening we can only extend our sympathies.

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O.A.S. Monthly General Meeting -- Toronto -- September 17, 1980

Reported by: Christine L. Kirby

"CONTROLLING THE HEIGHTS: OCCUPATIONS OF THE OAK RIDGES MORAINE

Dr. Martha A. Latta
Assistant Professor - Anthropology
Scarborough College - University of Toronto

Dr. Latta's talk covered some of the work she has been doing on the Oak Ridges Moraine during the last few years. This moraine lies in the area north of Toronto but it is not an obvious feature to the casual observer driving up Hwy. 400 to cottage country, but which never-the-less has areas of considerable elevation. Any peoples moving from the Toronto area to Huronia would have to cross these hills.

There is a small but clear definition between sites to the south and to the north of the moraine. Champlain reported that the lands in the south of the area were less populated than the lands to the north, and this is confirmed by archaeological studies. The pre-Champlain occupations were widely distributed in southern Ontario, but at about the time of contact there was a contraction of the occupied areas. Of these, the south Hurons, the north Hurons and the Petun were of greatest interest to the meeting.

Soon after Champlain's time, the south Hurons moved north, leaving the area virtually unpopulated. On the map, this empty area more or less coincides with the Oak Ridges Moraine. It is roughly three miles wide at its broadest, and 500-600 feet high, and there are "passes" in the area of the Caledon Hills. Sand and gravel mining is destroying some sites, but is bringing others to light.

The moraine is well drained and good for growing corn. To canoe from the south of the area to the north, from the Humber River to the Nottawasaga River, a 10 mile portage across the moraine is necessary. The forest in the area was quite similar to present-day virgin forest (Beeton Site analysis by R. Fecteau). There are two sites of particular interest lying on the larger hills: Beeton on Beeton Hill (above a branch of the Nottawasaga) and Logan on Mount Wolf (overlooking the Humber).

The Beeton site was excavated by the O.A.S., under the direction of Dr.Dean Axelson and later by Dr. Latta. It covers about one hectare, and a two-row palisade was found as well as some house remains. The artifacts were post-Middleport Lalonde types: high collared pots with neck decoration and some annular punctates, and Lalonde pipes. The handles on vessels were unusually large, the projectile points quite ordinary although somewhat resembling the Petun points. There was a lot of European material in

disturbed contexts from the first dig. There is evidence that at least 18 people were butchered on the site. The clear definition between soil and subsoil clearly showed post holes and hearths.

(There is currently considerable discussion as to how old the European contact period is in this area, and some conclusions may have been drawn from material found in dubious contexts.)

The Logan site has been excavated by several people, but Dr. Latta has only been able to surface collect on it. She showed slides of some of the excavated material: flared trumpet pipes, bone, some lithic artifacts and a lot of debitage. From the very limited sample of artifacts from the Logan site, it would seem that it is a little later than Beeton. (A C14 dating is being done on Beeton material.)

Logan and Beeton are separated by the heights of the moraine, but lie on similar types of land. Perhaps they were located in those positions to make use of the portage from the Humber to the Nottawasaga, being trading stations for goods and/or people going from the south to the north. What might they have been trading? The only item out of balance is the stone. The major source of good quality chert in the Ontario region is in the south - there is virtually none in Huronia, so if people there wanted chert, they either had to go to the Hamilton area for it, or trade goods for it.

Dr. Latta postulated that these two sites represent the locus of a major intersection in this trade system. Perhaps they charged tolls to people and goods moving through (as is reported for one Algonquian village). These sites are both very rich for such small sites. They are located on the highest points, making them visible for miles around. Beeton was not a defensible village - therefore the choice of location was for another reason. But its smoke would be very visible from great distances, and parties approaching it would also be seen a long way off.

* * * * *

ANCIENT INDIAN HOME SITE FOUND IN MAINE FOREST

Archaeologists have discovered and excavated a rare, 11,000-year-old Indian home site and killing ground in the forests of western Maine.

Richard Gramly of the Maine State Museum said discovery of the killing ground connected with a living area was unique to any Indian site east of the Mississippi River.

"We have a home site, a killing ground, thousands of stone tools and even a nearby area where the Indians got the high quality stone they used to make their tools," Mr. Gramly said.

from the Globe & Mail, October 17, 1980

BOOK REVIEW by Brett Walwyn

Storck, P.L. A Report on the Banting and Hussey Sites: Two Paleo-Indian Campsites in Simcoe County, Southern Ontario. National Museum of Man Mercury Series, Archaeological Survey of Canada, Paper No. 93. Ottawa: 1979. 123 pp., abstract, figures, tables, appendices, bibliography. No index. Illustrated, soft cover.

This topical and detailed account of archaeological work at the Banting and Hussey sites provides a comprehensive overview of three years of excavations and a good evaluation of the assorted artifacts discovered during this period.

The report opens with a full description of both sites including their Geology and the method of excavation. Artifacts from the Banting site include flake gravers, scrapers and other implements diagnostic of general Paleo-Indian occupation, while work at the Hussey site yielded fluted and lanceolate projectile points indicative of Early and Late Paleo-Indian peoples. Some implications of the two sites for Paleo-Indian cultural-ecological adaptations are also discussed, and despite the absence of accurate radiocarbon dates for either locality, the author goes on to suggest a reasonable description of the environmental context of the sites, based on supposed occupation from perhaps 11,600 - 10,400 Y.B.P. and also environmental studies of the Lake Algonquin area.

The discussion then widens to consider general Paleo-Indian subsistence in eastern North America and the possible significance of glacial Lake Algonquin in the subsistence patterns of early man. The 1974 Lake Algonquin Strandline Survey is included as an appendix to the report and the bibliography lists a substantial body of background reading.

The excavations at the Banting and Hussey sites represent a valuable addition to our present knowledge of Paleo-Indian settlements in Ontario and it is to be hoped that this work will lead to the discovery of similar sites in future years.

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REVIEWERS WANTED FOR ARCH NOTES ...

The O.A.S. library regularly receives the latest archaeological publications. To bring these to the notice of our members as well as to encourage and recognise the kindness of the donors we need to review these in Arch Notes. Our thanks to Brett Walwyn for the example above. We can keep quite a few reviewers busy and if you could read a publication say once every two or four months, write approximately a page about it, then please contact Charlie Garrad at any meeting, or phone 223-2752. You too can get your name in print!

THE TRANSITION BETWEEN THE EARLY AND MIDDLE ONTARIO IROQUOIS STAGES

by Geoffrey E. Sutherland*

INTRODUCTION

This paper examines the evidence for significant changes between the cultural patterns of the groups which have been designated as Early Ontario Iroquois and the groups designated as Middle Ontario Iroquois, and also investigates the relative homogeneity ascribed to the latter groups. Contemporaneous cultural forms in adjacent areas are considered in an effort to determine the type of interaction, if any, between these areas and Ontario. Attention is drawn to the differences rather than the similarities between groups of Middle Ontario Iroquois sites, and it is suggested that distinct groups remained in their areas through the Early and Middle Ontario Iroquois stages, the concept of a hundred-year cultural fusion, with preceding convergence and subsequent divergence being unnecessary.

It is further suggested that, if the Bennett site, which is ceramically related to the Pickering sites of Boys and Miller but geographically well separated, be treated as that of a residence group distinct from Pickering, then only Boys and Miller should be seriated together, and that other artifactual evidence encourages the acceptance of the radiocarbon date of AD 1125±70 for Miller.

GEOGRAPHICAL AND TEMPORAL FRAMEWORK

The area under study is bounded on the south by Lakes Ontario and Erie, on the west by Lakes Huron and St. Clair, and on the north by a line from Kingston, Ontario, to the mouth of the Severn river at Honey Harbour (see fig.1).

It is generally agreed that the transition from the Early to the Middle stage of the Ontario Iroquois Tradition took place in the fourteenth century AD (Noble 1975a:51, Pendergast 1975:47), and J.V. Wright (1972:74) suggests the beginning of the century as the appropriate date.

HYPOTHESES REGARDING THE TRANSITION

Although the characteristics of both the Early and Middle Ontario Iroquois cultural manifestations have been defined in some

** This paper by Geof. Sutherland (currently O.A.S. Treasurer) won him the first J. NORMAN EMERSON AWARD from the Department of Anthropology, University of Toronto, in 1979. This award is given annually to the person who submits the best undergraduate paper on any aspect of Ontario Archaeology, or on closely related topics.*

detail, the circumstances of the transition and the sources of the changes in cultural material are not well understood. Indeed, as recently as November 1978, M.J. Wright (1978:32) described this period of Iroquois development as "contentious". J.V. Wright sees the two branches of the Early stage, the Pickering and the Glen Meyer, developing independently in their respective areas of southeast and southwest Ontario (see fig. 1), but states

> "By A.D. 1300 peoples of the Pickering branch had conquered and absorbed the Glen Meyer branch, thus terminating the Early Ontario Iroquois stage and initiating the Middle Ontario Iroquois stage"
>
> (J.V.Wright 1966:22)

Evidence cited for this conquest theory is the appearance in southwestern Ontario of a complex which is characteristic of southeastern Ontario. A substantial number of Glen Meyer elements are, however, found in later Middle Ontario sequences in south western Ontario (J.V. Wright 1966:40), a feature attributed to the partial absorption of the Glen Meyer people by their conquerors (J.V. Wright 1972:74). During the Early Ontario Iroquois stage, the Pickering branch are seen as interacting with the eastern Owasco complexes of New York state, whereas the Glen Meyer had a "general association" with the Canandaigua focus of western New York; in the Middle Ontario stage, Ontario traits appear in all other complexes of the northeastern Iroquois co-tradition (J.V. Wright 1966:97-99). Nevertheless, J.V. Wright (1966:99) insists that there is little evidence of borrowing even between adjacent and closely related groups, and that the autonomous clan village, with emphasis on locality, remained the dominant force throughout the Ontario Iroquois tradition. It is difficult to reconcile the concept of such a village with the hypothesis not only of an organized conquest of a large area, but also of its subsequent occupation by the conquerors.

Noble (1969:16) is satisfied that the settlement and subsistence patterns, burial practices and pipe forms all point to an in situ development in southern Ontario, but he suggests that any decision as to the precise mode of fusion between the Glen Meyer and Pickering peoples "should be held in abeyance", as he considers Wright's conquest hypothesis to be controversial (Noble 1975a:50/51).

Fox too has difficulty in identifying the process of change.

> "Despite evidence suggestive of conflict, it is believed that there may well have been an in situ Early to Middle Ontario Iroquois transition in the region". (Southwestern Ontario)
>
> (Fox 1973:191)

At the other end of the study area, Pendergast (1975:47/48) notes that Pickering influence developed into Middleport influ-

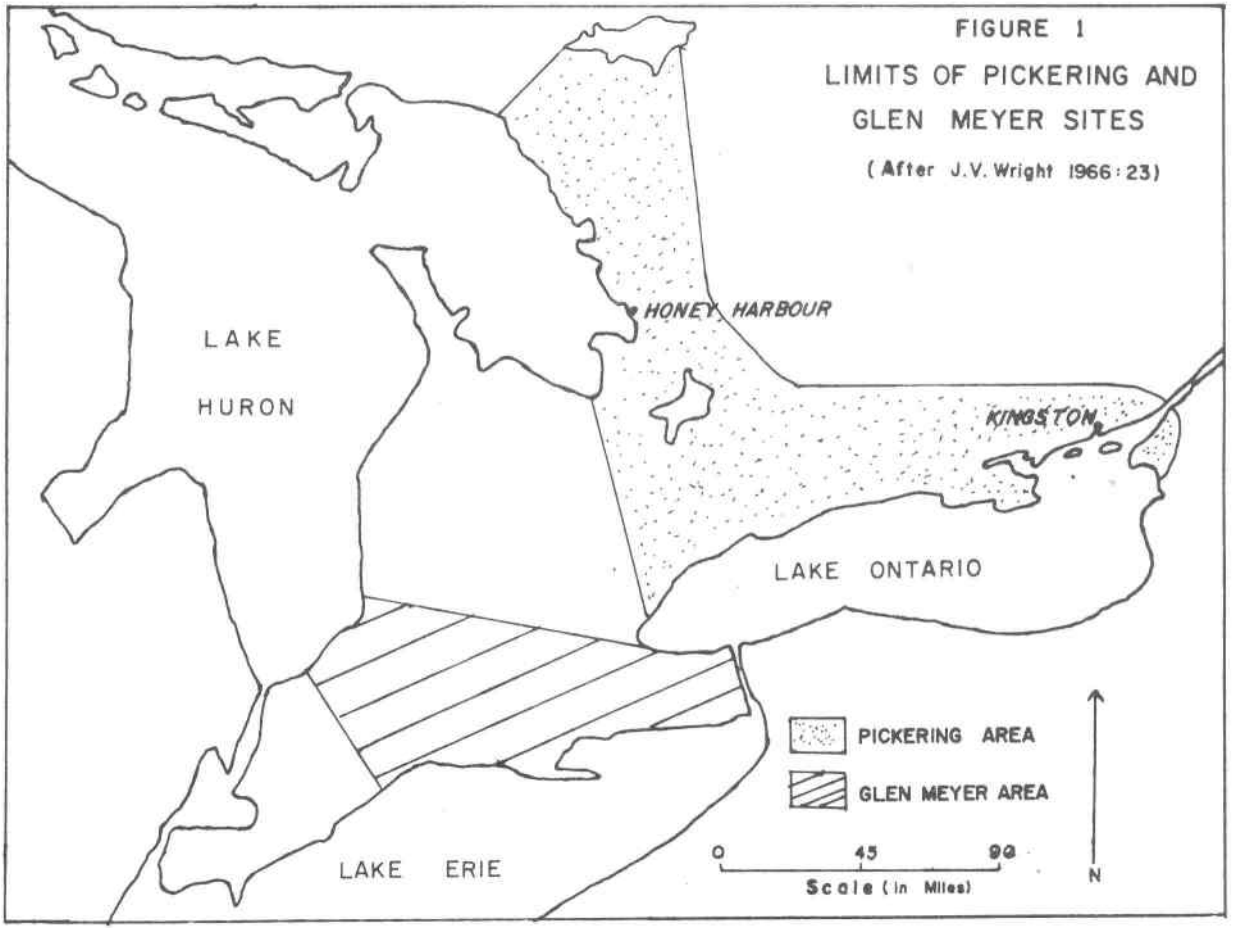
FIGURE 1
LIMITS OF PICKERING AND GLEN MEYER SITES
(After J.V. Wright 1966:23)
HONEY HARBOUR
KINGSTON
LAKE HURON
LAKE ONTARIO
LAKE ERIE
PICKERING AREA
GLEN MEYER AREA
0 45 90
Scale (in Miles)
N

ence around the foot of Lake Ontario about AD 1350.

Stothers, on the other hand, suggests a Western Basin Tradition covering southeast Michigan, northwest Ohio and southwest Ontario, spanning the period from about AD 500 to 1400, in which there was an "amazing correspondence" of ceramic types and attributes between the successive stages in Ontario and southeast Michigan (Stothers 1977:13). Ossuaries appear throughout the area. Indeed, large-scale burials are reported earlier in Michigan than in Ontario (Fitting 1970:155/156). Stothers postulates strong cultural intrusion into Ontario in the Princess Point period, sometime after AD 500, and the maintenance of strong cultural contact until the withdrawal of southeast Michigan people into Ontario after AD 1400 (Stothers 1975:21,23). Fitting (1970:155), however, sees a possible movement of people in the reverse direction during the period AD 1000 to 1300 as an explanation of Glen Meyer-like ceramic motifs in southwest Michigan.

ONTARIO IROQUOIS CULTURAL DEFINITIONS

1. The Early Ontario Iroquois Stage.

(a). The Pickering Branch.

This term was first applied to material from the Miller site and similar assemblages from East Sugar Island in Rice lake, Frank Bay on Lake Nipissing, and Barrie (J.V. Wright 1966:40). Settlement patterns consisted of many small camp sites, usually at fishing areas, and a few larger, palisaded villages occupying up to three acres. Houses were ovate in the earlier part of the period, evolving later into a rectangular form (J.V. Wright 1966:22). The earliest Pickering village yet discovered is considered to be Miller (see fig. 2), which has been dated to around AD 800 on the basis of ceramic seriation with later sites (Noble 1975b:38), although the single radiocarbon date of AD 1125±70 (Kenyon 1968:50) would place it later in the series. Kenyon (1968:5) himself prefers the earlier date on the basis of cultural affiliation.

The Pickering people relied heavily on hunting and fishing, but some corn agriculture was practised. Bundle burials, and later some flexed burials, in and around the village were characteristic of Pickering sites. Artifacts found at Pickering sites, but not at contemporaneous Glen Meyer sites, were ceramic gaming discs and perforated deer phalanges (J.V. Wright 1966:22,52/53). Pickering and Glen Meyer ceramic attributes were distinctive from each other, dentate and linear stamping and push-pull work being the predominant rim decorations on Pickering vessels. Incising was rare except at the latest and most westerly site, Bennett, where it was the dominant form of decoration on 9% of the rims (Table 1). Exterior bosses were found on more than one third of the rims (Reid 1975:46). Pipes were usually rare and were normally plain with cylindrical form (Reid 1975:23; Wright and Anderson 1969:48/49), although many pipes, some of which were incised, were found at Miller (Kenyon 1968:48/49). The rare

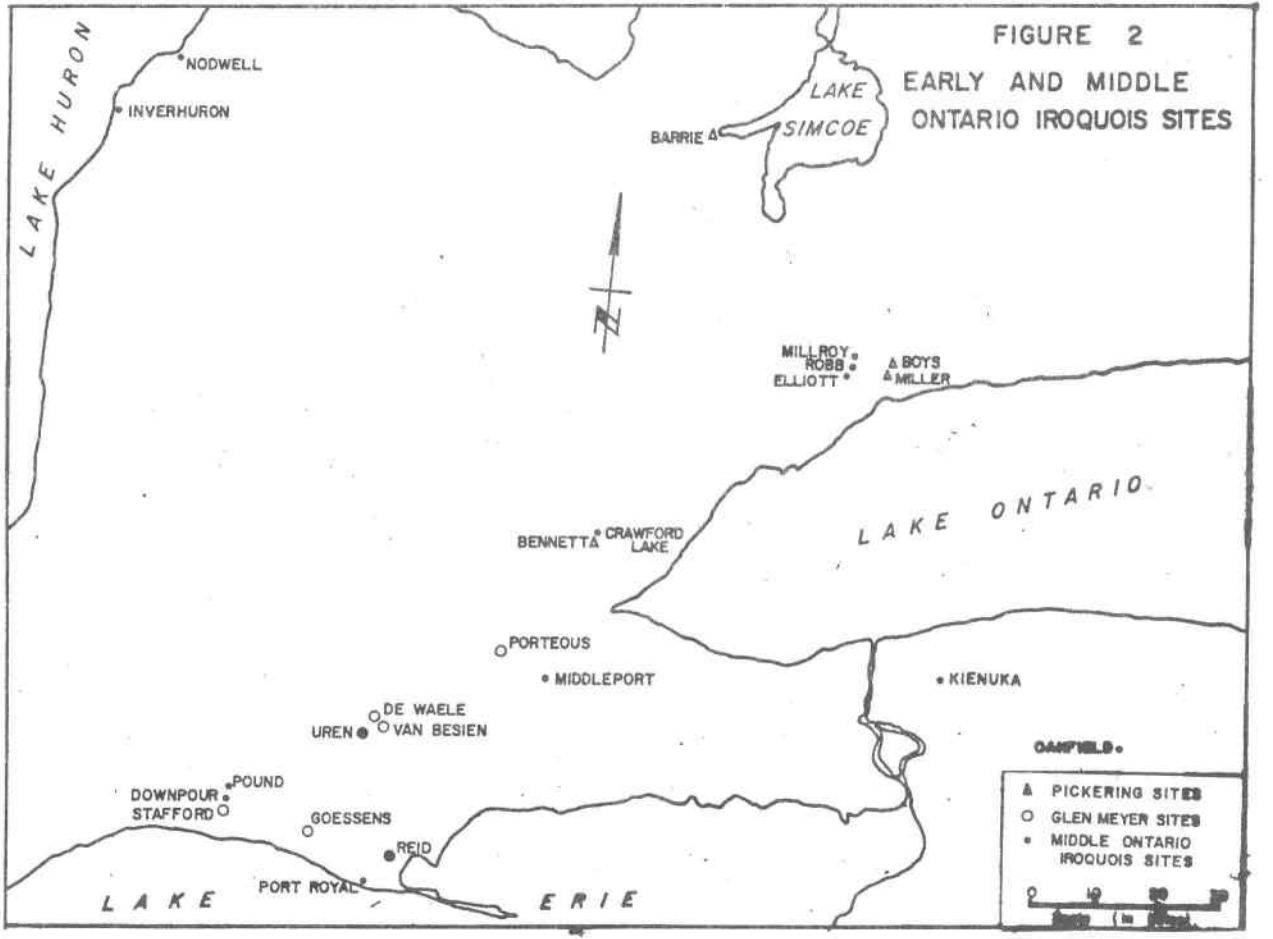
FIGURE 2
EARLY AND MIDDLE ONTARIO IROQUOIS SITES
LAKE HURON
NODWELL
INVERHURON
LAKE SIMCOE
BARRIE
MILLROY
ROBB
ELLIOTT
BOYS
MILLER
LAKE ONTARIO
BENNETT
CRAWFORD LAKE
PORTEOUS
MIDDLEPORT
KIENUKA
DE WAELE
VAN BESIEN
UREN
CAMFIELD
POUND
DOWNPOUR
STAFFORD
GOESSENS
REID
PORT ROYAL
LAKE ERIE
PICKERING SITES
GLEN MEYER SITES
MIDDLE ONTARIO IROQUOIS SITES

projectile points were mainly triangular at the Boys and Bennett sites (Reid 1975:28; Wright and Anderson 1969:50), but again Miller was the exception, with slightly more side-notched points than triangular (Kenyon 1968:28/29).

(b) The Glen Meyer Branch.

The term "Glen Meyer" was first applied by Lee (1951:45) to material from sites in southwest Ontario which were typologically seen as later than Owasco but earlier than Uren, although Glen Meyer and New York Owasco are now viewed as being contemporaneous. Village sites of some two acres on tributaries of major streams are typical of Glen Meyer (Fox 1973:169), although Van Besien covered three acres. Except for the very early Porteous site, dated to about AD 700 (Noble 1975a:5), the villages were usually palisaded. As at Pickering sites, the early houses were ovate, the later generally more rectangular. Some fishing stations were located on the north shore of Lake Erie (Noble 1975a: 5). Like the Pickering people, those of Glen Meyer grew corn but relied heavily on hunting and fishing (J.V. Wright 1966:27). There is very little information on Glen Meyer burial patterns, but M.J. Wright (1978:28) reports a small ossuary type burial of seven individuals at Reid. It is not clear, however, that this burial relates to the Glen Meyer, because the site appears to be a mixture of Glen Meyer and Middleport components.

Artifacts found at Glen Meyer sites but not at Pickering sites were slate pebble pendants (J.V. Wright 1966:53). Cord techniques and, in the later part of the period, linear stamping were the major forms of rim decoration, although incising of rims was commoner than at Pickering sites (see Table 1). Exterior bossing is less common than in Pickering, but some interior bossing, absent in Pickering, is found at Glen Meyer sites (Reid 1975:46). Pipes were scarce and crude (J.V. Wright 1966:33); they were mainly plain and cylindrical or barrel shaped (Noble and Kenyon 1972:29; Noble 1975a:23). Projectile points were usually triangular (J.V. Wright 1966:33).

Major Early Ontario Iroquois sites are shown on figure 2.

2. The Middle Ontario Iroquois Stage.
(a). The Uren Substage.

The Uren site was excavated by Wintemberg and treated by him as one component (Wintemberg 1928), but Noble (1975a:50) now believes that the site consisted of two villages, with Middleport material at one end and late Glen Meyer at the other, and that Uren is not, therefore, an appropriate term. Fox (1978:4) now classifies the radiocarbon dates at Uren as being in the Glen Meyer period. J.V. Wright (1966:54) applied the term "Uren" to the first part of the Middle Ontario Iroquois stage and dated it to the period AD 1300 to 1350. He assigned Uren, Elliot and Downpour in southern Ontario, and Oakfield in western New York state, to this substage, which he saw as combining ceramic features from both Pickering and Glen Meyer, but it would seem

that the last three sites could more suitably be classified simply as Middle Ontario Iroquois.

Because of the artifact mixture, data from the Uren site are not used as comparative material in this paper.

(b). The Middleport Substage.

Middleport sites have been stated to exhibit a number of marked changes from Early Ontario Iroquois sites.

(1). Homogeneity.

Cultural patterns throughout the area are stated to be similar. (J.V. Wright 1966:59; Emerson 1954:240/242).

(2). Ceramics.

New types, Middleport Oblique and Lawson Incised, together with Ontario Horizontal found in Pickering and Glen Meyer sites, become dominant. Incising becomes common (J.V. Wright 1966:56), along with ribbed paddling on the body (Emerson 1954:240). Cord roughening on the body is also common (Emerson 1954:240). Wright's categorization of the dominance of the three combined ceramic types as a Middleport indicator is not borne out in all cases, because neck decorated ware is the dominant form at Pound and Nodwell, as shown in table 2.

(3). Pipes.

Decorated conical pipes are common, along with some vasiform pipes (Emerson 1954:46).

(4). Projectile Points.

A marked increase is noted in side-notched points, which J.V. Wright (1966:63) describes as one of the quantitative diagnostics of the Middleport substage. It should be noted, however, that this form was prominent at Miller in the Early Ontario Iroquois stage.

J.V. Wright (1972:75) places the end of Middle Ontario Iroquois homogeneity at about AD 1400, but the Middleport substage site at Crawford Lake may well have been occupied between AD 1434 and 1459 on the basis of pollen cores obtained from the nearby lake (Finlayson and Byrne 1975:32).

CHANGES IN CERAMICS

Following MacNeish's (1952) typology of Iroquoian pottery, it was originally considered that rimsherd types were the best evidence for change within the Ontario Iroquois Tradition. It was, moreover, inferred from the correspondence of ceramic complexes and the dialects of historic Indian tribes that cultural variation was reflected by ceramic variation to a considerable extent

throughout the Ontario Iroquois Tradition (J.V. Wright 1966: 15/16), although Ridley (1958:32) expressed reservations that pottery is not necessarily an indicator of tribal identities, nor can it be used to indicate language divisions. The opinion that ceramic changes can be used as time and space indicators remains, although the difficulty of defining a series of types which allows complete and consistent appraisal of all Ontario Iroquois sites has led to the emphasis on individual modes or attributes (J.V. Wright 1966:17/18; Emerson 1968:79). Emerson, however, cautions that individual designs may pass between groups with little social interaction, or may be invented independently, and he believed that assumptions of interaction are safer when designs and shapes are consistently combined (Emerson 1968:21/22). Nevertheless, at the Nodwell site of the Middleport substage, J.V. Wright (1974:241/243) demonstrated a substantial variation of percentages of pottery attributes and types between individual houses of the village. Even within each house there was a combination of those attributes which were believed to be early and those believed to be later in the series.

Both Noble (1975a:12) and Reid (1975:15) refer to the lack of any valid standardized typology for the Early Ontario Iroquois stage and use attribute analysis in their examinations of the available material, although J.V. Wright (1966) earlier used ceramic typology in analysing both Glen Meyer and Pickering sites. The published material on the Middle Ontario Iroquois sites, however, does not lend itself to a comprehensive between-site comparison of individual attributes, and comparison of changes in ceramics in this period must, perforce, be based largely upon type differences, a method which Smith (1978:7) adopted in her analysis of Middle Ontario Iroquois interaction.

1. Attribute Analysis.

Table 1 shows the exterior rim decorative techniques for the major Early Ontario Iroquois ceramic assemblages. It is not possible to relate the data to published statistics on any Middle Ontario site, but the dominant characteristic of the Nodwell ceramics appears, on the basis of frequency of occurrence, to have been linear stamping, with incising nearly as common and punctating of lesser importance; push-pull was of negligible occurrence (J.V. Wright 1974:231). The dominance of linear stamping and the paucity of push-pull at Nodwell would suggest an affiliation with Glen Meyer rather than Pickering.

Table 3 shows a much lower incidence of interior rim decoration in Middle Ontario Iroquois sites than in those of the preceding stage. Table 4 shows the proportion of plain body sherds, those marked with ribbed paddling and those with other decoration. Ribbed paddling is seen to be a feature of the Bennett site, present at Boys, but absent or scarcely present at the other Early Ontario Iroquois sites. In the Middle stage, however, it is very prominent throughout the area, and Wintemberg (1948: 14/15) reports it to be common at the Middleport site. This form

of decoration appears to be an example of Pickering influence, as expressed at Bennett, extending towards the previous Glen Meyer area.

2. Ceramic Typology.

Table 2 summarises the ceramic typology of two Pickering sites, two Glen Meyer sites and seven Middle Ontario Iroquois sites. The Early material contains a high proportion falling into the "miscellaneous" category, and into categories which are peculiar largely to one site. The Middle stage material is grouped by geographical area. Elliott, Robb and Millroy are located in the previous Pickering area east of Toronto, Middleport and Pound in the previous Glen Meyer area west of Toronto, while Inverhuron and Nodwell are on the shore of Lake Huron.

The change in types between the Early and Middle stages is not quite as marked as may appear, because MacNeish (1952:17) describes the Middleport Oblique as developing from Ontario Oblique. It is, however, apparent that:

(1). There was a significant change in pottery types between the two stages, although the high proportion of miscellaneous in the Early stage and at Elliott suggests that the increase in number of types in the Middle stage may be due to finer classification.

(2). There are a number of types in both stages which manifest themselves strongly at one location but weakly elsewhere.

(3). Ontario Horizontal is found at all except Glen Meyer sites, providing evidence in favour of Pickering influence extending into the Glen Meyer area. Specifically Glen Meyer types are not found in the Pickering area in the Middle Ontario Iroquois stage.

(4). There is a significant difference in the Middle stage between sites located in the previous Pickering area and those in the previous Glen Meyer area.

In summary, although there was a strong continuing ceramic influence from the Early to the Middle Ontario Iroquois stage, nevertheless a number of new types arose in the latter, two of which, Lawson Incised and Pound Necked, attained significant proportions in more than one region. This widespread distribution of new types is a strong indication of interaction throughout the area, and J.V. Wright (1966:65) has described this widespread cultural manifestation as the Middleport Horizon. Yet, clear differences remain between the assemblages of types found in the three geographic regions.

OTHER CULTURAL CHANGES

1. Projectile Points.

In most cases, collections of lithic projectile points from Middle Ontario Iroquois sites have been too small to warrant a compilation of comparative data, the only site yielding data of any consequence being Middleport. Table 5 compares this material

TABLE 1.

PICKERING AND GLEN MEYER EXTERIOR RIM DECORATIVE TECHNIQUES
(Percentage Distribution)

Technique	Pickering			Glen Meyer		
	Miller	Boys	Bennett	Porteous	Van Besien	Coessens
Dentate Stamp	67	29	3	-	-	-
Push-pull	9	21	55	-	-	-
Linear Stamp	6	20	13	4	29	49
Punctate	5	2	5	-	1	3
Plain	5	6	1	12	12	9
Incised	-	2	9	9	22	4
Cord Techniques	-	6	-	71	23	25
Other	8	13	9	4	3	10
	100	99	100	100	99	100
f =	7,400	379	372	76	770	494

After Reid 1975:42

with that from two Pickering and two Glen Meyer sites. Insufficient information is available from Middleport to permit a comparison of length/width ratios. The table shows that point forms peculiar to either Glen Meyer (corner-notched) or Pickering (convex-based triangular) are found together at Middleport, suggesting influence from both branches at the latter site. Table 5a shows a greater similarity of Pickering to Middleport, whereas Table 5b shows Glen Meyer as more similar to Middleport. This pattern precludes any firm conjecture on site relationships, although it is curious that the nearest site to Middleport, Bennett, appears to be least similar to its neighbour.

The lithic material from which the points were made was largely that found locally in Ontario, but white, opaque chert similar to that found in Ohio was recovered at the Porteous site (Noble and Kenyon 1972:17) and at Van Besien (Noble 1975a:24).

2. Settlement Patterns.

Middle Ontario Iroquois sites at which village settlement patterns have been reported are Nodwell and Crawford Lake, although there is evidence of postmoulds, possibly representing a palisade, at Middleport (Wintemberg 1948:3), and an earthwork at Pound (Fox 1973:172). Since both Nodwell (J.V. Wright 1974:7) and Crawford Lake (Finlayson and Byrne 1975:32) were palisaded and also Reid, which M.J. Wright (1978) classifies as Glen Meyer with a mixture of later components but Fox (1978) classifies as Middleport, it seems that the original suggestion that defensive considerations were of little importance in site selection during this period (J.V. Wright 1966:64) is in need of revision. Such revision calls into question the concept of a homogeneous, militarily strong Middle Ontario Iroquois group throughout the study area. Palisades were found at most Pickering and Glen Meyer sites. Interstructural walls, believed to have served a defensive function, were present at all Early Ontario Iroquois villages documented to 1973 (Fox 1973:187) and this feature appeared also at Nodwell (J.V. Wright 1974:12).

One house structure at Boys "clearly foreshadows later Iroquoian longhouses", having interior supports, a possible storage space, centrally aligned hearths and many storage pits (Reid 1975:57). Boys was a Pickering site, but similar features were found at some Glen Meyer sites, although Noble (1975a:10) cautions that there was much variation in architectural style even within a single site. The houses at Nodwell and Crawford Lake may thus be seen as a development from and a refinement of patterns originating in both of the earlier branches. The larger houses in the later stage are explicable in terms of a larger population. It is noteworthy that, even at Nodwell, house number 3 measuring 55' x 23.5' and house number 12 measuring 40' x 20' (J.V. Wright 1974:70) could more aptly be described as oval rather than longhouses.

3. Pipes.

COMPARATIVE CERAMIC TYPOLOGY-SELECTED ONTARIO SITES

(Percentage Distribution)

Table 2.

Type	Pickering		Glen Meyer		Middle Ontario Iroquois						
	Boys	Bennett	Goessens	Stafford	Elliott	Robb	Millroy	Middleport	Pound	Inverhuron	Nodwell
Iroquois Linear	4	47	-	-	43	14	-	-	-	3	7
Ontario Horizontal	2	12	-	-	13	16	8	38	24	9	24
Ontario Oblique	21	11	31	30	19	-	1	8	-	2	1
Middleport Oblique	-	-	-	-	6	51	33	15	16	12	10
Scugog Classic Bossed	18	1	-	-	-	-	-	-	-	-	-
Bossed Scugog Punct. Collar	12	3	-	-	-	-	-	-	-	-	-
Middleport Crisscross	-	2	15	12	-	2	1	17	3	-	1
Glen Meyer Linear Stamped	-	1	3	1	-	-	-	-	-	-	-
Glen Meyer Oblique	4	-	19	22	-	-	-	-	-	-	-
Ripley Plain	2	1	8	4	1	2	-	1	-	4	-
Boys Oblique Dentate	8	-	-	-	-	-	-	-	-	-	-
Stafford Stamped	-	-	6	16	-	-	-	-	-	-	-
Lawson Incised	-	-	-	-	-	7	9	12	7	22	4
Sidey Crossed	-	-	-	-	-	-	-	-	-	4	5
Lawson Opposed	-	-	-	-	-	1	2	-	-	6	2
Huron Incised	-	-	-	-	-	3	5	-	-	5	4
Black Necked	-	-	-	-	-	-	6	-	-	3	16
Pound Necked	-	-	-	-	-	-	19	5	46	10	22
Lalonde High Collared	-	-	-	-	-	-	-	-	-	13	-
Miscellaneous	28	21	18	15	19	4	13	2	4	7	3
Total	99	99	100	100	101	100	97	98	100	100	99
f =	257	543	533	207	67	184	129	308	676	235	365

From: Smith 1978:7; J.V.Wright 1966:137,145. 1974:103,108,240.

Emerson (1954:45) has pointed out that pipes are a very sensitive indicator of cultural inter-relationships in the Iroquois area. Site comparisons will be based on ceramic pipe material, although a few stone pipes were present at both Early and Middle Ontario Iroquois sites. The practice of decorating pipes, principally by incising or punctating or both, became more common in the Middle stage, as is shown in Table 6, but the change was less marked in the sites east of Toronto, namely Elliott and Robb. The degree of change does not appear to be related to the passage of time, because Robb is seriated ceramically to be later than the other sites (Smith 1978:7). On the other hand, the Roebuck site, located east of Lake Ontario, shows a proportion of decoration as high as Middleport or Nodwell. Roebuck has been included in this table because, although later than the Middle Ontario Iroquois stage, it lies in the direction from which J.V. Wright (1966:55) suggests the Middle Ontario Iroquois pipe complex may have been derived. Yet the incidence of pipe decoration increased only slightly between the two stages in the eastern sites.

The changes in pipe form between the Early and Middle stages are much more marked than is the change in the proportion of decoration. Table 6b summarizes the available data for sites where fifteen or more pipe bowls or pieces of bowls are reported. The small collections from other Early sites all show a great preponderance of cylindrical forms (Wright and Anderson 1969:48/49; Noble and Kenyon 1972:29), a form which was also prevalent at Elliott (Donaldson 1965:35). Middleport shows much less of the new forms than Nodwell, a noteworthy feature, bearing in mind that ceramic seriation (Smith 1978:7) suggests a close association of these two sites. The proportion of forms at the later Roebuck site bears a remarkable similarity to that at Nodwell, raising some question as to possible trading links between the two locations at a time earlier than that of Roebuck. J.V. Wright (1974:304) speculates that the inhabitants of Nodwell may have been trading to the Algonkians. Possibly they may have traded eastwards as well.

4. Burial Patterns.

Ossuary burial is described by J.V. Wright (1966:64) as a characteristic of the Middle Ontario Iroquois stage, although the number of individual burials reported in any one pit near Nodwell (Kapches 1976:33) or Reid (M.J. Wright 1978:28) do not attain the figure of 13 reported at the Pickering site of Miller (Kenyon 1968:23). This pattern may be expected if mass secondary burials away from the villages were a feature of the Middle Ontario Iroquois. The Fairty ossuary, about a mile from the Robb site, and containing the bones of over 300 individuals, may be an example of such a burial, although Donaldson (1962:20) doubted the connection of the ossuary with the site. Subsequently, however, J.V. Wright (1966:61) suggested that they were connected. Fox (1973:170)reports abundant multiple burials at the Glen Meyer component of the Boyd site and at the Middle Ontario Iroquois site of Port Royal. As ossuary burial was not character-

Table 3.

INCIDENCE OF INTERIOR RIM DECORATION
Selected Ontario Iroquois Sites

Sites		Rims Analyzed	Percent of Rims with Interior Decoration
Pickering	-Miller	7,679	32
	-Boys	379	50
	-Bennett	372	34
Glen Meyer	-Porteous	53	79
	-Van Besien	779	22
	-Coessens	494	60
Middle Ontario Iroquois	-Middleport	1,692	14
	-Hodwell	396	0

From: Reid 1975:44
Wintemberg 1948:12
J.V.Wright 1974:233

istic of northeastern Iroquois other than those in Ontario, it seems that the practice developed in situ (Noble 1969:22).

5. Miscellaneous Artifacts.

Perforated ceramic discs and deer phalanges were found at Pickering sites, but not at those of the Glen Meyer people. Both types of artifact appear at Middleport (Wintemberg 1948:22/23), a find which provides yet further evidence of interaction between the Pickering people and the inhabitants of southwestern Ontario. Copper artifacts appear in sites of the Early and Middle stages, and in southeast and southwest Ontario and on the Lake Huron shore (Reid 1975:33; Noble 1975a:45; J.V.Wright 1974:303), underscoring the continuing interaction with other peoples throughout both stages.

CULTURAL CHANGE IN ADJACENT AREAS

1. New York State.

(a). Owasco Phase.

The Owasco Phase covered the period from about AD 1000 to 1300 in central and eastern New York state, but was represented only marginally in western New York, which Ritchie believes to have been occupied by groups continuous into southwestern Ontario, and in northern New York, where the Pillar Point site shows affinities with the Pickering people rather than with Owasco (Ritchie 1969:273-275). Ceramics were characterized by corded stick rim decoration and plain bodies. Rim incising appeared in the final part of the period (Ritchie and MacNeish 1949:107), just as it did in the later Early Ontario Iroquois stage. Oval houses and longhouses are found on the same sites, and the houses at Maxon-Derby, dated to about AD 1100, are described as closely paralleling those at Miller of similar radiocarbon date (Ritchie 1969:282). Noble (1969:23/24) has pointed out that the Glen Meyer pipes were not as elaborate as those of contemporary New York state, where the plain pipes of the early part of the Owasco period were succeeded by incised and cord decorated pipes and by some effigy pipes (Ritchie 1969:296; Tuck 1971:23). Such burials as were found were normally dispersed in old cache pits, but several sites yielded no burials (Ritchie 1969:296).

Owasco cultigens were corn, beans and squash, found as early as AD 1070 at the Roundtop site (Ritchie 1969:xxv). As in Pickering sites, perforated deer phalanges were a feature of the Owasco (Ritchie 1969:294).

(b). Oak Hill and Chance Phases.

The Oak Hill phase succeeded the Owasco in central and eastern New York state and is radiocarbon dated to about AD 1300 to 1390 (Ritchie 1969:303), the same period envisaged by J.V. Wright for the Middle Ontario Iroquois stage. Oak Hill was in turn succeeded by the Chance phase, although there seems to have been

Table 4.

INCIDENCE OF BODY SHERD DECORATION
Selected Ontario Iroquois Sites

Sites		f	Plain	Ribbed Paddling	Other Decoration
			%	%	%
Pickering	-Miller	2,873	44	-	56
	-Boys	2,616	50	12	38
	-Bennett	4,905	52	38	10
Glen Meyer	-Porteous	916	30	-	70
	-Van Besien	4,019	33	1	66
	-Boessens	1,807	10	-	90
Middle Ontario Iroquois	-Dowmpour	94	35	60	5
	-Elliott	2,365	36	49	15
	-Nodwell	2,116	84	15	1
	-Crawford Lake	205	60	39	1

From: Donaldson 1965:23
Finlayson and Watson 1974:52/54
Reid 1975:49
J.V.Wright 1966:143, 1974:237

some overlap, as Ritchie (1969:314) dates the latter in the Mohawk valley to AD 1325±75 and AD 1398±150. Subsequently, Tuck (1971:139) reported dates in the fifteenth century for the Chance phase in the Onondaga district.

Oak Hill ceramics represented a gradual change from those of the preceding period, but, by the Chance phase, incising had replaced cord impressing (Ritchie 1969:313). Projectile points were unnotched and mainly concave based (Tuck 1971:67,75). Palisaded villages containing both oval and longhouses are found in the Oak Hill phase, and parallel house alignment was reported from the Oak Hill phase Furnace Brook site (Tuck 1971:49,58,72). Conical and trumpet pipes were not as common in the Onondaga district as at contemporaneous Middle Ontario Iroquois sites (Tuck 1971:66,75). On the otherhand, at the Chance phase sites of this district, the pipes were almost entirely of trumpet form (Tuck 1971:116,133).

Two sites in western New York state bear some similarities to Middle Ontario Iroquois sites. Oakfield is similar to Uren, but there is no bossing on the Oakfield ceramics, nor are there any notched projectile points there. Kienuka is more similar to Middleport, but again there are significant differences in the presence of interrupted linear impressions on Kienuka ceramics and the absence of notched projectile points there (White 1961: 71). The pipe assemblage was small at both Oakfield and Kienuka, and only at the latter were there Iroquois ring bowl pipes (White 1961:94,118). Smith (1978:13) included these two sites in her seriation of Middle Ontario Iroquois sites, but both showed only peripheral connection with Ontario.

The small pipe assemblages in western New York, and the scarcity of conical pipes in the Onondaga district until the fifteenth century suggest that the Middle Ontario Iroquois pipe complex probably entered Ontario from the east rather than from western New York.

2. Michigan.

The Younge Tradition, merged by Stothers (1977) into the Western Basin Tradition, commenced with the Younge phase, dated from about AD 900 to 1100, and continued into the Springwells phase from about AD 1100 to 1250, concluding with the Wolfe phase. There is no radiocarbon date for the last phase, but a time range of AD 1250 to 1450 is predicated on the basis of a date from a site with similar ceramics (Fitting 1970:156-158). During the period from AD 1000 to 1300, Glen Meyer ceramic motifs and vessel forms were dominant in southeastern Michigan, 49% of the ceramic specimens at the Wolfe site being similar to those of southwestern Ontario (Fitting 1970:154-158).

Village site debris other than ceramics is rare, but a feature of southeastern Michigan sites is the number of burials, leading Fitting (1970:60) to suggest that base villages may have been located to the east (presumably in southwest Ontario), and that

PROJECTILE POINTS Table 5.

Percentage Distribution at Selected Sites

a. Lithic Projectile Point Forms

Point Form	Pickering		Glen Meyer		Middleport
	Miller	Bennett	Porteous	Van Besien	
	%	%	%	%	%
Triangular Unnotched	39	79	70	84	64
Side notched	43	21	13	12	26
Corner notched	-	-	3	1	5
Stemmed	13	-	13	3	4
	100	100	99	100	99
f =	54	14	30	77	134

Coefficients of similarity: Middleport to Miller 139
Porteous 131
Bennett 120
Van Besien 103

b. Triangular Lithic Projectile Point Bases

Base Form	Pickering		Glen Meyer		Middleport
	Miller	Bennett	Porteous	Van Besien	
	%	%	%	%	%
Straight	80	37	64	46	44
Concave	7	45	36	54	36
Convex	13	18	-	-	20
	100	100	100	100	100
f =	15	11	14	65	69

Coefficients of similarity: Middleport to Van Besien 100
Porteous 100
Miller 123
Bennett 114

Tables from: Kenyon 1968:29/29; Noble 1975a:26-28; Noble and Kenyon 1972:18/19; Wintemberg 1942:3/9; Wright and Anderson 1969:50.

southeast Michigan was a burial area.

3. General.

It is clear that there was much interaction between the people of Ontario and those of adjacent areas through much of the Early and Middle Ontario Iroquois stages. Lee (1952:68) tested a site near Sarnia in which there was ample material to identify the site with the Wolfe site in Michigan, and Wintemberg (1928:50) described bone "draw-shave scrapers" at Uren, which suggested contact with people from Ohio, where such objects were common.

DISCUSSION AND CONCLUSIONS

The change to conical or trumpet pipe forms which occurred in the Middle Ontario Iroquois stage has been ascribed (J.V. Wright 1966:63) to influence from the northeast and not to in situ development, a suggestion borne out by the present analysis. Bean cultivation at Crawford Lake (Finlayson and Byrne 1975:23) follows by some 400 years the first appearance of this crop among the New York Owasco. These two cultural elements were relatively slow to make their appearance in Ontario, but the change to incising as a common pottery decorative technique seems to have spread almost contemporaneously throughout the entire Iroquois area. Perhaps the rapid spread of pipes with this form of decoration acted as a model to encourage the greater use of this technique on pottery.

The increase in the proportions of side-notched points in Middle Ontario Iroquois times, which was not matched in New York or Michigan, the growth of ossuary burial, also restricted largely to Ontario, and the late occurrence of bean cultivation in Ontario, together suggest that there was no substantial migration of people into Ontario at the beginning of the Middle Ontario Iroquois stage. The transport of pipes presupposes some relationship between complexes separated by a considerable stretch of territory to the east of Duffin's Creek in which no sites of the Middle stage have been reported. This problem of empty territory casts doubt on J.V. Wright's conquest hypothesis as an explanation of the fusion of Glen Meyer and Pickering characteristics, because there appears to be no reported Early or Middle Ontario Iroquois site between the Rouge river complex and the sites at Bennett and Crawford Lake, many miles to the west. The intervening land is well watered, was well forested, and is suitable for agriculture. Why travel many miles to fight for land already occupied if suitable empty territory is available?

Tuck (1971:47) provides a clue to the nature of the transition between the Early and Middle Ontario Iroquois stages when he draws attention to significant differences between the components of the Oak Hill phase, differences which he attributes (1971:208) to long term occupation of discrete areas by different communities. Finlayson and Matson (1974:67) suggest that pottery type frequency variations between the Toronto area Middle stage sites and those of southwest Ontario can be viewed

CERAMIC PIPE BOWLS
Selected Ontario Iroquois Sites

Table 6.

a. Pipe Bowl Decoration

Sites		f	Undecorated %	Decorated %
Pickering	-Miller	116	58	42
	-Boys	15	60	40
Glen Meyer	-Van Besien	30	70	30
Middle Ontario Iroquois	-Elliott	29	52	48
	-Robb	67	54	46
	-Middleport	175	33	67
	-Pound	72	44	56
	-Nodwell	74	35	65
Late Ontario Iroquois	-Roebuck	328	37	63

b. Pipe Bowl Form

Sites		f	Cylindrical & Barrel %	Conoidal & Trumpet %	Other %
Pickering	-Miller		Generally		
	-Boys	15	93	-	7
Glen Meyer	-Van Besien	30	93	-	7
Middle Ontario Iroquois	-Middleport	185	43	52	5
	-Nodwell	74	9	84	7
Late Ontario Iroquois	-Roebuck	269	11	86	3

Tables from: Donaldson 1962:18, 1965:21; Kenyon 1968:48/49; Noble 1975a:23; Reid 1975:25; Wintemberg 1936:77-84, 1948:23-26; J.V.Wright 1974:96-213; Woolfrey et al. 1976:5.

as regional indicators. The model of the Middle Ontario Iroquois stage as a common cultural base formed by the fusion of the Pickering and Glen Meyer peoples, a base which later diverged into four historic tribes, the Erie, Neutral, Huron and Petun (J.V. Wright 1972:70), is based on the differences between the Pickering and Glen Meyer cultures and between the cultures of the historic tribes, and on an emphasis on the similarities of the Middle Ontario Iroquois people. But there appear to have been significant differences between regions also in the Middle Ontario Iroquois period.

Ceramic typology (Smith 1978:7) produces a cluster of eastern sites at each end of the seriation, if Bennett and Crawford Lake are taken as the western limit of the eastern area. All western and northern sites lie between these two clusters, with no eastern sites within the central part of the seriation, which may, therefore, be more geographical than temporal (see Table 7). Moreover, Table 2 displays substantial differences in proportions of even common ceramic types between different Middle stage sites. Marked differences are shown for body sherd decoration at Middle stage sites (Table 4), although not on a strictly east versus west basis. The incidence of pipe decoration at Middleport and Nodwell is quite different from that at Elliott and Robb, while pipe forms are different between Middleport and Nodwell, the only two sites adequately reported for this characteristic.

It is here suggested that sufficient differences exist between sites of the Middle Ontario Iroquois stage to cause one to question whether there was any more cultural fusion for this period than there was for the preceding or succeeding stages. It may be that we are dealing with groups of people, interacting with other groups throughout the Early and Middle Ontario Iroquois stages, but retaining their own identity. The groups appear to be largely located in two widely separated areas;

1. East of Toronto in the Rouge River/Duffin's Creek region.
2. In the Otter Creek and Catfish Creek drainage basins.

Between these two groups are two smaller clusters, Bennett and Crawford Lake which are ceramically related to the eastern group, and Porteous and Middleport which may not relate to a continuing group in view of the time spread between them.

There is a dearth of detailed reports on Middle Ontario Iroquois sites, and the suggestion that the cultural base may not have been any more common in this period than in the Early and Late Ontario Iroquois stages can only be tested by the excavation of a number of Middle stage sites in the study area, reported with comparative documentation, covering pipes, lithics and ceramics, and supported by at least two radiocarbon dates in each case to avoid the problem that a single date may be accepted or rejected depending upon its consistency with other criteria. Certainty of dating will hold the temporal frame constant, enabling one to delineate regional differences. An example of the situation arising from the provision of only one radiocarbon date is the

RIM SHERD SERIATION FOR SEVENTEEN IROQUOIAN SITES

Table 7.

Pottery Types in Percentage / Sites	Barrie	Bennett	Elliott	Thomsen	Uren	Oakfield	Downpour	Pound	Inverhuron	Kienuka	Methodist Pt.	Middleport	Nodwell	Milroy	Crawford Lake	Sewell	Robb
Iroquois Linear	49	47	43	12	15	14	13		3	8	21		8			1	14
Ontario Horizontal	7	12	13	24	48	30	50	24	9	15	8	38	21	8	9	27	16
Ontario Oblique	19	11	19	31	21	1	3		2	1	4	8	1	1		4	
Ripley Plain	2	1	1	4		2	18		4	1	17	1			2	2	2
Bossed Scugog Punct. Collar	19	3		1													
Glen Meyer Linear Stamped		1					3										
Middleport Crisscross		2		1				3				17	1	1	2	2	2
Middleport Oblique			6	6		3		16	12	12	34	15	15	33	41	46	51
Stafford Stamped				3			6										
Pound Necked				2				46	10			5	20	19	19	3	
Lawson Opposed									6	2			2	2	7	2	1
Niagara Collared					1	3		1		2		2					
Lawson Incised					1			7	22	11		12	6	9	5	1	7
Huron Incised						1			5	18	4		4	5	2	1	3
Pound Blank								3									
Black Necked									3				13	6		6	
Sidey Crossed									4		4		5			2	
Lalonde High Collar									13						5		
Seed Incised									5								
Uren Corded											4						
Curved Dentate/Bossed											4						
Miscellaneous	5	22	19	15	13	46	6		2	30			2	13	7	1	4
	101	99	101	99	99	100	99	100	100	100	100	98	98	97	99	98	100
f =	69	543	67	182	1087	129	32	676	235	131	24	308	415	129	43	206	184

Condensed from: Smith 1978:7, Table 23.

Miller site, where the single date of AD 1125+70 has been rejected largely on the basis of seriation of ceramic techniques. Yet Miller houses are very similar to twelfth century houses at Maxon-Derby and are aligned in a manner quite similar to Middle Ontario Iroquois practice. A Miller burial pit contained 13 individuals, a prototype of the Middle Ontario Iroquois ossuary. Miller yielded a substantial quantity of ceramic pipes, unusual for any site of the Early stage. Finally, the proportions of Miller projectile point forms are more similar to those at Middleport than are those of other Early stage sites.

Ceramic seriation with both Boys and Bennett places Miller earlier than Boys, but, if the hypothesis that we are dealing with different groups through time is true, Bennett may be removed from the eastern region ceramic sequence. The less certain order of ceramic seriation arising from such removal, taken in conjunction with the other characteristics at Miller which have been noted above, suggest that the date of AD 1125 may be acceptable.

Published data on the Middle Ontario Iroquois stage remains scanty indeed, except for the peripheral area of the Lake Huron shore. Without organized data, reported on a comparable basis, archaeologists will continue to refer to the transitional period from the Early to the Middle Ontario Iroquois stage as enigmatic or contentious.

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* * * * *

O.A.S. SEVENTH ANNUAL SYMPOSIUM

"THE ARCHAEOLOGY OF THE LAKE ERIE BASIN"

The seventh annual Symposium of the Ontario Archaeological Society was held at the Holiday Inn, City Centre, London, Ontario, October 24-26, 1980.

Innovations in this year's event included a regional theme, a two-day event and an additional program to accommodate the growing interest in historical archaeology. The Symposium was hosted by the London Chapter under the direction of James Keron, William Fox, Norah McWilliam, Robert Pihl and Robert Mayer, members of the Symposium Committee. During the course of the symposium, the O.A.S. acquired 10-20 new memberships.

Following the opening of the Hospitality Suite on Friday evening, where new friends were met and old acquaintances renewed, Saturday and Sunday saw the presentation of twenty-one papers in five sessions. Three sessions were given to the prehistory, and two to the history, of the Lake Erie Basin. A very good response was received from the other side of the lake and we were fortunate in having speakers from Michigan, Ohio and New York State.

Two prehistory sessions were held on Saturday. The morning session, "Late Woodland Prehistory of the Lake Erie Basin" was chaired by Dr. M. Latta and session papers were discussed by Dr. D. Keenlyside. The afternoon session, "Archaic Prehistory of the Lake Erie Basin", was chaired by Dr. W. Roosa. The discussant for this session was Dr. R. Johnston. The historical sessions, filling Saturday morning and afternoon, were chaired by Elizabeth Snow. The discussant at these was Dr. M. Hill. Dr. Douglas Wright (Deputy Minister, Ontario Ministry of Culture and Recreation) welcomed the participants at the morning sessions.

The third prehistoric session took place Sunday morning under the title "Regional Perspectives". This was chaired by Dr. W. Finlayson. Tours of the Museum of Indian Archaeology, Lawson Site and Ska Nah Doht were presented in the afternoon.

Throughout the Symposium, publications of the National Museum of Canada, the O.A.S., the Museum of Indian Archaeology, the Ontario Ministry of Culture and Recreation and the Royal Ontario Museum were offered for sale, under the direction of Mr. Chas. Garrad.

The Symposium attendance was approximately 190, with 110 attending the Symposium Banquet on Saturday evening. Head table guests at the banquet were Mr. John White, Vice Chairman of the Ontario Heritage Foundation; Mr. Richard Apted, Director, Historical Planning and Research Branch, Ministry of Culture and

Recreation; Dr. Charles Cleland, Michigan State University.

Dr. Cleland, the guest speaker, gave a very entertaining and informative illustrated talk entitled "The Inland Shore Fishery of the Upper Great Lakes: Its Importance in the Prehistoric and Historic Eras".

C.N. - London.

Congratulations and thanks are certainly due to the London Chapter for the many "firsts" they innovated. The Symposium Committee can now rest briefly on their laurels before they commence the task of assessing the feasibility of producing a volume on the Proceedings, to be considered possibly as a Special Publication of the Society.

The speakers must also be congratulated. Too many to mention here, it is hoped their contributions will be more appropriately recognised in the proposed "Proceedings" volume.

The experience gained by the London Chapter in hosting and organizing the 1980 Symposium will no doubt be of use to the Simcoe County Chapter for 1981.

C.G. - Toronto.

* * * * *

CHAMPLAIN SEA MAMMALS

If you were on the O.A.S. Ottawa Bus Trip and want more information on these mammals G.R. Fitzgerald has sent us the following references:

C.R. Harrington.
Marine Mammals in the Champlain Sea and the Great Lakes. Annals of the New York Academy of Sciences, vol. 288, pp. 508-537. Feb. 1977.

Whales and Seas from the Champlain Sea. Trail and Landscape. -- as yet unpublished, out soon.

C.R. Harrington, G.R. Fitzgerald.
The Pakenham Whale. The Ottawa Journal, April 1973. (Copy in the O.A.S. library.)

C.R. Harrington, D.E. Sargent.
Pleistocene Ringed Seal Skeleton from Champlain Sea Deposits Near Hull, Quebec - A Reidentification. Canadian Journal of Earth Sciences, vol. 9, pp. 1039-1051. Aug. 1972.

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O.A.S. 1981 EXECUTIVE

A Nominating Committee has been appointed to accept nominations for the 1981 Executive of the Society.
Members wishing to submit names to the Committee must first obtain approval of their nominee and then submit the name, along with names of a proposer and seconder, in writing to any member of the Nominating Committee. Don't forget to include the position for which the nominee is standing.
Nominations will close at the general meeting, in Toronto, of the O.A.S. on Wednesday, December 10, 1980. Election of the Executive will take place, in Toronto, at the business meeting of the O.A.S. on January 21, 1981.
Postal proxy slips will be forwarded to all members in time for return before the January meeting. Voters and candidates for election must be members in good standing on election day.
1981 Executive Positions:

President
Treasurer
Vice-President
Recording Secretary
Corresponding Secretary
(Past President -- not elected)

Nominating Committee: Chairman - Janice Hamalainen (416) 699 6759
Lorna Procter
Jo Barczynski

Members who wish to be considered by the 1981 Executive for appointed positions within the Society are reminded that existing positions automatically become vacant on election of a new Executive and that re-appointments or new appointments are made by the new Executive.

O.A.S. MEETINGS -- TORONTO -- JANUARY, FEBRUARY, MARCH, 1981

The first general meeting of 1981 will be on Wednesday, January 21, at 8.00 p.m. Usual venue -- McLaughlin Planetarium, R.O.M. Speaker for the evening will be Roberta O'Brien, Regional Archaeologist of the Ministry of Culture and Recreation, who will report on "Archaeology in the South Central Region in 1980". This is also our annual Business Meeting and you are invited to play a role in the progress of the Society in 1981 by your attendance, vote and participation.

Our speaker in February will be Dr. Richard Johnston of Trent University, and Editor of our journal Ontario Archaeology. Our March speaker will be Dr. Walter Kenyon of the Royal Ontario Museum.

O.A.S. EIGHTH ANNUAL SYMPOSIUM -- 1981

It has been proposed that our Simcoe County Chapter host the 1981 Symposium at Ste. Marie-Among-The-Hurons, Midland, in October, 1981. Suggested theme: "The Archaeology of Georgian Bay". Details, and call for papers, awaits our 1981 Executive.

O.A.S. CHRISTMAS BOOK "SPECIALS"

For your winter reading and Christmas gift giving, the Society again offers a selection of low-priced "specials". Prices include postage and handling! Limited availability. (hc = hard cover; dj = dust jacket)

No.		Special Price
1	ALEXANDER, M. 1976; DISCOVERING THE NEW WORLD, based on the works of Theodore de Bry. 8½"x12", hc, 224p., lavish colour illustrations, excellent presentation quality, regular $22.95US	$ 12.00
2	BRODRICK, A.H. (ed.) 1972; ANIMALS IN ARCHAEOLOGY. 8"x10½", hc, glossy, 180p. Old World but of relative interest. Regular $15US	$ 9.00
3	CLINE, Beverly Fink, 1977; LOUISA CLARK'S ANNUAL 1842, Life and Literature in British North America by a Lady Writer Residing in the Town of Goderich, Canada West, including an Account of Her Travels. 7-3/4"x10-3/4", paper covers, illustrated. 64p. (Fictitious but fun approach to history of Ontario). Regular $4.95	$ 2.50
4	CLINE, Beverly Fink, 1978; LOUISA CLARK'S ANNUAL 1843, etc. (see above, more of the same clever "scrapbook" format concerning Ontario events and life in 1843). Regular $4.95	$ 2.50
5	Nos. 3 and 4 together	$ 4.00
6	COHEN, Sheldon (ed.) 1968; CANADA PRESERVED. THE JOURNAL OF CAPT. THOMAS AINSLIE. 5¼"x8", 106p. softcover, illustrated, maps. Copp Clark. (1775-1776 Diary of defender of Quebec from American invaders).	$ 3.50
7	COLLIER, Peter, 1973; WHEN SHALL THEY REST? THE CHEROKEES' LONG STRUGGLE WITH AMERICA. 6"x9¼", hc, dj, illustrated, 168p. Holt Rinehart Winston. History of Cherokees. Regular $6.95US	$ 5.00
8	GADDIS, Vincent H. 1977; AMERICAN INDIAN MYTHS AND MYSTERIES. 5-3/4"x8½", hc, dj, 220p. Chilton Books. Regular $8.75US	$ 6.00
9	HEIDENREICH, C.E. 1971; HURONIA. A HISTORY AND GEOGRAPHY OF THE HURON INDIANS 1600-1650. 6¼"x9¼", hc, dj, 378p., many maps, illustrated, McClelland & Stewart. 1971 Ste. Marie Prize for History. Classic study of Ontario Huron. Regular $14.95	$ 7.00
10	KENYON, W.A. & J.R. TURNBULL, 1971; THE BATTLE FOR JAMES BAY 1686. 5½"x8½", softcover, 132p. MacMillan. Regular $2.95	$ 1.50
11	MITCHELL, Elaine A. 1977; FORT TIMISKAMING AND THE FUR TRADE. 6¼"x9¼", hc, map, illustrated, Univ. of Toronto Press. 306p.	$ 5.00
12	MYERS, Jay, 1977; THE GREAT CANADIAN ROAD. 6-3/4" x10", hc, dj, Red Rock Publishing. (History and study of Yonge Street). Regular $12.95	$ 4.00

13 NEWLANDS, D.L. & C. BREEDE, 1976; AN INTRODUCTION TO CANADIAN ARCHAEOLOGY. 7-3/4"x10", softcover, 154p. illustrated, McGraw-Hill Ryerson. Ontario historic archaeology by two former R.O.M. archaeologists, with much information not available elsewhere on legislation, museums, societies (incl. O.A.S.). Regular $8.95 $ 4.00

14 ROE, F. 1972; THE NORTH AMERICAN BUFFALO, A CRITICAL STUDY OF THE SPECIES IN ITS WILD STATE. 6"x9", softcover, map insert, 991p. 15 years in compilation, 39 appendixes, over 1½" thick! Univ. of Toronto Press. 2nd. edn. of classic study originally published 1951. Regular $10 $ 5.00

15 SCHLIEMANN, Heinrich, 1976; MEMOIRS OF HEINRICH SCHLIEMANN, ed. by Leo Deuel. 6⅛"x9⅛", hc, dj, illustrated, Harper & Row, regular $20 $ 10.00

16 TURNBULL, Colin M. 1976; MAN IN AFRICA, FROM CAIRO TO THE CAPE OF GOOD HOPE. 5-3/4"x8½", hc, dj, illustrated, Doubleday, 313p. (from earliest times to today). Regular $7.95US $ 5.50

17 WATKINS, Mel. (ed.) 1977; DENE NATION, THE COLONY WITHIN. 6⅛"x9⅛", maps, hc, 189p. Univ. of Toronto Press. University League for Social Reform (study of present condition of Dene people). $ 4.50

18 WRIGHT, J.V. 1972; THE SHIELD ARCHAIC. 6½"x9-3/4" 157p., softcover. National Museums of Canada, Publications in Archaeology No. 3. Reg. $5 $ 3.50

Stocks are limited and if your order cannot be filled your money will be returned promptly. Books are shipped by fourth class book rate, all postage and handling included. No refunds or exchanges possible at these low prices. This list is valid to February 1, 1981.

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Enclose your name and address for shipping and state which books you require (use their numbers, if you wish) and how many of each. Enclose payment by cheque or money order made out to:
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HAPPY CHRISTMAS

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O.A.S. LIBRARY LIST

A list of the latest receipts by the Society's Library, due to have been published in this issue, will now be included in Arch Notes for January/February 1981.

O.A.S. CHAPTERS

LONDON CHAPTER

Executive: President: James Keron (519) 285 2379
Vice-President: Robert Pihl
Treasurer: George Connoy
Secretary: Charles Nixon
Newsletter: KEWA - Editor: Bill Fox
Meetings: Usually at 8.00 p.m. on the second Thursday of each month, excluding June, July & August, in Room 128, Somerville House, University of Western Ontario, London.
Chapter Fees: Individual $4, Family $6, Institutional $10.

OTTAWA CHAPTER

Executive: President: Clyde C. Kennedy (613) 237 3270
Vice-President: Susan Johnston
Secretary/Treasurer: Bill MacLennan
Newsletter: THE OTTAWA ARCHAEOLOGIST - Editor: Clyde Kennedy
Meetings: Usually at 8.00 p.m. on the second Wednesday of each month, excluding June, July & August, in the Victoria Memorial Building, Metcalfe & McLeod Streets, Ottawa.
Chapter Fees: Individual $5, Family $8, Student $3.

SIMCOE COUNTY CHAPTER

Executive: President: Jamie Hunter (705) 526 7683
Vice-President: Jim Harris
Treasurer: Gary Shill
Secretary: David Brister
Newsletter: REDE - Editor: Jim Harris
Meetings: Usually at 8.00 p.m. on the second Wednesday of each month, excluding June, July & August.
Chapter Fees: Individual $5.

THUNDER BAY CHAPTER

Executive: President: David K. Riddle (807) 475 1447
Secretary/Treasurer: Michael McLeod
Newsletter: WANIKAN - Editor: Elinor Barr
Meetings: Usually at 8.00 p.m. on the last Wednesday of each month, excluding June, July & August, in the Aesthetics Lounge, Lakehead University, Thunder Bay.
Chapter Fees: Individual $2.

WINDSOR CHAPTER

Executive: President: Ted Trusevich (519) 256 6907
Vice-President: Kirk Walstedt
Secretary/Treasurer: Peter Reid
Newsletter: SQUIRREL COUNTY GAZETTE - Editor: Peter Reid
Meetings: Usually at 7.30 p.m. on the second Tuesday of each month, excluding June, July & August, in the Windsor Public Library, 850 Oullette Ave., Windsor.
Chapter Fees: Individual $3.

The Ontario Archaeological Society (Inc.)

Box 241, Postal Station P, Toronto, Ontario M5S 2S8

EXECUTIVE 1980

APPOINTED MEMBERS 1980

ADMINISTRATOR & LIBRARIAN

Publications:	Scientific Journal: ONTARIO ARCHAEOLOGY Newsletter: ARCH NOTES
Meetings:	Usually at 8.00 p.m. on the third Wednesday of the month, excluding June, July and August, in the McLaughlin Planetarium (Lecture Theatre), Royal Ontario Museum, Queen's Park, Toronto.
Fees:	Individual $8; Family $10; Institutional $20; Life $200. Chapter Fees extra.