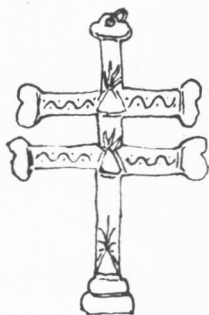
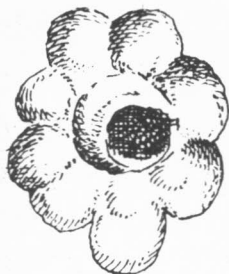


INDIAN CULTURE AND EUROPEAN TRADE GOODS



GEORGE IRVING QUIMBY

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CHAPTER 6

CHRONOLOGY FROM GLASS BEADS

Beads of various sorts have been in use among the Indians of North America for thousands of years. The European discoverers and conquerors of America were quick to recognize the Indians' desire for beads and were equally quick to exploit this desire in the differing contact situations that occurred in the historic period. European beads made of glass were used as presents to obtain the good will of Indians or were used in trade for the purchase of land, furs, food, and other things considered valuable by the white men.

The first recorded use of trade beads was that of Christopher Columbus on October 12 and 15, 1492. In his log it is stated that

In order to win the friendship and affection of [the] people, and because I was convinced that their conversion to our Holy Faith would be better promoted through love than through force, I presented some of them with red caps and some strings of glass beads which they placed around their necks, and with other trifles of insignificant worth that delighted them and by which we have got a wonderful hold on their affections. . . . A man from Conception Island was presented with a red cap and a string of small green glass beads. (Orchard, 1929, p. 14.)

In this simple manner was begun the acculturational process that led ultimately to the disintegration of aboriginal American culture.

It was more than a century later that European glass beads reached the western Great Lakes region, introduced there by Frenchmen. Glass beads were traded to the Indians by the French throughout the seventeenth and much of the eighteenth century. After 1760 the trade in the western Great Lakes area was taken over by the British, and after 1800 the Americans dominated the fur trade in the area. Beads remained in demand, so that both the British and the Americans carried them as media of exchange with the Indians for furs. Thus beads of glass were imported continuously into the western Great Lakes region from about A.D. 1610 until after the War of 1812.

Because glass beads were imported into the region over such a long period and because the styles of beads changed from time to time and because such beads are often present in the graves and sites of former villages of the Indians, it seems reasonable to suppose that beads of glass could be used by archaeologists to date undocumented Indian sites of the historic or contact period.

The idea of a time perspective based on trade beads is an old one. Some twenty-five years ago I thought it would be easy to trace various styles of beads to their European source, find out the date of the manufacture, and produce a sequence of bead styles that could, by association with Indian remains, be used to date these remains. But it has not been easy, even for those scholars specifically trained in historical research. At this writing I do not know of anyone who has successfully traced styles of beads to their sources of manufacture in Europe and obtained documented evidence of the times during which they were made. In fact, I do not know for certain where the beads were manufactured, but I suppose that most of the early ones were made in Venice, or perhaps in Amsterdam by imported artisans (see Van der Sleen, 1963).

Happily there is an easier way to obtain a chronology based on trade beads—a way that makes use of data that were not available twenty-five years ago. Within the last quarter of a century various historically documented sites that contained trade beads have been excavated by archaeologists. Specific sites or clusters of sites were occupied during limited and known periods of time; therefore the glass beads associated with these sites can be dated in a general way. Assemblages of beads from dated sites can be arranged in chronological order and studied comparatively to determine

the types of beads that seem to be diagnostic of a given segment of time. The bead chronology thus constructed can then be used in the dating of undocumented sites encountered by the archaeologists who are interested in the historic period.

BEADS OF THE EARLY HISTORIC PERIOD (1600-1670)

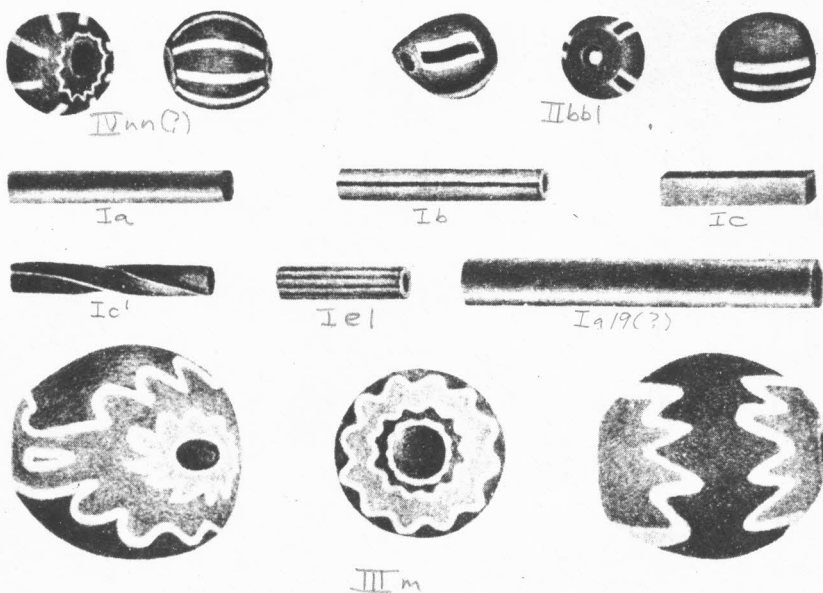
In the western Great Lakes region the earliest sites that have contained glass beads were those of the Huron and related Iroquoian-speaking groups that lived in Ontario near Georgian Bay, Lake Simcoe, and Lake Huron. And in this former land of Huronia there are two scientifically excavated sites that contained glass beads. Each of these sites is well documented historically. The first is that of the Jesuit mission, Sainte Marie I, that existed from A.D. 1639 to 1649 (see Kidd, 1949). The second is the site of the ossuary made at Ossossane in 1636 (see Kidd, 1953). The glass beads from Sainte Marie I and the Ossossane ossuary are listed in Appendix 1.

In addition to the two specific sites just mentioned, there are in Ontario a number of Huron, Petun, and Neutral sites that have produced glass beads. There is good documentary evidence showing that these groups of Indians occupied known areas of Ontario from the time of the arrival of the French, *circa* 1615, until 1650, by which date these Indians had been defeated and dispersed by Iroquois invaders (see Kinietz, 1940, pp. 1-3). Therefore the glass beads associated with Huron, Petun or Tobacco Huron, and Neutral remains in sites confined to the parts of Ontario abandoned by these Indians *circa* 1650 are trade beads representative of the period from about 1600 to 1650. If the beads belonged to a later period they could not have been found in these sites. A number of glass beads from such sites are in the collections of the Royal Ontario Museum at Toronto. A descriptive list of typical beads from Huron and Petun sites is provided in Appendix 2; and glass beads found in a Neutral site in 1837 and described and illustrated by Henry R. Schoolcraft (1853) are listed in Appendix 3.

Considered as a group, the glass beads diagnostic of the Early Historic period are large tubular or bugle beads, star or chevron beads, and beads with vertical stripes of two colors (Fig. 16). Tubular or bugle beads range from $\frac{1}{2}$ inch to more than 2 inches in length and may be round, square, or triangular in cross sec-

tion. Some beads which are square in section may be twisted, and some of the beads with round sections are fluted. Usual colors are dull brick-red or blue. Some of the bugle beads with round sections are blue with vertical (parallel to line hole) white stripes. A common style of polychrome bead is round, oval, or spheroidal, up to $\frac{1}{2}$ inch in length, and dull brick-red in color, with inlaid white stripes, in each of which is centered a blue stripe. However, the queen of Early Historic period beads is the chevron or star bead. These are round, spheroidal, or barrel-shaped and frequently of large size, from $\frac{1}{2}$ to $1\frac{1}{2}$ inches long (Fig. 16, top row). The chevron or star beads are made of six or more concentric layers of colored glass. Alternate layers of deep blue, brick-red, white, and sometimes other colors were used. The main layers of glass were separated by thinner layers worked into a series of zigzags. When the ends of these beads were ground into curved surfaces the colored bands produced a star or chevron-like pattern, and grinding the sides of these beads produced alternate stripes of different colors. These beads and those described above are often associated with various colors of monochrome beads of

Fig. 16. — Glass beads diagnostic of the Early Historic period, 1610–1670. Beads are from various sites in Ontario. Courtesy of Chicago Natural History Museum.



spheroidal shape. There are also a few spheroidal polychrome beads with spiral stripes, but they are a minority style. However, polychrome beads with spiral stripes appear in abundance in the Middle Historic period, for which they are diagnostic types.

IIb' / IIbb'

BEADS OF THE MIDDLE HISTORIC PERIOD (1670-1760)

There are four historically documented sites that have provided excellent data on the glass beads of the Middle Historic period, 1670 to 1760. Two of these sites are in the western Great Lakes region, one is in the lower Mississippi Valley, and one is in the James Bay area. Old Fort Albany, a trading establishment on the west coast of James Bay close to the mouth of the Albany River, was built in 1680 by the Hudson's Bay Company and was destroyed in 1715. The ruins of this fort were excavated by Walter A. Kenyon of the Royal Ontario Museum, who kindly allowed me to examine the glass beads recovered from the site. This collection of beads is listed and described in Appendix 4.

The historically documented site that has produced glass beads in the lower Mississippi Valley is the Fatherland site in Natchez, Mississippi. This site was once the "Grand Village" of the Natchez Indians (Ford, 1936, pp. 50-53), and was occupied from sometime before 1682 until 1730. Although the Natchez were visited by the French as early as 1682 the period of intensive contact did not begin until about 1700, and it ended in 1730 when the French defeated the Natchez in war and drove them from the area. Excavations at the Fatherland site (Ford, 1936, pp. 59-64) produced quantities of glass beads in association with other French trade objects and artifacts of native manufacture. The glass beads from the Fatherland site are thus indicative of styles in use by the French between 1682 and 1730. In 1940, I made analyses of collections of glass beads from the Fatherland site and noted their similarities to glass beads from the Fort St. Joseph area in Michigan (Quimby, 1942, pp. 545-46, and Plate I, Figs. 1-18), and reached the conclusion that the glass beads traded by the French in the lower Mississippi Valley were identical to those traded by the French in the western Great Lakes region.

Fort St. Joseph, in the vicinity of present-day Niles, Michigan, was established shortly before 1700 and lasted until 1781, although its heyday as a trading establishment was from about 1700

to 1763 (see Ballard, 1949). In 1937, I studied the collections of glass trade beads from Fort St. Joseph and vicinity in the Historical Museum at Niles. In 1961, I re-examined these beads and took photographs in color of some of them. A list of the styles of glass beads found at the Fatherland site and in the vicinity of Fort St. Joseph is provided in Appendix 5.

The glass beads from the Fatherland site in Mississippi and the Fort St. Joseph area in southwestern Michigan are identical to the beads found at the site of Fort Michilimackinac at Mackinaw City in northern Michigan (see Maxwell and Binford, 1961, pp. 89, 90, and 117). Fort Michilimackinac was occupied by the French in the second half of the Middle Historic period. I have examined a number of the beads found during the excavation of the site as well as beads in two private collections obtained from the site many years earlier. One bead type found at Fort Michilimackinac and not at Fort St. Joseph or the Fatherland site consisted of a bright blue glass disk about $\frac{3}{16}$ inch thick and about $\frac{3}{4}$ inch in diameter. It had an inlaid design in white of a man-in-the-moon on the obverse and a comet with two stars on the reverse. This type of bead has also been found associated with other types of beads representative of the Middle Historic period in an Indian grave on Old Birch Island in northern Georgian Bay (see Greenman, 1951, pp. 28, 29, and 55). Thus the man-in-the-moon bead, although of rare occurrence, seems to be a diagnostic type of the Middle Historic period.

Taken as a group, the polychrome beads diagnostic of the Middle Historic period (Fig. 17) are spheroidal or elongate spheroidal beads ranging from $\frac{3}{8}$ to $\frac{3}{4}$ inch in length and $\frac{1}{8}$ to $\frac{1}{2}$ inch in diameter, with straight or spiral stripes in a single contrasting color. These spiral stripes are relatively more abundant than the straight stripes in this period. Of monochrome beads (Fig. 17) similarly considered, the diagnostic forms are elongate spheroids, decahedrals with eight facets and two flat ends, raspberry (or mulberry) forms, egg-shaped (wire-wound) forms, usually quite large, and spheroidal beads with fluting. Such monochrome beads, other than seed beads used to decorate clothing and bags, ranged in length from $\frac{1}{4}$ to $1\frac{1}{8}$ inches and in diameter from $\frac{1}{8}$ to $\frac{5}{8}$ inch.

Although there is undoubtedly some overlap in bead styles between the Early and Middle Historic periods, the chevron or star

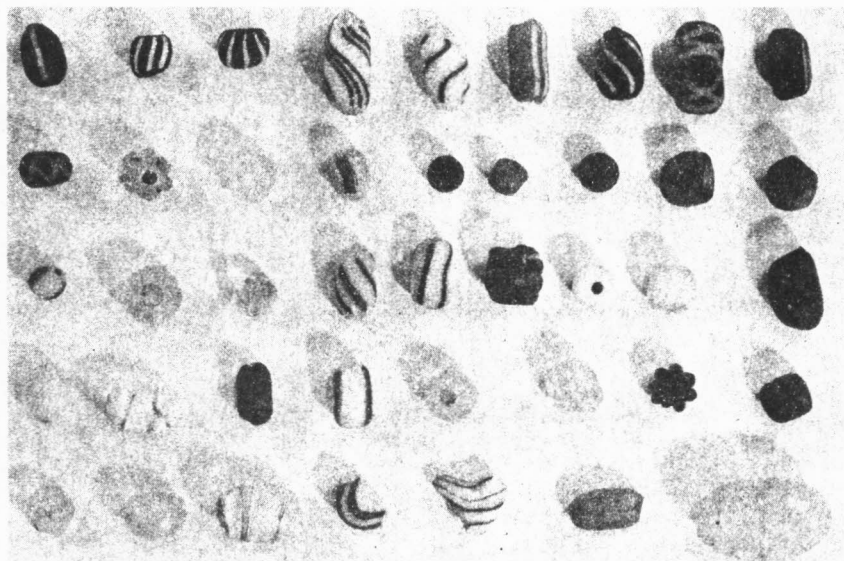
bead of the early period is lacking in the middle period. Conversely, the spheroidal or elongate spheroidal beads with spiral stripes and the egg-shaped wire-wound beads of the Middle Historic period do not occur in the Early Historic period. But some Middle Historic period bead styles may also represent the closing years of the Early Historic period.

BEADS OF THE LATE HISTORIC PERIOD 1760-1820⁺

Fortunately, the glass beads representative of the Late Historic period are quite different from those of the Early and Middle Historic periods and therefore fairly easy to recognize. Moreover, they have been found repeatedly in direct association with the kinds of silver ornaments made for the fur trade between 1760 and 1820, and thus they clearly belong to the Late Historic period (see Herrick, 1958).

Except for the small (seed) beads used in beadwork of various kinds there seem to be relatively fewer types of beads used in the Late Historic period. Polychrome beads particularly appear to be rare. One style of polychrome bead that is diagnostic of the Late

Fig. 17. — Glass beads representative of the Middle Historic period, 1670-1760. Courtesy of Chicago Natural History Museum.



Historic period consists of oval or barrel-shaped (wire-wound) beads of blue or green translucent glass with wreaths of leaves in yellow or white enamel encircling the mid-sections (equators). Another polychrome bead that is representative of the Late Historic period belongs to the polka dot or eyed bead class. It is round or spheroidal, usually about $\frac{3}{8}$ inch in diameter, and made of opaque glass that is dark blue or black. The dots, or eyes, are enamel and the colors vary. Some dots are white. Others are white partly superimposed by yellow, and still others have alternately red and blue dots on top of the white. However, polychrome beads of any sort are rare in the Late Historic period and therefore not as useful for dating purposes as some other types of beads.

A more popular class of monochrome beads diagnostic of the Late Historic period embraces several sizes and colors of multifaceted cut glass forms (Fig. 18). Some varieties of this class are about $\frac{1}{4}$ inch in diameter and $\frac{1}{4}$ to $\frac{1}{2}$ inch long, with eighteen or more facets. Colors noted are aquamarine blue, emerald green, crystal, and old heliotrope or lavender. Some smaller varieties of multifaceted beads of cut glass are $\frac{3}{16}$ inch in diameter and from $\frac{3}{16}$ to $\frac{5}{16}$ inch in length. They have fifteen or more facets and generally are cobalt blue although some are of crystal color. Most of the multifaceted varieties of beads are translucent regardless of color. And all of the varieties of multifaceted cut glass beads, regardless of color and size, are diagnostic of the Late Historic period.

Imitation wampum beads in opaque white, black, or dark blue are also characteristic of the late period. They are small tubular beads about $\frac{1}{8}$ inch in diameter and $\frac{3}{16}$ to $\frac{5}{16}$ inch in length. It is often difficult for me to distinguish these beads from the manufactured shell beads or wampum that also were traded by white men during the same period.

Other characteristic styles of glass monochrome beads include the following: oblate spheroidal beads of opaque dirty pink ranging from $\frac{3}{16}$ to $\frac{3}{8}$ inch in diameter and from $\frac{1}{8}$ to $\frac{1}{4}$ inch in length; spheroidal and oblate spheroidal beads of translucent green or blue from $\frac{1}{4}$ to $\frac{3}{8}$ inch in diameter; spheroidal and drawn teardrop forms of opaque glossy black about $\frac{1}{4}$ to $\frac{3}{8}$ inch in diameter; oblate spheroidal beads of translucent light blue $\frac{3}{16}$ inch in diameter; spheroidal beads of translucent blue $\frac{3}{16}$ to $\frac{1}{4}$ inch in

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diameter; and spheroidal beads of apple red over a pinkish core ranging in diameter from $\frac{3}{16}$ to $\frac{5}{16}$ inch.

In general, glass beads are not so important in dating sites of the Late Historic period as they are in the Early and Middle Historic periods. This is because of the popularity of silver ornaments in the late period. Whereas glass beads were the most popular form of imported adornment in the Early and Middle Historic periods they are relegated to a secondary position or practically superseded by various kinds of silver ornaments in the Late Historic period. However, seed beads — small beads used in ornamental bead work rather than in necklaces (see Fig. 19) — became

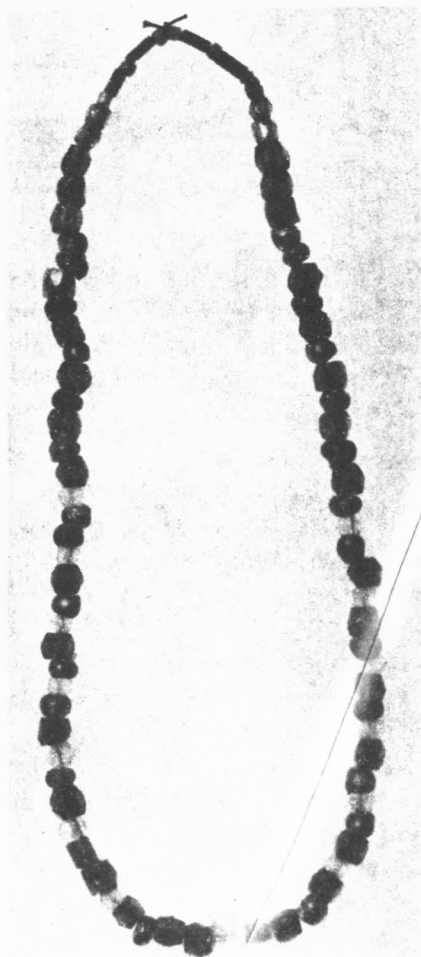
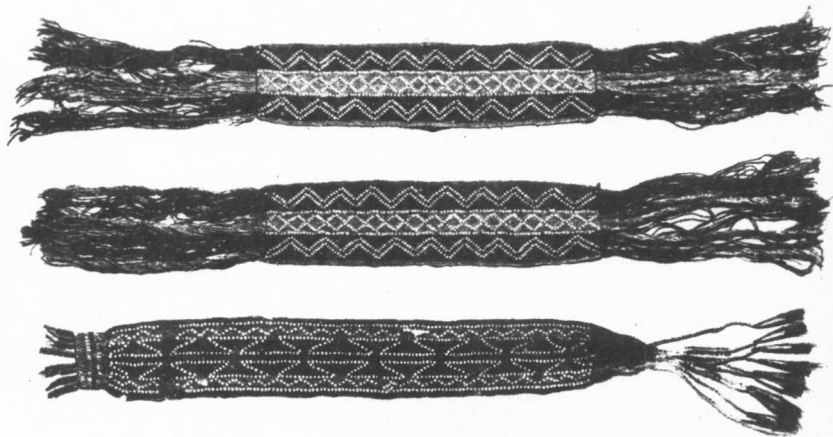


Fig. 18. — Glass beads representative of the Late Historic period, 1760–1820. Courtesy of Chicago Natural History Museum.

Fig. 19. — Small glass beads, called seed beads, woven into an ornamental pattern on garters made about 1760. These garters are in the collection of Chicago Natural History Museum. The upper two garters were acquired by Jeffrey Amherst between 1758 and 1763.



relatively more popular and more abundant in the Late Historic period. And although seed beads deserve better treatment than I have given them, their chronological importance is negligible compared to that of trade silver ornaments, which are discussed in Chapter 7.

REFERENCES

Ballard, 1949; Ford, 1936; Greenman, 1951; Herrick, 1958; Kidd, 1949, 1953; Kinietz, 1940; Maxwell and Binford, 1961; Orchard, 1929; Quimby, 1942; Schoolcraft, 1853; Van der Sleen, 1963.

APPENDIX 1

GLASS BEADS FROM SAINTE MARIE I AND OSSOSSANE

1639-1649

Ste Marie I, excavated by Kenneth E. Kidd, of the Royal Ontario Museum, was the site of a former French mission on the Wye River near Midland, Ontario. Founded in 1639 by the Jesuits as a center for their activities among the Huron, Ste Marie I lasted until 1649, when it was destroyed (Kidd, 1949, p. 3). The styles of glass trade beads found in the excavation of this site (Kidd, 1949, pp. 140-42) were as follows:

1. Long tubular beads with square cross section, $\frac{1}{4}$ inch in diameter and about $\frac{1}{2}$ to $2\frac{1}{2}$ inches long, color opaque and like red slate or dull red brick. Ends of this type of bead are unfinished, indicating beads were broken from exceedingly long tube or cane.

2. The same style of bead with spiral twist.

3. Short tubular beads with round cross section, $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter and $\frac{1}{4}$ to $\frac{3}{8}$ inch long, color opaque and like red slate or dull red brick. Ends are unfinished.

4. Small round beads $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter with opaque dull coral red exterior and a core of colorless glass that looks black on casual inspection because of masking effect of outer layer of red. This style is known as Cornaline d'Aleppo.

5. Small round beads $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter that are opaque dull coral red throughout.

6. Small globular beads $\frac{3}{16}$ to $\frac{5}{16}$ inch in diameter and $\frac{3}{16}$ to $\frac{1}{4}$ inch in length, opaque dark blue or opaque light blue in color.

7. Small ovate-oblong blue beads similar to those described above.

8. Long tubular beads, round in cross section, $\frac{1}{4}$ inch in diameter and about $1\frac{1}{4}$ inches long, with spiral grooves, opaque blue color.

1624-
-1636
The Ossossane ossuary in Simcoe County, Ontario, was also excavated by Kenneth E. Kidd (1953, pp. 359-79). This mass burial consisted of the skeletal remains of about one thousand Huron Indians who died between 1624 and 1636. The actual burial ceremony took place in May of 1636 and was witnessed by the Jesuit priest, Jean Brébeuf, who recorded his observations. The types of glass beads found with the burials (Kidd, 1953, p. 369 and Fig. 123) were as follows:

1. Long tubular beads with square cross section about $\frac{1}{4}$ inch in diameter and $\frac{1}{2}$ to 3 inches long, of opaque dull brick red color. Ends of beads are unfinished.

2. The same style of bead with spiral S-twist.

3. Long tubular beads with triangular cross section, without twist, but otherwise similar to the above-mentioned red tubular beads.

4. Small round beads about $\frac{3}{8}$ inch in diameter with opaque red exterior and colorless core, Cornaline d'Aleppo style.

5. Small round beads about $\frac{1}{4}$ inch in diameter that are of opaque blue color.

6. Small elliptical beads (football shape) $\frac{3}{8}$ inch long and opaque white in color.

7. Polychrome chevron or star beads, barrel-shaped about $\frac{1}{2}$ inch in diameter and $\frac{1}{2}$ inch in length. The canes by which these beads are formed were built up of concentric layers—deep cobalt blue, opaque brick red, opaque white, and sometimes other colors, in six or more bands. The main layers are divided by thinner ones, and the dividing surfaces are worked into a series of zig-zags producing a chevron effect at the ends of the beads and a starlike pattern in cross section.

8. Polychrome oval beads about $\frac{1}{2}$ inch long of opaque brick red color with three vertical opaque white stripes, in each of which is an opaque blue stripe.

9. Polychrome oval beads about $\frac{3}{8}$ to $\frac{1}{2}$ inch in length, of opaque light blue color with three vertical opaque white stripes.

APPENDIX 2

GLASS BEADS FROM HURON AND PETUN SITES

1600 - 1650

In the collections of the Royal Ontario Museum at Toronto, Canada, there are glass beads from various Huron and Petun sites in Ontario. As explained elsewhere such beads must represent the period from about 1600 to not later than 1650, otherwise they could not have been associated with Huron artifacts in that region. The following types of glass beads were among those observed by me in the Royal Ontario Museum's collections:

- Ia1
Ic1 1. Long tubular beads of opaque brick red color, square or round in cross section, of same style already described in Appendix 1.
- Ia19 2. Similar beads of opaque blue, round section.
- IVa2 3. Small round beads with opaque red exterior and colorless core, Cornaline d'Aleppo style.
- IIa1 4. Small round beads similar in size and shape to Cornaline d'Aleppo style but opaque red color throughout.
- IIa? 5. Small round beads of opaque dark or light blue.
- IIa13 6. Small round beads of opaque white.
- IIa15 7. Small elliptical or football-shaped beads of opaque white.
- IVk 8. Polychrome chevron or star beads, oval and barrel-shaped

with rounded rim. Colors of opaque deep blue, opaque brick red, and opaque white. Size ranges from $\frac{1}{2}$ to $1\frac{1}{2}$ inches in diameter and from $\frac{1}{2}$ to $1\frac{1}{2}$ inches in length.

IIbb1/39. Polychrome round and oval beads of opaque brick red with vertical opaque white stripes, in each of which is an opaque blue stripe.

IIbb210. Similar beads that have been flattened to produce a flat ovoid form with white and blue stripes on obverse and reverse.

Ibb111. Short tubular beads of opaque brick red with three opaque white stripes, in each of which is centered a blue stripe.

IIb'1212. Polychrome oval and round beads of opaque blue with three vertical opaque white stripes.

APPENDIX 3

GLASS BEADS FROM A NEUTRAL SITE

1600 - 1650

In 1837 many glass beads and various artifacts were excavated from neutral Indian burials at Beverly, near Dundas, Ontario, by curiosity-seekers and pioneer pot-hunters. Neutral contact with the French began shortly after A.D. 1600, and by 1650 the Neutral had been driven from the area by the Iroquois; therefore the beads from the Beverly ossuaries must date between 1600 and 1650. Henry R. Schoolcraft (1853, I, 103-4, Plates 8, 9, 24, 25; and 1857, VI, 603, Plate 25) obtained data concerning the site and some of the glass beads and other artifacts.

The glass beads illustrated by Schoolcraft include long tubular beads of opaque brick red, either round or square in cross section, a similar bead with square cross section and a spiral S-twist, large polychrome chevron or star beads, long tubular beads of opaque blue with round or square cross sections, a long tubular bead of opaque blue with vertical white stripes, and some short cylindrical monochrome and polychrome beads with unfinished ends. These short cylindrical beads look as if they had been made by breaking more or less standardized segments from a continuous tube that already had all of the characteristics of these beads except size. The monochrome beads of this class were opaque dark blue, opaque

Ia1
Ic1
Ic1'
III_m
Ia20
Ic11
Ib^(a)

Ia9

Ia5Ia1 77

light blue, opaque white, and opaque brick red. The polychrome beads were opaque blue with vertical stripes of opaque white, opaque blue with spiral stripes of opaque white, and opaque white with spiral stripes of opaque red, in each of which is centered an opaque blue stripe.

Ib'6a)Ib'4Ib6'

APPENDIX 4

GLASS BEADS FROM OLD FORT ALBANY

1680-1715

The glass beads excavated from Old Fort Albany by Walter A. Kenyon are in the collections of the Royal Ontario Museum. Old Fort Albany was built in 1680 and destroyed in 1715; therefore the beads associated with its ruins must have been at the fort sometime between 1680 and 1715. These glass beads include the following types:

1. Long tubular beads of opaque blue about $\frac{3}{4}$ to $1\frac{1}{2}$ inches long.
2. Elongate spheroidal beads $\frac{3}{16}$ to $\frac{3}{8}$ inch in diameter and $\frac{3}{8}$ to $\frac{5}{8}$ inch long of opaque white. These beads usually have a nib or slight projection at the line hole.
3. Small football-shaped beads about $\frac{3}{8}$ inch long of opaque bluish green.
4. Small round beads of opaque bluish green about $\frac{1}{4}$ inch in diameter.
5. Oblate spheroidal beads of opaque blue about $\frac{3}{8}$ inch in diameter.
6. Elongate spheroidal beads of opaque blue about $\frac{3}{8}$ inch in diameter and $\frac{1}{2}$ inch in length.
7. Oblate spheroidal beads about $\frac{3}{8}$ inch in diameter of opaque

brick red with translucent colorless cores that appear to be black on casual inspection. This is the Cornaline d'Aleppo style.

8. Elongate spheroidal beads of the same style about $\frac{1}{2}$ inch in length.

9. Large oblate spheroidal beads of shiny black about $\frac{1}{2}$ inch in diameter.

10. Small round and oblate spheroidal beads of opaque white about $\frac{1}{4}$ inch in diameter.

11. Small round or oblate spheroidal beads of opaque blue about $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter.

12. Small oblate spheroidal shiny black beads about $\frac{1}{4}$ inch in diameter.

13. Small oblate spheroidal beads about $\frac{1}{4}$ inch in diameter, of opaque dull red exterior with core of translucent colorless glass that looks black on casual inspection. This is a Cornaline d'Aleppo style.

14. Long tubular polychrome beads of opaque blue with vertical (parallel to line hole) white stripes. These beads are about 1 inch in length, and round in cross section.

15. Long tubular polychrome beads about 1 inch long of opaque white with two spiraling stripes of opaque reddish brown.

16. Elongate spheroidal polychrome beads about $\frac{1}{2}$ inch long of opaque white with three vertical stripes of opaque brick red.

17. Large oblate spheroidal polychrome beads about $\frac{3}{8}$ to $\frac{1}{2}$ inch in diameter and of opaque black with three wavy stripes of opaque white placed horizontally (at right angles to the direction of the line hole).

Numbers 2, 16, and 17 are diagnostic of the Middle Historic period, particularly of the first half of it. Probably the bugle or tubular beads, numbers 1, 14, and 15, are also diagnostic of the early part of the Middle Historic period.

APPENDIX 5

GLASS BEADS FROM THE FATHERLAND SITE AND FROM THE FORT ST. JOSEPH AREA

1670 - 1760

The following description of beads from the Fatherland site and the Fort St. Joseph area is one that I completed in 1941. However, I have recently checked it against photographs of beads from each of the collections.

SEED BEADS (VERY SMALL BEADS)

Colorless

Colorless, translucent, oblate spheroidal and tubular glass beads with diameters from $\frac{1}{8}$ inch and lengths from $\frac{1}{8}$ to $\frac{3}{16}$ inch.

Monochrome

Blue-green, oblate spheroidal and tubular glass beads with diameters from $\frac{1}{16}$ to $\frac{3}{16}$ inch and lengths from $\frac{1}{16}$ to $\frac{3}{16}$ inch.

Polychrome

Cornaline d'Aleppo type, red opaque with translucent bluish center, oblate spheroidal glass beads about $\frac{1}{8}$ inch in diameter and about $\frac{1}{8}$ inch in length.

ELONGATE SPHEROIDAL BEADS

Colorless

Colorless, translucent, elongate spheroidal glass beads with diameters from $\frac{3}{16}$ to $\frac{5}{16}$ inch and lengths from $\frac{3}{8}$ to $\frac{1}{2}$ inch.

Monochrome

Milky-white, somewhat translucent, elongate spheroidal glass bead with a diameter of $\frac{5}{8}$ inch and a length of $1\frac{1}{16}$ inches.

White, opaque, elongate spheroidal glass beads with diameters from $\frac{3}{16}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

Gray-blue, opaque, elongate spheroidal glass beads with diameters from $\frac{3}{16}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

Dark blue, opaque, elongate spheroidal glass beads with diameters from $\frac{3}{16}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

Polychrome

Green, translucent, elongate spheroidal glass beads with eight inlaid white bars parallel to the line hole. The diameters range from $\frac{1}{4}$ to $\frac{3}{8}$ inch and the lengths from $\frac{3}{8}$ to $\frac{1}{2}$ inch.

Gray-blue, opaque, elongate spheroidal glass beads with three inlaid bars parallel to the line hole. These bars have white margins with red centers. The diameters range from $\frac{3}{16}$ to $\frac{5}{16}$ inch and the lengths from $\frac{3}{8}$ to $1\frac{3}{16}$ inch.

Blue, opaque, elongate spheroidal glass beads with three inlaid bars parallel to the line hole. These bars have white margins and red centers. The diameters range from $\frac{1}{8}$ to $\frac{3}{8}$ inch and the lengths from $\frac{3}{8}$ to $\frac{3}{4}$ inch.

Black, opaque, elongate spheroidal glass beads with three white inlaid bars parallel to the line hole. The diameters range from $\frac{1}{8}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

Blue, translucent, elongate spheroidal glass beads with five white inlaid spiral bars. The diameters range from $\frac{1}{4}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{5}{16}$ inch.

White, opaque, elongate spheroidal glass beads with three spiral bands, each composed of three inlaid blue bars. The diameters range from $\frac{1}{4}$ to $\frac{3}{8}$ inch and the lengths from $\frac{1}{2}$ to $\frac{5}{8}$ inch.

White, opaque, elongate spheroidal glass beads with six inlaid red spiral bars. The diameters average about $\frac{1}{4}$ inch and the lengths range from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

White, opaque, elongate spheroidal glass beads with six inlaid

blue spiral bars. The diameters range from $\frac{1}{4}$ to $\frac{3}{8}$ inch and the lengths from $\frac{3}{8}$ to $\frac{1\frac{3}{16}}$ inch.

White, opaque, elongate spheroidal glass beads with three inlaid bars parallel to the line hole. The borders of these bars are red and the centers are blue. The diameters range from $\frac{3}{16}$ to $\frac{5}{16}$ inch and the lengths from $\frac{1}{4}$ to $\frac{10}{16}$ inch.

White, opaque, elongate spheroidal glass beads with three inlaid bars parallel to the line hole. These bars are blue at the margins and red in the center. The diameters range from $\frac{1}{8}$ to $\frac{1}{4}$ inch and the lengths from $\frac{3}{8}$ to $\frac{5}{8}$ inch.

White, opaque, elongate spheroidal glass beads with three inlaid blue bars parallel to the line hole. The diameters range from $\frac{1}{4}$ to $\frac{3}{8}$ inch and the lengths from $\frac{7}{16}$ to $\frac{9}{16}$ inch.

White, opaque, elongate spheroidal glass beads with six inlaid bars parallel to the line hole. These bars in repeating order are red, blue, and green. The diameters average about $\frac{5}{16}$ inch and the lengths about $\frac{9}{16}$ inch.

SPHEROIDAL AND OBLATE SPHEROIDAL BEADS

Colorless

Colorless, translucent, spheroidal and oblate spheroidal glass beads with diameters from $\frac{5}{16}$ to $\frac{3}{8}$ inch and lengths from $\frac{5}{16}$ to $\frac{3}{8}$ inch.

Monochrome

White, opaque, spheroidal and oblate spheroidal glass beads with diameters from $\frac{1}{4}$ to $\frac{3}{8}$ inch and lengths from $\frac{3}{16}$ to $\frac{5}{16}$ inch.

Dark blue, opaque, spheroidal and oblate spheroidal glass beads with diameters from $\frac{1}{4}$ to $\frac{3}{8}$ inch and lengths from $\frac{1}{2}$ to $\frac{5}{16}$ inch.

Green, opaque, spheroidal and oblate spheroidal glass beads with diameters from $\frac{3}{16}$ to $\frac{5}{16}$ inch and lengths from $\frac{5}{16}$ to $\frac{3}{8}$ inch.

Polychrome

Colorless, translucent, spheroidal and oblate spheroidal glass beads with seven white threads pressed in the glass parallel to the line hole. "Gooseberry type." The diameters are about $\frac{3}{8}$ inch and the lengths vary from $\frac{5}{16}$ to $\frac{7}{16}$ inch.

Cornaline d'Aleppo type, reddish brown exterior shell over

core of opaque blue. The shape is spheroidal. The diameters are about $\frac{5}{16}$ inch and the lengths are also about $\frac{5}{16}$ inch.

Blue, translucent, spheroidal and oblate spheroidal glass beads with eight white inlaid bars parallel to the line hole. The diameters are from $\frac{1}{4}$ to $\frac{3}{8}$ inch and the lengths from $\frac{3}{16}$ to $\frac{3}{8}$ inch.

Green, translucent, spheroidal glass beads with eight inlaid white bars parallel to the line hole. The diameters are about $\frac{5}{16}$ inch and the lengths are also $\frac{5}{16}$ inch.

White, opaque, spheroidal glass beads with three bars parallel to the line hole. These bars have red margins and blue centers. The diameters are about $\frac{5}{16}$ inch, and the lengths are also $\frac{5}{16}$ inch.

Black, opaque, oblate spheroidal glass beads with a network of three wavy stripes of white or yellowish white inlay placed horizontally. The diameters are from $\frac{3}{8}$ to $\frac{1}{2}$ inch and the lengths from $\frac{5}{16}$ to $\frac{7}{16}$ inch.

OBLATE SPHEROIDAL JOINED BEADS

Monochrome

White, opaque, oblate spheroidal joined glass beads with diameters of $\frac{5}{16}$ to $\frac{3}{8}$ inch and lengths of $\frac{1}{2}$ to $\frac{9}{16}$ inch.

Blue-gray, opaque, oblate spheroidal joined glass beads with diameters of $\frac{5}{16}$ to $\frac{3}{8}$ inch and lengths of $\frac{1}{2}$ to $\frac{9}{16}$ inch.

Polychrome

Black, opaque, oblate spheroidal joined glass beads with a network of three intertwined white or yellowish white bands. The diameters average $\frac{3}{8}$ inch and the lengths about $\frac{9}{16}$ inch.

SPHEROIDAL FLUTED BEADS

Blue, translucent, spheroidal glass beads with longitudinal fluting. Diameters are about $\frac{3}{8}$ inch and lengths are about $\frac{3}{8}$ inch.

DECAHEDRAL BEADS (ALSO CALLED BEADS WITH EIGHT FACETS)

Colorless, translucent, decahedral glass beads with diameters of about $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{1}{2}$ inch.

Blue, somewhat opaque, decahedral glass beads with diameters of about $\frac{3}{8}$ inch and lengths from $\frac{3}{8}$ to $\frac{1}{2}$ inch. These beads have eight facets and are ten-sided when one counts the flat ends.

RASPBERRY-SHAPED BEADS

Colorless, translucent, raspberry-shaped glass beads with diameters of $\frac{3}{8}$ inch and lengths also about $\frac{3}{8}$ inch.

Blue, translucent, raspberry-shaped glass beads with diameters of about $\frac{3}{8}$ inch and lengths also about $\frac{3}{8}$ inch.