

That the furnaces were rebuilt and renovated on a number of occasions is revealed by the presence, at various levels in the archaeological deposits, of many brick fragments with thick deposits of raw glass on their faces. It is believed that the bricks formed the base of the melting furnaces and that during the glassmaking process, molten glass from the crucibles was spilled onto them. During rebuilding, these bricks were discarded as useless.

The glassmaking workshops on Trokšņu Street stood for a long time as evidenced by a concentration of the finds in a ca. 1.5-m-thick layer in the cultural deposit. The recovered artifacts and their stratigraphic contexts indicate that the glassworks were in operation during the late 13th and 14th centuries.

Chemical analysis revealed that the glass produced at the glassworks was primarily composed of lead oxide (PbO) - 59.2%-74.7%, silicon dioxide (SiO₂) - 14.4%-33.87%, and tin dioxide (SnO₂) - 1.04%-8.28%. Because of the high lead content, the majority of the glass objects were yellow in color. Glass of greenish tones was occasionally produced by the addition of up to 1.4% of cuprous oxide (CuO). The glass produced in Riga was, thus, made from an easily melted composition of quartz sand and lead without an alkali additive. Its composition distinguishes it from the typical potash-lime glass of Western Europe. Non-alkali lead glass of similar composition had a broad distribution in Poland during the early Middle Ages, as well as in contemporary Old Russia.

References Cited

Caune, A.

1983 Arheoloģiskie pētījumi Rīgā laikā no 1969. līdz 1980. gadam. Latvijas PSR Zinātņu Akadēmija. *Arheologija un Etnogrāfija* 14:86-121. Riga.

43. ISCC-NBS CENTROID COLOR CHART UPDATE, by Karlis Karklins (1992, 20:6)

Bead researchers looking for an accessible and inexpensive chart for accurately determining bead colors have been dealt a low blow by the U.S. National Bureau of Standards which has discontinued the ISCC-NBS Centroid Color Chart discussed in *Bead Forum* No. 14. Following up on a note from Jeff Mitchem, a phone call to the NBS confirmed that this useful reference item has been discontinued. When asked if there was an alternative, they referred me to the Munsell Color Company. Readers knowing of another suitable color chart are asked to contact the editor.

44. A VENETIAN LANDMARK CLOSES, by Karlis Karklins (1993, 22:20-21)

It is sad to note the closing of the famous Società Veneziana Conterie at Fondamenta Giustinian 1 on Murano in the lagoon of Venice. The concern was founded in 1898 when 17 competing bead producers merged for their mutual benefit. It was initially known as the Società Veneziana per la industria delle Conterie. It later became the Società Veneziana Conterie e Cristallerie and then simply the Società Veneziana Conterie.

The company principally made drawn embroidery beads (*conterie*) in a rainbow of colors. It is truly mind boggling to contemplate how many thousands of tons of beads were sent abroad in the ninety-odd years that the Società was in operation. In the last few years the company experienced serious financial difficulties. A major problem was competition from countries such as Japan which could sell beads for what it cost the Società to produce them (Dr. C. Chiappetta, president 1987: pers. comm.). To expand its market, the company began to produce small glass pellets for use in atomic reactors.

The demise of the Società Veneziana Conterie marks the end of *conterie* manufacture on Murano. Bead production there is now limited to wound beads in various plain, mosaic, and millefiori forms, as well as chevron beads made from canes supplied by Vetrerie Moretti which is located a short distance from the Società complex.

It is not known what will become of the Società machinery or stock of canes and beads. It would be wonderful if someone could photograph the machinery and get detailed descriptions of it before it disappears. This is something I could not accomplish despite two visits to the factory in the 1980s. In some cases it was because the machinery was in operation; in others I was asked not to photograph certain operations because they were still considered trade secrets. It would also be beneficial if examples of the various sample cards and books that still exist in the Società's warehouses could be salvaged for distribution to researchers and research facilities around the world.

45. PHOTOGRAPHING PATINATED GLASS BEADS, by Karlis Karklins (1994, 25:13)

Good color photographs are an essential complement to written descriptions of beads. An excellent article by Robert K. Liu on how to photograph beads and objects formed of beads appears in the summer 1994 issue of *Ornament* magazine. Short but packed with useful information, this article will greatly help researchers to improve their

photographic results. Unfortunately, where archaeological specimens are involved, the original color of a bead is frequently obscured by a layer of patina, resulting in rather drab photographs, regardless of the photographer's skill. In such cases, it is important to try and reveal a bead's true color.

If the patina is thick, there is little that can be done. However, if it is relatively thin, an application of a high-quality mineral oil will bring out the original color without harming the bead. The best way to apply the oil is with a camel hair brush. Apply the oil sparingly as an excess will cause glare. Keep in mind that the oil will evaporate quite quickly under hot studio lights so, if not using a flash, perform bead layouts and focusing before the oil is applied. If the oil does evaporate, simply apply more. *Never* utilize vegetable oil or lubricating oil as these will leave a sticky, dust-collecting residue that will also stain whatever the bead touches.

Once the photographs have been taken, oil residue should be removed from the beads. To accomplish this, the beads, held in forceps or mounted on a wire loop, should be rinsed in a series of four beakers of petroleum ether 30-60 in a well-ventilated area. Both the mineral oil and ether are inert with glass and, consequently, the procedure described here will not conflict with the desire to preserve the specimens, a major concern to collection's managers and curators.

My thanks to John Stewart, Senior Conservation Scientist, Conservation Division, Parks Canada, Ottawa, Ontario, for his input regarding the procedure described above.

46. AN UNUSUAL MODERN BEAD (?) FROM CHINA, by Karlis Karklins (1996, 28:19-20)

Just when you think you know it all, along comes something to put you in your place. This was the case when Vonda Lee Adorno handed me a large bead at the Third International Bead Conference in Washington, D.C., last November and asked my thoughts on it. The object that sat heavily in my hand was globular, 24 mm in diameter, and weighed 15.5 g. It was coral colored and had been obtained in Beijing in 1994. Part of the bead had broken away, exposing the internal structure (Pl. IB top). The specimen had a wooden core with five lead plugs ca. 6 mm in diameter set 5-11 mm apart in a band that diagonally encircled the bead. The core was covered with a shiny, 1.5- cm-thick layer of a coral-colored material that was difficult to scratch with a pin and was also resistant to burning. The material exhibited a conchoidal fracture and a slightly laminated structure and may be some sort of plastic. The object had

a ca. 3-mm-diameter hole through it. The wood looked new and the lead plugs were only slightly oxidized, suggesting that the specimen was of recent manufacture.

So, what is this thing? At first I suspected that the lead had been added to give the bead extra weight to mimic that of coral. But, as Vonda pointed out, the lead actually made the object much heavier than coral. The weight suggests that it did not function as a necklace component but as an attractive weight on something—possibly a curtain pull or something similar. Anyone with any thoughts on this unusual object and its possible use(s) is asked to contact the editor.

47. MORE ON THE “UNUSUAL MODERN BEAD (?) FROM CHINA,” by Karlis Karklins (1996, 29:7)

In response to the item on “An Unusual Modern Bead (?) from China” in the April issue, Joan Eppen from California sent in a couple more examples found on a strand of imitation coral beads from Asia. Obtained in the early 1990s, the specimens are clearly imitation-coral beads. They are barrel shaped, measuring 11.8 mm in diameter and 9.5 mm in length, with deeply cracked surfaces. Like their larger counterparts, these have a wooden core as well but, due to their size, only have a single cylindrical lead insert which passes through the core perpendicular to the perforation. The latter has been drilled through both the wooden core and lead insert. As Joan said in her accompanying note: “Someone worked really hard to make these, but why?” Why indeed? It would take a fair bit of time to produce the core, drill it, insert the lead cylinder, then drill the perforation and cover the whole with a layer of coral-colored material. The reason for the lead inserts is clearly to give the beads weight like that of real coral, but since the finished products look like plastic, why go to the bother? Joan further informed me that, according to Paddy Kan who imports these, “they were indeed Chinese, 19th Century, and that the covering was of a kind of tree resin (early plastic?).” However, they just look a little too “fresh” to be that vintage and the identification of the outer layer still needs to be verified. Any plastics experts out there willing to look at one of these beads and give us an opinion?

As it now stands, we know that these items were beads made to imitate coral, probably in China, but we still do not know where or when exactly, by whom and why. Maybe someone can provide more information in the next *Forum*.

48. BEAD RESEARCH DOS AND DON'TS, by Karlis Karklins (1998, 32:10-15)

As ever-increasing numbers of people are drawn to beads, more and more of them want to know more