

The Beads from Fort William, 1968 - 1973

by

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OLD FORT WILLIAM HISTORICAL PARK  
THUNDER BAY , ONT.

## INTRODUCTION

During the period from 1968 to 1973, one ceramic bead and 195 glass beads were recovered from Fort William. Of the glass specimens, 184 are drawn, nine are wound and two are mould pressed.

The drawn and wound beads are classified using the system developed by Kenneth and Martha Kidd (1970) to facilitate future inter-site comparisons of bead assemblages, and the colour and size notations used in this report correspond to those employed by the Kidds. Colours are designated using the names and codes in the Color Harmony Manual (Jacobson, et al 1948). The equivalent colour codes in the Munsell colour notation system (Munsell Color Company 1960) are also provided for the benefit of those who may not be familiar with the manual. The size categories used refer to bead diameter and have the following numerical values: very small, under 2 mm.; small, 2 mm. to 4 mm.; medium, 4 mm. to 6 mm.; large, 6 mm. to 10 mm.; and very large, over 10 mm. Although the Kidds use "clear" in lieu of "transparent," the latter term is used herein since it is felt to be more descriptive.

## GLASS BEAD MANUFACTURING TECHNIQUES

A brief survey of the methods employed to manufacture glass beads is presented here to indicate the differences between the beads in the three categories mentioned above.

In the manufacture of drawn beads, a long tube is drawn out from a hollow globe of molten glass by two men. After cooling, the tube is broken into short sections to facilitate handling. These are then

annealed to strengthen the glass. Each tube is subsequently broken into bead lengths by placing it on a sharp iron chisel set in a block of wood and striking it with another chisel-like tool (Anonymous 1825: 120).

The resultant beads may be left unaltered, or their broken ends may be rounded. The latter is accomplished by placing the beads in an iron drum containing a mixture of plaster and graphite, or clay and charcoal dust (Orchard 1929: 85). The drum is then heated and rotated simultaneously. In another process the beads are put in a large pan with sand and wood ash, or plaster and graphite (Murray 1964: 14). The pan is then heated over a charcoal fire and the contents are stirred with a spatula resembling a hatchet with a round end (Anonymous 1825: 120). In both processes the heat and agitation round the broken ends, while the various "packing" mixtures keep the beads from sticking together and prevent their perforations from collapsing as the glass becomes viscid. Depending on the length of time that the beads are treated in this manner, they may range from practically unaltered tube fragments to almost perfect spheroids.

Drawn beads have certain characteristics due to their method of manufacture. Beads may consist of unaltered tube sections with uneven, broken ends, commonly referred to as "bugle" beads. Bubbles in the glass and striations on the surface, if present, are oriented parallel to the axis, an imaginary line passing through the centre of the perforation. The perforation is parallel-sided and usually has a smooth surface.

Wound beads are produced in a totally different manner. In this process a thin filament of glass is drawn from a molten rod and wound

repeatedly around a rotating metal mandrel until the desired size and shape are achieved (Murray 1964: 16). The remainder of the filament is then cut from the bead which is heated and turned to further fuse the glass and create a smoother surface. This procedure is continued until several beads have been formed. After cooling they are removed from the mandrel which is sometimes tapered to facilitate this step.

The surfaces of wound beads usually exhibit swirl marks that are at right angles to the axis. Bubbles in the glass are either round, or elongate and at right angles to the axis. The perforation may taper and have an uneven surface.

Descriptions of the manufacture of mould pressed beads are rare and scanty. Simply stated, the procedure consists of pressing molten glass in a two-piece mould and then letting it harden. In a variation of this method, a newly-formed wound bead is clamped in a two-piece mould to give it a uniform shape or to impress a design.

Due to the method of manufacture, mould pressed beads usually have a visible mould seam encircling either the equator or the length of the bead.

#### INVENTORY OF BEAD TYPES

Thirty-five distinct bead types are represented in the collection. Those marked by an asterisk (\*) in the following list are types not recorded by the Kidds (1970) and do not, as yet, have type numbers.

##### Drawn Glass Beads

Ia4 Tubular; small size; translucent, oyster white (b; N 9/0); 1 specimen.

Ia12 Tubular; medium size; transparent, bright navy (13 pg; 7.5PB 3/4); 2 specimens.

- IIf2 Tubular; cornerless hexagonal; medium size; transparent, light gray (c; N 8/0); 1 specimen. This almost colourless bead consists of a short section of hexagonal (six-sided) tubing with a triangular facet cut on each corner. The body facets consist of irregular diamond-shaped, unaltered tube faces. The bead has a total of 18 facets.
- IIa6 Round; very large size; opaque, black (p; N 1/0); 1 specimen.
- IIa7 Circular; small size; opaque, black (p; N 1/0); 1 specimen.
- IIa11 Round; medium size; translucent, oyster white (b; N 9/0); 1 specimen.
- IIa12 Circular; very small to medium size; translucent, oyster white (b; N 9/0); 88 specimens.
- IIa14 Circular; very small and small size; opaque, white (a; N 10/0); 44 specimens.
- IIa27 Circular; very small size; transparent, emerald green (21 nc; 7.5G 5/8); 5 specimens.
- IIa41 Circular; very small size; opaque, robin's egg blue (16 ic; 5B 6/6); 1 specimen.
- IIa56 Circular; small size; transparent, bright navy (13 pg; 7.5PB 3/4); 1 specimen.
- IIa\* Circular; very small size; transparent, light gray (c; N 8/0); 4 specimens.
- IIa\* Circular; very small size; transparent, light gold (2 ic; 2.5Y 7/7); 4 specimens.
- IIa\* Circular; very small and small size; translucent, light gold (2 ic; 2.5Y 7/7); 3 specimens.

- IIa\* Circular; very small size; transparent, light cherry rose (7 ga; 2.5R 7/3); 3 specimens.
- IIa\* Circular; very small and small size; opaque, light cherry rose (7 ga; 2.5R 7/8); 6 specimens.
- IIa\* Circular; very small size; transparent, pale blue (15 ca; 10B 9/3); 2 specimens.
- IIa\* Circular; medium size; transparent, cerulean blue (15 nc; 10B 5/8); 2 specimens. Numerous bubbles in the glass make it almost translucent.
- IIa\* Circular; very small and small size; transparent, bright blue (16 lc; 5B 5/7); 3 specimens.
- IIa\* Circular; small size; translucent, bright blue (16 lc; 5B 5/7); 2 specimens.
- IIa\* Circular; small size; translucent, dark palm green (23 ni; 10GY 4/4); 1 specimen.
- IIa\* Oval; large size; translucent, oyster white (b; N 9/0); 4 specimens.
- IVa6 Circular; very small size; opaque, redwood (6 le; 7.5R 5/6) outer layer; transparent, apple green (23 ic; 10GY 6/6) core; 3 specimens. Beads of this style are commonly called "Cornaline d'Aleppo."
- IVa\* Circular; very small to medium size; transparent, scarlet (7 pa; 5R 4/14) outer layer; opaque, white (a; N 10/0) core; 1 specimen. 3?  
Beads of this style are also commonly referred to as "Cornaline d'Aleppo."

#### Wound Glass Beads

- WIa16 Round; very large size; transparent, bright navy (13 pg; 7.5PB 3/4); 1 specimen.
- WIb\* Round; very large size; translucent, light gray (c; N 8/0); 1 specimen.

- W1b\* Round; very large size; opaque, black (p; N 1/0); 1 specimen.
- W1c1 Oval; small size; opaque, white (a; N 10/0); 1 specimen.
- W1c\* Oval; large size; opaque, pearl (2 ba; 5Y 9/2); 2 specimens.
- W11b\* Round; large size; transparent, ruby (8 pc; 2.5R 4/8) bead with an opaque, light gold (2 ic; 2.5Y 7/7) floral wreath encircling the equator; 1 specimen.
- W111b\* Round; large size; opaque, white (a; N 10/0) bead decorated with a spiral, transparent, light red (7 $\frac{1}{2}$  1a; 2.5R 5/10) stripe that encircles the bead a maximum of 3 times; 1 specimen.
- W111b\* Round; large size; opaque, white (a; N 10/0) bead decorated with three copen blue (13 $\frac{1}{2}$  1c; 5PB 5/8) dots and six apple green (23 ic; 10GY 6/6) dots -- the blue dots are separated from each other by two green dots; 1 specimen.

#### Mould Pressed Glass Beads

Round-faceted; very large size; translucent, pale blue (15 ca; 10B 9/3); 1 specimen. The surface is covered with 44 irregular, cut facets. The nine facets encircling each slightly concave end are pentagonal; the 26 facets encircling the equator are roughly diamond-shaped. Unaltered curved surfaces are visible between some facets. The perforation tapers sharply. Swirls in the glass and tiny remnants of a raised mould seam encircling the equator indicate that the bead was wound on a tapered mandrel and then pressed in a mould. The facets were cut after the bead had cooled.

Round-faceted; very large size; opaque, black (p; N 1/0); 1 specimen.

The surface is covered with 45 cut facets. These are arranged so that there are nine rows of facets parallel to the axis and

five rows perpendicular to it. The facets in the three rows encircling the equator are rectangular; those bordering the flat ends are trapezoidal. The perforation tapers sharply. This specimen was apparently made in the same manner as the one described above.

#### Ceramic Bead

Round; very large size; opaque, white (a; N 10/0) earthenware bead; 1 specimen.

### DISCUSSION

Circular beads (those commonly used in embroidery) are represented by 174 specimens and constitute 88.8 per cent of the entire collection. Using Conn's (1972: 7) size groups, 48 of these are of "seed bead" size (1 mm. to 2 mm. in diameter), 64 are of "intermediate" size (2 mm. to 3 mm. in diameter), and 62 are of "pony bead" size (3 mm. to 5 mm. in diameter). White and oyster white specimens predominate. Other colours are relatively scarce.

Necklace beads (those which are large or very large in size) are rare, being represented by only 14 specimens. Bead types Ia4, Ia19, If2, IIa11 and W1c1 could have been used either for necklaces or embroidery. The two mould pressed specimens with the tapering perforations may have served as heads on large metal, bone or wood pins, or as pendants.

The majority of the beads are not diagnostic of any specific time period and cannot be used to establish or corroborate dates for the archaeological strata in which they were found. The circular embroidery beads are useless for dating purposes because of their extremely long temporal range. They were among the first beads to be brought to the



New World and are still being made. The unfaceted tubular specimens fall into much the same category. The remaining beads are more distinctive, but a chronological sequence has only been worked out for four of the types. Unfortunately, the temporal ranges of these types are so broad, relatively speaking, that they are of little or no use in dating their archaeological contexts at Fort William.

Two of the WIIb\* beads (those decorated with dots or a floral design) are assigned to the Late Historic Period (1760 - 1820 or slightly later) by Quimby (1966: 88). The small, white, oval bead (WIc1) is attributed to the period from 1767 to 1820, by Harris and Harris (1967: 148 - type 101; 157). However, while the earliest dates are probably relatively accurate, that these types continued to be manufactured and traded until at least the 1860s is suggested by the presence of similar specimens at Fort Berthold II, North Dakota, which was in operation from 1862 to 1886 (Smith 1972: 150).

The cornerless hexagonal bead (If2) can be assigned to the period from ca. 1780 to ca. 1880; Harris and Harris (1967: 151 - types 129 and 130; 157-8) record similar types for the period from 1780 to 1836, while Woodward (1965: 10) states that faceted, tubular beads were popular on the West Coast from the 1830s to around 1880.

Although the original source of the beads cannot be stated with absolute certainty, it is very possible that at least the glass specimens were made in Venice or Bohemia, the two major glass bead manufacturing centres during the period that Fort William was in operation.

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