The Worked Faunal Material from the Anderson Site: A Uren Village on the Lower Grand River, Ontario

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The Anderson site (AfGx-54) was a small prehistoric village located near the Town of Cayuga, approximately five kilometres west of the Grand River in southern Ontario. Salvage excavation of the site prior to its destruction by a modern quarry revealed five longhouses surrounded by a palisade enclosing an area of about 0.6 ha. Both seriation of the pottery rim sherds and one AMS radiocarbon date indicate the occupation occurred in the late thirteenth century A.D. and allow the designation of this site as an early component of the Uren substage of the Middle Stage of the Ontario Iroquoian Tradition. In this paper, the complete assemblage of 78 pieces of worked faunal material recovered from the Anderson site is described and discussed. While emphasis is given to form and function, comparisons with other assemblages, particularly those from sites of a similar date in southern Ontario, are made.

Introduction

Throughout prehistory people have used a variety of materials to make tools to perform numerous tasks. Archaeologists studying these past peoples have come to realize that the selection of these materials resulted from a complex interplay between what materials were available, the various costs of acquiring materials either through direct procurement or through trade, and the requirements of the intended use of the artifact. While sometimes peoples had the option of a number of raw materials that could be manipulated to perform similar or identical tasks, at other times intended function or desired stylistic embellishments to the artifact limited the selection of the raw material.

Three relatively common raw materials found on Iroquoian sites are bone, tooth and antler, presumably obtained as either by-products of hunting or through the scavenging of carcasses. Bone and antler possess certain advantages as raw materials in that they are relatively hard and durable and yet can be readily worked to modify their shape and/or appearance.

The Anderson site was found and excavated in 1991 by the secondary author prior to its complete destruction. Time and resources for excavation were limited so that only a portion of the site data was recovered. Based on the location of the site and its artifacts Bursey (1996) has assigned the site to the Uren substage of the Middle Stage of the Ontario Iroquois Tradition (Dodd, et al. 1990; Wright 1966). Two recent AMS radiocarbon dates derived from corn kernel fragments recovered from features provided returns of 720±80 B.P./cal A.D. 1250 (1290) 1305 (T0-7033) and 1170±250 B.P./cal A.D. 645 (885) 1055 (T0-7034) at one sigma. While the former fits expectations given the stylistic attributes of the artifact assemblage, particularly the pottery, the latter date appears to be too old. No artifacts diagnostic of the seventh to eleventh centuries have been recognized within the assemblage. It should be noted, however, that taken at the 95.5 percent confidence interval, the date range of the T0-7034 calibration could be extended to A.D. 390-1295. The latter portion of this range would be acceptable given the material culture evidence.

The Anderson site appears to reflect a relatively typical occupation of the late thirteenth century in southern Ontario. Like other thirteenth century sites, such as Calvert (Timmins 1997) and Ireland (Warrick 1991), the Anderson site consists of houses (in this case five) clustered together within a double row palisade. Pottery, usually considered to be the artifact class with attributes most sensitive to temporally patterned variation (e.g., Smith 1997), is dominated by

horizontal motifs on the collar, often executed by "push-pull" or interrupted linear techniques, while the surface of the body was treated predominately by ribbed paddle or smoothing (cf. Bursey 1996). In sum, the Anderson site appears to have been occupied early in the Uren substage, as defined by Wright (1966:56-59) and refined by Dodd et al. (1990:330-335). One unusual aspect of the recovered assemblage, however, is the abundance of chipped lithic artifacts, particularly bifacially flaked projectile points. The abundance of the latter is so pronounced that it has been suggested that projectile points may have been manufactured at this site for trade and exchange with other Iroquoian communities in southern Ontario (Bursey 1996:17). In comparison, the worked bone assemblage is more modest, although it is comparable to those recovered from other similarly dated Ontario Iroquoian components.

In this paper the faunal artifacts are described. They will be grouped on the basis of overall morphology and inferred function. Where applicable, descriptive details will be included and discussed. Reference is made to other site reports and analyses where functional inferences have been made. In the final section, comparisons are made between the Anderson worked material and those of contemporaneous Iroquoian components from southern Ontario. Based on these descriptions and references, statements that have been made regarding the significance of bone and antler assemblages for reconstructing the cultural history of southern Ontario may be assessed.

The Worked Material from the Anderson Site

The worked faunal material from the Anderson site was sorted into gross types on the basis of morphological attributes of modification. A summary of the 78 worked pieces of faunal material is provided in Table 1. Each category of worked material is described below.

Awls and Other Piercing Tools (Figure 1)

Awls are defined as bone and/or antler objects which have at least one end modified to a point, presumably for use as a hand-held piercing tool. This functional interpretation is made on the basis of form (e.g., Orr 1911:66-69) and there appears to be no reason to depart from this norm at present. Awls differ from projectile points in that they do not exhibit any area for hafting at their basal ends. In fact some awls possess definite handles. For the most part awls also lack the aerodynamic design that one sees in projectile points. Several classification schemes for bone awls have been used elsewhere. Saunders categorized bone awls from Seneca sites primarily on the basis of raw material, i.e. categories of bone portion used, with "double point" awls standing as the only discrete "functional" class (Wray et al. 1987:39). Timmins, however, categorized awls from the Glen Meyer Calvert site primarily on the basis of tip morphology. He made an exception for one category, his Type 3 deer ulna punches, where the bone element was a distinguishing feature (Timmins 1997:144-145). In his plates, Finlayson (1998:4: Plates 3.46, 3.85, 3.98, 3.118, etc.) labels many awl-like objects as "pointed bone objects", yet throughout the text, they are referred to as bone awls (Finlayson 1998:1:276). Finlayson also labels other pointed objects as "bone bodkins" (1998:4, Plates 3.77, 3.143) and "tattooing needles" (1998:4:Plates 3.85, 3.118) although it is unclear what criteria were used to justify their classification into those categories.

A total of 31 items from the Anderson site are classified as awls. All were made from mammal bone. Of this number 20 are classified as having finely pointed tips. Most of the awls possess varying amounts of polish over their surfaces, a result of handling and/or use wear.

Table 1. *Summary of worked faunal material from Anderson.*

Artifact Category	Quantity	Percentage of Total
Awls	31	39.8
Chisels	2	2.6
Flakers/Billets	6	7.7
Beaver Incisor	1	1.3
Modified Deer Phalanges	12	15.3
Projectile Points	7	9
Tubular Beads	8	10.2
Miscellaneous	11	14.1
TOTAL	**78**	**100**

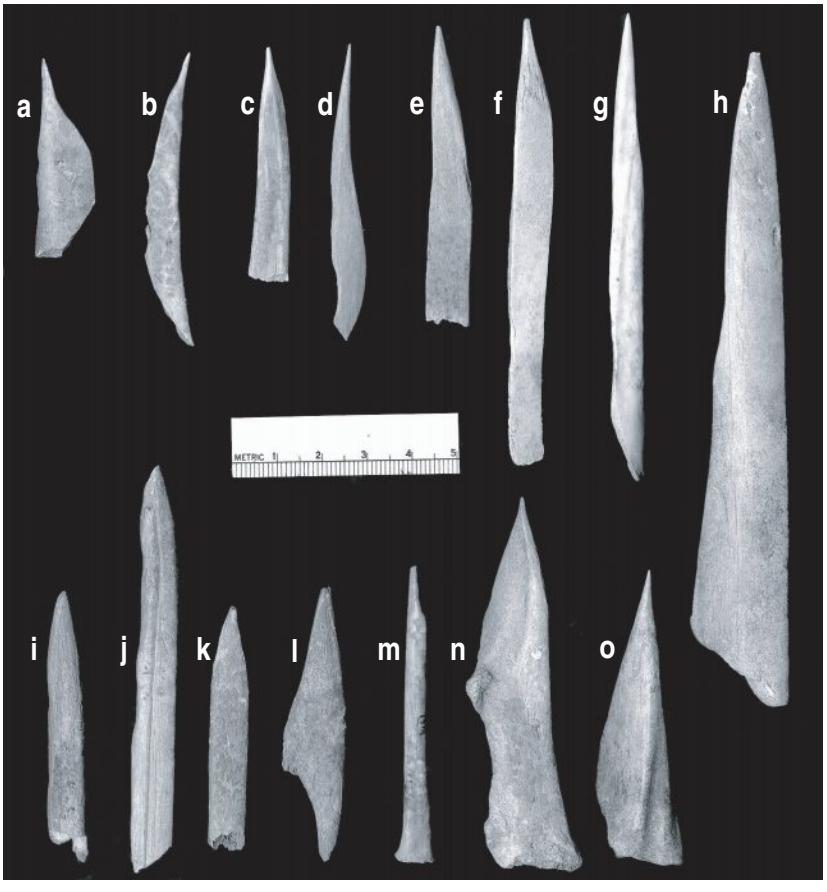

Figure 1. *Bone awls from the Anderson site (AfGx-54).*

Seventeen of the 31 awls were manufactured from miscellaneous long bone shaft pieces of medium to large mammals (Figure 1:a-h). The largest of these (Figure 1:h), measuring 146 mm in length, was manufactured from a white-tailed deer (*Odocoileus virginianus*) metatarsal. It is widest at its proximal end and tapers to a sharp point. As a result of the way the metatarsal shaft was originally broken, a slight lip of bone projects from its anterior surface about 35 mm from the proximal end. Behind the lip is a depression which allows the thumb to rest neatly inside, the front of the thumb being supported by the lip. Interestingly, the awl appears best suited to a left-handed person. There is a considerable amount of polish over the entire awl.

Four awls were manufactured from bone pieces that retain an articular end or joint. One such awl (Figure 1:o) was made from a white-tailed deer left metatarsal and another from a white-tailed deer right metatarsal (not shown). Both are polished and their "handles" are the proximal ends of the bones. A third awl was made from the right ulna of a white-tailed deer (Figure 1:n). The olecranon and trochlear notch have been detached. What remains is the posterior shaft piece with marrow cavity exposed and a piece of the coronoid facet. The thumb fits neatly into the exposed cavity. The awl is polished all over its surface. The fourth awl (Figure 1:m) was made from the right radius of a raccoon (*Procyon lotor*). The proximal end is the handle, but the bone is immature as the proximal epiphysis in unfused.

Seven other tools might also be classified as awls (Figure 1:i-l and others not shown), but their working ends have been fashioned into dull tips rather than sharp points. The tip of one item (Figure 1:k) is flat in cross-section but rounded in plan, suggesting it might have had a function other than piercing.

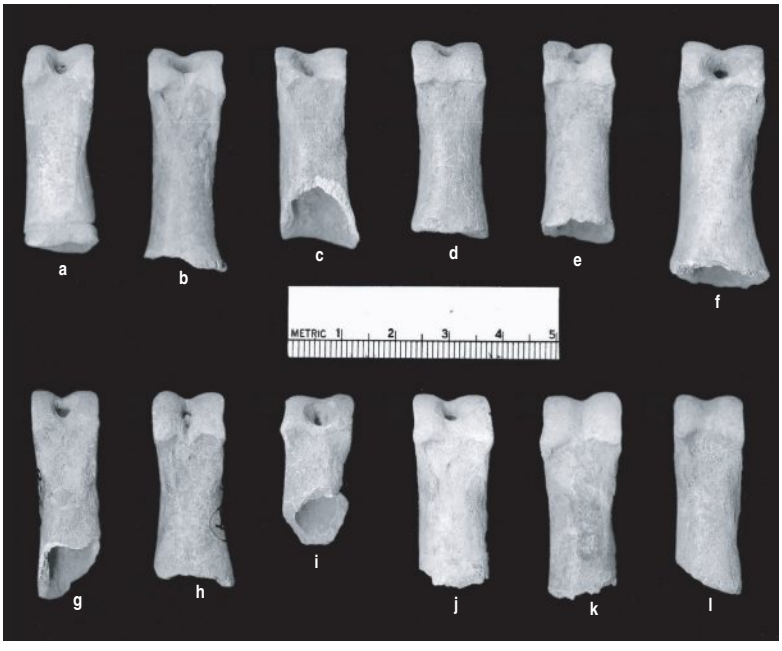

Figure 2. *Modified deer phalanges from the Anderson site (AfGx-54).*

Three other tapered specimens (not shown) may indeed be awls but their tips have been broken or eroded and it is therefore not possible to determine their original appearance and hence possible function.

Modified Deer Phalanges (Figure 2:a-l)

Modified white-tailed deer phalanges from the ca. A.D. 1450-1500 Draper site (Finlayson 1985:437) were the subject of a focused analytical treatment by McCullough (1978). The Anderson site deer phalanges come closest to fitting McCullough's "Class 1" category. However it is now evident that this scheme requires modification based on Thomas' (1998:185-188) study of the Myers Road material and Finlayson's (1998:1:227, 304) discussion of worked deer phalanges from sites in the Crawford Lake region. All 12 modified deer proximal phalanges from Anderson have had their proximal articular ends completely removed, not merely perforated. On one artifact only remnant evidence of lateral cutting is observable. The other 11 have been extensively ground, flaked and/or broken, removing any evidence of sawing that might have been present. Ten of the phalanges also have perforations on their distal articular surfaces, oriented approximately 45 degrees toward the ventral surface. On nine of these items the perforation was achieved by conical drilling whereas on one this was accomplished by cutting or incising parallel to the trochlear groove. One phalanx (Figure 2:a) is decorated with one, and in places two, incised lines encircling the shaft approximately three millimetres from the proximal end of the bone. This item also exhibits shallow, longitudinal abrasions along its exterior surface. None of the phalanges have been burnt.

The specific form of these twelve modified phalanges is characteristic of the Uren substage (Dodd et al. 1990:334; Wright 1986:49, 51). Typically, it is inferred that these artifacts were used in the "cup and pin" game (e.g., Guilday 1963; Wright 1966:59) although McCullough (1978:91), Ferris et al. (1985:10) and Wright (1974:100) dispute this function, suggesting that the "cup and pin" game was not an Iroquoian trait and that it would have been impossible to use these objects in the manner(s) described in various ethnographic sources. Instead, Ferris et al. (1985:10) suggest these artifacts may have been beads or bangles while Wright (1974:100) suggests they may have functioned as "the end toggles on a cord used in lashing functions".

Thomas (1998:190-191) also suggests they may have been toggles. Resolution of this problem does not appear possible at this time, although as noted by McCullough (1978:98-99) there does not appear to be any reason to preclude their use in an "archaic" form of the "cup and pin" game as described in the *Jesuit Relations* (Thwaites 1959:7:95-97).

Antler Flakers (Figure 3:a-f)

Six cervid antler artifacts are identified as flakers or billets. All appear to have been manufactured by splitting antler portions lengthwise and then carving, grinding and polishing the cortex into short, roughly cylindrical sections. Some cancellous tissue frequently remains visible on one side. Typically, one end of the artifact retains some evidence of transverse cut marks that are inferred to reflect cutting the split sections to length. The working end of each artifact is bevelled. The basal end of each artifact has been smoothed to produced a blunt edge running across the width of the tool. Two of the artifacts have lengths of approximately 60 mm (Figure 3:d, f), one is 80 mm (Figure 3:c) and two (Figure 3:a, b) are approximately 90 mm in length. The sixth (Figure 3:e) is of indeterminate length due to breakage. Heights range from 14 to 17 mm and widths cluster tightly around 10 mm.

Within the Ontario Iroquoian sequence similar antler flakers have been documented on other Uren sites (e.g., Dodd et al. 1990:Figure 10.7d; Thomas 1998:Figure 5.19g; Wintemberg 1928:23; Wright 1986:49) as well as in earlier (Noble 1975:36; Timmins 1997:146) and later assemblages (Wintemberg 1948:18). Similar specimens have also been recovered from Princess Point Cayuga Bridge, Selkirk 5 and Glass sites (Stothers 1977:72, 268), so this artifact can be argued to have been present throughout the Ontario Iroquoian sequence, at least.

Unfortunately, however, the identification of these tools as flakers or billets appears to be based more on convention than empirical evidence. This functional assignment is weakened by the lack of damage to the tools such as one would expect to occur with flint knapping. However, the value of a high degree of maintenance of flint knapping tools, including billets, is advocated by modern flint knappers as a means of controlling impact, thus reducing the possibility of "chattering" and "hinging" (Waldorf 1993:15). Furthermore, these tools appear more frequently on sites with abundant evidence of flint knapping and no other form of soft hammer billet has been documented from these sites. Experiments by the secondary author have demonstrated that similar tools would have adequately served as small billets for the production of small, thin triangular points. Nonetheless, absolute identification of these tools as flakers or billets cannot be offered at this time.

Projectile Points (Figure 3:g-m)

Seven items are classified as projectile points. Unlike the awls, which are all made from mammal long bone, all of the projectile points are manufactured from cervid antler. Also unlike awls, the projectile points are generally bullet-shaped (although tip morphology varies) with a highly smoothed external circumference, presumably to allow efficient entry into the body of an animal. Based on overall size, width, and tip shape three varieties may be distinguished. In all cases the natural conical shape of the antler tine has been employed to produce the desired basic design of the projectile points.

Three larger projectile points (Figure 3:h-i) range between 81 and 88 mm in length, have an oblique cut and/or broken base and have a moderate to extensive scraping and polishing of their surfaces. The central tissue of the antler has been partially removed from all three artifacts but not enough had been removed to suggest they were completely socketed. The tips of two of the points appear to have been altered by whittling or grinding. The tip of the third appears slightly smoothed and rounded. At their widest point, they range in size from 13.8 to 16.3 mm.

Two smaller projectile points (Figure 3:j-k) were cut transversely from the antler tine tip, fully hollowed out and ground and polished to a relatively sharp point. The smaller of the two is 35 mm long and 8.9 mm at its widest point. The second point is approximately 40 mm long, but its tip is broken. It is 8.2 mm at its widest point.

Figure 3. *Antler flakers (a-f) and projectile points (g-m) from the Anderson site (AfGx-54).*

Both points display transverse breaks on their basal ends. The break on the smaller point appears to be a recent one, but the break on the larger point is old and may have occurred as a result of hafting or impact damage during use.

The remaining two projectiles (Figure 3:l-m)

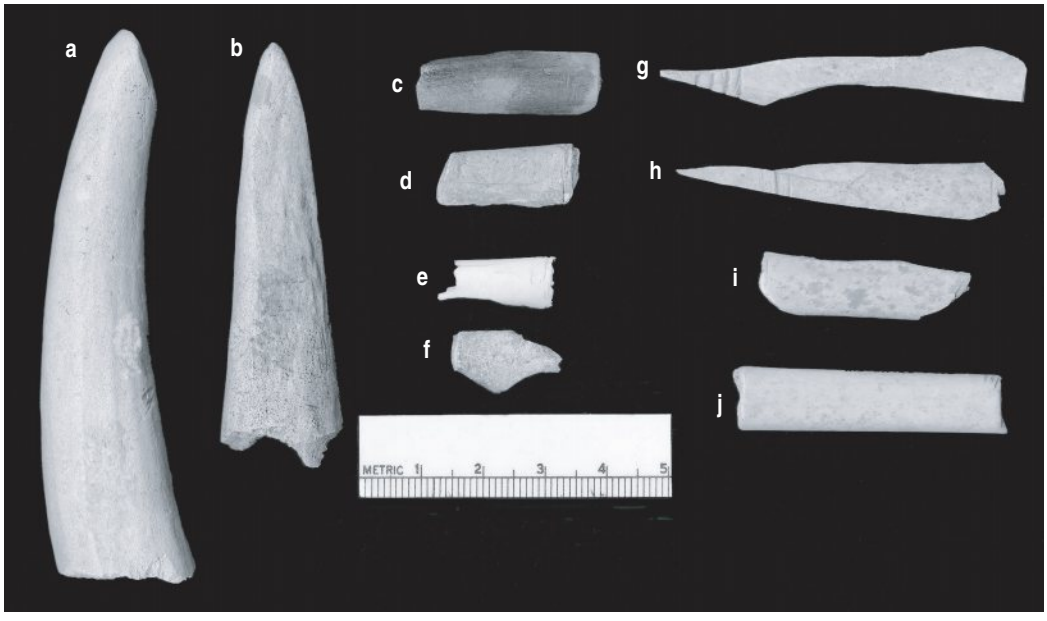

Figure 4. *Antler chisels (a-b) and bone beads from the Anderson site (AfGx-54).*

are incomplete. They are tip fragments only and are very similar to each other in appearance, both being bullet-shaped. It is possible they are tips of harpoons rather than projectile points. The tips have been broken from the remainder of the artifact, so measurements are not possible on these items. However the breaks are old and may be the reason why they were discarded. Unlike the other antler points, these tips have been subjected to heat. It is possible that they had been hardened in this manner. Both tips show grinding and polishing to their external surfaces.

Antler projectile points similar to those from Anderson have been documented on Pickering (e.g., Ambrose 1981:64-66), Glen Meyer (e.g., Noble 1975:35, Timmins 1997:146) and Uren (e.g., Wright and Anderson 1969:58) sites. They appear to be more common on western than eastern sites. Given the large number of chipped lithic projectile points at Anderson (over 2,000 have been catalogued to date), it is difficult to account for the presence of an antler version. The most likely explanation is that these tools served different functions. The larger points may have, for example, served as harpoons for spearing fish with the angled base acting as a barb. Smaller points may have been directed at smaller game. However personal preferences on the part of the hunter/fisher should also be considered.

Antler Chisels (Figure 4:a-b)

Two cervid antler tines have been ground and/or abraded to produce chisel-shaped ends. These tools could have served a number of functions ranging from pressure flakers to porcupine quill flatteners (George and George 1998) to woodworking tools.

Bone Beads (Figure 4:c-j)

Eight artifacts appear to represent a minimum of seven bird bone beads. The ends of the cylindrical bones appear to have been scored and snapped and the remaining shafts highly polished. The two beads with both ends present (Figure 4:d, j) measured 21 mm and 45 mm in length. Two sections might represent fragments of a longer bead decorated with three to four incised lines, encircling the bead near the midpoint (Figure 4:g-h). With a length in excess of 60 mm it is possible that this artifact served a function other than a decorative bead, but given the fragmentary nature of the item, this is conjectural.

Worked Incisor

One beaver (*Castor canadensis*) lower incisor appears to have been split, but was not altered further. The highly polished nature of the specimen suggests it might have been used, but this cannot be stated with certainty.

Miscellaneous Artifacts (Figure 5:a-k)

Eleven specimens have been modified and/or used in a variety of ways. Three long, thin bones (Figure 5:h-j) have been abraded and/or polished along their lengths but no clear function can be implied. One cervid antler tine (Figure 5:d) has been cut and ground, possibly in the process of manufacturing a projectile point. Two artifacts (Figure 5:f, g) are portions of cervid antler which have been split and ground across the broken edges. A larger antler section (Figure 5:c) has been scored and snapped, possibly to produce another section which was subsequently modified. One other antler section (Figure 5:e) has also been scored, snapped and shaved along its length. One section of swan (*Cygnus* sp.) tarsometatarsus (Figure 5:k) is a waste piece. Finally, two large sections of antler (Figure 5:a, b) have slight polish on much of their surfaces, but this may natural. One of them has a small burn mark on its external surface, approximately 30 mm from its tip (Figure 5:a). Since the tips are unaltered, the function of any of these items remains undetermined.

Discussion

Bone and antler appear to have been suitable raw materials for the manufacture of many tools and other items which served a variety of purposes. In 1978, McCullough noted that little attention had been paid to the examination of non-ceramic aspects of material culture of the prehistoric inhabitants of Ontario, and that until a detailed analysis of these artifacts has been carried out the chronological or spatial significance of these non-ceramic artifacts cannot be assessed. With a few exceptions, little appears to have improved with regards to worked faunal material since this observation was made over twenty years ago. For example, it is somewhat disappointing that worked faunal material does not warrant discussion in the OAS Field Manual (Adams 1994). In an historic context, bone and shell buttons are briefly noted. The only other references to bone are found in the glossary (awl, bone tool tech-

Figure 5. *Miscellaneous antler and bone from the Anderson site (AfGx-54).*

nology and projectile points). Perhaps the reasons for the lack of study are threefold. First, a frustrating aspect of worked bone, antler, tooth and shell analysis is the lack of a standardized classification scheme for worked faunal material. Second, any examination of temporal or spatial trends is hampered by the lack of detailed, published analyses of worked faunal material. Third, the analysis of worked faunal material suffers from a lack of information concerning what many of the items might have been used for and how they were used. According to Semenov (1964), the only reliable guide to an understanding of the original function of a tool is to find ethnographic parallels, to do practical experimentation and to carry out use wear analysis. While ethnographic information regarding use of bone, antler, tooth and shell is sorely lacking, replication of artifacts made from faunal material and examination of trace wear akin to Tringham et al.'s (1974) experiments on lithic tools is certainly possible and might provide some insights into the function of worked faunal material.

Within the worked faunal material recovered from the Anderson site, both utilitarian (i.e. awls and projectile points) and decorative (i.e. beads) categories are present. Given that few of the analogues employed can be considered to be solidly supported by use wear analyses or other lines of evidence and because, as an assemblage, these artifacts have only their raw material in common, little further discussion of these artifacts is warranted at present. It can be noted that deer bone and cervid antler were by far the most common raw materials used, probably both because of the size and quantity of bone available. Since many other animal species are well represented in the unmodified faunal assemblage, however, it is possible to suggest that deer bone may have been preferentially selected for use as bone tools. In other words, the selection of deer for raw material for at least some tools may indicate a closer symbolic association with deer than is indicated by deer's contribution to the diet. We can offer no other evidence at this time, however, to advance this idea beyond speculation.

Bone and antler artifacts have figured in some reconstructions of the Ontario Iroquois Tradition culture chronology. J.V. Wright (1966:59;1992:11) in particular, has argued that specific differences exist between Glen Meyer and Pickering bone tool assemblages. Further, Uren assemblages are argued to resemble more closely Pickering assemblages, offering support for Wright's "Conquest Hypothesis". The most notable difference between Glen Meyer and Pickering assemblages was believed to be in the presence of "cup and pin" phalanges in the latter while they were believed to be absent on Glen Meyer sites (Wright 1966:59;1992:11). Because Wright used only the Bennett site (Wright and Anderson 1969) to represent Pickering, and since the cultural affiliation of the Bennett site has been challenged (Bursey 1997:33-36), it would be preferable to examine the worked faunal assemblages from other Early Iroquoian sites to verify these patterns.

Among the Pickering sites published, two worked deer phalanges have been reported from the Boys site (Reid 1975:32) and five have been reported from the Richardson site (Pearce 1977:50, 1978:19). At the latter site, Pearce reports that two of the recovered phalanges have "three additional holes drilled through the shaft perpendicular to the longitudinal axis, placed at even intervals around the circumference" (Pearce 1977:50). All cases are described as being "cup and pin" type phalanges. Conversely, McCullough (1978:61) lists one similar artifact from the Grand Banks site (reportedly a Princess Point occupation), one from the Glen Meyer Pergentile site and one from the Van Besian site (cf. Noble 1975:35). None have been reported from the Calvert site, the only Glen Meyer site reported on to any degree. The frequency of recovered "cup and pin" type modified deer phalanges increases on Uren sites. Aside from Anderson, reports of this type of artifact include 21 from Myers Road (Thomas 1998:192), 29 from the Uren site (Wright 1986:49), at least 16 from Bennett (Wright and Anderson 1969:57) and 13 from Gunby (Rozel 1979:82). Finlayson (1998:2:589) reports only one proximal phalanx with the proximal end removed from the Uren Scout site and three from the Uren H&R site. These numbers are very low, but this may reflect

the fact that extensive excavations have not been carried out at these sites (Finlayson 1998:1:209. Accordingly, it cannot be inferred at this time that the "cup and pin" type modified deer phalanges are significantly more common on Pickering than on Glen Meyer sites, since low frequencies have been reported from both.

Frequencies do appear to increase during the Uren time period and into the Middleport, however. Two generalized hypotheses can be offered to account for this increase – differences in sampling or "cultural" differences. Some Early Ontario Iroquoian sites do not appear to have clearly defined middens, and most of the sites reported have either been the subject of very limited excavations or have been surface stripped to reveal subsurface features. In the latter case, only artifacts which were deposited in the lower levels of pits would have been recovered while artifacts deposited in surface middens, on house floors or elsewhere would not have been sampled unless the stripped material was later screened. Conversely, Uren and later sites like Anderson have more well-defined midden areas which usually have been subjected to at least test excavation prior to surface stripping. Thus, it is possible that differences in sampling may account for at least some of the variation through time. However, it seems that "cup and pin" modified deer phalanges do increase in frequency through time. Finlayson (1998) reports these phalanges from many Middleport sites: 15 from Unick, 34 from Rife, one from Chypchar, eight from Winking Bull, four from Itldu and ten from Pipeline. Numbers are higher for some of these sites if phalanges with "proximal epiphyses removed" and/or "proximal end perforated" are included. Unfortunately, because we do not know what function these artifacts served it is difficult to speculate on the nature of any change.

According to Wright (1966:59, 63) another bone tool trait characteristic of the Uren substage is the "polished bone bodkin". It is unclear exactly how Wright defined this supposedly diagnostic artifact type, nor were any photographs of these items supplied in his 1966 publication. Orr (1911:70) refers to a "bodkin", but photographs of his material show what are now referred to as "netting needles". Since netting needles are reported in Wright's description alongside mention of bodkins (Wright 1966:63, Plate 15), these two items are, presumably, different. In a later work Wright (1974:Plate 9) provides a photograph of an item he identifies as a bodkin. The item appears to be a long, thin object with a decorated end similar to what Finlayson (1998:4:Plate 3.118:7) labels a bodkin in a plate caption, but refers to as a hair pin in a table (Finlayson 1998:2:995). In addition, the nature of artifacts interpreted as bodkins appears to vary from site to site (compare Finlayson's [1998:4] Plate 4.3.77:6 and his Plate 4.3.118:7). Perhaps the overall lack of consistency arises from the varied definitions of a bodkin. According to the *Oxford English Dictionary* (1993) there are a number of definitions of a bodkin, four of which are relevant here:

> 1. A short pointed weapon; a dagger, poinard, stiletto, lancet. 2. A small, pointed instrument, of bone, ivory, or steel, used for piercing holes in cloth, etc. 3. A long pin or pin-shaped ornament used by women to fasten up the hair. 4. A needle-like instrument with a blunt knobbed point, having a large (as well as a small) eye, for drawing tape or cord through a hem, loop, etc.

As one can see from these definitions, an awl as well as a needle or hair pin could be said to be a bodkin. This situation illustrates the need to agree on standard terminology and definitions of faunal artifact categories and use them consistently throughout faunal artifact analyses.

Overall, the Anderson worked faunal assemblage most closely resembles other assemblages to the west. Conical antler projectile points appear to be more common on Glen Meyer and Uren sites than on Pickering sites. None of the varieties of bone and antler projectile points or harpoons found on Pickering sites such as Miller (Kenyon 1968:30) and Boys (Reid 1975:32) were recovered at Anderson. Furthermore, Rozel (1979:133, 135-136) noted that less than 15 percent of the worked bone and antler assemblages at Gunby were manufactured from antler. The presence of catfish spine awls on the Boys (Reid 1975:31), Bennett (Wright and Anderson 1969:57), Miller (Kenyon 1968:29-30) and

Gunby (Rozel 1979:73) sites is noted, but they appear to be absent from Uren, Anderson, Myers Road and Calvert. Whether this is simply a sampling aberration, or a trait significant to Pickering "influence" is unclear.

In summary, the excavations at the Anderson site produced a modest assemblage of worked faunal material. These have been described and, where possible, functional interpretations have been offered. Bone and antler artifacts served a variety of purposes, although identifying precise functions remains speculative for some forms. In terms of broader regional comparisons, the Anderson worked faunal assemblage appears to most closely resemble those from earlier Glen Meyer sites and some of the early Uren sites such as Gunby and Myers Road.

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References Cited

Adams, N.
1994 *Field Manual for Avocational Archaeologists in Ontario*. Ontario Archaeological Society, Inc., Willowdale, Ontario.

Ambrose, M.T.
1981 *North Pickering Development Corporation, Urban Stage One, Archaeological Excavation 1980*. Ms. on file, Ontario Ministry of Tourism, Culture and Recreation, Toronto, Ontario.

Bursey, J.A.
1996 The Anderson Site (AfGx-54) and the Early and Middle Ontario Iroquoian Occupation of the Lower Grand River. *Kewa* 96-7:2-20.
1997 Lessons from Burlington: A Reconsideration of the Pickering vs. Glen Meyer Debate. *Northeast Anthropology* 53:23-46.

Dodd, C.F., D.R. Poulton, P.A. Lennox, 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. 320-359. Occasional Publication 5. London Chapter, Ontario Archaeological Society, London, Ontario.

Ferris, N.I., I. Kenyon, R. Prevec, and C. Murphy
1985 Bellamy: A Late Historic Ojibwa Habitation. *Ontario Archaeology* 44:3-21.

Finlayson, W.D.
1985 *The 1975 and 1976 Rescue Excavations at the Draper Site: Introduction and Settlement Patterns*. Mercury Series Paper 130. Archaeological Survey of Canada, National Museum of Man, Ottawa, Ontario.
1998 *Iroquoian Peoples of the Land of Rocks and Water, A.D. 1000- 1650: A Study in Settlement Archaeology.* 4 vols. Special Publication 1. London Museum of Archaeology, University of Western Ontario, London, Ontario.

George, D.L., and R.L. George
1998 Porcupine Quillworking Tools on Monongahela Sites? Ethnology, Evidence and Implication. *Pennsylvania Archaeologist* 68(1):1-14.

Guilday, J.E.
1963 The Cup and Pin Game. *Pennsylvania Archaeologist* 33(4):159-163.

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

McCullough, K.M.
1978 *Modified Deer Phalanges at the Draper Site*. Research Report 5. Museum of Indian Archaeology, University of Western Ontario, London, Ontario.

Noble, W.C.
1975 Van Besian (AfHd-2): A Study in Glen Meyer Development. *Ontario Archaeology* 24:3-95.

Orr, R.B.
1911 Awls. In *Annual Archaeological Report, 1911, Including 1908-9-10*, edited by R.B. Orr, pp. 66-69. Appendix to the Report of the Minister of Education, Ontario, Toronto.

Pearce, R.J.
1977 *An Eastern Regional Expression of the Pickering Branch*. Unpublished MA thesis, Department of Anthropology, Trent University, Peterborough, Ontario.
1978 Archaeological Investigations of the Pickering Phase in the Rice Lake Area. *Ontario Archaeology* 29:17-24.

Reid, C.S.
1975 *The Boys Site and the Early Ontario Iroquois Tradition*. Mercury Series Paper 42. Archaeological Survey of Canada, National Museum of Man, Ottawa.

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

Semenov, S.A.
1964 *Prehistoric Technology*. Cory, Adams and Macray, London.

Smith, D.G.
1997 *Archaeological Systematics and the Analysis of Iroquoian Ceramics: A Case Study from the Crawford Lake Area, Ontario*. Bulletin 15. London Museum of Archaeology, University of Western Ontario, London, Ontario.

Stothers, D.
1977 *The Princess Point Complex*. Mercury Series Paper 58. Archaeological Survey of Canada, National Museum of Man, Ottawa, Ontario.

Thomas, S.C.
1998 Bone Artifacts. In *The Myers Road Site: Archaeology of the Early to Middle Iroquoian Transition*, edited by R.F. Williamson, pp. 182-192. Occasional Publication 7. London Chapter, Ontario Archaeological Society, London, Ontario.

Thwaites, R.G. (editor)
1959 *The Jesuit Relations and Allied Documents, Travels and Explorations of the Jesuit Missionaries in New France 1610-1791*. 73 vols. Pageant Book Co., New York.

Timmins, P.A.
1997 *The Calvert Site: An Interpretive Framework for the Early Iroquoian Village*. Mercury Series Paper 156. Archaeological Survey of Canada, Canadian Museum of Civilization, Hull.

Tringham, R., G. Cooper, G. Odell, B. Voytek, and A. Whitman
1974 Experimentation in the Formation of Edge Damage: A New Approach to Lithic Analysis. *Journal of Field Archaeology* 1:171-196.

Waldorf, D.C.
1993 *The Art of Flint Knapping*. 4th ed. Mound Builder Books, Branson, Missouri.

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

Wintemberg, W.J.
1928 *Uren Prehistoric Village Site, Oxford County, Ontario*. Bulletin 51. National Museum of Canada, Ottawa.
1948 *The Middleport Prehistoric Village Site*. Bulletin 109. National Museum of Canada, Ottawa.

Wray, C.F., M.L. Sempowski, L.P. Saunders, and G.C. Cervone
1987 *The Adams and Culbertson Sites*. Charles F. Wray Series in Seneca Archaeology 1, Research Record 19. Rochester Museum and Science Center, Rochester New York.

Wright, J.V.
1966 *The Ontario Iroquois Tradition*. Bulletin 210. National Museum of Canada, Ottawa.
1974 *The Nodwell Site*. Mercury Series Paper 22. Archaeological Survey of Canada, National Museum of Man, Ottawa, Ontario.
1992 The Conquest Theory of the Ontario Iroquois Tradition: A Reassessment. *Ontario Archaeology* 54:3-15.

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

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, Ontario.

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