THE BEAD FORUM

Newsletter of the Society of Bead Researchers

Issue 78 Spring 2021

On the Dating and Origins of IIa40 Beads

Elliot H. Blair

INTRODUCTION

In a recent article in *American Antiquity*, Kunz and Mills (2021) suggest that ten drawn, opaque, turquoise-colored *a speo*-finished glass beads excavated in Arctic Alaska date to the 14th century, predating Columbus' arrival in the Americas. This is a provocative argument that has garnered considerable attention in the press (e.g., Geggel 2021). But, as I argue elsewhere (Blair in press), this dating is certainly incorrect. Here I elaborate on this contention and provide some additional information about this bead type. I begin by providing an overview of IIa40 beads, continue by briefly reviewing the historical and archaeological evidence for the dating of this bead variety, and conclude by reexamining the elemental and radiocarbon evidence presented by Kunz and Mills (2021) – ultimately suggesting that the Alaskan IIa40 beads they discuss most likely date to the early 17th century.

IIa40 BEADS

Drawn, opaque, turquoise-colored glass beads of simple construction (Kidd and Kidd [2012] variety IIa40) are one of the most ubiquitous beads found on colonial sites in eastern North America (Figure 1). As noted by Francis (2009b:76), this ubiquity has resulted in numerous names being applied to them, including Early Blue (Heisey and Witmer 1962), Estaufa Blue, Jamestown Blue (Witthoft 1966), Childersburg Opaque Blue (Dejarnette and Hansen 1960; Penman 1972), Sugarcane Blue, Ichtucknee Plain (Goggin n.d.), and Ichtucknee Blue (Deagan 1987; Symes and Stephens 1965).

Despite the ubiquity of IIa40 beads on colonial sites in the Americas, the bead (aside from compositional analysis) has been the subject of limited direct inquiry. The most extensive discussion of this variety is by Francis (2009b), who makes a number of keen assertions and provocative hypotheses. While many studies note that this bead is drawn, simple, turquoise blue, and often manufactured of unstable, leached glass, Francis highlights two additional important attributes of this variety.

First, many specimens exhibit the characteristic imperfections of the *a speo*-rounding process, a method in which cut segments of bead cane are rounded by being reheated on a multi-pronged spit (Karklins 1993). This finishing technique – often resulting in conjoined beads and broken projections at the ends – was utilized by members of the Venetian *Paternostri* beadmaking guild and its expatriate members (Francis 2009b, 2009c).

Figure 1. Example of a IIa40 bead (all images by the author).

Beads made using this technique are in many cases distinguishable from beads manufactured by the Venetian *Margareteri* guild which used the *a ferrazza* finishing technique, and from beads rounded using "hot tumbling," a method developed ca. 1817 that used a rotating drum.

The second attribute that Francis (2009b:76-77) discusses is the striated appearance of these beads. He notes that many early descriptions of these beads mention this characteristic, describing the striations as air holes or bubbles (Duffield and Jelks 1961:43-44; Watt and Meroney 1937), or having "a texture reminiscent of stripped sugarcane" (Harris and Harris 1967, 1973; Harris et al. 1965; Harris et al. 1999). He attributes this characteristic to the use of low-quality ingredients and poor production methods. He also suggests – based on priority and descriptiveness – that the beads be referred to as "Bubble Glass Beads," rather than one of the many other names applied to it. In addition to noting these attributes, Francis (2009b) also suggests that the bead likely correlated with the *turquí* beads of the Spanish cargo lists (Kelly 1992; Torre Revello 1943), a category only listed after about 1580 (Deagan 1987:157).

Based on these observations, Francis (2009b:78-79) makes the provocative hypothesis that IIa40 "Bubble Glass Beads" were likely manufactured in France. He dismisses Venice as a possibility based on the poor quality of the glass and Amsterdam based on its absence in comparative samples (e.g., Gawronski et al. 2010; Hulst et al. 2012; Karklins 1974, 1983, 1985; van der Made 1978; van der Sleen 1962, 1963a, 1963b). He supports this suggestion by arguing that historical documentation indicates that during the 16th century, France was recruiting glass makers and beadmakers from Venice – primarily represented by members of the Venetian *Paternostri* guild, the guild responsible for the production of *a speo* beads. Francis deduces from these two points that *Paternostri*-produced beads manufactured from low-quality glass must be a product of the documented French industry, rather than the products of the better-established Venetian or Dutch industries.

This conclusion is supported by Turgeon's (2001) analysis of French notarial archives which show that France was a major producer of glass beads during the late 16th and early 17th centuries. Additionally – paralleling Francis' conclusions – Turgeon (2001:66) notes that "*turquin*" was a specific category of glass bead manufactured in France, arguing that they were "undoubtedly the round turquoise beads, IIa40 in the Kidd classification… [and] are in a category of their own, perhaps because of the very particular chemical makeup of these beads."

This attribution of IIa40 beads to French manufacture was initially met with some skepticism. In the years since this hypothesis was first proffered, however, some supportive evidence has emerged and a number of researchers have argued for a robust French industry (e.g., Walthall 2015). Dussubieux (2009; Dussubieux and Gratuze 2012) reports compositional data on glass beads and ornaments manufactured and/or excavated from several sites in France, and recently, Karklins and Bonneau (2019) report on an assemblage of early-17th-century beads and beadmaking wasters that were recovered from a site in Rouen. Much of this material shows evidence of *a speo* finishing and a number of IIa40 beads – containing numerous "bubbles" – were included in the assemblage. Similarly, Loewen (2019), using primarily documentary evidence, argues for extensive glass bead industries in Normandy and Rouen during the 16th and 17th centuries and suggests that France was the likely source for most beads recovered from early-17th-century sites in northeastern North American. Additionally, IIa40 beads are absent among the thousands recovered from the 1583 Venetian shipwreck found near Gnalic, Croatia, strongly indicating that the bead was not a Venetian product during the late 16th century (Delmas 2016:105-108).

DATING IIa40 BEADS

Both archaeological and historical evidence can be used to date the manufacture of IIa40 beads. Historically, two events constrain the earliest dating for these beads: the invention of drawn beadmaking and the invention of the *a speo* method for finishing beads. Regarding the invention of drawn beadmaking, fairly little has been published in English. Francis (1979, 1988, 1999, 2009a, 2009c) discusses the issue in the most detail, and suggests a date of ca. 1480-1490. His argument is based on two texts, the 1486 rules that established the *Paternostri* guild and a 1510 ordinance by the *Capitolo dell'Arte*, the Venetian guild governing board. The 1486 rules mention "sorts of work newly discovered" while the 1510 ordinance states "to keep what was newly discovered twenty years ago… an

invention made by our glassmakers of Murano of pure canes of common cristallo and colors of diverse sorts…." Francis (1988:13) argues that this discovery must be the invention of drawn, hollow canes for beadmaking.

Other bead scholars, writing in Italian and using other documentary evidence, have come to similar conclusions. For example, Astone Gasparetto (1958:178) notes that the oldest documentation for hollow glass canes dates to 1468. Paolo Zecchin (2005) also dates this technology to the second half of the 15th century. In his analysis, he highlights the "punishment" of Taddeo Barovier in 1470 for selling *zuchoni* outside of Venice. While the precise definition of *zuchoni* is still somewhat obscure (*see* Reffo 2017; L. Zecchin 1989; P. Zecchin 2020), P. Zecchin (2005) and others (Accademia degli Zucconi n.d.) argue, convincingly, that "*zuchoni*" are hollow tubes, or perhaps the cut glass segments produced during drawn beadmaking. In addition, P. Zecchin (2005) suggests that selling *zuchoni* outside of Venice was a crime at this time because of the interest in protecting the new Venetian drawn-beadmaking industry.

Coeval with the documented invention of drawn beads and the establishment of the *Paternostri* guild, we also have the first evidence for the production of chevron, or *rosetta*, beads ca. 1480 (Moretti 2005). Importantly, these earliest chevrons were always finished by grinding, not heat-rounding. The other major bead style made during this time was the Nueva Cadiz bead, almost certainly manufactured by the *Paternostri* guild, and often finished by grinding. Archaeological evidence indicates that beads of the late 15th and early 16th centuries were almost always finished by grinding. This is well evident, both in 15th- and 16th-century manufacturing debris from the Venetian lagoon and nearby locales (Bailo 1903; McCray 1996; Moretti 2005) and in the beads circulating in the early colonial trade in the Americas (Kelly 1992; Smith 1983; Smith and Good 1982). Indeed, the earliest beads brought by Spanish explorers were either small, annular, wound beads, usually yellow or green in color (e.g., those thought to have been brought by Columbus [Brill 2005; Brill et al. 1986; Brill and Hoffman 1987]) or 7-layer faceted chevrons and Nueva Cadiz beads. Beads finished by the *a speo* method – the finishing technique associated with the *Paternostri* guild during the 17th century – are not present in these early assemblages. The IIa40 bead, in particular, is not archaeologically documented until the latter half of the 16th century, in both northeastern and southeastern North America (e.g., Bradley 1983; Clark 2019; Deagan 1987:171; Rodning et al. 2016; Rumrill 1991; Smith 1983, 1987:31-33; Wray et al. 1987).

IIa40 BEADS IN ALASKA

The combined historical and archaeological evidence strongly indicates that IIa40 beads were not manufactured until the late 16th century, and at this time they were likely manufactured somewhere other than Venice. And indeed, a close look at the elemental and radiocarbon evidence presented by Kunz and Mills (2021) indicates that this dating is consistent with their evidence.

The Elemental Evidence

Compositional recipes for IIa40 beads in North America dating ca. 1580-1650 (and later) are extensively documented by Hancock et al. (1996, 1994) and Kenyon et al. (1995) and several temporally diagnostic recipes are identified. Figure 2 compares the sodium and calcium (temporally significant elements) concentrations of the Alaskan beads to the early compositional groups defined by Hancock et al. (1994). Three of the Alaskan beads fit comfortably within the 1600-1620 grouping, while the other two match the 1620-1650 cluster.

The Alaskan beads also have fairly low copper content and a slightly elevated manganese content, which is also a good match for Hancock et al.'s (1994)

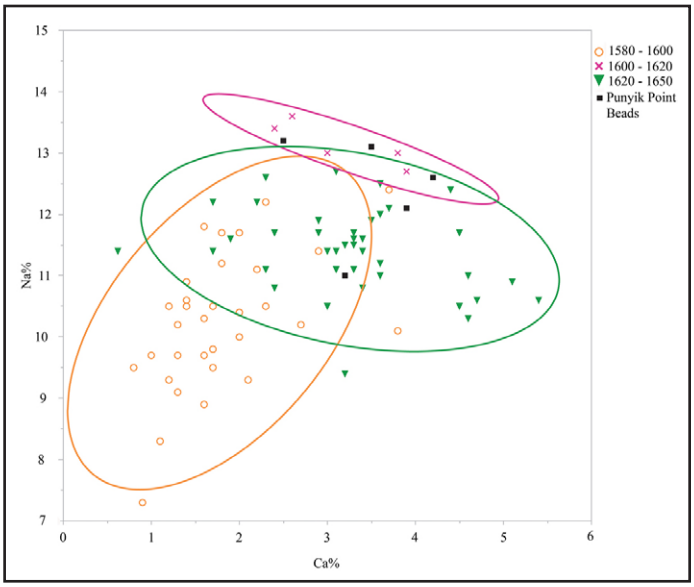


Figure 2. Biplot of Ca/Na for Alaskan IIa40 beads plotted against 95% confidence intervals for Hancock, Chafe, and Kenyon's (1994) temporal groups (after Blair in press).

17th-century sample and completely inconsistent with earlier 16th-century beads. It is unfortunate, however, that the authors chose to use Instrumental Neutron Activation Analysis (INAA) to characterize the beads. This method can only detect a limited number of elements and has poor resolution for others. Had a technique such as laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) been used, trace element data could have been used to help determine the origin of these beads.

The Radiocarbon Evidence

The elemental data are suggestive of a 17th-century date for the Alaskan beads. Additionally, the radiocarbon dates associated with the Alaskan IIa40 beads do not support a 15th-century date. While most of the dates reported by Kunz and Mills (2021) have multiple intercepts with the calibration curve, all of the dates except the earliest of the Punyik Point (49-XHP-00308) dates span the later archaeologically and historically documented production dates for these beads. Kunz and Mills (2021) place great weight on the two reported Punyik Point dates, but both are problematic. The earliest date (Beta-193802) is far too early to be acceptable for dating the beads and is almost certainly an example of the old-wood problem. Kunz and Mills (2021) acknowledge this, but they are too dismissive of a well-known issue in radiocarbon dating on Arctic sites (Anderson and Feathers 2019).

The second Punyik Point date (Beta-201353) is equally problematic. Much of the analysis by Kunz and Mills hinges on the close association between a sample of "vegetal twine" and one of the IIa40 beads. This sample has, however, previously been reported as sinew (Kunz 2005:106, Table 1). If the earlier sinew identification is correct, then a marine-mammal (perhaps seal) origin is possible and marine-reservoir corrections are needed (Ledger and Forbes 2020). With competing identifications of this material, more information is needed to assess the reliability of this date.

Both problematic dates, however, are also inconsistent with the larger assemblage of late precontact dates that have previously been reported from Punyik Point (Kunz 2005). While the authors report only radiocarbon dates in close association with the glass beads, Kunz (2005) reports nine additional dates from the late precontact component at Punyik Point, all of which have calibration probabilities in the late 16th and early 17th centuries – consistent with the archaeological and historical evidence for the production and circulation of IIa40 glass beads (Figure 3). This later dating of Punyik Point is also consistent with previous interpretations of the site (Kunz 2005:107, 2009:325) and with the dating of the other two sites with IIa40 beads (Gilbert-Young 2004; Shirar 2011).

CONCLUSION

In sum, the Alaskan IIa40 beads cannot be pre-Columbian because Europeans weren't making these beads that early. The only plausible dating for these beads – consistent with the archaeological, historical, elemental, and radiocarbon data – is ca. AD 1570-1650, with the latter portion of that range being most likely.

To conclude, I reiterate eight key points:

1) Historical records strongly indicate that drawn glass beads were first manufactured in Venice ca. 1470.

2) Archaeological and documentary evidence also clearly indicates that from 1470 until the mid- to late 16th century, the drawn beads manufactured in Venice were finished by faceting.

3) The *a speo* method of heat-rounding – the technique used by the *Paternostri* guild – is primarily a 17th-century method, though it may have been invented somewhat earlier (Karklins 1993).

4) IIa40 beads have never been securely identified in contexts dating earlier than the late 1560s.

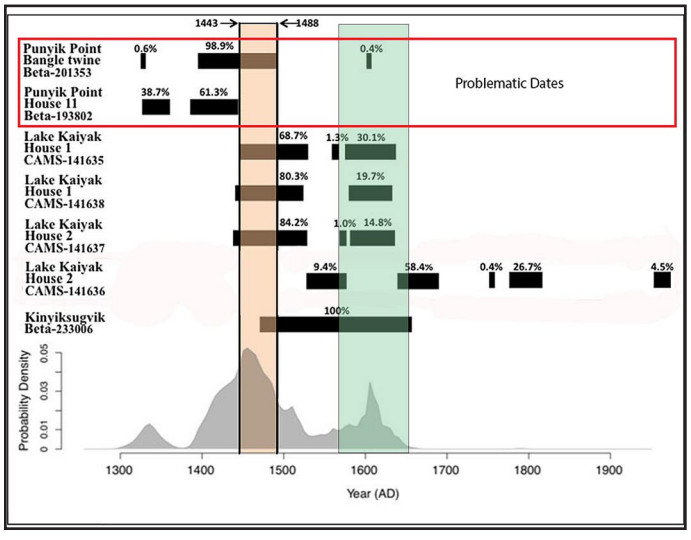


Figure 3. Radiocarbon dates associated with glass beads from the Alaskan Arctic (after Kunz and Mills 2021: Figure 5). The tan column highlights Kunz and Mills' proposed dates for the IIa40 beads. The green column indicates the more likely date range for the Alaskan beads, consistent with historical, archaeological, elemental, and radiocarbon evidence.

5) There is no clear evidence that IIa40 beads were manufactured in Venice, and there are indications that these beads were likely manufactured in France and/or the Netherlands. Neither of these locations had drawn beadmaking industries prior to the late 16th century.

6) The elemental analysis of the Alaskan IIa40 beads is consistent with glass recipes of the early 17th century.

7) The total radiocarbon evidence for the late precontact component of the Alaskan sites indicates intensive occupation during the late 16th to early 17th centuries (Kunz 2005, 2009).

8) The two Alaskan radiocarbon dates most suggestive of a 15th-century date are both problematic and cannot be accepted as sufficient to overturn the overwhelming evidence indicating a late 16th or early 17th century date for these beads.

REFERENCES CITED

Accademia degli Zucconi
n.d. Etimologia. http://www.accademiadeglizucconi.com/?page_id=2057, accessed 10 April 2021.

Anderson, Shelby L. and James K. Feathers
2019 Applying Luminescence Dating of Ceramics to the Problem of Dating Arctic Archaeological Sites. *Journal of Archaeological Science* 112, article 105030.

Bailo, Luigi
1903 Delle perle vitree ritrovate in terreni di Valdobbiadene, provincia di Treviso. *Atti del Reale instituto veneto di scienze, lettere ed arti* LXII(2):1021-1033.

Blair, Elliot H.
in press Reconsidering the Precolumbian Presence of Venetian Glass Beads in Alaska. *American Antiquity*.

Bradley, James W.
1983 Blue Crystals and Other Trinkets: Glass Beads from 16th and Early 17th Century New England. In *Proceedings of the 1982 Glass Trade Bead Conference*, edited by Charles F. Hayes III, pp. 29-39. Rochester Museum and Science Center, Research Records 16.

Brill, Robert H.
2005 Some Small Glass Beads fom San Salvador Island. In *Glass Science in Art and Conservation, an International Conference Devoted to the Applications of Science to Glass Art and the Conservation of Glass Artifacts*, pp. 135-136. InstitutoTecnológico e Nuclear and Universidade Nova de Lisboa, Faculdade de Ciências e Tecnologia, Lisbon.

Brill, Robert H., I. Lynus Barnes, Stephen S.C. Tong, Emile C. Joel, and Martin J. Murtaugh
1986 Laboratory Studies of Some European Artifacts Excavated on San Salvador Island. In *Proceedings of the First San Salvador Conference: Columbus and His World*, edited by Donald T. Gerace, pp. 247-292. College Center of the Finger Lakes, Bahamian Field Station, Fort Lauderdale.

Brill, Robert H. and Charles A. Hoffman
1987 Some Glass Beads Excavated on San Salvador Island in the Bahamas. In *Annales du 10e congrès de l'Association internationale pour l'histoire du verre, Madrid-Segovia 1985*, pp. 373-398. Amsterdam.

Clark, Douglas
2019 Oneida Glass Trade Bead Chronology. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 37(2):1-94.

Deagan, Kathleen A.
1987 *Artifacts of the Spanish Colonies of Florida and the Caribbean. Volume 1: Ceramics, Glassware, and Beads*. Smithsonian Institution Press, Washington, DC.

Dejarnette, David L. and Asael T. Hansen
1960 *The Archeology of the Childersburg Site, Alabama*. Notes in Anthropology 6.

Delmas, Vincent
2016 Beads and Trade Routes: Tracing Sixteenth-Century Beads around the Gulf and into the Saint Lawrence Valley. In *Contact in the 16th Century: Networks among Fishers, Foragers and Farmers*, edited by Brad Loewen and Claude Chapdelaine, pp. 77-115. University of Ottawa Press, Ottawa.

Duffield, Lathel F. and Edward B. Jelks
1961 *The Pearson Site: A Historic Indian Site at Iron Bridge Reservoir, Rains County, Texas*. The University of Texas, Department of Anthropology, Archaeology Series 4. Austin.

Dussubieux, Laure
2009 Chemical Investigation of Some 17th-Century French Glass Personal Ornaments. *Journal of Glass Studies* 51:95-110.

continued on page 25

Eye Beads, Literally! Beads Made of Beetle Grub Heads

Hans van der Storm

A few years ago I came into possession of a simple beaded strand consisting of gray-white and small black beads with a total length of 348 cm (Figure 1) (van der Storm 2019a, b). According to the accompanying label made by the seller, the string was collected prior to 1997 in the former Dutch part of New Guinea, during the time it was called Irian Jaya (1973-2002). The country is now called Papua.

Figure 1. The as-found string of Job's Tears and beetle-grub-head beads from Irian Jaya (all images by author unless otherwise indicated).

This simple string of beads reveals its secrets only when given a closer look. The tear-shaped gray-white beads, approximately 10 mm in length, in pairs of two, are quickly recognized as the seeds of the grass species *Coix lacryma-jobi*, better known as Job's tears (Figure 2). This plant is found in China, India, Pakistan, Sri Lanka, and Malaysia. The seeds are eaten and used as ornamental beads by many peoples.

At first glance, I did not recognize the nature of the small (4-5 mm) black beads. Superficial pores could be identified with a magnifying glass and regular honeycomb structures could be seen in two places on a single bead using a stereo microscope. The structures turned out to be faceted insect eyes (Figure 3). Once on this trail, I looked for other features. The mouth parts were damaged by the perforation, through which a thin twisted vegetable fiber had been threaded. There is no sign of antennae. Therefore, in my lay understanding, it could not be an adult insect (imago). But

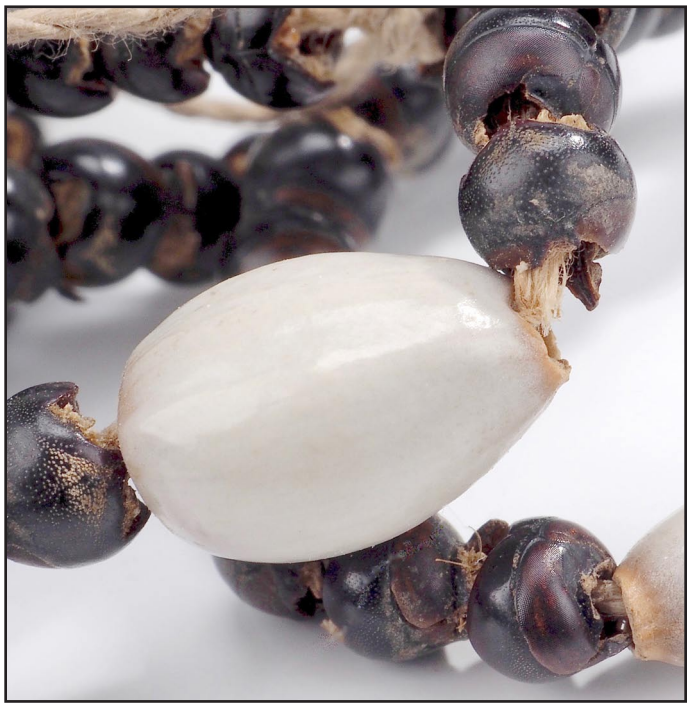


Figure 2. *Coix lacryma-jobi*, better known as Job's Tears.

why only use the unsightly black heads? And in such a large amount? I counted approximately a thousand!

The above-mentioned observations led me to the hypothesis that the black beads were made from the heads of larvae (Rumphius 1741:78). In Papua, larvae are harvested from sago palms felled for special occasions (Chataigner and Spigolon 2019:11-12; Rockefeller 1967:16-18, 32, 33, 47). I therefore concluded that these are the larvae of the red palm beetle (*Rhynchophorus ferrugineus*) (Figure 4). The larvae of these

Figure 3. Detail of the black beads, showing the facets in the eyes.

beetles are 6-7 cm long and are extremely nutritious, especially high in protein, and thus fulfill a much-needed dietary protein requirement (Chakravarthy 2016:133-146). The larvae are eaten raw or roasted. The bitten-off head is the only part of the larva that is not eaten and is apparently found useful as a bead. In addition to larvae of the red palm beetles, those of the longhorn beetle (*Hoplocerambyx severus*) are also an important protein source (De Clercq and Schmelz 1893:194). Examining the string, it is not possible to say with certainty from which beetle species the larval heads originate.

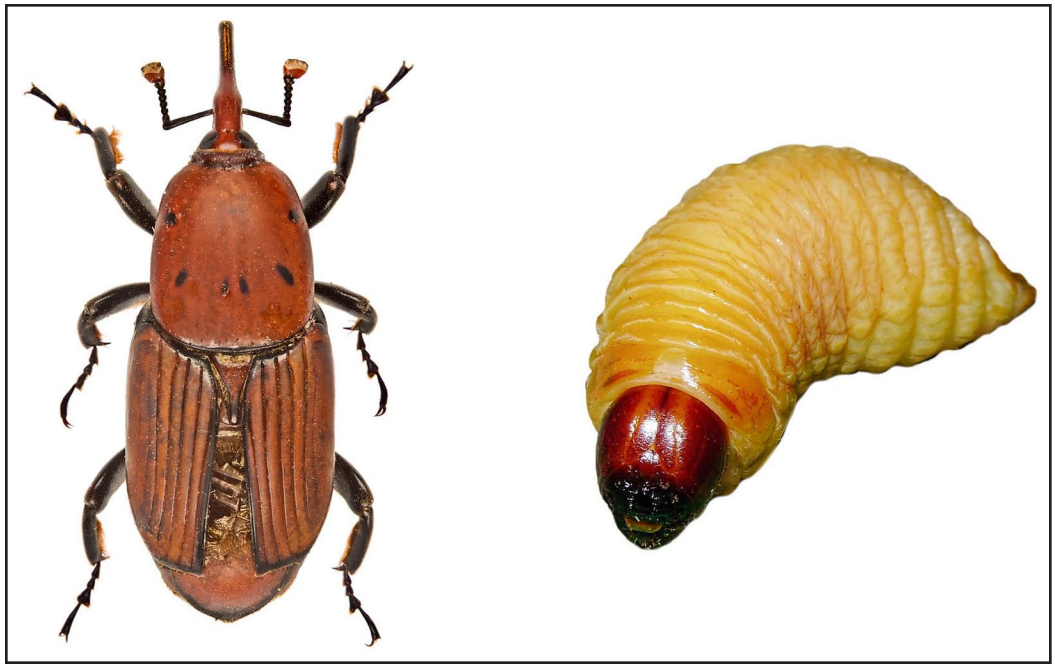


Figure 4. Red Palm Beetle (*Rhynchophorus ferrugineus*); left: imago, right: larva (Wikipedia 2020).

The Asmat, a people living in Papua, prepare a collective meal as the highlight of traditional festivals where many gifts are exchanged (Hulshoff 2018). And, of course, the larvae are present there as a delicacy. I suppose the amount of heads in this string could only be collected after such a massive festival meal. Therefore, my conclusion is that the Asmat are the makers and wearers of these types of ornaments. Thus what appears at first sight a simple string of beads turns out to have approximately two thousand eyes looking at me!

REFERENCES CITED

Chakravarthy, A.K. et al.
2016 Insects as Human Food. In *Economic and Ecological Significance of Arthropods in Diversified Ecosystems*, pp. 133-146. Springer, Singapore.

Chataigner, M. and E. Spigolon
2019 Sago, its Consumption and Place in the Imaginary of the Asmat. In *TEFAF Maastricht 2019 Catalogue*. Gallerie Meyer – Oceanic Art, Paris. https://issuu.com/ajpmeyer/docs/tefaf_2019_asmat__original__-_lr/12, accessed 9 November 2020.

De Clercq, F.S.A. and J.D.E. Schmelz
1893 *Ethnographische beschrijving van de West- en Noordkust van Nederlandsch Nieuw – Guinea*. P.W.M.Trap, Leiden.

Hulshoff, M.
2018 Bisjpalen [Bis poles]. *Tribale kunst* 6(4):28-34.

Rockefeller, M.C.
1967 *The Asmat of New Guinea. The Journal of Michael Clark Rockefeller (The Michael C. Rockefeller Expeditions 1961)*. Edited by A.A. Gebrands. Museum of Primitive Art, New York.

Rumphius, G.E.
1741 *Amboinsch Kruid-boek*. Part I. Edited by J. Burmannus. M. Uytwerf, Amsterdam.

van der Storm, J.H.
2019a Een onooglijk snoer [An Unsightly String]. *Tribale kunst* 7(2):18-20.
2019b Correction and Addition to 'Een onooglijk snoer.' *Tribale kunst* 7(3):4.

Wikipedia
2020 Rode palmkever. https://nl.wikipedia.org/wiki/Rode_palmkever, accessed 15 October 2020.

Hans van der Storm
Independent Researcher
Amsterdam
hastorm@icloud.com

The Bead Stringers of Venice: A Visual Survey

Karlis Karklins

Glass seed beads and bugles were a principal product of the Venetian beadmaking industry, with countless tons being exported around the world over the centuries. While some of these were sold loose and by weight, most were strung into hanks for ease of handling and to ensure that all the beads had open holes. This work was performed by a large group of local women called *Impiraressa* or *Impiraperle*... bead stringers.

Well into the latter part of the 20th century, they could be seen sitting outside their homes or in piazzas, wooden trays of colorful beads in their laps, quickly maneuvering numerous long needles in either hand to impale as many beads as possible and then moving them down onto long strings. The stringer would then form a requisite number of strands into hanks of a uniform size. Some women spent their entire lives doing this monotonous work day in and day out. For many the meager salary they earned (one lira a day in 1893) was their only income (Ninni 1991:79).

Many images depict the bead stringers at work. The color ones reproduced here represent painted images on Venetian postcards printed during the first decade of the 20th century (Figures 1-3). They are of a romantic nature, intended to appeal to tourists, raising the question: are they accurate in their details? That at least some are is evidenced by the fact that the group on the left in Figure 3 is clearly based on the one in the photograph by Tomaso Filippi depicted in Figure 4. This image, and that in Figure 5, date to the last quarter of the 19th century, and show bead stringers in their actual work environment.

For those interested in knowing more about the Venetian bead stringers, their technique, and equipment, Ninni (1991) is an excellent source. It also provides images of two paintings of bead stringers by American artist John Singer Sargent made in the 1880s. Another excellent source is an exhibition catalog published by the Comune di Venezia (1990). It is, unfortunately, hard to find but worth searching for as it contains a wealth of information and images not found elsewhere.

Figure 1. *Perlaia Veneziana* (all postcards from author's collection).

REFERENCES CITED

Comune di Venezia
1990 *Perle e impiraperle: Un lavoro di donne a Venezia tra '800 e '900*. Arsenale Editrice, Venice.

Ninni, Irene
1991 L'Impiraressa: The Venetian Bead Stringer. Translated by Lucy Segatti. *Beads: Journal of the Society of Bead Researchers* 3:73-82; https://www.academia.edu/12783359/.

Karlis Karklins
Independent Researcher
Ottawa, ON
Canada

A Gallery of Venetian Bead Stringers

Figure 2. *Margaritere* – another name for the bead stringers.

Figure 3. *Venezia – Infilatrici di perle.*

Figure 4. Bead stringers in the Castello neighborhood of Venice (photo: Tomaso Filippi, 1852-1948).

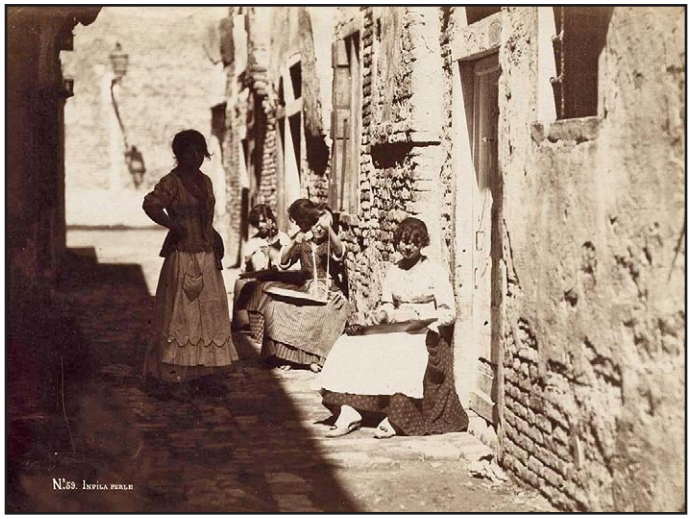


Figure 5. Bead stringers (photo: Carlo Naya, 1816-1882).

"Cherry Amber" Phenolic Resin Beads

Rosanna Falabella

Many phenolic resin beads are called "cherry amber" for their distinctive dark burgundy color. Intact necklaces of faceted "cherry amber" beads are particularly numerous in the antique and vintage jewelry markets. Larger, non-faceted beads with the same coloring also appear in the African trade (Figure 1). In this report, I present some historical and experimental evidence supporting the idea that most "cherry amber" beads were originally amber colored – faux amber being one of the earliest and probably most profitable uses of phenolic resin outside of industrial applications.

Figure 1. "Cherry Amber" phenol-formaldehyde (PF) beads from the African trade (top strand) and jewelry trade (bottom strand) (all images by the author unless otherwise noted).

Phenolic resin is made from phenol and formaldehyde (abbreviated PF in the chemical industry), and was first commercialized in 1910 as Bakelite, the invention of Leo Baekeland. Some PF formulations are chemically unstable, leading to a gradual color change when the material is exposed to oxygen, and in some cases turning dark red in a matter of weeks under ambient conditions (Ellis 1935:335; Ganzelewski 2004:477). Heat treatment accelerates the color-change reaction (Falabella 2016:12). The chemical responsible for the dark red color is thought to be aurin, a by-product of the phenol-formaldehyde reaction (Ellis 1935:294, 312). Aurin changes from yellow to dark red above a pH of 6.8, so a plausible reason for the color change is a gradual neutralization of the acidic environment in the cured resin. The specific reactants responsible for a pH change in the presence of oxygen are unknown.

Most faceted, "cherry amber" beads are likely from the interwar period, although Bakelite and Faturan turnery materials were advertised before WWI (Bouillet Frères 1914:2453). By the mid-1920s, many PF products were on the market for jewelry applications, and chemists developed new materials with reportedly greater color stability. For example, in 1925, the U.S.-based Embed Art Company advertised "Bakelite-Jewel Quality" with "permanent colors" for a 50% price premium over the "regular grade of Bakelite" (Embed Art Company 1925:27) (Figure 2).

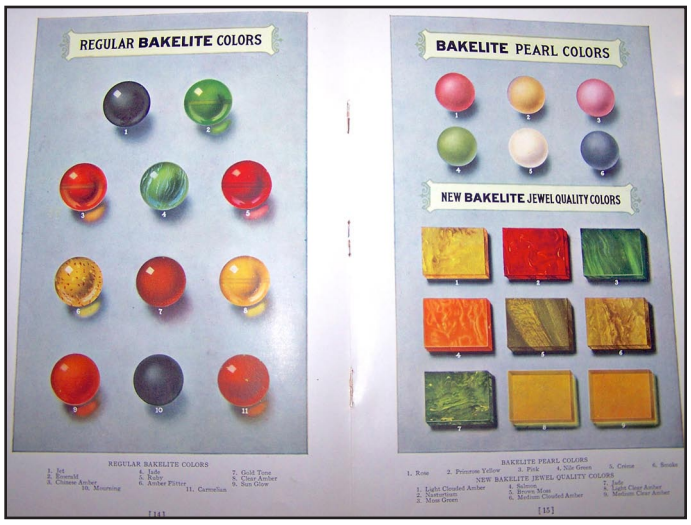


Figure 2. Illustrations from the *Gifts to Treasure* catalog (Embed Art Co. 1925:13-14).

An example from the European PF industry is Vigorit, a product of Dr. F. Rashig, Ludwighafen, Germany. Vigorit was introduced in 1926 and claimed "greater solidity and stability of colors when exposed to light" (Gumpert and Karklins 2005:27). While it is tempting to believe that unstable PFs were used until more color-stable products replaced them, the former apparently continued to have a market share alongside the latter, as was the case for the Embed Art offerings. Even after WWII, there were faux amber PF beads being sold that darkened with age. One case is documented by photographs of faux amber PF beads, purchased in 1952, that gradually turned into "cherry amber" in the subsequent decades (Günther Kuhn 2016: pers. comm.). The "cherry amber" color alone is therefore not a useful guide to the age of a PF item; other clues such as the style of the jewelry or bead, or the provenience, must be considered.

Further evidence of the color change of some PF beads from amber to "cherry amber" over time appears

in the Bakelite bead collection of Nancy Byck Welch. Mrs. Welch (b. 1924) is the daughter of Larry Byck, the first chemist hired by Leo Baekeland. In 2019, I examined the beads and jewelry Mrs. Welch saved from her father's side business, the aforementioned Embed Art Company. The items in the Welch collection are over 90 years old, since the Embed Art Company was active from approximately 1918-1928. The collection consists of a large number of "cherry amber" Bakelite articles including collar buttons, plaques, loose beads, pendants, and finished beaded jewelry pieces. Even though the Embed Art catalog advertises a number of yellow and amber-colored products, I saw none in the Welch collection. I believe that over time, all the yellow and amber items turned dark red, even the ones made of the more pricey Jewel Quality material. I found one group of "cherry amber" beads (Figure 3) labeled "Light Clear Amber," one of the Bakelite-Jewel Quality colors. Several of these beads have sparkly inclusions and correspond most closely to Amber Flitter, one of the Regular Bakelite colors. I saw no green items; they have probably turned dark enough to be mistaken for black (Figure 4). The Welch collection has a smaller number of dark brown and black beads that may have darkened but are likely the original colors of Brown Moss, Jet, and Mourning. The collection also has a good number of Bakelite Pearl beads (subject of a future report).

Figure 3. Bakelite beads from the collection of Nancy Byck Welch.

To experimentally demonstrate that "cherry amber" is in fact a surface discoloration masking the original color, I sectioned a random selection of translucent and opaque PF beads with a jewelry saw. The beads

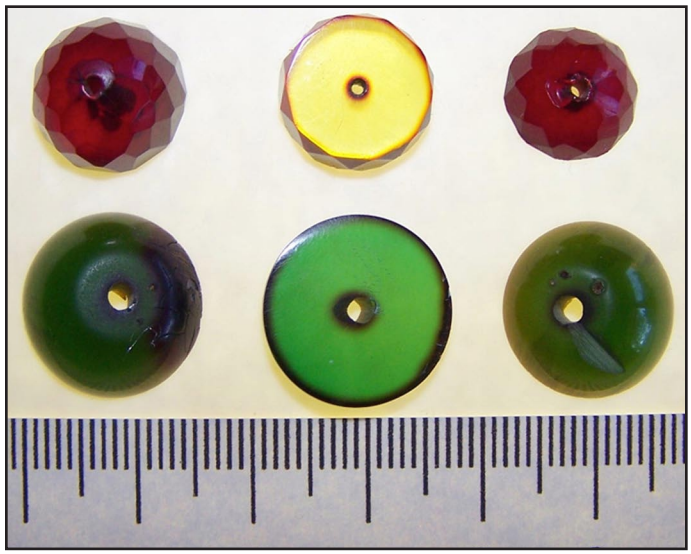


Figure 4. Central sections and corresponding end pieces from a faceted "cherry amber" PF bead and a smooth, dark green PF bead.

came from a variety of antique bead sellers, collectors, and African traders. In total, I examined seven trade beads and four faceted jewelry beads. I also sectioned one very dark green PF bead that appears almost black in natural light.

The sections of "cherry amber" beads reveal a variety of translucent, swirled, and opaque yellow interiors. The dark green bead has a translucent green interior. Figures 4 and 5 show representative results. Note that the observed surface color of each bead is due to a very thin, dark layer. Holdsworth and Faraj (2015) did a similar experiment by dissecting a "cherry amber" PF shift knob (assumed to be made of Faturan), revealing green and translucent yellow sections.

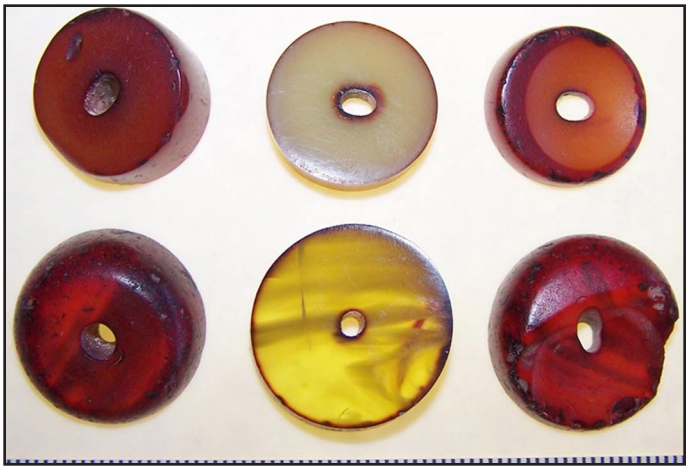


Figure 5. Central sections and corresponding end pieces from "cherry amber" PF African trade beads.

It is also possible that some "cherry amber" beads may have originally been a red color instead of yellow or amber. Their existence is suggested by a piece of "cherry amber" PF rod stock of unknown vintage, from an Istanbul prayer-bead shop. I sectioned it and found a solid red interior.

To gather some data on the time scale of the color change, the sections made for this report are being stored under ambient conditions and monitored. Preliminary information about the speed of the color change is already available from one faceted, "cherry amber" bead that I fractured in 2016. The thin sections from this bead have changed from light amber yellow to orange, suggesting that a complete transformation to "cherry amber" may take decades. The color change will likely proceed at different rates for each of the new sections, since PFs from different (and unknown) sources are expected to have slightly different chemical compositions. Hopefully an updated report can be issued on the new sections during the author's lifetime.

ACKNOWLEDGEMENTS

Mrs. Nancy Byck Welch graciously hosted my visit and displayed her entire collection of the Bakelite items made by her father. The author is grateful for the assistance of Floor Kaspers, who obtained samples of PF rod stock in Istanbul in 2016, and Dr. Burkhard Wagner, who is documenting the Welch collection.

REFERENCES CITED

Bouillet Frères
1914 *Annuiare du Commerce Didot-Bottin*. Paris.

Ellis, Carleton
1935 *The Chemistry of Synthetic Resins, Volume I*. Reinhold Publishing, New York.

The Embed Art Company
1925 *Gifts To Treasure*. Perth Amboy.

Falabella, Rosanna
2016 Imitation Amber Beads of Phenolic Resin from the African Trade. *Beads: Journal of the Society of Bead Researchers* 28:3-15.

Ganzelewski, Michael
2004 Bernstein-Ersatzstoffe und Imitationen [Amber Replacement Materials and Imitations]. In *Das Bernstein-Buch. Die Tränen der Götter: Kunst, Schmuck, Medizin und Magie* [The Amber Book. Tears of the Gods: Art, Jewelry, Medicine, and Magic], edited by Sylvia Botheroyd and Paul F. Botheroyd, pp. 475-481. Atmosphären, Munich.

Gumpert, Anita von Kahler and Karlis Karklins
2005 *Die Perle*: A 1920s German Trade Journal. *Beads: Journal of the Society of Bead Researchers* 17:19-34.

Holdsworth, Ian and Ibrahim Faraj
2015 Faturan. Plastics Historical Society. London. http://plastiquarian.com/?p=15242.

Rosanna Falabella
Independent Researcher
United States
imustbead@gmail.com

Society News

Message from the President

I am sure that it has been a very trying year for everyone and my deepest condolences to anyone who has lost a loved one during this Covid crisis, either from Covid or from other illnesses. I was excavating the 3rd-millennium coastal site HD-1 in Ras al-Hadd, Oman, when the whole crisis started unfolding and flew back to Madison, WI, on 14 February 2020 with a mask and sanitary wipes to be sure I did not catch anything on the plane or in the airports. Since that time, I have been in Madison, teaching remote classes and working in my lab with students in a socially distanced manner and occasionally meeting with friends and colleagues for socially distanced meetings or dinners.

One of the silver linings of this situation for me has been the fact that for the first time in my academic career I have stayed in one place for more than a month. I have participated in conferences remotely, so no need to pack up and travel. I have been working with colleagues on excavations remotely, so no need to fly around the world. What is most relevant to the bead world is that I have been able to catch up on long overdue research on many different aspects of beads. I am finishing up research on stone bead drilling techniques, the sourcing of carnelian and agate beads, various bead typologies and analyses, faience and steatite bead production, and even textile and fiber beads. The results of these studies will be published in various journals, including our own journal. The most recent issue has an article on a new way to study stone beads that I co-authored with one of my previous graduate students, Dr. Geoffrey Ludvik.

I hope that everyone has been able to find some silver lining in this past year and look forward to the opening up of travel and in-person research when we can once again meet our friends and colleagues to share our experiences with beads and ornaments.

Sincerely,
Jonathan Mark Kenoyer

SBR BUSINESS MEETING MINUTES

The SBR's annual business meeting was called to order at 1:20 PST on 1 April 2021 via Skype by President Jonathan M. Kenoyer. In attendance were Editor Karlis Karklins and Secretary/Treasurer Alice Scherer.

OLD BUSINESS

President's Report

(*See* above.)

Editor's Report

Due to the pandemic, other problems, and the holidays, *BEADS* 32 didn't go to press until early January. The journal was mailed to Canadian and overseas members mid-month, but those bound for US addresses did not get sent until the end of the month. This is due to the fact that the US/Canada border was closed, preventing the usual practice of driving the journals to northern New York state from Ottawa to mail them via media mail which saves the Society hundreds of dollars. This time the journals were bulk shipped to Tom Elliott in Johnson City, NY, who packaged, addressed, and mailed them. My gratitude to Tom for undertaking this time-consuming task. Thanks also to my dear friend Charles Bradley who kindly helped haul many boxes of journals to the Ottawa post office. And, as ever, I express my gratitude to Dave Weisel and Alice Scherer for making the journal and newsletter, respectively, look as good as they do and putting up with my many editorial changes.

Associate Editor Alison K. Carter assisted the editor in soliciting articles for the journal, as well as helping to review submitted material.

Rosanna Falabella took over as newsletter editor in midyear and, after a steep learning curve, compiled Issue 77 in a timely manner.

Secretary/Treasurer's Report

Secretary/Treasurer Scherer reports that the SBR had 199 paid members in 2020; in 2019 we had 179, for a gain of 20 members. Our members are mostly from the U.S. (144) and Canada (12), but Europe supplied 31, the Middle East 2, Asia 5, and Australia 5. Institutions make up 17 of our members and bead societies 2. There were also 11 comp'ed memberships.

Total revenues for 2020 were $10,849.45* and total expenditures were $10,501.07*

As of 31 December 2020, the balances in the various SBR accounts were:

U.S. Bank Checking Account	US $ 5,283.66
PayPal Account	US $ 24.15
Vanguard Account**	US $22,958.06
TD-CT Account (CD$7,611.59)	US $ 5,659.84
Petty Cash	US $ 72.93
Sub-Total	**US $33,998.64**
Outstanding Ebsco Deposit	+US$ 35.00
2020 Expenses Pd in 2021 w/Petty Cash	-US$ 72.93
Outstanding TD-CT Check for Editor 2020 Exp (CD$6,928.89)	-US $ 5,156.11
Outstanding US Bank 2020 Checks	-US$ 1,445.07
Unreimbursed 2020 expense	-US$ 2.80
Final Total	**US $27,356.73**

* Includes credits and debits as per bottom of Summary Report.
** The amount as noted above for our Vanguard account does *not* include $2,015.74 in *unrealized* gain; as per the 31 December 2020 Vanguard statement balance of $24,973.80. A full accounting of Vanguard monies is available upon request.

Summary Report

Balance End of 2019	US $27,008.35
Plus 2020 Income	+US $ 10,849.45
Subtotal	**US $37,857.80**
Minus 2020 Expenses	-US $ 10,501.07
Total Monies at end of 2020	**US $27,356.73**

Journal Back Issue Storage

There are currently 43 full or partially full boxes of journals stored in the editor's basement. There is no problem with this situation at present, but it does become one if the editor is incapacitated and has to move. It has therefore been resolved that the inventory be gradually culled down to 50 copies per volume, which is what we can expect to sell over the next five years based on previous sales. During the process, the board will be reaching out to organizations and individuals to see if any of them would be interested in obtaining partial sets or bulk orders at reduced prices.

BeadResearchJournal.org Website

The Society has maintained a separate, smaller website which hosts articles from the most recent journal to go out of print. That site has not had annual updates and, given that articles from out-of-print issues are readily available on Syracuse University's SURFACE website, Academia.edu, ResearchGate.edu, and other sites, the board has decided to terminate the BeadResearchJournal.org website.

NEW BUSINESS

SBR Editor Election Results

Forty ballots were cast in the recent election and incumbent Karlis Karklins was unanimously re-elected for the period 2021-2023.

Secretary/Treasurer's Position Up for Election

Alice Scherer's term as Secretary/Treasurer ends 31 December 2021. She has agreed to run for an additional three-year term (2022-2024). If you would like to nominate someone else, please contact Mark Kenoyer at jkenoyer@wisc.edu. The nominee must be a member of the Society in good standing. Ballots will be mailed with the autumn issue of *The Bead Forum*.

There being no other new business, the meeting was adjourned at 1:50 P.M. PST.

— Respectfully submitted,
Alice Scherer, Secretary/Treasurer, 2 April 2021

Herewith We Express Our Gratitude

A special thank you to those members who've helped ensure continuing publication by their Sustaining, Patron, or Benefactor membership monies. We are grateful for your help. Our list below runs from 8 November 2020 through 19 April 2021.

Sustaining ($45+) Chris Prussing, Ellen Belcher, Chris DeCorse, Elizabeth Hardon, Michele Owsley, Rita Eagle, Helene Chevrier, Joi Kudirka, Judith Greif, Cheryl McKnight, Adams Taylor, Helen Talley, Giorgio Teruzzi, Tonia Marek, Elizabeth Chapman, Timothy Mincey, Andrea Turchetto, Janet Walker Goldsmith, Margot Thompson, Gail Bumala, Penelope Drooker, Deborah Zinn, Farnosh Bolvardi, Jean Nicholls, Bead Society of Greater Washington, and Jamey Allen.

Patron ($75+) Laure Dussubieux, Abraham Silverman, Gregory Waselkov, Vance Martin, Joseph Mellin, Lori Pendleton, Rosanna Falabella, Karen King, and Rochelle Marrinan.

Benefactor ($150+) Adel Mabe, Stefany Tomalin, Joan Eppen, Gretchen Dunn, Mark Kenoyer, Frank Ruggiero, Carrie Swerbenski, and Julia Lobotsky.

Special thanks to J. Mark Kenoyer for his purchase of four journal sets to distribute to foreign researchers.

SBR Treasurer's Summary Report for 2020

OPENING BALANCE AS OF 1 JANUARY 2020		**$27,008.35**
INCOME		**$10,438.28**
Annual Dues		
Individual-North America	3,145.00	
Individual-Overseas	1,120.00	
Sustaining	1,170.00	
Patron	925.00	
Benefactor	1,500.00	7,860.00
Journal Sales ($1,127.50) and Newsletter ($5.00)		1,132.50
Investment Income		719.63
Donations		120.13
Miscellaneous		
Prepaid Post. $581.40, Prepaid PayPal fee $.87, Sales Tax $23.75		606.02
EXPENSES		**$10,084.11**
Journal Production (Volume #32)		
Layout	750.00	
Printing	3,185.23	3,935.23
Newsletter Printing (Issues #76-77)		246.00
Postage/Shipping		
Journal (Annual Issue)	2,100.34	
Newsletter (Two Semi-Annual Issues)	119.53	
General (Back Issues and Other)	618.77	2,838.64
Website (Domain Names, Web Hosting, Site Maintenance)		1,800.04
Office Expenses (Stationery, Supplies, PO Box Rent)		
Secretary/Treasurer	165.75	
Editor	86.79	252.54
Student Conference Travel Award		500.00
Miscellaneous		
Bank, PayPal and Square Charges, Sales Tax	287.80	
Tolls and Customs Fees, Cost of Selling, Conf. Table	104.36	
Academia.edu Premium Fee (Editor Expense)	49.50	
Oregon Corporation Filing Fees	70.00	511.66
Preliminary Closing Balance as of 31 December 2020		**$27,362.52**
Credits $411.17 plus Debits ($411.17)		$0
Reconciliation		($5.79)
FINAL CLOSING BALANCE AS OF 31 DECEMBER 2020		**$27,356.73**

SBR Proposed Budget for 2021

OPENING BALANCE AS OF 1 JANUARY 2021		**$27,356.73**
INCOME		**$11,175.00**
Annual Dues		
Individual-North America	3,200	
Individual-Overseas	1,200	
Sustaining	1,000	
Patron	800	
Benefactor	1,400	7,600
Journal Sales		2,200
Investment Income		600
Donations		100
Prepaid Postage		675
EXPENSES		**$11,580.00**
Journal Production (Volume #33)		
Layout	800	
Printing	5,000	5,800
Newsletter Printing (Issues #78-79)		250
Postage/Shipping		
Journal	2,800	
Newsletter	120	
General	600	3,520
Website (Domain Names, Web Hosting, Maintenance)		700
Office Expenses (Stationery, Supplies, PO Box Rent)		
Secretary/Treasurer	150	
Editor	100	250
Student Conference Travel Award		500
Miscellaneous		
Bank, PayPal and Square Charges, Sales Tax	290	
Cost of Selling	150	
Academia.edu Premium Fee	50	
Oregon Corporation Filing Fees	70	560
PROJECTED CLOSING BALANCE AS OF 31 DECEMBER 2021		**$26,951.73**

— Respectfully submitted, Alice Scherer, Secretary/Treasurer (24 March 2021)

In Memoriam

Three Women of Consequence

Hilary Whittaker

Sadly, Hilary Whittaker passed away on 11 January 2021. She began collecting beads at village markets during visits to rural development agents across the Sahel while she worked as Peace Corps director in Mali, West Africa, from 1985 to 1990. Inspired by the statuesque beauty of the local people bedecked in market-day and festival finery, she began experimenting with jewelry design which soon became a consuming hobby. She then started a bead coalition to help Malians market jewelry abroad, and also helped start a bead study club among members of the international community.

Hilary was active in the bead societies of Greater Washington, Orange County, Los Angeles, and San Diego, and frequently spoke at various community meetings. She was also a long-term supporter of the Society of Bead Researchers. In 1997, Hilary spearheaded founding the Bead Museum in Washington, DC, and coordinated development of its landmark Bead Timeline which has since been donated to the Peabody Museum at Yale University in New Haven.

(K. Karklins; extracted from the Global Bead Finds & Designs website <https://www.yelp.com/biz/global-bead-finds-and-designs-laguna-woods> and other internet sources; photo courtesy of Barbara C. Pringle).

Joyce Stewart Diamanti

Joyce Diamanti passed peacefully on 9 January 2021 in State College, PA, at the age of 93. She spent much of her life abroad, as her husband, Walker, was a member of the U.S. Foreign Service. After more than three decades of postings that took them around the world, they retired in Washington, DC, where Walker continued consulting for the State Department and Joyce worked as a translator from French to English for the American Psychological Association. Later she joined her daughter, Penelope, at *National Geographic*,

where she wrote for the *National Geographic Historical Atlas of the United States* and several other books.

When Penny opened Beadazzled in 1989, the whole family became involved in the business. Shortly thereafter, Penny, Joyce, and Robert K. Liu began work on a Bead Dictionary which was posted on the Beadazzled website around 2009. When Beadazzled closed in 2018, the Dictionary moved to the *Ornament* website.

Joyce also worked tirelessly as a volunteer for the Bead Society of Greater Washington and their Bead Museum. She was instrumental in organizing the Second International Bead Conference held in Washington, DC, in 1990. She wrote *Silver Speaks: Traditional Jewelry of the Middle East*, published in 2002, in conjunction with an exhibit at the Bead Museum, and a year later penned an essay on "Beads, Trade, and Cultural Change" for *A Bead Timeline. Volume I: Prehistory to 1200 CE,* another publication of the Bead Museum.

(K. Karklins; extracted from information provided by Bill Schulz of the Bead Society of Greater Washington and various Internet sources; photo courtesy of Meli Diamanti).

Carolyn Louise Eva Benesh

Following a two-year battle with cancer, Carolyn Benesh, co-editor of *Ornament,* passed in September of 2020. It was at Carolyn's kitchen table that *The Bead Journal* began in 1974, marrying her arts background with Robert Liu's scientific one. It can be noted that the bead movement as a whole coalesced at that time, with the quarterly journal acting as an amplifier for the various events and activities taking place, and enabling beadmakers and users to gain prominence for their work. A few years later, *The Bead Journal* expanded its focus to include all the various arts that adorn the body and became *Ornament*. Beadworkers, beadmakers, and jewelry and clothing artists all found themselves lifted up by Carolyn's enthusiastic and loving energy for these art forms (and naturally, Robert Liu's excellent photography); in fact, to refer to Carolyn as one who celebrated artists and their work is no exaggeration. But she was also a fine editor who encouraged and nurtured the writers with whom she worked, pulling out of them their best work. Carolyn's last months were spent wearing multiple strands of the beads she loved and which evoked important memories for her, of people and family, of creativity, and of the world's cultures. Her loss is keenly felt.

(A. Scherer; extracted from conversations with Carolyn Benesh, Robert Liu, and Patrick Benesh-Liu; photo courtesy of Robert Liu and Patrick Benesh-Liu.)

You can help keep T*he Bead Forum* interesting and useful by submitting short articles on your bead research, as well as announcements of new publications and relevant conferences or symposia. Send to beadforumnewsletter@gmail.com. Next deadline: 1 September.

Research Projects

Nueva Cadiz Beads: A Chemical Approach

A research project at the Université de Montréal and the Field Museum in Chicago is focusing on Nueva Cadiz beads and other stylistically or contextually related types. The project aims to describe the chemical composition of these beads, and discover chemical groups that may help to understand where and when these beads originated, their particular technology, and their exchange networks.

The name "Nueva Cadiz" has a narrower and a broader significance. In its narrowest sense, it refers to a bead style first described at the eponymous site in Venezuela, a pearl-fishing enterprise that operated from 1500 to 1541. Similar beads occur in 16th-century contexts in areas of Spanish colonial influence. These drawn, tubular beads have a square section, are sometimes twisted, and have one to three glass layers. In the latter case, the outer layer is usually some shade of blue, the middle layer is white, and the core is blue or gray. Found from Tennessee to Bolivia, this distinctive bead style correlates with the 16th-century Spanish colonial trade in the Americas. In its broader sense, the Nueva Cadiz appellation is sometimes applied to all tubular beads having a square section, especially those found in slightly later contexts in northeastern North America and western Europe. It is hoped that chemical analysis of beads from both contexts will eventually help to determine whether they represent different production centers at different times.

The beads involved in the study do not have an archaeological provenience. In fact, a strong element of kismet led to their selection. In the 1970s, Nueva Cadiz beads looted from archaeological sites in Peru and Bolivia regularly showed up on the antique market. In 1978, Marvin Smith purchased two lots from a dealer in California as part of his groundbreaking research. The beads were then passed to James Bradley, another bead specialist, in 1986 for his research. In late 2019, he gave the beads to me since I thought they could contribute to an exploratory chemical study. Laure Dussubieux of the Field Museum in Chicago agreed to conduct the analysis using non-destructive LA-ICP-MS technology which will begin shortly.

Clearly, it is not ideal to analyze an unprovenienced group of beads, but their chemical analysis may eventually enable us to retrace their origin. More immediately, this unassuming collection can kick-start a broader chemical study of 16th-century beads. I would be thrilled if other researchers could loan Nueva Cadiz beads for the study, provided they are accessible, and their archaeological context is tight and well recorded. If these conditions exist, please contact me.

Brad Loewen
Département d'anthropologie
Université de Montréal
Montréal, Québec, Canada
brad.loewen@umontreal.ca

Figure 1. The Nueva Cadiz bead sample, purportedly from Tiahuanaco in western Bolivia (photo by author).

Recent Publications

Alin, Frînculeasa, Garvăn Daniel, Mărgărit Monica et al.

2020 Between Worlds and Elites at the beginning of the Early Bronze Age in the Lower Danube Basin: A Pluridisciplinary Approach to Personal Ornaments. *Archaeological and Anthropological Sciences* 12, article 213; https://doi.org/10.1007/s12520-020-01177-0.

Highlights the results of pluridisciplinary investigations (anthropological, isotopic, metallographic, technological, traceological, malacological, and archaeozoological) of the ornaments (beads and pendants included) discovered in a grave of the Early Bronze Age (the first third of the 3rd millennium BC) at Şoimeşti, Prahova County, with the richest inventory in Romania.

Apolinarska, Karina and Aldona Kurzawska

2020 Can Stable Isotopes of Carbon and Oxygen be Used to Determine the Origin of Freshwater Shells Used in Neolithic Ornaments from Central Europe? *Archaeological and Anthropological Sciences* 12:15; https://www.academia.edu/41606325/.

This study aims to determine the origin of disc shell beads excavated in Poland by analyzing, for the first time, their carbon and oxygen stable isotope compositions and comparing the results with C and O isotope ratios in modern shells sampled in central Poland.

Bar-Yosef Mayer, Daniella E.

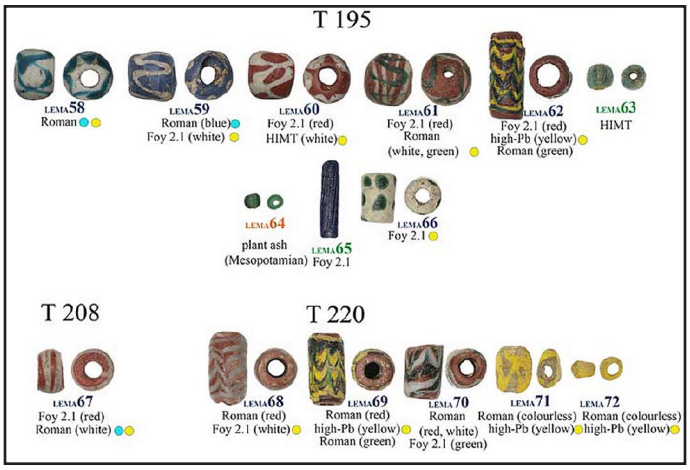
2020 The Colour of Ornaments in the Neolithic and Chalcolithic of the Levant: Their Symbolic Meaning and Economic Value. In *The Value of Colour. Material and Economic Aspects in the Ancient World*, edited by Shiyanthi Thavapalan and David Alan Warburton, pp. 69-98. Berlin Studies of the Ancient World 70. https://www.academia.edu/40771331/.

Neolithic and Chalcolithic personal ornaments are made of many diverse raw materials transformed by craft specialists into beads, pendants, and bangles. Their colors imply possible uses as amulets with specific meanings, mainly associated with fertility and protection.

Boschetti, Cristina, Bernard Gratuze, and Nadine Schibille

2020 Commercial and Social Significance of Glass Beads in Migration-Period Italy: The Cemetery of Campo Marchione. *Oxford Journal of Archaeology* 39(3):319-342; https://www.researchgate.net/publication/342918558.

Discusses the provenance, economic value, and social significance of glass beads from a cemetery in northern Italy utilized from ca. 570 to the end of the 7th century AD. The different chemical compositions and specific forming technologies have identified European, Egyptian, Mesopotamian, and Asian specimens.



Dadiego, Danielle Lynn

2020 Beads, Bullets, and Brokerage: Exploring Economic Agency in Eighteenth-Century West Florida. Ph.D. dissertation. Department of Anthropology, University of California, Santa Cruz. https://escholarship.org/uc/item/8qm5q59w.

Explores the effectiveness of Spanish economic institutions in a borderland region based on archival research, traditional artifact analysis, and LA-ICP-MS isotopic analysis of glass beads.

Davidson, James M.

2020 Black and White Beads in the African Diaspora. *Historical Archaeology* 54(4):681-737.

While blue beads found at plantation slave sites have heretofore been recognized as signifying retentions of African belief, this study proposes a pattern of black and white beads – almost exclusively associated with infants and women – and ties these color choices and

demographic patterns to specific West African cultures and the underlying meanings of womanhood, marriage, fertility, birth, and protection.

Dussubieux, Laure, Bérénice Bellina, Win Hsan Oo, U Maung Sun Win, Htet Myet Tut, Kalayar Myat Myat Htwe, and Khinsandar Kyaw

2020 First Elemental Analysis of Glass from Southern Myanmar: Replacing the Region in the Early Maritime Silk Road. *Archaeological and Anthropological Sciences* 12(7), article 139; https://www.researchgate.net/publication/342280987.

Analysis of glass beads and wasters recovered from two neighboring late prehistoric/protohistoric sites using laser ablation-inductively coupled plasma-mass spectrometry has revealed two different patterns. There is a combination of potash and m-Na-Ca-Al glasses at Aw Gyi, while at Maliwan, the glass types are more diversified with some of them found generally during the 4th-2nd centuries BC. It is possible the beads are of local manufacture.

Fricke, Felicia

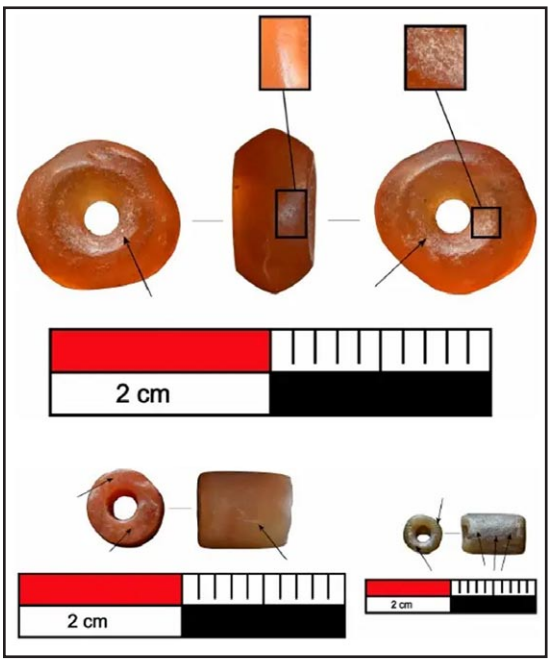
2020 Productie en handel van glazen kralen in Amsterdam. In *De Slavernij in Oost en West: Het Amsterdam Onderzoek*, edited by P. Brandon, G. Jones, N. Jouwe, M. van Rossum, and M. Tosun, pp. 257-263. Uitgeverij Het Spectrum, Amsterdam. https://www.academia.edu/44972091/.

Glass beads produced in and trade through Amsterdam traveled to many ports around the world, frequently as part of the slave trade.

Georjon, Cloé, U. Aung Aung Kyaw, Daw Tin Tin Win et al.

2021 Late Neolithic to Early-Mid Bronze Age Semi-Precious Stone Bead Production and Consumption at Oakaie and Nyaung'gan in Central-Northern Myanmar. *Archaeological Research in Asia* 25:100240; https://www.academia.edu/44683283/.

Archaeological evidence from the two sites demonstrates not only the presence of semi-precious stone beads, but also their production during the Late Neolithic to Early-Mid Bronze Age. Production techniques are discussed.



Gonçalves, Joana, Rosa Varela Gomes, and Mário Varela Gomes

2020 Adereços de vidro, dos séculos XVI-XVIII, procedentes do antigo Convento de Santana de Lisboa (anéis, braceletes e contas). In *Arqueologia em Portugal / 2020 - Estado da Questão*, edited by José Morais Arnaud, César Neves, and Andrea Martins, pp. 1815-1835. https://www.academia.edu/44532899/.

Excavations conducted at the site of Santana Convent in Lisbon, Portugal, revealed a variety of glass beads attributed to the 16th and 17th centuries. Included are Nueva Cadiz and chevron types. English abstract.

Grechko, Denis

2020 Chronological Schemes of the Late Hallstatt Period (HaD) in Central Europe: New Opportunities for the Synchronization and Refinement of Dates. *Sprawozdania Archeologiczne* 72(2):585-605; https://www.academia.edu/44714507/.

Includes a discussion of biconical glass beads as chronological markers for complexes of the Early Iron Age.

Green, Richard

2020 The Heart Motif in Native American Beadwork. *American Indian, Past and Present: Whispering Wind* 48(4):6-9.

A pictorial overview in color of various heart motifs as used by Native Americans in doing beadwork, with many examples shown and described, on objects including purses, martingales, gloves, ties, and a dance harness.

2021 Stepped Diamond Motifs on Apache Drawstring Bags. *American Indian, Past and Present: Whispering Wind* 48(5):12-13.

Understanding types of motifs in use by different tribal groups help situate pieces in time and space during study. Green shows four beaded bags and relates them to Apache coil weave baskets.

Heaser, Sue

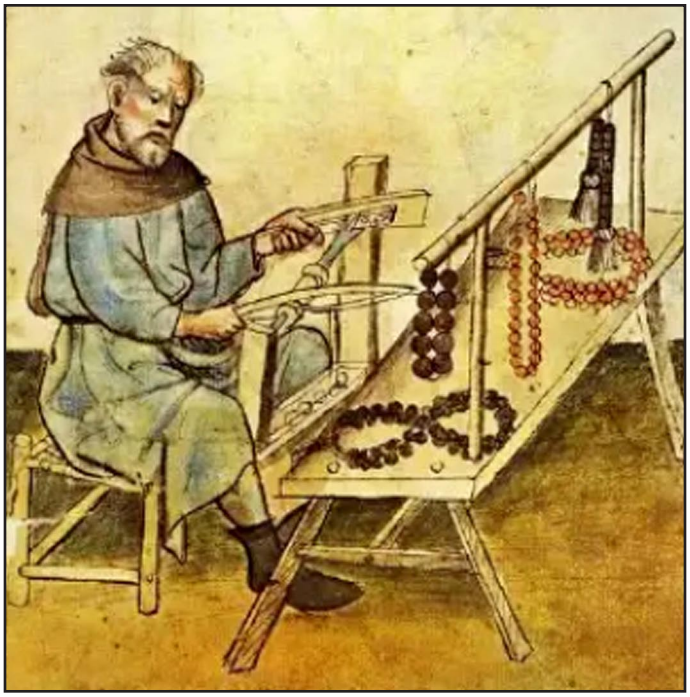
2020 Anglo-Saxon Treasured Heirlooms: Ancient Beads from Afar Treasured by the Anglo-Saxons. *Bead Society of Great Britain Journal* 135:12-14.

Described are 4th and 5th century glass beads found at Risby, Petersfinger, and Bath Gate Roman Cemetery in Cirencester, all in southern England, and decorated with trailed glass in opposing zigzag patterns. The author attempts to duplicate them and discusses the process, along with historical background on the beads and sites.

Hüpscher, Erica

2020 Hanzeatisch goud in Brugse context. Een onderzoek naar het gebruik en de bewerking van amber voor paternosters op basis van productieafval uit twee laatmiddeleeuwse sites. M.A. thesis. Department of Archaeology, Ghent University. https://www.academia.edu/43594598/.

Delves into the use and working of amber for rosary beads in Bruges during the late Middle Ages based on production waste from two sites. Includes information regarding production techniques. English abstract.



Kenoyer, J. Mark

2020 Bleached Carnelian Beads of the Indus Tradition, 3rd Millennium BC: Origins and Variations. In *In Context: the Reade Festschrift*, edited by Irving Finkel and St John Simpson, pp. 169-182. Archaeopress, Oxford.

A critical assessment of earlier studies suggests that new terms and ways of studying and documenting bleached beads should be developed. The use of experimental replication is also proposed as an important avenue for research in order to develop a more robust interpretive framework for comparing these beads within the Indus, as well as adjacent, regions.

Koch, Leonie C.

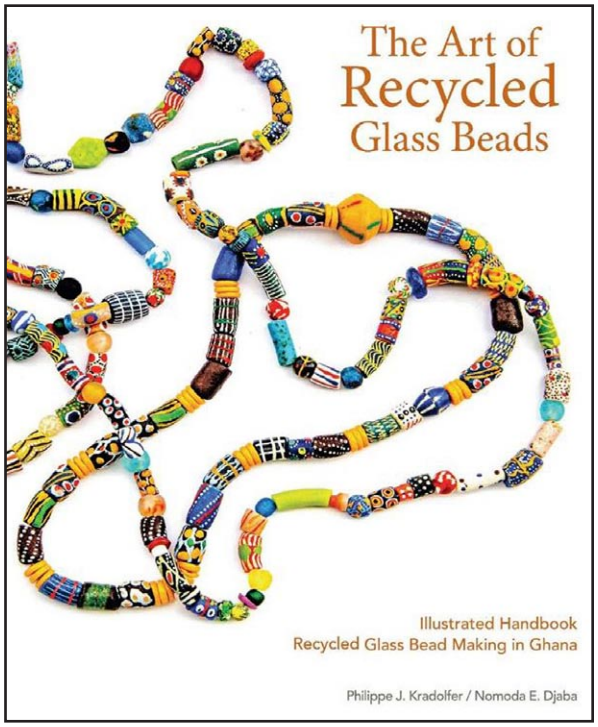
2020 An Overview of Vitreous Materials in Bronze Age Italy and Brief Perspectives on the Iron Age. In *From Past to Present. Studies in Memory of Manfred O. Korfmann*, edited by Stephan W.E. Blum, Turan Efe, Tobias L. Kienlin, and Ernst Pernicka, pp. 409-428. Studia Troica Monographien 11. https://www.academia.edu/44393006/.

Discusses the composition and sources of faience and glass beads and buttons.

Kradolfer, Philippe J. and Nomoda E. Djaba

2020 *The Art of Recycled Glass Beads*. PJ&R Publications/Ghana Art Publications, North Salt Lake, UT.

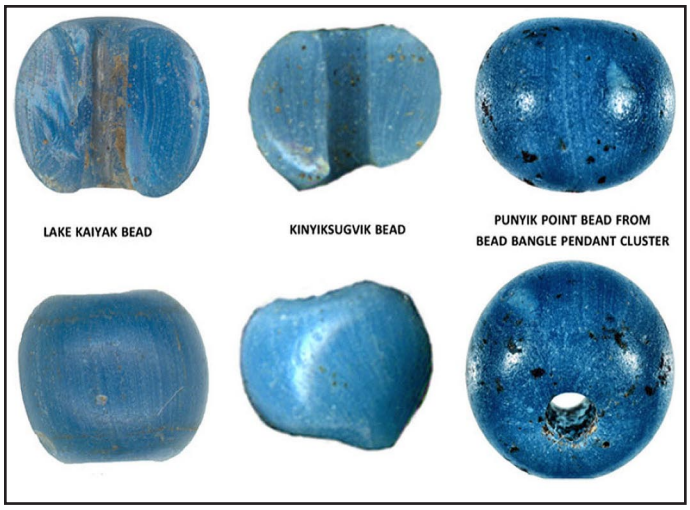
Describes the techniques currently used to produce powder-glass beads in Ghana, and provides information concerning their history and cultural significance.



Kunz, Michael L. and Robin O. Mills

2021 A Precolumbian Presence of Venetian Glass Trade Beads in Arctic Alaska. *American Antiquity* 86(2):395-412; doi:10.1017/aaq.2020.100.

Controversial article proposing that "early blue" beads found at several sites in Alaska are from Precolumbian contexts (based on radiocarbon dates). This does not jibe with the dating of these beads on the eastern coast of North America.



Lacour, Bahia

2020 Gone to Pot!: Investigatig Terracotta Beads from Mali and Niger. *Bead Society of Great Britain Journal* 135:20-21.

Terracotta beads from western Africa were analyzed using thermoluminescence dating, revealing they are 800 to 900 years old.

Levin, Bettina

2020 Fringe interest: Beaded Fringes from the Erzgebirge (Ore Mountains). *Bead Society of Great Britain Journal* 133:20-24.

Lamp fringes made of beads became popular in the early 20th century to decorate the shades for newfangled gas and electric lighting. The author shows numerous examples, as well as sample cards and the apparatus used to make these fringes.

Liu, Robert K.

2020 Egyptian Broadcollars: An Essential Form of Dress. *Bead Society of Great Britain Journal* 134:22-26.

Faience beads, along with vegetal material in one case, make up a number of broad collars found in Egyptian tombs. Also shown are individual faience beads, tomb paintings illustrating beaded broadcollars being worn, and diagrams of the techniques used to bind these beads together. A few contemporary pieces by artist Carol Strick round out the article.

Machiridza, Lesley H.

2020 Landscapes and Ethnicity: An Historical Archaeology of Khami-Phase Sites in Southwestern Zimbabwe. *Historical Archaeology* 54(3):647-675; https://www.researchgate.net/publication/344845584.

Includes a typology of glass beads from Danamombe, Zinjanja, and Naletale cluster sites.

Miller, Jennifer M., Hannah M. Keller, Claire Heckel, Potiphar M. Kaliba, and Jessica C. Thompson

2021 Approaches to Land Snail Shell Bead Manufacture in the Early Holocene of Malawi. *Archaeological and Anthropological Sciences* 13, article 37.

Combines experimental and archaeological data to resolve the chronology, operational chains, and material properties of land-snail-shell bead manufacture, and then applies a modified ostrich eggshell production sequence to three Later Stone Age assemblages from the Kasitu Valley of northern Malawi.

Pankiewicz, Aleksandra and Sylwia Siemianowska

2020 Early Medieval Large Glass Beads from Poland: Utilitarian and Social Functions. *Archeologické rozhledy* LXXII:573-606; https://www.academia.edu/45304545/.

Aims to determine the function of beads that are at least 1.5 cm but usually ca. 2 cm or more in diameter, considering the precise context of discovery of particular specimens, metric data, and microscopic analyses.

Queffelec, Alain, Pierrick Fouéré, Ludovic Bellot-Gurlet, and Benoît Berard

2020 Stone Ornaments from Guadeloupe and Martinique Early Ceramic Period Sites (200 BC-AD 400), Detailed Analysis and Comparison with a Late Ceramic Period Site (AD 750-1000). *Journal of Caribbean Archaeology* 20; https://www.floridamuseum.ufl.edu/jca/issues/.

Offers a complete and detailed description of 124 stone beads and pendants from three archaeological sites excavated in Guadeloupe and Martinique, two from the Early Ceramic period (Vivé, Morel) and one from the Late Ceramic period (Anse à la Gourde).

For more titles, visit https://beadresearch.org/resources/researching-the-worlds-beads-bibliography/

Szmoniewski, Bartłomiej Szymon

2020 Roman and Early Byzantine Finds from the Japanese Archipelago – A Critical Survey. *Sprawozdania archeologiczne* 72(2):117-141; https://www.academia.edu/44909217/.

Presents a critical discussion of objects (including glass beads) which are interpreted as being of Roman and Byzantine provenance.

Thompson, Scott

2020 Pipe Stem Beads? *Bead Society of Great Britain Journal* 133:25.

On the possibility that certain beads appearing at the Museum of the Yellowstone, in West Yellowstone, Montana, 26 July 1994, may have been created by Native people from sections of ceramic pipe stems.

2021 Use of Galls in Native American Culture. *American Indian, Past and Present: Whispering Wind* 48(5):6-9.

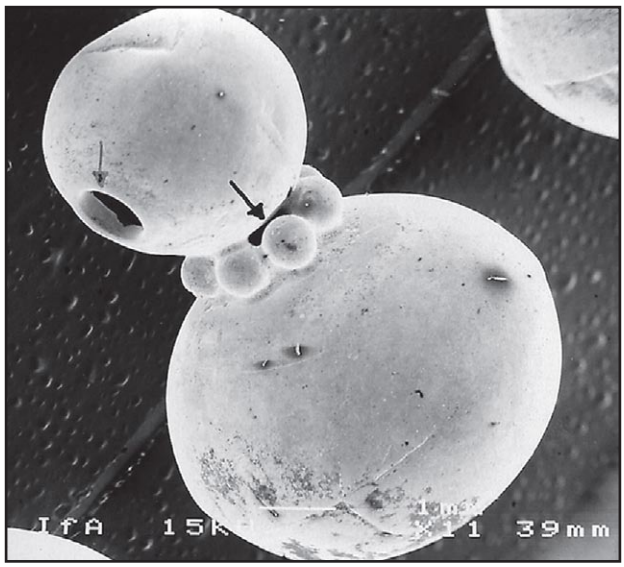
Featured is an unusual material employed by Native American people throughout North America, strung in necklaces and bandoliers: plant galls, formed when insects lay eggs in plant stems, resulting in rounded hollow shapes bearing two holes after use by the insect young. Included are several images of such necklaces, including one being worn, as well as galls in the wild.

Yelözer, Sera and Rozalia Christidou
2020 The Foot of the Hare, the Tooth of the Deer and the Shell of the Mollusc: Neolithic Osseous Ornaments from Aşıklı Hoyuk (Central Anatolia, Turkey). In *Beauty and the Eye of the Beholder: Personal Adornments across the Millennia*, edited by M. Mărgărit and A. Boronean, pp. 197-222. Editura Cetatea de Scaun, Targovişte.

The principal ornaments at the site are beads made from small mammal and bird bones and marine shells, as well as deer canine tooth imitations made from mammal bones.

Yule, Paul
2020 Gold Beads of the Samad Late Iron Age, Sultanate of Oman. In *Arabian Antiquities. Studies Dedicated to Alexander Sedov on the Occasion of His Seventieth Birthday*, edited by I.V. Zaitsev, pp. 285-294. The State Museum of Oriental Art, Moscow. http://archiv.ub.uni-heidelberg.de/propylaeumdok/4931/.

One of the most striking finds to be excavated from the multi-period cemeteries at Samad al-Ša'n in east-central Oman is a suite of gold beads uncovered in a Late Iron Age grave. Includes information about the production techniques involved.



continued from page 5

Dussubieux, Laure and Bernard Gratuze
2012 Chemical Compositions of 16th- to 18th-Century Glass Beads Excavated in Paris. *Beads: Journal of the Society of Bead Researchers* 24:26-38.

Francis, Peter, Jr.
1979 *The Story of Venetian Beads*. The World of Beads Monograph Series 1. Lake Placid.
1988 *The Glass Trade Beads of Europe: Their Manufacture, Their History, and Their Identification*. The World of Beads Monograph Series 8. Lake Placid.
1999 The Venetian Bead Story, Part 2: The Beads. *Margaretologist* 12(1):1-12.
2009a The Glass Beads of the *Margariteri* of Venice. In *The Beads of St. Catherines Island*, edited by Elliot H. Blair, Lorann S.A. Pendleton, and Peter Francis, Jr., pp. 59-64. Anthropological Papers of the American Museum of Natural History 89.
2009b The Glass Beads of the *Paternostri* of the Netherlands and France. In *The Beads of St. Catherines Island*, edited by Elliot H. Blair, Lorann S.A. Pendleton, and Peter Francis, Jr., pp. 73-80. Anthropological Papers of the American Museum of Natural History 89.
2009c The Glass Beads of the *Paternostri* of Venice. In *The Beads of St. Catherines Island*, edited by Elliot H. Blair, Lorann S.A. Pendleton, and Peter Francis, Jr., pp. 65-71. Anthropological Papers of the American Museum of Natural History 89.

Gasparetto, Astone
1958 *Il vetro di Murano dalle origini ad oggi*. Neri Pozza, Venice.

Gawronski, Jerzy, Michel Hulst, Ranjith Jayasena, and Jorgen Veerkamp
2010 *Glasafval op het Achtererf. Archeologische Opgraving Rozenstraat, Amsterdam (2006)*. Amsterdamse Archaeologische Rapporten 50.

Geggel, Laura
2021 European Beads Found in Alaska Predate Columbus, Controversial Study Claims. *Livescience*, 11 February 2021; https://www.livescience.com/blue-glass-beads-predate-columbus-in-alaska.html.

Gilbert-Young, Sabra Elizabeth
2004 The Archaeology of a Severely Vandalized Site, 49-MIS-032, at Lake Kaiyak, Noatak National Preserve, Northwest Alaska. M.A. thesis. Department of Anthropology, Washington State University, Pullman.

Goggin, John M.
n.d. An Introduction to Spanish Trade Beads and Pendants, 16th and 17th Centuries. Manuscript on file. Department of Anthropology, University of Florida, Gainesville.

Hancock, Ron G.V., Susan Aufreiter, Jean-François Moreau, and Ian Kenyon
1996 Chemical Chronology of Turquoise Blue Glass Trade

Beads from the Lac-Saint-Jean Region of Quebec. In *Archaeological Chemistry: Organic, Inorganic, and Biochemical Analysis*, edited by Mary Virginia Orna, pp. 23-36. American Chemical Society Symposium Series 625.

Hancock, Ron G.V., A. Chafe, and Ian Kenyon

1994 Neutron Activation Analysis of Sixteenth- and Seventeenth-Century European Blue Glass Trade Beads from the Eastern Great Lakes Area of North America. *Archaeometry* 36(2):253-266.

Harris, R. King and Inus Marie Harris

1967 Trade Beads, Projectile Points, and Knives. In *A Pilot Study of Wichita Indian Archeology and Ethnohistory*, edited by Robert E. Bell, Edward B. Jelks, and W.W. Newcomb, pp. 129-162. Final Report to the National Science Foundation, Grant GS-964.

1973 Glass Beads. In *Mission Rosario, Archeological Investigations 1973*, by Kathleen Gilmore, pp. 69-71. Texas Parks and Wildlife Department, Historic Sites and Restoration Branch, Archeological Report 14, Part 1.

Harris, R. King, Inus Marie Harris, J.C. Blaine, and J. Blaine

1965 A Preliminary Archeological and Documentary Study of the Womack Site, Lamar County, Texas. *Bulletin of the Texas Archeological Society* 36:287-363.

Harris, R. King, Inus Marie Harris, and Thomas R. Hester

1999 A Study of Glass Beads, Coral Beads, and Bead Spacers from the San Juan Bautista and San Bernardo Missions, Guerrero, Coahuila, Mexico. *Bulletin of the Texas Archeological Society* 70:385-394.

Heisey, Henry W. and J. Paul Witmer

1962 Of Historic Susquehannock Cemeteries. *Pennsylvania Archaeologist* 32(3-4):99-130.

Hulst, Michel, Jerzy Gawronski, Ranjith Jayasena, and Jørgen Veerkamp

2012 Glasshouse De Twee Rozen (Amsterdam, Netherlands): 17th Century Glass Production in Venetian Style. In *Le Verre en Lorraine et dans les régions voisines*, edited by Véronique Arveiller and Hubert Cabart, pp. 1-10. Monographies Instrumentum 42.

Karklins, Karlis

1974 Seventeenth Century Dutch Beads. *Historical Archaeology* 8:64-82.

1983 Dutch Trade Beads in North America. In *Proceedings of the 1982 Glass Trade Bead Conference*, edited by Charles F. Hayes III, pp. 111-126. Rochester Museum and Science Center, Research Records 16.

1985 Early Amsterdam Trade Beads. *Ornament* 9(2):36-41.

1993 The *a Speo* Method of Heat Rounding Drawn Glass Beads and its Archaeological Manifestations. *Beads: Journal of the Society of Bead Researchers* 5:27-36.

Karklins, Karlis and Adelphine Bonneau

2019 Evidence of Early 17th-Century Glass Beadmaking in and around Rouen, France. *Beads: Journal of the Society of Bead Researchers* 31:3-8.

Kelly, Isabel T.

1992 *Trade Beads and the Conquest of Mexico*. Rolston-Bain, Windsor, ON.

Kenyon, Ian, Ronald G.V. Hancock, and Susan Aufreiter

1995 Neutron Activation Analysis of AD 1660-1930 European Copper-Coloured Blue Glass Trade Beads from Ontario, Canada. *Archaeometry* 37(2):323-337.

Kidd, Kenneth E. and Martha Ann Kidd

2012 A Classification System for Glass Beads for the Use of Field Archaeologists. *Beads: Journal of the Society of Bead Researchers* 24:39-61.

Kunz, Michael

2005 The Denbigh Flint Complex at Punyik Point, Etivlik Lake, Alaska. *Alaska Journal of Anthropology* 3(2):101-115.

2009 The Mesa, Lisburne, and Punyik Point Sites: Colville River Drainage, Northern Alaska: The Sequence of Ancient Cultures in the Brooks Range Foothills. In *Archaeology in America: An Encyclopedia. Volume 4: West Coast and Arctic/Sub-Arctic*, edited by Francis McManamon, Linda S. Cordell, Kent Lightfoot, and George Milner, pp. 321-326. Greenwood Press, Westport, CT.

Kunz, Michael L. and Robin O. Mills

2021 A Precolumbian Presence of Venetian Glass Trade Beads in Arctic Alaska. *American Antiquity* 86(2):395-412; doi: 10.1017/aaq.2020.100.

Ledger, Paul M. and Véronique Forbes

2020 Paleoenvironmental Analyses from Nunalleq, Alaska Illustrate a Novel Means to Date Pre-Inuit and Inuit Archaeology. *Arctic Anthropology* 56(2):39-51.

Loewen, Brad

2019 Glass and Enamel Beadmaking in Normandy, circa 1590-1635. *Beads: Journal of the Society of Bead Researchers* 31:9-20.

van der Made, Herman

1978 *Seventeenth Century Beads from Holland*. Archaeological Research Booklet 14. Lancaster, PA.

McCray, W. Patrick
1996 The Culture and Technology of Glass in Renaissance Venice. Ph.D. dissertation. Department of Materials Science and Engineering, The University of Arizona, Tucson.

Moretti, Gianni
2005 The Chevron Bead. History and Technology of the World Best Known Venetian Bead. *Revista della Stazione Sperimentale del Vetro* 35(1):40-47.

Penman, John T.
1972 European Glass Trade Beads of the Spanish Mission Period, Florida. Manuscript on file. Division of Archives, History and Records Management, Bureau of Historic Sites, Tallahassee.

Reffo, Irene
2017 Lingua e storia degli antichi mestieri veneziani. M.A. thesis. Università degli Studi di Padova.

Rodning, Christopher B., Robin A. Beck, David G. Moore, and James Legg
2016 Spanish Material Culture from the Berry Site. In *Fort San Juan and the Limits of Empire: Colonialism and Household Practice at the Berry Site*, edited by Robin A. Beck, Christopher B. Rodning, and David G. Moore, pp. 303-340. University Press of Florida, Gainesville.

Rumrill, Donald A.
1991 The Mohawk Glass Trade Bead Chronology: ca. 1560-1785. *Beads: Journal of the Society of Bead Researchers* 3:5-45.

Shirar, Scott
2011 Late Holocene Chronology of the Noatak and Kobuk Rivers. *Alaska Journal of Anthropology* 9(2):1-16.

van der Sleen, W.G.N.
1962 The Production of "Antique Beads" in Amsterdam in the Seventeenth Century. *Annales du 2d Congres international d'étude historique du verre des "Journées internationales du verre:" Leyde, 30 juin-4 juillet 1962*, pp. 81-87. Liège.
1963a A Bead Factory in Amsterdam in the Seventeenth Century. *Man* 63:172-174.
1963b Bead-Making in Seventeenth-Century Amsterdam. *Archaeology* 16(4):260-263.

Smith, Marvin T.
1983 Chronology from Glass Beads: The Spanish Period in the Southeast, 1513-1670. In *Proceedings of the 1982 Glass Trade Bead Conference*, edited by Charles F. Hayes III, pp. 147-158. Rochester Museum and Science Center, Research Records 16.
1987 *Archaeology of Aboriginal Culture Change in the Interior Southeast: Depopulation during the Early Historic Period*. University Presses of Florida, Gainesville.

Smith, Marvin T. and Mary Elizabeth Good
1982 *Early Sixteenth Century Glass Beads in the Spanish Colonial Trade*. Cottonlandia Museum Publications, Greenwood.

Symes, M.I. and M.E. Stephens
1965 A 272: The Fox Pond Site. *The Florida Anthropologist* 18(2):65-76.

Torre Revello, José
1943 Merchandise Shipped to America by the Spaniards (1534-1586). *The Hispanic American Historical Review* 23(4):773-781.

Turgeon, Laurier
2001 French Beads in France and Northeastern North America during the Sixteenth Century. *Historical Archaeology* 35(4):58-82.

Walthall, John A.
2015 Seventeenth-Century Glass Trade Beads from La Salle's Fort St. Louis and the Grand Village of the Kaskaskia. *Midcontinental Journal of Archaeology* 40(3):257-281.

Watt, Frank H. and W.P. Meroney
1937 Glass Indian Trade Beads in Central Texas. *Central Texas Archeologist* 3:52-59.

Witthoft, John
1966 Archaeology as a Key to the Colonial Fur Trade. *Minnesota History* 40(4):203-209.

Wray, Charles F., Martha L. Sempowski, Lorraine P. Saunders, and Gian Carlo Cervone
1987 *The Adams and Culbertson Sites*. Charles F. Wray Series in Seneca Archaeology 1. Rochester Museum and Science Center, Research Records 19.

Zecchin, Luigi
1989 *Vetro e Vetrai di Murano II*. Arsenale Editrice, Venice.

Zecchin, Paolo
2005 La Nascita delle conterie veneziane. *Journal of Glass Studies* 47:77-92.
2020 Barovier: La più importante dinastia di vetrai muranesi. *Journal of Glass Studies* 62:105-126.

Elliot h. blair
Department of Anthropology
University of Alabama
Tuscaloosa, AL
ehblair@ua.edu

Who We Are

The Society of Bead Researchers is a non-profit corporation founded in 1981 to foster research on beads and beadwork of all materials and periods and to expedite the dissemination of the resultant knowledge. Membership is open to all persons and organizations involved in the study of beads, as well as those interested in keeping abreast of current trends in bead research. The Society publishes a biannual newsletter, *The Bead Forum*, and an annual peer-reviewed journal, *BEADS: Journal of the Society of Bead Researchers*. The Society's website address is www.beadresearch.org.

Contents of the newsletter include current research news, listings of recent publications, conference and symposia announcements, and brief articles on various aspects of bead research. Both historic and prehistoric subject materials are welcome.

The deadline for submissions for the next *Bead Forum* is 1 September 2021. Submissions should be in Word for Windows 6.0 or later with no embedded sub-programs such as "End Notes." References cited should be in *Historical Archaeology* format (http://www.sha.org/documents/SHAStyleGuide-Dec2011.pdf).

Send submissions to:

Rosanna Falabella
Newsletter Editor
beadforumnewsletter@gmail.com

ISSN: 0829-8726 (Print) and ISSN: 2469-8555 (Online and Electronic)

Officers and Others

President: J. Mark Kenoyer, Professor of Anthropology, University of Wisconsin–Madison; jkenoyer@wisc.edu

Secretary/Treasurer: Alice Scherer, Founder, Center for the Study of Beadwork; alice@europa.com

Editor: Karlis Karklins, former Head of Material Culture Research, Parks Canada; karlis4444@gmail.com

Associate Editor: Alison K. Carter, Assistant Professor of Anthropology, University of Oregon, Eugene; acarter4@uoregon.edu

Newsletter Editor: Rosanna Falabella; beadforumnewsletter@gmail.com

Newsletter Design, Layout, and Mailing: Alice Scherer

Journal Layout and Printing Preparation: David Weisel

Webmaster: Alice Scherer

Finance Committee: Joan Eppen and Lois Rose Rose

Editorial Advisory Committee: Laurie Burgess (chair), Christopher DeCorse, and Marvin T. Smith

Publications Committee: Karlis Karklins (chair), Margret Carey, and Jeffrey M. Mitchem

Society of Bead Researchers, PO Box 13719, Portland, OR 97213
https://www.beadresearch.org