

The Yuquot Project
Volume 3

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Glass Beads from Yuquot, British Columbia

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Abstract

Archaeological excavations conducted at Yuquot, British Columbia, by W.J. Folan, then of the National Historic Parks and Sites Branch, produced a collection of 77 glass beads representing 17 distinct types. These were classified using the system developed by Kenneth and Martha Kidd to facilitate future inter-site comparisons of bead assemblages. The beads, primarily large-faceted specimens, are attributed to the late 18th century and the greater part of the 19th century.

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Introduction

In 1966 William J. Folan, then of the National Historic Parks and Sites Branch, conducted the archaeological investigation of Yuquot, a Nootkan village situated on Friendly Cove at the southern tip of Nootka Island, British Columbia. The main excavation was located near the centre of the village. Another, which was smaller, was located on San Miguel Island, the site of a late 18th-century Spanish gun battery, at the entrance to Friendly Cove. Excavation contexts are described by Dewhirst (1980).

Compared with the number of other glass objects recovered from the Yuquot excavations, beads were relatively scarce. The site yielded a total of 77 specimens of which 67 are drawn and 10 are wound. The beads in these two categories were classified utilizing the system developed by Kenneth and Martha Kidd (1970) and their identifying code precedes the description of each bead type in this report. Bead types encountered that are not listed in the Kidds' type list are marked by an asterisk because they do not yet have type-numbers.

Colour and size notations used in this report correspond to those employed by the Kidds in their system. Colours were designated using the names and codes in the Color Harmony Manual (Jacobson et al. 1948). The equivalent colour code in the Munsell colour notation system (Munsell Color Company 1960) was 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, 2-4 mm; medium, 4-6 mm; large, 6-10 mm; very large, over 10 mm. Although Kidd uses "clear" in lieu of "transparent," I used the latter term because I felt it was more descriptive.

A brief survey of the methods employed to manufacture glass beads is presented here to indicate the differences between the beads in the two 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. The tube is subsequently broken into bead lengths by placing it on a sharp, broad chisel set in a block of wood and striking it with another chisel-like tool (Anon. 1825: 120).

The beads may be left unaltered, or their broken ends may be rounded. The latter process is accomplished by placing the rough 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. The pan is then heated over a charcoal fire and the contents are stirred continually with a spatula resembling a hatchet with a round end (Anon. 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 repeatedly wound around a rotating metal mandrel until the desired size and shape is 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 perpendicular to the axis. The perforation may taper and have an uneven surface.

Drawn Beads

Ia*

Tubular; medium; translucent, dark palm green (23 ni; 10GY 4/4); one specimen (Fig. 1a). The glass is almost opaque due to the presence of numerous linear bubbles. The ends are badly eroded but appear to be broken. Length: 19.5 mm; diameter: 4.5 - 6 mm; perforation: 2 - 3 mm; provenience: 1T3C1.

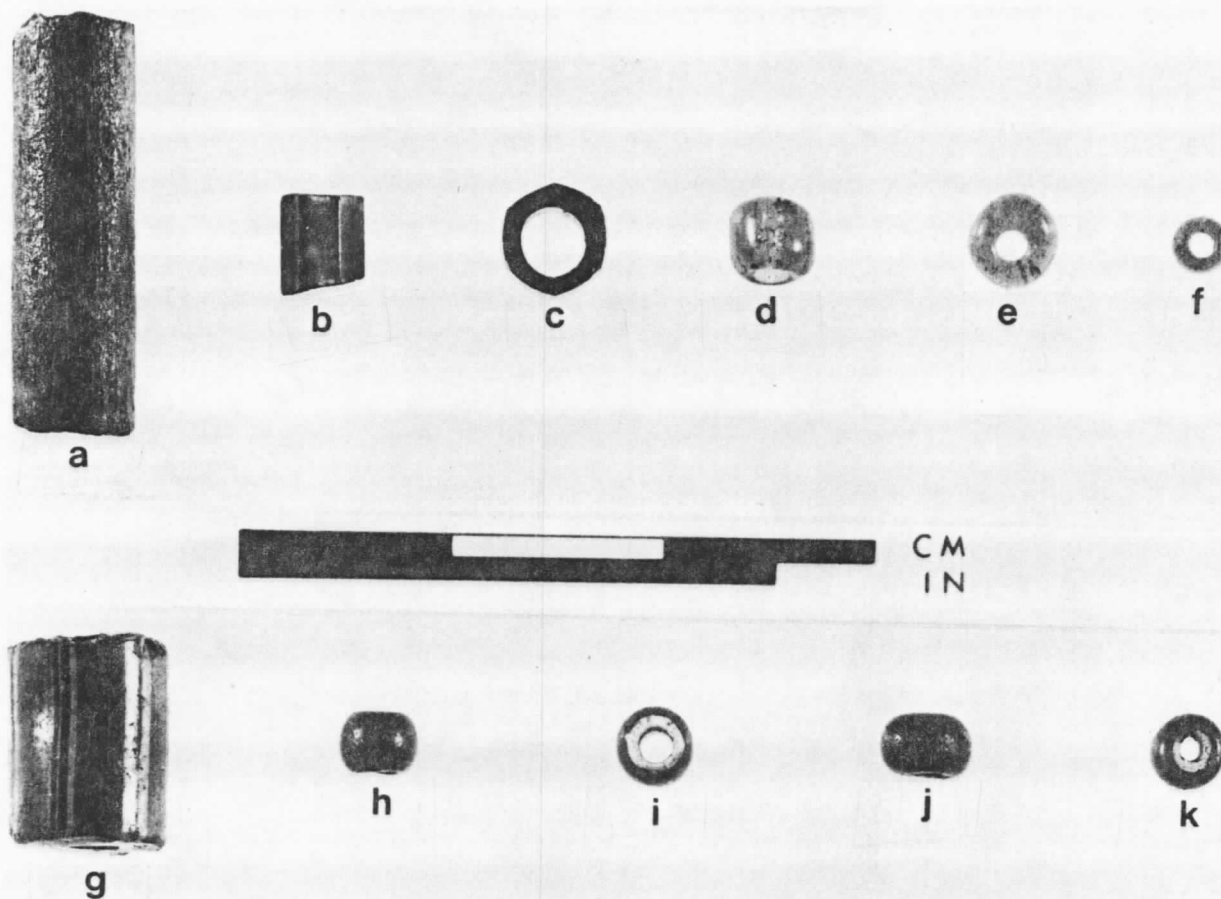


Fig. 1. Drawn beads: a, tubular, translucent, dark palm green; b, c, tubular, hexagonal, transparent, bright navy; d, e, circular, transparent, bright navy; f, circular, transparent, bright blue; g, tubular, opaque redwood on transparent apple green, decorated; h, i, circular, opaque redwood on transparent apple green; j, k, circular, transparent scarlet on opaque white. (Fig. 1-5: all photos by George Vandervlugt.)

Ic13

Tubular, hexagonal; medium; transparent, bright navy (13 pg; 7.5PB 3/4); two specimens (Fig. 1b, c). These beads consist of short sections of unaltered hexagonal tubing. The ends exhibit even to irregular breaks. The perforation is large and circular. Length: 4.5 mm; diameter: 4-5 mm; perforation: 2-3 mm; provenience: 1T2B1A, 1T2G2.

If2

Tubular, cornerless hexagonal; large; transparent, light gray (c; N 8/10); one specimen (Fig. 2a). This type consists of a short section of hexagonal tubing with a small triangular facet cut on each corner. The body facets are composed of unaltered tube faces that are in the shape of relatively even, elongated hexagons. The bead has a total of 18 facets. The ends are broken and very uneven. Length: 7 mm; diameter: 7.5 mm; perforation: 3.5 mm; provenience: 1T1G4.

If5

Tubular, cornerless hexagonal; large; transparent, amethyst (11 lc; 5P 4/8); one specimen (Fig. 2b). The bead appears to be black unless held up to a light. This type has the same form as the previous one. The only difference is that the corner facets are larger with the result that the body facets are diamond-shaped. The ends are broken. The perforation is large and circular. Length: 6 mm; diameter: 7.5 mm; perforation: 4 mm; provenience: 1T1A9.

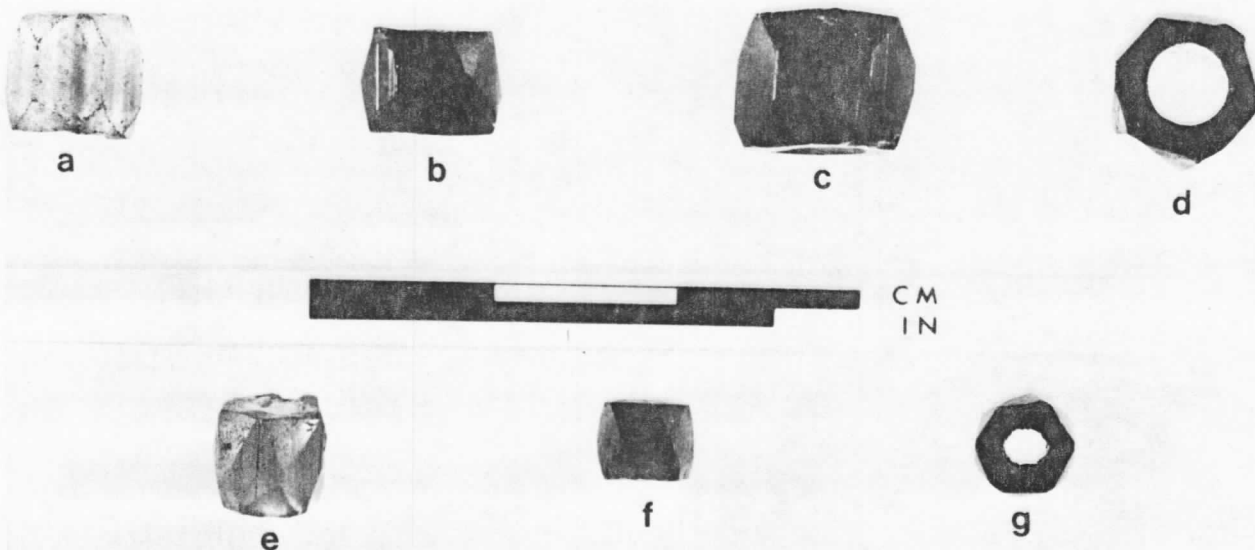


Fig. 2. Tubular, cornerless hexagonal beads: a, transparent, light gray; b, transparent, amethyst; c, d, transparent, bright navy; e, g, transparent ultramarine on translucent light aqua blue.

If*

Tubular, cornerless hexagonal; large; transparent, bright navy (13 pg; 7.5PB 3/4); 41 specimens (Fig. 2c, d, and 3). These beads are identical in form to the previous cornerless hexagonal types. However, depending on the amount of care taken in grinding the corner facets, the body facets range from symmetrical, elongated hexagons to very irregular, erratic forms (Fig. 3).

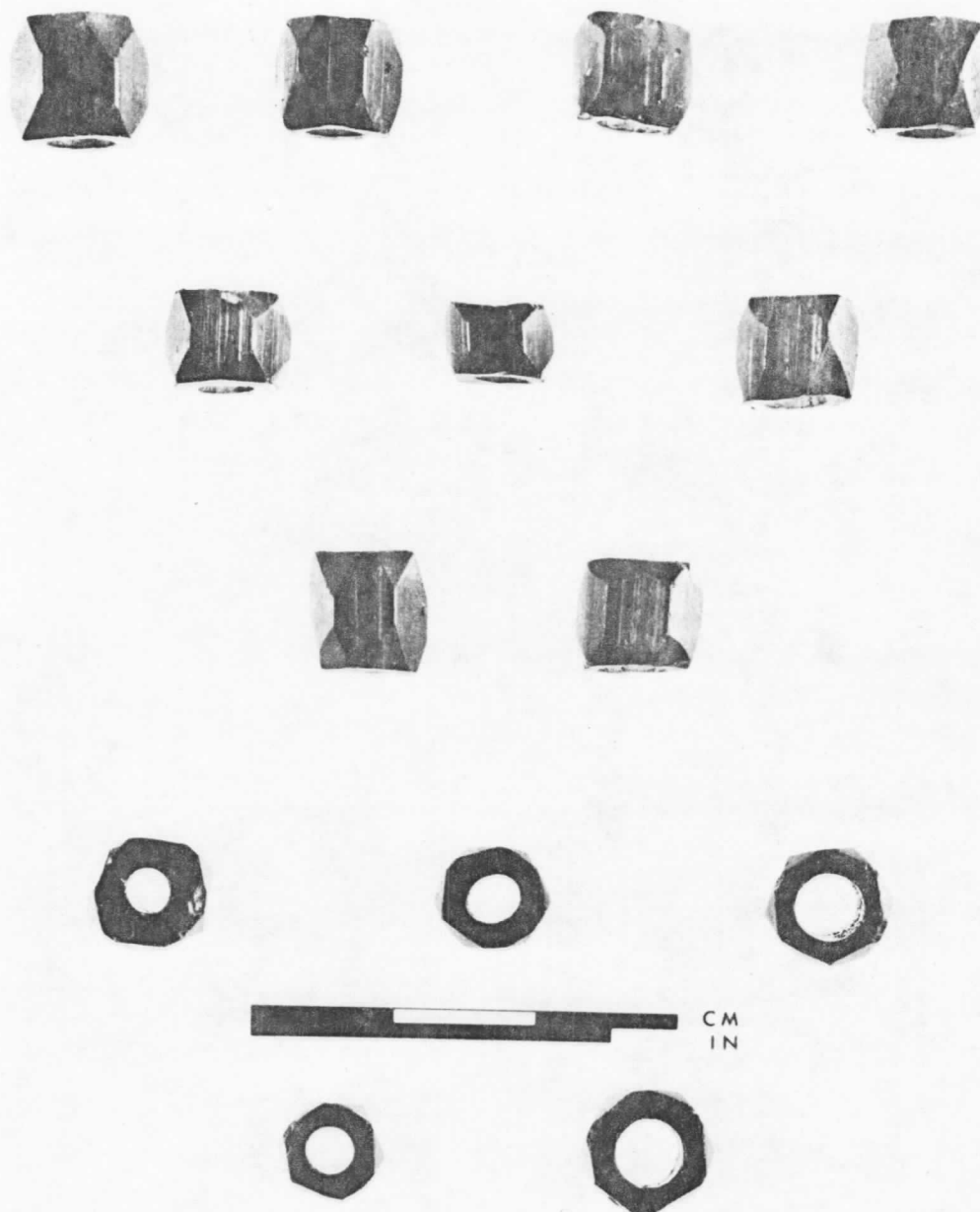


Fig. 3. Tubular, cornerless hexagonal, transparent, bright navy beads. Note variation in shape of facets and size of perforations.

The ends are broken and range from almost perfectly flat to very uneven. Perforations are large and circular, although in rare instances they are slightly oblate. Bubbles in the glass are uncommon. In all but one case, bead diameter is greater than or equal to the length.

	Length	Diameter	Perforation
Range	5.5-10 mm	7-10 mm	2-5 mm
Average	7.6 mm	8.8 mm	3.8 mm

Provenience and quantity per level: 1T1B1 (2), 1T1E1 (1), 1T1X1 (1), 1T2A1 (2), 1T2A2 (14), 1T2B1 (3), 1T2B1A (5), 1T2C1 (1), 1T2G1 (1), 1T3A1 (4), 1T3B1 (4), 1T3B1B (3).

If*

Tubular, cornerless heptagonal; very large; transparent, bright navy (13 pg; 7.5PB 3/4); four specimens (Fig. 4a-c). These beads are identical to the cornerless hexagonal types as far as general appearance is concerned. However, since the tube from which they were manufactured is heptagonal, the number of facets is increased to 21. This type is also larger. The ends are broken. The perforations are large and circular or slightly oblate.

On the one specimen from 1T2B1A (Fig. 4c), the grinding of the corner facets was continued to the point that they became pentagonal. The body facets are relatively even, diamond-shaped; unaltered tube faces that are slightly smaller than the corner facets. The surface is badly pitted, apparently due to exposure to fire.

	Length	Diameter	Perforation
Range	9-12.5 mm	10.5-14 mm	5-7 mm
Average	11.3 mm	12.3 mm	6.3 mm

Provenience and quantity per level: 1T1H4 (1), 1T2B1A (1), 1T3B1 (2).

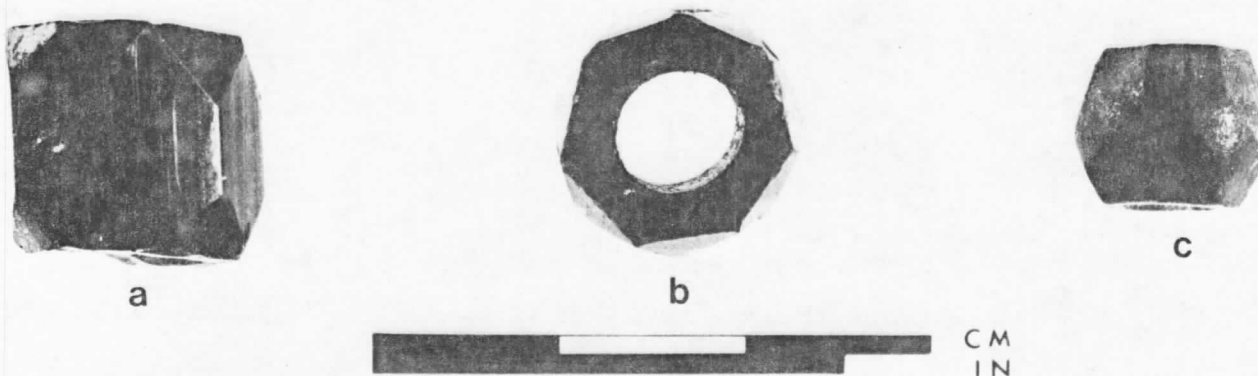


Fig. 4. Tubular, cornerless heptagonal, transparent, bright navy beads: a, b, typical specimens with triangular corner facets; c, atypical specimen with pentagonal corner facets.

IIa56

Circular; small; transparent, bright navy (13 pg; 7.5PB 3/4); two specimens (Fig. 1d, e). Length: 3 mm; diameter: 4 mm; perforation: 1.0-1.5 mm; provenience: 1T3S1, 1T6R1.

IIa*

Circular; small; transparent, bright blue (16 lc; 5B 5/7); one specimen (Fig. 1f). Length: 2 mm; diameter: 2.5 mm; perforation: 1.0 mm; provenience: 1T1B1.

IIIbb*

Tubular; large; thin, opaque, redwood (6 ne; 7.5R 4/6) outer layer decorated with six, straight stripes of black (p; N 1/0) on white (a, N 10/0); transparent, apple green (23 ic; 10GY 6/6) core; one specimen (Fig. 1g). The ends are broken. Beads of this style are often referred to as "Cornaline d'Aleppo." Length: 10 mm; diameter: 7.5 mm; perforation: 2-3 mm; provenience: 1T2F4.

IIIIf2

Tubular, cornerless hexagonal; medium; transparent, ultramarine (13 pa; 7.5PB 4/14) outer layer; translucent light aqua blue (16 ea; 7.5B 8/4) core; five specimens (Fig. 2e-g). This type is identical in form to the other cornerless hexagonal types.

	Length	Diameter	Perforation
Range	4.5-7.5 mm	5.5-6 mm	2-3 mm
Average	5.7 mm	5.75 mm	2.5 mm

Provenience and quantity per level: 1T1F3 (1), 1T1G5 (1), 1T2E1 (1), 1T2E2 (1), 1T3B1 (1).

IVa6

Circular; small; opaque, redwood (6 ne, 7.5R 4/6) outer layer; transparent, apple green (23 ic; 10GY 6/6) core; six specimens (Fig. 1h, i). Beads of this style are often referred to as Cornaline d'Aleppo.

	Length	Diameter	Perforation
Range	2.5-3 mm	3-3.5 mm	1.5-1.75 mm
Average	2.7 mm	3.4 mm	1.6 mm

Provenience and quantity per level: 1T2M8 (1), 1T2M9 (5).

IVa*

Circular; small; transparent, scarlet (7 pa; 5R 4/14) outer layer; opaque, white (a; N 10/0) core; two specimens (Fig. 1j, k). Beads of this style are also called Cornaline d'Aleppo. Length: 3 mm; diameter: 3.5-4.5 mm; perforation: 1.0-1.5 mm; provenience: 1T1B1, 1T3C1.

Wound Beads

Wlb16

Round; large and very large; transparent, bright navy (13 pg; 7.5PB 3/4); four specimens (Fig. 5a-c).

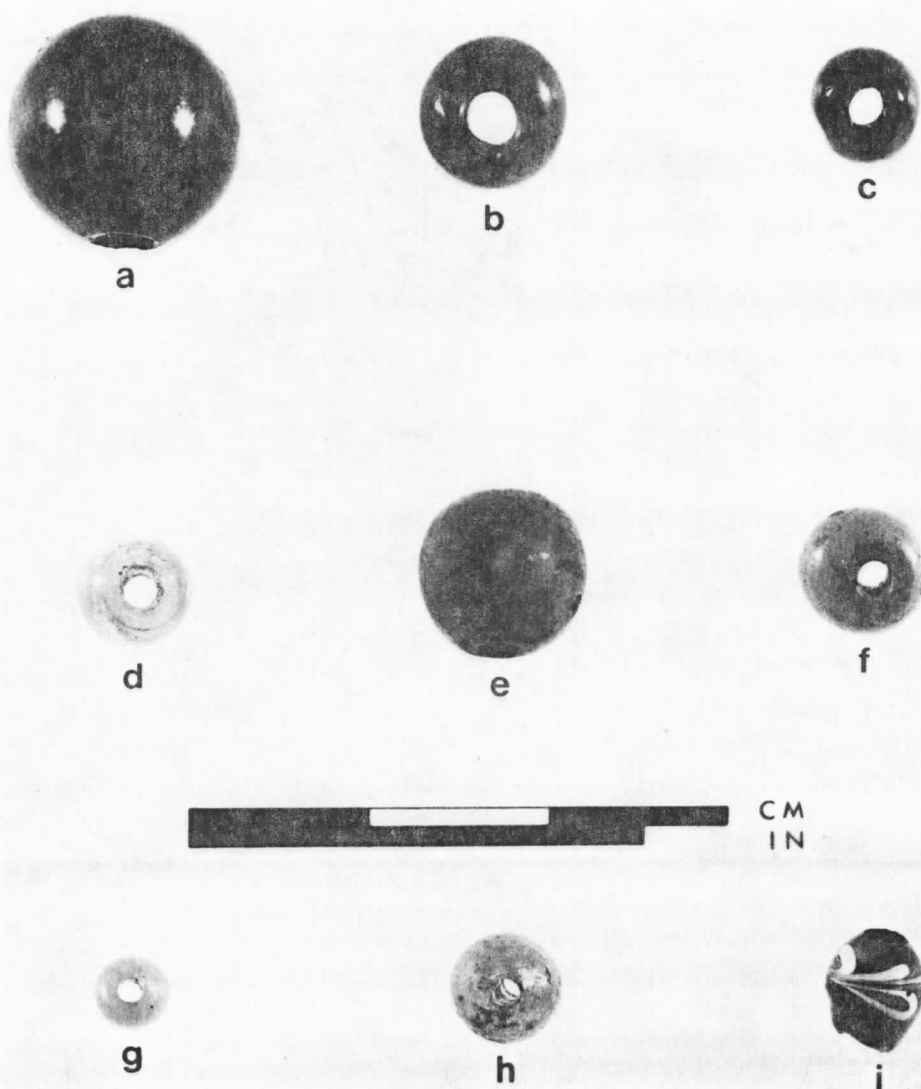


Fig. 5. Wound beads: a, c, round, transparent, bright navy; d, round, transparent, light cherry rose; e, g, round, translucent, robin's egg blue; h, round, transparent, bright blue; i, round, transparent, bright green, decorated.

	Length	Diameter	Perforation
Range	5-12.5 mm	6.5-14 mm	2-3.5 mm
Average	8.9 mm	10.4 mm	3 mm

Provenience: 1T1B1, 1T1E2, 1T1F2, 1T2F1.

Wlb*

Round; medium; transparent, light cherry rose (7 ga; 2.5R 7/8); one specimen (Fig. 5d). The glass contains numerous tiny bubbles. Length: 5 mm; diameter: 6 mm; perforation: 2 mm; provenience: 1T1D4.

Wlb*

Round, small and large; translucent, robin's egg blue (16 ic; 5B 6/6); three specimens (Fig. 5e-g).

	Length	Diameter	Perforation
Range	3-9 mm	4-9 mm	1.0-2 mm
Average	6.3 mm	6.7 mm	1.3 mm

Provenience: 1T1C2, 1T2J2, 1T6R3.

Wlb*

Round; medium; transparent, bright blue (16 lc; 5B 5/7); one specimen (Fig. 5h). The glass is bubbled. Length: 6 mm; diameter: 6 mm; perforation: 1.5 mm; provenience: 1T2R1.

WIIb*

Round; large size; transparent, bright green (22 nc; 2.5G 5/9) body decorated with an opaque, white 9a; N 10/0) floral wreath that encircles the equator; one specimen (Fig. 5i). Several bubbles are present in the glass. Length: 7 mm; diameter: 6 mm; perforation: 2 mm; provenience: 1T2X2.

Discussion and Conclusions

Most of the glass beads recovered from the Yuquot excavations came from the village site. Only five specimens representing four types (IIa56; Wlb*, transparent bright blue; Wlb*, translucent robin's egg blue; and WIIlb*) were retrieved from San Miguel Island. None of the types from the island were found at the village and vice versa. Unfortunately, only one of the beads from San Miguel is distinctive enough to be dated now. The decorated bead (WIIlb*) is attributed to the Late Historic Period (1760-1820 or slightly later) by Quimby (1966: 88). However, although the earliest date is probably relatively accurate, this type continued to be manufactured and traded until at least the 1860s, as suggested by the presence of similar specimens at Fort Berthold II, North Dakota, which was in operation from 1862 to 1886 (Smith 1972: 150).

Beads were restricted to the upper 4.5 ft. in the village deposits. They were most common in the upper foot; only 20% of the beads recovered came from below this depth. Tubular, cornerless hexagonal and heptagonal beads predominated, making up 71% of the total assemblage. Commonly (but erroneously) referred to as Russian beads, they were abundant in the upper foot of the excavation. Although rare below this depth, one specimen (If5) was found 4-4.5 ft. below the surface in 1T1A. The only other beads to achieve this depth were the type IVa6 Cornaline d'Aleppo specimens uncovered in 1T2M.

The only beads from the village that can be assigned relative dates are the cornerless beads (If and IIIIf types). These can be attributed to the period from about 1780 to about 1880; Harris and Harris (1967: 151, types 129 and 130; 157-58) 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 about 1880.

The remaining beads are not diagnostic to any specific time period and cannot be used to establish or corroborate dates for the archaeological strata in which they were found. The circular 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 undecorated wound beads in the collection are more distinctive, but a chronological sequence has not been worked out for them as yet. However, since they appear in relative association with the datable types, they should have approximately the same general time range.

The small circular beads, often referred to as "pony beads," were used mainly to decorate clothing and various other items. The larger beads were utilized primarily in the manufacture of necklaces, although the cornerless, tubular types were also used to ornament garments (Woodward 1965: 10) and baskets (Orchard 1929: 139-40). Some of the other beads may have been similarly employed.

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