Indicators for Interactions from Legacy Worked and Unworked Faunal Assemblages from the Quackenbush Site, a Late Woodland Site in the Kawartha Lakes Region, Ontario

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Abstract. The Quackenbush site (BdGm-l) is located in what is now Ontario, at the northeastern limit of the area known to have been occupied by the Huron-Wendat pre-dispersal and visited by the Anishinaabeg of the Canadian Shield. Excavations of portions of the site half a century ago uncovered parts of three longhouses and midden deposits. We generated the data presented here as part of a larger scholarly effort aimed at analyzing and writing up all of the material culture from the site. We investigate ways in which faunal remains can be used to inform on the nature of the activities conducted at the site and to trace past interactions between the site's occupants and people living on the Canadian Shield and in the St. Lawrence Valley at that time, finding tentative evidence for the former and more conclusive evidence for the latter. We hypothesize that people originating from the St. Lawrence Valley were present at the Quackenbush site and making bone artifacts as a way of maintaining or negotiating identity.

Résumé. Le site Quackenbush (BdGm-1) est situé à la limite septentrionale de ce qui correspond à la région ontarienne occupée par les Hurons-Wendat avant leur dispersion historique et visitée par les Anishinaabeg du Bouclier canadien. La fouille partielle du site il y a un demi-siècle a révélé la présence de trois maisons-longues et de dépotoirs. Les données présentées ici proviennent d'un large effort collectif visant l'analyse et la publication des données portant sur la culture matérielle du site. Nous y examinons de quelles manières les assemblages fauniques travaillés et non travaillés peuvent être utilisées pour documenter les activités menées sur le site et pour retracer les interactions entre les habitants du site et les populations autochtones du Bouclier canadien et de la vallée du Saint-Laurent à cette époque. Les données sont plus éloquentes pour les secondes que pour les premières. Elles semblent indiquer que des individus provenant de la vallée du Saint-Laurent ont été présents au site Quackenbush et y ont fabriqué des objets en os dont les styles ont servi à maintenir ou à négocier leur identité dans leur nouvelle communauté d'accueil.

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ARTICLE

The Quackenbush site (BdGm-1) was partly excavated half a century ago (Carruthers 2015), revealing portions of three longhouses and several midden deposits, but no site report was published. We generated the data presented here as part of a larger scholarly effort aimed at analyzing and writing up all of the material culture from this legacy collection. Because of the geographic position of the Quackenbush site, between areas traditionally ascribed to the Wendat and to the St. Lawrence Iroquoians, we may expect its occupants to have experienced contact with St. Lawrence Iroquoians. Similarly, because the site is located just south of the southern limit of the Canadian Shield, we may expect the occupants to have had interaction with groups living there. In this paper, we address the question "How can the faunal assemblage from the site (worked and unworked) inform us about the activities carried out at the site itself and of its inhabitants' interactions with other groups?" Given that the cultural affiliation of the material is uncertain, we have been mindful to adopt an approach that prevents this from becoming a circular argument.

Ethnicity and Material Culture

Connections between Iroquoian and Algonquian groups are well known from both archaeological and historical sources (Chapdelaine 1984a; Fiedel 1999; Gaudreau 2011; Guindon 2009; Moreau 1998; Petersen 1990; Plourde 1999; Sioui and Labelle 2014; Tremblay 1996; Trigger 1976; Williams 2018; Williamson et al. 2016; Wonderley 2009). Williamson (2014) cites multiple examples of fourteenth- and fifteenth-century villages within the pre-dispersal territory of the Huron-Wendat that show a mix of Wendat and Algonquian traits. The Huron-Wendat and the Algonquian people of the Nipissing, Ottawa, Ojibway, and Algonkin nations were engaged in an alliance since the late thirteenth century (Sioui and Labelle 2014). The Huron-Wendat were regularly trading maize in exchange for hides, meat, or canoes with northern Algonquian tribes such as the Nipissing and were described by the French as the "granary of the Algonquians" (Tooker 1964:25; Trigger 1976:166). As Fox and Garrad (2004:128) note, we know from Samuel de Champlain and Jérôme Lalemant that

> Ottawa valley Algonkins and the Tontthrataronon Algonquians wintered annually among the Huron Rock Nation and that the Nipissing wintered regularly with the [Huron] Bear Nation

in the seventeenth century. Likewise, a branch of the Weskarini Algonquians from the Ottawa Valley, created after the inclusion of St. Lawrence Iroquoian refugees, so frequently traded with the Huron-Wendat that they often needed to overwinter at or near the latter's villages and became better known by their Huron-Wendat name: the Onontchataronon (Fox 2016; Fox and Pilon 2016; Pendergast 1999a, 1999b). The oral tradition of the Mississauga Anishinaabeg from Curve Lake, near the Quackenbush site, also contains similar stories of mixed villages (Williams 2018, 2020).

Connections among the Huron-Wendat, St. Lawrence Iroquoians, and Haudenosaunee (especially the Kanien'kehá:ka, or Mohawk), before and after the dispersal of the St. Lawrence Iroquoians, have been the subject of extensive research (see Birch and Hart 2018; Hart et al. 2016, 2017, 2019;

Jamieson 2016; Kuhn 2004; Lainey 2006; Lesage et al. 2018; Loewen and Chapdelaine 2016; Lozier 2014; Ramsden 1990, 2016a, 2016b, 2016c; Richard et al. 2018; Stewart 1999; Warrick and Lesage 2016; Wonderley 2005; see also Chapdelaine, this volume). Archaeological examples will be given in the discussion section below. Evidence of contacts also comes from historical testimonies, such as Franciscan missionary Denis Jamet reporting in 1615 about a Huron-Wendat who said he had once seen a village in the St. Lawrence Valley, which could indicate this man was himself of St. Lawrence Iroquoian ancestry (Trigger 1976:226). Likewise, Huron-Wendat oral tradition contains mentions of people saying they were going back to their ancestral lands when the Huron-Wendat moved from Ontario to the Quebec City area in the middle of the seventeenth century (Richard 2016). This could be interpreted as evidence for St. Lawrence Iroquoians who went to live with the Huron-Wendat, but who kept the memory of their former identity and homeland. This will also be further discussed below.

In searching for connections on the basis of the faunal material, we potentially have three interrelated lines of evidence available to us: 1) presence of species that can be argued, based on biogeography, to have been traded in from other areas; 2) selective presence of skeletal elements that may indicate that only parts of the skeleton were brought to the site; and 3) comparison with worked assemblages from other sites to indicate items that appear more frequently on the Shield or in the St. Lawrence Valley than in the pre-dispersal territory of the Huron-Wendat. This last comes with several caveats relating to what Latta (1987) terms "cross-fertilization," as we will discuss further down.

Background to the Site

The Quackenbush site is located in the Kawartha Lakes region of Ontario, in what is today Dummer Township (Figure 1), at the northeastern limit of the pre-dispersal Huron-Wendat territory and just south of the southern limit of the Canadian Shield, occupied by Algonquian speakers. The site was partially excavated over multiple seasons by multiple institutions between 1955 and 1975 (Carruthers 2015).

In the literature, it is either stated or implied that the Quackenbush site was occupied by Iroquoian people, specifically those of the Huron-Wendat, and that it is a village (Noble 2006; Ramsden 1977; Williamson 2014). Ramsden (1977:Figure 109) places the site around 1400 CE. Williamson (2014:14) assigns a date in the fifteenth century. The recent typological and attribute analysis of the ceramic rimsherds from Quackenbush by Robert Wojtowicz (2012) showed exclusively Iroquoian types, including 67% of the type Black Necked and 15% of the type Lalonde High Collar, both of which are common on Huron-Wendat sites. One rimsherd

> exhibits an opposed collar motif crossed by annular punctates. The annular punctates may represent an early incorporation of a later eastern style motif into the region [Wojtowicz 2012:9].

The ceramic attribute analysis by Ramsden (1977:174) showed that the Quackenbush rimsherds cluster with those from the Hardrock site, located farther up the Trent River system, on the north shore of Balsam Lake. He cautions about small sample sizes for both sites, particularly Quackenbush. Warrick (2000:452) cites a personal communi-

Figure 1. Location of the Quackenbush site. The southern limit of the Canadian Shield also approximately delimits historical Algonquian and Huron-Wendat territories. (Source: modified from Google Earth.)

cation from Peter Carruthers in 1988 that the people from the Quackenbush site controlled a major portion of the stone axe trade, and Warrick suggests, citing Trigger (1976:166–174), that the inhabitants may have exchanged dried maize, tobacco, nets, pottery, and axes with neighbouring Algonquian groups in return for dried fish and meat, furs, and deer hides derived from the Canadian Shield.

Background to the Faunal Assemblage

The material made available to us is from the 1967 Trent University excavations and from one or more unknown excavation seasons. The 1967 material apparently comprises all of the worked and unworked bone, teeth, and shell from the contexts present (with some exceptions noted below), deriving from one longhouse and two middens (Carruthers 2015). Most of the 1967 assemblage was analyzed by John Kolar in 1975, as part of an undergraduate course in zooarchaeological laboratory methods, and it was reanalyzed in full by Suzanne Needs-Howarth. The material from the thus far indeterminate excavation season(s) (referred to below as "other") consists of larger, complete items of worked faunal remains that have not previously been analyzed to our knowledge. We used this latter, almost certainly biased collection to gain additional, qualitative information on the kinds of worked objects that were present at the site. Unless otherwise noted, the text below refers to the items from the 1967 assemblage that were examined by us. Interdepend-

ence of items within the 1967 collection and hence of contemporaneity of the deposits is illustrated by refits in the turtle remains from contexts more than 100 feet (30.4 m) apart.

The size distribution of the faunal remains suggests to us that the 1967 material was screened through ¼ inch (6.4 mm) mesh, and this was confirmed by Peter Carruthers (personal communication 2020), who participated in the 1967 excavation. This means that small, light, and fragile elements, and therefore smaller species, are probably substantially underrepresented or missing altogether (see Hawkins et al. 2015). The larger mammals (in the size range of beaver to deer) are relatively highly fragmented and abraded; given the good state of preservation of the fish bones, we would argue that this is probably not a function of preservation, but, rather, of food- and/or technology-related processing and plough damage, as the site was ploughed in the past (Peter Carruthers, personal communication 2021).

The faunal assemblage was identified to taxon and skeletal element by Needs-Howarth. She identified all of the specimens to the lowest taxon justifiable, with one exception: unless a clam shell was complete and clearly resembled one or the other species of the genus *Elliptio* that exist in this part of Ontario, she did not attempt to distinguish between the two species of the genus *Elliptio*. She assigned unidentified bird and mammal remains to a general live-animal size class where feasible, to obtain the maximum amount of information from them.

To mitigate for the inflationary effects of pre- or post-excavation breakage and deterioration of bivalve shell, counts were based on teeth and hinges, resulting in a very conservative minimum number of elements by side. Additional "individuals" were added to the database if some of the shell appeared to be of a different taxon than the dominant *Elliptio* and if the material was burned (on the assumption that burned shell and non-burned shell most likely would not have come from the same individual clamshell half). All other items are counted the conventional way.

The analysis of the worked faunal remains was conducted by Gates St-Pierre and Boisvert. Because we did not undertake a fully integrated worked remains technological analysis as defined by Boisvert and colleagues (2021) and Gates St-Pierre, St-Germain, and colleagues (2016), the category debris (manufacturing scraps, flakes, and preforms) may be incomplete, with more debris "hiding" among the material categorized by Needs-Howarth as unworked faunal. Gates St-Pierre and Boisvert hope to eventually check the entire assemblage for debris. The large mesh size may also have contributed to the rarity of bone flakes and other small-sized waste compared with assemblages recovered on smaller mesh.

The collection reanalyzed by us comprises 3,975 items from a total of 49 unique taxa that can be considered part of the original archaeological deposits (Table 1). The worked collection pulled from the main collections by Needs-Howarth comprises 211 objects. Of these, 181 come from the 1967 dataset and 30 come from the "other" dataset (Tables 1 and 2). The fragments from a single artifact are here counted as one object. We refitted items but did not glue them; the refitting with glue or tape that appears in the photos was done by previous researchers.

For worked fauna, we can be confident when comparing among data-

Table 1. Quackenbush site worked and unworked faunal remains by class.

	Unworked (n)	Worked (n)	Total (n)	%
Bivalvia	376	2	378	10
Gastropoda	0	2	2	0
Actinopterygii	2,295	0	2,295	58
Amphibia	11	0	11	0
Reptilia	207	32	239	6
Aves	46	21	67	2
Mammalia	779	116	895	23
Aves or Mammalia	22	7	29	1
Class indeterminate	58	1	59	1
	3,794	181	3,975	100

Note: All turtle carapace and plastron remains in a bag were counted as worked if any of them showed signs of working/use wear. The table excludes the 74 items identified by John Kolar that could not be relocated/reconciled for the current re-analysis: 1 fish, 3 turtle (of which 1 worked), 13 bird (all worked), and 57 mammal (of which 5 worked).

Table 2. Quackenbush site worked faunal remains by category.

Artifact Category	Trent "Other" (n)	Trent 1967 (n)	Total (n)	%
Finished object				
Rattle		31	31	14.7
Gaming piece/toggle	12	17	29	13.7
Bead	11	13	24	11.4
Chisel/side scraper		15	15	7.1
Awl	2	11	13	6.1
Needle	4	7	11	5.2
Pendant		3	3	1.4
Smoother		2	2	1
Projectile point		2	2	1
Armband		1	1	0.5
Fish hook		1	1	0.5
Scraper/polisher		1	1	0.5
Undetermined		32	32	15.2
Undetermined (shaft)		13	13	6.1
Undetermined (proximal end)		12	12	5.7
Manufacturing debris				
Scrap	1	10	11	5.2
Flake		7	7	3.3
Blank/preform		3	3	1.4
Total	30	181	211	100

sets generated by Gates St-Pierre and Boisvert and, to a slightly lesser extent, between those datasets and datasets generated by Needs-Howarth, because as collaborators we were able to confer based on our visual memory as well as our datasets. We can thus be confident that we have categorized items in similar ways. For datasets published by others, we think it prudent to focus on items/categories that are accompanied by illustrations or that are unambiguous and hence likely to have been recorded the same way across researchers.

Indicators from the Faunal Assemblage

In this section, we discuss indicators for interaction from the unworked (n = 3,794) and worked (n = 17 complete, n = 164 incomplete) faunal remains in taxonomic sequence.

Mollusca

The collection includes two pendants (Figure 2:1, 2) made by drilling a hole into the shell of a freshwater snail (*Pomatiopsis lapidaria*), a modification seen at the sixteenth-century Kirche site (Nasmith Ramsden 1989:52), which is also in the Kawartha Lakes region; at the fifteenth-century Joseph Picard and McNair sites, on the north shore of Lake Ontario (Needs-Howarth 2012, 2016; Williamson 2016:Figure 9); and at the McIvor site, in the St. Lawrence Valley (Tremblay 2006), for example. This drilling is argued to be a St. Lawrence Iroquoian type of modification (Williamson 2016). The collection also includes two fragments of bivalve shells with worn and polished edges, suggesting a possible use as ceramic smoothers (Figure 2:3, 4).

Actinopterygii

Although it no longer does, Stony Lake did offer cold-water habitat in the past (Ontario Ministry of Natural Resources [OMNR] 2008:6). The fact that the Salmonidae remains (combined n=16) include cranial bones as well as vertebrae (in a ratio of 1:3, which is not dramatically distorted compared with some Huron-Wendat sites [Hawkins et al. 2019], although we note that the sample size is small), suggests they arrived at the site whole and therefore likely came from that lake, rather than from farther afield.

Historically, the distribution area of eel, another fatty fish, extended far onto the Shield (Ontario Ministry of Natural Resources and Forestry [OMNRF] 2019). Eel go to sea to spawn. They do so during the fall, via the St. Lawrence River, where people including the St. Lawrence Iroquoians intercepted them in large numbers (Courtemanche 2008; Junker-Andersen 1988). Unfortunately, we cannot tell from the remains themselves whether eels were caught locally or received in exchange.

When people are catching substantial numbers of fatty fish in fishing camps located far away from the village, they may process and dry or smoke the fish at the camps to reduce transportation costs (Williamson et al. 2003), and these fish might arrive at the site in filleted form and would not leave any trace in the form of bones. The presence of salmonid or eel cranial bone thus neither proves nor disproves non-local fishing or trade in fish products. And cranial bone originally present at the site may have since been lost to us through autolysis (Butler and Chatters 1994; Lubinski 1996).

Reptilia

The collection contained the anterior carapace of two individuals of Blanding's turtle (*Emydoidea blandingii*), which had been reconstructed by gluing together the individual carapace plates. These portions have been counted as n=1 each because they probably entered the ground connected. Both portions appear to have started out as an intact carapace (and possibly plastron), which was then cut transversely at the join between the carapace and plastron. What survives is a portion of the anterior half of the carapace, the posterior margin of which has been ground.

The rattle category from both assemblages combined is composed of 125 fragments forming 32 portions of turtle shell or plastron, mostly Blanding's turtle, but also an undetermined species of the Testudines. Not all of them seem to be modified, but because they were often found in groups and/or near modified specimens (Figure 2:5, 6), they are tentatively considered as parts of

Figure 2. Modified faunal remains from the Quackenbush collection. Shell pendants (1, 2); large fragments of bivalve shell possibly used as smoothers (3, 4); turtle rattle fragments (5, 6); fragments of bone beads, including bead production waste (7); bone awls (8); and bone needles (9).

modified turtle carapace and plastron and are included in the worked counts.

Three rattle fragments are heavily worn, with rounded edges and polished surfaces, possibly as a consequence of the repeated friction caused by small stones inside the rattle, while most other fragments bear only elusive evidence of wear, such as fine striations or little spots with light polish, which suggest, but may not necessarily result from, use as a rattle.

Parts of turtle shell rattles are frequent in pre- and post-contact Iroquoian sites in Ontario, New York, and Québec, in numbers ranging from one to a dozen per site (see Fox 2002; Gillreath-Brown 2019; Pearce 2005). Thus, while the proportion of turtle shell fragments at Quackenbush is numerically significant, their mere presence does not represent an exceptional finding.

Aves

Of the 67 bird bones from 1967 that were relocated for this reanalysis, 21 (31%) were worked (Figure 2:7). Just over one third of the bird remains from 1967 could be identified below class, in part because so many of these items had been polished and ground. The bird remains include one taxon, raven (*Corvus corax*), that provides inconclusive evidence for fowling in Algonquian lands or for trade with the people living there. The raven's breeding range starts at the Canadian Shield, and it winters "mainly within breeding range" and "rarely [in] extreme southern Ontario" (Godfrey 1986:397).

The beads we analyzed (including three beads from the "other" assemblage) are mostly tubular beads made from the diaphysis of bird long bones; only two specimens were made from the diaphysis of mammal bones. Grooves still visible on the extremities of some specimens indicate these beads were made using the "groove and snap" technique. Normally this was followed by a polishing of the extremities to erase such manufacturing traces and smooth the surface.

Mammalia

Of the 895 mammal remains from 1967 that were relocated, 116 (13%) were worked or otherwise showed signs of use wear or handling. A further 28 worked mammal items are present in the "other" collection. As with the bird remains, only about one third of the mammal remains from 1967 could be identified below class. Because the proportion of worked mammal is much lower than that of worked bird, the low identification rate here is likely also a result of non-artifactual long bone fragmentation, perhaps for marrow and grease extraction. The unidentified mammal that was assigned an approximate live-animal size was mostly of animals in the size range of dog to deer.

The assemblage includes a number of worked beaver incisors. Figure 3 compares number of identified specimens (NISP) and normalized minimum animal units (MAU). MAU is the number of individual skeletal elements represented by the remains divided by the number of times that element occurs in a complete skeleton. To make patterns easier to identify, we normalized the MAUs to the element with the highest value. It is immediately obvious that American beaver (*Castor canadensis*) incisors are much more abundant than other beaver elements. Since so many of the beaver incisor finds are worked, it seems possible that the worked ones were curated from an earlier site location (Figure 4:6–8). Alternatively or additionally, as suggested by Trevor Orchard (personal communication

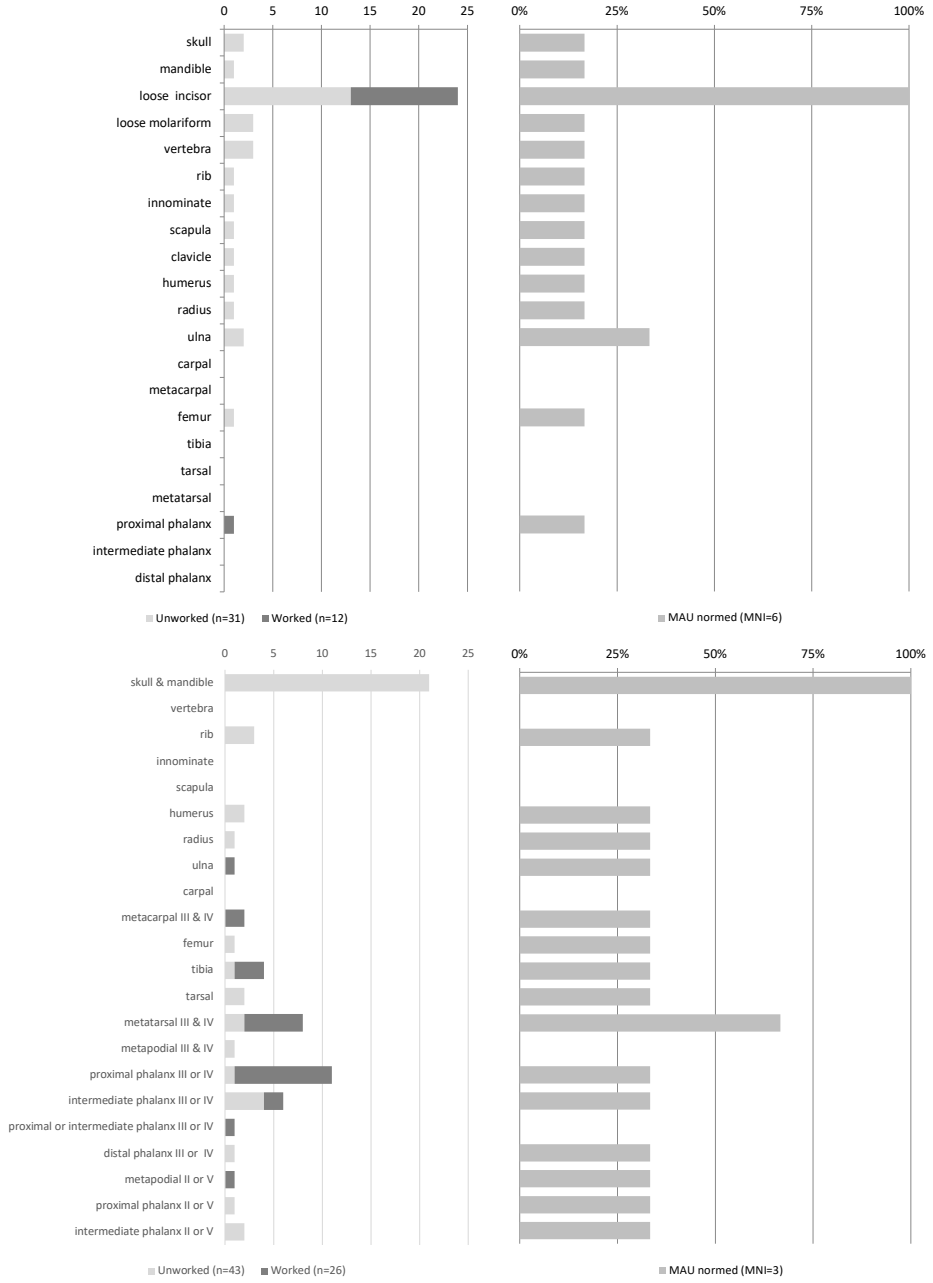

Figure 3. Quackenbush 1967 Trent University excavations beaver (top) and white-tailed deer (bottom) NISP by skeletal element (left) and percent MAU normed (right).

Figure 4. Modified faunal remains from the Quackenbush collection. Bevelled and conical bone point (1); bone fish hook (2); fragment of a decorated armband or pendant (3); possible bone pendant from a beaver phalanx (4); large mammal long bone possibly used as a scraper or polisher (5); lingual (6) and lateral (7) views of modified beaver incisors used as chisels; modified beaver incisors used as chisels and side scrapers (8); modified deer phalanges (9–11); modified canid phalanges (12); drilled deer (13) and moose (14) phalanges, possibly part of a cup-and-pin game; and various mid-sections of undetermined bone tools (15).

2020), since so many Iroquoian sites in Ontario have an overabundance of incisors, this may reflect processing of beavers off-site, whereby most of the carcass ended up being deposited at the processing location. On the other hand, archaeological evidence for the extraction of beaver incisors on-site also exists (Gates St-Pierre and Boisvert 2018:131). Chisels and side scrapers were both made using beaver incisors, but they were manufactured and used in different ways (Boisvert and Gates St-Pierre 2019; Gates St-Pierre and Boisvert 2015, 2018). A few specimens were used both as chisel and as side scraper (Figure 4:8), hence their grouping in a single category in Table 2. The collection also includes a proximal phalanx from the hind leg of a beaver that was grooved at the junction of the diaphysis with the proximal epiphysis, perhaps to facilitate its attachment to a string (Figure 4:4). It is possible, however, that this represents an unfinished groove in the manufacturing process of some other kind of object, not necessarily a pendant.

American black bear (*Ursus americanus*) was identified solely from its paws. This leaves the possibility that the bones were attached to a traded or curated bear hide (Gates St-Pierre et al. 2020) and/or to a bear fur that was used to carry deboned meat back to the site using the hide.

Among the 1967 mammal bone identified below class, white-tailed deer (*Odocoileus virginianus*) is the most numerous (NISP = 69, of which 16 pieces are worked). Deer body portion representation is uneven, with no vertebrae being identified. Some deer vertebrae are undoubtedly "hiding" among the unidentified large mammal component. The normed MAU estimate shows that the cranium is best represented (Figure 3). This could suggest that at least some deer were caught close to the site, since the cranium has low meat utility. However, the brains have high utility for hide processing, which may be why they were retained. The tibia is also well represented, as is the mandible and the metacarpal III & IV and metatarsal III & IV. The latter is especially useful for tool manufacture because it can be fractured in a straight line along the vascular groove. Indeed, six of the eight metatarsals show signs of working. With a sample of only 69 deer bones, it is unwise to make too much of the element distribution. But overrepresentation of the metapodia in relation to the rest of the body is not atypical for precontact Wendat and Attawandaron sites (Needs-Howarth and Hawkins 2016).

All of the worked cervid phalanges (Figure 4:9–14) could be categorized using McCullough's (1978) system, meaning all of these types are also represented in the Draper collection. A recent survey (Needs-Howarth et al. 2019) found that ground varieties first appear prior to 1400 CE, although in small numbers. And while they appear to be mainly an eastern phenomenon, they are not restricted to the area of the St. Lawrence Iroquoians. Because the earliest of the St. Lawrence Iroquoian sites, McDonald, has none, the direction of influence is uncertain.

Most of the modified deer phalanges are what are termed toggles in the literature—a term we use here for the sake of convenience, although we reserve an opinion on their function. With the exception of one middle phalanx, all of the bone toggles were made from white-tailed deer proximal phalanx III or IV that were cut along their anterior and posterior faces, probably through indirect percussion using a wedge and

a hammer, in order to obtain a rectangular object with straight, regular surfaces. This process also results in exposing the medullar cavity of the phalanx on its dorsal and ventral surfaces (Figure 4:9–11). These items correspond to Mode 3 described by McCullough for the Draper deer phalanges (McCullough 1978). Most toggles in the collection have striae, mostly on their ventral and dorsal surfaces, suggesting a smoothing of the cut section using an abrading stone. Some of these objects are partly polished, which could represent a form of wear resulting from the rubbing of the toggles against the leather clothes to which they were attached and against the fingers through daily manipulation.

Two of these toggles have a series of crudely painted short lines on their dorsal face. These are more usual on gaming pieces, and possibly served as point indicators in point-counting games, like gaming dice (see McCullough 1978). However, since they were also cut and flattened, they may have had two different functions: as buttons and as gaming pieces, simultaneously or during two distinct episodes of their use life. This is also the case for a flattened and perforated deer phalanx, which could have served as a gaming piece as well as an element of the cup-and-pin game (Figure 4:13). There are similar modifications on dog phalanges (Figure 4:12).

A distal portion of a moose (*Alces americanus*) first phalanx from the 1967 excavations bears two large holes at the distal end, which also suggest a function as a throwing piece of the cup-and-pin game, although such objects usually have just one hole, not two (Figure 4:14). Modified moose phalanges are known from other Huron-Wendat sites closer to Lake Ontario (Needs-Howarth 2010, 2011), where they are inferred to have been obtained through trade. Peterson (1955:Figure 6) indicates that as far back as the nineteenth century, moose did not range south of the Canadian Shield, but Banfield (1981:397) shows them existing on the north shore of Lake Ontario in the past. At Quackenbush, there were likely moose nearby, as the site is right on the boundary with the Shield. However, the fact that there is no moose or indeed any other mammal bone that is definitely in that size category among the mammal remains available to us suggests this phalanx may be an item obtained through trade with Algonquian groups.

Bone Items Made on a Variety of Mammal Taxa

Quackenbush yielded 13 awls in total (Figure 2:8). While varying in shape, size, and quality, they share an overall morphology characterized by a slender shaft and a pointed distal end. Such simplicity of form allows for different possible functions. Microwear analysis would be needed to differentiate true awls from other tools having a similar shape, such as food picks, hair pins, sticks for the cup-and-pin game, corn husking pins, or tattooing needles (see Gates St-Pierre 2007, 2018; Gates St-Pierre and Boisvert 2015; Jamieson 1993; Pendergast 1997). The awls include two accessory metapodial bones of white-tailed deer and two ulnae from an undetermined canid, probably a dog. In all four cases, the only modification necessary was a sharpening of the pointed tip of the bone. Some others appear to have been made expediently using bone splinters. Only one awl bears decoration, which consists of two parallel incisions perpendicular to the long axis of the tool.

The assemblage contains 11 needles overall, only one of which is complete (Figure 2:9). The slight curvature and

the spongy inner bone structure visible on some indicate that they are made from mammal ribs that were split longitudinally from one of their narrow sides, in order to obtain blanks with the right thickness. An eye drilled at the centre or at about one third of the way from the proximal end further suggest a function as needles. A microwear pilot study on such items from St. Lawrence Iroquoian sites indicates that they may have been used to weave plant fibres into mats, rather than fish nets (Gates St-Pierre, St-Germain et al. 2016).

The assemblage also contains three mammal bone objects used for hunting and fishing: two projectile points and one fishhook (Figure 4:1, 2). The latter has a bulbous proximal end for line fastening and bears traces of scraping and polishing. The tip of the hook is missing and may have broken during use. The former are hollowed and conical points made from the diaphysis of unidentified large mammalian long bones. One is incomplete (the distal half is missing), while the other is nearly complete and shows a bevelled distal end exposing the medullar cavity of the diaphysis. The technique used for the production of this particular type of bone projectile point, common in St. Lawrence Iroquoian assemblages, is presented elsewhere (Gates St-Pierre 2014). We are aware of only a few examples from other Huron-Wendat sites, from our own observations and from a survey of the literature, so these two points may be strong evidence for interaction of some sort with people in or from the St. Lawrence Valley.

A portion of a long bone diaphysis from an undetermined large mammal that has manufacturing traces on its proximal end (mostly cutting or chopping traces) and a bevelled distal end with a bright polish on the tip may have been used as a scraper or polisher (Figure 4:5). This could represent an expedient tool.

The assemblage also contains a section of an armband or pendant (Figure 4:3). This flat piece of deer-sized mammal bone has a hole drilled at its extremity for attachment or suspension and is decorated with fine wavy engravings which may represent snakes, an animal often depicted on Iroquoian faunal artifacts, especially rattlesnakes (see Hamell and Fox 2005; Williamson and Veilleux 2005). Similar items, interpreted as armbands, have been documented from numerous precontact Attawandaron and precontact Wendat sites (Williamson and Veilleux 2005; see also Cooper 2010; Needs-Howarth 2014, 2016; Thomas 1998).

Discussion

In this section we return to the objectives of this study as we examine what the data presented above tell us about the activities carried out at the Quackenbush site, but mostly about the interactions its occupants had with other peoples on or from the Canadian Shield and in or from the St. Lawrence Valley.

Connections

Because the Quackenbush site is right at the boundary of the Canadian Shield, and because the two species found at the site that are more typical for the Shield (raven and moose) do occur south of there, we cannot use species presence directly to indicate connections, whether of trade with Algonquians or of hunting or fowling trips into Algonquian lands. So, our first strand of evidence, species present, is not going to give us answers.

The disproportionate number of phalanges of bear could indicate trade in hides (as the bones from the paws

were often left attached to the hides), but, as we have shown, there are other possible explanations. As noted above, the historical sources reference trade in hides with both the Algonquians and the St. Lawrence Iroquoians, so if these phalanges arrived at the site as part of traded hides, these could have come from either source. We argue, based on the non-worked faunal remains and finds from sites farther away from the Shield, that the worked moose phalanx may be evidence for trade. So, our second strand of evidence, skeletal elements present, remains conjectural.

For our third strand of evidence, comparison with other assemblages, interpreting what little we have to work with is fraught with caveats. Modification of faunal remains for artifacts on sites on the Shield has been less well documented archaeologically for the same period, possibly because bone does not preserve as well in the more acidic soils of the Canadian Shield. The collection from the Highland Lake site includes numerous items of worked bone. The site is located in historically documented Algonquian territory, in the upper drainage of the Madawaska River. The site yielded a deer phalanx perforated through the proximal and distal articulation. As von Gernet (1992) notes, this is a modification seen on Huron-Wendat sites, and it is included in McCullough's (1978) typology for the Draper site (von Gernet 1992:Appendix B:38). Von Gernet (1992) notes that Highland Lake and other sites associated with Algonquian-speaking peoples in northern Ontario and Québec contain pottery types termed "Huron," and he lays out several arguments against equating these pots with Wendat ethnicity. In our opinion, the presence of that modified phalanx at the site neither proves nor disproves that Algonquian peoples manufactured such items.

In recent publications, the Hardrock site is said by Ramsden (2016b) to be an Algonquian summer village and by Williamson (2014) to be a Wendat site. It provided "distinctive concave-based conical antler projectile points" (Ramsden 2016b:227; see also Emerson 1954:186) typical of the material culture of Late Woodland people living in the St. Lawrence Valley (Gates St-Pierre 2014). It also yielded ground deer phalanges that are similar to those found at Quackenbush, on other Iroquoian sites on the north shore and western end of Lake Ontario, and in the St. Lawrence Valley (Jamieson 1993, 2016; McCullough 1978; Needs-Howarth et al. 2019).

The same species available around the Quackenbush site would have been available in the St. Lawrence Valley. Conversely, there are additional taxa available in the St. Lawrence Valley, notably sea mammals, which have been found on St. Lawrence Iroquoian sites, but none were identified from Quackenbush. So again, the first strand of evidence is not available to us. The second strand is ambiguous, as noted above with respect to bear hides.

We were, however, able to rely on similarities and differences in worked faunal assemblages, as there are certain categories that appear more frequently on St. Lawrence Iroquoian sites than on Huron-Wendat sites (Gates St-Pierre 2010; Jamieson 1993, 2016; Williamson and Veilleux 2005). This includes the two conical bone points, which are typical of the St. Lawrence Iroquoians (Gates St-Pierre 2014). Their presence among the Quackenbush assemblage of worked faunal is suggestive of either commercial exchanges or, more probably, the integration of St. Lawrence

Iroquoians among this community. However, the worked faunal assemblage from Quackenbush is overall different from the ones found on St. Lawrence Iroquoian sites, based on the absence or lower number of awls, harpoon heads, knives/daggers, antler flakers/punches, corn husking pins, and other faunal artifacts, all of which are more frequent in St. Lawrence Iroquoian assemblages (Table 3; Gates St-Pierre 2010; Jamieson 1993, 2016). On the other hand, the Huron-Wendat at Quackenbush made a greater use of bird and turtle bones, notably in the making of beads and rattles.

The Quackenbush collection contains items that are also present in the St. Lawrence Valley, as well as two examples of a type, the bevelled bone point, that is mostly restricted to the St. Lawrence Valley. Such worked bone items have also been found on Huron-Wendat sites other than Quackenbush. For instance, conical and bevelled bone projectile points are present at Kirche (Nasmith Ramsden 1989:98–99; see also Ramsden 1990:371), Lite (Pendergast 1972:31), Payne (Emerson 1967:135; Pendergast 1964:5–6), Baumann (Stopp 1985:14), and Ball (Stewart 2014). A deer scapula pipe,

Table 3. Quackenbush site worked faunal remains debris by category compared with St. Lawrence Iroquoian sites.

	Quackenbush		Ontario SLI [a]		Québec SLI [b]		New York SLI [c]	
Functional category	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Rattle	31	23.3			1	0.1		
Modified phalanx	29	21.8	520	15.7	13	1.7	12	16.7
Ornament (bead, pendant, armband, etc.)	28	21.1	218	6.6	37	5	2	2.8
Modified rodent incisor	15	11.3	212	6.4	188	25.2	2	2.8
Awl	13	9.8	1,398	42.3	289	38.7	31	43.1
Sewing needle	11	8.3	96	2.9	41	5.5	5	6.9
Projectile point	2	1.5	197	6	23	3.1	7	9.7
Pottery smoother	2	1.5	41	1.2				
Fishhook	1	0.8	21	0.6	1	0.1		
Scraper	1	0.8	5	0.2			1	1.4
Barb			235	7.1	2	0.3		
Point/dagger			109	3.3	106	14.2		
Corn husking pin			79	2.4	2	0.3		
Flaker/retoucher			52	1.6	16	2.1	10	13.9
Canine chisel			35	1.1				
Scapula pipe			25	0.8				
Spatula			23	0.7	5	0.7		
Pick			15	0.5				
Harpoon head			12	0.4	15	2	2	2.8
Tube			7	0.2	5	0.7		
Adze/wedge			3	0.1				
Leister spearhead					2	0.3		
Total	133	100.2	3,303	100.1	746	100	72	100.1

Note: Data excludes modified bones with no specific functional identification; some of the functional categories have been merged, which may lead to numbers different from those published in the original sources. SLI = St. Lawrence Iroquoian.

[b] Data compiled from Boisvert and Gates St-Pierre (2019), Gates St-Pierre (2001), and Gates St-Pierre and Boisvert (2015, 2018).

[a] Data compiled from Gates St-Pierre (2001) and Jamieson (2016).

[c] Data compiled from Abel (2001).

which is another bone object distinctive of St. Lawrence Iroquoian assemblages (Jamieson 1990:394, 2016:182; Pendergast 1966:33; Wright 2004:1248), was found at Kirche (Nasmith Ramsden 1989:64; Ramsden 2016a:227).

Materiality and Individuality

Nothing in either the worked or the unworked bone assemblages contradicts the Quackenbush site being a precontact Huron-Wendat village. At the same time, the faunal assemblage from the site can be interpreted as evidence for direct or indirect contact with Algonquian groups to the north and St. Lawrence Iroquoian groups to the east, although the evidence for Algonquian connections is more equivocal than that for St. Lawrence Iroquoian connections.

Previous research into interactions by archaeologists in the Northeast and beyond has often involved the investigation of large-scale trade networks using a variety of methods and approaches, from the comparison of pottery style frequencies and compositional analyses of artifacts, to social network analyses, among others. We do not think the bone objects or food resources discussed in this paper were the subject of extensive and frequent exchanges of this sort, however, as they are represented by a very limited number of items in each instance. Although Algonquian and various Iroquoian communities certainly exchanged goods on a regular basis, such as hides and maize, as previously mentioned, we argue that the individual bone items found here and there in the intercultural landscape around Quackenbush were not massively traded, but may be more indicative of individual, even idiosyncratic experiences of contact.

Such an individual level of social interaction was long believed to be difficult, if not impossible, to access using the precolonial archaeological record, and thus was rarely sought by archaeologists, who instead favoured the study of large-scale, intergroup levels of exchange and interaction (Chapdelaine 1984b; Hill 1978; Hill and Gunn 1977; Hodder 2000). With the material turn in the archaeological interpretation of artifacts, or a "things" perspective, it is now more widely recognized that objects not only are aggregates of material and formal properties, but also possess social or symbolic meanings that can tell much about their owner's life, identity, agency, and entanglement with materiality (see Appadurai 1986; Bjørnar 2010, 2012; Brown et al. 2015; Chapman and Wylie 2015; Chilton 1999; Crown 2007; Dobres and Robb 2000; Hodder 2012, 2018; Ingold 2007; Jones 1997; Joyce 2012; Knapp and van Dommelen 2008; Lubar and Kingery 1993; Meskell 2005; Meskell and Preucel 2007; Miller 1998; Webmoor and Witmore 2008; Witmore 2014; Wylie 2002).

In the Northeast, similar approaches to individuality and materiality have been used to investigate the life histories or biographies of specific or unique objects (see Bagley 2016; Erickson and Fowler 2010, 2013; Lemire et al. 2021; Pothier 2016). Sometimes inspired by previous, influential works, such as Janet Spector's *What This Awl Means,* from 1993, these researchers have been especially interested in revealing the social and symbolic dimensions of objects, including bone artifacts (see, for example, Boisvert et al. 2021; Fox and Pilon 2016; Gates St-Pierre 2018; Gates St-Pierre, Boisvert et al. 2016; Gates St-Pierre et al. 2020; Pearce 2005; Williamson and Veilleux 2005).

The concept of cultural transfer is sometimes used to understand how such

objects can move between cultures in contact. Cultural transfers are processes whereby objects, techniques, practices, beliefs, or ideas, for example, are being freely and consciously transmitted from one culture to another culture, in which they become fully integrated (Espagne 2004; Turgeon et al. 1996). The process most often involves some kind of transformation along the way, in terms of function, meaning, or otherwise, which distinguishes it from a simple borrowing or copying, or even from *métissage,* or hybridization, which refers to mixing processes instead of transformative ones. Indigenous stone pipes with removable stems (incorrectly labelled "Micmac pipes" in the past) that gradually became an emblem of French-Canadian identity (Daviau 2009; Tremblay 2007) and copper or brass kettles that came to be used as offerings in Mi'kmaq burials (Chrétien et al. 1995; Howey 2017; Turgeon 1997; Whitehead 1993) are good examples of cultural transfers from the contact period.

However, objects can also be integrated into a new cultural context without changing or affecting their meaning, actually enhancing these pre-existing meanings instead, for example as a tool of resistance to maintain or negotiate current or new identities. Such a situation was reported by Ramsden in the case of St. Lawrence Iroquoians becoming Huron-Wendat in the Balsam Lake area (Ramsden 2016a, 2016b, 2016c). Since the Iroquoian bone objects described in this paper do not appear to have been transformed in any significant way once they had become integrated, we think they are not examples of cultural transfer; they would better fit within Ramsden's line of reasoning. These items would have been the subject of assertive processes, in which their use as identity markers would have been strengthened or reinforced in their new cultural context(s) of use, rather than the subject of a transformative process. We would thus concur with Ramsden (2016b, 2016c) in suggesting that the finding of limited numbers of items typical of St. Lawrence Iroquoian assemblages on Huron-Wendat sites may be interpreted as a strategy on the part of their makers to maintain, or even to ostensibly express, their identity in stronger and more assertive ways than before, in a context of tensions that can naturally emerge between people of differing origins living together (see Loewen and Chapdelaine 2016 for other, similar examples). People who had arrived from the St. Lawrence Valley could have decided to continue to make, decorate, and use bone tools and ceramic vessels "the St. Lawrence Iroquoian way," as a strategy of resistance toward the forces of acculturation from members of their new families and villages of adoption (Ramsden 2016b, 2016c). How long this strategy lasted remains unknown, but, as he suggests, it could eventually have made way for the negotiation and emergence of a new, common identity in some cases (Ramsden 2016b, 2016c) or to a gradual assimilation/acculturation in others.

We acknowledge that this working hypothesis would need to be supported by additional demonstration from future research. Fox and Garrad (2004) propose that we may be able to trace an Algonquian presence through specific kinds of chert artifacts. Just like the ceramic collections already have, other aspects of the material culture and of the site itself could contribute to further elucidate the presence, nature, and intensity of the intergroup and individual contacts between the inhabitants of the Quackenbush site and their St. Lawrence

Iroquoian and Algonquian neighbours. We anticipate that future research will shed further light on these complex and fascinating relationships between diverse Iroquoian and Algonquian populations, not only in the past, but also in the present, as current interpretations of these past relationships have consequences for current sociopolitical issues and debates.

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