

**CORN, AND THE DEVELOPMENT OF VILLAGE LIFE
IN SOUTHERN ONTARIO****WILLIAM C. NOBLE***ABSTRACT*

The transition to and development of formal village life poses an important research topic in Iroquoian studies. Recent work on corn horticulture and early villages within the Ontario Iroquois Tradition helps answer or shed light on many pertinent questions associated with this topic.

INTRODUCTION

Horticulture has long been equated with formal village life (Childe, 1951: 61; Braidwood, 1964: 114; MacNeish, 1964, 1971; Sears, 1971; Struever, 1971). Indeed, it is something of a truism to say that if the horticultural subsistence base is sufficiently intensive and reliable, then it has incentives towards population growth and increased stability in residence, and will permit semi or permanent sedentary (White, 1963), nucleated settlements. The transition to sedentary, nucleated settlements (villages) could also encourage new shifts in social systems.

Throughout the northeast, the transition to and development of formal village life marks an important research topic for Iroquoianists. Corn horticulture, in particular, offers a crucial key to our understanding of the processes involved in the formation of the earliest Iroquois villages. We are fortunate in southern Ontario, particularly the southwestern sector, in having acquired since 1969 substantial new information bearing precisely on this problem. In fact, the Ontario Iroquois Tradition (Wright, 1966) probably provides some of the best current subsistence and settlement evidence to be found among any of the Northeastern Iroquois traditions.

In southwestern Ontario, the period of earliest village development is estimated to fall between 500-700 A.D. (Noble and Kenyon, 1972; Noble, 1975). This encompasses the late Middle Woodland period of small, coalescing riverine-oriented settlements (non-villages), to the more formal sedentary, nucleated villages definitive of Late Woodland. In essence, it marks the transition from Princess Point to Glen Meyer. For southeastern Ontario, Pickering ancestry remains unknown prior to ca. 800 A.D., but here too, I would venture to estimate that the earliest village life formalized some time between 500-700 A.D. as well.

Various pertinent questions arise that can be directed towards our examination of corn horticulture and the development of formalized Ontario Iroquois village life. Some will be obviously answered within this paper; others must await further refined research. Such questions include the following:

1. Is the earliest corn horticulture *solely* associated or equated with village life?
2. What standardized archaeological definition for a village is useful not only for the earliest cases but for all villages through to the historic era?
3. How successful was the earliest horticulture? Did it ever fully supplant water, air and forest subsistence efficiency?
4. Did the early corn (namely, 8-row Northern Flint of the Eastern Complex) develop more productive hybrids or any genetic freaks in its adaptation as a plant in southern Ontario?
5. Was primary forest cleared for initial corn plantings, or was the *modus operandi* simply to slash and burn areas of secondary growth? Did this pattern persist to the historic era?

6. Was the development of corn horticulture *the* major stimulus or causative factor underlying the development of village life? Or were there other equally important factors?

7. Did the transition to village life invoke new shifts in the early Ontario Iroquois social system?

8. With corn horticulture, was the role of women sufficiently enhanced and influential enough to encourage a matrilineal system of Iroquois kinship?

Many of the above questions are obviously interrelated in multiple causal-effect relationships which can only be explained in a partial descriptive sense at this time. As a result, let us turn towards an analytic synthesis of the available descriptive evidence concerning corn and village development within the Ontario Iroquois Tradition.

First, however, it is necessary to realize the new revisions in the early Ontario Iroquois sequence as perceived by those of us at McMaster University. In essence, our researches (Noble and Kenyon, 1972; Noble, in press, n.d.; Reid, 1974) have extended the early part of the sequence back 300-500 years (Figure 1). Specifically, origin and chronology problems associated with early Glen Meyer and Pickering are clarified, and an earlier beginning for Late Woodland in southern Ontario is defined according to earliest village appearances. By ceramic and lithic seriation, and radiocarbon dating, Princess Point (Stothers, 1973; Noble, n.d.) and Point Pelee I (Keenlyside, 1972) are definitely earlier than the early Glen Meyer Porteous village of 700 A.D.

DEVELOPMENT OF VILLAGE LIFE

For southern Ontario, the archaeological definition of village life is primarily if not wholly defined from settlement patterns—in this case, Iroquois settlement patterns. While it is true that correlating an archaeological settlement to a sociological equivalent poses inherent problems, I follow a standardized definition of an archaeological village which includes:

1. Spatial Considerations—The Iroquois village is a tightly nucleated settlement of contemporaneous human activity; it is usually palisaded, which helps to define the limits of everyday face-to-face habitation. Arbitrarily, I consider Ontario Iroquois settlements between 1/2-5 acres to be villages, whereas anything over 5 acres I would call a town.

2. Differentiated Activity/Living Areas—The Iroquois village (and town) possesses purposefully discrete midden dumps as opposed to solely simple unformalized surface scatter of debris. It also includes various house and ceremonial structures, of which the multiple family long-house is typically characteristic of Iroquois.

Another factor, namely population size, would be an obvious inclusion within the fore-going village definition, but population estimates are virtually impossible for the archaeologist to specify with any degree of assurance. As a result, it is omitted here. This standardized village definition is important, for in large the differentiation of what is and what is not early Glen Meyer or early Pickering rests directly upon whether villages are present or absent. Glen Meyer and Pickering throughout their development are definitely expressions of formalized village life.

Accordingly, the primarily riverine-oriented Princess Point components, distributed from Mississauga, through Hamilton, down the Grand River and westward to Ayr, do not qualify as villages. They are simply seasonal or semi-permanent *encampments*, estimated to date between 400-599 A.D. of the late Middle Woodland. To date, the earliest known village in southern Ontario is the 1.5 acre Porteous site, Brantford (Noble and Kenyon, 1972). Dating ca. 700 A.D. by an average of two radiocarbon dates, Porteous is early Glen Meyer (Noble, 1975) and arises directly from the earlier ancestral Princess Point horizon (Noble, n.d.). How-ever, even by Porteous times in Glen Meyer, there are village refinements in longhouses which

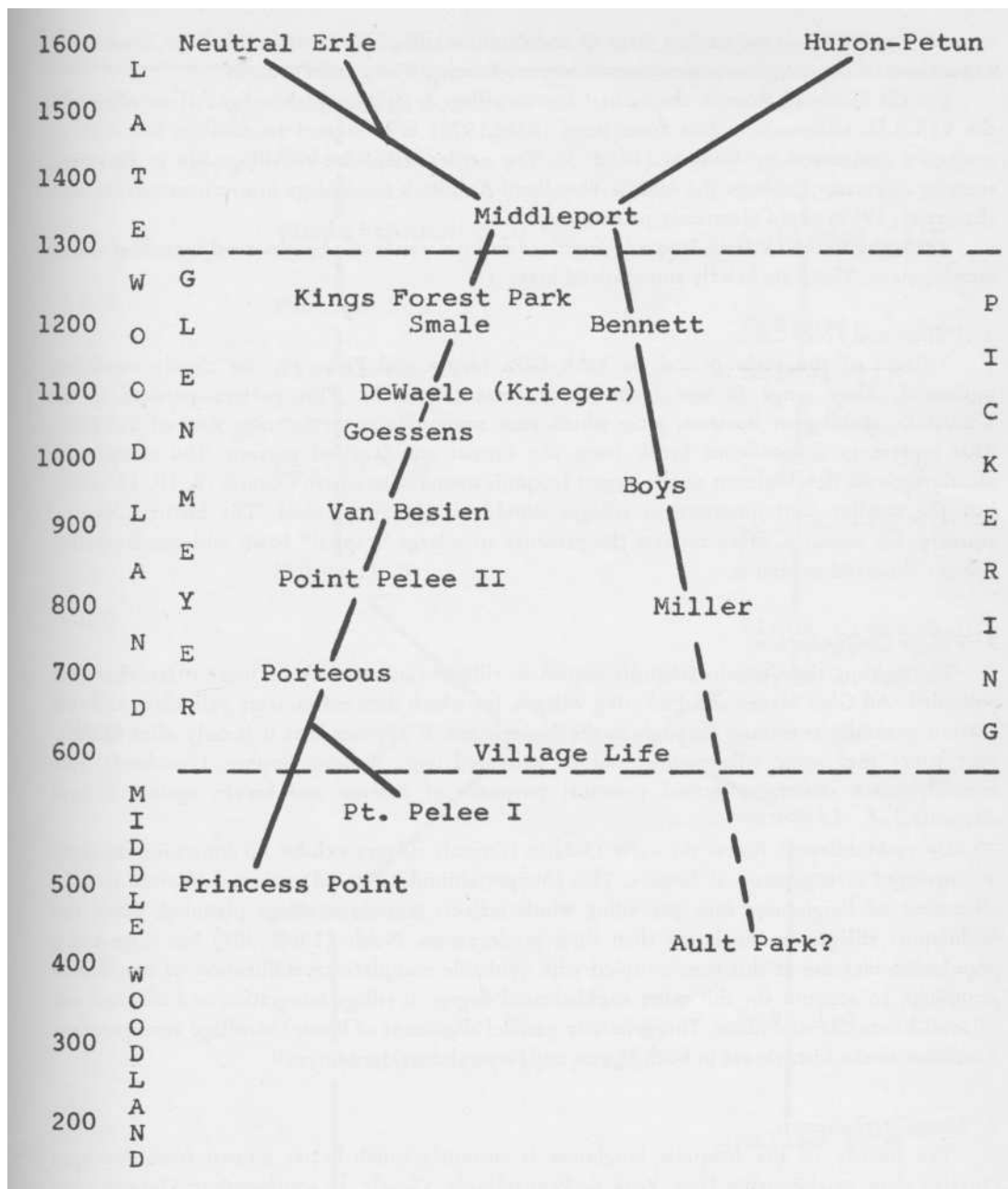


Figure 1
The Early Ontario Iroquois Sequence

suggest that this is not the earliest stage of transition to village life. We can, I believe, reasonably expect something even more transitional between Princess Point and Porteous.

For the Pickering Branch, the earliest known village is Miller, which in light of seriation and the 975 A.D. radiocarbon date from Boys (Reid, 1974) is reassessed to date ca. 800 A.D. as originally postulated by Kenyon (1968: 5). The earlier transition to village life in Pickering remains unknown; perhaps the Middle Woodland Ault Park assemblage in southeastern Ontario (Emerson, 1959) could ultimately prove ancestral?

Throughout the Ontario Iroquois sequence various trends can be observed regarding village development. Three are briefly summarized here.

1. *Village and Town Sizes*

Villages of the early period, in both Glen Meyer and Pickering, are clearly small but nucleated. They range in size from .8-3.0 acres (Figure 2). This pattern persists to the 1380 A.D. Middleport horizon, after which time *some* villages attain town sizes of 5-6 acres. This represents a significant break from the former standardized pattern. The historic era clearly sees the development of the largest Iroquois towns in southern Ontario (8, 10, 12 acres), but the smaller contemporaneous villages should not be overlooked. The historic Neutral country, for instance, often reflects the presence of a large "capital" town with small satellite villages clustered around it.

2. *Village Configurations*

Throughout the Ontario Iroquois sequence, villages (and towns) are more often than not palisaded. All Glen Meyer and Pickering villages, for which data exists, were palisaded, and this pattern generally continues through to the historic era. It appears that it is only after Middleport times that some villages may not be palisaded (e.g., Benson, Sopher, Cleveland). Presumably, such structures served practical purposes of defense and breaks against natural elements.

Up to Middleport times, the early Ontario Iroquois villages exhibit no conscious attempts at organized arrangement of houses. This changes around 1380 A.D. when deliberate parallel alignment of longhouses into prevailing winds reflects conscious village planning. Since the Middleport villages are no larger than their predecessors, Noble (1968: 307) has suggested a population increase at this time coupled with probable complete crystallization of matrilineal groupings, to account for this more sophisticated degree of village integration and efficient use of available residential space. This generally parallel alignment of houses in village configuration continues to the historic era in both Huron and Neutral development.

3. *House Refinements*

The history of the Iroquois longhouse is currently much better known from southern Ontario than neighbouring New York or Pennsylvania. Clearly, in southwestern Ontario such structures existed at the 700 A.D. Porteous Glen Meyer village where lengths of 37-1/2 to 43 feet have been recorded (Noble and Kenyon, 1972). Surprisingly, the Porteous longhouses are already internally refined with central hearths, pit clusters and internal division walls. This suggests that certain basic elements of the Iroquois lineage system had not only crystallized, but matured by 700 A.D. On the other hand, it is now known that in both the Glen Meyer (Noble, 1975) and Pickering (Reid, 1974) branches, house architecture varies even within the same village. Perhaps some families in this early period were more innovative than others?

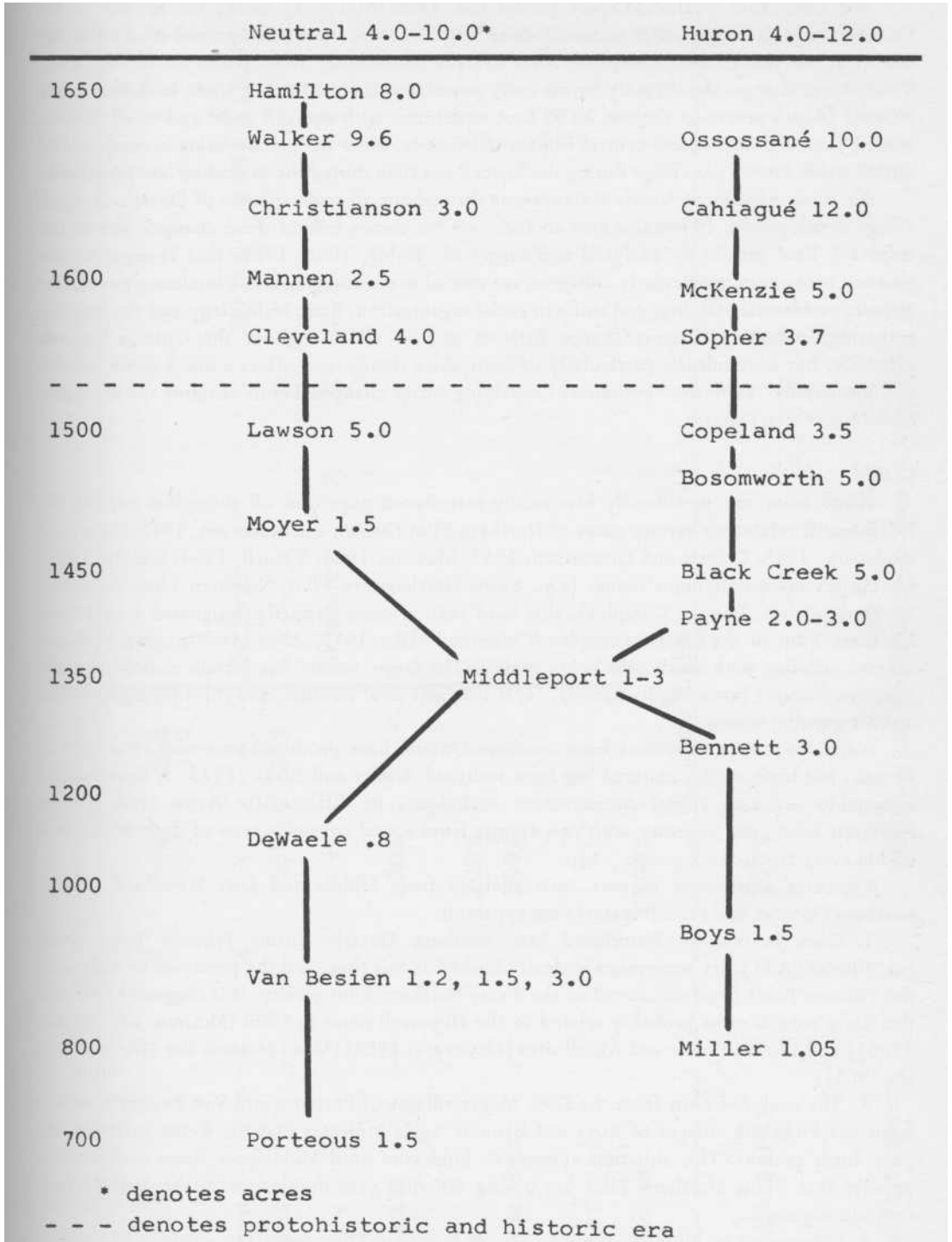


Figure 2
 Some Ontario Iroquois Village Sizes

The immediate post-Middleport period (ca. 1425-1500 A.D.) marks the heyday of the Ontario Iroquois longhouse in terms of sheer length. Often, the houses extend up to 150-300 feet (e.g., Moyer, Draper, Campbell) with hearths consistently wide-spaced 20-30 feet apart. This pattern changes significantly by the early protohistoric (1580 A.D.), when both Huron and Neutral houses revert to shorter 20-90 foot structures, with squared ends, and many closely-spaced (i.e., 5-8 feet apart) central hearths. Obviously, more people are being accommodated within more houses per village during the historic era than during the preceding late prehistoric.

To sum, refinement trends are apparent throughout all major phases of Ontario Iroquois village development. It remains now to focus on the causes behind these changes, and in this respect I have previously analyzed and suggested (Noble, 1968, 1969) that changes in subsistence economics, particularly cultigens, are crucial in encouraging and stimulating population growth, residential stability, and shifts in social organization. Basic technology and the hunting, gathering, collecting systems change little if any at all throughout the Ontario Iroquois sequence, but horticulture, particularly of corn, does change and offers a much more variable and potentially "explosive" parameter underlying village changes. Let us examine the aboriginal corn in southern Ontario.

CORN

Aside from the presumably historically introduced popcorns, all aboriginal corn in the Northeast is related to various races of Northern Flint (Brown and Anderson, 1947; Carter and Anderson, 1945; Galinat and Gunnerson, 1963; Munson, 1966; Yarnell, 1964; Winter, 1971). Having several synonymous names (e.g., 8-row Northeastern Flint, Northern Flint *zea maize*, Maize de Ochos, Eastern Complex), this hard corn is more properly designated 8 or 10-row Northern Flint of the Eastern Complex (Cutler and Blake, 1973). Most often it comes in 8- and 10-row varieties, with small cobs being typical. The 8-row variety has certain environmentally adaptive features favouring it—namely, (a) it tolerates cool weather, and (b) it produces within a short growing season.

Many Iroquois excavations from southern Ontario have produced preserved corn cobs or kernels, but little of this material has been analyzed. Cutler and Blake (1973: 3) have devised reasonably accurate kernel measurement techniques to differentiate 8-row from 10-row Northern Flint, and together with row counts from actual cobs this type of determination is within every researcher's grasp.

Figure 3 synthesizes current corn analyses from Middle and Late Woodland sites in southern Ontario, and several features are apparent.

1. Corn is initially introduced into southern Ontario during Princess Point times (ca. 400-500 A.D.). Its occurrence is clearly limited at this time, and the preserved kernels from the Princess Point type site are all of the 8-row Northern Flint variety. It is suggested here that this early corn is most probably related to the Hopewell corns in Ohio (McGraw site [Prufer, 1965]) and Illinois (Poole and Ansell sites [McGregor, 1958] ; Utica Mounds site [Henrikson et al., 1965]).

2. The analyzed corn from the Glen Meyer villages of Porteous and Van Besien, as well as from the Pickering villages of Boys and Bennett, again indicates that the 8-row variety is the only form present. This situation appears to hold true until Middleport times and, thus, it appears that 8-row Northern Flint has a long 600-800 year dominance in the early Ontario Iroquois sequence.

3. Subsequent to Middleport times, 10-row Northern Flint appears in southern Ontario, as do other low yield 4- and 6-row genetic hybrids or freaks. To date, high yield 12-row corn is entirely restricted to the prehistoric St. Lawrence Iroquois (e.g., Roebuck and McIvor sites). Significantly, it is noted that the proliferation of new corn varieties closely follows the period

		Central-Southwestern Ontario			Southeastern Ontario					
		4-row	6-row	8-row	10-row	4-row	6-row	8-row	10-row	12-row
1600	Sopher Seed			78% 65%	22% 35%					
1500	Lawson Draper	X	X	X	X			69.5%	14%	16.5%
1400						McIvor				
						Roebuck	X	X	X	X
1200	Bennett			100%						
1000	Boys			100%						
	Van Besien			100%						
900	Miller			X(?)						
700	Porteous			100%						
----- Village Life -----										
500	Princess Pt.			100%						
400										

Figure 3
Middle and Late Woodland Corn in Southern Ontario

X - denotes presence

when beans and squashes are introduced into the Ontario Iroquois subsistence economy (Noble, 1968, 1969). This correlation, and others involving concomitant population increases (Noble, 1969) and town growth, go beyond mere coincidence. Genuine causal interrelationships are inherent.

CONCLUSIONS

From the foregoing syntheses, certain questions raised at the beginning of this paper can be answered or examined.

First, the definition for a village used herein has adequate application for all phases of the Ontario Iroquois sequence. Specifically, it proves most useful in helping to define what is and what is not early Glen Meyer, and, too, it does provide some type of yardstick for differentiating villages from towns.

Second, it is obvious that corn horticulture is not solely equated with village life, for it appears initially in southern Ontario with the Princess Point riverine encampments (non-villages).

Third, the relative success of the early corn horticulture can be assessed indirectly. It seems clear that once corn was introduced into southern Ontario it took hold relatively rapidly, for village life emerges within approximately 200 years between Princess Point and Porteous. Furthermore, the residential stability inherent within villages per se argues in favour of a more successful and intensified production of corn. Thus, the difference in corn horticulture between Princess Point and Porteous times appears to be one of productive degree.

Fourth, throughout Ontario Iroquois development we must not lose sight of the fact that despite horticulture, hunting, fishing and gathering continued to provide heavy input into the subsistence economics. Horticulture never did fully supplant available wild products, but when grown in surplus it could be stored to reduce subsistence uncertainties associated with seasonal game and climate.

Fifth, 8-row Northern Flint of the Eastern Complex definitely represents the earliest corn in southern Ontario, and once it genetically adjusted to this environment, it continued to be the most important variety throughout the Ontario Iroquois sequence. The 4- and 6-row varieties appear to be post-Middleport hybrids or genetic freaks, while 10-row, which never attains a dominant position, decreases in its incidence after Middleport times in the Huron sequence (see Figure 3). Twelve-row Northern Flint is noticeably restricted, for unexplained reasons, to the St. Lawrence Iroquois villages of southeastern Ontario.

Sixth, since no appreciable changes are apparent in basic technology and the hunting, gathering, collecting systems throughout the Ontario Iroquois sequence, it is believed that horticultural changes constitute a prime causative factor behind village-town development.

Seventh, it is reasonable to believe that the production of corn in earliest times would invoke social changes associated with division of labour. Specifically, the role of women would become considerably more important through tilling, planting, harvesting and food preparation activities. Indeed, these are traditional labours for Iroquois women, and it may be as Lippert (1931: 237) once suggested that once women gained control and governed horticultural subsistence, then matrilocal residence would be especially likely to occur. I suspect that such changes did occur during earliest Ontario Iroquois development, but how does one prove it?

In sum, the evidence for corn horticulture and the development of village life in southern Ontario is sufficiently complete to provide us with yet another case example of a "Neolithic" type transition. While admittedly complex and not always testable, the advent of intensified food production does appear to have encouraged residential stability, population growth and shifts in Ontario Iroquois social organization.

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