THE MANUFACTURE OF GLASS BEADS

JUDI JOHNSON, Assistant Curator of Ethnography

Beads in one form or another have embellished man's appearance since the first pierced stone, shell, or similar talisman was hung by a cord around his neck. Glass bead manufacture was already perfected by the Egyptians three thousand years ago.

Various techniques have been used to produce glass beads. Some demand considerable skill, while others require only primitive equipment. The four basic methods of glass bead manufacture are described here.

Drawn-tube beads are the most prevalent, and essentially the simplest, although variations of applied decoration often mask their humble beginnings. Blown beads are rare and only briefly mentioned. Wire wound beads illustrate the greatest diversity in the finished product and are exclusively a hand craft, while molded beads demand the least technical expertise.

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DRAWN-TUBE BEADS

Hollow-cane, tube, drawn, and drawn-tube are terms used to describe the most prevalent method of glass bead manufacture. (Fig. 1) Two men are required to produce the hollow glass tube which is transformed into beads. One man attaches a glob of molten glass to a blowpipe and forces a bubble of air into it. A metal rod is then attached to the other end by the second worker who rapidly walks away, stretching the hollow glass tube behind him, sometimes to a length of over 300 feet. After it is cooled the tube is broken into two foot lengths, which are



Fig. 1

Sequences in the manufacture of simple drawn-tube glass beads:

- A. Bubble of molten glass attached to blow-pipe
- B. Bubble blown into glass glob
- C. Metal rod attached to other end of glass bubble
- D. Glass bubble stretched into long, hollow cane
- E. 2 ft. lengths cut into bead-sizes on double-blade cutter
- F. Beads in finished shapes, sieved to separate into sizes

then cut into small beads with an instrument resembling a paper cutter.

To round the beads, the tiny lengths are tumbled with sand and ashes which fill any cavities and prevent the beads from fusing together; then they are reheated and tumbled until round. Cooled beads, either round or tube-shaped, are put through a series of sieves to sort them into a variety of uniform sizes. By this method, the colored round or tube beads are produced in a variety of sizes.

Variations of the drawn-tube bead are made by either layered or inlaid techniques. Layered beads result from dipping the bubble of one color of molten glass into a second color before drawing out the tube. This produces a bead with an inner core of one color and an outer layer of another color.

Striped beads are often formed by pressing slender, solid rods of a different colored glass into the initial molten mass. These appear as narrow longitudinal stripes on the finished bead. If the tube is twisted, the stripes will spiral around the bead. The tiny "seed" or embroidery beads are produced this way.

WOUND BEADS

Wound, mandrel-wound, wirewound, spiral, and folded are all terms used to describe another method of glass bead manufacture. (Fig. 2) As the name implies, a simple wound bead is made by heating a glass rod and wrapping it once around a copper or iron wire (a mandrel). After one ring is formed, the excess rod is snipped off. When a number of separate rings have been formed, the wire is set aside and left to cool. As the glass beads and rod cool, the metal rod contracts allowing the perforated bead to slip off easily. These simple wound beads are generally spherical in shape.

Multiple-wound beads are made by continuously winding a thin glass rod on the wire. To do this, the wire is turned, keeping the heated rod against it, until the desired shape is obtained. If allowed to cool immediately, the spiral coils will be visible on the finished bead. If a smooth surface is desired, the flame is passed over the bead to even out the exposed surface.

Wire wound beads must be made individually. Although this method of manufacture is second to the drawn-tube type, it accounts for only a small percentage of beads.



Fig. 2 Wire Wound bead manufacture A. Simple wound B. Multiple wound



Fig. 3 Example of molds used to make glass beads

Exclusively a handmade product, highly individual beads may be produced by varying the color of the glass rods used to form the rings or spirals. Insets of different colors forced into the still pliable glass form simple dots, rosettes, or detailed mosaics. An infinite variety of designs is possible, dependent only on the maker's skill and imagination.

MOLDED BEADS

Molded or pressed beads were, as the name implies, made by pressing a glob of molten glass into a twopiece mold. (Fig. 3) Sometimes the initial perforation would extend only part-way through the bead and the hole would have to be punched the remainder of the way. Molded beads are made in a variety of shapes representing well-known articles and various geometric forms. Interlocking beads are generally molded.

BLOWN BEADS

Glass beads at one time were made by the hollow-sphere or blown method, originally used to produce imitation, iridescent pearls. The bead was formed by blowing a glass bubble at the end of a hollow tube, with or without the use of a mold. Gold or silver dust from crushed sea shells provided the pearl-like iridescence. The ends were broken or cut off the finished bead and then fire-polished. These very fragile beads were generally not considered "trade" beads.

The trade beads will be on exhibit at Dickson Mounds Museum through October 1977.

MUSEUM CALENDAR

March 15 - June 30 EUROPEAN INFLUENCE ON THE AMERICAN INDIAN IN ILLINOIS (Anthropology Hall)

March 27–April 24.... PAINTINGS BY PETER BODNAR (Art Galleries) An exhibit supported in part by a grant from the Illinois Arts Council. And

AMERICAN INDIAN BASKETS (Art Galleries) From the Museum's Collection.

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