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Thin Disk Beads from the African Trade – Were Any Made from Vulcanite?

Rosanna Falabella

INTRODUCTION

Strands of thin disk beads, used worldwide for personal adornment, are made from a variety of materials. Most of the disk beads made from natural materials such as eggshell, seashell, wood, coconut drupe, etc., are distinctive and not as difficult to identify as the ones made from man-made plastics or polymers, i.e., synthetic materials. The latter are often sold by African traders and other bead sellers as "vulcanite" beads. These thin, colorful disks typically measure 4-15 mm diameter and 0.4-0.7 mm thick (Figure 1). Upon examination of the so-called "vulcanite" beads, I determined that they were not made of vulcanized natural rubber, the material originally called vulcanite. This report details some of the history of thin disk beads made from synthetic materials and some conjectures concerning the "vulcanite" terminology.

Figure 1. PVC disk beads. Scale is in mm (all photos by the author).

VULCANIZATION AND VULCANITE

In 1839, American Charles Goodyear heated sap from the India rubber tree (*Hevea brasiliensis)* with sulfur to improve its durability (Wikipedia 2023b). Several years later, both Goodyear and Englishman Thomas Hancock patented the process. Around 1844, a friend of Hancock, William Brockedon, coined the term "vulcanization," after the Roman fire god Vulcan, to describe the process (Wikipedia 2023c). Shortly afterwards, in 1846, the terminology was expanded to include so-called "cold vulcanization" of rubber with sulphur at room temperature by Alexander Parkes, who incidentally was also the inventor of the cellulose nitrate-based product Parkesine, the precursor of the more familiar Celluloid (Wikipedia 2023a).

Other related chemical processes that involved sulfides, oxides, or soaking in solutions of sulfur chloride were also called vulcanization, even if neither heat nor rubber were involved (*Webster's Collegiate Dictionary* 1934). One notable example of this advance in chemical technology is Vulcanized Fibre (VF), an industrial material still produced today. VF was invented in 1859 by Englishman Thomas Taylor, who started production in America in 1873. VF is a hard, dense, flexible, and tough material produced by processing cotton fiber sheets in zinc chloride solutions (Du Bois 1943:141). During the mid- to late-1800s, an era notable for a very rapid increase in chemical and engineering inventions and expertise, it appears that vulcanization became a generic term for chemical engineering processes that enhanced the properties of natural materials. Perhaps the inventors of that era imagined themselves as "forgers" of new materials and enjoyed the association of their efforts with the god of fire.

The original vulcanized product—rubber plus sulphur if cured to a very high degree of hardness—is

called vulcanite, a term that dates to 1856 (Merriam-Webster 2023b). Vulcanite is a hard and somewhat brittle, brownish-black material. From 1861, it was also called Ebonite (Merriam-Webster 2023a) and was used to fabricate imitation jet items, notably Victorian-era mourning jewelry such as beads, brooches, and pendants. Vulcanite was also made in a red version for use as the base for artificial dentures in the late 19th—early 20th century by adding a significant amount of mercury sulfide to the mix. Vulcanite is still produced today for specialized uses; for example, cigar mouthpieces, hockey pucks, and fountain pens.

Since 1961, "vulcanite" also refers to the copper telluride mineral named after the town where it was first found—Vulcan, Colorado (Wikipedia 2023d). Throughout this report, the term vulcanite will refer to the vulcanized rubber product, with other uses in quotes as "vulcanite."

VULCANIC AND "VULCANITE" DISK BEADS

Documentation of present-day "vulcanite" beads begins with thin disk beads labeled Vulcanic on late 19th century sample cards from the A. Sachse & Co. Albert Sachse was a very large manufacturer and exporter of beads of all kinds from Gablonz, Bohemia (now Jablonec nad Nisou, Czechia). His business boomed from the 1890s to the First World War and was lucrative enough to contribute capital to Società Veneziana per l'Industria della Conterie in Venice, the largest manufacturer of glass beads in the world at that time (Novy 2008:133). Many different colors, sizes, and shapes of Vulcanic disks

Figure 2. Late 19th century Celluloid bead sample card of the A. Sachse Co. The disks were sold by the yard (36 inches) in bunches of one dozen. Bead sizes range from 3 mm to 12 mm in diameter. Collection of the Museum of Glass and Jewellery, Jablonec nad Nisou, Czechia.

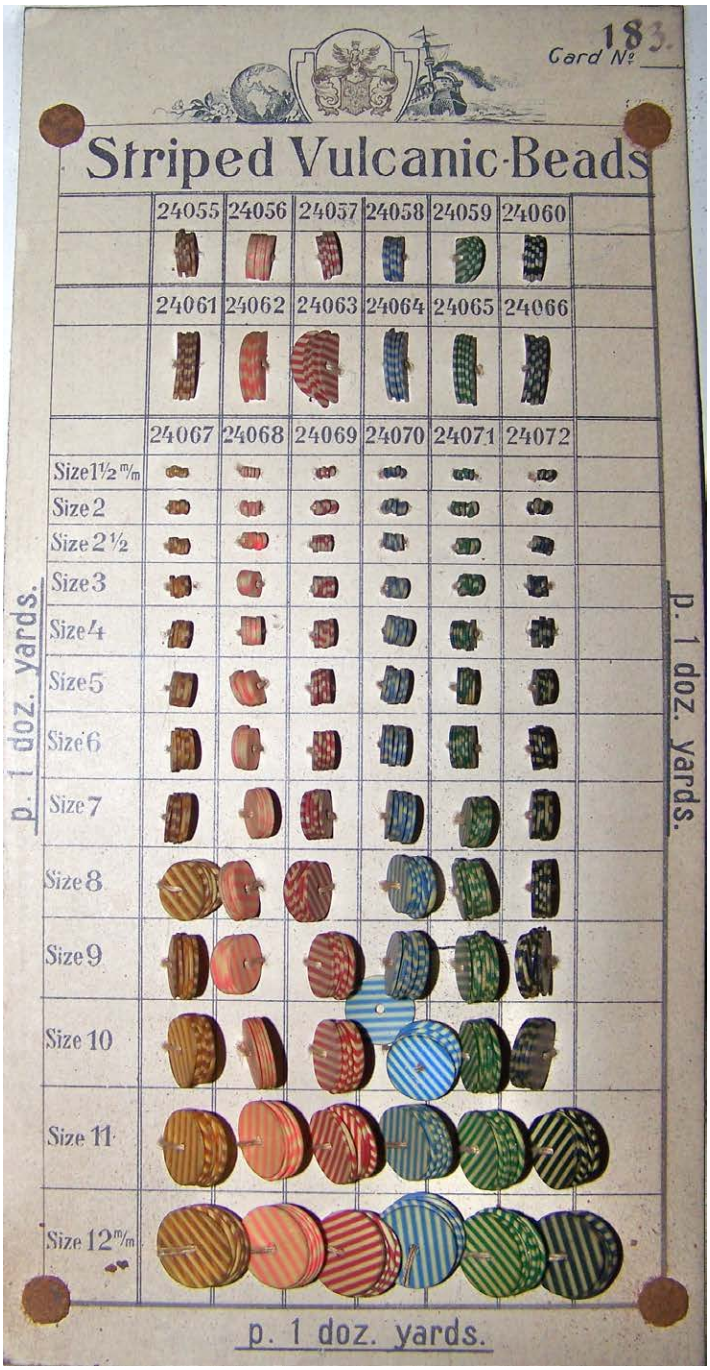

Figure 3. Late 19th century Celluloid bead sample card of the A. Sachse Co., showing "Striped Vulcanic Beads" in sizes 1.5 mm to 12 mm in diameter. Collection of the Museum of Glass and Jewellery, Jablonec nad Nisou, Czechia.

appear on Sachse & Co. cards held in the archives of the Jablonec Museum of Glass and Jewellery. Examples are shown in Figures 2 and 3. I examined these sample cards and all the beads appeared to be made of Celluloid, a thermoplastic made from cellulose nitrate and camphor and commercialized in 1870 (*New World Encyclopedia* 2023). This conclusion was based on observing the bright colors, especially on the striped versions. The latter could only be made by first pressing together a stack of thin

sheets of alternating colors and then slicing new sheets from the resulting block. The only material available for this purpose in the late 1800s was the thermoplastic Celluloid. The museum accession cards list the bead material as *umělà hmota skleněná* or *umělà hmota.* The literal translation of the first phrase is "artificial glass material," or "plastic glass," or possibly "glassy plastic material," and the second phrase indicates "artificial material," i.e., plastic. Celluloid is a glassy plastic rather than a rubbery one, so the descriptions fit despite being generic.

The start of the manufacture of Celluloid jewelry and beads in Gablonz is attributed to Franz Ulbrich, who studied the processing of Celluloid in Vienna and started making Celluloid bracelets in 1879. By 1893 Ulbrich had expanded production to beads and other items such as hat clips (Novy 2008:95). Novy also mentions the founding in 1894 of Gablonzer Celluloidindustrie by Dr. Josef Ertel, whose company made beads, imitation coral, and other items. The time period for Celluloid bead production corresponds with the appearance of Vulcanic beads on Sachse's sample cards for the export market in the 1890s.

Celluloid disk beads are still found on market strands from West Africa and therefore may be 100 years old or older. I have personally collected black, red, and yellow examples, along with a few striped ones (Figure 4). Celluloid disks are also often combined with coconut

Figure 4. Celluloid disk beads. Fractured beads and beads with chipped edges are shown to illustrate the failure mode and typical age-related damage. Bead diameter 11.2 – 11.5 mm.

Figure 5. Sections from a market strand of disk beads from the African trade. The thick brown and black disks are coconut shell and the thin black and red disks are Celluloid. The chipped edges of the Celluloid beads appear as shiny black and red areas. Celluloid disk diameter is approximately 11 mm.

shell disks on market strands (Figure 5), leading to the suspicion that the synthetic disks were marketed as substitutes for the more labor-intensive, hand-made ones.

The unanswered question is why these Celluloid beads were named Vulcanic. The dictionary definition of vulcanic is "of, pertaining to, or made by Vulcan" (*Webster's New International Dictionary* 1946). Celluloid was a US trademark from 1870, so the Czech bead makers may have needed a different term for their line of beads to avoid trademark infringement. As mentioned above, a term associated with vulcanite or vulcanization may have been selected to either denote a hard, durable product or simply one of the recently developed, enhanced materials.

The Celluloid disks proved to not be durable in all aspects, however. Celluloid is highly flammable, with the result that "after a few catastrophes had occurred during the transport of shipments (fire aboard ships at sea) and in African localities (many people had been burnt alive…), their manufacture was prohibited" (Bessone 1987:180). Additionally, he states that the strands of waist beads, called *djiguidas* in a Congolese language, were "originally celluloid disks," made by German, Czechoslovakian, and Swiss manufacturers. Bessone further confirms the composition of the beads by his statement that "they were popular with the Africans because of their attractive smell" – that smell being camphor, the chemical used to plasticize cellulose nitrate to produce Celluloid.

To add to the terminology confusion, thin disk beads labeled "Vulcanite" are on a page in the J.F. Sick & Co. color catalog of 1921 (Figure 6). Since this page is a

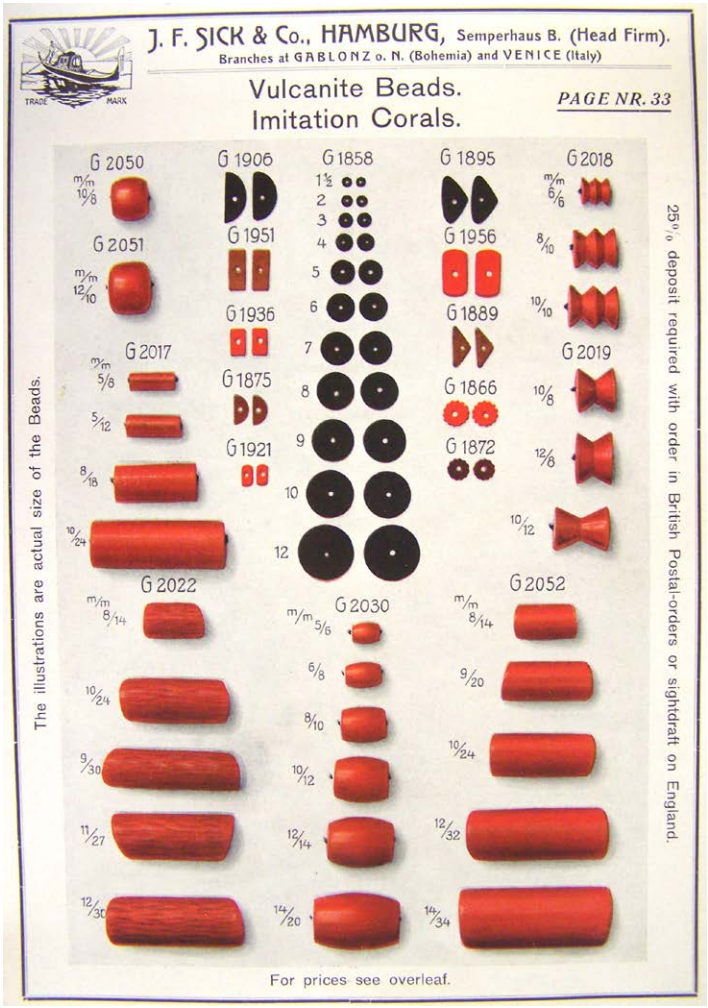

Figure 6. J. F. Sick & Co. Catalog (1921) p. 33. Billy Steinberg Collection.

color print and not a sample card with sewn-on beads, it is not possible to determine the composition, although they are assumed to be made of Celluloid (Picard Trade Bead Museum 2023). Could they have been made from vulcanite rather than Celluloid? In searching for evidence of vulcanite disk beads, I found scant mention of their possible existence. In a dictionary of terms relating to the Republic of the Congo by Massoumou and Queffélec (2007:183), *djiguida* is defined as "*ceinture formée de rondelles de caoutchouc ou de grosses perles de verroterie*" (belt made up of rubber rondelles or large glass beads). *Caoutchouc* is a French term used specifically for the products made from the sap of the rubber tree. There is no reference for this statement and possibly the authors did not know from first-hand experience if the disk beads were made from rubber, since many synthetic materials look alike. Or, they may have known that thin disk beads are called "vulcanite" in modern times and just assumed they were made from vulcanized rubber. At least one internet seller states that the vinyl "vulcanite" disk beads in their inventory "were originally made from vulcanized rubber" (Goody Beads 2023)—a description obtained from the supplier of the beads (Goody Beads 2023: pers. comm.).

PVC DISK BEADS

Until the mid-20th century, Celluloid was used for beads and many other articles before gradually being phased out and replaced by much less flammable thermoplastics, such as polyvinyl chloride (PVC or simply "vinyl"). PVC was commercialized in 1935 (Simonds and Ellis 1943:7) and probably found its way into jewelry and bead applications rather quickly, especially as a solution to the fire hazard of Celluloid *djiguidas*. Sample cards with PVC disk beads from Czech manufacturers are shown in Figures 7 and 8. The Czech PVC disk beads were discontinued around the 1980s and replaced by Chinese production (John Picard 2023: pers. comm.). Today they are being marketed almost universally as "vulcanite" disks,

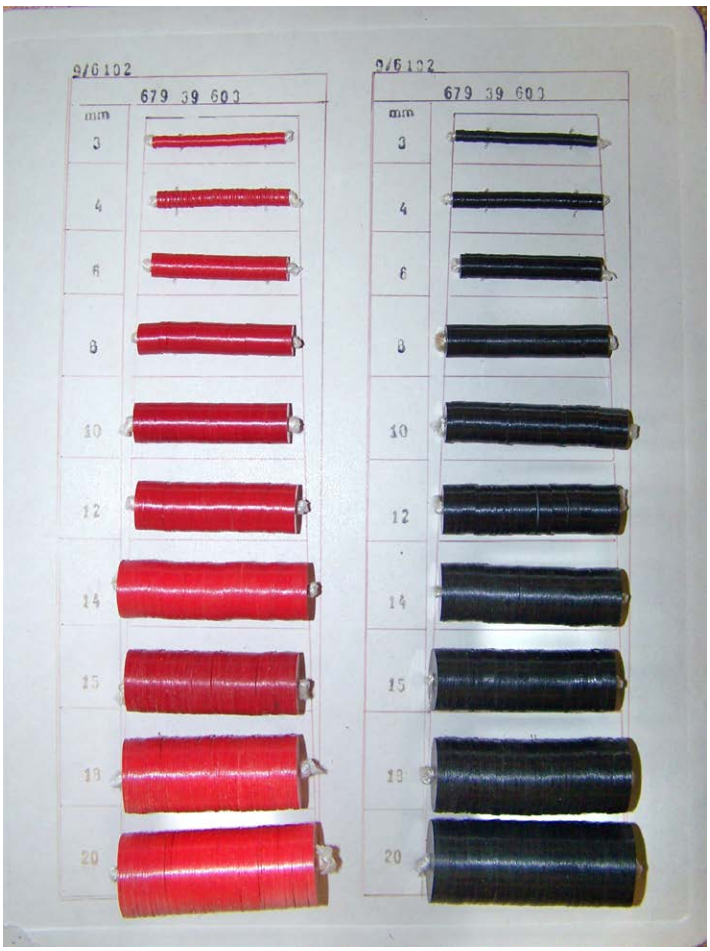

Figure 7. Sample card of black and red PVC disk beads, ca. 1960s-1970s. John and Ruth Picard Collection.

Figure 8. Sample card of multi-color PVC disk beads, ca. 1960s-1970s. John and Ruth Picard Collection.

often with the term vulcanic included as well.

An interesting narrative about PVC disk beads, heard from several collectors and bead sellers, contains the claim that they are made from phonograph records, which are also made from PVC plus other ingredients. I suspect that this story arose from the use of the term "vinyl" for phonograph records during the surge of African bead imports into the US in the 1970s. The thin disk beads are also made from "vinyl"—the common shorthand for PVC—so a story evidently arose that linked vinyl beads to vinyl records. I have not found any examples of PVC disk beads that appear to be fabricated from vinyl records, which are about 2 mm thick – about four times thicker than the typical PVC disk bead. Although, considering the history of repurposing of materials like glass by ingenious African artisans, such beads may in fact exist. In theory, vinyl records could be cut up, re-melted, and/or pressed into thinner sheet stock to make beads, but an energy- and equipment-intensive recycling process does not seem at all likely, especially since PVC beads were/are made in a wide variety of colors, in contrast to the mostly black vinyl records.

Despite the lack of supporting evidence for such an intriguing origin, PVC disk beads are sometimes described as "phono record beads" (The Bead Chest 2023) and "upcycled vinyl records" (Goody Beads 2023) in online sales venues. A more accurate but somewhat confusing description for PVC disk beads appears on the Chinese site Alibaba, where they are called "vinyl" and also "polymer clay" beads (Alibaba 2023). Polymer clay, a PVC-based product, is at least chemically related to the disk beads.

DISCUSSION

There is a good possibility that terms related to vulcanite were used generically to describe Celluloid disk beads and that these were the original disks made for the African trade, as stated by Bessone (1987:180). Even though I found no documentation or examples of vulcanite disks that would have preceded or been contemporaneous with the Celluloid ones, there is one other observation I made that still suggests they may have existed—it is the interesting coincidence of several sample cards (Figures 6 and 7) that show only black and red beads. Black and red happened to be the only colors readily available for vulcanite in the late 19th century, as mentioned above. If black and red vulcanite disk beads *were* the original beads brought to African markets, and they enjoyed good success, it would make sense that the same colors would be offered in Celluloid and PVC when these two materials became available to the bead makers. Since so many other colors as well as the striped designs were produced, it seems odd that red and especially black appear as predominant colors on Celluloid market strands from the African trade and are the only two colors on some PVC strands as well. Yellow is the only other solid color of Celluloid disks found in my search, and only a very small number of them in comparison to red and black. Only three striped disks have been found. Did African customers simply prefer black and red for their designs despite being offered the other color choices? Or perhaps black and red beads were the least expensive to produce and were offered for lower prices than the other colors. Maybe the other colors were less able to withstand the ravages of time due to the different chemical composition of the pigments and have long since disintegrated.

Despite looking through thousands of disk beads from African trade strands, particularly older, dilapidated ones, I have not found any made of vulcanite or any other natural rubber product. If found, their existence would provide a firmer connection to the terminology used for

Celluloid and the more recent PVC disks – so the search continues.

IDENTIFICATION OF SYNTHETIC DISK BEAD MATERIALS

When I first suspected the disk beads on an African trade strand were made of something other than vulcanite, an FTIR analysis showed the material was PVC. Several more FTIR analyses on disk beads from the African trade identified both Celluloid and PVC (Karlis Karklins 2017: pers. comm.). In lieu of laboratory analyses, I use visual clues, solvent exposure, and flame and odor testing to distinguish between these two materials and to search for others.

Celluloid disks are brittle, often have chipped edges, and have thicknesses from 0.3-0.5 mm. They are mostly thinner than their PVC counterparts which typically measure 0.5-0.7 mm thick. All the Celluloid disks I examined have nominal 1.5 mm holes, while many PVC disks have 1.0 mm or 1.2 mm holes in addition to some with 1.5 mm holes. Collectors have noticed the difference in hole sizes for PVC disks and believe the smaller-holed beads are newer production than the larger-holed versions (Joyce Holloway 2023: pers. comm.). Note: all hole measurements are approximate.

The strong odor of camphor, which is used to plasticize Celluloid, is easily detected from the dust produced when a Celluloid bead is abraded. Celluloid disks can also be identified, albeit destructively, by fracturing, as they break easily and show a glassy fracture surface. It is remarkable, in fact, that strands of Celluloid disks can still be found in the African trade, since Celluloid becomes more brittle with age, and in some cases, just handling the disks causes them to fall apart.

Immersion in MEK produces complete dissolution of Celluloid disks in 24-48 hours. Touching a Celluloid disk to a flame results in a flash immolation to ash. As mentioned above, Celluloid beads of any size and quantity are a fire and burn hazard and should be safeguarded from contact with open flames or high heat sources such as soldering irons.

PVC disks are tough and do not break when bent, do not show chipped edges, and they are fractured only by repeated flexing and tearing. The plastic deformation at the point of flexure shows lighter areas of cavitation (Figure 9). Immersion in MEK causes marked swelling and distortion of PVC disk beads.

Figure 9. PVC disk beads. The top row shows damage after flexing a few times. Bead diameter 12 mm (red and black); 10 mm (yellow).

CONCLUSION

No physical or other documentation has been found to establish that thin disk beads were ever made from hard vulcanized rubber, aka vulcanite, despite this term being used for them for over 100 years. Thin disk beads called Vulcanic were made of Celluloid starting around the 1890s in Gablonz, sold by the yard for West African *djiguidas,* and are still found on market strands. When PVC replaced Celluloid at some point after the 1930s, thin disk bead production continued in the Czech Republic and now appears to be based in China. The terms "vulcanite" and Vulcanic have continued to be used to describe thin disk beads made from both Celluloid and PVC and thus have become generic, albeit confusing, marketing terms for synthetic beads of this type.

ACKNOWLEDGEMENTS

The author is very grateful for the generous assistance provided by the following bead collectors and researchers: Billy Steinberg graciously loaned his copy of the J.F. Sick Company catalog. The curators at the Jablonec Museum of Jewellery and Glass prepared a room-sized display of all their synthetic material bead cards for my visit in 2018. Karlis Karklins arranged several FTIR analyses, which were performed by R. Scott Williams. Joy Wu performed additional FTIR analysis of PVC beads. John and Ruth Picard provided details of their experiences with bead collecting and procurement as well as making their PVC disk bead sample cards available for photography. Marie-José Opper, tireless literature searcher, alerted me to the *Panorama du Centenaire* reference. Chad Sterling of the New Process Fibre Company kindly provided samples of VF.

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2023c Thomas Hancock (inventor). https://en.wikipedia.org/wiki/Thomas_Hancock_(inventor), accessed 25 August 2023.

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Society News

A Note from the Editor

My current term as Editor ends on 31 December. After doing this job for 35 years, I think it is time to turn the position over to a younger and more energetic person. Despite a number of problems over the years, I have thoroughly enjoyed the work and have dealt with over 150 proficient authors from all over the world. I have also had the pleasure to work with all the people who have served as Society officers and as newsletter editors over the years. And certainly not least, prior to Covid, I had the opportunity to meet many of our members who have provided both moral and financial support to keep me and the journal going.

Alison Carter, currently the SBR Associate Editor, is nominated as my replacement. A ballot accompanies this newsletter. Please return it by 30 November 2023.

Alison K. Carter: Nominee for Editor

Dr. Alison Carter is an Associate Professor of archaeology in the Anthropology Department at the University of Oregon. Her fascination with beads began while working at two bead stores during high school and college. This experience introduced her to beads from around the world as well as to a variety of bead-weaving techniques. Her academic study of beads began in earnest at the University of Wisconsin-Madison, where she studied with Mark Kenoyer and earned her PhD in 2013. Her dissertation research focused on an examination of stone and glass beads from Iron Age sites (500 BCE-500 CE) in Thailand and Cambodia and used morphological, stylistic, and compositional analyses (using LA-ICP-MS) to identify inter- and intraregional trade networks. She continues to study glass and stone beads from Southeast Asia, while also recently expanding her research to include a study of glass beads from the Pacific Northwest.

The Future of the Journal

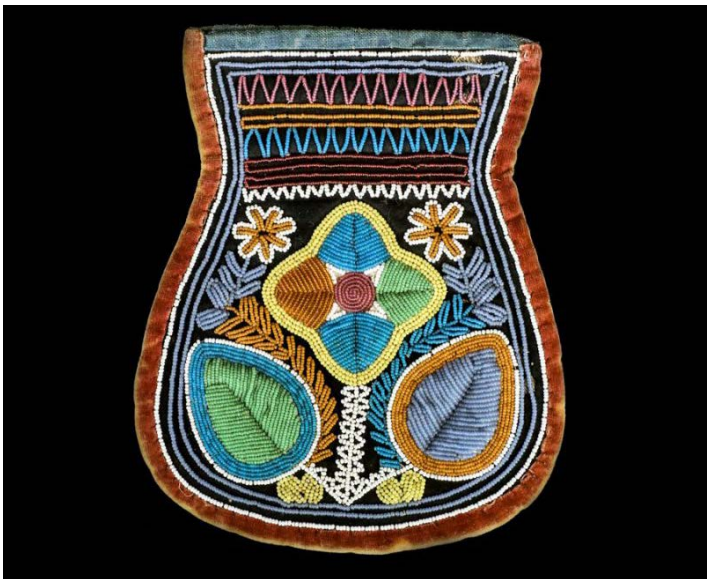
Given constantly increasing printing and shipping costs, coupled with the effort it takes to package and mail the journal, it is proposed that, starting with volume 36 (2024), the journal be produced solely in a digital format. We are aware that most of our members prefer hard-copy journals but with the change in editorship at the end of this year and the secretary-treasurer's position at the end of next year, the digital course seems the logical option. One benefit of going digital is that there will be no restriction on the number of articles and book reviews that can be included. Currently the journal must weigh less than 500 grams in Canada (454 grams in the U.S.) with envelope to avoid excessive shipping costs to foreign destinations.

Membership Fee Changes

The switch to a digital journal will necessitate a change in the membership fee structure. It is therefore proposed that the current Individual membership fees for the U.S./Canada ($30) and foreign destinations ($45) be reduced to $25, the rate for the current Digital Only membership, which will be eliminated. This will require approval by the membership. A ballot is appended to this newsletter. Please return it by 30 November 2023. The other membership levels will remain the same.

Exhibitions

Here, Now and Always: Haudenosaunee Beadwork
Seneca-Iroquois National Museum
Onöhsagwë:de' Cultural Center
82 W Hetzel St., Salamanca, NY
Until September 2024



A new exhibit titled *Here, Now and Always: Haudenosaunee Beadwork* at the Seneca-Iroquois National Museum highlights traditional and contemporary beadwork items. Director Hayden Haynes explained that the museum's bead collection is vast and highlights the importance of beads to the Haudenosaunee culture. "Beadwork is not just a form of self-expression; it's also tied to our identity, our beliefs and our culture," he said. "The motifs, designs and even the forms themselves all tie to other things in our culture. We want to show how our ancestors' pieces inspired us and continue to inspire contemporary bead artists, along with other artists."

The beadwork exhibit will be on display until next fall. The Seneca-Iroquois National Museum is located within the Onöhsagwë:de' Cultural Center. For up-to-date information, call (716) 945-1760. The museum's website, https://senecamuseum.org, is currently under construction.

A World of Beads: Essential Elements
Mingei International Museum
Balboa Park
1439 El Prado, San Diego, CA
Until May 19, 2025

A World of Beads: Essential Elements, explores the different mediums used to create beads from varying time periods and cultures. By exploring the materials from which beads are made, *A World of Beads* covers the evolution and history of bead making as well as the economic and social influences beads have on societies. Ranging from plant and animal materials to fabricated metal and glass, objects in this exhibition cover a wide selection of beads and beaded objects.

Over the past 48 years, Mingei International Museum has collected nearly 6700 items that are either beads, or adorned with beads, including rings, necklaces, textiles, containers, and clothing. Almost 6000 of these items were received from The Bead Museum, a globally recognized museum in Prescott, Arizona, which closed its doors in 2011. The transfer of this important collection allows Mingei to exhibit examples of beaded adornments, like the ones seen in this show, from all across the world.

For more information, visit the museum's website https://mingei.org/exhibitions/a-world-of-beads.

Recent Publications

Alarashi, Hala, Marion Benz, Julia Gresky, Alice Burkhardt, Andrea Fischer, Lionel Gourichon, Melissa Gerlitzki, Martin Manfred, Jorune Sakalauskaite, et al.
2023 Threads of Memory: Reviving the Ornament of a Dead Child at the Neolithic Village of Ba`ja (Jordan). *PLoS ONE* 18(8), e0288075. https://doi.org/10.1371/journal.pone.0288075.

Over 2500 beads were found on the chest and neck of the deceased, along with a double-perforated stone pendant and a delicately engraved mother-of-pearl ring. Reconstruction revealed an imposing multi-row necklace of complex structure and attractive design.

Amir, Saltanat and Rebecca C. Roberts
2023 The Saka 'Animal Style' in Context: Material, Technology, Form and Use. In *The Zoomorphic Arts of Ancient Central Eurasia*, edited by Petya Andreeva, pp. 57-81. MDPI, Basel. https://doi.org/10.3390/arts12010023.

Gold artifacts from the Eleke Sazy funerary complex in eastern Kazakhstan include microbeads that were used as adornment on the lower parts of the costumes, such as trousers, the skirt edges, and shoes. Several pendant forms were also uncovered.

Bandama, Foreman and Abidemi Babatunde Babalola
2023 Science, Not Black Magic: Metal and Glass Production in Africa. *African Archaeological Review.* https://doi.org/10.1007/s10437-023-09545-6.

Discusses the processes of metal and glass production (beads included) in western and southern Africa to reveal key aspects of the scientific method in these ancient African technologies and situate the knowledge within an appreciation of inclusive education that embraces diverse ideas and practices of science and technology.

Baysal, Emma L. and Sera Yelözer

2023 Searching for the Individual: Characterising Knowledge Transfer and Skill in Prehistoric Personal Ornament Making. *Journal of Archaeological Method and Theory* 30(1):1-31. https://doi.org/10.1007/s10816-022-09589-z.

Using examples from Neolithic assemblages in Turkey, this article asks to what extent decision-making, individual levels of skill, and the expectations surrounding learning or knowledge transmission can be successfully identified and interpreted using the often-limited information available from prehistoric assemblages of personal ornaments.

d'Errico, Francesco, Karen Loise van Niekerk, Lila Geis, and Christopher Stuart Henshilwood

2023 New Blombos Cave Evidence Supports a Multistep Evolutionary Scenario for the Culturalization of the Human Body. *Journal of Human Evolution* 184, 103438. https://doi.org/10.1016/j.jhevol.2023.103438.

The authors show that eye-catching unperforated marine shells with no nutritional value were brought to the site between 100 and 77 ka, well before Blombos inhabitants engaged in the production of standardized shell beads and that species other than *N. kraussianus* were used as beads at the site, at ca. 73 ka, and possibly already at 100 ka.

Essel, Elena, Elena I. Zavala, Ellen Schulz-Kornas, Maxim B. Kozlikin, Helen Fewlass, Benjamin Vernot, Michael V. Shunkov, Anatoly P. Derevianko, Katerina Douka et al.

2023 Ancient Human DNA Recovered from a Palaeolithic Pendant. *Nature*. https://doi.org/10.1038/s41586-023-06035-2.

Application of a non-destructive method for the gradual release of DNA trapped in ancient bone and tooth artefacts to an Upper Palaeolithic deer-tooth pendant from Denisova Cave, Siberia, resulted in the recovery of ancient human and deer mitochondrial genomes, which allowed the estimation of the age of the pendant at approximately 19,000-25,000 years BP.

Fox, William, April Hawkins, and David Harris

2023 Drawing a Bead on the Iroquois du Nord Narrative. In *The History and Archaeology of The Iroquois du Nord,* edited by Robert von Bitter and Ronald F. Williamson, pp. 159-186. Mercury Series Archaeology Paper 182. https://www.academia.edu/98468673/.

Discusses the glass, marine-shell, bone, and stone beads recovered from several 17th-century Haudenosaunee sites in southwestern Ontario.

Guerra, Maria F., Marcos Martinón-Torres, and Stephen Quirke

2023 Ancient Egyptian Gold: Archaeology and Science in Jewellery (3500-1000 BC). McDonald Institute for Archaeological Research, Cambridge. https://doi.org/10.17863/CAM.99675.

Contains 11 chapters with numerous sub-chapters and several appendices that discuss gold beads, pendants, and scarabs in Ancient Egypt, including production techniques, form, uses, chronology, and composition.

Guilaine, Jean, Guirec Querré, Serge Cours, Jacques Coularou, Hélène Vergély, Jean Vaquer, and Muriel Gandelin

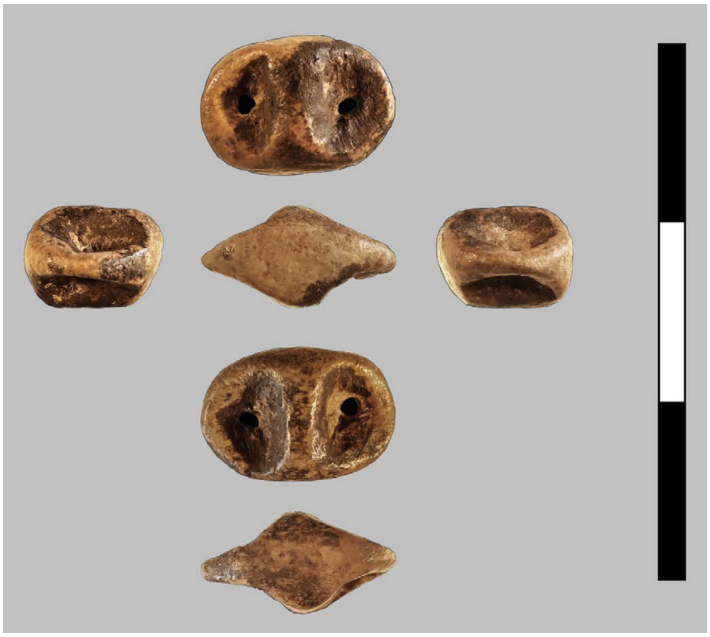
2023 The Variscite «Necklace» of the Salpêtre Cave, at Pompignan (Gard, France). *Journal of Archaeological Science: Reports* 47, 103768. https://doi.org/10.1016/j.jasrep.2022.103768.

A set of 17 variscite beads excavated in southeastern France constitutes a unique Middle Neolithic ornament. PIXE (Particle Induced X-ray Emission) chemical analysis of the beads and reference samples from possible sources indicates a mineral origin from the Gava mines situated near Barcelona, Spain.

Heckel, Claire E. and Sibylle Wolf

2023 The Circulation of Ornaments in Aurignacian Contexts. In *Contact, Circulation, Exchange. Proceedings of the Modified Bone & Shell UISPP Commission Conference (2-3 March 2017, University of Trnava)*, edited by Éva David and Erik Hnrčiarik, pp. 13-32. Archaeopress Publishing, Oxford. https://www.archaeopress.com/Archaeopress/Products/9781803275956.

Presents a comparison of the Early Upper Paleolithic ornamental assemblages (shell and ivory beads) in the Swabian Jura and Aquitaine regions followed by a discussion of the implications that they have for issues of cultural contact, contexts of circulation, and networks of exchange in the Early Upper Palaeolithic and beyond. Includes information concerning bead production techniques.



Hirsch, Julian

2023 Beyond Beads: A Life History Study of Ornaments from the Fifa Cemetery, Jordan. Ph.D. dissertation. Trent University, Peterborough, ON. https://digitalcollections.trentu.ca/objects/etd-1032.

Utilizes use-wear, archaeometric analysis, and a database of beads of the 5th-4th millennia BCE in order to create life-histories for the steatite and carnelian beads recovered from an Early Bronze Age IA (ca. 3700-3400) cemetery in southern Jordan.

Kattaeva, G. and O. Khamidov

2023 The Role of Lapis Lazuli in Central Asia in the Period of the Bronze Age. In *"O'zbekiston Milliy universitetining ilm-fan rivoji va jamiyat taraqqiyotida tutgan o'rni." Mavzusidagi xalqaroilmiy-amaliy konferensiyasi ma'ruzalari to'plami, Part 2,* edited by Y. Ergashov, pp. 206-209. O'zbekiston Milliy Universiteti, Toshkent. https://www.academia.edu/102466298/.

Investigates the sources of the lazurite used to create beads and other ornaments in the Ancient Near East.

Liu, Robert K.

2023 Early Roman Mosaic Face Bead Iconography: Mysteries of the Past, Part II. *Ornament* 43(3):30-35.

A further examination of Early Roman mosaic "courtesan" beads, illustrated with dozens of examples and an extensive bibliography.

Murillo-Barroso, Mercedes, Araceli Martín Cólliga, and Marcos Martinón-Torrés

2023 The Earliest Baltic Amber in Western Europe. Research Square. https://doi.org/10.21203/rs.3.rs-3133322/v1.

Analysis of an amber bead recovered in a Late Neolithic funerary cave (ca. 3634-3363 BC) in northeastern Iberia revealed it is succinite, providing the earliest evidence of the arrival of Baltic amber in the Mediterranean and Western Europe, before the Bell Beaker phenomenon and more than a millennium earlier than traditionally thought.

Newman, Richard, Emily Kaplan, and Maria Cecilia Álvarez-White

2023 The Story of *Elaeagia* Resin (Mopa-Mopa), So Far. *Heritage* 6, 4320-4344. https://www.academia.edu/102194566/.

The resin was used to create beads, mostly tubular, during the pre-Hispanic period in the southwestern part of present-day Colombia. Includes a section on the analytical identification of *Elaeagia* resins.

Ogundiran, Akinwumi

2023 Classic Ilé-Ifè: A Consideration of Scale in the Archaeology of Early Yorùbá Urbanism, AD 1000-1400. *Journal of Urban Archaeology* 7:77-94; https://www.brepolsonline.net/doi/10.1484/J.JUA.5.133451.

Includes an overview of the important glass beadmaking industry at Ilé-Ifè, a major urban center in Nigeria.

Rigaud, Solange, Alain Queffelec, François-Xavier Le Bourdonnec, Saltanat Alisher kyzy, Stanley H. Ambrose, Ronan Ledevin, Redzhep Kurbanov, Alexandra Buzhilova, Natalia Berezina, Rustam H. Ziganshin, and Svetlana Shnaider

2023 Exploring Hypotheses on Early Holocene Caspian Seafaring through Personal Ornaments: A Study of Changing Styles and Symbols in Western Central Asia. *Open Archaeology* 9(11):20220289. https://doi.org/10.1515/opar-2022-0289.

Reports on the discoid *Didacna* sp. shell beads discovered at Kaylu, a Middle Holocene burial site in southern Turkmenistan. Microscopic, morphometric, spectrometric, and SEM analyses were carried out on the material to identify how the beads were manufactured and used.

You can help keep *The 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 April 2024

Steel, Louise

2023 Enkomi and Egypt: Exploring the Third Space in Cyprus. *Archaeologies: Journal of the World Archaeological Congress*. https://www.academia.edu/99438179/.

Explores Egyptian influence in Late Bronze Age Cyprus through the lens of cultural hybridity. The focus is Egyptian(izing) objects from Enkomi, which highlight the cultural impact of New Kingdom Cypro-Egyptian cultural contacts. The most significant find is the *usekh,* or broad collar, from Tomb 93.

Then-Obłuska, Joanna

2023 Beads and Pendants. In *The Second Cataract Fortress of Dorginarti*, by Lisa A. Heidorn, pp. 271-275. Institute for the Study of Ancient Cultures of the University of Chicago, Nubian Expedition XII. https://www.academia.edu/102081809/.

This article discusses the Napatan and Meroitic beads recovered from the fortress, located in Sudanese Nubia. The materials include mollusk shell, ostrich eggshell, stone, clay, faience, and glass, including mandrel-wound, rod-pierced, and drawn types.

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 April 2024. 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:

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