A HISTORY OF ONTARIO IROQUOIAN MULTIPLE BURIAL PRACTICE

3

Ronald F. Williamson
Debbie A. Steiss

INTRODUCTION

The objective of this chapter is to provide a developmental framework for Iroquoian mortuary behaviour within which to consider the Moatfield ossuary. Not only is it necessary to assess the history of the practice of placing human remains from one or more communities in a common burial pit, but it is also important to evaluate the variation in the structures of those pits and the behaviours associated with the placement of the remains. Indeed, while separate burial traditions have been recognized for the various northern Iroquoian groups (i.e., Huron, Neutral and Five Nation Iroquois), there was considerable variability and complexity within each of those traditions through both time and space. Unfortunately, that variation and complexity has been, at least in part, masked by a confusing descriptive taxonomy for multiple secondary burial practice, a situation that we will attempt to clarify in this chapter.

In order to understand the Moatfield pattern in light of this complex set of traditions, a detailed description of the archaeological structure of the Moatfield pit (Williamson et al., Chapter 4, this volume) as well as a thorough comparative analysis of other multiple burial sites, must be presented. It is in the details of such comparisons that cultural patterns will be detected, which will facilitate an understanding of how Moatfield fits within general pre-contact Iroquoian burial traditions and perhaps even within a developmental sequence of a particular north shore of Lake Ontario community. Such details include the proximity of the burial pit to the associated village, the size and morphology of the burial pit(s), their stratigraphic layering, the presence or absence of scaffolding, the use of fire

Bones of the Ancestors: The Archaeology and Osteobiography of the Moatfield Site, edited by Ronald F. Williamson and Susan Pfeiffer. Archaeological Survey of Canada Mercury Series Paper 163.

and/or other evidence of ceremony, the use of animal skins, the arrangements of both bundles and single elements within deposits, the distribution of sex and age classes and the presence, absence or distinctiveness of constituent artifacts. This chapter presents such a comparative analysis, which in turn, will allow for a meaningful interpretation of the Moatfield pit in the concluding chapter of this volume.

The earliest historical records of Iroquoian mortuary customs are those of the seventeenth century French missionaries who lived with and travelled among Ontario's native people. Archaeological evidence suggests, however, that many of these burial practices were established by the beginning of the Middle Iroquoian period, circa A.D. 1300 (Johnston 1979; Spence 1994; Trigger 1969:102, 1985:94)—the estimated date for the occupation of the Moatfield site. The appearance of ossuaries, along with semi-subterranean sweat lodges (MacDonald 1988; 1992) suggest that both structures functioned as mechanisms of community integration, yet these ceremonies certainly had precedents in earlier societies throughout the Northeast.

The multiple burial cemeteries of the Early Woodland period (circa 500 B.C.), for example, have been viewed as evidence of the growing importance of the band as a referent of social identity (Spence et al. 1978:44; Williamson 1980:10) and as places that provided annual opportunities for reaffirming community member's rights and responsibilities (e.g., Spence et al. 1990:167). These early cemeteries consisted mainly of individual burials and more rarely of two or three people together, perhaps representing the annual dead from a nuclear family (e.g., Spence et al. 1990:133). On the other hand, Clermont (1978) suggested that at the Early Woodland Pointe-du-Buisson 5 site in southern Quebec, the annual dead from the entire band may have been cremated and then interred together within a pit, a pattern also documented at the Transitional Archaic Hind site in southern Ontario (Donaldson and Wortner 1995:10). While these may represent early forms of community-wide interments, the introduction of maize and village life brought about a gradual transition in the economic and socio-political structures of most regional populations that also had profound impacts on burial customs (Williamson 1990). Notwithstanding evidence of regionally-based mortuary programs during the Early Iroquoian period (Spence 1994), this transition involved a general shift from individual or extended family primary burial pits to large group interments in secondary form. It might be argued that this transition represents the "moment" at which the family is supplanted by the community as the main social referent in Iroquoian societies.

While some cemeteries were used periodically throughout the tenure of a village, as was the case with Neutral and some Five Nation Iroquois mortuary sites, the formation of the Huron ossuary appears to have been catalysed by a significant event in the life of the individual community, namely the relocation of their village. On the north shore of Lake Ontario, this form of group burial was regularized by the beginning of the Middle Iroquoian period, with Moatfield representing one of the earliest examples yet recorded.

DEFINITION AND EVOLUTION OF OSSUARY BURIAL

The term *ossuary* has been applied in a number of differing ways to the mortuary customs of various northeastern aboriginal groups. Not only has ossuary been used interchangeably with *burial pit*, *mixed graves* and *mass burial*, but all of these terms have been used inconsistently. This makes it difficult for the casual reader of this literature to appreciate either the significant differences between the burial programs of these aboriginal groups or the multi-linear nature of their evolution.

Michael Spence (1994:7) has argued that the term ossuary should be reserved for a burial pit containing the mixed deposit of the remains of multiple individuals, which was formed as the result of final burial ceremonies, triggered by events such as a village relocation, the death of a leader, or the reformulation of inter-village alliances. While he acknowledged that it is difficult to determine the catalysts for such events, he was attempting to distinguish between special and infrequent ceremonies and features containing multiple secondary burials formed during regular burial episodes in community cemeteries. While he acknowledged that the two situations are difficult to differentiate, he argued that ossuary burial would result in the interment of more individuals and fewer articulations (or less evidence of dismemberment), since much more time would have passed between the death of at least some individuals and their reburial, thereby allowing for the complete decomposition of soft tissue in the primary burial context.

Spence also hypothesized that at least in Early Iroquoian times, there may have been a transitional stage between primary and ossuary burial, which involved the periodic exhumation of primary burials and their re-interment in common pits. These in turn would be exhumed later for final "ossuary" burial, perhaps at the time of village relocation. While secondary burial pits containing the fragmentary remains of several individuals might constitute evidence of such a practice, it is equally possible that pits containing the remains, partial or complete, of several individuals might represent the final group burial of an extended family or even a clan segment. In such situations, a full understanding of the feature's archaeological context (e.g., proximity to a community cemetery) as well as detailed observations of each burial would be required in order to discern the differences between transitional forms of ossuary burial and contributing features to periodic reburial ceremonies at a community cemetery (Spence 1994:8).

Richard Johnston (1979) also differentiated between the Huron ossuary and other burial traditions. He argued that a late period Huron ossuary was not simply a grave containing the remains of several individuals, which was otherwise common in the Northeast, but a large bone deposit consisting of numerous incomplete and disarticulated interments. He went on to define an ossuary as the common burial of the secondary remains of a minimum of 10 or 12 individuals, as a result of the concerted action by a social group larger than an extended family or limited kin group and when the numbers of individuals represented are in the hundreds, on the part of several neighbouring villages.

Marian White (1966:15-22) also defined multiple burial classes for the historic period in the Niagara Frontier of southern Ontario and New York State, prompted by her analysis of the partially mixed secondary deposit of some three or four hundred individuals from the Orchid ossuary in Fort Erie, Ontario. She distinguished between ossuary forms with and without single burials, mixed graves containing multiple bundles and single primary burials and cemeteries, which contained primary interments, usually of single individuals. White, like Spence, also called for careful delineation of burial features to differentiate between disarticulated and incomplete secondary burials from primary burials that have had most elements removed for ossuary burial (e.g., Esler 1998:161; Ramsden et al. 1998:82-83).

Mary Jackes (1996:128) also provided a detailed definition for the term ossuary. She argued that an ossuary is "a multiple burial in which most individuals are interred after natural or artificial disarticulation" and that, while bones may be arranged by skeletal element, they are rarely retained in bundles containing recognizable individuals. Jackes suggested an arbitrary figure of 25% as the maximum number of individuals that should be recognizable within an ossuary. This contrasts with what Jackes refers to as a burial pit or a feature containing the bones of many individuals within which the majority retain articulations or are at least recognizable as individuals, e.g., bundle burials (Jackes 1996:130). According to this scheme, the former would apply to most Huron burial deposits while the latter would apply to Neutral cemeteries.

The Southeast/Middle Atlantic area appears to provide the greatest time depth for burial pits containing large numbers of people. Douglas Ubelaker (1974) reported that at least 21 ossuaries had been discovered in the mid-Atlantic region, varying in size from 2.4 to 7.62 metres in diameter and containing between 5 and 618 individuals. The pit containing 618 burials was recorded in one of the five ossuaries at Piscataway Creek, Maryland (Stephenson et al. 1963). Dennis Curry (1999) has provided a detailed summary and analysis of multiple burial features in that region, defining ossuaries as "mass graves containing the collected, often disarticulated, skeletal remains of multiple individuals" (Curry 1999:3). Curry stressed their function as secondary graves containing the remains of people originally buried or stored elsewhere and then disinterred or collected for reburial in one common pit in his application of the term ossuary to these features. In so doing, he followed Ubelaker (1974) who defined ossuary burial as a "secondary deposit of skeletal material representing individuals initially stored elsewhere".

While citing Huron ossuary burial as the best ethno-historically documented example of this behaviour, Curry also described much earlier ossuaries containing hundreds of secondary burials. Significant numbers of secondary burials occurred in sand mounds, for example, along the east coast of Florida, prior to A.D. 100 and throughout the southeast by Middle Woodland and early Late Woodland times. The McLean Mound in North Carolina, radiocarbon dated to A.D. 970±110, was found to contain 242 bundle burials and 25 cremations. Curry also pointed to a series of ossuaries in the North Coastal region, dating from A.D. 1310 to 1460, which occurred in two forms: large communal pits, composed of

distinct deposits or clusters representing individual family bundles or groupings, and small pits, composed of bundle burials representing individual family ossuaries.

Curry also described Late Woodland and Contact period ossuaries in tidewater Virginia and Maryland that exhibited a variety of burial treatments from primary burials to secondary disarticulated interment to cremation. All ages and sexes are represented in pits that contain the remains of anywhere from a dozen to more than 100 individuals, along with an assortment of aboriginal artifacts and trade goods. Several of these ossuaries were located on high ridges, reminiscent of the earlier sand mound burials of the Southeast, suggesting their development from the earlier burial practices (cf. Blick 2002:2). Curry also noted that there is a good correlation between the Maryland ossuaries and documented habitation sites and that there is archaeological evidence in Maryland, although rare, for the typical forms of primary burial treatment also reported for the Huron (i.e., interment, scaffold placement and storage in mortuary houses). Also, approximately 45% of the Maryland ossuaries contained cremations, in discrete pockets similar to bundles. The bodies were apparently cremated outside of the ossuary (Curry 1999:77-78). He suggested that cremations may have denoted status differentiation in ossuaries, especially in those situations where initial cremation deposits were covered by layers of unburned bone as was noted in two ossuaries in Maryland and Cape Cod (Curry 1999:87). He proposed that the chief's remains had been interred at the base of the ossuary and then capped by the unburned remains of the common villagers. Cut marks on the bone were common; indeed an unusual practice was noted at two ossuaries in Virginia, that of severing the knee tendons of articulated individuals and then bending the lower legs forward (anatomically backward) (Curry 1999:79). At least one Maryland ossuary contained incarnate burials, as indicated by extended, fully articulated burials associated with greasy, nitrogen-rich soils.

A number of ossuaries showed evidence of ceremonial fires as distinct from cremation fires. This is indicated by a layer of soil separating the fire on top of the ossuary from the bones within or, where there was no layer of soil, signs that the fire had been very localized, charring only the upper surfaces of the bone. Evidence of purposeful arrangement of bones was found in these ossuaries, including articulated remains placed at the bottom of pits, concentrations of skulls at the top or in the centre of the bone masses, long bones being laid parallel to one another with a skull atop each pile, rectangles of long bones containing cremations, skulls and long bones in separate groupings in bone deposits, and other patterns. Curry also suggested that the frequent presence of small bones in skulls resulted from skulls being used as containers to transport remains from the primary interment to the ossuary. He also pointed out that despite the appearance of randomness in the jumble of remains in some ossuaries, patterns of deposition are often decipherable (Curry 1999:79-81). Many of these patterns have also been recorded within Ontario Iroquoian multiple burial pits and ossuaries.

More recently, Jeffrey Blick (2000) described and attempted to contextualize what he has termed the Quiyoughcohannock Ossuary Ritual, a mortuary program known from 12 separate ossuary pits in the Tidewater (James River) region of

Virginia. While a temporal range for the ossuaries has not yet been established, Blick believes the remains to be those of the Quiyoughcohannock, an aboriginal population encountered in the early seventeenth century by English explorers and colonists. In order to place that program within a larger, pan-regional context, he conducted a literature search which resulted in the enumeration of 102 sites from eastern North America showing evidence of ossuary burial. He noted that the practice of ossuary burial was widespread, but was primarily confined to the Atlantic seaboard and lower Great Lakes region. He went on to define six smaller subregions: the Tidewater Virginia/North Carolina region, the northern Virginia/Delmarva Peninsula region, the New York/New Jersey region, the Massachusetts region, the Great Lakes region, and the Central Plains region (Blick 2000:18). Blick (2000:18-19) argued that the temporal depth of multiple secondary burial can first be traced to the Midwest and Central Plains beginning around 850 B.C.

The value of Blick's research is undermined by the uncritical grouping of quite different cultural and burial traditions within the subregions, simply on the basis of shared multiple secondary burial practice. For the Great Lakes region, for example, multiple secondary burial forms are known for both New York and Ontario Iroquoian groups and Western Basin Tradition Algonquian populations (Murphy and Ferris 1990), situated immediately to the west of the Iroquoians. An example of the latter is the Younge phase Krieger site (1350±140 B.P. [S-620]), located near Chatham, Ontario, which had two burial pits, both containing multiple secondary burials, one with the incomplete remains of three or four individuals, and the other containing the relatively complete remains of eight individuals (cf. Greenman 1967; Halsey 1976; Lozanoff and Stothers 1975; Spence 1990).

This brief review demonstrates that the term ossuary has been applied to a variety of burial events across the Northeast, all of which created archaeological features of varying sizes that contain secondary burials. The actual form of re-interment, however, also varied widely from the placement of both individuals and groups of bundles, to mixed deposits where individuals were no longer identifiable. While it might be appropriate to identify all of the burial events described above as ossuaries, based on standard definitions of the term (Bray and Trump1982:178-179; Winnick 1970:394), it would be far more useful to recognize the many different burial traditions that are represented in those descriptions. The use of a single term masks the importance of the differences in those re-interment traditions, in both time and space (cf. Jackes [1996], Kenyon [1982], for discussions of the differences between Huron and Neutral burial practice).

Following Spence (1994) and Jackes (1996), we will herein reserve the use of the term *ossuary* for those burial events where the secondary remains of multiple individuals are re-interred in a generally mixed deposit. It is assumed that such features were normally formed during a single ceremonial event, despite the presence of "floors" or the deposition of layers of bone. Other features will be described as *burial pits*, where it is thought that a single event occurred that resulted in the placement of remains in either single or group bundles or as *cemeteries*, when both primary and secondary individual or group burials are placed in separate events.

Such a distinction will allow for a taxonomy of the various traditions and will enable the discussion of the variation in practice during the ongoing development of these traditions (cf. Sutton 1988). With this taxonomy in mind, we will now turn to the historical development of the various Great Lakes Iroquoian traditions and the delineation, if not explication, of the variation within them. The main focus, however, is on southern Ontario Iroquoian patterns, especially those of communities on the north shore of Lake Ontario.

Reference is made to numerous Ontario sites, summary details of which are presented in Table 3.1. In order to construct this table, the archaeological sites database (over 13,000 sites) maintained by the Ontario government was consulted for every mention of the terms "burial", "grave", "cemetery" and "ossuary", the published and unpublished literature for southern Ontario was reviewed and key informants were contacted. The sites listed are only those for which reliable data could be obtained and at which multiple burial pits or ossuaries were documented. While James Anderson claimed, for example, that there were 216 ossuary sites in Ontario (Anderson 1963), our table lists considerably fewer. The provincial database is replete with second and third-hand accounts of ossuaries and burials with little or no available data. Also, the sites in Table 3.1 date to the Transitional Woodland period and later (post A.D. 500) and do not therefore include Middle Woodland components or mounds. Western Basin Tradition sites are excluded as well.

Early Ontario Iroquoian

Spence (1994) has argued that while there was considerable variation in mortuary programs during Early Iroquoian times among regionally based communities, by the twelfth century, reburial traditions were mainly community- rather than family-based. In the Norfolk sand plain of southwestern Ontario, for example, secondary group burials may have been tied to the annual settlement-subsistence cycle. Most individuals would have been placed on scaffolding or interred at the time of their death. Their remains were later collected or exhumed, and the crania and larger elements were re-interred in group cemeteries in the warm season when the community moved to the north shore of Lake Erie. In this way, these final pits represent the selected remains of all individuals in the community who had died during the preceding year. The burials at the Elliott, Bruce Boyd, Tara, and perhaps Force and Boisclair sites all seem to be examples of this mortuary pattern. In his summary of this pattern, Spence argued that since only one year's decomposition, at most, would have occurred, some elements would have been articulated. At least some evidence of deliberate disarticulation should be present, in the form of cut marks on the bone. As these annual reburial pits would be composed of residents from more than one house, he also predicted that they would be located outside of individual house structures as was demonstrated at the Elliott site (Spence 1994:9-12, 15).

Table 3.1: Gazeteer of sites reflecting evidence of Ontario Iroquoian multiple burial practices.

Site	Date[1]	Region/City	Feature Description and Dimensions (m)	MNI	Comments	Major Reference(s)
			Transitional Woodland (A.D. 500-900)			
Winona Rockshelter	8thC	Hamilton	burial context destroyed	4	secondary; probably genetically related	Spence and Fox 1992
Peace Bridge (Surma)	8thC	Niagara	ovate features 0.9-1.1 long	23	mainly single burials, although some had infant and sub-adult inclusions	Emerson and Noble 1966; Cybuski 1968; Williamson et al. 1997
			Early Iroquoian (A.D. 900-1300)			
Downham Nurseries	n/a	Elgin	disturbed by farming activities	6	two features; one with 5 individuals	Spence 1994; Mayer and Antone 1988
Bruce Boyd	11thC	Norfolk	completely excavated	8	three features, one with a single primary, and the others with secondary burials of 2 and 5 individuals	Spence et al. 1978; 1990; Spence 1994
Elliott	11th-13thC	Norfolk	1.4 x 1.4 x —	4	one feature with four secondary burials; complex ritual events	Fox 1988; Spence 1988; Fox and Salzer 1999
Boisclair	11thC	London	feature destroyed	6	five burial features destroyed by construction; multiple secondary bundles	Fox 1983
Praying Mantis	12thC	London	feature within a house	9	two burial features one of which contained disarticulated elements of 8 individuals	Spence 1994
Macallan	11thC	Brant	1.9 x 1.7 x 0.65	9	one feature in addition to scattered exposed remains; at least one bundle	Woodley 1994; Glencross 1992
Rogers Ossuary	9thC	Brant	n/a	28+	all ages represented and a high incidence of articulations	Mullen and Hoppa 1992
Zamboni	e. EOI	Brant	multiple pits	5+	one large central feature of secondary burials and several smaller features containing 1 to 5 individuals	Woodley et al. 1992
Tara East	13thC	Halton	n/a	14	four features; one of which contained 7 bundled individuals	Warrick 1991
Gunby	e. 14thC	Halton	pit	2	end of House 7	Rozel 1979

[1] based on calibrated radiocarbon dates or author's estimate

Table 3.1: Gazeteer of sites reflecting evidence of Ontario Iroquoian multiple burial practices.

Site	Date[1]	Region/City	Feature Description and Dimensions (m)	MNI	Comments	Major Reference(s)
Miller	12thC	York	Feat. 2: 0.8 x 0.8 x 0.5 Feat. 3: 0.9 x 0.9 x 0.7 Feat. 4: 0.6 x 0.6 x —	32	seven features; most of which had 3-4 persons; one had 13	Kenyon 1968; Ossenburg 1969
Staines	l. 13thC	York	original context destroyed	308	disturbed secondary deposit of an ossuary	ASI 2001
Richardson	13thC	Rice Lake	0.7 x 0.7 x 0.28 0.7 x 0.5 x 0.3	6	wo features, one with the disarticulated remains of 5 individuals	Pearce 1977
Serpent Pits	11th-13thC	Rice Lake	3 pits: avg. 1.2-1.5 dia. x 0.6	69	three features with 15, 29 and 25 individuals; not contemporaneous; no articulations; some bundled remains	Johnston 1968,1979; Anderson 1968
			Middle Iroquoian (A.D.1300-1400)			
Nodwell	14thC	Bruce	pit	5	disarticulated adult male and three children along with an infant in a pot	Wright 1974
Port Royal	14thC	Norfolk	n/a	6	two secondary burial features one of which contained 4 incomplete individuals	Dodd et al. 1990; Fox 1976
Reid	e. 14thC or EOI	Norfolk	pits	12	two secondary burial features, one of which contained 7 individuals; 5 individuals in the other	Saunders and MacKenzie-Ward 1988
Uren	e. 14thC	Norfolk	n/a	3+	bunkline feature with 3 individuals; in addition to several features containing minor elements from exhumed primary burials	Wright 1986; Jamieson 1978
Force	l. 13th-e. 14thC	Norfolk	pits	9	two pits: 8 in one; 1 in the other	Spence 1994
Middleport	14thC	Brant	3.0 x 3.0 x 2.1	25	25 complete skulls	Molto 1983; Dodd et al. 1990
Bennett	e. 14thC	Halton	Feat. 9: 0.5 x 0.4 x —	15	13 features, two (5; 9) of which contained more than one individual; included sweat lodge burials	Wright and Anderson 1969
Glen Williams	14thC	Halton	3.2 x 2.5 x 1.6	209	1 burial pit and 4 ancillary pits	Hartney 1978
Olmstead	e. 14thC	Hamilton	0.64 x 0.60 x 0.5	2	sweat lodge	Welsh and Williamson 1994
Orchid (Peace Bridge)	l. 14th-e. 15thC	Niagara	Area A: 4.3 x 2.6 x 1.5	300+	two areas: Unit A is the ossuary ; Unit B - 6 burial features of mainly single burials	White 1966; Williamson et al. 1997

Table 3.1: Gazeteer of sites reflecting evidence of Ontario Iroquoian multiple burial practices.

Site	Date[1]	Region/City	Feature Description and Dimensions (m)	MNI	Comments	Major Reference(s)
Bonisteel	14th C	Niagara	two small features	3	two features; one had 1 child while the other contained 3 people	Pengelly and Pengelly 1987
Antrex	l. 13th-e. 14th C	Peel	pit	3	primary burials; majority of remains exhumed for reburial	Robertson and Williamson 2002b
Tabor Hill	e. 14th C	York	4.0 x 3.0 x 1.0 2.7 x 1.8 x 1.2	523	two burial pits; some articulated bundles present	Churcher and Kenyon 1960
Fairty	14th C	Markham	3.4 x 3.4 x 1.8	512	now destroyed	Anderson 1963; Jackes 1986; Gruspier 1999
Pearse	14th C	Pickering	n/a	6	destroyed by gravel pitting	Poulton 1979; Williamson 1977
Syers	14th or 15th C	Durham	5.5 x 5.5 x 1.8	300	perhaps one pit; bundle burial of limb bones	Boyle 1894; Molto 1983; Ramsden 1977; Webb 1972
Reid-Cummins	MOI	Prince Edward	+1.0 x +1.0 x —	10	one feature; articulated segment of vertebral column	Molto and Fox 1988
			Late Iroquoian (A.D. 1400-1550)			
Luton	15th C	Elgin	n/a	25	common burial of 25 skulls	Dodd et al. 1990
Orkney Crescent	15th C	London	2.7 x 1.5 x —	26-28	no artifacts, long bones and crania	Dodd et al. 1990
Crawford Lake	e. 15th C	Halton	multiple features	12+	3 burials contain 2 individuals, 3 burial features are in possible sweat lodges	Esler 1998
Dunsmore	e. 15th C	Simcoe	multiple features	7	three features: one contained 2 individuals; a sweat lodge contained 5 disarticulated and fragmentary individuals and an ovate feature with a single bundle	ASI 1996
Horseshoe Valley Rd.	"pre-contact"	Simcoe	single pit	11	disarticulated, fragmented and commingled, no artifacts	Mandich 2002

Table 3.1: Gazeteer of sites reflecting evidence of Ontario Iroquoian multiple burial practices.

Site	Date[1]	Region/City	Feature Description and Dimensions (m)	MNI	Comments	Major Reference(s)
Keffer	e. 16th C	York	~4.6 x ~4.6 x 1.8	50+	crania, no artifacts	Boyle 1889, 1907; Webb 1972; Finlayson et al. 1985 Smith 1991
Weston	n/a	Toronto	— x — x 0.6	30	one ossuary feature	ASI 1991
Uxbridge	l. 15th C	Durham	4.9 x 4.0 x 2.1	457	few grave goods; underlying layer of burned bone	Cook 1977; Pfeiffer 1983, 1986, 1991; Molto 1983
Poole-Rose	16th C	Cobourg	2.5 x 2.5 x 1.5	300+	mixed deposit; primary burials present as well	McKillop and Jackson 1991
Quackenbush	15th C	Peterborough	2.1 x 1.5 x —	12	thrown into the pit; both sexes; assumed unique episode	MPPA 1986; Helmuth 1993
Roebuck	15th C	Grenville	n/a	84	a few multiple interments, most are individual burials	Anderson 1972; Pendergast 1975
			Post-Contact Huron			
Buckingham	17th C	Collingwood	5.5 x 2.5 x 1.8	12+	only partially investigated	Rost 1999
Houghton	17th C	Simcoe	6.1 x 6.1 x — 3.0 x 3.0 x —	1000	two pits; crania arrayed in rows in larger pit	Boyle 1900; ASI 1990
Warminster/Cahiague	17th C	Simcoe	5.5 x 5.5 x 1.8	250+	2 primary, some bundles, mainly intermingled	McIlwraith 1946,1947; Harris 1949; Mullen 1990
Ossossané	A.D. 1636	Simcoe	7.3 x 7.3 x 1.8	419	mixed deposit and bundle burials	Kidd 1953; Jackes 1986
Christian Island	A.D. 1650	Simcoe	5.0 x 5.0 x 2.0 3.0 x 3.0x 2.0 3 other much smaller pits	113	largest pit had 74 primary inhumations; next largest pit had 32 and the remaining three pits had 1, 3 and 4 individuals	Hartney 1978
Maurice	17th C	Simcoe	6.5 x 6.5 x 1.2	132	5 sub-types of burials; bone groupings in ossuary	Jerkic 1975; Molto 1983
Sopher	e. 17th C	Simcoe	5.0 x 5.0 x 1.8	96-105	main ossuary pit with 2 other pits; cremations and bundles in main pit	Noble 1968
Glebe	17th C	Simcoe	n/a	58/300	anecdotal; two estimates of MNI	Garrad 1975
Duff/Perry	17th C	Simcoe	4.8 x 4.8 x —	30+	disturbed	Garrad 1975

Table 3.1: Gazeteer of sites reflecting evidence of Ontario Iroquoian multiple burial practices.

Site	Date[1]	Region/City	Feature Description and Dimensions (m)	MNI	Comments	Major Reference(s)
Garland	17thC	York	3.0 x 3.0 x 1.5	198	n/a	Webb 1969; Molto 1983
Kleinburg	e. 17thC	York	4.2 x 4.2 x 1.0	561	circular, layered pit with relatively vertical sides, bundles	Pfeiffer 1980a,b, 1985; Saunders and Melbye 1990
			Post-Contact Neutral			
Sealy	17thC	Brant	4.6 x 2.7 x 1.4	n/a	large feature with bundles in addition to 4 graves one of which had six bundles	Ridley 1961; White 1966
Walker	17thC	Brant	main pit: 3.6 x 3.6 x 1.5	118	heavily disturbed; 6 pits with 4-12 individuals; one pit with 65-70 individuals; 3 pits with "many" individuals	Ridley 1961; Wright 1981
Milton	17thC	Halton	3.0 x 3.0 x <1.0	109/82	ossuary feature with 100 individuals and 4 smaller features containing a total of 10 individuals around its periphery	Hartney 1978; Finlayson 1998; Gruspier 1999
McClellahan (Milton Ossuary #2)	17thC	Halton	2.3 x 2.3 x 0.3 sub-floor 0.4 x 0.4 x 0.5	18	main ossuary feature and sub-floor; nine adults and three juveniles and five adults and one juvenile in sub-floor	Reid and Conway 1976
Milton Heights/Gaetan	17thC	Halton	2.4 x 2.1 x 0.6	n/a	burial feature not excavated completely; bundles	Melbye et al. 1987; Ferris 1987; 1998
Carton	e.17thC	Halton	3.3 x 2.7 x —	303	shallow feature	Hartney 1978; Finlayson 1998; Molto 1983
Tregunno	16th-17thC	Hamilton	2.4 x 1.5 x	n/a	many historic trade goods; totally destroyed	Kenyon 1986; 1987
Burke	17thC	Hamilton	n/a	6	primary burial nearby	Ridley 1961
Misner	17thC	Hamilton	large communal grave and several other pits	>65	looted, glass, stone and shell beads, brass kettles, turtle shell rattles, stone pipe	Fox 1985
Shaver Hill	17thC	Hamilton	small cemetery	163	arranged bundles	Stothers 1972
Hood	17thC	Hamilton	1.04 x.0.66 x 0.24	2	infants, probable twins	Lennox 1984
Grimsby	17thC	Niagara	32 x 12 area of 55 graves	367	complex cemetery	Kenyon 1982
St. Davids	17thC	Niagara	30 x 30 area?	>100	looted, aboriginal and historic trade goods	Benedict 1908; Orr 1911
Port Colborne	17thC	Fort Erie	natural sand hill	50+	looted, European trade goods	Boyle 1889, 1906; Cooper 1996

Spence (1994:15) also argued that this type of mortuary pattern can be traced back into the directly preceding Transitional and Middle Woodland periods in some areas of southwestern Ontario. The logical developmental consequence of this pattern is that recognized for at least one Early Iroquoian community in the middle Grand River area. The Rogers ossuary (Mullen and Hoppa 1992), a large twelfth century common burial pit containing the remains of at least 28 individuals, some articulated, suggests a final community based burial tied to a cycle that was longer than one year.

Alternatively, Spence's analysis of the eleventh or twelfth century Praying Mantis site, situated in the middle Thames drainage in the London area, suggested to him a longhouse- rather than village-based secondary burial. This was based on two burial features, one of which contained the disarticulated and partial remains of eight individuals. This variation in practice, if interpreted correctly, supports Spence's main contention that burial tradition during the Early Iroquoian period in southwestern and southcentral Ontario was community-based.

Early Iroquoian mortuary patterns of eastern Ontario were different from those of western Ontario. They include primary burials, sometimes within houses, multiple secondary burials, such as those at the Miller (Kenyon 1968; Ossenberg 1969) and Richardson (Pearce 1977) sites and three burial pits containing 15, 29, and 25 totally disarticulated and incomplete individuals at the Serpent Mounds site. The latter are interpreted by Spence (1994:16) as village relocation reburial features. The Richardson site burial pit, which contained five individuals, is thought by Spence to represent an annual longhouse reburial, given its location inside a house.

This pattern in eastern Ontario also appears to have had temporal longevity. The Point Peninsula components at the Serpent Mounds site, for example, consist of a complex of nine mounds containing mass graves of primary, bundled, and cremated burials. Johnston (1979:99) argued that the discontinuity in burial patterns between the Point Peninsula and the later Iroquoian burial pits was consistent with the differences between earlier nomadic hunter-gatherers and later more settled agriculturalists. Spence (1994:16) similarly argued that, "as villages became more sedentary and more committed to an agricultural subsistence base, the mortuary cycle may have lengthened because the major disruption in the social life of the community shifted from an annual event to a more widely spaced one, the periodic relocation of the village. Also, the primary social context of the individual may have changed from the longhouse to the village as a whole".

Middle Ontario Iroquoian

By the beginning of the fourteenth century, the community-based re-interment of large numbers of secondary burials in mixed deposits had become the established burial tradition in many regions of southern Ontario, especially along the north shore of Lake Ontario. Moatfield is an early example of a community-based burial event, perhaps created at the time of village relocation. The subsequent development in ossuary burial tradition represents the secondary interment of the

deceased from a number of related communities. Until these large ossuaries can be linked with known villages, however, the significance of their size in the context of the development of particular tribal systems will remain unknown.

Staines Road

The earliest example of this kind of ossuary is the Staines Road site, situated in the northwest Scarborough area (ASI 2001). A large deposit of bone was discovered during development and was found to have been removed in the 1990s from its original location, then fragmented, perhaps mechanically, and subsequently re-deposited within a pile of soil fill and garbage. A small sample of the tens of thousands of bone fragments was radiocarbon dated to between cal B.P. 920 and 680 (A.D. 1030-1270 at 95% probability [Beta-156359]), which places the interment during the Early Iroquoian period. The $\delta^{13}C$ ratio of -11.3, an identical value to those obtained from the Fairty and Moatfield samples, suggests substantial consumption of maize in the diet, and indicates that the population dates more precisely to the mid-to-late thirteenth century. Since the skeletal remains in an ossuary were taken from primary burials elsewhere, and since crania were regarded most highly by pre-contact aboriginal populations, it is not unusual to find that crania are numerically predominant in ossuaries. Using the petrous portions of recovered cranial fragments at Staines, it was determined that at least 308 individuals were represented in the deposit, whose origins remain unknown at this time. Although the site is coterminous with Moatfield, the significant number of individuals recovered suggests it was more similar, with respect to the development of ossuary burial, to two fourteenth century ossuaries documented east of Toronto on the north shore of Lake Ontario near the Staines Road site.

Tabor Hill

The first of these sites, the Tabor Hill ossuary, which is also situated in Scarborough was excavated by Charles Churcher and Walter Kenyon of the Royal Ontario Museum in the 1950s. The site consisted of two ossuary pits measuring 4 metres by 3 metres by 1 metre and 2.7 metres by 1.8 metres by1.2 metres. Together, they contained the mixed secondary remains of 523 burials, although some articulated bundles and a few cremations were noted. Churcher and Kenyon (1960) thought the ossuary related to the early Middle Iroquoian Thomson site, situated two kilometres to the west. The Thomson site had been subject to test excavations in the 1950s by Norman Emerson of the University of Toronto, which yielded 1325 artifacts dating to the early fourteenth century (Kapches 1981:71-86). While the Thomson site may be related, this is likely a case of two communities burying their dead concomitantly, but choosing to place the individuals in two separate pits. Two contributing communities would explain the significant number of burials at the site. Unfortunately, subdivision development in the area appears to have destroyed any evidence of other nearby contemporaneous villages.

Fairty

The second site is the Fairty ossuary, which was 3.4 metres in diameter and 1.8 metres deep and found to contain the mixed remains of 512 individuals. It was thought by J.V. Wright to have been related to the nearby Middle Iroquoian Robb site (Anderson 1963:28), now thought to date to the mid- to late fourteenth century. Robb is a roughly two hectare Iroquoian village site located in the Town of Markham. Limited excavations on a portion of the site were completed by the Ontario Archaeological Society in the 1950s and by the University of Toronto in the 1960s. Mima Kapches (1981:110-131) conducted further surface investigations on a portion of the site, in the 1970s. The proposed development of a subdivision necessitated comprehensive salvage excavation of approximately 80% of the site area in 2000. Five complete longhouses, ranging from 40 to 60 metres in length, and portions of four others were documented as a result of this work (Robertson and Williamson 2002a). A number of middens were also extensively excavated. The settlement was not enclosed by a palisade.

There are other nearby Middle Iroquoian sites that may have also contributed to the Fairty ossuary thereby explaining the significant number of individuals (Dodd et al. 1990:354). The Faraday site is located only 500 metres from Fairty and Robb but has been documented in far less detail. It was first registered by Victor Konrad in 1971 on the basis of a private collection. Kapches undertook limited investigations along the wooded eastern fringe of the site in 1977, identifying a midden deposit from which a small sample of material, including seven rim sherds, was recovered. On the basis of this material, she suggested that the site is a Middle Iroquoian village also dating to the latter portion of the fourteenth century (Kapches 1981:180).

Located only a few kilometres to the southwest of the Robb site, the Alexandra site was salvage excavated in 2000 and 2001. On the basis of the analyses to date, the occupation of this 2.5 hectare site spanned much of the mid- to late fourteenth century (Robertson and Williamson 2002a). Seventeen structures were documented of which 15 are likely to represent permanent or year-round dwellings with two major phases of tenancy, involving house rebuilding and site expansion.

While few details are available of the structure of the Fairty ossuary, Kathy Gruspier (1999) has examined approximately100 photographic slides taken by William Renison during the three weekends that it was excavated. She noted from the photographs that most of the skeletal material was in the bottom of the pit and was disarticulated, although bundle burials were clearly evident. It also appeared that approximately 50 to 75 centimetres of the soil filling the upper layer of the pit was relatively sterile. It contained few bones (Gruspier 1999:49-55). This suggested to Gruspier that with the exception of the bundles, there was a single deposit of mixed bone. William Donaldson, who was excavating at the nearby Robb site at the time that Fairty was discovered and excavated by Norman Emerson, reported that the burials were mostly in the form of bundles (Donaldson 1962). Donaldson noted that the upper layers of the pit had been looted, which he took as a possible explanation for the paucity of artifacts.

In her detailed re-analysis of the ossuary bone, Gruspier noted many phalanges and fetal bones, suggesting to her that material was systematically recovered from the site. Gruspier (1999:57-58) suggested that there may have been up to 120 bundle burials in the ossuary based on the presence of bundled remains and the fact that the small bones of the extremities, with similar numbers for each of the elements, were well represented, despite the fact that they are usually left behind in primary burial pits. She lamented the fact that the bundle burials were not excavated as discrete features within the ossuary and maintained separately in the collection. She also noted that there were a large number of infants represented in the sample from Fairty, commenting that this is inconsistent with the notion that Iroquoian infants were usually buried elsewhere (Kapches 1976; Williamson 1979) and hence are under-represented in ossuary samples. Gruspier's observations regarding the maintenance of bundles in an otherwise mixed deposit represents a significant challenge to the notion of uniformly mixed deposits in Middle Iroquoian ossuaries.

Gruspier also secured two late tenth and early eleventh century dates on two human bone samples from the deposit. While clearly too early to represent the general ossuary population, the possibility that the remains of several ancestors may have been deposited during the ceremony should not be discounted. One of the dates from the Moatfield site, for example, taken on human bone, also appears to be a century too early. Gruspier's dates also appear to be inconsistent with the $\delta^{13}C$ data obtained for the site (Katzenberg 1984), which suggest a maize reliant diet although Gruspier (1999:145-147) suggested that more samples are required to reach a final interpretation regarding diet.

Glen Williams

Another fourteenth century ossuary, with associated burial features, was found in Halton County, near Oakville (Hartney 1978). The Glen Williams site consisted of a large ossuary and four ancillary burial pits. The ossuary (3.2 metres by 2.5 metres by 1.6 metres) had an oval outline and sloping walls. It contained 209 individuals who were "partially articulated, bundled and scattered in a mass of bone some 60 centimetre thick which was topped by a fully articulated, flexed adult skeleton" (Hartney 1978:127). A smaller burial pit (2.8 metres by 1.6 metres by 0.84 metre) was located approximately 12 metres east of the large ossuary and contained the partially articulated and scattered remains of nine individuals. Three shallow pits were also found adjacent to the ossuary: Pit "A" had an adult flexed skeleton; "B" contained two separate adult bundle burials; and "C" contained a flexed child burial. It is not clear if the large ossuary represented a mixed deposit of the Huron type. The presence of many recognizable bundled remains suggests it is likely in the Neutral tradition, a not unreasonable assumption given the site's location in an area of overlap between pre-contact Huron and Neutral populations (Finlayson 1998).

Orchid

It was the excavation of the Orchid site in Fort Erie, Ontario that led to Marian White's 1966 comparative review of New York Iroquois and Neutral regional cemeteries. In July of 1964, workmen uncovered cultural material and human bone while grading a portion of the first terrace adjacent to the Niagara River, approximately 500 m north of the Peace Bridge in downtown Fort Erie. Although primarily known as Orchid in the literature, the site is now known to be encompassed within the exceedingly large (35 hectares) and complex Peace Bridge quarry site (Williamson and MacDonald 1997, 1998).

Salvage excavations directed by White were restricted to two discrete areas including a large ossuary and a series of pit features immediately to the north. The pits contained Transitional Woodland and historic Iroquoian primary burials (Granger 1976). The grading activities had resulted in the severe truncation of the ossuary, which was estimated to have originally measured 4.3 metres in length, 2.6 metres in width, and approximately 1.5 metres in depth (White 1966:5). The burial pit, which had a flat-bottomed, deep basin profile, was characterized by a basal layer containing large quantities of human skeletal material, a middle layer that was largely sterile and an upper layer that also contained dense concentrations of human bone. A single bundle burial and a single flexed burial were considered intrusive into the upper layer as were two discrete pit features, which contained the remains of at least 10 and 19 individuals, respectively. It was suggested that these remains were deposited at the same time that the main ossuary pit was formed. Also, five apparently separate bundle burials, representing a minimum of eleven individuals, were documented at the interface of the lower two layers. The most dense concentrations of bone in the upper and lower layers were described as including both discrete bundles and intentionally mixed remains (White 1966:4-6).

The remains of just over 300 individuals were recovered during the course of the ossuary excavations (Birx 1991), although White suggested that up to one third of the skeletal material in the ossuary may have been removed during the bulldozing of the site. She also estimated that up to 50 individuals remained unexcavated upon the completion of the fieldwork (White 1966:7). While White initially assigned the ossuary to the terminal Point Peninsula period (Hunter's Home phase), suggesting that it dated to circa A.D. 900 (White 1966:13-14), her dating of the ossuary received little support from other researchers. William Noble, for example, asserted that the ossuary was probably pre-contact Late Iroquoian, based on its size, the lack of grave goods and the presence of a "false floor" (the middle layer) that resulted in upper and lower bone chambers (Noble 1968:223, 1978:159-160; cf. Ridley 1961:56, 61; Lennox and Fitzgerald 1990:453-454). A radiocarbon date obtained from a long bone from the ossuary has yielded a ^{14}C date of A.D. 1540±90 (Beta-13323), calibrated to give a date of A.D. 1380±90 years (Birx 1991:11), placing it within the Middle to early Late Iroquoian period. Despite White's assertion to the contrary, it is more likely that the cemetery was used on more than one occasion and functioned in a fashion like the contact period Neutral cemeteries of the Niagara region (see below). It was probably associated

with the nearby Iroquoian Thompson and/or Garrison Road sites, situated several kilometres to the west of the Niagara river (Cooper 1996:20- 21).

On the basis of his comparative analysis of discontinuous non-metric traits on the crania from Orchid and other southern Ontario ossuaries, Molto (1983:245) concluded that the Orchid population was somewhat isolated, in biological terms, from other Ontario Iroquoian populations. This pattern suggested to Molto a lack of strong historical relationships between peninsular groups and those from the remainder of southern Ontario (see, however, DeLaurier and Spence, Chapter 11, this volume). This marginal position of the Orchid population led to his suggestion that the Orchid community's closest ties may have been with the occupants of western New York state (Molto 1983:255). While the burial tradition reflected at Orchid appears to be at odds with the burial patterns of the pre-contact or contact period Seneca, at least one western New York population was practising large multiple burial, if not ossuary burial in late pre-contact times, as is discussed below. This suggests either the physical presence of pre-contact Neutral populations on the east side of the Niagara River or their influence on local burial practices (Rayner-Herter 2001).

Late Ontario Iroquoian: Huron Ossuaries

Uxbridge

Two sixteenth century pre-contact Huron ossuaries have been investigated, the first in considerable detail. The Uxbridge site, situated near Uxbridge, was excavated in the mid-1970s under the direction of Patsy Cook (1977). The main burial pit was 4.9 metres in length, 4.0 metres in width and 2.1 metres in depth. It had an inverted bell shape with its maximum breadth at ground level, constricting slightly at 60 to 70 centimetres below surface at which point the sides dropped vertically to the floor of the pit. There was a 30 centimetre layer of soil on top of the bone mass. The presence of a black stain around the edge of the pit, extending from 35 to 65 cm below ground level, indicated that it may have been partially lined with hides. A distinctive layer of burned human bone underlaid most of the ossuary, which Cook (1977:10) argued represented local variation in pre-contact ossuary ritual. Also unique was the careful placement of eight large rocks in the central lower part of the pit overlying bone. The pit was surrounded by 52 posts and 12 pit features representing both activities and structure(s) with which it had been associated. One of the pit features probably functioned as a crematory as it contained fired soil, ash, charcoal and burned human bone. Two of the other pits also contained fragmented human bone.

No layers of bone were documented although the upper 1.5 metres of bone was fragmented, disassociated and in generally poor condition. The bone in the lower 60 centimetres was in much better condition and appeared to have a more patterned distribution. Indeed, 92 crania in groups of 2 to 11, and 17 bundles of adult longbones, were found around the pit's lower outer edge. Eleven infant and child

bundles and several pockets of burned bone were also found in the lower portion of the pit. Over 200 articulations were noted including portions of vertebral columns, hands, feet, arms, and pelvic girdles, all but three of which were found in the bottom third of the pit. This pattern suggested to Cook (1977:12) that those who had died recently had been placed on the floor of the ossuary and that any efforts to intentionally mix the bone had only affected the top two thirds of the deposit. She also noted that some of the bones had been cut.

Several features were found to be intrusive to the main pit, one of which contained a double bundle burial and another of which had just a few fragments of human bone and a wolf canine. Three discoidal shell beads, several ceramic body sherds and some animal bone were also found in the pit, although they were probably introduced during its infilling. None were diagnostic to a particular time period although the shell beads most likely date to the Late Iroquoian period. A radiocarbon date of 1490±80 (I-9865), however, was taken on charcoal recovered from deep within the ossuary (Cook 1977:1).

The skeletal remains of 457 individuals from the pit have been subject to detailed analysis (e.g., Pfeiffer 1983, 1984; 1986, 1991; Pfeiffer et al. 1985; Pfeiffer et al. 1986; Pfeiffer and Fairgrieve 1994). An examination of a sample of the cremated bone from within the main pit suggested to Susan Pfeiffer (personal communication to Patsy Cook) that the bodies had been partially decomposed prior to cremation.

Poole-Rose

The other sixteenth century site is the Poole-Rose ossuary (McKillop and Jackson 1991), situated near Cobourg. It was discovered by building contractors digging a trench for footings to an addition to a nineteenth century farm house, as the site had been preserved under an old addition to the farmhouse. The ossuary pit was approximately 2.5 metres in diameter. The bone deposit started 2.5 metres below the ground surface and extended 1.5 metres in depth and contained the disarticulated remains of over 300 individuals. Three flexed primary adult burials were also found. A small sample of the human bone was radiocarbon dated to A.D. 1550±50 (Beta-39029). As fill layers were not noted within the bone deposit, it was concluded that the remains had been deposited in the ossuary during a single Feast of the Dead-like event. In a detailed examination of the femora recovered from the ossuary, cutmarks were found on 16% of the bones, suggesting that some individuals were dismembered in preparation for interment in the ossuary (Schiess 2002).

Mackenzie-Woodbridge

The cemetery associated with the Mackenzie-Woodbridge site is also worth noting. The site is an early sixteenth century village, situated on the northern reaches of the Humber River in Toronto, and originally assumed to have been a pre-contact

Huron community (Wright 1966:69). While a looted ossuary is reported to have been found less than a kilometre from the site (Wright 1966:70), more than a dozen individuals have been found in a village cemetery situated on a sandy knoll about 100 metres from the site (Saunders 1986). As all ages and both sexes were recovered, in both primary inhumation and secondary bundled forms, Saunders (1986:24) suggested a burial tradition more similar to Neutral practice than to Huron. While the potential presence of Neutral influence on Humber River communities has long been noted (e.g., Ramsden 1977:281-282), it is perhaps best to consider that influence in the context of tribal polities involved in far-reaching exchange systems in a number of directions (Robertson and Williamson 1998:146-150). Without data on the reported ossuary, there is no way to reach a resolution regarding the burial tradition that the site occupants followed.

Contact Period Huron Ossuaries

Contact period Huron burial tradition is known from both the archaeological and archival records. According to the *Jesuit Relations* (Thwaites 1896-1901), the concept of duality, so important in Iroquoian ideology, was expressed by the Huron in the belief that a person had at least two souls, one of which left the body and travelled westward to a village of the dead, and one that stayed with the body after the Feast of the Dead and did not leave unless it was reborn as a child. The initial deposition of the body in the village cemetery, on a scaffold, was carried out after a period of mourning that lasted for three days. At the end of a particular village's tenure in one location, those who had been interred in the village cemetery were removed for reburial in a common grave or ossuary. The reburial ceremony, known as the Feast of the Dead (also the Kettle), lasted several days and involved much ritual feasting and the exchange of gifts. This ceremony served to socially integrate both the living and the dead more than any other Iroquoian cultural event (Trigger 1969:102-112; 1976:85-90).

During the ceremony, a large pit was excavated and lined with beaver robes and pelts. The bodies of the recently deceased were placed on the ossuary floor, over which were laid the various grave offerings and the bundled remains of those to be buried. These bones were then mixed by men using long poles. On top of the bones was laid a cover of more beaver robes and a layer of bark. Finally sand, poles and wooden stakes were thrown over the bark cover. As a final offering, baskets of maize were placed on top of the bone burial area (Tooker 1964:134-138).

With respect to the archaeological record, Andrew Hunter recorded 122 ossuaries in Simcoe County alone, fifty of which were identified definitively to the contact era based on the presence of trade goods (Hunter 1889:44). Fleming (1960:8) also reported that over 130 ossuaries had been found in northern Huronia. While even a casual examination of the late nineteenth century archaeological literature (e.g., the *Annual Archaeological Reports*) betrays the rather frequent looting of ossuaries for anatomical collections and race-based research, few contact period Huron examples have been reported in detail. Descriptions of the few that have

been studied, however, belie the notion of Huron ossuaries as routinely consisting of completely mixed deposits.

Ossossané

Perhaps the most renowned Huron ossuary was that of Ossossané, the creation of which was described by Brebeuf in 1636 and the excavation of which was undertaken by Ken Kidd (1953). Kidd reported that the ossuary was situated on a small sandy plain and when encountered in 1946, was a broad, saucer-shaped depression with a maximum depth of approximately 60 centimetres.

Numerous post moulds immediately surrounded the main ossuary pit, varying from 15 centimetres to 30 centimetres in diameter and with depths of between 30 and 45 centimetres. There seemed to be a circle of larger posts near the perimeter of the ossuary. A small pit, situated approximately four metres west of the main ossuary was excavated to a depth of 1.2 metres and found to contain a single femur and the bones of a human foot, suggesting that it had been the grave of a primary interment.

The ossuary was reportedly bowl shaped, with a more or less flat, but not perfectly level floor. The diameters of the pit and bone mass were 7.3 metres and 5.8 metres respectively. The depth of the pit varied from 1.6 to 1.8 metres below the rim. The overburden contained some recent material—charred wood and parts of a horse skeleton, as well as small pockets of human bone fragments, suggesting some previous disturbance. The sides of the pit consisted of darkened soil and the bottom consisted of from three to seven centimetres of a black "mucilaginous humus", having filtered down from the decaying organic matter above (Kidd 1953:360).

The main ossuary bone mass was about 60 centimetre thick and had been deposited or arranged randomly—"long bones, for instance, lay in all positions and all angles" and "crania [were found] lying inside pelvic cavities" (Kidd 1953:359). Two clearly delineated bundle burials were found—one was of a young adult found at a depth of one metre in a small pocket in the pit wall. The second bundle lay beneath the first and appeared to be an old individual. Other evidence for bundle burials included groups of parallel long bones lying together around the sides of the ossuary and especially at lower levels where less subsidence and therefore less dislocation had occurred. Those long bones were in an upright position, suggesting that these bundles had been put in on end. There was also fibrous material surrounding many of these groups of bones, suggesting bundle wrappings. Two primary extended burials were encountered on the bottom of the pit. One was that of a young woman with an infant skeleton in her pelvic region.

Although Kidd estimated that the pit contained close to 1000 skeletons, Jackes (1986) reports there were 419 individuals. Artifacts occurred throughout the ossuary and included shell beads, cylindrical wampum beads, stone projectile points, stone gaming pieces, a green serpentine vasiform pipe, a clay pipe, catlinite beads, fabrics (likely from bundle wrappings) and beaver skins. Deposits of powdery red ochre were also found in three locations in the ossuary. European

goods included glass beads of various sorts (red, white and blue polychrome beads in round, tubular and twisted shapes—the largest class being red beads of round and ring shapes), bracelets and rings, iron knives and copper kettles, the largest of which was wrapped in beaver skins and had a birch basket lying inside. It was placed near the centre of the pit close to the floor on top of a few bones and was found to contain one bundle. Other glass objects were found including a corroded burning (magnifying?) glass and part of a light green wine glass stem.

Maurice

For many years, Ossossané represented the only professionally excavated and published ossuary. It was not until Sonja Jerkic (1969; 1975) presented a thorough characterization of the Maurice ossuary, situated near Midland, Ontario, that another historic period ossuary was described. It was a roughly circular pit (6.5 metres in diameter) appearing at a depth of 40-60 centimetres below the modern surface. The bone horizon was of varying thickness, from 0.8 to 1.2 metres below surface and appeared to be composed of a number of distinct concentrations of bone rather than a homogeneous mass. The main pit was basin-shaped with a steeper northeastern than southwestern side. Three distinct "corners" were found on the south and west sides. The dimensions of the pit at the bottom were 4.25 x 3.5 metres. There was no evidence for scaffold construction around the ossuary rim; only two definite post moulds were found. However, Jerkic reported some evidence for four or five posts from 13 to 19 centimetres in diameter exposed on the floor of the pit at the corners, suggesting that a structure might have been constructed just at the inside margins of the pit rather than on its perimeter.

Most of the bone mass was concentrated in the northeastern portion of the pit, perhaps due in part to looting in the southwestern portion. A dark soil layer at the bottom of the pit was thought to be evidence of an organic (skins) lining known from historic accounts. In addition to a mixed bone deposit, five different subtypes of burials were found, including: small, unrelated clusters of bone in the fill around the ossuary edge (perhaps material dislodged and left during subsequent disturbance); bundles; small clusters of assorted bones from three to five individuals separated from surrounding bone by soil fill; large clusters of assorted bones from ten or more individuals separated from surrounding bone by soil fill or a difference in level; and articulated body segments. Twenty-one of these distinct "burials" or groupings were removed from the ossuary, perhaps representing different social groupings that had failed to be mixed in with the remainder of the deposit for some reason.

The artifact assemblage recovered with the remains included ten iron knives, 67 trade beads, shell beads, stone beads, flattened copper, and other fragments of chert and ceramics.

A unique feature was encountered at approximately 120 centimetres in depth. It consisted of a relatively thin (2-5 centimetres) black soil horizon, roughly circular, that covered the central portion of the ossuary (a two metre wide area at maximum).

The depth of this horizon varied from 150 centimetres in the middle to 60 centimetres below surface at the outer edges. Overlying this soil layer were seven charred logs. Fragments of burned and charred bone were found in and immediately below the black soil suggesting that the logs were still smouldering when covered with bone.

Sopher

Jerkic (1975) and Noble (1968) also provided accounts of the Sopher ossuary, describing it as the first Huron ossuary to have been found to contain contact period material (an iron bar celt). The pit was almost five metres in diameter, 1.8 metres deep and contained the remains of between 96 and 105 individuals, for the most part in bundles, although four cremations were also documented. The crania were found in a patterned arrangement. Evidence of a pine bark lining and exterior scaffolding was also found. Two smaller pits overlapped the edges of the ossuary and extended down, but not into, the burials.

Kleinburg

The early contact period Kleinburg ossuary, situated north of Toronto, in the upper reaches of the Humber River, was excavated in 1970 under the supervision of Dean Knight and Jerry Melbye. The main pit was approximately 4.2 metres in diameter and 1 metre deep, and was circular in shape with relatively vertical sides. The pit was excavated in quadrants with intact baulks revealing a sterile soil layer between mixed deposits of bone, perhaps reflecting use on two separate occasions or separation between the remains of social units (clans or communities). A small, shallower "channel" containing mostly crania that projected off to one side of the main pit was also documented. It was also suggested that as many as a quarter of the bones had been removed during a nineteenth century looting episode, which resulted in substantial disturbance to the ossuary (Dean Knight, personal communication 2002).

According to Pfeiffer and Fairgrieve (1994:51), the pit contained the remains of 561 individuals. While partially articulated skeletal material was found on the floor of the ossuary, the upper layers had disarticulated and randomly distributed material (Pfeiffer 1980a). Four peripheral burials were also found including one extended, one flexed, one bundle, and one partial individual.

Grave goods interred with the deposit include bone and ceramic objects, early style iron trade axes, an iron kettle, shell beads, native copper beads, and large glass trade beads. Recently, an early contact period village was discovered less than 500 metres from the Kleinburg ossuary (ASI 2002). Based on the recovery of a ceramic sample characterized by Petun-like ceramics, it is possible that the village, and perhaps the ossuary, represent a population that eventually migrated to the Georgian Bay region to form the Petun.

Summary

These descriptions suggest that Huron ossuaries varied in structure and nature and did not consist entirely of mixed deposits of bone. Some contained mainly bundles, perhaps suggesting subtle tribal differences in burial practice. Noble (1968:71) has also argued that there were clan differences in pre-ossuary cemetery burial. He contends that "cemetery scaffolds were preferred in the western districts where the Bear and Cord clans resided", whereas the Rock clan in eastern Huronia favoured in-ground cemetery graves, which appear as pit and mound structures. Such structures were observed at Cahiague, Sopher and Contarrea. Noble also argued that Neutral cemeteries were similar to those of the western Huron clans, although the Neutral kept bodies in their houses longer, before they were placed on scaffolds.

Colin Varley and Penny Young (1992) considered the changes in ossuary burial practised by the Huron from pre-contact to post-contact times. They were particularly interested in the inclusion of both aboriginal and European grave goods, the addition of beaver pelt linings to the burial pits, and the mixing of skeletal remains.

They suggested that the contact period Huron, through their ossuary burials, were "re-evaluating the meaning not only of French trade goods, but also their relationship to their Native and European allies" (Varley and Young 1992:6). They also argued that the increase in numbers of interments over time, and the mixing of skeletal remains in ossuaries is evidence that the Huron felt a greater need for group cohesion and solidarity beyond the village. They suggested that this principle was also at work in the inclusion in the ossuary of European trade goods. The acquisition of beaver pelts became increasingly important as demand for European goods grew and beaver numbers dwindled locally. Hence, they became an integral part of the ossuary burial pattern.

They also argued that for the Huron, the Feast of the Dead may have become a forum for the public display of their accumulation of power and prestige as middlemen between Algonquian fur producers and French fur consumers. They used the analogy of the Feast of the Dead as a "tournament of values", which would have operated at a number of different levels—individuals, kin groups, corporate groups and villages all competing for positions of authority through accumulation of goods for the Feast. They suggested that this demonstration of wealth by the Huron and intra-tribal solidarity (by the mixing of bones) would also have had the corollary effect of proving their strength to their Native and European trading partners, (as well as to themselves). Strengthening their position as middlemen became increasingly important as their own beaver stocks became depleted. Similarly, Hickerson (1960) argued that the upper Great Lakes Algonquians held Feasts of the Dead in the mid-to-late seventeenth century in order to initiate and perpetuate alliances with neighbouring groups including the Huron.

The size of Huron ossuaries has also been the subject of considerable debate. While Johnston (1979:100) argued that "the very large historic Huron ossuaries probably reflect special conditions arising from economic and political forces,

disease and other disruptive factors of the contact period", their size may also be a reflection of the large size of the mid-fifteenth through seventeenth century villages, some of which may have been several hectares in size and have been inhabited by thousands of people (Finlayson 1985; Knight and Cameron 1983; Williamson et al. 1998). Moreover, like their predecessors along the north shore of Lake Ontario and as the ethnohistoric record suggests, they too may have involved more than one community. On the other hand, a number of the fourteenth century ossuaries, such as Fairty and Tabor Hill, while marginally smaller in diameter, contained similar if not larger numbers of individuals to those of the contact period Huron.

Five burial pits were also excavated on Christian Island (Hartney 1978), to which the Huron had fled, in 1649, following their dispersal from their traditional lands at the hands of the Iroquois. The largest pit was oval, approximately five metres in diameter with sloping sides. It was approximately two metres deep and contained 74 primary individual burials in three layers. The next largest pit was circular, approximately three metres in diameter and two metres deep and contained 32 primary individual burials. The other three pits were much shallower and contained the remains of one, three and four individuals respectively, all of whom, with the exception of an old male who was apparently dismembered, were buried shortly after death. These mass graves, which are significantly different from the normal Huron burial tradition, were likely an expedient response to the special circumstances surrounding the diaspora and the famine of 1649-1650 on the island.

There is also some limited evidence regarding the mortuary practice of the Petun, the westerly neighbours of the Huron (Garrad and Heidenreich 1978). Charles Garrad in his life-long work with Petun archaeology has documented 22 ossuaries believed to be associated with Petun villages, all but one of which have likely been subject to looting (Garrad 1965, personal communication 2002; Rost 1999:37-40).

The only recently excavated possible Petun ossuary is the contact period Buckingham ossuary, situated just west of the Town of Collingwood (Rost 1999). The upper fourth of it was excavated in 1977 under the direction of Roberta O'Brien, the site having been discovered by Charles Garrad during construction activities on the property. The bark-lined burial pit measured 5.5 metres long and 2.5 metres wide and had a depth of about 1.8 metres. While the excavation conditions were far from ideal, and the team's ability to ascertain patterning may have been compromised, the secondary deposit of skeletal material appears to have been thoroughly mixed. While only 12 individuals were recovered, all age categories and both sexes were represented. Little can be concluded from the excavation due to its incompleteness. While the location of the ossuary is suggestive of Petun ethnicity, Charles Garrad (personal communication 2002) is aware of an obscure Andrew Hunter reference recording a number of early flintlock guns in the ossuary, suggesting that the site might represent a late seventeenth century Odawa cemetery.

Late Ontario Iroquoian: Neutral Cemeteries

There are also numerous cemeteries, some of which were called ossuaries, that have been investigated archaeologically in the traditional Neutral territory of southwestern Ontario around the west end of Lake Ontario, from Burlington-Hamilton to Brantford and the Niagara peninsula.

Grimsby

The best known of these was the Grimsby site excavated by Walter Kenyon of the Royal Ontario Museum in 1976 (Kenyon 1982). It consisted of an oval cemetery measuring about 32 metres by 12 metres containing 55 graves of varying sizes with a total of 367 individuals. The graves were well furnished with impressive native and trade artifacts and yielded a range of burial forms from primary interments of single individuals to multiple, secondary, mostly incomplete, disarticulated and partially articulated bundles that had been either tightly placed or scattered in graves. The fact that the graves were all undisturbed suggests ongoing knowledge and care on the part of the population utilizing the cemetery (Kenyon 1982:226). It should be noted that on the basis of Ian Kenyon and Bill Fox's (1982:13) analysis of the artifacts from the site, the cemetery was used from as early as 1615 to 1650.

Jackes (1996) conducted a detailed analysis of the age, sex, status (see also Kenyon and Fox 1982), familial relationships and burial treatments within the various burial pits in the cemetery, concluding that most were the result of routine cultural and not biological (i.e., epidemic or warfare) factors. She also noted (1996:133-135) that Feature 62, which contained 103 individuals, was laid out with great attention to detail. Familial groupings were present and age and sex clearly determined the burial pattern (e.g., males at the eastern end of the feature). The feature had an oval formation of long bones with crania generally placed along the central east-west axis. Jackes noted a similar feature was found by Stothers (1972) at Shaver Hill, a seventeenth century Neutral burial pit containing the arranged bones of 163 people and perhaps also at Walker and Dwyer (see below). All of the individuals in Feature 62, with the exception of an older male at the eastern edge of the feature, were buried in a state of partial or complete disarticulation; none showed any evidence of cut marks. Age and sex could also be correlated with burial mode in 67 cases, but Jackes noted "the complexity to be discerned in Feature 62 is not based on burial mode [but rather] derives from the clear patterning of burial placement, indicating both genetic relationships and status" (1996:135). Jackes argued that these arrangements, and the fact that individuality was also stressed throughout the Grimsby cemetery, differs markedly from Huron practices.

Regarding Kenyon and Fox's (1982) notion that the Grimsby cemetery represents a spiritual centre for the interment of high-status individuals, Jackes noted that while the evidence is equivocal, "the total sample indicates a biological population which could represent a single community with a very high mortality rate" (Jackes 1996:136).

In her conclusions, Jackes stated that the evidence suggests that the Grimsby site was "neither unique nor the result of epidemics, but [rather] the common pattern for Neutral cemeteries in the seventeenth century" and that the users of the cemetery were concerned with emphasizing the relationships within the smaller corporate units that were important to them (Jackes 1996:138).

Walker

There was also a large cemetery associated with the seventeenth century Walker site, situated near Middleport on the Grand River. The cemetery was first discovered in 1880 (Ridley 1961). It apparently consisted of at least 11 burial pits containing between two and 70 individuals as well as five graves containing single primary interments (Boyle 1903; Jackes 1996; Waugh 1903; Wright 1981).

In 1944, John Steele excavated one of the main burial pits on the site (Ridley 1961:16-19). He reported that the pit had been lined with both beaver and bear skins and had been surrounded by a massive scaffold, which had probably been collapsed inward before the pit was in-filled. This pit was approximately 3.6 metres in diameter and 1.5 metres deep in the centre and contained skeletal remains "closely interwoven throughout." Upon excavating down into an ashy deposit in one corner, however, a second concentration was found containing 15 skulls arranged in a triangular pattern at a depth of 38 cm below the floor of the first concentration. An inverted brass kettle had been placed in the centre, overlying a number of effigy pipes. The skeletal remains of a minimum of 11 adults and four children were found below those artifacts.

Glass beads, iron axes, brass kettles and other brass artifacts, as well as various ceramic pipes, were also found with the other burial pits. It was also reported that several of the pits had features such as artificial clay floors and two separate vertical compartments. Excavations in 1974, however, revealed no evidence of false floors (Wright 1981:119) although a subfloor burial pit was exposed. While Jackes suggested that the amateurs who excavated the Walker cemetery mistook the multiple and overlapping burial pits for false floors, Noble (1968) noted that Neutral ossuaries were more complex than Huron ones, with their "false floors" comprised of 38-45 centimetres of sterile fill separating upper and lower compartments of bone. He suggests that the Orchid site was a clear example of this practice, having had two deposits of bone separated by a layer of brown sand rather than clay.

Sealy

The Sealy site cemetery, situated only a few kilometres from the Walker cemetery, was also excavated by amateurs and early professionals (Houghton n.d.). It also contained the graves of single primary interments as well as a large burial pit measuring 4.6 metres long, 2.7 metres wide and 1.4 metres deep containing several interments. In the undisturbed part of the main pit, Houghton found bundle burials

and shell and glass beads, and a stone pipe on the bottom. He also found four graves one to two metres in depth that contained the bundle burials of six individuals.

Milton Heights/Gaetan

The Milton Heights site, situated in the Town of Milton, was investigated by Peter Carruthers in 1986 and reported by Ferris (1987, 1998). It consisted of a single contact period Neutral burial pit and a number of associated pit features, two of which contained primary interments and two of which contained small fragments of human bone. The large pit, which was only partially excavated, was 2.37 metres long, 2.04 metres wide and 0.6 metre deep with a basin-shaped profile. The bone had been placed on the floor of the pit and then covered by pit fill, suggesting to the excavators that it had been formed during a single burial event. A black, organic lens was found in the centre of the pit overlying the soil fill and underlying a series of kettles, perhaps representing a central offering (Ferris 1998:7).

The bone was disarticulated but in a patterned arrangement. Three crania were found in the centre of the pit from which extended a series of long bones. It was estimated that between 20 and 40 individuals had been placed in the pit. The artifacts found in the excavated portion of the pit included two large copper kettles, four copper bracelets, a copper ring, a brass basin, four glass beads, three catlinite beads, a turtle shell rattle, and a rich marine shell assemblage. On the basis of his analysis of the artifact assemblage, Ferris (1998:26-28) dated the site to between 1610 and 1625.

Port Colborne

The Port Colborne cemetery, located on the Lake Erie shore in Port Colborne, was also subject to investigation. Archaeological interest in the site first began in 1889 when David Boyle, the archaeologist with the Provincial Museum in Toronto, was invited to view some recently discovered skeletal remains and artifacts including "several skulls, a few clay pots, some clay pipes, wampum, stone tomahawks and a considerable amount of material of European manufacture, including glass beads, iron and copper bracelets, and iron hatches" (Boyle 1889:18). Although Boyle had hoped to secure the artifacts for the Provincial Museum, they were deposited with the Buffalo Museum of Science. In 1906, permission was given to the Provincial Museum to conduct explorations on the property. Boyle was interested in determining if the cemetery was in a natural or man-made mound and intended to conduct a detailed investigation of the cemetery. The investigation was carried out by his assistant, W. H. C. Phillips, who reported observing 50 flexed individuals at a depth of 1.5 metres (Boyle 1906:15). A group of bodies was also described as radiating out from a copper kettle, their heads situated within 24-30 centimetres of it. Artifacts recovered from the excavations included shell and glass

beads, pottery, an iron knife and a pair of scissors (Boyle 1906:15). Boyle concluded that the mound was man-made, now known to be untrue, and that it was most likely a Neutral cemetery, dating to the first half of the seventeenth century.

Others

Ridley (1961) also summarized the little information known about several other historic Neutral cemeteries including the Daniels ossuary situated approximately 200 metres south of the Daniels village site. The roughly one metre deep pit was apparently divided by a narrow wall of sterile earth. Forty crania were found along with trade goods and other artifacts. The Burke ossuary in Ancaster Township was described as containing an extended burial as well as another pit with six skeletons with conch shells, brass kettle and other artifacts. The Dwyer ossuary in Beverley Township was excavated by David Boyle in 1885 and found to contain 15 bodies buried in a flexed position at a depth of approximately one metre below surface. In later excavations, Rutherford Smith excavated below the hardpan floor, consisting of coarse gravel mixed with lime, to find numerous skeletons, some in a "heap", as well as artifacts. The depth of the second deposit was approximately 1.6 metres. The Hosken site and ossuary in Glanford Township was excavated by the landowner's son who reported it to be approximately 5.4 metres square and 1.5 metres deep. He also reported two bone deposits separated by 0.6 metre of clay. In another review of poorly documented Neutral cemeteries situated along the lower Grand River, the close proximity of villages to their cemeteries was noted (Poulton et al. 1996:24-26).

Summary

In summary, the Neutral cemeteries that have been excavated reveal multiple secondary interments and individual primary interments, although no cemeteries have been found that consist of only the latter. They also appear to contain many fewer bodies than contemporary Huron ossuaries suggesting that they contain the deceased of single rather than multiple communities. Marian White (1966:21) suggested, however, that many of these pits likely contained the dead of an even smaller social group, such as a clan or extended family.

New York Iroquois Multiple Burial Practice

Large community cemeteries have an early origin in New York State as they do in Ontario. Ritchie (1965:175-178) ascribed large communal burial pits to the Late Archaic Orient Phase (circa 1000 B.C.) and multiple burials of cremated, bundle and flexed burials within community cemeteries for the Meadowood

phase, circa 500 B.C. (Ritchie 1965:197). These patterns suggested to Ritchie periodic communal burials for small-scale social units such as families or clans.

The largest, best described pre-Iroquoian or Transitional Woodland burial in New York State is that of the Kipp Island No. 4 component dating to the Hunter's Home Phase (A.D.895±100 [I-3441]) (Ritchie 1965:261-265). At least twenty-nine burial features were present over an area of 84 square metres and found to contain 120 individuals of both sexes and all ages in a variety of burial forms although secondary burials, and especially multiple interments involving bundles predominated. Funerary offerings were present in only three graves.

Pre-contact Iroquois burial sites in western New York were described by White (1966) and more recently by Rayner-Herter (2001) in her analysis of the development of the Niagara Frontier Iroquois (cf. Houghton 1909). While many have only primary interments (e.g., Engelbrecht 1995), those that had multiple burial pits include the Hiller Road site, which had at least six disturbed burial pits containing multiple secondary burials. Details are available for only two of the pits. One contained 22 to 26 individuals with crania placed at the top of the deposit and a layer of charcoal covering the remainder, while the second pit contained 14 individuals in a disarticulated and mixed deposit. The fifteenth century Sugg/Keller site had a small cemetery on a sand knoll containing five burial pits containing 26 individuals (8, 9, 4, 3, and 2 respectively), while the late fourteenth to early fifteenth century Sawmill Road burial pit contained at least 32 individuals in secondary bundles. Also, the Orangeport 1 and 2 sites in Niagara County described by Bryant (1912:468) and Houghton (1912:474), respectively, yielded mixed deposits. The first ossuary was said to contain the remains of at least 78 individuals in a disarticulated form while the second was described by Houghton as having contained 135 individuals "intermingled in the greatest confusion". Detailed accounts of these sites can be found in Rayner-Herter (2001).

The Ripley site, situated in southwestern New York, has been considered of Erie origin. Various excavations conducted on the multi-component or long-occupied site (Parker 1907; Sullivan 1996) indicate that burials were found in all areas of the site, except possibly inside the earth ring. A total of 238 individuals were discovered from 178 burial features during the four excavations at the site (there were an additional 44 burials for which there is little information). The site has been 70% excavated and given that burials appear to have been present in all areas, this number may represent 70% of the total burials. While 83% of the graves contained single flexed individuals, 27 occurrences of multiple burials contained two to four individuals. Previous investigators reported the presence of burned areas or "grave fires" at the top of the pit fill in some cases and most (72%) were interred with grave goods. While most other cemeteries associated with pre-contact sites in westernmost New York also contained single and paired primary inhumations (e.g., White 1967), burial pits containing large numbers of individuals, for the most part in bundles, have also been reported (e.g., Guthe 1958; Parker 1922; Rayner-Herter 2001:96).

White (1966) and Rayner-Herter (2001) also described contact period Iroquois cemeteries in western New York. The seventeenth century Kienuka (Porter

ossuary) site appears to have consisted of several bone pits, one of which apparently yielded 60 crania and a mixed deposit while another may have contained more than 200 individuals associated with historic grave goods (Rayner-Herter 2001:101-103). The seventeenth century Kelly site included a pit containing 30 individuals and the seventeenth century Van Son Cemetery on Grand Island had a minimum of 39 burial pits containing a total of 59 mostly single, flexed, primary burials although a few group bundles were also documented. The Silverheels cemetery, reported by Parker (1922:214), had 65 graves, most of which contained single flexed and extended primary inhumations. A few multiple burial pits were also recorded, however, one of which had nine individuals "tangled in no recognizable position." Also, the Cambria/Gould ossuary, situated on the edge of the Niagara Escarpment and overlooking Lake Ontario, apparently had a 1.5 metre deep deposit of bone associated with brass kettles, iron axes and triangular points (Rayner-Herter 2001:98-100). At least eight other cemeteries were noted by White, some dating to between 1600 and 1640, all with single flexed burials.

Recent descriptions of pre-contact and post-contact period Mohawk burial patterns are found in Snow (1995). These include a number of cemeteries associated with tenth through seventeenth century sites, all of which contained primarily single, flexed interments although occasionally two or three individuals were buried together in a pit.

Varied in both time and space, New York Iroquois burial patterns appear to range from primary interment, for the most part in single graves, to large cemeteries with bundles and multiple secondary disarticulated deposits. On the other hand, multiple burial pits appear to be restricted largely to western New York. Indeed, to the east in the Genesee valley, pre-contact multiple burial pits are extremely rare, with the exception of the Coates site (Rayner-Herter 2001:248), until the late seventeenth century. This period (1675-1687) is represented by the Beal and Bunce burials (Houghton 1922), where numerous individuals (28 in one case) were interred together in a single grave in either bundles or mixed deposits. White (1966:20) suggests that these late ossuaries appeared due to the influence of captive Hurons among the Seneca. The usual Seneca practice from the sixteenth through seventeenth century was primary flexed burials in individual graves (Ritchie 1954; Wray and Schoff 1953; cf. Hayes [1965] for eighteenth century Seneca burial patterns).

While there are some reports of St. Lawrence Iroquoian ossuaries farther east in Jefferson County, New York, White also believed these to be rather rare occurrences revealing late period Huron-St. Lawrence Iroquois interaction rather than earlier influences from western New York.

The pre-contact Orangeport and contact period ossuaries (e.g., Cambria/Gould) present in some portions of western New York, although poorly documented, nevertheless attest to the presence of multiple secondary burial deposits associated with bundle and primary burials, a pattern not at all dissimilar to Neutral burial practice. The recognition and implication of variation among pre-contact and contact period Iroquois tribal burial patterns was discussed almost three decades ago by Ritchie and Funk (1973:366-367). While pointing—perhaps too simplistically—to a

homogeneous Huron Nation and ossuary tradition, all occurring in a remarkably compact area, the variation in burial practice of the five nations of the New York Iroquois, on the other hand, was explained in terms of different territories, artifact styles, and dialects, and occasional intertribal strife. They suggested that even after the establishment of the League, relations between the nations were at times strained and common undertakings were rare. In keeping with this tribal autonomy, they expected that local tribal burial traditions were followed (cf. Niemczycki 1984). Rayner-Herter (2001:247-252, 279-283) has explored this further, relating differences in burial patterns in western New York to two socially distinct groups.

CONCLUSIONS

It is clear that the mortuary beliefs and practices of the Huron, Petun, Neutral, and New York Iroquois were all different from one another. While this is not surprising and was noted by White (1966), Trigger (1969), Ritchie and Funk (1973), Kenyon (1982) and other researchers, the evidence also suggests that there are differences in the burial patterns among the sites of these groups, even among roughly contemporaneous communities during the contact period.

By the beginning of the fourteenth century, most Iroquoians were inhabiting one hectare sized, sometimes palisaded villages, that were still relatively autonomous in political terms. The village appears to represent the most complex socio-political unit to which people belonged. On the other hand, increasing similarities in pottery and smoking pipe styles point to increasing levels of inter-community communication and integration. The development of inter-village alliances throughout the thirteenth and fourteenth centuries probably led to increasingly large and more fully integrated villages with socio-political systems based on extended matrilineal kinship. These trends eventually led to the establishment of the tribal systems that were ultimately partners in the confederacies described in the seventeenth century historic record.

Spence (1994) has suggested that the relatively autonomous Early Iroquoian communities may have had quite different burial practices across southern Ontario, a pattern that the differences among the Moatfield, Staines Road, Tabor Hill, Glen Williams, Orchid and Fairty sites suggest may have persisted into the late fourteenth to early fifteenth century. Analyses of the settlement patterns of fourteenth and early fifteenth century communities similarly suggest that the homogeneous Middle Iroquoian life, originally hypothesized by Wright (1966) may be more illusion than reality (Robertson and Williamson 2002a). By one century later, these differences appear to have resolved into separate burial traditions for the Huron and Neutral, which were further reinterpreted at the level of the individual community or tribe.

Indeed, the evidence from the Grimsby site suggests that importance was placed on maintaining the integrity of individuals after death, in single flexed burials or in carefully arranged multiple burials, emphasizing smaller corporate units such as family and clan segments. The deliberate mixing of large numbers of incomplete

secondary remains in large Huron ossuaries, on the other hand, suggests an emphasis on the integration of social segments from within a community and its neighbouring villages. It is not a rigid pattern, however, as even some contact period Huron ossuaries, when subject to very detailed excavation (e.g., Jerkic 1975), reveal complex depositional patterns that include the maintenance of bundled individuals or groups of individuals, perhaps representing smaller social units, within pits. Moreover, if the practice of mixing of the remains was essentially a symbolic act, it is reasonable to expect that only the upper portion of skeletal elements in deposits would be entirely intermingled. Some Huron and Neutral cemeteries also have layers of largely sterile soil between bone layers suggesting intentional differentiation during the bone deposition or separate episodes of deposition. Different Huron tribes may have had slightly different burial practices that survived the confederacy, despite the accommodation of a tradition defined by a significant periodic burial event. Only very careful excavation of ossuaries and/or cemeteries and the tracking of burial traditions through time by community or region will reveal the details of such differences.

The following detailed description of the Moatfield site is intended to make a contribution to our understanding of this complexity. Its place in that complexity can only be explained in the context of the preceding comparative review. Some of the attributes that need to be examined in the case of Moatfield include the relatively small number of individuals, the ossuary's location immediately adjacent to the village, the arrangement of individual skeletal elements within the deposit, the recognition of bundles throughout the deposit, and the presence or absence of sterile soil layers within the burial feature. The implications of these and other Moatfield patterns are discussed in the final chapter of the volume.

ACKNOWLEDGEMENTS

We acknowledge the research assistance of Beverly Garner, Christopher Watts and Robert von Bitter (Ministry of Culture) in compiling the data for this review. We also thank Peter Carruthers, Martin Cooper, Bill Engelbrecht, Charles Garrad, Dean Knight, Robert Pearce, Susan Pfeiffer, and Nancy Rayner-Herter for their assistance. Finally, we are grateful to David Robertson and Susan Pfeiffer for their detailed comments on an early draft of this chapter.

REFERENCES CITED

Anderson, J.E. 1963. The People of Fairty: An Osteological Analysis of an Iroquois Ossuary. *National Museum of Canada Bulletin* 193:28-129.

Anderson, J.E. 1968. *The Serpent Mounds Site, Physical Anthropology*. Royal Ontario Museum Art and Archaeology, Occasional Paper No. 11, Toronto.

Anderson, J.E. 1972. Dawson Site Physical Anthropology. In *Cartier's Hochelaga and the Dawson*

Site, edited by J.F. Pendergast and B.G. Trigger, pp. 311-326. McGill-Queen's University Press, Montreal.

ASI (Archaeological Services Inc.). 1990. Archaeological Investigation of the Houghton Ossuaries. Report on file, Ontario Ministry of Culture, Toronto.

ASI (Archaeological Services Inc.). 1991. An Archaeological Resource Assessment of the TTC Eglinton West Rapid Transit Line, Municipality of Metropolitan Toronto. Report on file, Ontario Ministry of Culture, Toronto.

ASI (Archaeological Services Inc.). 1996. The Archaeology of the Dunsmore Site: A Late Iroquoian Community in Southern Simcoe County. Report on file, Ontario Ministry of Culture, Toronto.

ASI (Archaeological Services Inc.). 2001. Report on the Archaeological Investigation of the Staines Road Site (AkGt-55), City of Toronto, Ontario. Report on file, Registrar for Cemeteries, Ontario Ministry of Consumer and Business Services, Toronto.

ASI (Archaeological Services Inc.). 2002. Report on the Archaeological Resource Assessment of Block 40/47 Plan, OPA 400, City of Vaughan, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

Benedict, A.L. 1908. *An Ossuary of the Neuter Nation Between Stamford and St. David's, Ontario*. Report to the Buffalo Historical Society, Buffalo, New York.

Birx, H.J. 1991. *Craniometry of the Orchid Site Ossuary*. Monographs in Anthropology. Persimmon Press, Buffalo.

Blick, J.P. 2000. The Quiyoughcohannock Ossuary Ritual and the Feast of the Dead. Paper presented at the 6th Internet World Congress for Biomedical Sciences <http://www.uclm.es/inabis2000/symposia/files/133/session.htm>

Boyle, D. 1889. Notes on Sites Visited. *Annual Report of the Canadian Institute, Session 1886-87, being part of the Appendix to the Report of the Minister of Education, Toronto*. Warwick and Sons, Toronto.

Boyle D. 1894. *Seventh Annual Report of the Canadian Institute Session 1893-1894.* Being Part of Appendix to the Report of the Minister of Education. Warwick Bros. and Rutter, Toronto.

Boyle, D. 1900. *Archaeological Report 1899.* Being Part of Appendix to the Report of the Minister of Education Ontario. Warwick Brothers and Rutter, Toronto.

Boyle, D. 1903. *Annual Archaeological Report 1902.* Being Part of Appendix to the Report of the Minister of Education, Ontario. L.K. Cameron, Toronto.

Boyle, D. 1906. *Annual Archaeological Report 1905.* Being Part of Appendix to the Report of the Minister of Education, Ontario. L.K. Cameron, Toronto.

Boyle, D. 1907. *Annual Archaeological Report 1906.* Being Part of Appendix to the Report of the Minister of Education, Ontario. L.K. Cameron, Toronto.

Bray, W., and D.H. Trump. 1982. *The Penguin Dictionary of Archaeology*. 2nd edition. Penguin Books, Harmondsworth, U.K.

Bryant, W.L. 1912. Report on an Ossuary (No.1) at Orangeport, Niagara County, New York. *Bulletin of the Buffalo Society of Natural Sciences* 10 (2):468-70.

Churcher, C. S., and W. A. Kenyon. 1960. The Tabor Hill Ossuaries: A Study in Iroquois Demography. *Human Biology* 32:249-273.

Clermont, N. 1978. Les Crémations de Pointe-du-Buisson. *Recherches Amérindiennes au Quebec* 8(1):3-20.

Cook, P. 1977. A Comparison of Prehistoric and Historic Ossuary Burial Practice. Paper presented at the 1977 Ontario Archaeological Symposium, Ms. on file, Archaeological Services Inc., Toronto.

Cooper, M.S. 1996. A Study of the Neutrals. In *Many Voices—A History of Greater Fort Erie*, edited by J. Davies and J. Felstead, pp. 14-26. Fort Erie Museum Board, Ridgeway, Ontario.

Curry, D.C. 1999. *Feast of the Dead: Aboriginal Ossuaries in Maryland.* The Archaeological Society of Maryland, Inc. and the Maryland Historical Trust, Fallston, Maryland.

Cybulski, J.S. 1968. Analysis of Skeletal Remains from the Surma Site, Fort Erie, Ontario. *Ontario Archaeology* 11:8-26.

Dodd, C.F., P.A. Lennox, D.R. Poulton, D.G. Smith, and G.A. Warrick. 1990. The Middle Ontario Iroquoian Stage. In *The Archaeology of Southern Ontario to A. D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 321-359. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London.

Donaldson, W.S. 1962. Archaeological Research in the Rouge. *Ontario Archaeology* 5:15-21.

Donaldson, W.S., and S. Wortner. 1995.The Hind Site and the Glacial Kame Burial Complex in Ontario. *Ontario Archaeology* 59:5-95.

Emerson, J.N., and W.C. Noble. 1966. The Surma Site, Fort Erie, Ontario. *Ontario Archaeology* 9:68-88.

Engelbrecht, W. 1995. Inventory of Human Remains from the Eaton Site. Report on file, Department of Anthropology, State University of New York, Buffalo.

Esler, J. 1998. Burials and Isolated Human Bone Fragments from Sites in the Crawford Lake Area. In *Iroquoian Peoples of the Land of Rocks and Water, A.D. 1000-1650: A Study in Settlement Archaeology*, by W.D. Finlayson, Volume 1:156-172. Special Publication 1, London Museum of Archaeology, University of Western Ontario, London.

Ferris, N. 1987. The Milton Heights (Gaetan) Historic Neutral Cemetery Excavations (AjGx-44): Artifact Analysis. Report on file, Ontario Ministry of Culture, Toronto.

Ferris, N. 1998. The Milton Heights Site: Artifact Analysis of a Seventeenth Century Neutral Ossuary Pit. *Kewa* 98(1-2):2-35.

Finlayson, W.D. 1985. *The 1975 and 1978 Rescue Excavations at the Draper Site: Introduction and Settlement Pattern.* Archaeological Survey of Canada, Mercury Series Paper 130. National Museum of Man, Ottawa.

Finlayson, W.D. 1998. *Iroquoian Peoples of the Land of Rocks and Water, A.D. 1000-1650: A Study in Settlement Archaeology*. 4 volumes., Special Publication 1, London Museum of Archaeology, University of Western Ontario, London, Ontario.

Finlayson, W.D., D.G. Smith, M.W. Spence, and P.A. Timmins. 1985. The 1985 Salvage Excavations at the Keffer Site: A Field Report. *Kewa* 85(8):2-10.

Fleming, M.E. 1960. Ossuary Sites in Southern Ontario. Report on file, Huronia Historic Parks Resource Centre, Midland, Ontario.

Fox, W.A. 1976. The Central North Shore. In *The Late Prehistory of the Lake Erie Drainage Basin*, edited by D. Brose, pp. 162-192. The Cleveland Museum of Natural History, Cleveland, Ohio.

Fox, W.A. 1983. Annual Archaeological Report for Southwestern Ontario. Report on file, Ontario Ministry of Culture, Toronto.

Fox, W.A. 1985. The Freelton/Misner Site Looting and Prosecution. *Kewa* 85(5):3-13.

Fox, W.A. 1988. The Elliott Village: Pit of the Dead. *Kewa* 88(4):2-9.

Fox W.A., and R. Salzer. 1999. Themes and Variations: Ideological Systems in the Great Lakes. In *Taming the Taxonomy: Toward and New Understanding of Great Lakes Archaeology*, edited by R.F. Williamson and C.M. Watts, pp. 237-264. Eastendbooks, Toronto.

Garrad, C. 1965. The Rediscovery of a Forgotten Ossuary in the Township of Nottawasaga, Ontario. *Bulletin of the Archaeological Society of Western Ontario* 2(1):9-11

Garrad, C. 1975. The Petun Project, 1974. Report on file, Ontario Ministry of Culture, Toronto.

Garrad, C., and C. Heidenreich. 1978. Petun. In *Handbook of North American Indians: Northeast*, Volume 15, edited by B.G. Trigger, pp394-397. Smithsonian Institution Press, Washington, D.C.

Glencross, B. 1992. Human Skeletal Remains at the Macallan Site (AgHa-59). Report on file, Ontario Ministry of Transportation, Toronto.

Granger, J. 1976. The Orchid Site, Area B, Fort Erie, Ontario. *New York State Archaeological Association Bulletin* 67:1-39.

Greenman, E. 1967 (1937). *The Younge Site*. Occasional Contributions from the Museum of Anthropology of the University of Michigan 6, Ann Arbor. Reprinted.

Gruspier, K. 1999. Subadult Growth and Health from Ossuary Samples of Prehistoric Southern Ontario Iroquoian Populations. Unpublished PhD thesis, Department of Anthropology, University of Toronto, Toronto.

Guthe, A.K. 1958. *The Late Prehistoric Occupation in Southwestern New York: An Interpretive Analysis*. Research Records of the Rochester Museum of Arts and Sciences 11. Rochester, New York.

Halsey, J. 1976. The Bussinger Site: A Multi-Component site in the Saginaw Valley of Michigan, With a Review of Early Late Woodland Mortuary Complexes in the Northeastern Woodlands. Unpublished PhD thesis, Department of Anthropology, University of North Carolina, Chapel Hill, North Carolina.

Harris, R.I. 1949. Osteological Evidence of Disease Amongst the Huron Indians. *University of Toronto Medical Journal* 37:71-75.

Hartney, P.C. 1978. Paleopathology of Archaeological Aboriginal Populations from Southern Ontario and Adjacent Regions. Unpublished PhD thesis, Department of Anthropology, University of Toronto, Toronto.

Hayes III, C.F. 1965. *The Orringh Stone Tavern and Three Seneca Sites of the Late Historic Period.* Research Records of the Rochester Museum of Arts and Sciences No. 12. Rochester, New York.

Helmuth, H. 1993. The Quackenbush Skeletons: Osteology and Culture. *Trent University Occasional Papers in Anthropology* 9, Peterborough.

Hickerson, H. 1960. The Feast of the Dead Among the Seventeenth Century Algonkians of the Upper Great Lakes. *American Anthropologist* 62:81-107.

Houghton, F. 1909. The Indian Occupancy of the Niagara Frontier. *Bulletin of the Buffalo Society of Natural Sciences* 9(3):263-374.

Houghton, F. 1912. Ossuary (Number Two) at Orangeport, Niagara County, N.Y. *Bulletin of the Buffalo Society of Natural Sciences* 10(2):471-476.

Houghton, F. 1922. *The Archaeology of the Genesee County*. Researches and Transactions of the New York State Archaeological Association 3(2). Rochester, New York.

Houghton, F. n.d. Field Notes of Investigations. Buffalo Museum of Science, Buffalo, New York.

Hunter, A.F. 1889. Notes on Sites of Huron Villages in the Township of Tiny (Simcoe County) and Adjacent Parts. Prepared with a View to the Identification of those Villages Visited and Described by Champlain and the early Missionaries. *Annual Report of the Canadian Institute, Session 1886-87, being part of the Appendix to the Report of the Minister of Education, Toronto*. Warwick and Sons, Toronto.

Jackes, M. 1986. The Mortality of Ontario Archaeological Populations. *Canadian Journal of Anthropology* 5(2): 33-48.

Jackes, M. 1996. Complexity in Seventeenth Century Southern Ontario Burial Practices. In *Debating Complexity*, edited by D. A. Meyer, P.C. Dawson and D.T. Hanna, pp 127-140. Proceedings of the 26th Annual Chacmool Conference. Department of Archaeology, University of Calgary, Alberta.

Jamieson, J.B. 1978. Physical Anthropology of the Uren Site, Oxford Co., Ontario. Report on file, Department of Anthropology, McMaster University, Hamilton, Ontario.

Jerkic, S.M. 1969. The Maurice Ossuary (BeHa-1). In *Palaeoecology and Ontario Prehistory*, edited by W.M. Hurley and C.E. Heidenreich, pp. 49-61. Research Report 1. Department of Anthropology, University of Toronto

Jerkic, S.M. 1975. An Analysis of Huron Skeletal Biology and Mortuary Practices: The Maurice Ossuary. Unpublished PhD thesis, Department of Anthropology, University of Toronto, Toronto.

Johnston, R.B. 1968. *The Archaeology of the Serpent Mounds Site*. Art and Archaeology Occasional Paper 10. Royal Ontario Museum, Toronto.

Johnston, R.B. 1979. Notes on Ossuary Burial among the Ontario Iroquois. *Canadian Journal of Archaeology* 3: 91-104.

Kapches, M. 1976. The Interment of Infants of the Ontario Iroquois. *Ontario Archaeology* 27:29-39.

Kapches, M. 1981.The Middleport Pattern in Ontario Iroquoian Prehistory. Unpublished PhD thesis, Department of Anthropology, University of Toronto, Toronto.

Katzenberg, M.A. 1984. *Chemical Analysis of Prehistoric Human Bone from Five Temporally Distinct Population in Southern Ontario*. Archaeological Survey of Canada, Mercury Series Paper 129. National Museum of Man, Ottawa.

Kenyon, I.T. 1986. A Preliminary Report on the Tregunno/Carlisle Excavations. *Kewa* 86(7):3-18.

Kenyon, I.T. 1987. A Preliminary Report on Tregunno/Carlisle Excavation. Report on file, Ontario Ministry of Culture, London.

Kenyon, I.T., and W.A. Fox. 1982. The Grimsby Cemetery—A Second Look. *Kewa* 82(9):3-16.

Kenyon, W. 1968. *The Miller Site*. Art and Archaeology Occasional Paper 14. Royal Ontario Museum, Toronto.

Kenyon, W. 1982. *The Grimsby Site: An Historic Neutral Cemetery*. Royal Ontario Museum, Toronto.

Kidd, K.E. 1953. The Excavation and Historical Identification of a Huron Ossuary. *American Antiquity* 4:359-379.

Knight, D., and S. Cameron, editors. 1983. *The Ball Site: 1975-1982*. Wilfrid Laurier University, Waterloo.

Lennox, P.A. 1984. *The Hood Site: A Historic Neutral Town of 1640 A.D.* Archaeological Survey of Canada, Mercury Series Paper 121:1-183. National Museum of Man, Ottawa.

Lennox, P.A., and W.R. Fitzgerald. 1990. The Culture History and Archaeology of the Neutral Iroquoians. In *The Archaeology of Southern Ontario to A. D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 405-456. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London.

Lozanoff, S., and D. Stothers. 1975. A Biocultural Analysis of an Early Late Woodland Population in Southeastern Michigan. *The Toledo Area Aboriginal Research Bulletin* 4(3): 1-51.

MacDonald, R.I. 1988. Ontario Iroquoian Sweat Lodges. *Ontario Archaeology* 47:17-26.

MacDonald, R.I. 1992. Ontario Iroquoian Semi-subterranean Sweat Lodges. In *Ancient Images, Ancient Thought: The Archaeology of Ideology*, edited by A.S. Goldsmith , S. Garvie, D. Selin, and J. Smith, pp. 323-330. Proceedings of the 23rd Annual Chacmool Conference, Department of Anthropology, University of Calgary, Alberta.

Mandich, A. 2002. Osteological Analysis of Human Remains: Horseshoe Valley Roas, Oro-Medonte Township, Simcoe, Ontario. *Kewa* 02(7):2-20.

Mayer, R., and A. P. Antone. 1988. Archaeological Resource Assessment Downham Nurseries Site (AeHi-29), Southwold Township, Elgin County, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

McIlwraith, T.F. 1946. Archaeological Work in Huronia 1946: Excavations Near Warminster. *Canadian Historical Review* 27:394-401.

McIlwraith, T.F. 1947. On the Location of Cahiague. *Transactions of the Royal Society of Canada* 4(32):99-102.

McKillop, H., and L. Jackson. 1991. Discovery and Excavations at the Poole-Rose Ossuary. *Arch Notes* 91(1):9-13.

Melbye, J., G. Mullen, and K. McFadden. 1987. The Human Osteology of the Gaetan Site (AiGx-44). Report on file, Ontario Heritage Foundation, Toronto.

Molto, J.E. 1983. *Biological Relationships of Southern Ontario Woodland Peoples: The Evidence of Discontinuous Cranial Morphology*. Archaeological Survey of Canada, Mercury Series Paper 117. National Museum of Man, Ottawa.

Molto, J.E., and W.A. Fox. 1988. Reid Skeletal Analysis: Preliminary Report. Report on file, Department of Anthropology, Lakehead University, Thunder Bay, Ontario.

MPPA (Mayer, Pihl, Poulton and Associates). 1986. An Archaeological Overview of the Quackenbush Provincial Park, Dummer Township, Peterborough County, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

Mullen, G. 1990. Human Osteology of the Warminster Site (BdGv-1) Ossuary. Unpublished MA thesis, Department of Anthropology, University of Toronto, Toronto.

Mullen, G., and R. Hoppa. 1992. Rogers Ossuary (AgHb-131): An Early Ontario Iroquois Burial Feature from Brantford Township. *Canadian Journal of Archaeology* 16:32-47.

Murphy, C., and N. Ferris. 1990. The Late Woodland Western Basin Tradition in Southwestern Ontario. In *The Archaeology of Southern Ontario to A. D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 189-278. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London.

Niemczycki, M.A.P. 1984. *The Origin and Development of the Seneca and Cayuga Tribes of New York State.* Research Report 17. Rochester Museum and Science Centre, Rochester, New York.

Noble, W.C. 1968. *Iroquois Archaeology and the Development of Iroquois Social Organization.* Unpublished PhD thesis, Department of Archaeology, University of Calgary, Calgary, Alberta.

Noble, W.C. 1978. The Neutral Indians. In *Essays in Northeastern Anthropology in Memory of Marian E. White*, edited by W.E. Engelbrecht and D.K. Grayson, pp. 152-164. Occasional Publications in Northeastern Anthropology 5. Department of Anthropology, Franklin Pierce College, Rindge, New Hampshire.

Orr, R.B. 1911. *Annual Archaeological Report 1908-1911.* Being Part of Appendix to the Report of the Minister of Education, Ontario. William Briggs, Toronto.

Ossenburg, N. 1969. *Osteology of the Miller Site*. Occasional Paper 18. Royal Ontario Museum, Toronto.
Parker, A.C. 1907. An Erie Indian Village and Burial Site at Ripley, Chautauqua County, New York. *New York State Museum Bulletin* 117:459-547.

Parker, A.C. 1922. *The Archaeological History of New York*. New York State Museum, Albany.

Pearce, R.J. 1977. An Eastern Regional Expression of the Pickering Branch. Unpublished MA thesis, Department of Anthropology, Trent University, Peterborough, Ontario.

Pendergast, J.F. 1975. The St. Lawrence Iroquois. *Ontario Archaeology* 25:47-56.

Pengelly, J., and S. Pengelly. 1987. The Bonisteel Site: An Ontario Iroquoian Settlement on Lake Erie. *Kewa* 87(6):4-20.

Pfeiffer, S. 1980a. Spatial Distribution of Human Skeletal Material Within an Iroquoian Ossuary. *Canadian Journal of Archaeology* 4:169-172.

Pfeiffer, S. 1980b. Assignment of Sex to Adult Femora from an Ossuary Population. *Canadian Review of Physical Anthropology* 1:55-62.

Pfeiffer, S. 1983. Demographic Parameters of the Uxbridge Ossuary Population. *Ontario Archaeology* 40:9-14.

Pfeiffer, S. 1984. Paleopathology in an Iroquoian Ossuary, With Special Reference to Tuberculosis. *American Journal of Physical Anthropology* 65(2):181-189.

Pfeiffer, S. 1985. Comparison of Adult Age Estimation Techniques using an Ossuary Sample. *Canadian Journal of Anthropology* 4:13-17.

Pfeiffer, S. 1986. Morbidity and Mortality in the Uxbridge Ossuary. *Canadian Journal of Anthropology* 5:23-31.

Pfeiffer, S. 1991. Rib Lesions and New World Tuberculosis. *International Journal of Osteoarchaeology* 1:191-198.

Pfeiffer, S., and S.I. Fairgrieve. 1994. Evidence from Ossuaries: The Effect of Contact on the Health of Iroquoians. In *In the Wake of Contact: Biological Responses to Conquest*, edited by G.S. Larsen and G.R. Milner, pp. 47-61. Wiley-Liss, Inc., Toronto.

Pfeiffer, S., M.A. Katzenberg, and M.A. Kelley. 1985. Congenital Abnormalities in a Prehistoric Iroquoian Village: The Uxbridge Ossuary. *Canadian Journal of Anthropology/Canadian Review of Physical Anthropology* 4:2:83-92.

Pfeiffer, S., K. Stewart, and C. Alex. 1986. Growth Arrest Lines among Uxbridge Ossuary Juveniles. *Ontario Archaeology* 46:27-31.

Poulton, D.R. 1979. Prehistory of the New Toronto International Airport Property: the 1976-1978 Survey. Report on file. London Museum of Archaeology, London.

Poulton, D., C.F. Dodd, M.W. Spence,, and R.D. Fecteau. 1996. The Fradenburg Site: An Historic Neutral Village on the Lower Grand River. *Kewa* 96(4-5):2-51.

Ramsden, C.N., R.F. Williamson, R.I. MacDonald, and C. Short. 1998. Settlement Patterns. In *The Myers Road Site: Archaeology of the Early to Middle Iroquoian Transition*, edited by R.F. Williamson, pp. 11-84 Occasional Publication 7. London Chapter, Ontario Archaeological Society, London.

Ramsden, P.G. 1977. *A Refinement of Some Aspects of Huron Ceramic Analysis*. Archaeological Survey of Canada, Mercury Series Paper 63.National Museum of Man, Ottawa.

Rayner-Herter, N. 2001. The Niagara Frontier Iroquois: A Study of Sociopolitical Development. Unpublished PhD thesis, Department of Anthropology, State University of New York, Buffalo.

Reid, C., and T. Conway. 1976. The McClellahan Ossuary: A Study in Data Retrieval from a Looted, Early Historic Site. *Ontario Archaeology* 26:31-45.

Ridley, F. 1961. *Archaeology of the Neutral Indians*. Etobicoke Historical Society, Port Credit, Ontario.

Ritchie,W.A. 1954. *Dutch Hollow, an Early Historic Period Seneca Site in Livingston County, New York*. Research Records of the Rochester Museum of Arts and Sciences 10. Rochester.

Ritchie, W.A. 1965. *The Archaeology of New York State*. The Natural History Press, Garden City, New York.

Ritchie, W.A., and R.E. Funk. 1973. *Aboriginal Settlement Patterns in the Northeast*. New York State Museum and Science Service Memoir 20. University of the State of New York, Albany.

Robertson, D.A., and R.F. Williamson. 1998. The Archaeology of the Parsons Site: Summary and Conclusions. *Ontario Archaeology* 65/66:146-150.

Robertson, D.A., and R.F. Williamson. 2002a. Middle Iroquoian Cultural Evolution: Similar Trajectories within Different Contexts. Paper Presented at the 35th Annual Meeting of the Canadian Archaeological Association, Ottawa. Ms. on file, Archaeological Services Inc., Toronto.

Robertson, D.A., and R.F. Williamson. 2002b. Pre-Contact Farmers of Mississauga. In *Mississauga: The First 10,000 Years*, edited by Frank Dieterman, pp. 91-106. Eastendbooks, Toronto.

Rost, R. 1999. A Bioarchaeological Approach to Constructing the Buckingham Ossuary Site (BcHb-24) Mortuary Practices. Unpublished MA thesis, Department of Anthropology, Trent University, Peterborough, Ontario.

Rozel, R. 1979. The Gunby Site and Late Pickering Interactions. Unpublished MA thesis, Department of Anthropology, McMaster University, Hamilton, Ontario.

Saunders, S. 1986. The Mackenzie Site Human Skeletal Material. *Ontario Archaeology* 45:9-26.

Saunders, S., and D.M. MacKenzie-Ward. 1988. The Reid Site Burials. *Kewa* 88(4):21-26.

Saunders, S., and J. Melbye. 1990. Subadult Mortality and Skeletal Indicators of Health in Late Woodland Ontario Iroquoians. *Canadian Journal of Archaeology* 14:61-74.

Schiess, L. 2002. Evidence of Postmortem Cultural Modification of the Femora of the Poole-Rose Ossuary as Part of the Feast of the Dead Ceremony. Unpublished MA thesis, Department of Geography and Anthropology, Louisiana State University, Baton Rouge.

Smith, D.G. 1991. *Keffer Site (AkGv-14): Pottery and Ceramic Smoking Pipes*. Research Report 23. London Museum of Archaeology, University of Western Ontario, London.

Snow, D.R. 1995. *Mohawk Valley Archaeology: The Sites*. The Institute for Archaeological Studies, University at Albany, State University of New York.

Spence, M.W. 1988. The Human Skeletal Material of the Elliott Site. *Kewa* 86(4):10-20.

Spence, M.W. 1990. The Miller Site *Kewa* (90)3:10-23.

Spence, M.W. 1994. Mortuary Programmes of the Early Ontario Iroquoians. *Ontario Archaeology* 58:6-26.

Spence, M.W., and W.A. Fox. 1992. The Winona Rockshelter Burial. *Ontario Archaeology* 53:27-44.

Spence, M.W., R.F. Williamson, and J.H. Dawkins. 1978. The Bruce Boyd Site: An Early Woodland Component in Southwestern Ontario. *Ontario Archaeology* 29:33-46.

Spence, M.W., R.H. Pihl, and C. Murphy. 1990. Cultural Complexes of the Early and Middle Woodland Periods. In *The Archaeology of Southern Ontario to A. D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 125-169. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London.

Stephenson, R.L., A.L.L. Ferguson, and H.G. Ferguson. 1963. *The Accokeek Creek Site: A Middle Atlantic Seaboard Culture Sequence*. Anthropological Papers 20. Museum of Anthropology, University of Michigan, Ann Arbor.

Stothers, D.M. 1972. The Shaver Hill Burial Complex: Reflection of a Neutral Indian Population: A Preliminary Statement. *The Toledo Area Aboriginal Research Bulletin* 2(1):28-37.

Sullivan, L.P., editor. 1996. *Reanalyzing the Ripley Site: Earthworks and Late Prehistory on the Lake Erie Plain*. Bulletin 489. New York State Museum, Albany, New York.

Sutton, R. E. 1988. Paleodemography and Late Ontario Iroquoian Ossuary Samples. *Ontario Archaeology* 48:42-50.

Thwaites, R.G., editor. 1896-1901. *The Jesuit Relations and Allied Documents*. 73 volumes. The Burrows Brothers Company. Cleveland.

Tooker, E. 1964. *An Ethnography of the Huron Indians, 1615-1649.* Bureau of American Ethnology Bulletin 190. Smithsonian Institution Press, Washington, D.C.

Trigger, B.G. 1969. *The Huron: Farmers of the North*. Holt, Rinehart and Winston, Toronto.

Trigger, B.G. 1976. *The Children of Aataentsic*. McGill-Queen's University Press, Montreal.

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

Ubelaker, D. 1974. *Reconstruction of Demographic Profiles from Ossuary Skeletal Samples: A Case Study from the Potomac Tidewater*. Contributions to Anthropology 18, Smithsonian Institution Press, Washington, D.C.

Varley, C. and P. Young. 1992. Feasts, Furs, and Tournaments: Interpreting Transformations in Huron Ossuaries. Paper Submitted for the 1992 Daniel Weetaluktuk Student Paper Competition to the Canadian Archaeological Association. Ms. on file, Archaeological Services Inc., Toronto.

Warrick, G.A. 1991. Ministry of Transportation: Archaeological Investigations in the Central Region, Ontario. *Annual Archaeological Report, Ontario (New Series)* 2:67-71. Ontario Heritage Foundation, Toronto.

Waugh, F.W. 1903. Attiwandaron or Neutral Village Sites in Brant County. *Annual Archaeological Report 1902*. Being Part of Appendix to the Report of the Minister of Education, Ontario, pp. 70-79. L.K. Cameron, Toronto.

Webb, J. 1969. The Garland Ossuary. Unpublished MA thesis, Department of Anthropology, University of Toronto, Toronto.

Webb, J. 1972. A Multivariate Analysis of Some Prehistoric and Historic Iroquois Crania. Unpublished PhD thesis, Department of Anthropology, University of Toronto, Toronto.

Welsh, B.M.W., and R.F. Williamson. 1994. The Olmstead Site, A Middle Iroquoian Village in the City of Hamilton. *Arch Notes* 94(4):11-34.

White, M E. 1966. The Orchid Site Ossuary, Fort Erie, Ontario. *Bulletin of the New York State Archaeological Association* 38:1-24.

White, M.E. 1967. *An Early Historic Niagara Frontier Iroquois Cemetery in Erie County, New York*. Researches and Transactions of the New York State Archaeological Association 16(1).

Williamson, R.F. 1977. A Report on Human Remains from the Pearse Ossuary (AlGs-29). Report on file, London Museum of Archaeology, London.

Williamson, R.F. 1979. Preliminary Report on Human Interment Patterns of the Draper Site. *Canadian Journal of Archaeology* 2:117-122.

Williamson, R.F. 1980. The Liahn II Site and Early Woodland Mortuary Ceremonialism. *Ontario Archaeology* 33:3-12.

Williamson, R. F. 1990. The Early Iroquoian Period of Southern Ontario. In *The Archaeology of Southern Ontario to A.D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 291-320. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London.

Williamson, R.F., and R.I. MacDonald, editors. 1997. In *In the Shadow of the Bridge: The 1994-1996 Archaeological Investigations of the Peace Bridge Site (AfGr-9)*. Occasional Publications of Archaeological Services Inc. 1., Toronto.

Williamson, R.F., and R.I. MacDonald. 1998. *Legacy of Stone: Ancient Life on the Niagara Frontier*. Eastendbooks. Toronto.

Williamson, R.F., M.S. Cooper, and D. Robertson. 1997. Previous Investigations. In *In the Shadow of the Bridge: The 1994-1996 Archaeological Investigations of the Peace Bridge Site (AfGr-9)*, edited by R.F. Williamson and R.I. MacDonald, pp. 41-60. Occasional Publications of Archaeological Services Inc. 1., Toronto.

Williamson, R.F., M.S. Cooper, and D. Robertson. 1998. The 1989-90 Excavations at the Parsons Site: Introduction and Retrospect. *Ontario Archaeology* 65/66: 4-16.

Winnick, C. 1970. *Dictionary of Anthropology*. Littlefield, Adams and Co., Totowa, New Jersey.

Woodley, P.J. 1994. The Macallan Site (AgHa-59). *Kewa* 94(1):3-26.

Woodley, P.J., W.R. Fitzgerald, and R.A. Southern. 1992. The Zamboni Cemetery: A Glen Meyer Burial Ground. Paper presented at the 25th Annual Meeting of the Canadian Archaeological Association, London. Manuscript on file, Ontario Ministry of Transportation, Toronto.

Wray, C.F., and H.L. Schoff. 1953. A Preliminary Report on the Seneca Sequence in Western New York–1550-1687. *Pennsylvania Archaeologist* 23:53-63.

Wright, J.V. 1966. *The Ontario Iroquois Tradition*. Bulletin 210. National Museums of Canada, Ottawa.

Wright, J.V. 1974. *The Nodwell Site*. Archaeological Survey of Canada Mercury Series Paper 22. National Museums of Canada, Ottawa.

Wright, J.V., and J.E. Anderson. 1969. *The Bennett Site*. Bulletin 229. National Museum of Canada, Ottawa.

Wright, M.J. 1981. *The Walker Site*. Archaeological Survey of Canada Mercury Series Paper 103:1-209.National Museum of Man.

Wright, M.J. 1986. *The Uren Site AfHd-3: An Analysis and Reappraisal of the Uren Substage Type Site*. Monographs in Ontario Archaeology 2. Ontario Archaeological Society, North York.

Williams, J.R.M. 1971. *Canada Land Inventory, Land Capability for Forestry—Toronto*. 30 M. 1:250,000 scale. Canada Department of Regional Economic Expansion, Ottawa.

Williamson, R.F. (editor). 1998. *The Myers Road Site: Archaeology of the Early to Middle Iroquoian Transition*. Occasional Publication 7. London Chapter, Ontario Archaeological Society, London.

Williamson, R.F., M.S. Cooper, and D.A. Robertson. 1998. The 1989-90 Excavations at the Parsons Site: Introduction and Retrospect. *Ontario Archaeology* 65/66:4-16.

Wright, J.V. 1966. *The Ontario Iroquois Tradition*. Bulletin 210. National Museum of Canada, Ottawa.

Yerkes, R.W. 1987. Seasonal Patterns in Late Prehistoric Fishing Practices in the North American Midwest. *Archaeozoologia* 1:137-184.

THE ARCHAEOLOGY OF THE MOATFIELD OSSUARY

4

Ronald F. Williamson
Andrew Clish
George R. Clark
Susan Pfeiffer

METHOD OF EXCAVATION

Once the instructions had been given by Six Nations Council to excavate the entire ossuary feature and to remove all of the skeletal remains, a small crew was selected to undertake the excavation. The core crew consisted of Andrew Clish, Beverly Garner, and Kathy Mills, aided on a regular basis by April DeLaurier, Glenn Penoyer, Susan Pfeiffer, Deborah Steiss, and Ron Williamson. The excavation commenced on September 26, 1997, and concluded on December 12, 1997. As the site was situated in a public park, 24-hour security was provided for the duration of the excavation.

The plan shape of the feature was apparent at the interface between the A-horizon (topsoil) and subsoil, about 30 centimetres below ground surface. The predominant soil matrix of the feature was a mottled, medium brown, well-drained sand that was only slightly darker in colour than the subsoil (Figures 4.1 and 4.2). The plan shape was slightly elliptical, with the east-west axis measuring 2.4 metres and the north-south axis measuring 2.0 metres.

No post moulds were detected within the one metre wide buffer that was explored around the perimeter of the ossuary pit. On the north side of the feature, however, an overlapping complex of three small, sterile features was found (Figure 4.3), the purpose of which could not be determined. There were no posts or features observed on the floor of the ossuary.

Figures 4.3 and 4.4 illustrate two of the pre-existing disturbances to the ossuary. The most dramatic was the concrete footing for a fence post that had been placed deep within the north half of the pit. While auguring the hole for this post had led

Bones of the Ancestors: The Archaeology and Osteobiography of the Moatfield Site, edited by Ronald F. Williamson and Susan Pfeiffer. Archaeological Survey of Canada Mercury Series Paper 163.

Figure 4.1. Plan view of the south side of the ossuary pit when first exposed at subsoil level.

Figure 4.2. Profile of the ossuary pit from the modern ground surface to a depth of 45 centimetres.

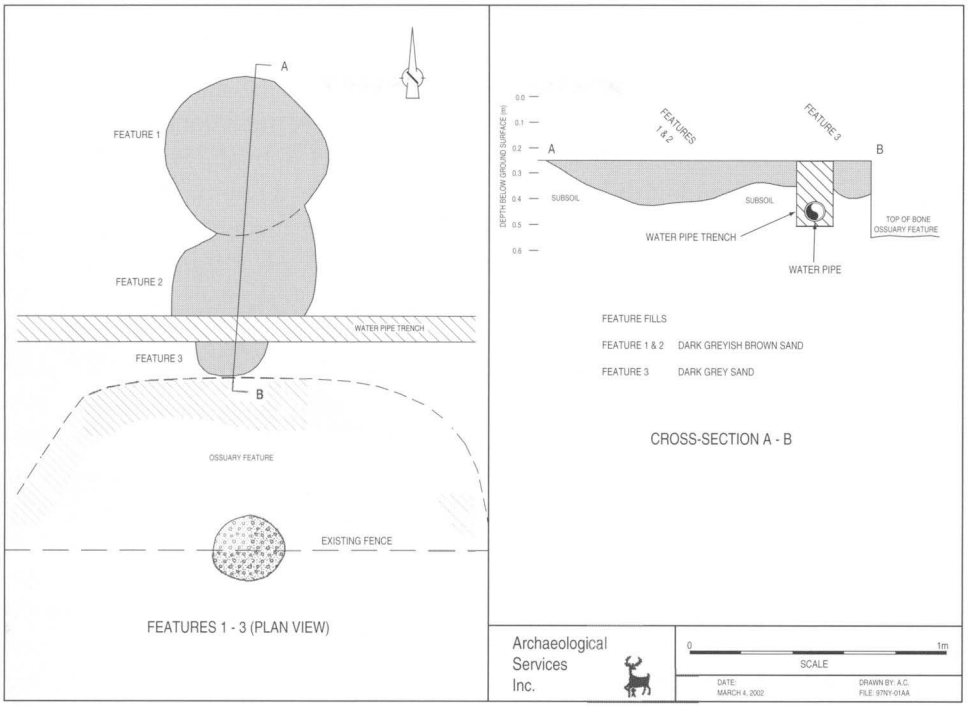

Figure 4.3. Plans of Features 1-3 to the north of the ossuary pit.

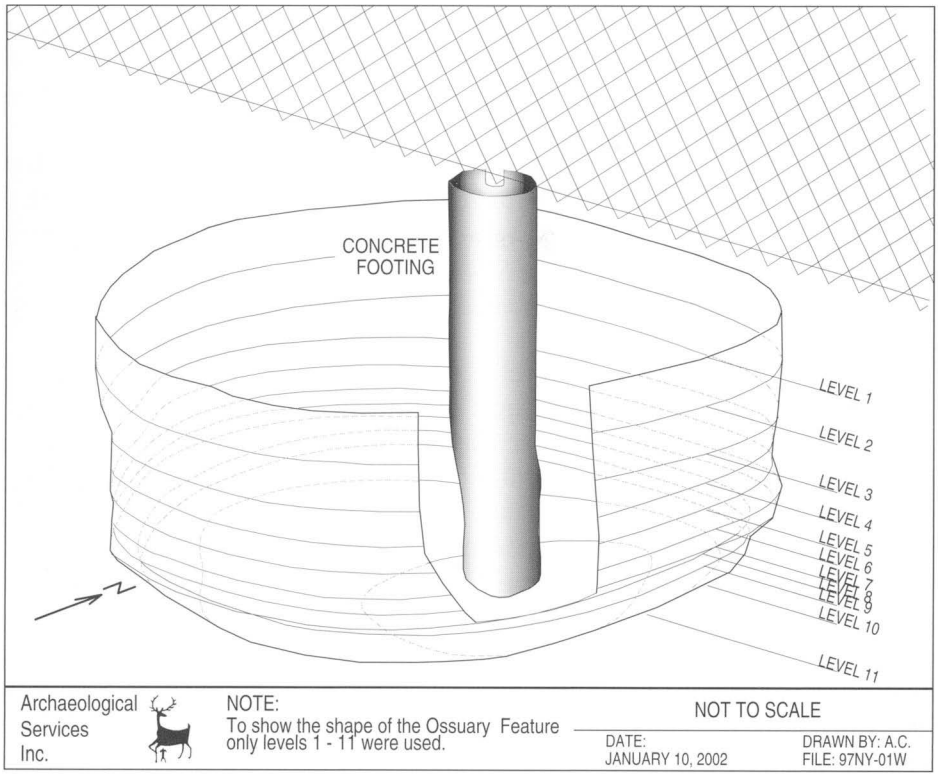

Figure 4.4. Isometric view of the ossuary pit as reconstructed from the excavation of Levels 1-11.

to the unearthing of skeletal remains, which in turn had led to the discovery of the village and ossuary (Williamson and Pfeiffer, Chapter 1, this volume), the pouring of concrete for the post also had a severe impact on the human remains, as many bones were embedded in the footing. A buried electrical conduit extending east-west was also found resting on top of the Level 1 bone. Fortunately, the installation of this conduit did not seem to have disturbed any of the remains. A buried water pipe for the field sprinkler system was also encountered 20 centimetres north of the northern limit of the ossuary feature. While it transected the feature complex, it had no impact on the ossuary.

Once the overlying topsoil was removed and the top of the ossuary was exposed, the size of the feature and the density of skeletal elements precluded an attempt to profile the entire feature to determine its depth and stratigraphic profile (Figure 4.5). It was clear that the feature had to be excavated in levels, at least initially, recording the plan view of the pit at each level. As it was not possible to excavate and record in either natural or arbitrarily set levels due to the density and randomness of elements within the bone deposit, the layers were exposed in approximate horizontal planes, mapped and removed when all visible skeletal elements had been exposed as completely as possible. Individual elements were mapped in all of the levels in which they were discernable. Large elements such as crania or hip bones, for example, may appear on the maps of more than one level. Starting at Level 8, however, the south-west quadrant of the pit was excavated to the floor in order to examine the inner profile of the lowest levels of the feature (Figure 4.6) and to provide enhanced access to the centre of the pit. It was excavated in the same manner as the upper layers with care being taken to co-ordinate depths for the subsequent excavation of the other quadrants. The northeast quadrant was excavated in the same manner starting at Level 9.

Once all of the plan views were drawn, the drawings were stacked and the shape of the pit could be reconstructed in three dimensions (Figure 4.4). The depth of the feature from the present ground surface was 1.95 metres, while the bone in the feature first appeared at a depth of 45 centimetres below ground surface. The pit had a slight downward slope from east to west with a mild lipping on the pit margins.

After the initial exposure of Level 1 (Figure 4.7), a strategy was devised to record the exact horizontal and vertical location of each skeletal element. As a tape measuring system was not practical given the complexity of the feature, a frame grid was constructed that could be placed over the entire feature in relation to a series of permanent exterior datum points. The frame of the grid was 2.6 metres by 2.2 metres with a 20 centimetre grid interval (Figure 4.8). Fishing line was employed for the mesh of the grid. An alpha-numeric code was assigned to each 20 centimetre grid square, using a letter for the easting and a number for the northing. A vertical datum was established along the bottom of the fence (above the ossuary feature) to allow for depth measurements to the recording grid each time it was lowered. Two permanent marks on the grid frame were used to plumb depths from the vertical datum, thus ensuring that the grid was placed in the same horizontal position regardless of the depth of the grid as the excavation progressed.

Figure 4.5. Exposing Level 1 of the ossuary (clockwise from left: Deborah Steiss, Glenn Penoyer, Andrew Clish and April DeLaurier).

Figure 4.6. Profiles of the southwest quadrant of the ossuary from Level 9 to Level 14.

Figure 4.7. Level 1 following complete exposure.

Figure 4.8. Beverly Garner (left) and Kathy Mills (right) using the recording grid to plot the positions of elements.

Since the grid was constructed over the feature, and around the fence post footing, it could not be removed until the excavation was completed. At each excavation level, the grid was placed as close as possible to the bones without touching them.

Since the soil matrix was sand, the excavation was conducted using small wooden tools, pallet knives normally used for oil painting and paint brushes. After the bones in each level were exposed they were mapped, with an identification or catalogue number, onto a piece of weather-proof mylar graph paper at a scale of 1:5 (Figure 4.9). Each bone was measured relative to the 20 centimetre grid over the feature. To record the depth for each bone, a measurement was taken from the grid to the bone. The depths of both ends of long bones were record-

Figure 4.9. Andrew Clish mapping remains using the recording grid.

ed while relatively small elements such as hand or foot bones and vertebrae were only measured once. These depths, along with bone identification and catalogue numbers, were noted on recording forms. In the case of articulated bones such as a vertebral column or a leg-foot, depths were taken at each end of the articulation. The depths to the top and bottom surfaces of skulls and other irregularly shaped bones were measured. Once the bones for each level had been mapped, they were photographed in colour print and slide film. Photographs were taken of each 20 centimetre grid square as well as all articulations, pathological bones, and recognizable bundles. After the photography was completed, the bones were removed.

As each bone was removed, it was placed in an individual paper bag with its own catalogue number. All mandibles and maxillae were wrapped in foil to preserve teeth within their sockets. Crania were removed with soil intact to prevent their fragmentation. Long bones, scapulae, sacra and hip bones were bagged individually, while smaller elements including individual tarsals, carpals, vertebrae, ribs and loose teeth were put in a bag for each 20 centimetre square grid unit. If there was an articulated vertebral column, hand or foot, all of the constituent bones were placed in a single bag and assigned one catalogue number. The individual labelling of each major bone and articulation allowed for their identification and mapping and enabled later analyses. It should be noted that due to time constraints, the Level 14 elements were not individually numbered.

Throughout the excavation, soil samples were taken from each level with the location of each sample being mapped.

ARTIFACT INCLUSIONS

A small number of fragmentary artifacts were found throughout the ossuary, including one ceramic pipe stem fragment and one ceramic vessel body sherd in Level 1, one piece of chert shatter in Level 9 and two ceramic vessel body sherds in Level 13. All of these pieces were thought to be random inclusions.

On the other hand, a complete ceramic effigy pipe was found on the floor of the ossuary adjacent to one of the first crania placed in the pit (Figure 4.10). Its maximum length and width are 60.5 and 31.3 millimetres, respectively. The height of the pipe is 43.1 millimetres, while the height of the bowl is 26.6 millimetres. The orifice length and width are 13.8 and 11.9 millimetres, respectively. The effigy, located on the back of its bulbous-shaped bowl is that of a turtle with its feet visible on the two sides of the bowl. The shell is depicted with three large incised ribs filled with vertical lines. A second similar series occurs just below the lip on the front of the bowl that would face the smoker (Figure 4.11). As the pipe was clearly a grave offering of considerable significance, it was re-interred with the same cranium on the floor of the new ossuary pit when all of the remains were reburied.

A small quantity of animal bone was recovered from throughout the ossuary in Levels 3, 4, 6, 7, 9, and 10. These were subjected to detailed analysis by Stephen Cox Thomas (1999). They include two Atlantic salmon (*Salmo salar*) vertebrae, one probable sucker (cf. *Catostomus* sp.) vertebra, a dentary and angular from a probable brown bullhead (*Ameiurus* cf. *nebulosus*)—perhaps the same fish—two American eel (*Anguilla rostrata*) vertebrae, an unidentified fish element, and six probable deer mouse or white-footed mouse (*Peromyscus* cf. *maniculatus* or *leucopus*) fragments.

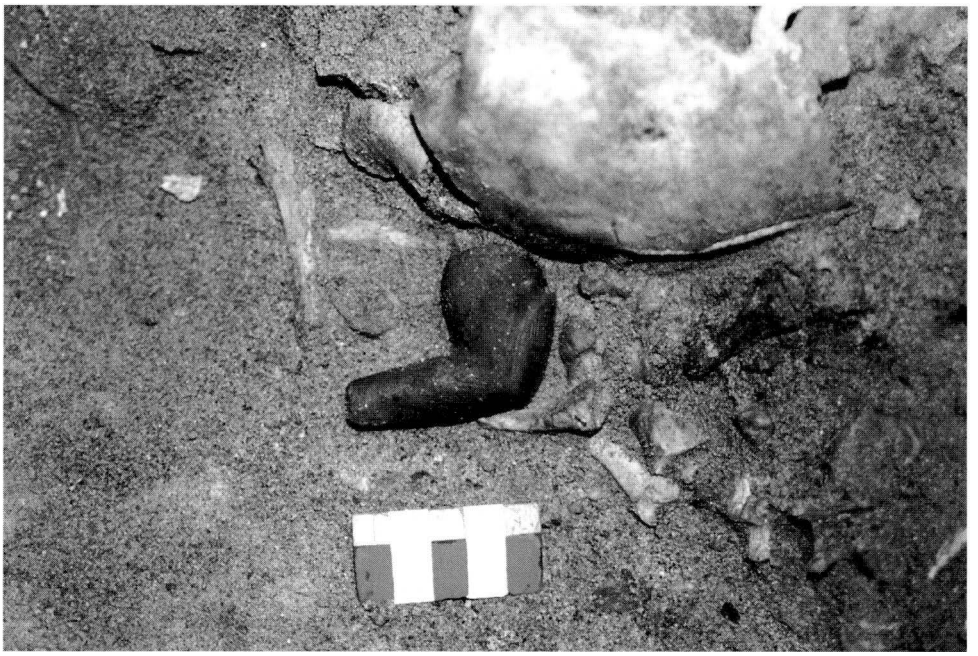

Figure 4.10. The effigy pipe on the floor of the pit adjacent to a cranium (Level 14-F5).

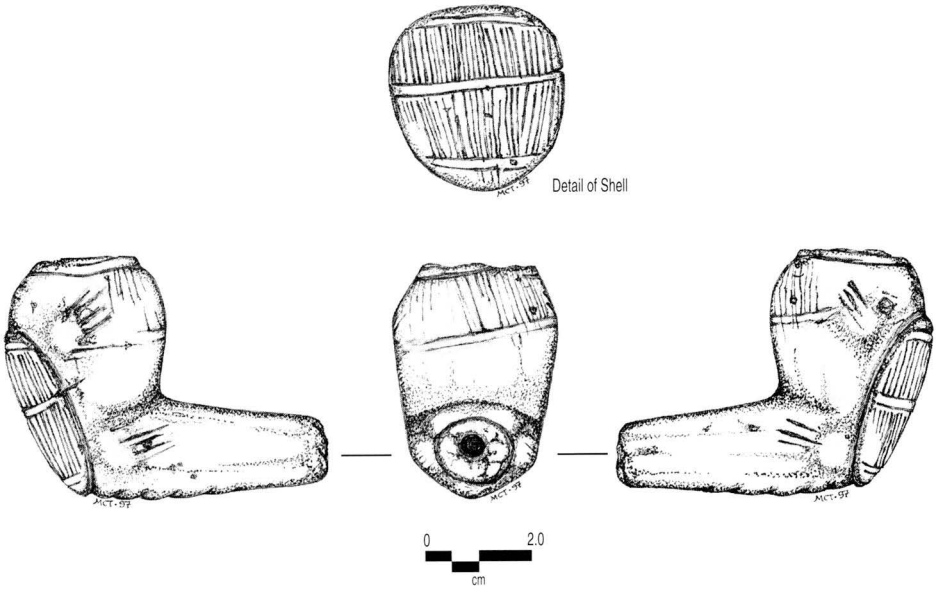

Figure 4.11. Views of the turtle effigy pipe from the floor of the ossuary.

A cranial fragment of an immature bear (*Ursus americanus*) was recovered as well. More specifically, it is the central and right portions of the supraoccipital, the right exoccipital with most of the occipital condyle, and the posterior third of the right parietal. The squamosal suture is unfused and the lambdoidal suture is only partly fused. It also has a wide cut mark on the lateral surface of the right occipital condyle approximately perpendicular to the vertebral column.

In his consideration of the ways in which these bone fragments had entered the ossuary, Thomas suggested that rather than any kind of food offering or stomach contents of secondary burials, most of the bone likely originated as random inclusions in the pit fill. This conclusion was based on the assumption that a diffuse layer of subsistence debris would have characterized the living surface of a semi-permanent settlement. He noted, however, that the relative scarcity of the non-human bone within the pit, suggested that the ossuary was located away from any refuse-generating or disposal areas. Based on the nature and extent of the site's surface scatter, it is proposed that the ossuary was situated on, or just outside, the village perimeter.

The mouse and bear cranial fragments, however, likely originated in a different manner. The six mouse bones were found in a cluster in section B-9, Level 7. Given that there was no duplication of elements, and no developmental traits suggesting the presence of more than one individual, and since neither deer mice nor white-footed mice burrow or hibernate, Thomas suggested that the remains represent an animal that had the misfortune to fall into the feature while it was open, a phenomenon that has been documented experimentally (Whyte 1991). Also, while Stahl (1982) has presented a case for the economic value of small mammals, including the deer mouse, Thomas concluded that the Moatfield mouse did not represent subsistence

remains as there is little archaeological evidence among regional Iroquoian sites for routine economic use of mammals smaller than the chipmunk.

The bear cranial fragment is too large to represent incidental refuse and may have been collected from a primary burial context for reburial or may have been included with a set(s) of remains at the time of the formation of the ossuary.

INTERPRETATIONS

Based on the presence of maxillae, the Moatfield ossuary contained at least 87 individuals of whom 58 were adults, 5 were adolescents, 17 were young children, 1 was juvenile, and 6 were infants (Merrett, Chapter 6, this volume). Yet, there were more crania than post-cranial elements interred in the ossuary. For example, only 36 pairs of hands and 47 left hip bones were recovered. Pfeiffer (Chapter 5, this volume) suggests that, at the time of ossuary burial, the remains were salvaged with a focus on the crania and with less attention paid, in many cases, to retrieving peripheral elements.

The analysis of the structure of the ossuary, while incorporating the observations recorded during the excavation, began with the preparation of a series of maps that depict the remains within the ossuary at the various recorded levels. The map series, prepared using AutoCad®, include:

A4.1 - base maps for each level, which show all of the elements that were numbered and drawn in the field for that layer;

A4.2 - base maps with colour highlighting of skulls, mandibles, long bones, hip bones and sacra that facilitate the identification of potential patterning among major elements;

A4.3 - the locations of all identified bundles within the pit;

A4.4 - the locations of infants for each level, where they were present;

A4.5 - the articulations that were identified throughout the ossuary;

A4.6 - the location of all crania (not including mandibles) categorized by age and sex;

A4.7 - the association between crania (by age and sex) and sacra;

A4.8 - the locations of all hip bones (with the exception of matching pairs), categorized by age and sex in 3-D plan and profile;

A4.9 - the locations of all identified matching pairs of hip bones, including 3-D plan and profile views of these pairs;

A4.10 - the locations of all identified pathological elements;

A4.11 - a series of 3-D plan and profile views of the formation of the ossuary using crania and femora; and

A4.12 -a series that shows a profile of the pit with the fence post footing and electrical conduit, a profile of the pit showing crania and femora, a profile of the pit showing crania, and a profile and plan of all crania, femora and hip bones together.

A database identifying all of the labelled elements in the drawings by level was prepared as well. The database provides a description, sex identification and age class for each labelled skeletal element. Using this resource, researchers will be able to undertake further associative tests using the comprehensive data included in the drawings and database. All of the map series and the database are reproduced on the CD-ROM accompanying the volume.

Once all of the maps and the database had been produced, a series of meetings was held to identify and interpret the depositional patterns apparent in the pit. These meetings were attended, at various times, by Peter Carruthers, George Clark, Andrew Clish, Beverly Garner, Dean Knight, Kathy Mills, Susan Pfeiffer, Tracy Rogers and Ron Williamson. The observations and conclusions reached in these meetings are presented below.

Taphonomy

Although there was not enough time to undertake a systematic search for signs of carnivore or other suites of taphonomic alteration, it was clear that the bone had not been exposed to the elements for any significant length of time, either in primary or secondary burial contexts. All remains were scanned for signs of post-mortem alteration (i.e., cutmarks, rodent gnawing or bird pecking, weathering), but such modifications were noted on only three bones (Pfeiffer, Chapter 5, this volume). Relevant to the primary burial context, the ethnographic record for the seventeenth century Huron suggests that there was a high population of mice within villages (Tooker 1964:41, 64). The fact that Huron deceased were covered in robes (Tooker 1964:130) before transport to the village cemetery and then placed above the ground on scaffolds might have afforded some protection for the bodies from birds and carnivore activity. The near absence of any alteration, however, suggests that many, if not most, of these individuals may have come from buried primary contexts. In the case of the ossuary setting, if the deposition of bones had been undertaken over a relatively short period of time, there would have been little opportunity for alteration to the bone to have occurred. Most long bones were unbroken and most skulls were cracked but not shattered. The bone tissue was neither chalky nor brittle. This suggests that the bodies were rarely, if ever, exposed to direct sun and weather extremes prior to ossuary construction, and that they were carefully placed within the ossuary pit and left undisturbed.

Bundle Inclusions (Map Series A4.3)

While a cursory review of the Series A4.1 and A4.2 maps suggests that the deposit is that of randomly deposited secondary remains, a more detailed examination reveals the presence of numerous bundles throughout the pit (Map Series A4.3; Figures 4.12 to 4.14). The definition of a "bundle" employed in this analysis is a set of closely spaced parallel long bones (both arms and legs) spatially associated with a skull. Additional bundles, consisting of sets of long bones but lacking clearly associated crania, were also mapped. The skulls with which these bundles were likely associated were probably situated nearby on the same or adjacent levels, but were too distant from the rest of the bones to be assigned confidently to the bundles. It should be noted that parallel arrangements of long bones consisting of some or all of the arm or leg bones of an individual, or more rarely of more than one individual, were also documented but were not mapped as bundles.

One of the bundles consisted of only partially decomposed remains at the time of burial—the articulated torso was found in Level 2 (# 319 - E9-F9; Figure 4.15), the long bones in Level 4a (E9-F9) and a possibly associated skull in Level 2 (#17 - F10).

Most infant remains (77%) and infant bundles had been placed within 40 centimetres of the edge of the pit (Map Series A4.4), although some infant remains were placed more centrally in lower layers (Levels 10-14). The recognizable juvenile and adult bundles also seem to have been located, for the most, near the perimeter of the pit (Map A4.3.A).

It was also clear that most elements, whether individually or in bundles, had been placed horizontally within the pit (Map Series A4.11.B1-B3; Map Series

Figure 4.12. Infant cranium with associated long bones nested inside (Level 7-B9).

Figure 4.13. Juvenile bundle in Level 7 (F3).

Figure 4.14. Adult bundle in Level 14 (G6).

Figure 4.15. Articulated torso in Level 3 (E9).

A4.12.A2 and A4). There were very few long bones, for example, that extended through more than two levels. The obvious exception to this pattern was the vertical bundle in Levels 2-6 (B6), situated at the west edge of the pit (Figures 4.16 and 4.17). Also, the bundles or isolated elements within the pit do not appear to have been oriented in any particular direction.

In terms of the burial practice that can be inferred from these observations, it is suggested that most sets of remains, had they been wrapped for transport to the ossuary, were unwrapped and deposited in the pit in a manner that allowed for the separation of elements. In the case of recognizable bundles, either they were placed while still wrapped, or their placement near the perimeter of the pit at each level, adjacent to the bones that were already deposited, inhibited the separation of their individual elements. The fact that very few bones extended across more than two levels also suggests that mixing of the remains with a pole, as was reported by Brebeuf in his account of the Feast of the Dead at Ossossané, is not likely to have occurred in this case.

Articulated Elements (Map Series A4.5)

The nature and locations of articulated elements within the ossuary also offered insight into the formation of the pit. The amount of time that passes between the death and primary interment of an individual and their disinterment and secondary reburial may be explored or quantified on the basis of forensic data concerning decomposition.

The rate of decomposition is dependent upon a suite of environmental factors, including place and season of death and postmortem treatment of the body. A winter burial, for example, would have resulted in chilled remains, which would

Figure 4.16. The uppermost portion of the vertical bundle exposed in Level 3 (B6).

have delayed decomposition of the body. If the same individual had been interred in a shallow grave under the floor of a longhouse or sweat lodge, however, the remains would have undergone accelerated decay due to the higher ambient temperature and may have been completely skeletonized within one year. On the other hand, burial at depths greater than 60 centimetres can inhibit insect activity and thereby delay soft tissue decomposition. Indeed, experimental studies indicate that complete skeletonization of a corpse might take two to three years if the individual had been buried below the frost line (Rodriguez 1997:460-461). In the southern Ontario climate, vertebral columns from deeply buried remains may be incompletely decomposed for up to ten years (Tracy Rogers, personal communication 2002).

Prolonged exposure in the dry, heat of summer, as would be the case with primary placement on a scaffold, would also aid in preservation. It is even possible

Figure 4.17. The exposure of the vertical bundle at Level 6 (B6).

that the soft tissue of the hands or feet of an individual would have desiccated, as there is less tissue but strong ligaments connected with these elements. Similarly, the exposure of an individual on the upper rungs of a longhouse (during the winter) could potentially have resulted in the smoke curing of the remains, thereby delaying decomposition. Wrapping an individual in tanned hides would be unlikely to affect decomposition rates significantly, although such wrappings could have held the bones together more tightly. Hides would also have reduced the effects of weathering on remains placed on scaffolding.

There are differences in the patterns of articulated elements between Levels 1-3 and the lower levels. Levels 1 to 3 (the upper levels) appear to have contained more articulations that require soft tissue to have been present at the time of interment (e.g., the arm-hand combination in Level 1 [Figure 4.18], the torso in Level 2

Figure 4.18. Articulated left forearm and hand in Level 1 (J7).

[Figure 4.15], and the hands in Level 3). Two mandibles that were still articulated with their crania were also found in Level 1 (e.g., Figure 4.19). This phenomenon was not found anywhere else in the ossuary. It was expected that the majority of the mandibles would be separated from the crania since the temporomandibular joint is one of the first to decompose. The articulated ribs in Level 2 (Figure 4.15) is another example of a recent death, as the torso is also among the first areas of the body to decompose. Although some hand and foot articulations (e.g., Figures 4.20 and 4.21) were still present in Levels 4-14, most of the identified articulated elements in the lower levels of the pit would not have required as much soft tissue to have remained joined (e.g., segments of vertebral columns [Figure 4.22]). There were 17 vertebral articulations present within the pit, more than any other category of skeletal articulation. Perhaps not surprisingly, there were few articulated hip bones with sacra or vertebral-sacral joints, as they also decompose quickly.

The greater number of articulations in Levels 1 to 3 requiring at least some soft tissue preservation suggests that, in relation to the time of the ossuary burial event, the more recently deceased were placed near the top of the pit. Indeed, the articulated cranium-mandible and adjacent cervical-thoracic vertebral series (#7 and #57) in Level 1, represent one of two likely candidates for the most recent death in the ossuary population (Figure 4.23). The other likely candidate is the articulated torso and bundled long bones in Levels 2 to 4a (Map Series A4.3.2-4; Figure 4.15).

Figure 4.19. Articulated mandible and cranium (lower right foreground) in Level 1 (D4).

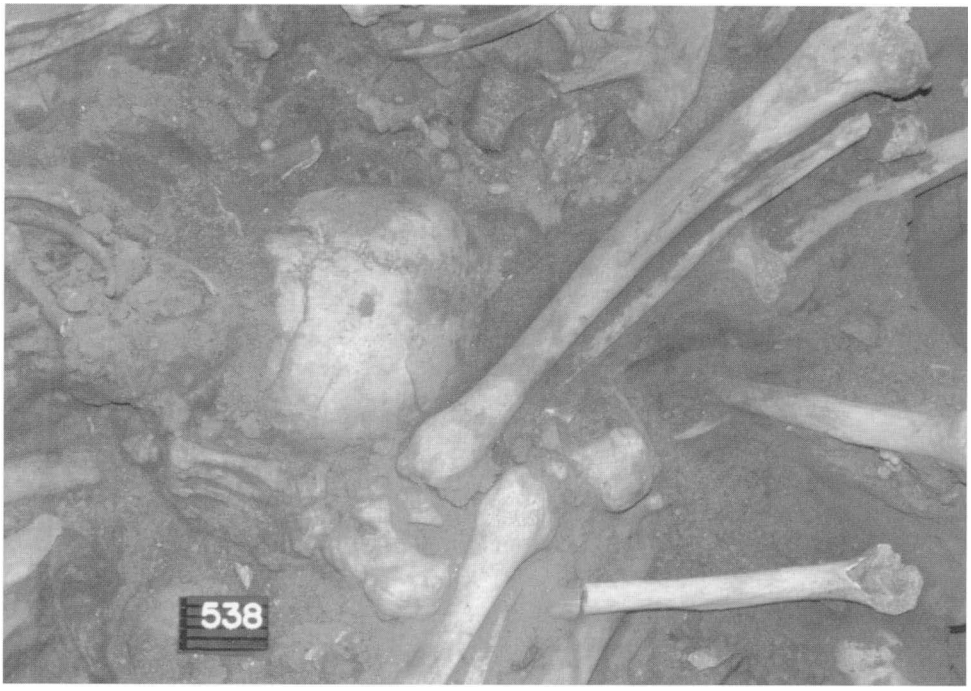

Figure 4.20. Articulated lower leg and foot in Level 5 (D9-10).

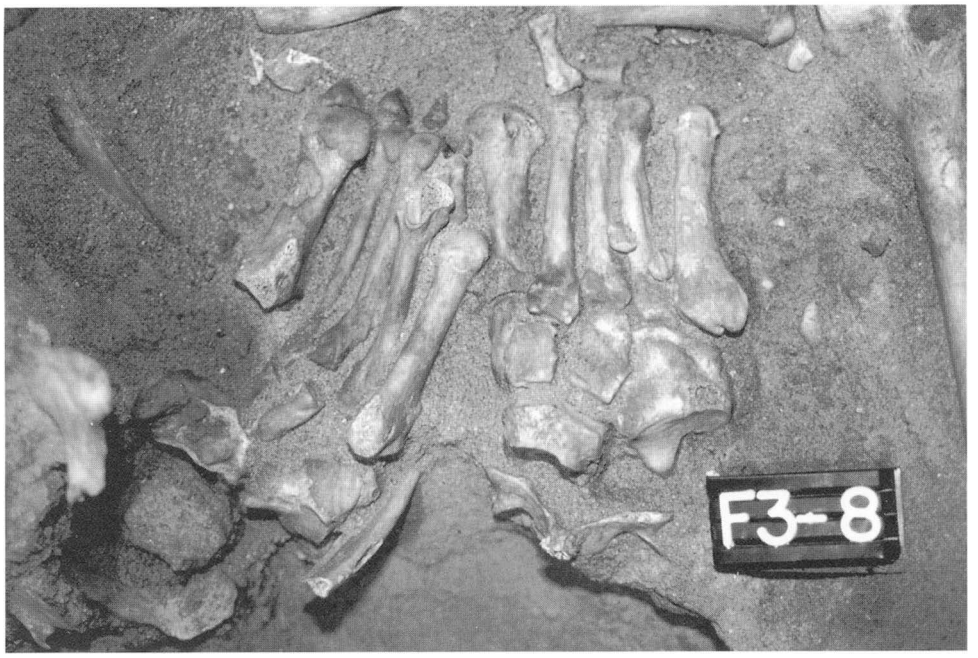

Figure 4.21. Articulated feet in Level 8 (F3).

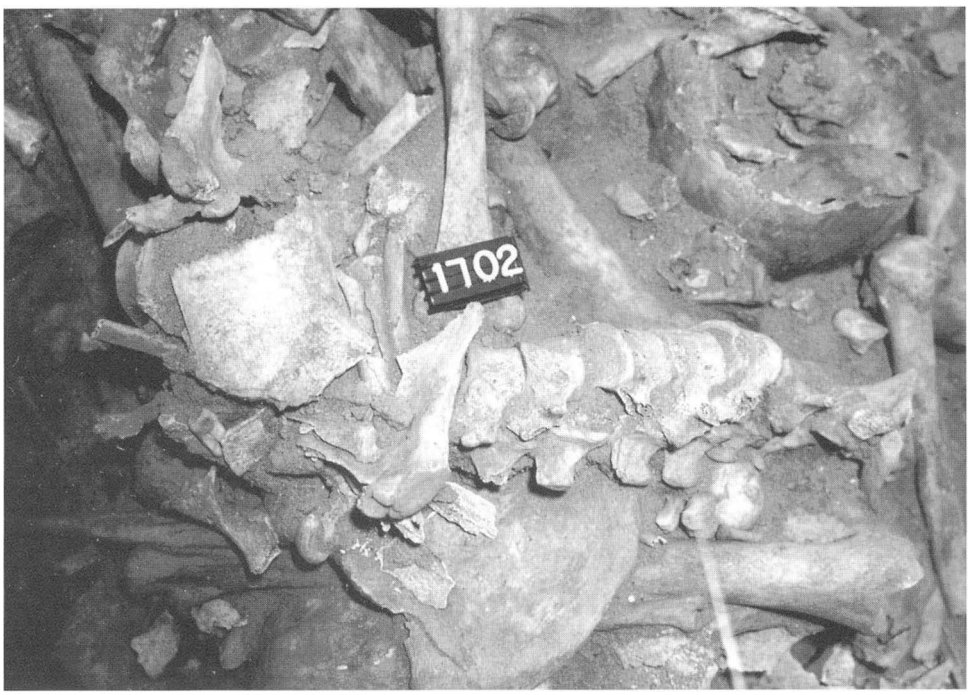

Figure 4.22. Articulated segment of a vertebral column in Level 8 (D5).

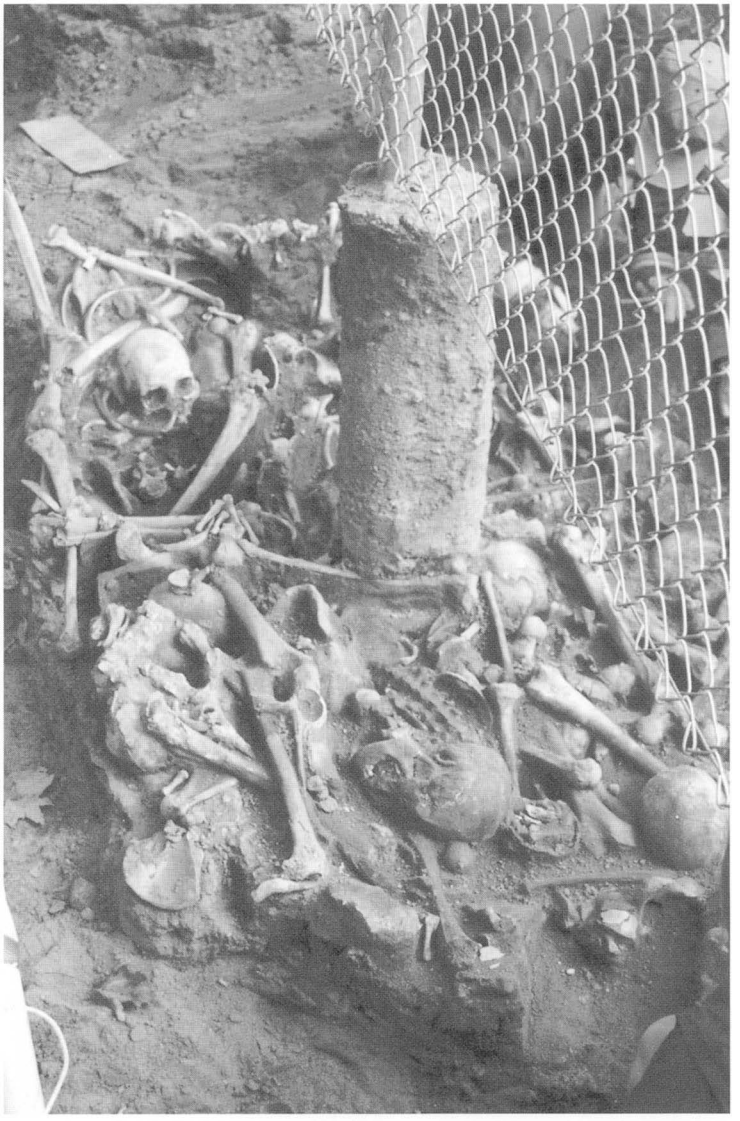

Figure 4.23. Articulated mandible and cranium and nearby segment of a vertebral column in Level 1 (D4-E4).

Placement of Crania (Map Series A4.6 and A4.7)

The maps in Series A4.6 illustrate all of the visible and mapped crania (not including mandibles) by age and sex for each level. The age categories that were employed include infant (0-3 years), juvenile (3-12 years) and adult. There appears to have been a similar distribution of the crania of all age grades and both sexes throughout the pit, perhaps reflecting deposition in family groups.

Level 1 had more skulls visible relative to all other levels (25 or 28% of all crania). It was not possible, however, to assess whether there were sufficient infracranial elements in the first two levels to account for all 25 individuals.

Also, some clustering of skulls, either in pairs or small groups, was evident throughout the pit, perhaps again reflective of deposition in family groups or re-interment of individuals from primary burial features such as semi-subterranean sweat lodges. This clustering is clearly illustrated in Map A4.12.3 in profile (also Figures 4.24 and 4.25). Such clustering may also indicate manual manipulation of some elements after the unwrapping and deposition of the bundles, assuming that the bones of several individuals would have otherwise become spatially separated on a random basis.

Figure 4.24. Cluster of crania in Level 1 (E11).

Figure 4.25. Cluster of crania in Level 9 (H8).

The Series A4.7 maps depict the associations between crania and sacra, an association first noted by the field crew. If this particular association of elements is non-random, they too will have been manually arranged. All visible and mapped crania (by age and sex) and sacra are depicted for each level with direct associations (i.e., elements touching) shown in bolded full colour, while isolated elements are shown in outline. While sacra were evenly distributed throughout the pit and were associated with hip bones in only three cases, 47% of them (24 of 51) were directly associated with skulls, while 26% of the skulls (23 of 87) were directly associated with sacra (e.g., Figure 4.26). The crew regularly documented the position of 12 types of bones, nine of them paired (for a total of 21 bone categories). If the bones had been distributed randomly, an approximate rate of 5% for skull-sacrum contact would be expected.

It is suggested that the concavity on the anterior surface of the sacrum was frequently used to hold or position crania during the unpacking of bundles. A comparable practice, also observed frequently, was the use of immature cranial fragments to hold the long bones of infants in bundles.

Placement of Hip Bones (Map Series A4.8)

Map Series A4.8 shows the locations of all mapped hip bones (with the exception of matching pairs) within the ossuary, categorized by age and sex. The category "juvenile" was defined for the purposes of this series as 0-12 years. The elements are shown in plan view in Map A4.8.1 and in profile view in A4.8.2.

Figure 4.26. Cranium-sacrum association in Level 3 (J6-7).

No intentional patterning of hip bones was apparent, given their relatively even distribution throughout the ossuary. Almost all of the elements had been placed horizontally, with few extending beyond one level.

Map Series A4.9 illustrates all matching pairs of hip bones, which were identified on the basis of morphological analysis. The pairs tended to be found fairly close to one another (i.e. within 10 centimetres of each other vertically and within 20 centimetres horizontally). In two cases, however, the elements were separated by greater distances (Map A4.9.B). It is interesting to note that pairs were found within Levels 1-3 and Levels 4-14, but none extend across the Level 3-4 boundary.

Location of Pathological Specimens (Map Series A4.10)

With the exception of the femur that had undergone dramatic cortical bone remodelling expansion (Pfeiffer, Chapter 7, this volume) and was positioned on top of the deposit in a north-south orientation (Figure 4.27), no spatial patterning of pathological elements was apparent throughout the pit. While the individual vertebrae that exhibited lesions characteristic of tuberculosis were not mapped, no segregation of individuals exhibiting abnormal bone features was otherwise noted within the ossuary.

Figure 4.27. The pathological femur on the uppermost surface of Level 1 (E8).

The Formation of the Ossuary (Map Series A4.11 and A4.12)

The field crew noted that there was a clear disjunction between Levels 3 and 4. There was significantly more soil and less bone between the two layers, with the exception of the long bones and hip bone in Level 4a (Bundle #319). The crew also noted that the bones were generally more fragmented on and below Level 4, a fact that was attributed to compaction. The extra soil and fewer bones between the two layers appear to have been the only physical signs of the pit's episodic formation, since the edge and interior of the pit did not exhibit any evidence of more than one opening. The disjunction is most evident on Maps A4.12.2- A4.12.4

In terms of skeletal evidence for the partition, there were no hip bone matches across the Level 3- 4 boundary. Levels 1 to 3 also exhibited a higher frequency of skeletal articulations that would have required significant soft tissue preservation at the time of deposition, unlike the elements in the lower levels. Also, the remains of the most recently deceased person in the ossuary were found in Level 1.

The vertical bundle that was situated near the west edge of the pit, on the other hand, extended from below Level 6 to Level 2. Its vertical position would suggest that the two main deposition episodes occurred in quick succession, maintaining the vertical bundle in position as bone was laid around it in the upper layers. It is not likely that the bundle was added subsequent to the main deposits, since it was surrounded by bone in the upper layers and there was no evidence that a separate hole had been excavated into which it was placed.

Another series of maps (A4.11) shows the 'filling' of the pit as a series of consecutive drawings, in both plan and profile, looking east and using skulls and femora. The series begins with Level 14 and shows the addition of multiple sets of remains in sequence.

In general, this ossuary was comprised of carefully placed, unbroken elements that, nevertheless, were so tightly packed that it was not possible, in most cases, to separate the bones into individuals. It appears that there was an effort to maximize packing density as illustrated by long bones and vertebral segments curving around the wall of the pit. At the same time, the pattern of breakage of the bones is not consistent with their having been stepped on, and where bones are broken, the parts are juxtaposed. The packing therefore, at least of the upper layers, had to have been undertaken with care not to damage the bones, probably from outside the pit.

More specifically, it is evident from these maps that for Levels 14 to 8, the filling of the pit occurred from a small area in the north-central sector of the pit that was bereft of bone and that perhaps had accommodated the person(s) placing the remains. Levels 7 through 1, on the other hand, appear to have been filled from the rim of the pit. There was, nevertheless, generally less bone placed in the northern sector of the pit until Levels 2 and 1 (e.g., Figure 4.28). It is also evident from the initial levels that small groups of two to three individuals were placed at one time. It is unfortunate that there was not sufficient laboratory time to separate the Level 14 and 13 bone into individuals.

The proposed sequence for pit formation, therefore, involved the placement of the pipe (perhaps with the associated cranium), the filling of the centre of the pit

Figure 4.28. The full exposure of Level 6.

(Level 14), the placement of remains in the northeast sector (Level 13), additional placement of remains in the northeast as well as the southwest sectors (Level 12); gaps filled from the north (Levels 11-9), and the remaining levels filled in from all sides, including the placement of the vertical bundle, although the north edge remains relatively thin until Levels 3 to 1. One of the last acts may have been to place the diseased femur in a deliberately prominent north-south alignment on the surface of the pit.

SUMMARY

While it is not known whether the Moatfield settlement was palisaded, its ossuary was placed near the perimeter of the site. Only a few sterile features were noted within a one metre radius of the pit and there was no evidence of an external or internal scaffold. With the exception of the ceramic turtle effigy pipe placed on the floor of the pit, no grave goods were recovered.

The bone taphonomy suggests that most of the remains had come from buried primary contexts and that their secondary burial within the ossuary occurred in the absence of any significant period during which the remains were exposed. The absence of cut marks on the bones suggest that the disarticulation reflects natural decomposition only.

It appears that the remains were deposited in small groups, perhaps families. While some bundles were clearly evident, it is suggested that most remains were placed unwrapped, presumably without concern that the elements would become separated from one another. There was no evidence of deliberate mixing of the remains. There

was evidence, however, of manual arrangement of some elements, in particular the crania. Almost 30% of the crania were placed in Level 1 and many of the remainder were clustered in groups of two to four skulls throughout the pit, without apparent reference to age and sex. Some crania may also have been placed using the concave surface of a sacrum to maintain their position since almost 28% of the skulls were found in direct association with sacra. Yet, there appears to have been no pattern in the orientation of the crania throughout the pit.

While there was no evidence that the pit was re-opened once it had been filled, it is suggested that the remains had been placed during at least two episodes—which may have been separated by only a very brief period of time. While Level 1 contained the most recently deceased individual in the ossuary, Levels 1 to 3 also contained many articulated elements that suggest soft tissue was present at the time of deposit. Levels 4 to 14, on the other hand, contained more compacted bone and articulated elements that would not have required as much soft tissue to maintain their anatomically correct position. Also, there were no matches in pairs of hip bones across the Level 3-4 boundary. The physical evidence for the two zones consisted only of additional soil and less bone between Levels 3 and 4. Whatever the duration between these two episodes, the remains of one individual, found in a vertical bundle near the west edge of the pit and extending across Levels 6 to 2, suggest that the boundary was not necessarily of profound importance. It also was not of the nature and extent of the "false floors" found within other ossuaries (Williamson and Steiss, Chapter 3, this volume).

Finally, while there was no evidence that those individuals who had suffered either severe trauma or significant disease were segregated within the pit, the placement of a visibly altered femur on the surface of the pit, in a north-south orientation, suggests that the leg was from a venerated individual or that the disease and/or suffering of the individual was honoured or otherwise noted on his reburial.

ACKNOWLEDGEMENTS

We are indebted to Debbie Steiss, Beverly Garner, and Kathy Mills for their insight into the nature of the construction of the ossuary and for their helpful comments on an earlier draft of this chapter. Peter Carruthers and Dean Knight also provided useful input based on their experience at other ossuaries. The photographs in this chapter were taken by Beverly Garner and Kathy Mills. Monicke Thibeault provided the drawings of the turtle effigy pipe.

The discussions regarding the articulated elements at Moatfield were informed by Tracy Rogers, of the University of Toronto at Mississauga. Based on her expertise in forensic anthropology, she provided comments regarding the articulations in the pit and the variables responsible for the decomposition of bodies in various cultural and natural environments.

REFERENCES CITED

Rodriguez, W.C. 1997. Decomposition of Buried and Submerged Bodies. In *Forensic Taphonomy: The Postmortem Fate of Human Remains*, edited by W.D. Haglund and M.H. Sorg, pp. 459-468. CRC Press, Boca Raton.

Stahl, P. 1982. Small Mammal Remains in Archaeological Contexts. *American Antiquity* 47(4):822-829.

Thomas, S.C. 1999. Moatfield Burial Pit 1, Catalogue of Material Submitted for Zooarchaeological Analysis and Notes: Burial Pit Assemblage. Report on file, Archaeological Services Inc., Toronto.

Tooker, E. 1964. *An Ethnography of the Huron Indians, 1615-1649*. Bureau of American Ethnology Bulletin 190. Smithsonian Institution Press, Washington, D.C.

Whyte, T.R. 1991. Small Animal Remains in Archaeological Pit Features. In *Beamers, Bobwhites, and Blue-Points*, edited by J.R. Purdue, W.E. Klippel, and B.W. Styles, pp. 163-176. Illinois State Museum Scientific Papers 22. Springfield, Illinois.