490.

Burr's Hill

A 17th Century Wampanoag Burial Ground in Warren, Rhode Island

Edited by SUSAN G. GIBSON

Billings, Katherine

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In addition to describing and illustrating 46 types of drawn beads, this report synopsizes the two most common methods of making beads, correlates the specimens to Kidd and Kidd (1970) and Pratt (1961), dates the more diagnostic examples, presents chemical analyses for two beads and speculates on their origin. Three B&W illustrations, one of which shows a piece of beadwork.

Beads of Shell and Glass

by KATHERINE BILLINGS

Shell Beads

The Burr's Hill collection includes a large number of tubular and discoidal shell beads, as well as several periwinkle shells and shell blanks. These beads were used by the Wampanoag primarily for decorative purposes. They were strung on hemp or sinew, and narrow strips of buckskin were often employed to separate the rows of beads. The beads were strung into necklaces and bracelets, made into pendants and earrings, woven into headbands, waistbands, collars, and garters, inlaid into wooden objects, embroidered onto various garments, and, especially after the arrival of the Europeans, were also used as a medium of exchange.

The shells used most frequently in the Rhode Island area for the manufacturing of beads were quahog, or hard clam (*Venus mercenaria*), and various types of univalves, such as periwinkle (*Fulgar carcia* and *Fulgar canaliculata*), conch and whelk. Bivalve shells were more frequently used, but the columellae of the various univalves were often ground down and cut into discoidal and tubular beads. Bivalve shells, such as quahog, were worked into bead shapes by a similar process. A piece of shell was broken off, roughly shaped by grinding, perforated, and finally smoothed down. Usually the thicker, bluish-purple part of the shell was used. Both discoidal and tubular beads could be made in this way. The tools employed by the Indians prior to European contact were probably of hard stone, such as quartz. The process was greatly facilitated by the use of iron tools, however, especially in the case of the longer tubular shell beads. Therefore, it is probable that the introduction of iron tools greatly stimulated the production of shell beads, especially those tubular forms known as wampum (Willoughby 1935:264-275; Orchard 1929:61-74).

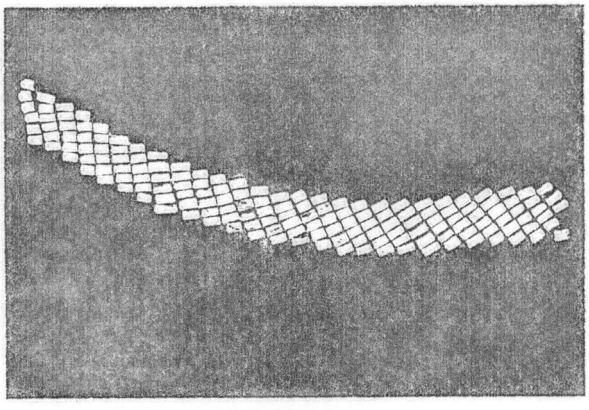


Fig. 112.
Wampum collar. MAI.

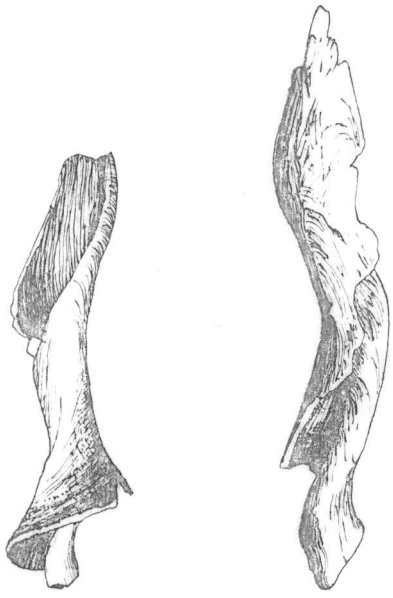


Fig. 113.
Periwinkle columellae used in wampum manufacture. GHFL 30.

The large assemblage of wampum in the Burr's Hill collection clearly indicates extensive Wampanoag contact with the colonists. Wampum was the Indian term for those tubular-shaped shell beads which, after 1627, were given monetary value by the Europeans and used extensively in trade. Prior to this time, tubular shell beads resembling wampum had been manufactured by the Indians; however, in the Wampanoag area, the appropriate shells for the manufacture of these beads were lacking. Instead, the beads were usually made by the Narragansett and Pequot Indians, who obtained the shells from the coasts of Connecticut and Long Island. The beads were then traded by these groups to other tribes in the area who lacked the necessary raw materials (Willoughby

1935:269). Since they were relatively scarce, only the sachems and other distinguished individuals were able to wear strings of such beads.

In 1627, when Isaac de Rasieres, the Secretary of New Netherlands, who had settled on Long Island, visited the Pilgrims and introduced to them the use of wampum as a means of exchange, the production of these beads in southeastern New England increased phenomenally. Strings of wampum, known as wampumpeage, or peage, suddenly became a major trade item. The wampum was of two colors, white and purple (black). The white beads, made from both the bivalve and univalve shells, were much more common, due to the greater availability of white shells. The purple beads, for which the purple portion of the hard clam shells was employed, were less abundant.

Wampum beads were usually cut to the size of one quarter of an inch long and one eighth of an inch in diameter. They were then most commonly strung in alternating colors, for aesthetic reasons. The peage, or strings of wampum, were usually strung in lengths of one fathom (six feet), each fathom designating a particular monetary value. The purple beads were initially valued at twice that of the white beads, due to their relative scarcity.

Wampumpeage retained monetary value and was manufactured by both the Indians and the colonists until the early 1660's, when it was denounced as legal currency by the settlers. The principal reason for this was the fact that the value of wampum had declined rapidly as the fur trade diminished. Beaver had become scarce, and by the third quarter of the seventeenth century, the fur trade no longer played the major economic role that it had in the initial years of colonization. In addition, increased counterfeiting of wampum in the form of glass beads created a serious problem. Finally, an influx of silver coinage from the West Indies greatly lessened the demand for Indian currency as a basis of Indian-European and intercolonial trade (Vaughan 1965:220-224).

Unlike the wampum and tubular shell beads, the discoidal beads in the Burr's Hill collection held no monetary value. These beads seem to have been manufactured for personal ornamentation and tribute. Most of these beads are uniform in diameter, although they tend to vary in thickness. Although this type of bead was produced prior to European contact, its production was also stimulated by the arrival of the colonists, and particularly by the introduction of metal tools, which greatly facilitated the manufacturing process.

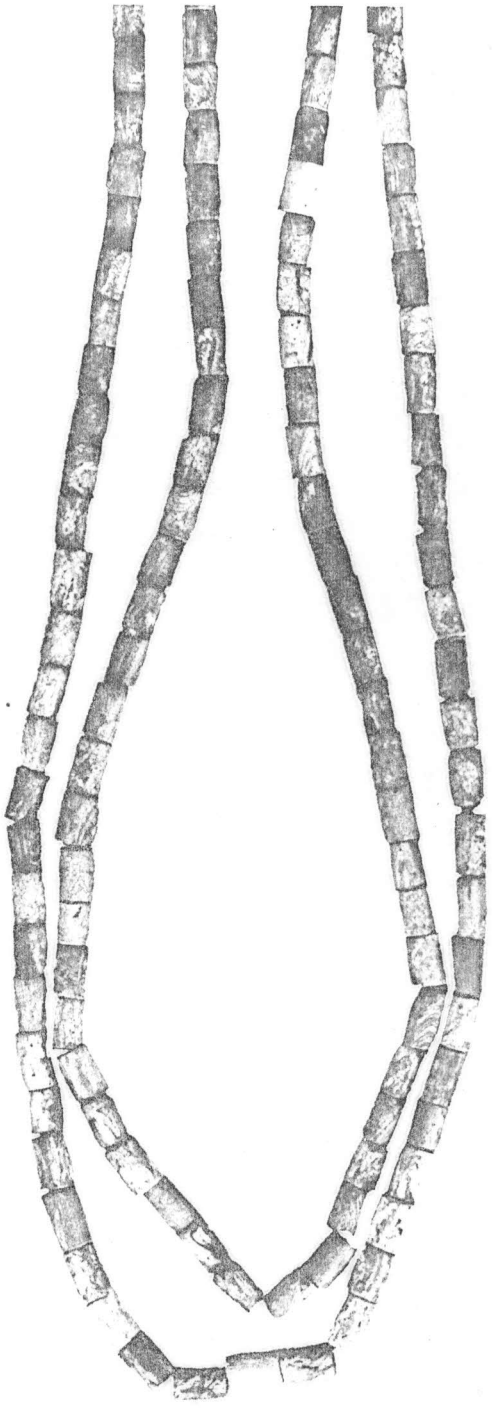


Fig. 114.
Tubular shell beads. GHFL.

Glass Trade Beads

Glass beads were among the goods most commonly traded by Europeans during periods of colonization throughout the world. Trade beads have been recovered archaeologically in Africa, the Middle East, Asia, and the Pacific Islands; they also figured importantly in the North American fur trade, from the seventeenth century or earlier into the nineteenth century.

Two processes were used in the manufacture of glass beads. One, known as the cane technique, involved pulling out a bubble of molten glass into a long, thin tube. First, a quantity of molten glass would be collected on the end of a blow pipe and blown into a bubble. Next, more molten glass, sometimes of a different color, would be added to the bubble. Six or more layers might be added in this manner. After the desired number of layers had been built up, the bubble was pulled into a long tube until it could be stretched no further. It was then laid on wooden slabs until it had cooled enough to be cut into beads of appropriate lengths. This process resulted in tubular shaped beads, which might be either monochrome or polychrome, depending on the type of layering.

Several varieties of decorative techniques were applied to cane beads. One of these, known as the inlay technique, involved the attachment of rods of colored glass to the molten bubble, resulting in striped beads. The beads, whether layered, striped, or plain, could also be shaped into triangles, squares, or other shapes by placing the bubble on a marver — an oiled wooden slab — and pressing it into the desired shape. The bubble was then drawn out, maintaining the shape. These beads were referred to as "marved" beads. Twisted beads could also be produced, by simply twisting the molten glass while the tube was being drawn. One other treatment which was very common involved shaping the tubular beads into circular, globular, or oval beads. Ground charcoal and fine sand would then be worked into the open ends of the beads which were then reheated in a metal container which was constantly agitated. The charcoal and sand prevented the beads from fusing together and kept the orifices from closing. The combination of heat and agitation served to round off the ends of the beads. Once this was completed, the beads were cooled, separated from the charcoal and sand mixture, washed, and agitated in bags of bran for polishing.

The second major technique of glass bead manufacture is known as the wire-wound technique, or "suppialumi," and requires that the beads be made individually, rather than mass-produced, as in the cane technique. The process involves wrapping a thread of molten glass around a wire which has been covered with a chalk-like substance in order to prevent the glass from sticking to the wire. The glass thread could be wrapped around the wire as many times as desired, to produce beads of varying sizes and shapes. Threads of different colors, as well as glass insets of various kinds could also be added to produce layered, striped, or otherwise decorated beads. The final product would then be cooled and removed from the wire.

The glass beads recovered from Burr's Hill were made by the cane technique. This was determined by microscopic analysis, which revealed stretched air bubbles and glass fibers within the beads parallel to the orifices. These resulted from drawing out the molten glass into a long tube. Had the beads been made by the wire-wound technique, the resultant air bubbles and glass fibers would have been stretched in a direction perpendicular to the orifices.

The collection of glass trade beads from Burr's Hill numbers about five thousand, and includes forty-six different types. These include eleven types of tubular beads, ten globular types, and seven oval types.

Thirty-eight of the Burr's Hill bead types can be dated by comparison with Peter P. Pratt's *Oneida Iroquois Glass Trade Bead Sequence, 1585-1745* (1961), which is based on the occurrence of particular types of beads on archaeological sites. According to this chronology, the majority of the Burr's Hill bead types fall within the 1660-1677 time period, although some are as early as 1570-1595, and others as late as 1710-1745.

The question of the origin of the Burr's Hill trade beads is more problematical. The first center of European glass manufacturing was Venice. The Venetian glass industry began c.1200 A.D. and reached its peak during the sixteenth century. The Venetian factories were located in Venice itself and on the island of Murano, a mile away. These factories manufactured the finest glass products available, including a wide assortment of beads. At the height of the Venetian glass industry, the backbone of the export trade was in beads (Rogers 1937:34), and had the glass beads from Burr's Hill dated prior to the seventeenth century, it would have been a safe assumption that they were made in Venice or Murano, for Venice monopolized all glass manufac-

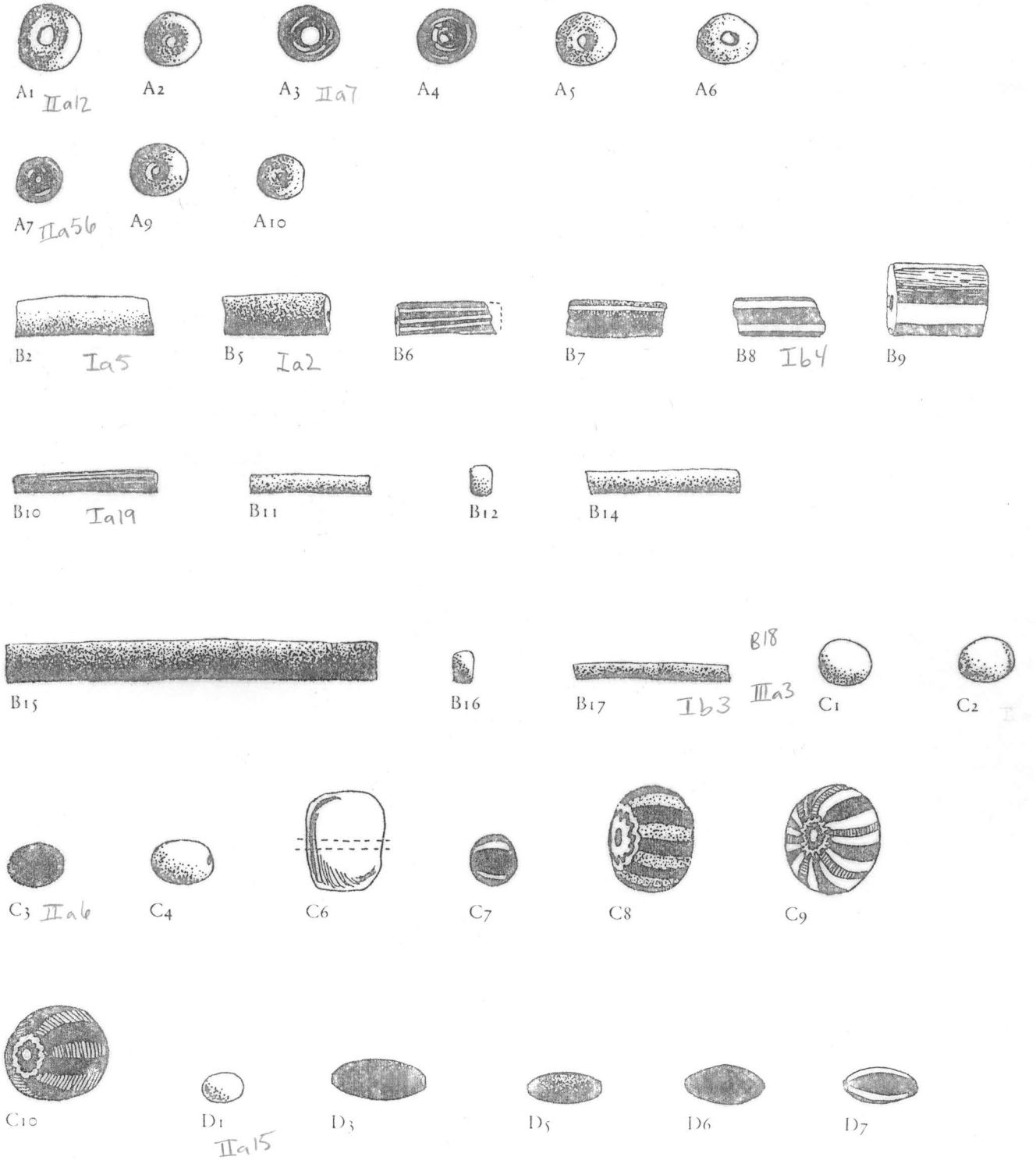


Fig. 115.
Types of glass beads from Burr's Hill. Approximately 1.5 times actual size.

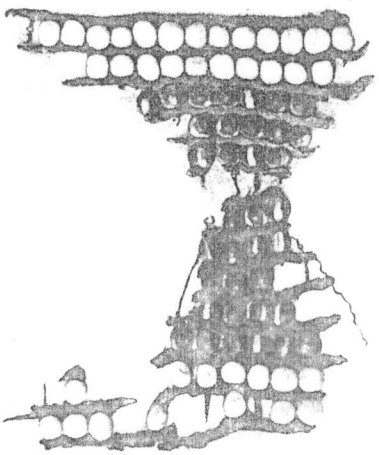


Fig. 116.
Belt of blue and white glass beads, separated by rawhide strips. MAI 8/5201.

ture throughout Europe until the beginning of the seventeenth century.

About the middle of the sixteenth century, however, discontent among the workers in the Venetian glass factories caused some of them to emigrate to other European countries, (Moore 1924:33), where they started their own factories, spreading Venetian skills and formulae throughout Europe. This eventually brought about the decline of the Venetian monopoly and the concomittant rise of superior glass industries in England, the Low Countries, France, and Spain by the early seventeenth century.

In England, prior to the introduction of Venetian glass workers and manufacturing processes, the glass industry had been limited to the forest areas of Sussex and Surrey, collectively known as the Weald. Having begun in the thirteenth century, the Wealden industry employed wood-fired furnaces and produced a green glass which was initially of poor quality but improved during the later periods. The subsequent technical advancement of the English industry was due primarily to the arrival of foreign glass workers in the sixteenth century. In 1549, a group of Protestant Lorrainers headed by Jean Carré began producing glass in England. After Carré's death in 1572, the work was continued by Jacob Verzelini, the first Italian glass worker to establish himself in England. In 1585, Verzelini was granted a royal license giving him the sole right to manufacture Venice glasses in England for twenty-one years (Haynes 1942:142-145).

Royal patents granting monopolies in glass production to particular individuals continued to be issued in England throughout the seventeenth century (for a full chronology, see Powell 1923 and Hartshorne 1897), thus minimizing domestic and foreign competition and allowing certain individuals to excel in the trade and perfect the techniques of glass manufacture.

About 1618, a Welshman named Sir Robert Mansell acquired an exclusive patent for the production of all types of glass in England, and retained this monopoly until his death in 1653 (Powell 1923:31-32). He was extremely successful, setting up numerous glass factories in and around London. Although the use of wood fuel was prohibited in 1615, Mansell found Newcastle coal to be a highly satisfactory replacement. Under his control, the quality of English glass was improved and prices for all forms of glass were reduced.

Glass beads, known as "bugles," were, along with medicine bottles, one of the most important products of Mansell's factories (Haynes 1942:152). The beads were most commonly of black or dark green glass, but these types were supplemented by a variety of other monochrome and polychrome beads which were made by the Italian workers (Thorpe 1935:119-120).

Although Mansell and his associates were permitted to import foreign glass products, home manufacture was evidently preferred, since imported glass was subject to heavy duties. Most of the Burr's Hill trade beads correspond to types found in archaeological contexts of the period 1660-1677. Thus, it is likely that they were actually manufactured somewhat earlier than this, and possible that they were produced in England during the period of Mansell's monopoly.[2]

There are other possible origins for the Burr's Hill beads, however. The possibility of Venetian origin cannot be ruled out, and the Dutch glass industry must also be considered. Between 1608 and 1680 there existed in Amsterdam a glass factory modelled after those of Venice and Murano (Van der Sleen 1963), and archaeological evidence has shown that the Amsterdam industry manufactured an abundance of trade beads of various types. These Dutch beads were exported to the North American colonies and have been recovered from numerous Indian and European sites of the Colonial period. Comparison of the Burr's Hill beads with the seventeenth century Dutch specimens described in Van der Sleen (1963), however, reveals distinct differences in shape, size, color and design. Finally, it should be pointed out that in 1621, Captain William Norton and a group of six Italians attempted to set up a glass furnace in Virginia, primarily for the manufacture of glass beads. The project was evidently unsuccessful, however, and few, if any, glass products were actually made (Harrington 1952).

NOTES

1. Kidd types from Kidd and Kidd 1970; Pratt types from Pratt 1961.
2. A chemical analysis of two of the specimens from Burr's Hill (MAI 8/5353 and 8/5378) revealed the following elements.

ELEMENT	PERCENT WEIGHT	
	8/5353	8/5378
silica (SiO_2)	37.351	39.975
sodium (Na_2O)	3.741	5.921
potassium (K_2O)	.722	.157
calcium (CaO)	1.223	1.741
sulfur	56.921	52.173
	99.958	99.967

The high sulfur content of both specimens (greater than fifty percent) is somewhat surprising, since sulfur occurs in glass chiefly as an impurity, usually not surpassing one per cent. However, according to Antonio Neri (1662), elemental sulfur was often used in the calcination of various materials, primarily metals, used in the manufacturing process. In the "SSS," a particular arrangement of materials in the calcinating pots, layers of the material being calcinated were alternated with layers of sulfur. Since glass beads, especially trade beads, did not require the finest quality glass, it is possible that the high sulfur content detected in the Burr's Hill beads could have resulted from poor purification of the components after calcination, or even from the use of cullet, or waste glass, containing waste sulfur from the SSS arrangement. Although the results of the chemical analysis are not conclusive, since no comparative data exists, the fact that the SSS arrangement is known to have been used in England during the seventeenth century, and that such a process could have resulted in a high sulfur content, especially in poorer quality glass, lends additional support to the possibility of English origin for the Burr's Hill beads.

The analysis was performed by John D. Tewley of the Brown University Geology Department, using an ARL Electron Microprobe x-ray analyzer/scanning microscope (ARL EMX/SM). Professor R. A. Hegstrom of the Chemistry Department at Wake Forest University determined that the sulfur must be elemental sulfur, rather than present as sulfates of the various metallic elements (Billings 1975).

Table 2
Burr's Hill Glass Bead Types[1]

I. CIRCULAR BEADS — TYPE A

A1
varying shades of white
translucent, opaque, and clear
with and without core
.15-.25 cm in diameter
drawn
Kidd types IIa12, IIa14, IVa11, IVa13
Pratt types 2, 64, 84b, 65b

A2
white
translucent
clear core
.25 cm in diameter
drawn
Kidd type IVa13
Pratt type 2

A3
black
opaque
without core
.25 cm in diameter
drawn
Kidd type IIa7
Pratt type 84

A4
dark green
translucent
without core
.25 cm in diameter
drawn
Kidd type IIa27
Pratt type 66

A5
light green
opaque
without core
.2 cm in diameter
drawn
Kidd type IIa24
Pratt type 66

A6
yellow
opaque
without core
.2 cm in diameter
drawn
Pratt type 34

A7
dark blue
translucent
without core
.2-.35 cm in diameter
drawn
Kidd type IIa56
Pratt type 65

A8
gray-blue
opaque
without core
.25 cm in diameter
drawn
Kidd type IIa45

A9
gray-blue
opaque
clear core
.3 cm in diameter
drawn

A10
light blue
opaque
without core
.25 cm in diameter
drawn
Kidd type IIa37
Pratt type 35

A11
light blue (smoother, more polished than A10)
opaque
without core
.4-.6 cm long, 1 cm in diameter
one end unfinished (reason for different lengths)
drawn
Kidd type IIa37
Pratt type 86

II. TUBULAR BEADS — TYPE B

B1
white
opaque
without core
tumbled cane
1.1 cm long, .3 cm in diameter
drawn
Kidd type Ia5
Pratt type 50

B2
white with a reddish tinge
opaque
without core
tumbled cane
most with fairly big eyes and thin walls
1.1-1.5 cm long, .2-.5 cm in diameter

drawn
Kidd type Ia5
Pratt type 50, 74

B3
white
opaque
thick clear core
tumbled cane
1.45 cm long, .45 cm in diameter
drawn
Kidd type IIIa8
Pratt type 74

B4
white
opaque
clear core
clear outer coating
1.35 cm long, .2 cm in diameter
drawn
Kidd type IIIa8
Pratt type 74

B5
black
opaque
without core
tumbled cane
.5-.75 cm long, .3-.4 cm in diameter
drawn
Kidd type Ia2
Pratt type 70

B6
black (showing wear on ends — corrosion in air bubbles?)
opaque
without core
broken cane
.7-4.4 cm long, .3-.35 cm in diameter
drawn
Pratt type 70

B7
opaque black with two thin vertical opaque white stripes, one on either side
without core
tumbled cane
.7 cm long, .3 cm in diameter
drawn
Pratt type 75

B8
opaque black with three broad vertical opaque white stripes
without core
tumbled (one only slightly)
.4-.65 cm long, .3-.35 cm in diameter
drawn
Kidd type Ib4
Pratt type 75

B9
opaque black (very smooth and polished) with four very broad vertical opaque white stripes (each with some very thin black lines in it)
without core
tumbled cane
.8 cm long, .7 cm in diameter
drawn

B10
dark blue
translucent (fibers clearly visible)
without core
broken cane
.8-1.3 cm long, .2-.3 cm in diameter
drawn
Kidd type Ia19
Pratt type 82

B11
dark blue
translucent (fibers not visible)
without core
broken cane
1.1 cm long, .3 cm in diameter
Kidd type Ia20
Pratt type 82

B12
dark blue
translucent
without core
tumbled cane
.2 cm long, .25 cm in diameter
drawn
Kidd type Ia20
Pratt type 82

B13
light blue
translucent
without core
broken cane
1.3 cm long, .3 cm in diameter
drawn
Kidd type Ia13
Pratt type 70 (light blue)

B14
dark blue, translucent
opaque white medial layer — thin
translucent dark blue core
broken cane
.8-1.3 cm long, .2-.3 cm in diameter
drawn
Kidd type IIIa12

B15
dark blue, translucent (a lot of discoloring and patina)
thick white medial layer
dark blue core
broken cane
3.8-3.85 cm long, 4-.5 cm in diameter
drawn
Kidd type IIIa12

B16
light blue
opaque
dark (brownish) core
tumbled cane
.2 cm long, .25 cm in diameter
drawn

B17
opaque black with three vertical opaque red stripes
without core
tumbled cane
.8 cm long, .3 cm in diameter
drawn
patinated
Kidd type Ib3
Pratt type 71

B18
brick red
opaque
translucent dark green core
broken cane
.8 — 1.2 cm long, .3 cm in diameter
drawn
Kidd type IIIa3
Pratt type 72

III. GLOBULAR BEADS — TYPE C

C1
varying shades of white
opaque and translucent
with and without core
.25 cm in diameter (average)
drawn
Kidd types IIa11, IIa13
Pratt type 54

C2
white with a reddish tinge

opaque
rough texture
without core
.4 cm in diameter
drawn
Kidd types IIa11, IIa13
Pratt type 97

C3
black
opaque
without core
.4 cm in diameter
some with unfinished ends
drawn — with ends flattened in a spiral motion
Kidd type IIa6
Pratt type 70

C4
light grayish-green
opaque
smooth and polished
without core
.4-.5 cm in diameter
drawn
Kidd type IIa25

C5
dark blue
translucent
without core
.65 cm in diameter
drawn
Kidd type IIa43
Pratt type 7

C6
dark blue
clear
without core
.7-.8 cm in diameter
drawn
Kidd type IIa44
Pratt type 86

C7
opaque dark blue with three vertical opaque white stripes
white medial layer
dark blue core
.3-.4 cm in diameter
drawn
Kidd type IVb29
Pratt type 21

C8
chevron (star) bead
12 translucent white or light blue stripes on a dark blue background — clear outer coating
flush eyes: clear, white, red, white (order of inner to outer)
.7-.8 cm in diameter
could also be oval
drawn
Kidd type IVk3
Pratt type 16

C9
chevron (star) bead
6 vertical opaque red and 6 vertical opaque blue stripes alternating, each separated by an opaque white stripe
clear outer coating
flush eyes: clear, white, red, white (order of inner to outer)
.7-.8 cm in diameter
drawn
Kidd type IVn2
Pratt type 28

C10
chevron (star) bead
12 translucent white or light blue stripes on a dark blue background — clear outer coating
flush eyes: clear, white, blue, white (order of inner to outer)
.7-.8 cm in diameter
drawn
Kidd type IVk2

IV. OVAL BEADS — TYPE D

D1
varying shades of white
opaque and translucent
with and without core
.3-.35 cm long, .25 cm in diameter
drawn
Kidd types IIa10, IIa15
Pratt type 54

D2
white
opaque
ceramic texture
without core
.65 cm long, .3 cm in diameter (average)
drawn
Kidd type IIa15
Pratt type 54

D3
black
opaque
without core
.6-.8 cm long, .3-.5 cm in diameter
drawn
Kidd type IIa8
Pratt type 41

D4
deep purple
translucent
without core
.65 cm long, .35 cm in diameter
drawn
Kidd type IIa49
Pratt type 10

D5
dark blue (almost purple)
translucent
without core
.4 cm long, .25 cm in diameter
drawn
some almost globular
Kidd type IIa57
Pratt type 13

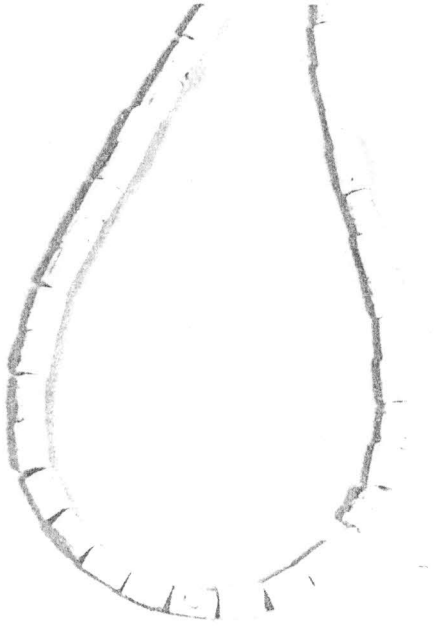
D6
dark blue (almost purple)
translucent
without core
.6-.8 cm long, .3-.5 cm in diameter
drawn
Kidd type IIa57
Pratt type 40

D7
opaque dark blue with three vertical opaque white stripes
white medial layer
dark blue core
.4 cm long, .25-.3 cm in diameter
drawn
Kidd type IVb29
Pratt type 21

TABLE 3

Dates of Pratt Types in Burr's Hill Collection

PRATT TYPE	DATE	DATES OF OTHER SITES WHERE FOUND
2	1570-1595	1595-1625, 1625-1637 1642-1660, 1677-1710
7	1570-1595	
10	1570-1595	
13	1570-1595	1660-1677
16	1570-1595	
21	1570-1595	
28	1570-1595	
34	1625-1637	1660-1677
35	1625-1637	1660-1677, 1677-1710
40	1625-1637	
41	1625-1637	1660-1677
50	1625-1637	1642-1660, 1660-1677, 1745-
54	1637-1642	
64	1660-1677	
65	1660-1677	
65B	1660-1677	1677-1710
66	1660-1677	1677-1710
70	1660-1677	1677-1710, 1745-
71	1660-1677	1677-1710
72	1660-1677	1677-1710, 1710-1745
74	1660-1677	
75	1660-1677	
82	1660-1677	1637-1642, 1642-1660, 1745-
84	1660-1677	
84B	1660-1677	
86	1660-1677	
97	1710-1745	



B.

C.

Fig. 152
B. Tubular white shell beads. HMA 4941.
C. Discoidal purple shell beads. HMA 61-470i.

CATALOGUE !

23 tubular shell beads (wampum), purple and white, varying sizes
Average length .5 cm Width .3-.4 cm
HMA 61-470f

38 dark, discoidal shell beads, very thin
Diameter .75 cm
HMA 61-470i

52 tubular shell beads, white and purple
Length .6 cm Diameter .35 cm
HMA 4941

21 discoidal shell beads, purple
Diameter .15 cm Thickness .1 cm
HMA 77-262

125 shell, stone, and possibly glass beads, assorted sizes and shapes
HMA 61-470j

PERIWINKLE COLUMELLAE

6 columella fragments
Lengths 11.7 cm, 9.5 cm, 5.0 cm, 3.5 cm, 3.0, 3.3 cm
MAI 8/5296

9 columella fragments
Lengths 8.5 cm, 10.5 cm, 8.0 cm, 6.0 cm, 9.5 cm, 11.0 cm, 4.0 cm, 6.0 cm, 4.0 cm
GHFL 30

Columella
Length 8.8 cm
HMA 77-253

STONE BEADS

1 large tubular stone bead, white
HMA 61-470e

GLASS BEADS

Glass bead belt
Belt of blue and white circular glass beads strung with sinew; rawhide used to separate rows; 9 rows of blue beads with two rows of white beads at each edge of belt
Length 7.5 cm
Width of belt 6.0 cm Length of fragment 7.5 cm
MAI 8/5209

Glass beads
16 type C8, 1 type C9, 2 type C10
HMA 1/1403

Glass beads
20 type B10, 3 type B14
HMA 1/1404

Glass Beads
250 type A3, a few are type A7
HMA 1/1411

Glass beads
117 types A1, C1, D1
HMA 77-338

Glass beads
8 type C3
HMA 77-339

Glass beads
14 type C4
HMA 77-259

Glass beads
19 star (chevron) glass beads
HMA 77-266

Glass beads
32 type B2
HMA 77-267

Glass beads
10 tubular black glass beads with white stripes
HMA 77-268

Glass beads
28 type C2
HMA 77-269

Glass beads
28 types C7, D7
HMA 77-271

Glass beads
4 type B15
HMA 77-273

Glass beads
5 type A4
HMA 77-274

Glass beads
22 type A5
HMA 77-275

Glass beads
3 type B8
HMA 77-340

Glass beads
7 type B5, 1 type B6, 1 type B7
HMA 77-276

Glass beads
4 type B2
HMA 77-277

Glass beads
68 type A7, 1 type A9, 3 type B12
1 type B16
HMA 77-278

Glass beads
59 type A10
HMA 77-279

Glass beads
29 type D5
HMA 77-280

Glass beads
7 type D3, 18 type D6
HMA 77-281

Glass beads
50 type A6
HMA 77-341

Glass beads
2 type B11, 3 type B18
HMA 61-458

Glass beads
1 type A11, 1 type B9, 2 type C6
HMA 61-463

Glass beads
76 type A3
HMA 61-470d

Glass beads
17 type A2
HMA 61-470e

Glass beads
433 type A1
HMA 61-470h

Glass beads
1 type C5, 53 type C8
GHFL 34

Glass beads
58 type D5
GHFL 35

Glass beads
12 type B6
GHFL 36

Glass beads
4 type B1, 4 type B2
GHFL 37

Glass beads
70 type A1
GHFL 39

Glass beads
19 type A6
GHFL 44

Glass beads
4 type D5
GHFL 46

Glass bead
1 type B6
GHFL 47

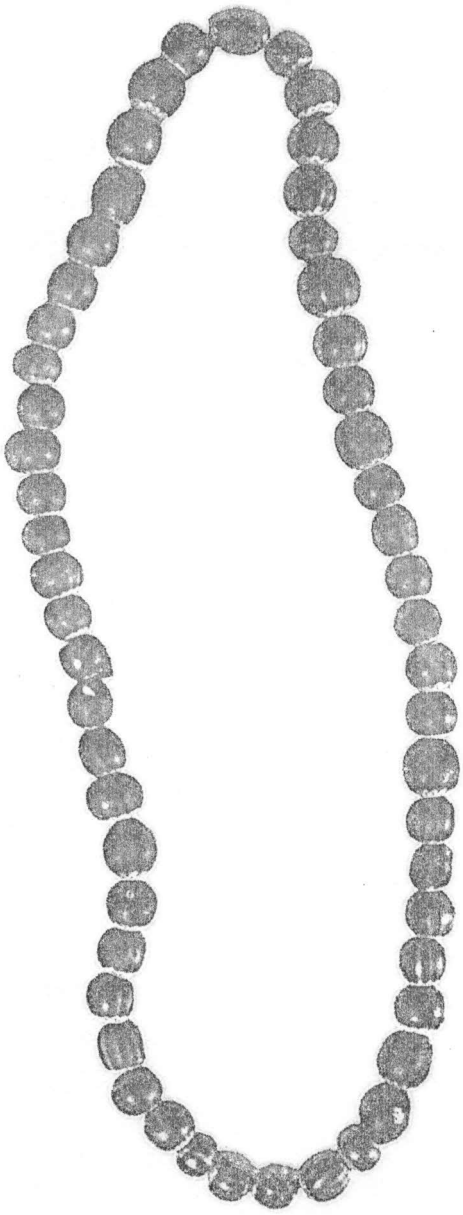
Glass beads
53 type A1
GHFL 48

Glass bead
1 type B8
GHFL 49

Glass beads
24 type A10
GHFL 51

Glass beads
2 type B2, 1 type B3, 1 type B4
GHFL 52

Fig. 153.
Glass beads, type C8. GHFL 34.



Glass bead
1 type C5
GHFL 53

Glass beads
7 type C2
GHFL 54

Glass bead
1 type B17
GHFL 55

Glass beads
5 type B6
GHFL 56

Glass bead
1 type D4
GHFL 59

Glass beads
11 type B10, 9 type B13
GHFL 63

Glass beads
12 type B5
GHFL 64

Glass bead
1 type B15
GHFL 65

Glass bead
1 type B5
GHFL 66

Glass bead
1 type C8
GHFL 67

Glass beads
3 type A5
GHFL 68

Glass bead
1 type B2
GHFL 71

Glass beads
7 type C7
GHFL 72

Glass beads
2 type D3, 3 type D6
GHFL 74

Glass beads
5 type C8
GHFL 75

Glass beads
5 type D2
GHFL 76

Glass beads
37 type A8, 1 type C7
GHFL 78

Glass beads
60 type A7, 1 type A8
GHFL 79

Globular white glass beads
MAI 8/5322

Cylindrical blue glass beads
MAI 8/5336

Star glass beads
MAI 8/5337

Cylindrical white glass beads
MAI 8/5338

Cylindrical black glass beads with white striped ends
MAI 8/5339

White glass beads
MAI 8/5340

Blue glass beads
MAI 8/5341

Spherical blue glass beads with white stripes
MAI 8/5342

Barrel-shaped white glass beads
MAI 8/5343

Large blue cylindrical glass beads
MAI 8/5344

Black glass bead (2 specimens)
MAI 8/5345

Globular dark blue glass beads
MAI 8/5346

Cylindrical blue glass bead with red and white stripes
MAI 8/5347

Cylindrical blue glass bead with black center (2 specimens)
MAI 8/5348

Cylindrical blue glass bead with red stripes (7 specimens)
MAI 8/5349

Large light blue glass bead with white stripes
MAI 8/5350

Small cylindrical black glass bead
MAI 8/5351

Dark green glass beads
MAI 8/5352

Light green glass beads
MAI 8/5353

Transparent white glass beads
MAI 8/5354

Globular turquoise blue glass bead
MAI 8/5355

Cylindrical black and white glass beads
MAI 8/5356

Ovate glass bead, gilded
MAI 8/5357

Brown glass beads
MAI 8/5358

Cut brown glass bead
MAI 8/5359

Small cylindrical brown glass beads
MAI 8/5360

Cylindrical dark blue glass beads with white stripe
MAI 8/5361

Light blue glass beads on original string
MAI 8/5364

Large opalescent glass bead
MAI 8/5365

Globular red, white and blue glass bead
MAI 8/5366

Barrel-shaped light blue glass bead
MAI 8/5367

Small cylindrical blue glass bead
MAI 8/5368

Ovate star glass bead (2 specimens)
MAI 8/5369

Globular blue glass beads
MAI 8/5370

Cylindrical black glass beads
MAI 8/5371

Grooved amethyst-colored glass beads
MAI 8/5372

Large cylindrical white glass beads
MAI 8/5373

Dark blue glass beads
MAI 8/5374

Light blue glass beads
MAI 8/5375

Small dark blue barrel-shaped glass beads
MAI 8/5376

Large dark blue barrel-shaped glass beads
MAI 8/5377

Yellow glass beads
MAI 8/5378

Ovate gray glass beads with red stripes
MAI 8/5379

Large globular dark blue glass beads
MAI 8/5380

CLAY PIPES

Kaolin tobacco pipe
Straight sided bowl, flaring slightly outward; incised hatch marks encircling mouth of bowl; end of stem