

THE ARCHAEOLOGY AND PHYSICAL ANTHROPOLOGY OF THE E. C. ROW SITE: A SPRINGWELLS PHASE SETTLEMENT, ESSEX COUNTY, ONTARIO

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The proposed construction of the E.C. Row Expressway - Highway 3 interchange in Windsor by the Ontario Ministry of Transportation involves the disturbance of lands adjacent to the Lucier Site (AbHs-1). Lucier, excavated by Wintemberg in 1935, produced cultural materials and burials pertaining to the Late Woodland Western Basin Tradition. Although the extent of the site had not been determined at that time, later archaeological survey of the area to be impacted by construction identified a second; spatially discrete occupation and burial area designated the E. C. Row Site (AbHs-7). This report describes the survey and the results of salvage excavations undertaken at the E.C. Row Site. The site appears to be a warm season settlement attributed to the Springwells Phase of the Western Basin Tradition. We consider Wintemberg's investigations and the relationship between E.C. Row and the Lucier Site. The number of burials recovered at the two sites help to illustrate a pattern which is unique to the Western Basin Tradition. Comparisons with contemporary Iroquoian sites to the east help in determining the biocultural affinities of the E.C. Row Site occupants. While our results are not definitive, they strongly suggest that there are distinct biocultural differences between the Springwells Phase of the Western Basin Tradition and the southern Ontario Iroquoians.

INTRODUCTION

Location

The E.C. Row Site is located in the extreme southwestern part of the Province of Ontario, within the City of Windsor, approximately four kilometres from the Detroit River. As indicated in Figures 1 and 2, the E.C. Row Site is located

on a low sandy knoll adjacent to Turkey Creek. The creek's mouth, on the Detroit River, lies about five kilometres to the southwest of the site. The low sandy rise on which the site is located is one of many in the area. At 183 m above sea level, it appears to be an abandoned shoreline feature, and is part of a much broader, unnamed sand plain at the modern town of La Salle.

Sandy soils are a rare feature of the **Essex** Clay Plain. There are two similar areas located immediately north of Point Pelee and in the vicinity of Harrow. These "islands" are well-drained soils with associated Carolinian floral and faunal communities in the midst of the poorly-drained Essex Clay Plain (Chapman and Putnam 1966), which is characterized as a black ash swamp (Finlay 1978). These conditions undoubtedly led to prehistoric concentrations of populations at such "island" centres.

History of Investigations

Any discussion of the E.C. Row Site (AbHs-7) must also include an understanding of the nearby Lucier Site (AbHs-1), otherwise referred to as "The Windsor Mound Site", "The Toronto and Betts Streets Indian Mound Site", "Wintemberg's Windsor Site", "Marentette Site", and the "Lancaster Site" (Wright 1976:13). Attention was first directed to this area in the early 1930s when the Betts Avenue and Toronto Street road allowances were being graded to service a proposed housing development (Figure 2). The housing project did not materialize and the roads were never completed, although the graded intersection is clearly visible on early air photographs and the road allowances still appear on various subdivision plans. At the time of discovery several perforated skulls were recovered along Betts Avenue (Wintemberg 1935,1936; Wright 1976) and these led to

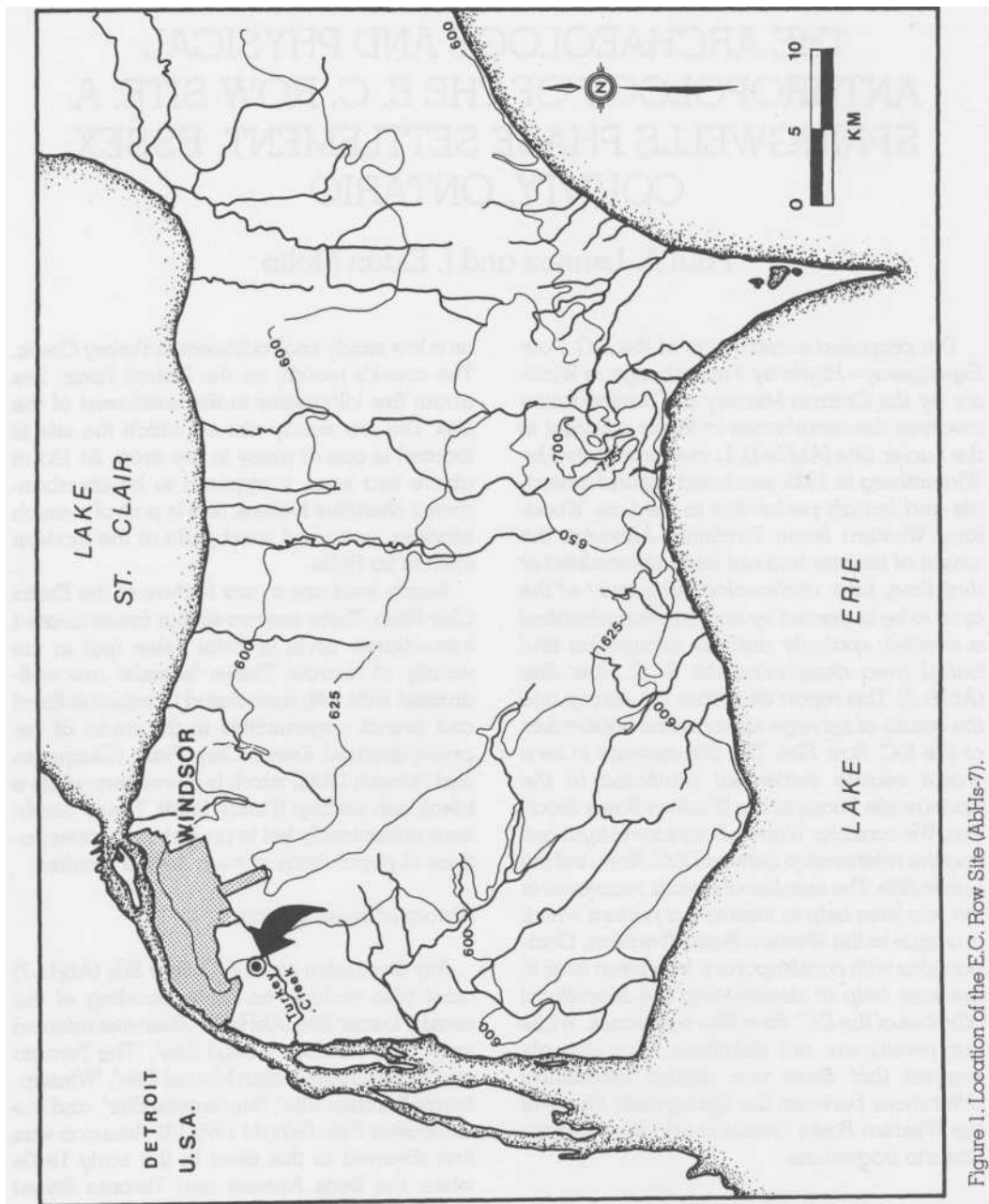


Figure 1. Location of the E.C. Row Site (AbHs-7).

excavations in July of 1935, undertaken by W.J. Wintemberg of the Anthropological Division, National Museum of Canada, and assisted by J. C. B. Grant, Professor of Anatomy, University of Toronto.

Unfortunately, Wintemberg passed away before reporting on his findings at the site and, aside from a short statement in American

Antiquity (Wintemberg 1936:17), the only record of this excavation is found in a set of Wintemberg's (1935) field notes on file at the Museum of Civilization. Attempts to reconstruct Wintemberg's findings from his field notes have met with limited success and, while it is difficult to reconstruct his grid, burial types and positions, as well as other details, can be

inferred. Wintemberg's excavations apparently focused on the intersection of Toronto Street and Betts Avenue and resulted in the discovery of 19 burials containing an estimated minimum of 25 individuals. The site was briefly investigated again in 1967 when the Hiram Walker Museum opened a test trench at the northeast corner of the same intersection; this produced negative results (Wright 1976:12).

In 1975, Phillip Wright, then Historical Resources Co-ordinator (Southwest Region) of the Ministry of Culture and Recreation, assisted by his wife Mary and the senior author, conducted an archaeological survey of the site vicinity in response to the Ministry of Transportation's proposal to build the E.C. Row Expressway. This survey uncovered a few pieces of prehistoric cultural material in the vicinity of Wintemberg's investigations, but the area had since seen numerous disturbances which led Wright to conclude that much of the site had been destroyed (Wright 1976:5).

Wright's 1976 report includes valuable information gleaned and/or transcribed from Wintemberg's notes; he was also able to conduct an analysis of materials collected by Wintemberg. This previously unpublished material has proved very useful in our own study.

In 1978 the Caldwell Band of Essex County (with the encouragement of the property owner), succeeded in temporarily halting highway construction and, after five months of negotiations between the band, various government ministries and the City of Windsor, another archaeological investigation was conducted in the proposed construction zone immediately southwest of the Toronto Street and Betts Avenue intersection. This investigation, by Peter Reid of the University of Windsor involved a search for subsoil features and burials through extensive manual trenching and mechanical stripping. Reid (1978) identified several small, prehistoric features and retrieved a few pieces of cultural material, but did not locate burials. Interestingly, Reid alluded to a brief interview he had with John Dickson, who had worked as a labourer for Wintemberg during the 1935 excavations. Dickson stated that, in addition to Wintemberg's primary investigations, some burials were excavated from a low mound located 500 to 600 feet (150 to 180 m) to the west, in the vicinity of the Beaver Gasoline Station - a

structure that was still in use at the time of the interview (Reid 1978:4).

In 1984 Lennox was asked to review the next stage in the completion of the E.C. Row overpass of Highway 3 and the construction of an inner loop in the northeast quadrant of that intersection (Figure 2). In light of Dickson's observation, such construction had the potential of disturbing additional portions of a prehistoric burial component.

Survey Strategy

The area to be examined in 1984 was initially defined as all right-of-way to be impacted by the proposed construction, including the west-ern extension of the E.C. Row Expressway and the circular ramp or inner loop located in the northeast quadrant of the Highway 3 intersection (Figure 2). It was decided that an intensive sampling procedure was appropriate and that the construction zone should be stripped in search of subsoil features. Several bulldozers were contracted to strip the proposed right-of-way, beginning on the eastern portion of the inner loop closest to the Lucier Site (Figure 2). This was a closely supervised endeavour, and the last pass of the dozer cut only a few centimetres into the subsoil. No early historic or prehistoric artifacts or features were encountered in this area.

The first area examined was bounded on the south and the north by existing fill conditions. The large fill area to the south, encompassing the southern portion of the inner loop and the E.C. Row Expressway, had been covered in previous years to a depth of approximately four metres. Any archaeological remains lying beneath this fill will remain undisturbed indefinitely. Fill conditions and modern disturbances were also discerned in a test trench located on the west edge of the overpass fill. On the northeast portion of the inner loop a temporary topsoil pile covered a portion of the construction zone (Figure 2). Originally, it had been decided to move this material to expose the underlying ground, but the stripping operation adjacent to this area revealed a mottled dark grey, silty clay (indicative of a former wetland) and the plan was abandoned. These subsoil conditions persisted along the north and northwest portions of the inner loop, where test trenches revealed almost a metre of clay fill and modern debris on top of the original soil

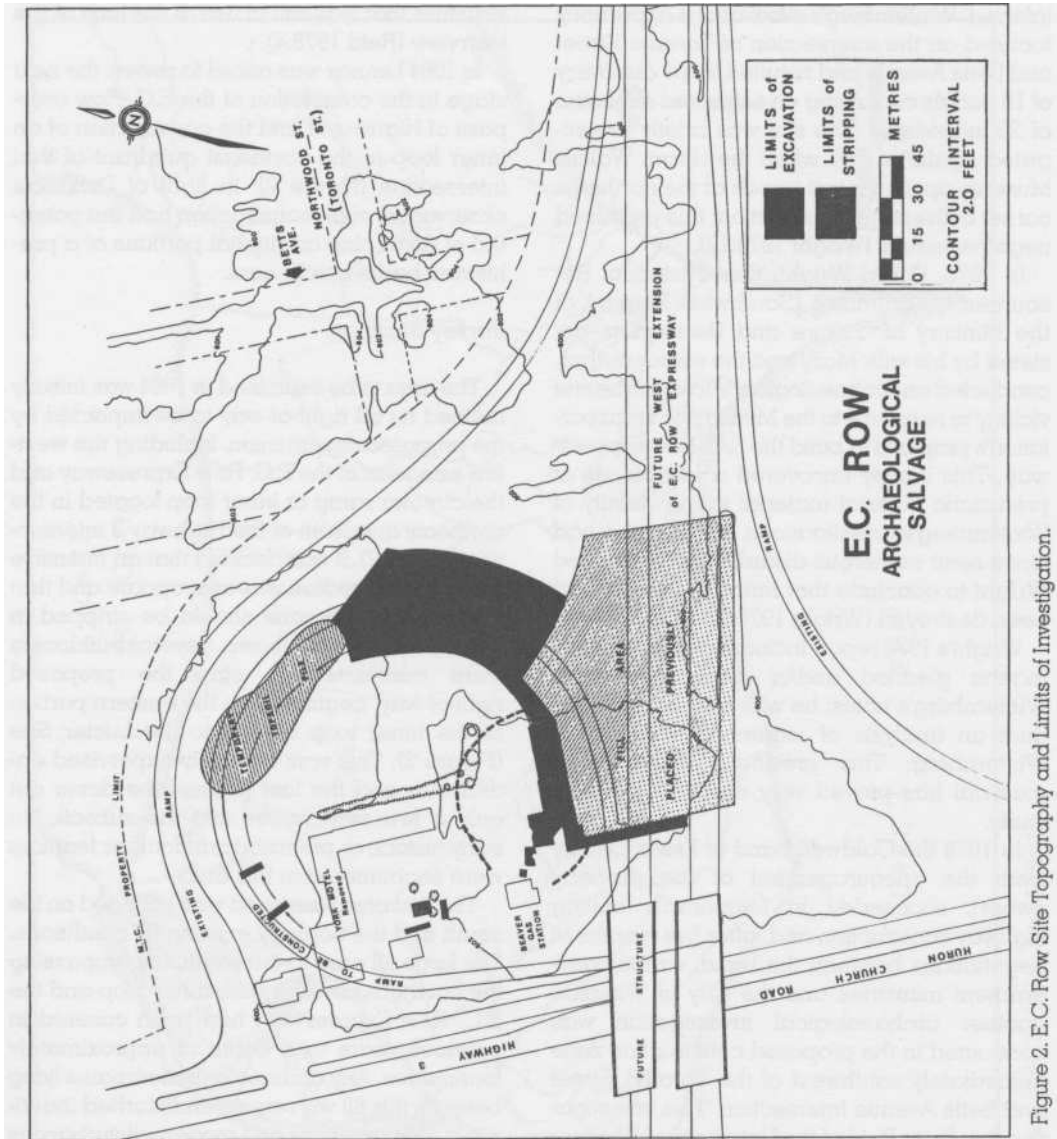


Figure 2. E.C. Row Site Topography and Limits of Investigation.

profile. The York Motel and parking lot had been built on this fill, as is indicated by the anomalous contour configuration (Figure 2).

The western portion of the inner loop, adjacent to Highway 3, may have been a favourable location for settlement during prehistoric times, but this area has seen considerable activity during the present century, and is now characterized by asphalt parking lots, ruins of buildings, a swimming pool, septic tanks and utility trenches. Several test trenches in small undisturbed sections of this area produced no

cultural materials.

Prehistoric features were recognized along the southern section of the inner loop, between the north edge of the existing overpass fill and the back slope of the proposed ditch line (i.e., the limit of construction requirements). This area included part of the slight knoll behind the Beaver Station that Dickson identified as a secondary focus of Wintenberg's excavations.

The area excavated in 1984 (Figure 2) was provided with a new Borden number (AbHs-7) and was designated the E.C. Row Site, to

distinguish it from the Lucier Site (AbHs- 1) materials. It was reasoned that the distance of approximately 150 m and the unknown relationship between Wintemberg's main excavations and this "secondary" locus warranted a distinction at that time.

Excavations

Most of the intensive survey, as outlined above, consisted of the mechanized removal of topsoil/ploughzone and a search for undisturbed prehistoric subsoil features. More detailed excavation strategies were adopted now that cultural evidence was encountered. The excavation of the E.C. Row Site proceeded more cautiously, with the dozer operators instructed to remove topsoil only to within a few centimetres of the subsoil interface. The disturbed topsoil was examined numerous times but produced very few pieces of prehistoric material.

A five-metre grid was established for recording purposes with grid north paralleling the alignment of Highway 3. The grid was used for the horizontal (triangulation) mapping of features and postmoulds. Excavations proceeded using hand shovels to remove the remaining topsoil and to "shovelshine" the topsoil-subsoil interface. Post moulds and other subsoil features were identified, mapped and profiled. Aside from bulk soil samples collected from all features for flotation, the fill from features and a sample of post moulds was sieved through 6 mm mesh screens.

The first few five-metre squares excavated contained features with a dark fill that was easily contrasted with the light yellow or beige, sandy subsoil. Post moulds, however, were very faint and, at first, formed no apparent patterns. Many "posts" had good plan views, but no profiles. The systematic sectioning of the first few units revealed profiles of post moulds that had not been recognized in plan view.

As excavations proceeded from east to west, along the southern half of the area excavated (Figures 2 and 3), posts were more easily identified and several east-west oriented post patterns emerged. These posts were aligned in a single row reminiscent of Iroquoian palisade posts, rather than the staggered or paired post pattern most typical of Iroquoian longhouse walls. After plotting the posts, however, it

became apparent that some of the rows were parallel and spaced 8 to 8.5 m apart - a reasonable longhouse width. Nevertheless, the areas between the walls were virtually devoid of pits, hearths, or structural features. Excavations were extended to the west and northwest but, after following the "walls" for some distance, they were found to have been obliterated by extensive historic disturbances. A brief analysis of the oil cans and multicolored triangular flags fastened together on a long nylon string suggested that we were close to the former Beaver Gasoline station.

Attention was directed toward the northern half and eastern end of the excavations. Here we encountered a large rectangular feature (Feature 24), measuring 1.8 m wide, 12.3 m long and 15 to 20 cm deep, with nearly vertical sides and a flat bottom - in short, a previous excavation trench. In defining the limits of this feature, small pieces of pottery and human bone were noted and these became more frequent as we screened the contents of the former trench from east to west. At the western end we encountered a small circular area (Feature 25) that was packed with disarranged and broken human bone representing parts of six individuals. To the north, within a small projection of the trench, was a second concentration of disturbed human bone (Feature 43). Several undisturbed burials were also discovered just beyond the northern limits of the trench (Figure 3).

In light of Dickson's recollection that Wintemberg had excavated some human remains from a low mound in the vicinity of the Beaver gasoline station, as well as the fact that we had a rectangular feature (about 5 by 40 feet) containing human remains, it was concluded that this was one of Wintemberg's trenches. It remains a mystery however, why Wintemberg's otherwise meticulous field notes fail to mention these excavations and why some of the human remains were reinterred.

The assumption that Feature 24 (Figure 3), is linked to Wintemberg's investigations is strengthened by the identical orientation of this trench with our excavation grid. Our grid was oriented parallel to Highway 3, while Wintemberg's excavations may have been oriented to Betts Avenue which is parallel to Highway 3. Other rectangular disturbances appearing to the south of Feature 24 have the same orientation and may also be attributed to Wintem-

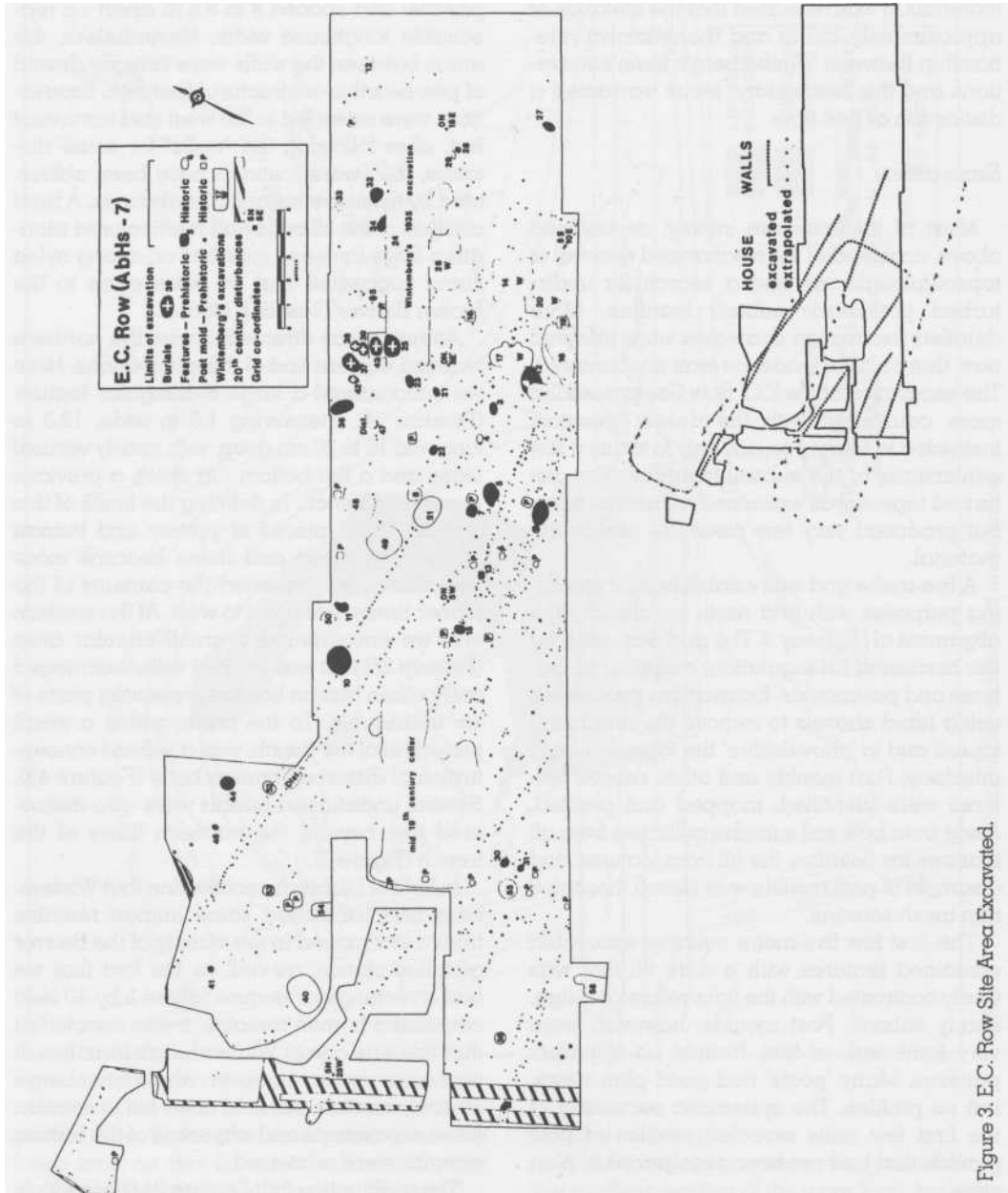


Figure 3. E.C. Row Site Area Excavated.

berg's investigations (Features 14, 17, 20 and 26 in Figure 3). These disturbances were screened producing small pieces of ceramic and lithic debris.

One of our last field operations prior to backfilling in 1984 was the removal of the human remains. These were initially pedes-

tailed, mapped and photographed. After consultation with William Fox (at that time, the Southwest Regional Archaeologist for the Ministry of Citizenship and Culture), and Aboriginal people of Walpole Island, it was agreed that the remains should be removed from the construction zone, but that they

should be immediately reinterred. The remains were excavated, analyzed and reburied the same day on an adjacent piece of property.

What remains of the site north of our excavations is to be protected from disturbance during the highway construction and subsequent maintenance phases. Site boundaries, delineated by a dashed line in Figure 2, were obtained in 1989 and 1990 through the excavation of .5 m test units placed at 10 m intervals.

SETTLEMENT PATTERN

Site Size

Assuming that E.C. Row and the adjacent Lucier Site are similar but not contemporaneous, the size of E.C. Row may be roughly estimated as .3 to .4 ha or about one acre.

Houses

All posts recorded are presented in Figure 3. Despite the problem of post definition alluded to earlier, and the fact that major portions of the site may be beyond the limits of excavation, beyond the area required for construction purposes, beneath areas of existing fill, or obliterated by nineteenth or twentieth century disturbances, we believe that portions of four houses are recognizable (Figures 2 and 3). The following describes the location, length, orientation and relationship of the recognizable house walls.

Wall 1. Extending westerly from Feature 51, Wall 1 is superimposed by Features 10 and 52. This wall intersects Wall 2 and continues beyond an historic disturbance where it re-emerges. This 30 m-long wall has no others parallel to it and may belong to the southern side of a house located primarily in the unexcavated area to the north. There is no evidence for an end wall.

Wall 2. This 18 m wall intersects Wall 1 west of Feature 52 and continues easterly to within a metre of the ON5W grid co-ordinate. At this point the wall appears to turn in a southerly direction to a large corner post and a series of end wall posts.

Wall 3. This 16 m wall is parallel to, and 8 m from, Wall 2. Eight posts of this wall, and five additional posts located east of Feature 45, include fire-reddened soil and ash. This may involve redeposited hearth materials from a

(since destroyed) central hearth of the house defined by Walls 4 and 5.

Wall 4. This wall is oriented east-west and is superimposed on Features 13, 15 and 45. The recorded section of the wall measures 13 m in length. It is parallel to, and 8.5 m from, Wall 5 and likely represents the northern sidewall of the same house.

Wall 5. This 6 m length of wall is oriented east-west and is located between Features 56 and 58. It is parallel to, and 8.5 m south of Wall 4. The two walls provide a minimum house length of approximately 25 m.

Wall 6. This wall is unrelated to any of the other three structures. It is roughly 3 m north of Wall 5. That this wall represents the northeast corner of a house is suggested by a slight curvature at the eastern end, where a large post, similar to the one on the east end of Wall 2, is apparent.

House Summary. Portions of four houses are identifiable at E.C. Row. The fact that two of the structures overlap two other structures indicates structure replacement, perhaps during subsequent occupations or reoccupations. Since the houses cannot be distinguished according to their relative age of construction, and since associated materials do not suggest that a long time period is represented, the houses will be described as part of the same assemblage.

All houses are oriented nearly east-west and are recognizable by aligned rows of sidewall posts. These posts are spaced on average 30 cm centre to centre (range from 10 to 40 cm), have diameters of 4 to 10 cm ($X = 6.9$, $S = 1.1$), and have depths of 6 to 30 cm ($X = 14.9$, $S = 5.3$). Two houses exhibit slightly rounded corners and square ends. Two house widths are measurable at 8.0 and 8.5 m. This is slightly wider than most Iroquoian longhouses (Dodd 1984:259). Unlike many Iroquoian longhouses, which have sidewalls converging slightly toward the house ends in association with storage areas (Dodd 1984:248,271), the E.C. Row houses appear to maintain a constant width throughout their length. No house produced a complete measurable length, but minimum lengths of 30, 25, 18 and 7 m indicate that the structures were relatively large.

House floors are exceptionally clean. A few central hearths are apparent, but other features such as storage pits, partitions, bunklines and interior support posts are lacking. Since

such features are common in Iroquoian houses, especially at this time in their development (Dodd 1984), this suggests an alternate use for the E.C. Row houses. This may have been a short term or seasonal occupation - a hypothesis strengthened by the scarcity of cultural materials on the site as a whole.

Middens

Excavations at E.C. Row produced no evidence for the presence of middens. The lack of any appreciable quantity of refuse anywhere within the excavations suggests that the occupation was not intensive or of long duration.

Palisade

While the evidence is not overwhelming, a palisade may be represented toward the east end of Feature 24 (Figure 3) where a short alignment of posts was uncovered. Two additional posts, one at the east end of Feature 24 and another immediately to the south of this feature, were also identified. It is conceivable that the pattern of palisade posts was missed during our first encounter with settlement patterns on the site (on the east end of the area excavated, south of feature 24) and that, as we became accustomed to the soil conditions, the post moulds were more easily recognizable. Further investigation at the site is needed to confirm the existence of a palisade.

Features

A total of 56 features were excavated at the E.C. Row Site. While only about half of these features were prehistoric in origin (shaded in Figure 3), many of the historic features included traces of prehistoric material in their fill. This is especially true of those features attributed to Wintemberg's excavations, and we suggest that the area was likely ploughed at that time and that his excavations were placed over concentrations of cultural materials in the ploughzone.

For the most part, the prehistoric features are shallow and basin shaped in profile, and contain topsoil, subsoil and charcoal as fill. Most have limited quantities of ceramic, lithic and bone refuse.

Several hearths were also found. Feature 11 consisted of a scatter of fire reddened subsoil,

and was probably a shallow hearth that had nearly been destroyed by the plough. Fire-reddened soil was also found in several posts of Wall 3, immediately east of Feature 45. This occurrence likely represents redeposited hearth soil from a feature that had been lost to the ploughzone (probably a central hearth belonging to the house represented by Walls 4 and 5).

Features 24, 25, 37, 38, 39, 42 and 43 contained human remains and are discussed in more detail below.

ARTIFACT ANALYSIS

Lithics

The E.C. Row excavations uncovered an unusually small number of tools and debitage. This may have been related to a scarcity of raw materials and the short duration of the occupations. The broad range of chert types, high incidence of nodular cortex, small size of debitage, and use of the bipolar technique suggest that pebble cherts derived from local till sources were utilized.

Fire-cracked rock was present in most features excavated, although accumulations generally were limited to a half a dozen pieces with a volume of .5 litres or less.

Debitage. Fifty-nine pieces of chipped lithic debitage represent a broad range of materials. Twelve specimens (20 percent) exhibit waterworn nodular cortex characteristic of secondary source materials such as local till pebbles. An unmodified pebble (measuring 26 by 20 by 7 mm) of Kettle Point chert found in Feature 2 may represent an unused piece of raw material.

Table 1 provides a breakdown of material type and debitage morphology (see also Lennox 1982:17, 1984:59, 1986). A large incidence of unidentifiable chert is attributed to the small size of the debitage and to thermally-altered materials. Despite a high incidence of primary flakes, the debitage is characterized by small flakes derived from pebble cores principally through the bipolar technique.

Cores. All 5 cores recovered are small and bipolar (Table 2). Three of the specimens exhibit nodular cortex, attesting to the small size of the original pebble and their secondary source derivation (Figure 4:3-6).

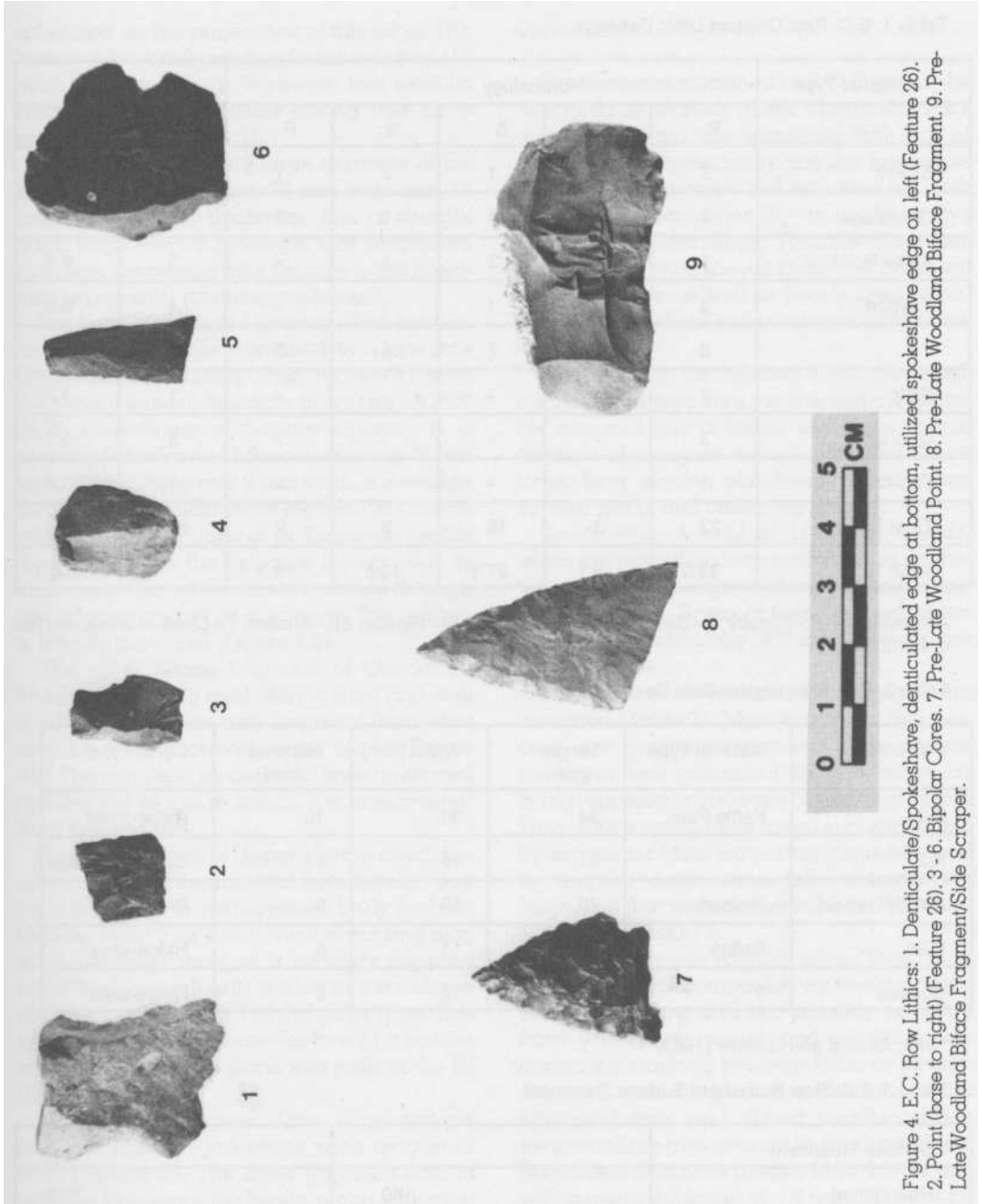


Figure 4. E.C. Row Lithics: 1. Denticulate/Spokeshave, denticulated edge at bottom, utilized spokeshave edge on left (Feature 26). 2. Point (base to right) (Feature 26). 3 - 6. Bipolar Cores. 7. Pre-Late Woodland Point. 8. Pre-Late Woodland Biface Fragment. 9. Pre-Late Woodland Biface Fragment/Side Scraper.

Point. The base of a small, unnotched, triangular point from Feature 26 has an estimated maximum length of 25 mm. It measures 14 mm in maximum (basal) width and 3 mm in maximum thickness. The basal edge is straight, while the lateral edges are slightly convex. Haft wear is extensive on both faces. The material

is a grey banded chert of unknown origin (Figure 4:2).

Denticulate/Spokeshave. A large primary flake of Selkirk chert, also from Feature 26, shows signs of distal ventral retouch resulting in a coarsely denticulated edge with three points along its 26 mm length. Edge rounding

Table 1. E.C. Row Chipped Lithic Debitage

Material Type	Morphology					Total	
	P	Bi	S	Sh	F	f	%
Selkirk	3	-	1	2	1	7	11.9
Onondaga	4	1	4	1	3	13	22.0
Kettle Point	1	-	3	1	-	5	8.5
Bayport	2	1	1	-	-	4	6.8
?	8	1	7	4	5	25	42.4
Slate	1	-	-	-	-	1	1.7
Quartzite	3	-	-	-	-	3	5.1
Quartz	1	-	-	-	-	1	1.7
Total f	23	3	16	8	9	59	
Total %	39.0	5.1	27.1	13.6	15.3		100.1

Abbreviations: P - Primary, S - Secondary, F - Fragments, Bi - Bipolar, Sh - Shatter, ? - Chert of unknown type or burnt.

Table 2. E.C. Row Bipolar Core Descriptions

Provenience	Material Type	Length (mm)	Width (mm)	Thickness (mm)	Core* Type
F-2	Kettle Point	34	30	10	Ridge-Point
F-2		31	15	11	Opposing Ridge
ON20W pm-54	Bayport	20	15	8	Ridge-area
F-25	Selkirk	20	11	6	Ridge-area
Surface	?	26	12	8	Ridge-area

after Binford and Quimby (1963)

Table 3. E.C. Row Bodysherd Surface Treatment

Surface Treatment	f	
Roughened	140	79.6
Plain	22	12.5
Smooth-over-cord	9	5.1
Ribbed Paddle	5	2.8
Total	176	100.0

is focused on the projections of this edge. The lateral edge configuration forms a broad (14 mm), shallow (3 mm), concavity that exhibits wear, perhaps produced during use as a spokeshave (Figure 4:1).

Utilized Flake. A very large quartzite flake, measuring 71 mm long, 76 mm wide and 17 mm in maximum thickness, has a straight distal edge, 69 mm in length, that is rounded from use. Recovered from Feature 6, this specimen is probably a cutting implement.

Pre-Late Woodland Materials. Two bifaces and a point can be attributed to a pre-Late Woodland occupation. One, recovered from the topsoil-subsoil interface in square 5N25W (N.W. co-ordinate of 5-metre square), is a coarsely flaked, ovate biface measuring 49 mm long, 29 mm wide and 9 mm thick. It is wedge shaped in transverse cross section. One lateral edge presents a cortical or limestone matrix "backing", while the opposite lateral edge is unifacially retouched and is rounded through use, suggesting use as a scraper. The surface is heavily patinated (Figure 4:9).

The other biface fragment of Onondaga chert is broad (25 mm), thin (4 mm) and well made; it resembles a tip fragment from what may be a Meadowood cache blade (Figure 4:8). The complete piece would have measured in excess of 44 mm in length. It was recovered from Feature 24.

A projectile point of Upper Mercer chert, the only example of this material from the site, may be a reworked or resharpened Early Archaic Nettling Point (Fox 1980). Such reworking may have removed most of a formerly serrated edge and has left only traces of the oblique corner-notches typical of the point type. This piece was recovered from Feature 40, a feature which also included some iron nails in the fill (Figure 4:7).

Hammer-Anvilstones. One hammerstone and one hammer-anvilstone were recovered from Feature 24. The latter fragment has, in addition to hammering facets, a concentration of peck marks on a flat face; hence, it may also have been used as an anvil.

Abrader. A surface find from 5N5E, in the form of a large cobble of fine-grained sandstone (78 x 68 x 47 mm) has 7 linear grooves (1 mm deep and up to 20 mm long) suggesting use as an abrader.

Ceramics

The ceramics recovered at E.C. Row may be described as coarsely made. Sherds are thick and friable, and are tempered with grit of granitic origin (principally angular fragments of feldspar, quartzite and hornblende), with particle sizes occasionally as much as five millimetres in diameter. Variable firing has resulted in homogeneous buffs and grey-buff cross sections, as well as poorly fired examples with superficial buffs and dark grey-black interiors.

Vessel form, as inferred from the small fragments derived from the site and comparable assemblages of larger vessel segments, consists of elongate vessels with round bottoms, long sloping shoulders, slightly constricted necks and outflaring rims.

Bodysherds. A total of 176 body sherds, which are more than two centimetres in diameter, are large enough to identify exterior surface treatment. Some of these are exfoliated sherds. Approximately 300 microsherds are unanalysable.

Four types of vessel surface treatment were identified (Table 3). Most common (79.6 percent) are roughened surfaces. This surface treatment was described by Greenman as being "apparently the result of washing before firing, with a consequent rough surface formed by extrusion of fine tempering fragments and by angular depressions left by tempering fragments that were detached in the process" (Greenman 1939:13).

At E.C. Row this roughened surface treatment is often accompanied by finely striated surfaces (Figure 5:13,14), possibly resulting from wiping the vessel bodies with grass during the washing process. Plain or smooth surfaces, cord roughened surfaces that are smoothed over, and ribbed paddle surface treatments are also present in small numbers. Bodysherd thickness ranges from 4 to 11 mm with a mean thickness of 7.6 mm. There is no significant variation in bodysherd thickness in relation to surface treatment type.

Shouldersherds. No shouldersherds were distinguished in the E.C. Row assemblage. This is likely a result of the small sherd size and the indistinct profile of the gently sloping vessel shoulders during this period.

Necksherds. Twelve necksherds and three vessel necks associated with rimsherds all

possess roughened and undecorated surfaces. The roughening of vessel necks is generally not as pronounced as on vessel bodies.

Rimsherds. The rims of eight vessels are represented in the E.C. Row collection.

Vessel 1 is represented by several sherds from Features 2 and 5 (Figure 5:1). The area decorated is 59 mm in height. The vessel rim has a straight interior and slightly convex exterior profile. The rim may have a weak or incipient collar that decreases in thickness from the base of the decorative zone (9 mm) to the lip (6 mm) (Figure 6:1). The exterior rim surface was originally cord roughened and has also been washed. The rough texture is not as pronounced on the rims as on the vessel bodies. The decorative techniques include linear cord impression and plain tool impression. The linear cord impressions are parallel, oblique and opposed, leaving triangular spaces between adjacent rhomboidal plats. The triangles are filled with horizontal Rows of oblique, linear tool impressions and in other instances (not shown in Figure 5) are filled with oblique, linear cord impressions. The vessel lip is decorated with parallel oblique, linear stamp (possibly cord) impressions while the interior is undecorated.

Vessel 2 is represented by a single rimsherd from Feature 20. It has an incipient collar (52 mm in height), although the decorated zone includes only the upper 38 mm. The collar exterior is convex while the interior is concave, being thickest at the base (11 mm) and thinnest at the lip (6 mm) (Figure 6:2). The exterior collar surface is slightly roughened and is decorated with fine cord wrapped stick impressions arranged into triangular or rectangular plats (Figure 5:2). The lip is decorated with the same tool, impressed along a single line, paralleling the lip edge.

Vessel 3 is represented by a single sherd from Feature 2. The collarless rim has a concave exterior and convex interior profile that thickens slightly from the lip (8 mm) to the base of the sherd (9 mm) (Figure 6:3). The decorated exterior and lip of this vessel has been impressed obliquely with a dentate stamp. The lower end of the decorated zone appears to coincide with the broken edge of the rimsherd 34 mm below the lip (Figure 5:3).

Vessels 4 and 5 are represented by incomplete rim fragments from Features 2 and 5. These vessels exhibit similar motif-technique

combinations. Both are decorated with horizontal bands of oblique, plain linear stamp impressions (Figure 5:4).

Vessels 6 and 7 are represented by a dozen small rim fragments from Features 24 and 26. Both have opposed oblique or parallel oblique cord-wrapped stick impressions. A lip fragment from Feature 24 likely belongs to one of these vessels and is similarly decorated (Figure 5:5,6).

Vessel 8 is represented by a rim fragment that has an exterior motif composed of at least 4 horizontal bands of circular impressions likely executed with a hollow bone or reed (Figure 5:7). The fragment was recovered from the nineteenth century cellar (Feature 45), yet the motif, technique and details of the tool utilized are identical to those on a rimsherd (Figure 11:6) recovered by Wintemberg from "general digging, east side of Betts Avenue" (quoted in Wright 1976:B30).

Juvenile Ceramics. Four juvenile vessel rims (Figure 5:8,9,10) from Features 5 and 24, as well as several fired clay ball fragments from Feature 45 are attributed to the work of children. Three of the rims are plain and another is decorated on its exterior with a horizontal band of small punctates and on its lip with fingernail impressions.

Pipes. Three pipe fragments from E.C. Row include an undecorated mouthpiece-stem fragment (Feature 45) with a circular cross section and plain or smooth bore, a plain elbow fragment from Feature 18, and a bowl fragment from Feature 24. The latter is decorated with horizontal bands of small circular impressions produced by a small hollow bone or reed (Figure 5:12).

FAUNAL REMAINS

Despite extensive screening and flotation, little faunal material was recovered from E.C. Row. What was recovered was small and fragile, most pieces measuring between two and five millimetres in size and few being larger than 10 mm (Prevec 1985:1). Only 35 specimens could be identified below class. Table 4 lists the identified faunal remains according to zoological taxa, but omits intrusive historic specimens and unidentifiable large mammal (likely human) bone fragments.

The identifiable assemblage is dominated by fish. According to Prevec (1985:1), "The fish -

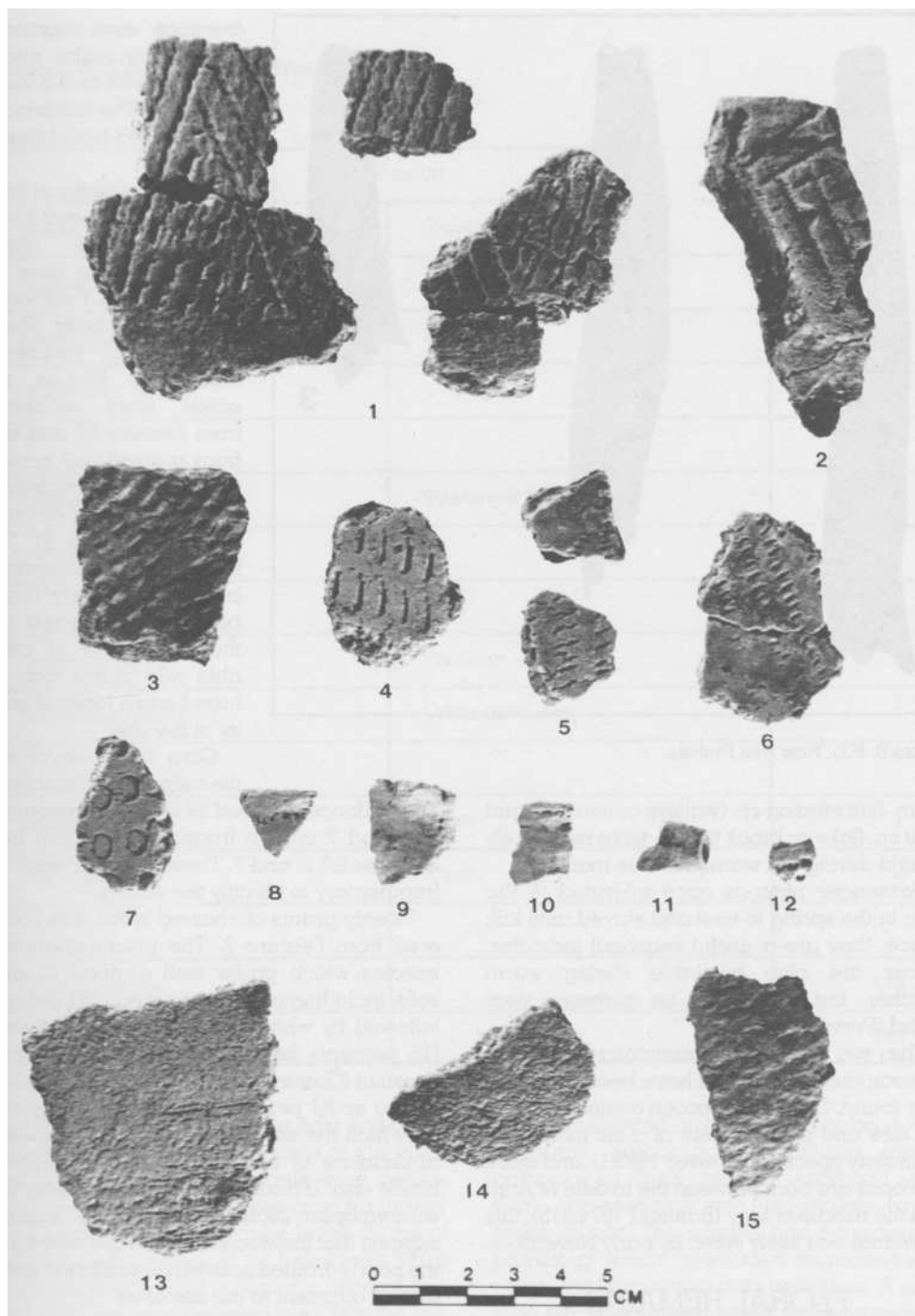


Figure 5. E.C. Row Ceramics: 1. Vessel 1, Rimsherd, linear cord impressed and plain tool impressed motif (F-2 and 5). 2. Vessel 2, Rimsherd, cord-wrapped-stick impressed (F-20). 3. Vessel 3, Rimsherd, dentate stamp (F-2). 4. Vessel 4, Rim fragment, plain linear stamp (F-2). 5 - 6. Vessel 6 and 7, Rim fragments, cord-wrapped stick impressed (F-24). 7. Vessel 8, Rim fragment, hollow bone or annular punctates (F-45). 8 - 10. Juvenile Vessel fragments. 11, 12. Pipe mouthpiece and bowl fragment. 13, 14. Roughened Bodysherds. 15. Bodysherd, smoothed-over-cord.

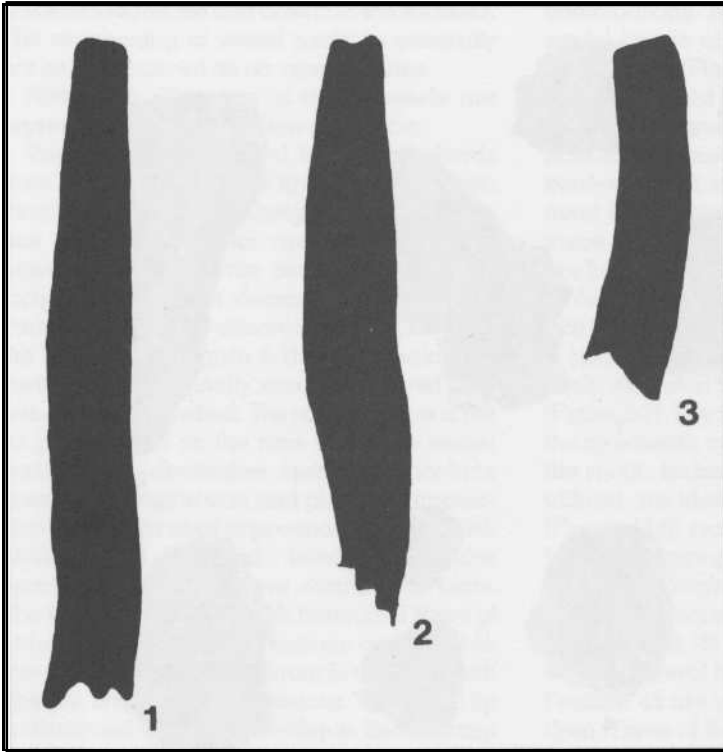


Figure 6. E.C. Row Rim Profiles.

drum, *Stizostedion* sp. (walleye or sauger), and trout sp. (lake or brook trout) - were most likely caught during the warm, ice free months."

Passenger pigeons once migrated to the area in the spring to nest and stayed until fall; hence, they are a useful seasonal indicator. Clams are also available during warm weather, but shells can be gathered year round (Prevec 1985:1).

The two identified mammalian species, raccoon and deer, would have been available year round. Since the raccoon canine matches the size and development of a six month old laboratory specimen (Prevec 1985:1), and since raccoons are born between the middle of April and the middle of May (Banfield 1974:315), this individual was likely taken by early November.

FLORAL REMAINS

A total volume of 140 litres of flotation samples were taken from 16 prehistoric pit features and five post moulds. Light fractions were collected using 6.3 mm and .59 mm mesh geological sieves. Both the light and heavy

fractions were examined using a binocular microscope with 8X to 40X magnification. The following is summarized from Murphy (1985).

A small quantity of hickory (*Carta* sp.) and black walnut (*Juglans nigra*) shell fragments were recovered from Features 2 and 5 respectively. Single examples of raspberry/blackberry (*Rufus* sp.) seeds were recovered from Feature 57 and also from a small soil sample taken from the vicinity of the "A" cluster of calcined bone in Feature 37. The limited nut shell fragments and two raspberry/blackberry seeds suggest that the processing of available wild plants may not have been a focus of activity at the site.

Corn (*Zea mays*) was the only cultigen identified. The evidence included 29 kernel fragments (.3 gm) and 7 cupule fragments (.06 gm)

from Features 2,3,5, and 7. These remains were too fragmentary to identify the variety.

Twenty grams of charred wood was recovered from Feature 2. The predominance of species which prefer well drained or drier soils, including oak (*Quercus* sp.) (31 percent) followed by white ash (*Fraxinus americana*) (16 percent), beech (*Fagus* sp.) (13 percent) chestnut (*Castanea* sp.) (7 percent) and hickory (*Carta* sp.) (4 percent), reflect the sandy soils on which the site is located, while the lesser abundance of elm (*Ulmus* sp.) (24 percent), black ash (*Fraxinus nigra*) (4 percent) and willow/poplar (*Salix/Populus* sp.) (1 percent) suggest that fuelwood was also gathered from the poorly drained soils which are found immediately adjacent to the site area.

E.C. ROW BURIAL FEATURES AND SKELETAL REMAINS

Six features (25,37,38,39,42, and 43) containing human bone and interpreted as burials

Table 4. E.C. Row Faunal Identifications

Identification		NISP
<i>Salvelinus</i> sp.	Trout sp.	1
<i>Stizostedion</i> sp.	Walleye or Sauger	1
<i>Aplodinotus grunniens</i>	Drum	14
Unidentified Fish sp.		45
<i>Ectopistes migratorius</i>	Passenger Pigeon	3
Unidentified Avian sp.		8
<i>Procyon lotor</i>	Raccoon	1
<i>Odocoileus virginianus</i>	White-tailed deer	1
<i>Elliptio</i> sp.	Clam	1
<i>Unionidae</i> sp.	Clam	4
Class Uncertain		113
Total		192

were located in a cluster at the east end of the excavations and outside the limits of any identifiable house walls. All burials were pedestalled, photographed and removed for further examination and photography. In the course of one day, the remains of 23 individuals were exhumed, studied and reburied in accordance with an agreement between the Ontario Government and the people of Walpole Island. Despite these compromising research conditions, some useful information on this poorly known population was obtained.

The primary focus was on preliminary age and sex determinations, key morphological

traits (nonmetric cranial morphology) and important pathological conditions (dental pathology for dietary reconstruction and seriation). The research was undertaken by the junior author. The sample had considerable pathology which precluded craniometric or nonmetric infracranial data collection. A small tape recorder proved useful in the process of quickly gathering important information.

Only features 25 and 42 were visible in plan and profile, while the other feature outlines are approximated in Figure 3 based on the distribution of their contents. The burials were shallow (within the top 15 to 20 cm of subsoil)

and no grave goods were associated with any of the remains.

Feature 25

This feature was identified during the re-excavation of the trench (Feature 24) attributed to Wintemberg. Scattered human bone fragments within the trench fill became more frequent as excavation proceeded from east to west. Feature 25, measuring approximately 40 cm in diameter, had been excavated deeper than the general level of the rest of the trench and was packed with mixed and badly fragmented bone representing the partial remains of six individuals. Why Wintemberg's crew would have reburied these remains is unclear. Given the condition of the feature and the limited time frame, the determination of the minimum number of individuals was the principal task undertaken.

Burial 1 is a child with a dental age of 4-5 years. Burial 2 is a child approximately 12 years old; the 2nd molars in the maxilla had just emerged prior to death. Burial 3 is a young adult female likely 20-25 years old. Burial 4 is a young adult male with attrition indicating a person in his late 20s or early 30s. Burial 5 is an adult male with huge mastoids. His age could not be estimated. Finally, burial 6 is an adult male likely in his early 20s.

Two tibia from different individuals show diffuse striated, reactive periostitis. The bones were not thickened, and there were no lytic foci. Also recovered was an adult parietal bone exhibiting a conically drilled hole several millimetres in diameter. Striations, apparently caused during the drilling process, border the perforation and the absence of any signs of reactive changes suggest that this was a postmortem modification (Figure 7).

Feature 43

This feature was located within a small northern extension of the trench attributed to Wintemberg's investigations and was apparently disturbed and redeposited in a fashion similar to Feature 25. It was not possible to associate infracranial and cranial remains. Three adults and a child were identified. Two adults were clustered together, while the other individuals were dispersed throughout the fill.

Burial 7 is a 3 to 5 year-old child, repre-

sented by maxillary and mandibular fragments from the left side, and a few long bone fragments. All the deciduous teeth had erupted. The crowns of the permanent canines were 75 percent developed, while those of the permanent M1's were fully formed but were still in the intra-alveolar. An interesting anomaly in this burial is the absence of premolar tooth buds. All the deciduous teeth (10) are present with slight dental attrition (polishing) being the only evidence of dental pathology.

Burial 8 is an adult female likely in her early 20s. She is represented by a left mandibular fragment with M1 and M2, a maxillary dentition less the incisors, a right zygoma and maxilla, a fragmentary left maxilla, a partial left supra-orbital ridge, a right temporal bone with tympanic and mastoid portions, and several fragmentary long bones. The gracile nature of the brow ridge, the mastoid process and the facial tubercles (molar, marginal and zygomaxillary) were used to establish sex, while age was estimated by the slight degree of dental attrition, the partial eruption of the third molars in both the mandible and maxilla and the fusion of all long bone epiphyses. There is no evidence of dental caries (0/12), antemortem trauma (0/12) or alveolar abscesses (0/14), although a periapical abscess likely of an endogenous etiology occurs on the maxillary right PM2. Enamel hypoplasias occur on all teeth. These defects are particularly well expressed on the canines, with marked transverse striations occurring near the cervical third of the crown. The stress inducing event likely occurred in her third or fourth year of life. In addition, her maxillary incisors were all lost antemortem. Judging by the degree of resorption of the alveolar bone (there were no root sockets evident), the incisors were likely lost long before death (Figure 8). Considering her young age, and the healthy state of her remaining teeth, this tooth loss is likely due to accident or ritualistic ablation. A number of nonmetric traits were noted. Those present include a right Os Japonicum, a right infra-orbital suture, and a right zygomatico-facial foramen.

The long bones and cranial fragments of two adult males representing burials 9 and 10 were clustered in the same area, but assigning bones to each individual was not possible. Sex was established from the moderately robust brow ridges, mastoid processes and occipital

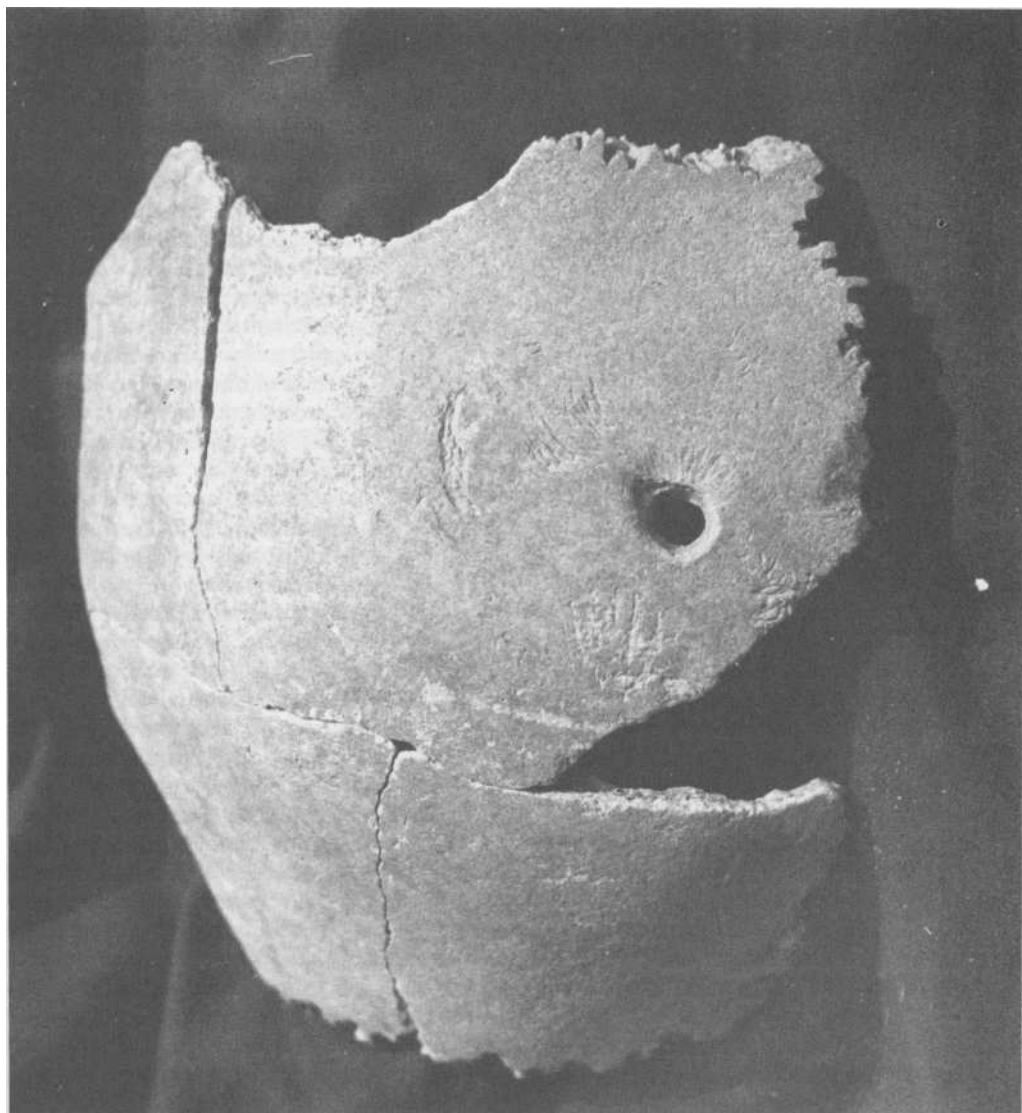


Figure 7. E.C. Row Drilled Cranium Fragment (Feature 24).

muscle markings, as well as the large size of the long bone articular areas (two right femoral heads measure 495 and 497 mm). All long bone epiphyses had fused indicating both individuals were adults. A healthy left maxillary 1st molar with slight dentin exposure suggests at least one male was a young adult. Cuts occur on the diaphysis and neck of a left proximal femoral fragment. Inflammatory changes are evident on two tibia (a right and a left) from different individuals. The left tibia has a zone of

slight 'plaque-like' reactive periostitis near the medial mid-shaft. There is no evidence of thickening or trauma. The right tibia shows reactive changes in two areas on the medial surface. The midshaft has slight reactive periostitis, while a sequestrum with surrounding reactive periostitis and a 'pseudo-cloaca' characterizes the other lesion. This infection is likely a sequel to trauma, as an elongated puncture lesion is found in the infective zone. The degree of medullary change could not be



Figure 8. Inferior and Frontal View of Maxilla from E.C. Row, Feature 43, Burial 8, Exhibiting Possible Ablation.

assessed in the absence of radiographs. This bone, however, was not thickened.

Feature 39

Located just beyond the limits of Feature 24 and immediately north of Feature 43, this burial had been partially disturbed by the plough. Two adult females and a child were identified.

Burial 11 is a young adult female represented by a relatively complete skull and dentition, an atlas vertebra and several broken long bones. Sex was inferred from the very gracile nature of the brow ridges, mastoid processes and nuchal region. Attrition is slight on all teeth, while the third molars likely erupted just prior to death. The pattern of attrition is similar to that found in Burial 8 and suggests

an age range of 20-25 years. While the mandible and maxilla are present they had been badly broken and many of the teeth were scattered and also broken. There are no caries present in the anterior teeth (0/12), while small pit and fissure caries occur on two mandibular M2's. The overall prevalence of dental caries is 7.1 percent (2/28 - not including the 3rd molars). There are no peri-apical abscesses (0/32), ante-mortem trauma (0/32), calculus (0/32) or evidence of periodontal disease.

Burial 12 is represented by a partial left maxillary fragment. Dental age is 2-5 years.

Burial 13 is represented by a fragmentary skull and long bones of a young adult female. Sex was inferred on the basis of gracile mastoid processes and supraorbital ridges. The first and second molars have moderate dentine exposure on all cusps, the alveolus shows some slight evidence of parodontitis, and some teeth were lost antemortem.

These characteristics suggest she was likely between 25 and 35 years old. There was no ante-mortem enamel fractures, and pit and fissure lesions occur on the 1st and 2nd right mandibular molars.

Feature 38

This feature contained the bundled remains of a young adult female (Burial 14) represented by a reasonably complete (but badly broken) skull, a complete mandible, all the long bones and several articulated cervical vertebrae. The latter articulation (and the pattern of cutmarks described *infra*) suggests that she had not been long dead prior to being bundled for secondary burial. The slight to moderate attrition with dentine exposure on the mandibular 1st and 2nd molars, and slight enamel polishing of the 3rd molars suggests a person 25-30 years old. The gracile mastoid pro-

cesses, and lack of brow ridge development identify the sex.

Dental pathology is characterized by caries (2/15 teeth), slight calculus build up, 1st degree periodontal resorption, and antemortem tooth loss. Antemortem trauma (0/15), hypoplasia (0/15), periapical abscessing (0/15) and dental crowding are absent. Caries which occur on the right maxillary M3 and the left M2, are noteworthy in that they are both large pit and fissure lesions on the buccal surfaces of their respective crowns. The M2 lesion has, in fact, completely destroyed the crown and the tooth would have soon been lost had she survived.

Her left arm shows considerable pathology. The distal end of the humerus, inferior to the superior border of the coronoid and radial fossae, is missing, as is the most proximal portions of the ulna and radius. As the bone adjacent to these areas of destruction in the elbow shows considerable reactive periosteal new bone and the soil contained numerous fragments of 'infected bone', it appears that the elbow was the focal point of a massive infection at the time of death. That the infection was chronic is illustrated by thickening of the proximal ulna and radius. Cuts are also present on the regions surrounding the infected area (distal humerus and proximal radius and ulna) suggesting that, in the preparation of this person for secondary burial, an attempt was made to cut around the infected area. Her left tibia, however, also shows evidence of infection, characterized by thickening of the distal half of the bone plus surface changes involving mixed osteolytic and osteoblastic lesions. There is no cloaca or sequestra, which (in lieu of radiographic analysis) is suggestive of a chronic infective process that appears to be restricted to the cortical bone. The right arm bones, the right tibia and the ectocranial vault do not show signs of infection. As time did not allow a detailed description of the lesions and radiographic analysis was not conducted, it is impossible to present a systematic differential diagnosis. It is perhaps possible that the pathology in her arm is a sequel to trauma and infection. Whether the infectious process in the arm is part of the same disease process that produced the changes in the tibia is an interesting possibility. If so, a good candidate underlying these skeletal changes is one of the treponemal diseases.

Feature 37

This feature was one of the least disturbed and most complex burials excavated at E.C. Row. Unfortunately it was also one of the last removed. The time remaining for its examination was limited to one hour (4:00 to 5:00 P.M.) and lighting compromised photography. Feature 37 contains a total of nine burials (15-23), five adults, two subadults and two late fetal/neonates. At least five crania and longbone bundles could be distinguished, and had apparently been laid side by side. Concentrations of calcined human bone fragments (cremations) were lying on top of bundle burials at either end of the row. No feature outline was visible, although the close association and alignment of these bundles, within an area 90 cm long and 65 cm wide, suggest that they were interred at the same time. Hence, this multiple secondary burial technically constitutes a small ossuary.

Based on the small mastoid processes and gracile brow ridges Burial 15 is an adult female. Burial 16 is a young adult female. The moderate levels of attrition suggest that she was in her mid-twenties. Cuts are present on her right proximal femur.

Burial 17 is an adult of unknown sex and age. There is an infection of the left tibia which involved periosteal new bone, cortical thickening and a cloaca indicating medullary involvement. The right mastoid region of the cranium has considerable erosion due to mastoiditis. Burials 18 and 19 are two older adults, as indicated by considerable tooth loss and arthritis. As their robusticity characters were intermediate sexing was not possible. Burial 20 is a child with a dental age of 2-3 years, while Burial 21 is a child with a dental age of 2-6 years.

A cluster of calcined bone located in the southwestern sector of the feature contained only one readily identifiable osseous element, a right petrous portion of temporal. The small size and developmental status suggest these remains represent a late fetus or newborn. The other cluster, located in the northeast sector of the feature, contained over one hundred calcined bone fragments. The centra of two vertebrae, a cervical and a thoracic, plus a part of the left petrous element of temporal, suggest that this burial is also a late fetus or newborn.

Table 5. Incidence of Corn Recovered by Flotation

Tradition/Site (component)	Litres Floated	Frequency of Corn	
		Total	Corn/Litre
Western Basin			
La Salle-Lucier			
Younge Phase	588	54	.09
Springwells Phase	550	98	.18
E.C. Row	140	36	.26
Iroquoian			
Wiacek			
Late Middleport	2011	5906	2.94

Data from Lennox, Dodd and Murphy (1986), Lennox and Dodd (1991), and Murphy (1985).

Table 6. Demography of the E.C. Row Site

Feature	Adults			Subadults			Total
	Males	Females	?	Adol.	Children	Infants	
25	3	1	-	1	1	-	6
37	-	2	3	-	2	2	9
38	-	1	-	-	-	-	1
39	-	2	-	-	1	-	3
43	2	1	-	-	1	-	4
Total	5	7	3	1	5	2	23

Feature 42

This oval feature is adjacent to Feature 37. It measures 39 cm long, 24 cm wide and 10 cm deep. Included in the fill were approximately twenty bone fragments. One fragment is identifiable as the left portion of a frontal bone likely belonging to an adult male. Another fragment is the proximal portion of a humerus. This feature may represent remains that had been displaced from Feature 37.

Interpretation of the Physical Remains

Despite the short period of time available to examine the physical remains, several observations are noteworthy and allow some tentative interpretations.

The temporal span of each feature, or of the composite sample, cannot be reasonably estimated. Nevertheless, similarities in mortuary characteristics, and the spatial propinquity of the burial units suggests they are likely from a common local deme. While the sample is probably not proportionally representative of a

society, all components of a population (including fetal remains) are represented. No segment of the population appears to be excluded from the secondary burial ritual. The individual features may represent kin groupings, although this is not testable with the data collected.

The demographic information is summarized in Table 6. Subadults, all in the prereproductive cohort, comprise 34.8 percent of the sample. Among the adults (65.2 percent) whose sex was inferred, the sex ratio is balanced. The presence of fetuses or newborns (cremated), subadults (cremated), subadults and elders, as well as the balanced sex ratio, shows a concern to have all members in the population reinterred in a similar manner. Given the field circumstances, it is unwise to interpret the demographic data further.

The skeletal elements represented by the secondary burials were highly selective, and for the most part only included skulls and long bones. There are no hips, scapulae, hands or feet present in the E.C. Row burials. Vertebrae are also usually excluded from bundle burials, although articulated cervical vertebrae were found with Burial 14. These were likely severed with the skull during the preparation of the remains as cuts appear on the spinous process of C2 and C3. While cuts are common throughout the sample and likely represent attempts to remove fibrous or ligamentous connections in the preparation of bundles, those in the elbow region of the individual in Burial 14 appear to represent an attempt to remove damaged tissue.

The parietal bone of an adult in Feature 25 has evidence of an intentional drilling. Drilled skulls and other examples of post-mortem alterations to skeletons have been noted elsewhere, and are particularly common during the Younge and Springwells Phases of the Western Basin Tradition as summarized by Murphy and Ferris (1990:267). A number of interpretations concerning the functional and ritualistic significance of such alterations are plausible (see Murphy and Ferris 1990:270 for a review).

At the E.C. Row site cremation appears to be reserved for the very young. The bodies appear to have been burnt in the flesh as osseous elements from the whole skeleton are represented. The differential treatment of individuals is a recurrent pattern (e.g., Lennox and Dodd

1991:40). The association of cremated fetal or newborns with females may be a response to death during childbirth, a common complication.

The hypothesis that the separate burial features at E.C. Row represent familial/kinship groupings can only be tested by determining intragroup genetic relationships. If we assume that the features were contemporaneous, then there was an obvious attempt to keep groups of individuals separate. If the population used this area for secondary burial ceremonialism over time, then the representation may reflect broader, extended lineage sampling.

Bone infections in 40 percent (6/15) of the adults suggests a population that is experiencing considerable nutritional and/or disease stress. Without a detailed analysis of the lesions and their patterns in the skeletons a differential diagnosis is impossible. In at least two cases (individuals 9/10 and 14) the reactive skeletal changes may be a sequel to trauma. Individual 14, however, shows a systemic infection, possibly a treponematosis.

Dental pathology is age progressive for virtually every category of dental disease (e.g., caries, antemortem trauma and periodontal disease). In order to make a general assessment of the E.C. Row dental pathology it is necessary to deal with individuals within given cohorts. The best represented cohorts in this sample are the young adults and children. Of the 56 permanent teeth of young adults, 11 (19.6 percent) are carious and 5 (8.9 percent) have antemortem trauma. Seven of 82 teeth (8.6 percent) were lost antemortem, although four of these, the maxillary incisors of Burial 8, were likely caused by either ritual ablation or trauma. After excluding these, the prevalence of antemortem tooth loss in young adults interpreted as a sequel to "normal masticatory" processes in this sample is 3.8 percent. In terms of the pattern of dental caries, 91 percent (10/11) occur on molars with 87 percent of these being pit and fissure lesions. While most are small, there are examples where the entire crown has been destroyed by caries. All cases of antemortem trauma are chips; not one tooth was fractured. None of the 19 deciduous teeth (12 of which were molars) had caries or antemortem trauma and tooth loss did not occur among children.

Collectively these data indicate that the E.C. Row diet was not abrasive and likely had a

moderate carbohydrate content. The etiology of antemortem tooth loss appears to be more the result of caries than trauma, although in young adults dental health was, in general, good. The rate of carious lesions in the E.C. Row sample is substantially lower in both adults and children than at the contemporaneous Iroquoian Bennett Site, where the figures are 13.6 percent deciduous and 30.2 percent adult (Patterson 1984), although they have comparable rates of antemortem chipping. This suggests that E.C. Row culture was less dependent on carbohydrates.

The Iroquoian or Algonquian status of the Western Basin Tradition is a contentious subject (McKenzie and Blank 1976, Murphy and Ferris 1990; Stothers 1978). Obviously the E.C. Row morphological data are too limited to address this matter definitively. It should be noted, however, that contemporaneous Iroquoian populations are characterized by a high prevalence of tympanic dehiscence, a hypostatic morphogenetic, which serves as a marker trait for the evolving Iroquoian deme (Molto 1983). Among 14 large samples of Late Woodland Iroquois in which the individual was used as the unit of observation this trait ranged from 31-63 percent with a mean incidence of 47.4 percent (339/715). At E.C. Row tympanic dehiscence was absent in the 10 (14 sides) adults (4 males and 5 females) and 2 subadults (0/2 sides) that were analyzed. The probability of selecting 12 individuals from an Iroquoian site without tympanic dehiscence using the binomial distribution is $P < .01$. These provisional data are highly suggestive of distinct biological differences between the E.C. Row sample and Iroquoian populations.

Additional unpublished data from the Lucier site (Mullen and Glencross 1990) shows that tympanic dehiscence was present in only one (adolescent from burial 4) of eight skulls (12.5 percent). The fact that it was absent from two other adolescents and three females is also noteworthy, since among Ontario Iroquoians this variant has a higher incidence in both subgroups (Molto 1983). Collectively these provisional morphological data suggest distinct biological separation of the Western Basin and the Ontario Iroquoian samples at circa A.D. 1400.

THE LUCIER SITE

The E.C. Row Site (AbHs-7) has been associated with the Lucier Site (AbHs- 1) in several ways. The sites are close spatially, separated by only 150 m of slightly lower ground, and they also appear to be closely affiliated culturally, as is suggested from an examination of the Wintemberg collection.

In the absence of a site report or map of the 1935 investigations, reconstruction of Wintemberg's excavations is only possible, at least to some degree, from his field notes. Attempts by several researchers have placed Wintemberg's excavations at the intersection of the Toronto St. and Betts Avenue road allowances (Wright 1976, Reid 1978) but have not identified the original grid. Clues may be found in negatives in the National Museum files and a series of photos taken at the site in 1935, now housed at the Hiram Walker Museum in Windsor. One of these photos, reproduced here as Figure 9, shows Wintemberg, Grant, and other crew members (presumably including Dickson) during excavations at the site. Wintemberg's excavations may also be seen next to the former road cuts on 1942 air photographs.

Wintemberg's notes describe 19 burial features containing 25 individuals in four burial modes. These include two complete skeletons representing primary burials; one skeleton that appears to have been rearticulated; nine torso burials (the remains of primary burials after the longbones and skulls had been removed for reburial as bundle burials); 11 bundle burials representing the secondary interment or reburial of longbones and skulls removed from torso burials; and two cremations (Wintemberg 1935; Wright 1976).

Two of the primary burials are complete, articulated skeletons buried in a flexed position at depths of 30 and 32 inches (75 and 80 cm). One had a complete, albeit broken, vessel near the skull. The vessel is described by Wintemberg (in Wright 1976:A8) as high and narrow with a simple stamped decoration and may be the complete Parker Festooned vessel "excavated by Wintemberg at Windsor" (Lee 1958:17,18) and illustrated by Lee (1958:Figure 7) and by Murphy and Ferris (1990:219). It is 11 inches (28 cm) high, 5 1/2 inches (14 cm) wide through the body and flares to 7 inches (18 cm) in diameter at the lip.

Table 7. E.O Row Prehistoric Features

FEATURE #	*L, W, D	PROFILE	** FILL	CONTENTS				COMMENTS
				CERAMICS	LITHIC DER.	FIRE CRACKED ROCK	BORE REFUSE		MISCELLANEOUS
2	105 55 26	)	MS/FC	149	12	8	23	Disturbed by F-1
3	48 39 10	)	TAS	1	1		53	+ 1 hammerstone, 2 bipolar cores + 4 fired ceramic waste
5	82 68 25	)	TS	7	3	2	2	
6	100 70 17	)	TS	1				
7	42 39 17	)	T	1	1		5	1 utilized quartzite flake
10	111 110 16	)	TS/TSA					
11	60 40 6	)	T					Sterile
13	31 25 10	)	T					Sterile
15	40 40 48	)	TS					Sterile
21	38 34 15	)	TS					Sterile
22	37 34 11	)	TS					Sterile
23	50 36 16	)	TS	2	1		10	
25		)		Disturbed	Burial		1	
27	43 40 14	)	TS	1				
28	20 22 14	)	TS					Sterile
30	40 40 30	)	TSP					Sterile
31	33 26 30	)	TS	1				
32	64 49 19	)	TS	1				
34	50 30 15	)	TS	1				
35	27 19 12	)	TS	1				
36	109 53 18	)	TS	1				Sterile
7, 38, 39,		)		Burials			77	bone refuse from 37-1
41	23 20 17	)	TS					Sterile
42, 43		)		Burials				Sterile
44	63 38 8	)	TS					Sterile
46	25 20 7	)	TS					Sterile
47		)						modest disturbance with fire reddened soil.
57	46 32 29	)	TS				3	-3 bipolar cores -point base & tip -utiliser flake and -hammerstone

A third, relatively complete skeleton is described as "partly dismembered" (Wintenberg 1935; Wright 1976:A17) with femora and tibia in position, stretched out full length, skull opposite the right knee, left humerus with distal end on hip, right ulna with proximal end near hip, and head of left ulna resting on the left shoulder. This burial lay at a depth of 29 inches (73 cm)(Wintenberg 1935; Wright 1976:A17), and may represent an attempt at rearticulation.

Nine burials described as torso burials usually included the articulated axial skeleton (without the skull) and miscellaneous bones of the hands and feet. Torso burials were never associated with grave goods. In one instance a torso burial was found below some cremated remains. Torso burials ranged from 15 to 28 inches (37 to 70 cm) in depth, although one was (mistakenly?) reported at a depth of eight feet seven inches (Wintenberg 1935; Wright



Figure 9. W.J. Wintemberg, J.C.B. Grant and others of the 1935 Field Crew (photograph courtesy of the Hiram Walker Museum, Windsor).

1976).

Eight bundle burials are described. Three include parts of at least two individuals and another has a cremation on top. In four instances scapulae are associated with bundle burials; Wintemberg suggests these may have been used in the excavation of burial pits. No grave goods are reported and depths range from 10 to 30 inches (25 to 75 cm) (Wintemberg 1935; Wright 1976).

One bundle, containing parts of two individuals, included two modified skulls. One with the occipital missing had a lenticular cut, about three inches (7.5 cm) long and 3/8-inch (1 cm) wide, sawn transversely across the sagittal suture penetrating the brain cavity. The other skull was "perforated" (presumably drilled), through the sagittal suture (Wintemberg 1935; Wright 1976). These examples are illustrated in a published article by Wintemberg (1936). It is notable that one skull lay face down and the other on its side (both with mandibles in place) and that the "soil under the skulls looked like a mixture of clay and sand" (Wintemberg 1935; Wright 1976:A5). Could these have been examples of clay masking or of facial cavities packed with clay (cf. Greenman 1937:57, Fitting 1965:75, Spence 1992:14)?

Two cremations include a probable infant found on top of a bundle burial and another located above a torso burial. Apparently no grave goods were found with cremated human remains. Burial depths of 15 inches (37 cm) and *less than 30 inches (75 cm) are reported.*

A summary of Wintemberg's findings indicates that five of the skulls have a hole drilled through the sagittal suture near the bregma and another has a lenticular cut, about 3 inches long and 3/8-inch wide (apparently made by sawing with a knife made of chipped stone), which extends transversely across the parietals and penetrates the brain cavity. One of the bundles of long bones included an artificially perforated humerus and femur (Wintemberg 1936). The apparent discrepancy in the number of modified crania from the site may be explained by Wintemberg's field notes where it is recorded that "A man named Thrasher who laid out the streets of the subdivision (Toronto Street and Betts Avenue) found several skeletons. All the skulls were perforated. He gave some of the bones to the late Fred Neal of Sandwich but does not remember what subsequently became of them" (Wintem-

berg 1935; Wright 1976:A2).

Phillip Wright (1976) provides a description of the cultural material in the Wintemberg collection from the National Museum. Examples of rimsherd and pipe fragments from the Wintemberg collection are provided in Figures 10, 11, and 12. The collection includes two flakes and two cores of quartzite, a ground stone adze and pipe stem, a large bone splinter awl, six ceramic pipe fragments and parts of 19 vessels represented by 60 rimsherds and rim fragments. Wright (1976) describes the vessels and provides an attribute analysis. The vessels are primarily self-slip ("roughened" in this analysis) with three vessels exhibiting a smoothed-over-cord surface treatment and another being fabric impressed. Rimsherd profiles indicate that about half of the vessels possess collars, although many are weakly defined. With respect to exterior rim motifs, the largest portion of the sample consists of oblique and opposed oblique motifs executed with either a dentate stamp or cord wrapped stick. There are also several plain vessels, several examples with horizontal linear cord impressions (Macomb Linear) and one with a trailed zig-zag motif applied over a cord roughened surface. A rimsherd photographed by Wright from the National Museum collection has horizontal bands of circular impressions identical to those on a rimsherd fragment found during the 1985 excavations (Figure 5:7 cf. Figure 11:6).

SUMMARY AND DISCUSSION

Excavations at E.C. Row have provided new information concerning the occupation and use of the site and the biocultural characteristics of its occupants. Our conclusions are somewhat restricted in scope since our excavations were limited to areas that were to be impacted during construction. Nevertheless, the new information contributes to a growing body of knowledge on the Western Basin Tradition (Murphy and Ferris 1990).

The E.C. Row and Lucier Sites are not only physically close to one another, but have strong cultural similarities in artifacts, settlement pattern and burial practices. However, contrary to suggestions that they are one and the same site (Murphy and Ferris 1990: 249, 267,269), we believe that the distance between them warrants treating them as distinct occu-

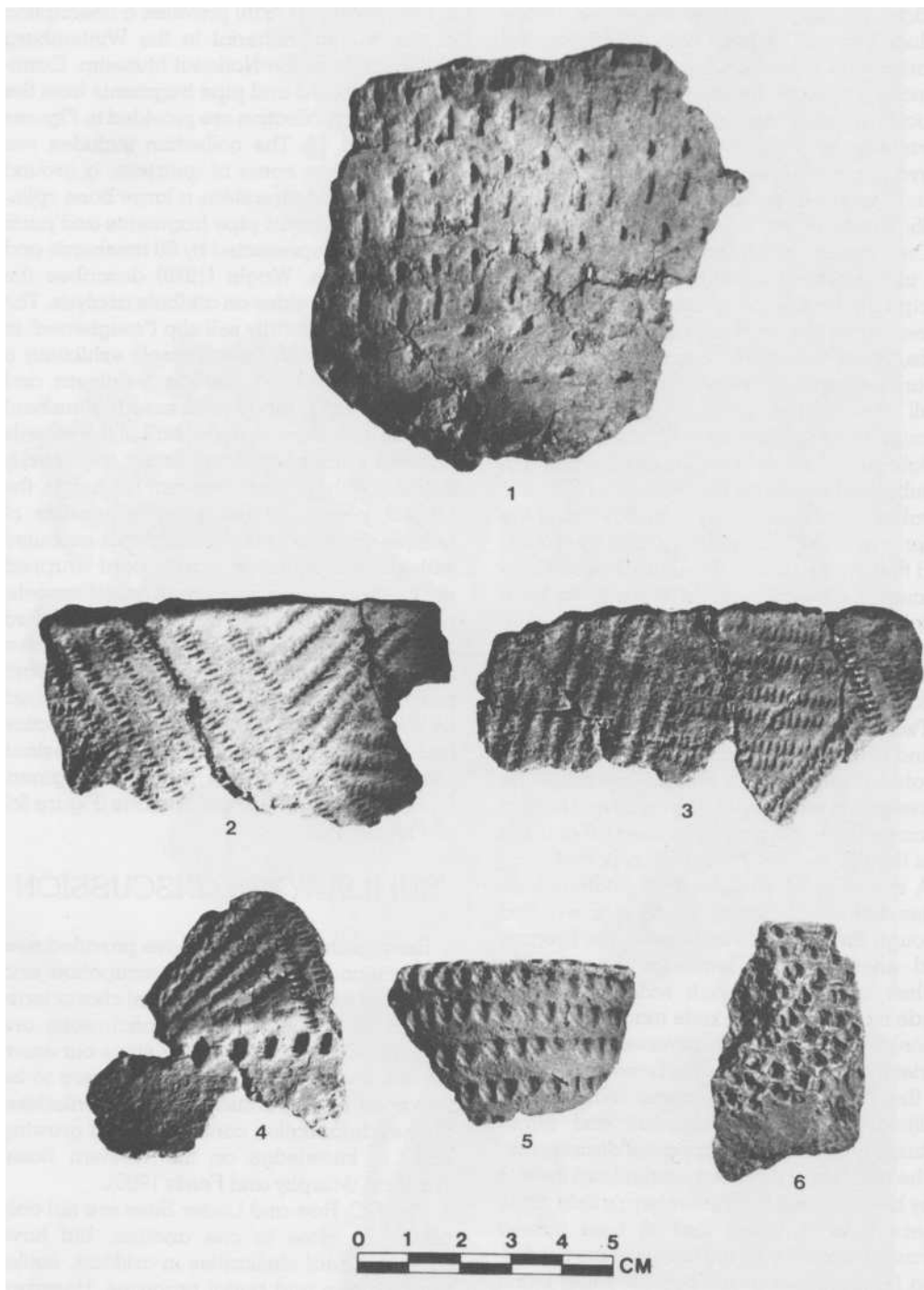


Figure 10. Lucier Site Ceramics from the Wintemberg Collection, N.M.C. (photograph courtesy of P. Wright).

pations.

Elongated vessels with subtle shoulder contours, roughened body surfaces in association with minor frequencies of corded and plain surfaces, the array of decorative tools used, including plain linear stamp, dentate stamp, cord-wrapped-stick impression, linear cord impression and circular impression occurring on incipiently collared or uncollared vessels, all suggest that E.C. Row and Lucier have affinities with the Springwells Phase of the Western Basin Tradition (ca. A.D. 1200-1400) (Fitting 1965, 1975; Murphy and Ferris 1990).

Some of the vessels from both sites may be considered Mixer wares (Shane 1967). It has been suggested that the occurrence of Mixer wares in southwestern Ontario span the transition between the Springwells Phase and the later Wolf Phase (Murphy and Ferris 1990) as they do immediately to the south of Lake Erie, in Ohio (McKenzie and Blank 1976).

Tool impressed oblique decoration continues to be present throughout the Springwells Phase. This style of vessel likely reflects the direction ceramic trends take toward the end of the Springwells Phase, during which time horizontal linear motifs are largely replaced by more elaborately decorated oblique tool-impressed rims. These appear closely related to contemporaneous Mixer wares of northern Ohio between the Maumee River and Cleveland.

[Murphy and Ferris 1990: 213]

The prevalence of these ceramics at Lucier together with a few instances of Parker Fестоoned-like rims suggest that Lucier is late in the Springwells Phase or perhaps transitional between the Springwells and Wolf Phases. Hence, the carbon date of A.D. 1450 ± 125 obtained from charcoal recovered by Wintemberg and submitted by P. Wright (Fox 1982) may be considered an acceptable date for the Lucier occupation.

Based on our sample, E.C. Row seems to exhibit less of a Mixer ceramic influence and, with no evidence of Parker Fестоoned ceramics, may be slightly earlier than Lucier. Nevertheless, the superimposed structures at E.C. Row suggest this site may have been used over an extended period of time.

Although the pipe fragments from E.C. Row

are fragmentary and undiagnostic, two pieces recovered from Lucier by Wintemberg (Figure 12:9,10) are typeable from an Iroquoian perspective and may be distinguished from two other Lucier pipe fragments (Figure 12:7,8) exhibiting very fine dentate and cord-wrapped stick impressions typical of the Western Basin Tradition. The Iroquoian types include an Iroquois Ring Pipe (Emerson 1954:47) and a flared conical (cf. Lennox et al. 1986:60) or trumpet form, both of which suggest late Middleport or early Late Prehistoric affinities toward the east.

The longhouse-type architecture present at E.C. Row is, at first glance, reminiscent of Iroquoian longhouses. On the other hand, such attributes as straight or aligned wall post patterns, excessive house widths, clean interiors, and the scarcity of associated refuse, are not typically Iroquoian but are traits shared by most Western Basin Tradition structures (Greenman 1937, Lennox and Dodd 1991, Murphy and Ferris 1990).

Wintemberg did not report any structures at Lucier, although this is not unusual for excavations conducted in the 1930s when the recognition and recording of post moulds was in its infancy. This is also understandable in light of the poor definition of post moulds at E.C. Row. In our opinion, structures existed at Lucier as well but were not recognized at the time.

Unfortunately, stable isotopic data from bone samples are not available to assist in addressing dietary questions. The information from dental caries, however, corroborates archaeological evidence that the people at E.C. Row used maize, although they may have used less of it than their Iroquoian neighbours to the east (Table 5).

The identified wood charcoal from E.C. Row provides an indication of the well drained or dry soils of the immediate site area as well as the likelihood that fuel wood was also obtained from areas immediately adjacent to the area occupied. These wet areas were apparent in the soil profiles during our initial investigations, appearing toward the periphery of the slight knoll on which the site is situated.

The identifiable faunal assemblage is small but includes a relatively wide range of fish species likely taken from nearby Turkey Creek or the Detroit River. Deer remains are also present, and the remains of Passenger pigeon and raccoon suggest use of the site during the

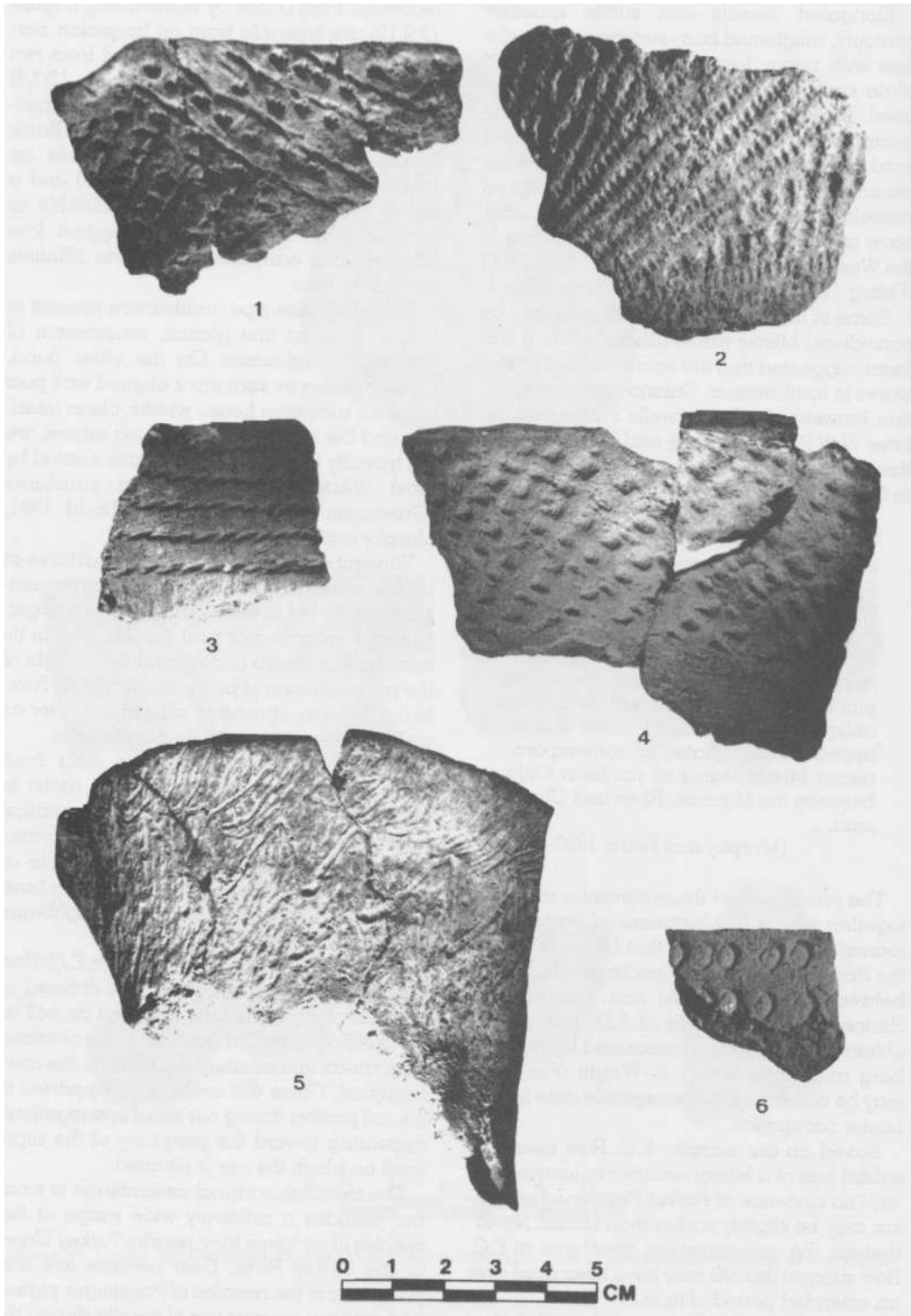


Figure 11. Lucier Site Ceramics from the Wintenberg Collection, N.M.C. (photograph courtesy of P. Wright).

warm season and into the fall. This is consistent with the suggestion that burials occur primarily at warm season occupations (Murphy and Ferris 1990:266).

The E.C. Row burial pattern provides new data on the treatment of the dead among people of the Western Basin Tradition. While burials are relatively common at E.C. Row, when compared with most other sites of the Western Basin Tradition, this is consistent with the size of the site and the apparent length of occupation or reoccupation as is suggested from the reconstruction of houses there. It has been suggested that E.C. Row was a special purpose ceremonial or burial site (Murphy and Ferris 1990:249); however, we believe that activities unrelated to mortuary practices were also undertaken at the site.

Bundle burials and cremated infants were the only form of interment observed at E.C. Row. A broader range of burial types, including primary interments, torso burials and a possible attempt at rearticulation were also observed at Lucier. It is, of course, possible that further investigations at E.C. Row might reveal a similar range of burials. Alternatively, the primary burials and torso burials at Lucier could represent earlier stages in the sequence of mortuary practices which, at E.C. Row, may have taken place at another location in the settlement or at another site. The incomplete nature of the interments at E.C. Row is likely the consequence of secondary bundle burial during which skulls and longbones were selected for reburial. As summarized by Murphy and Ferris (1990) the range of burial modes represented by the Western Basin mortuary pattern may be a result of the curation of individuals prior to final interment. It should not be assumed that primary burial was simply a method of defleshing skeletal elements. At E.C. Row, the evidence of cutmarks and the articulated cervical vertebrae in association with a skull seem to suggest that the time between primary and secondary burial was not necessarily lengthy.

An interesting mortuary custom found at Lucier and La Salle-Lucier, is the primary cremation of perinatal deaths. This differential treatment, which did not involve "in situ" crematory episodes, but rather entailed the packaging and placing of the burnt bones with adult (probably female) bundle burials, appears to have had ritualistic significance. This pattern

may be compared and contrasted with those of the Historic Hurons and Neutrals. According to seventeenth-century accounts among the Hurons, the souls of the very young and very old were considered too weak to make the journey to the land of the dead and were treated in a different manner. Among both Hurons and Neutrals the burial of newborns or the very young often occurred in longhouse floors where their souls were thought to have had the opportunity to be reincarnated (Fitzgerald 1979; Kapches 1976; Thwaites 1896 (10):273; von Gernet 1994).

From a demographic perspective the skeletal remains at E.C. Row (Table 6) appear to represent a cross section of a local deme, in that all age groups and both sexes are represented. In our opinion, the high rate of infection was not caused by an epidemic, although the population does seem to be rather "unhealthy". The relatively large number of burials may simply be a reflection of the population size, the duration of individual occupations, or reuse of the same site for subsequent habitation and burial purposes.

If we assume that the burials represent a single event, the separation of individuals into various features may point to the recognition and maintenance of social divisions (extended family, lineage, etc.) after death. Alternatively, if we assume that the site was reoccupied for an extended period of time, each feature may represent the secondary burial or reinterment of individuals who had passed away since the last burial episode. Since the graves are predominantly bundle burials and cremations, rather than primary interments, there appears to have been a planned time and place for secondary burial.

At E.C. Row and Lucier, the skeletal elements represented by the secondary burials were highly selective and, for the most part, included only skulls and long bones. There were no hips, scapulae, hands, or foot bones present in the E.C. Row burials. Vertebrae were usually excluded from bundle burials, but articulated cervical vertebrae were found with Burial 14. These were likely severed with the skull during the preparation of the remains, as cutmarks appear on the spinous process of C2 and C3. While cutmarks are common throughout the sample and likely represent attempts to remove fibrous or ligamentous connections in the preparation of bundles, those associated

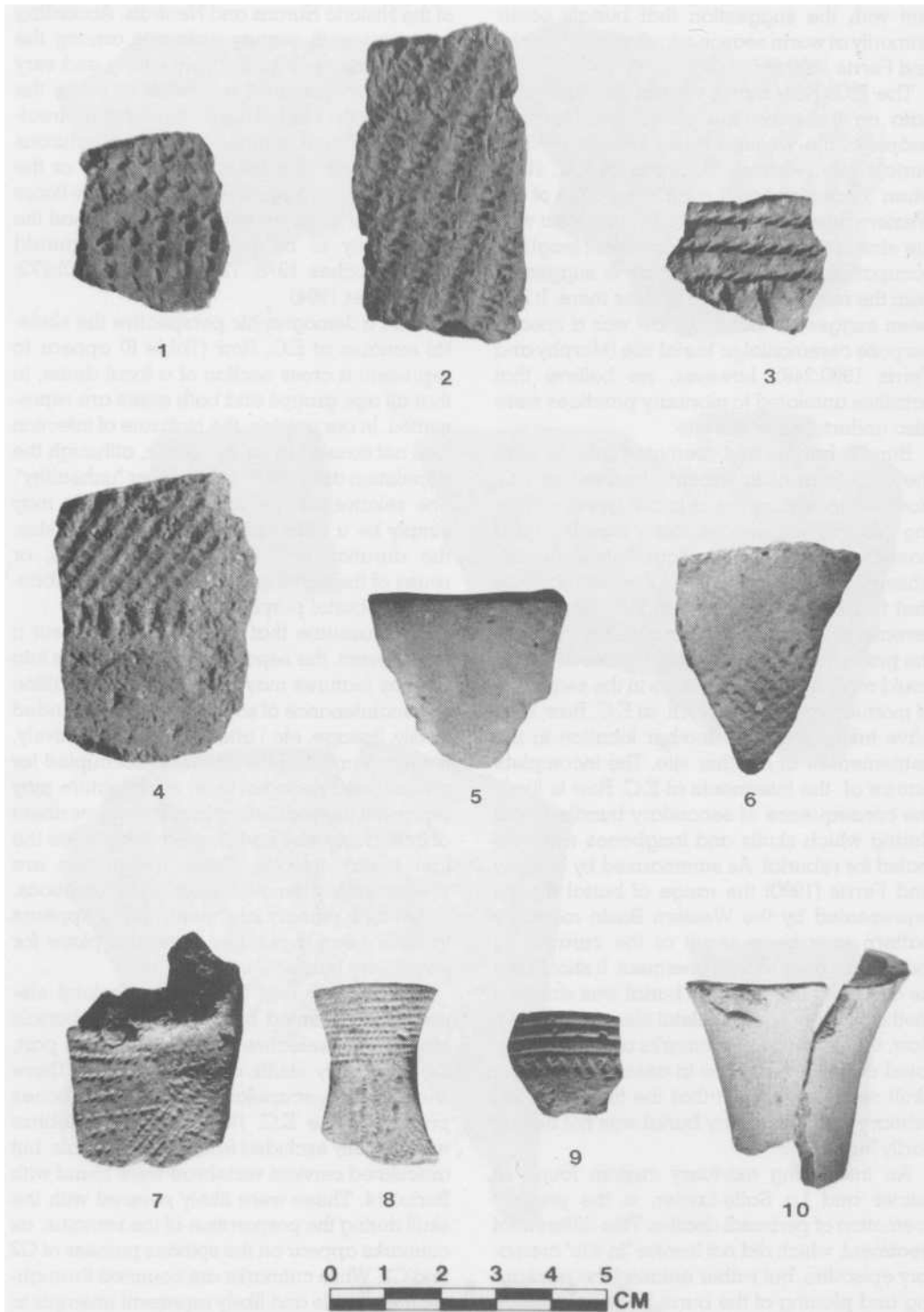


Figure 12. Lucier Site Rimsherds and Pipe Fragments from the Wintenberg Collection, N.M.C. (photograph courtesy of P. Wright).

with the elbow of Burial 14 may have resulted from an attempt to remove damaged tissue.

The drilled parietal bone at E.C. Row, as well as the five perforated crania and other post-mortem alterations at Lucier, are similar to other Western Basin interments attributed to the Younge and Springwells Phases (Greenman 1937; Murphy and Ferris 1990:267).

One E.C. Row individual has evidence of ablation, the intentional removal of the teeth by force for ritual, decorative or social reasons. A similar occurrence is reported for the probable Springwells Phase, Stag Island burial (Spence 1992). There the premortem loss of the two medial incisors appears on a maxilla of a female roughly 25 to 40 years of age. Unlike the E.C. Row example, where resorption was advanced, the incisors in the Stag Island example appear to have been lost shortly before death. Spence points out, however, that resorption may be a rapid process with a socket being filled only a few months following the loss of the tooth (Spence 1992:17).

The settlement at E.C. Row is similar in some ways to the Springwells Phase component at the La Salle-Lucier Site (AbHs-8), which is located near the Detroit River about seven kilometres to the southwest of E.C. Row (Lennox and Dodd 1991). Here several portions of house structures were apparent within a single row of palisade. The palisade enclosed an area estimated at .1 ha and the location of several house walls suggest that rebuilding had occurred. Two disturbed burials included one bundle with the cremated remains of an infant and several fragments of another interment (perhaps another bundle) located some distance away. The ceramic assemblage places this occupation early in the Springwells Phase. The limited faunal remains suggest a warm season, riverine oriented economy, and the presence of corn suggests that horticulture also played an important role (Lennox and Dodd 1991). While the settlements at La Salle-Lucier, E.C. Row and perhaps Lucier follow a similar pattern, it must be kept in mind that none of these investigations involved complete excavations.

La Salle-Lucier exhibits many similarities with the E.C. Row Site. Both may be attributed to the Springwells Phase and both appear to have been used, perhaps intermittently, over an extended period of time. Both appear to have been warm season occupations in areas

that offer diverse natural environments with the advantages of an oak-hickory forest or oak savanna, together with enclaves of prairie grassland nearby (cf. Kenyon 1976; Lennox and Dodd 1991). A single row of palisade posts encompasses an area of about 1000 square metres at La Salle-Lucier and a similar structure may have existed at E.C. Row. Finally, both sites produced evidence of bundle burials and cremations. On the other hand, E.C. Row is about three times the area of La Salle-Lucier. The size of Springwells Phase nucleated warm season occupations is likely to have increased through time as settlement subsistence strategies focused on the use of cultigens - a pattern characteristic of the Western Basin Tradition in general (Murphy and Ferris 1990).

La Salle-Lucier is near the banks of the Detroit River, where land based resources could have been supplemented by the rich riverine resources. During the early Springwells Phase, when the first sizeable summer settlements appear, the range of local resources available may have offered stability in the food quest.

Settlement-subsistence strategies during the Springwells Phase (A.D. 1200-1400) in southwestern Ontario have been viewed as a continuation of a pattern established during the earlier Younge Phase (A.D. 1000-1200). It is thought that group coalescence during the warm season was followed by cold season dispersal to provide for the extraction of seasonally-available resources by group sizes appropriate for the particular season and resource (Murphy and Ferris 1990). During the Younge Phase this seems to have resulted in a broad range of site types and sizes. While horticulture was practiced, there appears not to have been a strong focus on the establishment and maintenance of cultivated fields. The most notable change during the Springwells phase is an increased commitment to cultivation and sedentism, as suggested by larger sites and more substantial dwellings. Undoubtedly, special purpose extractive camps of a smaller size continued to be used during all seasons of the year.

Springwells Phase house structures are reminiscent of the longhouses of contemporaneous Iroquoians to the east, although the absence of internal structures such as bunklines, end of house storage areas, storage pits

and hearths suggest that seasonally-occupied Iroquoian cabin sites are more appropriate analogies. As is the case with Iroquoian cabin sites, the accumulation of refuse appears to have been limited. These attributes suggest that the length of occupation of the E.C. Row and La Salle-Lucier houses was limited, with most activity occurring during the spring and fall (perhaps during the planting and harvesting of crops).

The cold weather occupations of the Springwells Phase are thought to parallel those of earlier phases (Murphy and Ferris 1990:224). If this is true, the suggested dispersal of family groups may be contrasted with the settlement subsistence pattern of the more eastern Iroquoians. The villages of the Iroquoians were occupied on a year round basis and, although numerous special purpose cabin sites and camps were associated with these larger settlements (Lennox 1995), the village sites appear to have been the centre or focus of settlement and subsistence throughout the year. As a result Iroquoian villages are more substantial and refuse is much more abundant (Dodd et al. 1990; Lennox and Fitzgerald 1990; Noble 1975; Wright 1966).

The construction of large storage pits in Iroquoian houses allowed an accumulation of foodstuffs and occupation of the village throughout the cold season. During the Springwells Phase there appears to be a trend toward warm season coalescence in villages, but the absence of storage pits, intensively used hearth areas and an accumulation of refuse, suggests that these settlements continued the earlier pattern of winter dispersal (Murphy and Ferris 1990).

The evidence from physical anthropology suggests that the people of E.C. Row are biologically distinguishable from Ontario Iroquoians. We believe similar distinctions can be made on the basis of settlement pattern, mortuary pattern and material culture. Whether these differences reflect distinct ethnic and/or linguistic divisions remains a problem for future researchers to resolve.

In this report we have tried to present our findings at the E.C. Row Site and compare these to what is known about the previous investigations at the nearby Lucier site. It is hoped that this has contributed to a better understanding of the Western Basin Tradition in southwestern Ontario.

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