

Glass Trade Beads from Waterford, New York

Charles Fisher*

Karen Hartgen

ABSTRACT

This paper describes the glass trade beads recovered from excavations in Waterford, New York. The general absence of references to glass beads in the archaeological literature of the middle and upper Hudson Valley is discussed. The small number of beads, their early age and the absence of other early historic period trade items is interpreted as relating to a specific period and type of Native American and European interaction.

Introduction

THE purpose of this paper is to describe the glass beads recovered from recent excavations of a site in Waterford, New York. Although only a small number of beads was recovered from this site, they are important for several reasons. First, there are relatively few references to trade beads in the published archaeological literature of the middle and upper Hudson Valley. The recovery of these beads has also provided distributional information on specific types of beads. In addition, this distribution data may reflect the type of historic trade that existed in the Hudson Valley. Both the chronology of the trade and the more general issues concerning the social mechanisms of interaction between contrasting cultural systems may be addressed with this information.

A brief review of the published data regarding contact period sites from the mid-Hudson Valley will precede the description of the glass beads from Waterford. This will be followed by a discussion of the Waterford site and the implications of the presence of the glass beads there.

Contact Period Sites in the Mid-Hudson Valley

Despite the presence of several excellent historic references to Indian occupation in the Hudson Valley, archaeologists have been generally unsuccessful in their attempts at locating them. Funk (1976) has attributed this lack of contact period sites to the early historical development of the valley, with European settlements situated directly on the locations of Late Woodland villages. Due to the lack of archaeological survey of these now urban areas, few late prehistoric sites have been located and investigated in this region.

In the early portion of this century, Harrington (1925) excavated an historic Indian cemetery on Croton Point. This palisaded site is the only archaeological example of the several "castles" recorded in the early documents.

Funk (1976:303) has reported several sites with small components which contained

typologically late pottery in apparent association with such white trade items as triangular sheet brass arrowpoints, kaolin pipes and steel carved bone implements . . . A very small, isolated campsite in the Rondout drainage south and west of Kingston . . . has produced a handful of surface items, including rolled sheet brass beads, tiny delicately flaked triangular flint arrowpoints, and some colored glass "seed" beads.

The Rip Van Winkle site, located on the Hudson River shore, just north of Catskill, contained a midden of refuse, shell, ashes, bone fragments,

*Charles Fisher and Karen S. Hartgen, Hartgen Archeological Associates, 27 Jordan Road, Troy, New York 12180.

and artifacts (Weinman and Weinman 1971). In the upper portions of this midden were "small fragments of reworked sheet brass and a tubular blue glass bead . . ." (Funk 1976:304). At the base of the stratum above this midden deposit was a variety of historic items, including salt-glazed pottery, ball clay pipes, and nails.

On the evidence of two pipes marked by the Fleur-de-lis, the brass objects and the cane bead, dates of about 1630-1660 should bracket the upper-level occupation of the midden. The Rip Van Winkle Site was apparently the spring-summer fishing camp of a small band of River Indians, who were in contact with the Dutch settlements in the general area (Funk 1976:304).

Excavations in the street in front of Fort Crailo in Rensselaer, produced evidence of early historic and prehistoric items (Huey, Feister, and McEvoy 1977). The trade items recovered included a single (burned) tubular glass bead along with brass fragments, a Jews harp, and European clay pipes.

Excavations at the site of Fort Orange in the City of Albany, New York, produced numerous glass beads. Although the analysis of this collection is in progress, Paul Huey allowed the authors to see some of the specimens from this important site. In addition, Huey also reported a glass seed bead from survey on Peebles Island, near Waterford, New York.

In summary, the archaeology of the historic contact period in the mid-Hudson Valley has been a frustrating experience for those interested in this information. Few sites have been investigated and reported, and they do not contain large quantities of contact material. The published reports contain information on only three glass beads, one from Peebles Island, one from Rip Van Winkle, and one from Fort Crailo. Only Fort Orange and the site near Kingston contain "numerous" beads. This may be a result of their specialized function as "frontier" posts.

Waterford Bead Description

The glass beads recovered from the Mechanicville Road site in Waterford appear to be different in size, shape, and color than the other reported specimens from this area. However, the color may be the least significant criterion due to the considerable variation in products of the same glass house, even among batches pre-

pared according to the same formula (Kidd 1979).

Since the beads found at Waterford and the other sites mentioned are all of the drawn (tube-drawn) type, a brief summary of this method of manufacture is appropriate. According to Kidd (1979), the 19th century technique of manufacture involved collecting molten glass (a "gather") on a blowpipe and blowing a bubble. Layers of glass were added by dipping the gather or rolling it over another glass. Stripes were made by attaching rods or blobs of colored glass to the glass bubble. The rods or blobs were then worked into the glass by heating and marvering until flush with the glass surface. The bubble could also be shaped into triangular, rectangular, or other forms.

After the bubble was decorated in the desired fashion, it was reheated and another rod was attached to the end opposite the blowpipe. This enabled two men to each hold a rod attached to the bubble and run in opposite directions, drawing the bubble out into the narrow, hollow tube.

After cooling, the tube was cut into individual beads. Usually the beads were rounded by heat and agitation. In order to prevent the fusing of beads to each other, or their bores from closing, the beads were packed with sand, ground charcoal, and other materials.

Kidd (1979) has stated that both explorer's reports and merchant's records indicate that beads were designated by size in American trade. Beads were divided into small, medium, and large, the smallest group of beads is referred to as "seed beads." These are made by the drawn (tube) process, but the tube is cut into sections not more than 2 mm in length.

Seed beads appear to be the most abundant in the study area, although the exact number is unknown. They were present in considerable quantity at Fort Orange (Paul Huey 1980, pers. comm.) and the site near Kingston contained "some" (Funk 1976). Only two specimens of this type were recovered from Waterford. Despite the packing of beads with sand and other materials, fusing occurred. An example is present in the two fused seed beads (#1518) from Waterford.

The tube (drawn) beads are distinguished in size from the seed beads by Kidd (1979). Tube beads are generally several times longer than they are wide. The specimen from the Rip Van Winkle site is blue (Funk 1976), while the bead

from Fort Crailo is believed to have been red on green (or black) but is in poor condition. Three monochrome body beads were found at Waterford. Unlike the beads from other Hudson Valley sites, they were all rounded in shape and contained stripes of white (in two cases) and white and red (#1636). One specimen (#6171) contained 9 thin white stripes on purple glass, while another (#1636) was blue glass with white and red stripes. One item (#6171) was twisted when it was drawn, resulting in spiral stripes. The third item's original color could not be determined although eight white stripes were observed (Table 1).

The polychrome beads from Waterford contain examples of gathers that were rolled or dipped one, two, three, and four times. One specimen (#1473) was black glass that was dipped into red. This is similar to the Fort Crailo bead, except that a more complex stripe pattern exists on this specimen. Broad white stripes were added with thin blue stripes on top of them. They were reheated and rolled into the bead so

that the surface is not raised. A layered combination of red, white, and blue glass was also present in beads from Waterford. These items (#1517, 1519, 1520) also had yellow and white stripes added to the outer case layer of glass. A blue bead, dipped (or rolled) in white and then blue glass and decorated with 16 thin white stripes (#5837) was also recovered. Within these polychrome specimens, a "star" or "chevron" bead was also present. This bead (#6862) was blue on white on red on white, with all the layers except the outer blue one blown into a corrugated mold. Upon cutting up this tube, the ends were ground at an angle, exposing wavy edges of white and red, creating a "star" or "chevron" pattern.

Specimens reported from other sites in the area include mainly the monochrome striped variety of tube beads and the more numerous "seed" beads. It should be clear from this description that the variety of types at this site is unusual for the Hudson Valley.

A brief description of the Mechanicville Road

Table 1
Glass Beads from Mechanicville Road Site, Waterford, New York

Specimen	Description	Kidd (1970) Number	Pratt (1961) Number
209-1473	rounded, black dipped in red broad white stripes with 2 thin blue stripes on them. +	IIIbb3*	22
209-1517, 209-1519, 209-1520	rounded, red dipped in white then blue, alternating yellow and white stripes. +	IVn1-6*	49
209-1518	(2) fused red "seed", 2mm x 3mm, # 1.7mm x 3mm.	IIa	60*
209-1636	oval, blue with 2 white and 2 red stripes, 8 x 7mm (only 1/2 of the bead)	IIb15*	
209-4814	rounded, unable to determine color (probably burned), with 8 white stripes, 6 x 8mm	IIb(?)	20*
209-5837	rounded, blue rolled or dipped in white, then blue with 16 thin white stripes, 7 x 9mm	IVb34*	20-27*
209-6171	rounded, purple bead w/9 "spiral" (twisted) white stripes, 7 x 9mm (in 3 groups of 3)	IIb'	19-21*
209-6862	rounded, chevron "blue star", blue on white on red on white, 5 x 7mm	IVk4*	

* = similar to

+ = fragments, not measured

= measurement order—length by width

site will now be presented to provide the context for these beads.

Mechanicville Road Site Description

The Mechanicville Road site was discovered during the survey of a Wastewater Treatment Facility for the Village of Waterford, New York (Hartgen 1977). The location of Waterford, on the north side of the Mohawk river at its junction with the Hudson River, places it along a major, natural transportation corridor. Both north-south and east-west river traffic passed by Waterford.

Urban surveying has a number of unique problems for archaeological research. In this case, the site is situated in 14 backyards along the Hudson River. The houses are on slightly higher ground adjacent to Mechanicville Road to the west. Access to the site was obtained by walkways into backyards of these houses, and numerous property lines, in the form of hedges and fences, were constant obstacles.

After the initial location of this site by hand testing, a Phase II survey was conducted to investigate the nature of this site (Hartgen 1978). The greatest concentration of archaeological features and prehistoric cultural material was located on the higher ground to the west, close to the present houses. The glass beads were also collected in this portion of the site.

On the basis of the Phase II results, the site was determined eligible to the National Register of Historic Places and a mitigation plan was developed and executed. This procedure called for the excavation of high density areas, while low material density portions of the site were explored with backhoe trenches aimed at locating features or deeper occupation zones. However, all archaeological excavations were restricted to a 2 m (6.6 foot) wide alignment (the width of the proposed interceptor) that was oriented north to south along the river shore. The more productive area, in terms of the recovery of glass beads, was to the west of this alignment. Additional glass beads, however, were found in the mitigation phase (Hartgen n.d.).

Trade System and Social Interaction

The presence of these beads at the Mechanicville Road site in Waterford raises a number of questions for future research. Since they are

not in association with other trade items or an early historic assemblage, they must be considered as the sole European manufactured items in a late prehistoric Native American assemblage. In general, this suggests a particularly early date for these beads.

In order to evaluate the chronological implications, these beads were compared to others that have been reported from dated archaeological sites. It has already been noted that the beads from Mechanicville Road vary considerably from Rip Van Winkle (A. D. 1630-1650), Fort Crailo (mid-17th century), and Fort Orange (after A. D. 1624). Pratt (1961:18) has reported that on Oneida sites of the earlier period (A. D. 1585-1595), glass beads were primarily "large and small oval polychromes . . . and oval opaque purple with three to eight or more vertical opaque white stripes . . ." Both of these types of beads were present at the Mechanicville Road site.

Quimby (1964) has described beads from the earliest historic period in the Great Lakes region (1600-1670) as polychrome chevron or star types and long, tubular beads. Since European contact and exchange was probably earlier to the east of this region, the time period for these bead types may be earlier in the Hudson Valley. The chevron or star bead recovered from Waterford most likely dates to the early portion of the 17th century, although it may be earlier.

Since Pratt's study is the most detailed description of beads near the study area that includes chronological information, this was used to estimate the age of the bead collection from Mechanicville Road. Five specimens are similar to beads Pratt describes from the earliest sites in his study, from A. D. 1570-1625. Only one bead is similar to an example dated from A. D. 1625 to 1637. The two fused seed beads are similar to types dating from A. D. 1637 to 1642 on Oneida Iroquois sites. The majority of this collection, therefore, possibly dates from A. D. 1570 to 1625 and probably no later than the mid 17th century according to Pratt's (1961) typology.

If the estimated age for these items from the late 16th to the early 17th century is accurate, they reflect quite early historic trade relationships. A number of documentary sources has referred to the presence of French fur traders from the St. Lawrence Valley in the mid-Hudson region as early as A. D. 1540 (Trigger 1971; Kammen 1975). Brasser (1978:153) has observed

an awareness of European interest in furs among the River Indians in their dealing with Henry Hudson in A. D. 1609. He states (Brasser 1978:153) "... far from being the first White visitor, Hudson's visit nearly finished the period of early exploration in this area."

The first detailed description of the river and its aboriginal inhabitants begins with the third voyage of Henry Hudson in the autumn of A. D. 1609. The possible influence of earlier French traders from the north can be inferred from the descriptions of Indian reactions to the arrival of Hudson's ship. Emanuel Van Mekren, writing in A. D. 1610 from information in the journal of Hudson's mate, remarked that:

In the lower part of the river they found strong and warlike people; but in the upper part they found friendly and polite people who had an abundance of provisions, skins and furs, . . . and other commodities . . . , and they traded amicably with the people (Jameson 1909:7).

From the account of Robert Juet, an officer on board the *Halfmoon*, it appears that the Indians in the vicinity of Waterford were acquainted with and eager for, trade with the Europeans.

Here, the people of the country came flocking aboard . . . and many brought us Beaver skinnies, and other skinnies, which we bought for Beades, Knives and Hatchets (Jameson 1909:22).

It seems reasonable to conclude that the native people had previous exchanges with Europeans, since they brought Hudson the pelts the Dutch desired the most.

In addition to providing material evidence of this early historic trade, the small quantity of beads may reflect the type of exchange that existed. Renfrew (1972) has presented four models of trade that may be evaluated by actual artifact distributions. Each model (down-the-line, prestige, directional, and freelance trade) has specific implications for the frequency distribution of trade items. By evaluating these models, it may be possible to determine the social mechanisms of exchange.

At this time, the lack of trade items from Hudson Valley sites does not permit quantified evaluation of these models. However, a qualitative examination of the evidence from Waterford supports the possibility of down-the-line exchange, possibly from French Canada. The presence of a small number of late 16th and early 17th century glass beads, without other trade

items, raises doubts regarding actual Native American and European direct, intensive, face-to-face contact in the mid-Hudson Valley at this time. At both Rip Van Winkle and Fort Crailo (mid-17th century sites) a variety of early European objects and late prehistoric artifacts was associated with glass beads. The absence of these other European items indicates greater distance between the inhabitants of the Mechanicville Road site and the source of these objects, the European traders.

Lenig (1977) in an excellent paper has described a similar situation for the nearby Mohawk Iroquois. European items from 16th century Mohawk village sites were few in number (only eight from three village sites), small and non-utilitarian. He argues this is a result of long distance acquisition from the St. Lawrence Valley. In contrast, sites dating after A. D. 1609 (when the Dutch trade may be considered to have begun) contain large numbers of both utilitarian and non-utilitarian European goods.

The presence of only non-utilitarian glass beads at Waterford may also reflect this early period of trade in the St. Lawrence area, a considerable distance away.

Summary

This paper has described the glass beads from an archaeological site in Waterford, New York. The general absence of references to glass beads in the archaeological literature of the middle and upper Hudson Valley reflects the limited data base regarding the early historic contact period. The comparison of these beads to others in the region demonstrates variability which may be a result of their early temporal affiliation. Quantitative data on the distribution of glass beads and other European trade goods are needed to evaluate proposed models of exchange. If Waterford is considered as an example, this information may be anticipated from surveys of other urban areas in the Hudson Valley.

References

- Brasser, Ted J.
1978 The Coastal New York Indians in the Early Contact Period. In *Neighbors and Intruders: An Ethnohistorical Exploration of the Indians of Hudson's River*, edited by Laurence M. Hauptman and Jack Campisi, pp. 150-157. National Museum of Man Mercury Series. Canadian Ethnology Service Paper No. 39.

- Funk, Robert E.
1976 *Recent Contributions to Hudson Valley Prehistory*. New York State Museum Memoir 22.
- Harrington, Mark R.
1925 *Indian Occupation of Croton Neck and Point*. Quarterly Bulletin Westchester County Historical Society 1 (4):3-19.
- Hartgen, Karen S. and Gregory Laden
1977 *Stage I Cultural Resource Survey, Waterford Interceptor, Waterford, Saratoga County, New York*. Hartgen Archaeological Associates; Albany.
- Hartgen, Karen S. et. al.
1978 *Stage II Cultural Resource Survey of the Waterford Interceptor System C-36-644 Site 209 First Street*. Hartgen Archeological Associates, Albany.
- Hartgen, Karen S.
n.d. *Results of Mitigation Proceedings at Mechanicville Road, Waterford*. Hartgen Archaeological Associates; Albany.
- Huey, Paul, Lois Feister and Joseph McEvoy
1977 *Archeological Investigations in the Vicinity of Fort Crailo During Sewer Line Construction Under Riverside Avenue in Rensselaer, New York*. The Bulletin, No. 69, New York State Archeological Association.
- Jameson, J. Franklin, Editor
1909 *Narrative of New Netherland*. New York.
- Kammen, Michael
1975 *Colonial New York: A History*. Charles Scribner's Sons, New York.
- Kidd, Kenneth E.
1979 *Glass Bead Making from the Middle Ages to the Early 19th Century*. History and Archaeology 30, National Historic Parks and Sites Branch, Parks Canada.
- Kidd, Kenneth E. and Martha Ann Kidd
1970 *A Classification System for Glass Beads for the Use of Field Archaeologists*. Canadian Historic Sites: Occasional Papers in Archaeology and History, No. 1, Ottawa.
- Lenig, Donald
1977 *Of Dutch, Beaver Hats and Iroquois. Current Perspectives in Northeastern Archeology: Essays in Honor of William A. Ritchie*, edited by Robert E. Funk and Charles F. Hayes III, pp. 71-84. New York State Archeological Association, Rochester.
- Pratt, Peter
1961 *Oneida Iroquois Glass Trade Bead Sequence, 1585-1745*. Fort Stanwix Museum Publication, Syracuse, New York.
- Quimby, George Irving
1964 *European Trade Objects as Chronological Indicators. In Diving Into the Past: Theories, Techniques and Applications of Underwater Archaeology; the Proceedings of a Conference on Archaeology*, edited by June Drenning Holmquist and Ardis Hillman Wheeler, pp. 48-52. Minnesota Historical Society, St. Paul.
- Renfrew, Colin
1972 *The Emergence of Civilization*. London.
- Trigger, Bruce
1971 *The Mohawk-Mahican War (1624-28): The Establishment of a Pattern*. Canadian Historical Review 52(3):276-86.
- Weinman, Paul L. and Thomas P. Weinman
1971 *The Rip Van Winkle Site. Pennsylvania Archaeologist* 41 (1-2):53-60.