informant will generally jump at the chance to say either "yes" or "no," depending on which response seems most likely to please the person asking the question.

***DON'T* buy archaeological specimens.**

I cannot stress this enough. Purchasing specimens recovered from archaeological contexts, especially those obtained by illicit digging, contributes to the wholesale destruction of archaeological sites all over the world. This is now most prevalent in Mali and Southeast Asia where ancient sites look more like World War I battlefields after the looters have done their work. This has resulted in the loss of truly incredible–and irreplaceable–amounts of scientific data. It is ironic that many collectors who buy such looted beads then turn to archaeologists to get more information about them, information the archaeologists cannot provide because the contexts in which the beads were found have been destroyed.

And sometimes it is not just information that is lost but human dignity as well. The worldwide craving for ancient beads has driven some looters to the ghoulish practice of unearthing recent human burials which were buried with heirloom beads. This has led elderly women in some regions of Southeast Asia to request that their old beads be pulverized before being interred with them upon their death.

As an archaeologist who looks upon beads as repositories of information and not just beautiful objects, my fervent hope is that you will not buy ancient beads and will tell others to do the same. While some come from collections that were amassed by archaeologists and others in the old days through legal means, the majority available today have been illegally plundered from sites that local governments cannot protect because of a lack of proper funding. Let us help these nations protect what remains of their heritage.

[Ed. Note: This article is an updated version prepared in 2009.]

49. AN EARLY 19TH-CENTURY ACCOUNT OF BEADMAKING IN MURANO AND VENICE, by Karlis Karklins and Derek Jordan (1990, 17:5-8)

Introduction

In 1816, two German botanists recorded one of the earliest comprehensive descriptions of the manufacture of drawn glass beads in Murano and Venice (Hoppe and Hornschuch 1818:135-142). An English translation appeared a few years later (Anonymous 1825:120), and this was used almost verbatim by Dionysius Lardner (1832:233-235) in his treatise on the manufacture of porcelain and glass. Unfortunately, the initial English translation is flawed by several errors and inadequately translated terms and descriptions. Furthermore, a few interesting bits of information were deleted while others were added by the translator. As Hoppe and Hornschuch' s record is important to our understanding of how beadmaking technology changed through time, an annotated translation prepared by K. Karklins and Derek Jordan is presented below.

Hoppe and Hornschuch's Account

The initial stages in the production of glass beads on Murano are not very different from those used in the normal production of glass. The melting furnace and even the glass mass are the same, except that a secret colorant is added to the latter. When the glass is in a sufficiently molten state, a quantity of it is taken up on a blowpipe, as is the practice in the normal glass works, and a little air is blown into it to make it hollow. Using a similar instrument, another worker then takes hold of the gather and the two workers then run[1] in opposite directions at great speed, pulling the glass out into a thin tube that can often be 50 feet or more in length.[2] A long walk is provided near the glass oven for this purpose.

Once the tube is cool, it is broken into sections of equal length, sorted, packed into boxes, and sent to Venice for transformation into beads. To obtain tubes for striped beads, a small quantity of differently colored glass is taken from another pot and laid in strips on the initial gather.[3] The whole is then pulled out. Such a gather of glass is also used to produce tubes three feet in length and the thickness of a finger which have a spherical bubble blown in one end. These are used to tie up plants in flowerpots.

When the tubes arrive at the factory in Venice, they are converted into beads in the following manner. A person selects tubes of equal length[4] from those which have been packed in the boxes by color and arranges them in batches of such a size that the tubes lie side by side when held in the hand. This work is usually done by women or children. Another person, a man, takes the batches of tubes and chops them into beads of any desired size. The instrument required for this purpose consists of a sharp iron in the form of a very broad chisel set in a block of wood. The tubes are laid on the cutting edge and, using a similar iron held in the hand, the worker cuts, or rather chops, the tubes into beads while constantly advancing the tubes held in his other hand.[5]

To give these longish beads their proper rounded form, a third person places them in a mixture of ash and sand, and agitates them in this mixture until their holes are filled and thus cannot collapse when heated. A fourth worker then puts the beads into a pan with a very long handle and adds some more of the sand-and-ash mixture. He then places the vessel over a charcoal fire, stirring the contents continuously with an instrument shaped like a hoe with a rounded end[6] until the beads have become rounded. The pan is then removed from the fire and the sand/ash mixture is removed by sieving. The beads themselves are subsequently sorted into uniform sizes by passing them through sieves of different fineness. They are then strung on thread and gathered into hanks or bunches.[7]

The quantity of beads produced in this factory, up to now the only one in the world to perform this sort of work,[8] is incredible. Several hundredweight were packed in casks, awaiting shipment to all parts of the world, especially Spain, the Barbary Coast, etc. But so far they have not made their way to America.[9] The Kaiser, during his recent visit to Venice, also visited this factory and presented the owner with the Order of Merit, a civilian medal.

The travelers, as well as two merchants from Aachen, bought a considerable quantity of beads to take to their relatives back home. They were also given several tube samples and a sample card which exhibited no less than 64 different kinds of beads.

Endnotes

1. Hoppe and Hornschuch use the verb *laufen* which generally means "to run." However, it can also mean "to go" or "to walk" (dialectical). Based on other historical accounts and Karklins' personal observation of the drawing process in Murano, it is likely that a very fast walk is indicated.

2. In the 1825 translation, the length is incorrectly given as 150 feet.

3. The 1825 translation erroneously states that the two glasses are twisted together.

4. The German text specifies *lange* (length), but diameter or "thickness" (as used in the 1825 translation) is doubtless being referred to as the tubes have already been described as being of equal length. The accounts of Bussolin (1847:16) and others support this interpretation.

5. A good portion of the information presented in this paragraph is missing in the 1825 translation. Furthermore, the latter, by using the singular form "pipe," implies that the tubes were chopped up one by one rather than by the handful.

6. The 1825 translation describes this tool (*Hacke*) as "a spatula, resembling a hatchet with a round end." However, *Hacke* also denotes a hoe or mattock. Considering the activity that is being performed, a hoe-shaped tool would seem to make more sense.

7. The term *Bunde* may be translated as bundles, bunches, or hanks. Based on Bussolin (1847:25), the two latter terms would be the most appropriate here.

8-9. These two statements are obviously incorrect. One can only wonder what inspired the second one.

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50. GLASS BEADMAKING IN THE FICHTELGEBIRGE REGION OF BAVARIA IN THE MID-NINETEENTH CENTURY, by Ian Kenyon, Susan Kenyon, Susan Aufreiter, and Ron Hancock (1996, 28:12-19)

In the 19th century, two important centers of European beadmaking were Venice/Murano and northern Bohemia. Yet, at the same time, a significant bead industry also existed in a mountainous region of northern Bavaria (Franconia) called the Fichtelgebirge (Fig. 1). Since details about the Bavarian industry are scarce in the English-language literature, we offer a digest of two contemporary German-