

# RESEARCHING THE WORLD'S BEADS: AN ANNOTATED BIBLIOGRAPHY

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## AFRICA

This section of the bibliography encompasses the entire continent of Africa with the exception of Egypt which is included in the Middle East. Also included are islands off the east and west coast of Africa such as St. Helena. *See also* the two specialized theme bibliographies and the General/Miscellaneous bibliography as they also contain reports dealing with these countries.

### **Abungu, L.**

1992 Beads on the East African Coast: An Outline. In *Urban Origins in Eastern Africa: Proceedings of the 1991 Workshop in Zanzibar*, edited by P.J.J. Sinclair and A. Juma, pp. 100-106. The Swedish Central Board of National Antiquities, Stockholm.

### **Adeduntan, J.**

1985 Early Glass Bead Technology of Ile-Ife. *West African Journal of Archaeology* 15:165-171. Nineteen whole beads and twenty-eight fragments were collected from the Ayelabowo site near Ile-Ife, Nigeria. The beads are discussed insofar as they serve as a basis for reconstructing and dating glass bead technology at Ile-Ife.

### **Agorsah, E. Kofi**

1994 Before the Flood: The Golden Volta Basin. *Nyame Akuma* 41:25-36. Excavations at Kononaye, Ghana, produced 15th-century glass beads.

### **Ajetunmobi, R.O.**

1989 The Origin, Development and Decline of Glass Bead Industry in Ile-Ife. M.A. thesis. Department of History, Obafemi Awolowo University, Ile-Ife, Nigeria.

2000 Decline of the Glass Bead Industry in Ile-Ife: A Historical Discourse. *Journal of Arts and Social Sciences*. Tai Solarin College of Education, Ijebu Ode. Nigeria.

2000 The Origin and Technology of Glass Bead Production in Ile-Ife c. 1000-1900. *NATT Research Series* 4(1-2):59-69.

Focuses on how the material content of locally manufactured beads changed from stone to clay, from clay to glass, and finally from indigenous ware to imported glass materials. Nigeria.

**Alarashi, Hala**

2017 Nouveau terrain pour l'étude des objets de parure néolithiques: Kadruka 1, Soudan (État du Nord) / New Ground for the Study of Neolithic Ornaments: Kadruka 1, Northern Sudan. *ArchéOrient – Le Blog*; <https://archeorient.hypotheses.org/7331>, accessed 12 August 2018.

Discusses the recovered shell, stone, and ostrich-eggshell beads.

**Allen, Jamey D.**

1996 Kiffa Beads. *Ornament* 20(1):76-77.

Considers that some Kiffa beads, although made by different techniques, are virtual copies of prototypes ranging from ancient imports from the Near and Middle East to relatively modern trade beads.

Mauritania.

**Alpern, Stanley**

1995 What Africans Got for Their Slaves: A Master List of European Trade Goods. *History in Africa* 22:5-43.

Presents an annotated list of European trade goods traded on the Guinea coast of West Africa from Portuguese times to the mid-19th century. Included is a section on Beads, Coral, and Cowries.

**Ambrose, S.H.**

1998 Chronology of the Later Stone Age and Food Production in East Africa. *Journal of Archaeological Science* 25:377-392.

The Enkapune Ya Muto rockshelter in the central Rift Valley of Kenya contains the oldest known archaeological horizons spanning the transition from the Middle to the Later Stone Age in East Africa. Evidence reveals that the Later Stone Age began substantially earlier than 46,000 years ago, and that ostrich eggshell beads were being made by 40,000 years ago. Early dates for the LSA and the beads may have implications for the origin and dispersal of modern human behaviour and modern humans out of Africa. Extensive bibliography.

**Antonitesa, Alexander**

2014 Glass Beads from Mutamba: Patterns of Consumption in Thirteenth-Century Southern Africa. *Azania: Archaeological Research in Africa* 49(3):411-428.

Analysis of the Mutamba bead assemblage suggests that most of the beads form part of the late-12th- to mid-13th-century Mapungubwe Oblate Series.

**Assefa, Zelalem, Y. M. Lam, and Henk K. Mienis**

2008 Symbolic Use of Terrestrial Gastropod Opercula during the Middle Stone Age at Porc-Epic Cave, Ethiopia. *Current Anthropology* 49(4):746-756.

Hundreds of opercula of the snail *Revoilia guillainopsis* have been found in the cave, each with a central perforation. Although they resemble disk beads, microscopic examination could not unequivocally confirm their use as such.

**Avotri, N.V.K.**

2009 The Bead Culture among the Krobo's of Ghana. Ph.D. thesis. Department of General Art Studies, Kwame Nkrumah University of Science and Technology, Kumasi.

Assesses the role of beads in the contemporary social, cultural, religious, economic, and political life of the Krobo and the way forward for the bead culture and industry within the context of Globalization.

**Babalola, Abidemi Babatunde**

2015 Archaeological Investigations of Early Glass Production at Igbo-Olokun, Ile-Ife (Nigeria). Ph.D. dissertation. Department of Anthropology, Rice University, Houston.

Describes the deposits (12th-15th centuries) and the recovered materials in significant detail, establishing a basic framework for future comparative and analytic research at the site. Using chemical and physical analyses of the glass beads and glass production debris, the competing hypotheses of local primary glass production or re-melting of imported glass to create beads are explored in detail.

2017 Ancient History of Technology in West Africa: The Indigenous Glass/Glass Bead Industry and the Society in Early Ile-Ife, Southwest Nigeria. *Journal of Black Studies*; <https://www.academia.edu/35776288/>.

Drawing from archaeological and historical evidence from Ile-Ife, in tandem with the result of compositional analysis, this article examines the first recognized indigenous Sub-Saharan African glass technology dated to early 2nd millennium AD or earlier.

**Babalola, Abidemi Babatunde, Susan Keech McIntosh, Laure Dussubieux, and Thilo Rehren**

2017 Ile-Ife and Igbo Olokun in the History of Glass in West Africa. *Antiquity* 91(357):732-750.

The recovery of glass beads and associated production materials from a site in Nigeria has enabled compositional analysis of the artifacts and preliminary dating of the site, which puts the main timing of glassworking between the 11th and 15th centuries AD.

**Babalola, Abidemi and Thilo Rehren**

2016 The 11th-15th Century AD Glass Crucibles from Ile-Ife, Southwest Nigeria. Paper presented at the 23rd biannual Society of Africanist Archaeologist conference, Toulouse, France. <https://www.researchgate.net/publication/306017012>

Presents the results of the classification, macro/microstructural, and compositional analyses carried out on glass-working and possibly glassmaking crucibles excavated at Igbo Olokun, Ile-Ife. Drawn-bead production waste was also recovered.

**Babalola, Abidemi Babatunde, Thilo Rehren, Akinlolu Ige, and Susan McIntosh**

2018 The Glass Making Crucibles from Ile-Ife, SW Nigeria. *Journal of African Archaeology* 16:1-29.

Provides an in-depth examination of numerous crucible fragments recovered from 11th-15th-century deposits in order to understand the quality of the crucibles, their typology, and their functions in glassworking/making. Compositional analysis of a sample of the thousands of glass beads from the excavations indicates that the crucibles were used to melt the glass used for the beads.

**Bandama, Foreman**

2013 The Archaeology and Technology of Metal Production in the Late Iron Age of the Southern Waterberg, Limpopo Province, South Africa. Ph.D. thesis. Department of Archaeology, University of Cape Town.

Despite the title, this thesis also deals with the beads of glass, mollusc shell, ostrich eggshell, and bone recovered from two sites: Rhenosterkloof 1 and Tembi 1. The glass specimens are attributed to the Khami Series (14th-17th centuries). Compositional analysis is included.

**Bandama, Foreman, Shadreck Chirikure, Simon Hall, and Christel Tinguely**

2018 Measly but Motley and Manifest: The Typological and Chemical Characterisations of Glass Beads from the Southern Waterberg, Limpopo Province of South Africa. *Journal of Archaeological Science: Reports* 18.

Reports on 25 glass beads dating to the 15th-19th centuries recovered from two sites (Smelterskop and Rhenosterkloof 1).

**Bashir, Mahmoud S.**

2015 The Meroitic Cemetery at Berber: Discussion on Funerary Practices and Implications for Understanding the Role of Sorghum and Trade in the Meroitic Society in the Middle Nile Region. Ph.D. dissertation. The University of Bergen, Bergen, Norway.

Beads of stone, faience, and glass were recovered from 14 tombs at a site in Nubia (Sudan). Included are gold-in-glass beads with a net pattern on one side and a figurative motif of Hippocrates on the other.

**Berthier, Sophie**

1997 *Recherches archéologiques sur la capitale de l'empire de Ghana: Étude d'un secteur d'habitat à Koumbi Saleh, Mauritanie*. British Archaeological Reports International Series S680, Cambridge Monographs in African Archaeology 41.

Investigation of the settlement area at the medieval town of Koumbi Saleh, southeastern Mauritania, yielded stone and terra cotta beads, as well as those of glass.

**Beyin, Amanuel**

2010 Use-Wear Analysis of Obsidian Artifacts from Later Stone Age Shell Midden Sites on the Red Sea Coast of Eritrea, with Experimental Results. *Journal of Archaeological Science* 37(7):1543-1556.

Large quantities of lithic tools were found in association with mollusc shells and ostrich eggshell beads. It is unclear if all the tools were required for bead and mollusc shell processing, so microfracture damage traces were recorded in order to infer the use-material and the manner in which the artifacts were used.

**Biginagwa, Thomas John**

2012 Historical Archaeology of the 19th-Century Caravan Trade in North-Eastern Tanzania: A Zooarchaeological Perspective. Ph.D. dissertation. Department of Archaeology, University of York.

Discusses the glass and shell beads recovered from sites at Ngombezi, Old Korogwe, and Kwa Sigi.

**Biittner, K.M., E.A. Sawchuk, J.M. Miller, J.J. Werner, P.M. Bushozi, and P.R. Willoughby**

2017 Excavations at Mlambalasi Rockshelter: A Terminal Pleistocene to Recent Iron Age Record in Southern Tanzania. *African Archaeological Review* 34(4).

Direct dates on *Achatina*-shell and ostrich-eggshell (OES) beads suggest that the earliest occupation levels excavated at Mlambalasi, which are associated with human burials, are terminal Pleistocene in age.

**Biton, Marlene**

1987 Donateur et collections: description et mise en perspective historique et culturelle d'un collection de "perles africaines" du Musée de l'Homme. M.A. thesis. U.F.R. D'Arts Plastiques et Sciences de l'art, Université de Paris I Panthéon-Sorbonne.

A discussion and analysis of the collection of African beads collected by E.G. Waterlot, now held by the Musée de l'Homme, Paris. Materials include glass, stone, ceramic, ivory, and lead.

**Bocoum, H. and S.K. McIntosh**

2002 *Excavations at Sinçu Bara, Middle Senegal Valley (Senegal)*. Institut Fondamental d'Afrique Noire, Dakar.

Stone and terra cotta beads.

**Bonnet, C.**

1983 Kerma: An African Kingdom of the 2nd and 3rd Millennia B.C. *Archaeology* 36(6):38-45.

Faience beads decorate a young Nubian archer's loincloth, Sudan.

**Botha, Rudolf**

2008 Prehistoric Shell Beads as a Window on Language Evolution. *Language & Communication* 28(3):197-212.

It has been inferred that humans had "fully syntactical language" as early as 75,000 years ago based on the properties of a number of Middle Stone Age (MSA) shell beads excavated at Blombos Cave in South Africa. This article challenges some of the inferential steps that led to this conclusion.

**Bouzouggar, Abdeljalil, Nick Barton, Marian Vanhaeren, Francesco d'Errico, Simon Collcutt, Tom Higham, Edward Hodge, Simon Parfitt, Edward Rhodes, Jean-Luc Schwenninger, Chris Stringer, Elaine Turner, Steven Ward, Abdelkrim Moutmir, and Abdelhamid Stambouli**

2007 82,000-Year-Old Shell Beads from North Africa and Implications for the Origins of Modern Human Behavior. *Proceedings of the National Academy of Sciences of the United States of America* 104(24):9964-9969.

The first appearance of explicitly symbolic objects in the archaeological record marks a fundamental stage in the emergence of modern social behavior in *Homo*. Ornaments such as shell beads represent some of the earliest objects of this kind. Examples of perforated *Nassarius gibbosulus* shell beads from Grotte des Pigeons (Taforalt, Morocco) come from archaeological levels dated by luminescence and uranium-series techniques to  $\approx 82,000$  years ago.

**Brakel, Koos van**

2006 *The Bead Goes On: The Sample Card Collection with Trade Beads from the Company J.F. Sick & Co. in the Tropenmuseum, Amsterdam*. KIT, Amsterdam.

The J.F. Sick & Co. collection contains 197 sample cards displaying 22,000 beads as well as a 50-page color catalog. This book documents and illustrates the collection. The sample cards are assigned to four chronological groups: 1) 1910-1913 (cards 1-68); 2) 1920-1929 (cards 69-150); 3) 1930-1939 (cards 151-181); and 1948 onwards (cards 182-188). Some of these are illustrated in the book. The rest are on an accompanying DVD. They show the wide range of fancy and millefiori/mosaic glass beads that poured into West Africa during the first half of the 20th century, including various rosetta or chevron beads.

**Bredwah-Mensah, Yaw**

1996-1997 *Akyem Te: The Technology and Socio-Cultural Setting of the Adompe Bauxite-Beadmaking Industry, Ghana*. *Beads: Journal of the Society of Bead Researchers* 8-9:11-21.

Describes the modern industry in greater detail than the 1945 article by Thurstan Shaw.

**Brent, Michel**

1994 The Rape of Mali. *Archaeology* 47(3):26-35.

Reveals how European dealers and collectors continue to plunder the heritage (this includes ancient beads) of one of the world's poorest nations. Irreplaceable archaeological information is being destroyed at an alarming rate.

**Buratti, Mathilde**

2016 Perles d'Afrique, des données archéologiques aux objets actuels : utilisations et symbolisme à travers l'exemple des perles du Cameroun. Ph.D. thesis. Université Paris I, Panthéon Sorbonne.

Centered on Cameroon, this thesis presents a three-part study of beads in Africa: history, uses, and symbolism.

**Busch, Jürgen**

2013 Kiffa Beads of Mauritania: A Fall from Grace. *Ornament* 36(2):56-61.

Reports the sad news that the disastrous drought in West Africa has caused the cessation of Kiffa beadmaking in Mauritania.

**Bvocho, Godhi**

2005 Ornaments as Social and Chronological Icons: A Case Study of Southeastern Zimbabwe. *Journal of Social Archaeology* 5(3):409-424.

Examines archaeological ornaments as chronological indicators and communication devices. The period covered ranges from the 8th-18th centuries AD. In addition, the study attempts to contribute to filling the spatial gap between the well-researched areas of Mapungubwe to the south and Great Zimbabwe to the north of the Limpopo.

**Calegari, Giulio**

2011 Le perle preistoriche in calcedonio rosso e in quarzo da Taouardei, Mali.

<http://perle.csaamilano.it/articoli/perle%20in%20quarzo%20taouardei.pdf>.

On prehistoric beads of red chalcedony and of quartz recovered at Taouardei, Mali. Well illustrated in color.

**Carey, Margret**

1986 *Beads and Beadwork of East and South Africa*. Shire Ethnography Series, Oxford.

1991 *Beads and Beadwork of West and Central Africa*. Shire Publications, Oxford.

See Opper and Opper (1991) for a review.

1996-1997 Review of *The Ghanaian Bead Tradition: Materials, Traditional Techniques, Archaeological and Historical Chronology, Bead Usage, Traditional-Sociological Meaning*, by M.L.

Kumekpor, Y. Bredwa-Mensah, and J.E.J.M. van Landewijk (1995). *Beads: Journal of the Society of Bead Researchers* 8-9:69-71.

2003 Powder-Glass Beads in Africa. In *Ornaments from the Past: Bead Studies After Beck*, edited by I. Glover, H. Hughes-Brock, and J. Henderson, pp. 108-114. The Bead Study Trust, London.

Powder-glass beads have a long history in Africa. Early examples appear at Mapungubwe, South Africa, in archaeological contexts dated to AD 970-1000. In recent times, the distinctive Kiffa beads have been produced in southern Mauritania, and the much-valued *bodom* beads are made in southern Ghana.

2007 African-Made Glass Beads (Garden-Roller Beads). In *International Bead & Beadwork Conference*, edited by Jamey D. Allen and Valerie Hector. Rezan Has Museum, Istanbul. Discusses distinct cylindrical beads made in clay molds from recycled glass at and near the site of Mapungubwe, South Africa, which was first occupied ca. AD 1000.

**Caton, Alex**

1995 Analysis of Beads from the Banda Region, Ghana. Honors thesis. State University of New York at Binghamton.

1997 Beads and Bodies: Embodying Change in Bead Practices in Banda, Ghana. M.A. thesis. Department of Anthropology, State University of New York at Binghamton.

**Chami, Felix A.**

1999 Roman Beads from the Rufiji Delta, Tanzania: First Incontrovertible Archaeological Link with the Periplus. *Current Anthropology* 40(2):237-241.

Four Roman beads confirm the mention by ancient authors (the Periplus Maris Erythraei and Ptolemy's Geography) of the southernmost Mediterranean trading post on the Swahili coast. One is of the rare gold-in-glass type. Presents implications for the history of the region.

**Chavane, Bruno A.**

1985 *Villages de l'ancien Tekrour: recherches archéologiques dans la moyenne vallée du fleuve Sénégal*. Karthala, Paris.

Archaeological research at the ancient villages of Tekrour, Senegal, yielded stone and terra cotta beads.

**Chirapa, J.**

1988 Beads from the Iron Age Sites in Northern Mashonaland, Zimbabwe. B.A. general dissertation. History Department, University of Zimbabwe.

**Cissé, M., S.K. McIntosh, L. Dussubieux, T. Fenn, D., Gallagher, and A. Chipps Smith**

2013 Excavations at Gao-Saney: New Evidence for Settlement Growth, Trade, and Interaction on the Niger Bend in the First Millennium CE. *Journal of African Archaeology* 11(1):9-37.

This site in Mali yielded 800 glass beads, mainly from the 8th-10th centuries contexts, as well as what appears to be bead manufacturing debris. Several carnelian beads and cowries were also found. A discussion of the chemical composition of the glass specimens is provided.

**Clist, Bernard, E. Cranshof, G.-M. de Schryver, D. Herremans, K. Karklins, I. Matonda, C. Polet, A. Sengeløv, F. Steyaert, C. Verhaeghe, and K. Bostoen**

2015 The Elusive Archaeology of Kongo Urbanism: The Case of Kindoki, Mbanza Nsundi (Lower Congo, DRC). *African Archaeological Review*, DOI: 10.1007/s10437-015-9199-2.

At the burial site of Kindoki, linked with the former capital of Kongo's Nsundi province, a great number of shell and glass beads were found together with symbols of power in tombs attributed to the first half of the 19th century. A more detailed description is presented in Verhaeghe (2014).

**Cohen, David Reed**

2009 Histories of the Subaltern from the Kgalagadi's Fringe, Botswana. Ph.D. dissertation. Department of Anthropology, University of California - Berkeley.

Addresses the cultural dynamics of contact and the changing social landscapes between San-speaking foragers and ancestral Bakgalagadi farmers who lived in the Metsemothlaba River valley of southeastern Botswana on the fringe of the Kgalagadi Desert, c. 500-200 years ago. Beads of glass and ostrich eggshell enter into the discussion.

**Cole, Franca**

2008 Other Finds from the Burials. In *DMP II: 2008 Fieldwork on Burials and Identity in the Wadi al-Ajal*, by David Mattingly, John Dore, and Marta Lahr, pp. 252-256. *Libyan Studies* 39.

Some of the burials were accompanied by beads of ostrich eggshell, stone, faience, and glass. Several cowries were also recovered. Libya.

**Connah, Graham**

1996-1997 A Hoard of Stone Beads near Lake Chad, Nigeria. *Beads: Journal of the Society of Bead Researchers* 8-9:35-43.

A unique hoard of 622 carnelian and quartz beads believed to date to the 1st or 2nd millennium AD. which offers evidence for trading contacts between the Chad region and outside areas. It highlights the need for a corpus of firmly dated material in West African archaeology.

**Cook, Gregory D.**

2012 The Maritime Archaeology of West Africa in the Atlantic World: Investigations at Elmina, Ghana. Ph.D. dissertation. Department of Anthropology, Syracuse University.

Discusses the large number of glass beads recovered from the wreck of what appears to be a Dutch West India Company vessel that sank off Elmina in the mid-17th century. A thorough analysis is presented in Hopwood (2009).

**Croucher, Sarah K.**

2015 *Capitalism and Cloves: An Archaeology of Plantation Life on Nineteenth Century Zanzibar*. Springer, New York.

Contains a section on Trade Beads (pp. 188-192).

**Crowther, Alison, Mark Horton, Anna Kotarba-Morleya, Mary Prendergast, Eréndira Quintana Morales, Marilee Wood, Ceri Shipton, Dorian Q. Fuller, Ruth Tibesasa, William Mills, and Nicole Boivin**

2014 Iron Age Agriculture, Fishing and Trade in the Mafia Archipelago, Tanzania: New Evidence from Ukunju Cave. *Azania: Archaeological Research in Africa* 49(1):21-44.

<http://dx.doi.org/10.1080/0067270X.2013.878104>

The recovered beads include those made of glass, shell, and stone.

**Dapschauskas, Rimtautas**

2015 Der älteste Schmuck der Menschheit – Implikationen für die kognitive Evolution von *Homo sapiens* (The Earliest Personal Ornaments in the World – Implications for the Cognitive Evolution of *Homo sapiens*). *Mitteilungen der Gesellschaft für Urgeschichte* 24:29-96.



Discusses empirical evidence for the intentional use of personal ornaments by early *Homo sapiens* and interprets the finds in the context of theoretical reflections on symbolic communication. The analysis draws on a combination of theories, concluding that an expansion of human cognitive capacities to communicate symbolically probably occurred in *Homo sapiens* during the Middle Stone Age in Southern Africa, as well as the Middle Paleolithic of Northern Africa and the Levant.

**Dayet, Laure, Rudolph Erasmus, Aurore Val, Léa Feyfant, Guillaume Porraz**

2017 Beads, Pigments and Early Holocene Ornamental Traditions at Bushman Rock Shelter, South Africa. *Journal of Archaeological Science: Reports* 13:635-651.

The ostrich-eggshell, giant land-snail, and marine-shell beads recovered from the site were subjected to a technological and use-wear study with chemical analyses (SEM-EDS and Raman analyses) of the colored residues they bear.

**DeCorse, Christopher R.**

1989 Beads as Chronological Indicators in West African Archaeology: A Re-Examination. *Beads: Journal of the Society of Bead Researchers* 1:41-53.

Drawing primarily on data obtained from excavations at Elmina, Ghana, this report examines the potential use of beads as temporal markers in West African archaeology.

1989 Review of *Beads from the West African Trade*, Vols. 1-4, by John and Ruth Picard (1986-1988). *Beads: Journal of the Society of Bead Researchers* 1:96-98.

1993 Review of *Heirlooms of the Hills: Southeast Asia* (1992) and *Where Beads are Loved (Ghana, West Africa)* (1993), by Peter Francis, Jr. *Beads: Journal of the Society of Bead Researchers* 5:69-70.

2001 *The Archaeology of Elmina: Africans and Europeans on the Gold Coast, 1400-1900*. Smithsonian Press, Washington.

Discusses the local production of shell, stone, gold, and glass beads (the latter being made from the early 18th century through the 19th century), as well as the polishing and modification of European glass beads (pp. 135-138). Ghana, West Africa.

2004 Review of *Cattle for Beads: The Archaeology of Historical Contact and Trade on the Namib Coast*, by Jill Kinahan (2000). *Historical Archaeology* 38(2):138-139.

**DeCorse, C.R., F.G. Richard, and I. Thiaw**

2003 Toward a Systematic Bead Description System: A View from the Lower Falemme, Senegal. *Journal of African Archaeology* 1(1):77-110.

An analysis of 474 beads from 25 sites, all from the post-European contact period. Analytical descriptions are tabulated under 10 headings.

**Delarozière, Marie-Françoise**

1994 *Perles d'Afrique*. Éditions Édisud, LaCalade, Aix-en-Provence, France.

Surveys the beads used in Mauritania and several other North African nations from the prehistoric period to the present day. Illustrated with color drawings and photographs. See Opper (1994) for a review.

**Dempf, Martina**

2013 Jewellery in Action – Examples from East Africa. In *Journal: Borneo International Beads Conference 2013*, edited by Heidi Munan and Kay Margaret Lyons, pp. 43-68. Kuching, Sarawak, Malaysia.

Discusses the use of beads as adornment in East Africa with specific examples from the Toposa of the Southern Sudan, the Turkana of Kenya, and the Rashaida of Eritrea.

**Denbow, James, Carla Klehm, and Laure Dussubieux**

2015 The Glass Beads of Kaitshàa: New Insights on Early Indian Ocean Trade into the Far Interior of Southern Africa. *Antiquity* 89:361-337.

Using compositional analysis of glass beads from an Iron Age site in the central Kalahari Desert, Botswana, the authors argue that the site exemplifies the role of heterarchy and indigenous agency in the evolving political economy of the subcontinent.

**d’Errico, F. and L. Backwell**

2016 Earliest Evidence of Personal Ornaments Associated with Burial: The *Conus* Shells from Border Cave. *Journal of Human Evolution* 93:91-108.

An infant burial from Border Cave in northern KwaZulu-Natal, found with a, intentionally perforated *Conus* shell in a pit excavated in Howiesons Poort (HP) layers dated to  $74 \pm 4$  BP, is considered the oldest instance of modern human burial in Africa, and the earliest example of a deceased human interred with a personal ornament.

**d’Errico, Francesco, Lucinda Backwell, Paola Villa, Ilaria Degano, Jeannette J. Lucejko, Marion K. Bamford, Thomas F. G. Higham, Maria Perla Colombini, and Peter B. Beaumont**

2012 Early Evidence of San Material Culture Represented by Organic Artifacts from Border Cave, South Africa. *Proceedings of the National Academy of Science of the United States of America* 109(33):13214-13219.

Ornaments include marine-shell beads and ostrich eggshell beads, directly dated to ~42,000 BP.

**d’Errico, F., C. Henshilwood, M. Vanhaeren, and K. van Niekerk**

2005 *Nassarius kraussianus* Shell Beads from Blombos Cave: Evidence for Symbolic Behaviour in the Middle Stone Age. *Journal of Human Evolution* 48:3-24.

Describes 41 marine tick shell beads recovered from Middle Stone Age and Later Stone Age levels at Blombos Cave and the Die Kelders site, South Africa. Morphometric, taphonomic, and microscopic analysis of modern assemblages of tick shell demonstrate that the presence of perforated *N. kraussianus* shells in the Blombos levels cannot be due to natural processes or accidental transport by humans.

**d’Errico, Francesco, Marian Vanhaeren, Nick Barton, Abdeljalil Bouzouggar, Henk Mienis, Daniel Richter, Jean-Jacques Hublin, Shannon P. McPherron, and Pierre Lozouet**

2009 Additional Evidence on the Use of Personal Ornaments in the Middle Paleolithic of North Africa. *Proceedings of the National Academy of Science of the United States of America* 106(38):16051-16056.

Recent investigations into the origins of symbolism indicate that personal ornaments in the form of perforated marine-shell beads were used in the Near East, North Africa, and SubSaharan Africa at least 35 ka earlier than any personal ornaments in Europe. Together with other evidence, personal ornaments are

used to support an early emergence of behavioral modernity in Africa, associated with the origin of our species and significantly predating the timing for its dispersal out of Africa.

**d'Errico, Francesco, Marian Vanhaeren, and Lyn Wadley**

2008 Possible Shell Beads from the Middle Stone Age Layers of Sibudu Cave, South Africa. *Journal of Archaeological Science* 35(10):2675-2685.

Presents the archaeological context and taphonomic analysis of six *Afrolittorina africana* shells, three of which bear perforations, from the Still Bay and Howiesons Poort layers of this site. If confirmed by future discoveries, these shells would corroborate the use of personal ornaments by Still Bay populations.

**Dewar, Genevieve I.**

2007 The Archaeology of the Coastal Desert of Namaqualand, South Africa: A Regional Synthesis. Ph.D. dissertation. Department of Archaeology, University of Cape Town.

The beads recovered from nine open-air sites include those of marine shell and bone, but are predominantly made of ostrich eggshell.

**Dewar, Genevieve I. and Brian A. Stewart**

2012 Preliminary Results of Excavations at Spitzkloof Rockshelter, Richtersveld, South Africa. *Quaternary International* 270:30-39.

A Middle Stone Age site in Namaqualand yielded a complete bone bead and two burned ostrich-eggshell bead preforms/rough outs.

**Donley-Reid, Linda W.**

1990 The Power of Swahili Porcelain, Beads and Pottery. In *Powers of Observation: Alternative Views in Archaeology*, edited by S.M. Nelson and A.B. Kehoe, pp. 47-59. Archaeological Papers of the American Anthropological Association 2.

This ethno-archaeological case study presents an emic view of the meaning of Swahili artifacts, specifically porcelain, beads, and pottery.

**DuBroc, Beau Richard**

2010 The Beads of Bosutswe, Botswana. M.A. thesis. The University of Texas at Austin. Concentrates on the ostrich eggshell beads recovered in practically every level of this site occupied continuously for almost 1,000 years.

**Duhard, J.-P.**

2001 Les perles de Korogoussi. *Le Saharien* 159:30-33.  
On the ancient stone beads found at Korogoussi, Nigeria.

**Edwards, David N.**

1998 *Gabati: A Meroitic, Post-Meroitic and Medieval Cemetery in Central Sudan*. Sudan Archaeological Research Society Publication 3. BAR International Series 740.

Includes material on glass beads, including mosaic types.

**Ehrlich, Martha J.**

1989 Early Akan Gold from the Wreck of the *Whydah*. *African Arts* 22(4):52-57, 87-88.

Discusses and illustrates the gold beads and other ornaments of West African origin that were found on the wreck of the *Whydah*, a pirate ship that sank off Cape Cod, Massachusetts, in 1716.

**Eiwanger, Josef**

2004 Unter den Säulen des Herakles. *Antike Welt* 2004/05:77-85.

Excavations, various periods, in the Ref region of Morocco. See p. 80, fig. 5, for ostrich eggshell disc beads of the 7th century BC.

**Eluyemi, Omotoso**

1986 Technology of Ife Glass Beads: Excavations at Igbo-Olokun, Ile-Ife, Nigeria. In *The Social and Economic Contexts of Technological Change: The World Archaeological Congress, September 1-7, 1986*. Allen and Unwin, London.

1987 The Technology of the Ife Glass Beads: Evidence from the Igbo-Olokun. *Odu* 32:200-216. Provides a partial inventory of the Olokun beads and discusses their composition and dating. The contemporary fabrication of drawn and rolled beads in Ile-Ife, Nigeria, which uses crushed glass, is also discussed.

**Euba, O.**

1987 Of Blue Beads and Red: The Role of Ife in West African Trade in Kori Beads. *Journal of the Historical Society of Nigeria* 2(1-2):109-115.

Attempts to throw more light on the Ife connection in the *kori* (also known as *akori* and *aggrey*) trade by examining the origin, uses, manufacture, and trading of Yoruba sacred beads, thereby showing that the name *kori* almost certainly referred to particular varieties of glass beads made in Ife, Nigeria.

**Falabella, Rosanna**

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

This article delves into the early industrial history of phenol-formaldehyde thermosetting resins and their use in the production of imitation amber beads with emphasis on those traded into Africa.

**Farcy, Henri**

1985 Notes sur l'histoire des perles de traite en verre dans la région de Zanzibar et en Afrique centrale du milieu du XIX siècle à 1925. In *Annales du 10<sup>e</sup> congrès de l'Association internationale pour l'histoire du verre, Madrid-Segovia 1985*, pp. 549-562. Amsterdam.

A general discussion of glass trade beads in Zanzibar and central Africa from around 1850 to 1925.

**Faria, Rina**

2015 The Glass Bead Sequences at Mapela Hill, Zimbabwe: A Preliminary Report. *The Bead Forum* 67:6.

From preliminary analyses, it has been established that the earliest bead series belongs to the Leopard's Kopje Phases I and II (1000-1200), followed by the Mapungubwe series (1240-1300).

n.d. The Glass Beads from Maleoskop, the 19th-Century Capital of the Bakopa in the Groblersdal Area, Limpopo Province. B.A. honors thesis. Department of Archaeology, University of Cape Town.

Presents an analysis of the wound and drawn glass beads recovered from a site in South Africa, including comparisons with the beads from nearby contemporary sites.

**Fernandez, V.M.**

1982 El cementerio Kerma de Abri-Amir 'Abdallah (provincia del Norte): excavaciones de la Misión Arqueológica Española en el Sudán. *Trabajos de Prehistoria* 39:280-334.

Beads from a ca. 18th-century-BC cemetery in Nubian Sudan (pp. 296, 313-315, 320, fig. 13). Summary in English.

**Flexner, J.L., J.B. Fleisher, and A. LaViolette**

2008 Bead Grinders and Early Swahili Household Economy: Analysis of an Assemblage from Tumbe, Pemba Island, Tanzania, 7th-10th Centuries AD. *Journal of African Archaeology* 6(2):161-181.

Discarded potsherds or stone cobbles with long grooves abraded into their surfaces are some of the most common artifacts on late 1st-millennium AD coastal sites and are believed to have been utilized to form shell beads. Examination of a large assemblage of grinders from Tumbe suggests that production was unstandardized and decentralized, carried on in individual households.

**Francis, Peter, Jr.**

1991 Review of *Russian Blues, Faceted and Fancy Beads from the West African Trade* (1989) and *Millefiori Beads from the West African Trade* (1991), by John Picard and Ruth Picard. *Beads: Journal of the Society of Bead Researchers* 3:89-91.

1993 Markets and the Alteration of Beads in West Africa. *Ornament* 16(3):96f., 100f.

Principally about the Ghanaian bead market in Accra run by and for women. Beads are ground to make them fit together more snugly or "cooked" to make them opaque.

1993 *Where Beads are Loved (Ghana, West Africa)*. Center for Bead Research, Beads and People Series 2. Lake Placid, NY.

Study of the origin, trade, and use of beads in Ghana, especially glass, with sections on powder-glass beadmaking and examinations of famous beads including the *Aggrey* and *Bodom*; 4 pages of color plates. See DeCorse (1993) for a review.

**Freeman, A.**

2009 Bead-Decorated Glass Armlets of Bontuku, West Africa. *Beads: Journal of the Society of Bead Researchers* 21:46-47. Reprinted from *The Bead Forum* 14:12-14 (1989).

Describes the equipment and procedures necessary for the manufacture of bead-decorated glass armlets in Ghana in the late 19th century (extracted from *Travels and Life in Ashanti and Jaman*, 1898).

**Gauthier, Yves**

2004 Oeuf d'autruche et datation de la forteresse de Gala Abu Ahmed. *Sahara: Prehistory and History of the Sahara* 15:157.

Reports on ostrich eggshell beads from an ancient fortress in northern Sudan which dates to the Napatan phase (ca. 750-350 BC) of the Kingdom of Kush.

**Geus, Francis**

1984 *Rescuing Sudan Ancient Cultures: A Co-operation between France and the Sudan in the Field of Archaeology*. French Unit of the Directorate General of Antiquities, Khartoum.

Wide-ranging illustrated account of French field work in the Sudan. Beads mentioned *passim*, Neolithic to Meroitic.

**Gijanto, Liza**

2011 Personal Adornment and Expressions of Status: Beads and the Gambia River's Atlantic Trade. *International Journal of Historical Archaeology* 15(4):637-668.

At Juffure on the Gambia River, West Africa, bead attributes such as shape, color, and size inform the analyst of how change in the demand for and availability of beads was tied to changing local notions of taste and value.

**Glover, L.L.**

1991 *Beads and their Range of Craft on the East African Coast: An Over View*. Department of Coastal Archaeology, Mombasa.

**Gokee, Cameron D.**

2012 Daily Life in the Land of Bambuk: An Archaeological Study of Political Economy at Diouboye, Senegal. Ph.D. dissertation. University of Michigan, Ann Arbor.

Excavations in the region have uncovered Iron Age stone, shell, bone, and terra cotta beads, as well as a variety of glass beads dating from the 18th to the late 19th centuries. Beads are mentioned throughout the report but the principal analysis occurs in Appendix G.

**González Rodríguez, Mireya**

2015 Death is Another Country: Mortuary Rituals and Identity in Fazzan, Libya. Ph.D. dissertation. School of Archaeology and Ancient History, University of Leicester.

While detailed descriptions are lacking, basic information regarding the beads recovered from several Garamantian (ca. 500 BC-ca. AD 500) cemeteries in southwestern Libya is provided along with a few tantalizing images. Some of the beads comprised necklaces and belts.

**Gott, Suzanne**

2003 Golden Emblems of Maternal Benevolence: Transformation of Form and Meaning in Akan Regalia. *African Arts* 36(1):66-81,93-96.

The emblems are pectoral gold ornaments, of paired discs in the form of stylized breasts, hanging from a massive chain of gold ornaments, and Venetian and *bodom* beads. They are rare in museum collections, and were in use from the 17th century, worn by women in the royal court or royal family. Ghana, Ivory Coast.

2014 Ghana's Glass Beadmaking Arts in Transcultural Dialogues. *African Arts* 47(1):10-29.

Discusses the various beadmaking traditions in modern Ghana.

**Graham, Lloyd D.**

2011 Symbolism and Significance of Bronze Rhomboid Beads/Pendants from Jenné and the Inland Niger Delta, Mali. <https://www.academia.edu/457468/>, accessed 19 Sept. 2018.

Presents a detailed discussion of a set of hollow bronze rhomboid objects that are likely fertility amulets generally attributable to the 17th-18th centuries.

**Gratien, Brigitte**

1986 *Saï I: la nécropole Kerma. Mission arch. franç. au Soudan*. CNRS, Paris.

Strategically important site on a Nile island in the Sudan with beads of various materials and periods (pp. 367-376); analysis by x-ray diffraction (pp. 452-455).

**Gronenborn, Detlef**

2009 Beads and the Emergence of the Islamic Slave Trade in the Southern Chad Basin (Nigeria).

*Beads: Journal of the Society of Bead Researchers* 21:47-51. Reprinted from *The Bead Forum* 38:4-11 (2001).

Attempts to discern the source of the 14th-16th-centuries carnelian and glass beads found at the site.

**Guerrero, Saul**

2010 Venetian Glass Beads and the Slave Trade from Liverpool, 1750-1800. *Beads: Journal of the Society of Bead Researchers* 22:52-70.

The competition within the slave trade during the 18th century forced slave traders to search for an assortment of barter cargo that would attract the preferential attention of the African suppliers of slaves. An enterprising group of Liverpool slave traders that formed William Davenport & Co. rose to the occasion and in three years became the supplier of half of all the glass beads re-exported to Africa from England.

**Gupta, Sunil**

2011 Review of *Interconnections: Glass Beads and Trade in Southern and Eastern Africa and the Indian Ocean 7th to 16th Centuries AD*, by Marilee Wood (2011). *Journal of Indian Ocean Archaeology* 7:122-125.

**Gurstelle, Andrew W.**

2015 The House of Oduduwa: An Archaeological Study of Economy and Kingship in the Savè Hills of West Africa. Ph.D. dissertation. Department of Anthropology, University of Michigan, Ann Arbor.

An archaeological survey of sites within the Shabe kingdom of the Republic of Bénin recovered relatively few beads. These are composed of coarse earthenware, stone, shell, ivory, and glass.

**Gutherz, Xavier, Josephine Lesur, Jessie Cauliez, Vincent Charpentier, Amélie Diaz, Mohamed Omar Ismaël, Jean-Michel Pène, Dominique Sordoillet, and Antoine Zazzo**

2015 New Insights on the First Neolithic Societies in the Horn of Africa: The Site of Wakrita, Djibouti. *Journal of Field Archaeology* 40(1):55-68.

Numerous ornaments were surface-collected at the site including ostrich eggshell beads at different stages of production as well as shells from the Red Sea and the Indian Ocean with perforations that suggest use as pendants or beads.

**Gutierrez, Manuel**

1999 *Archéologie et anthropologie de la nécropole de Kapanda (Angola)*. L'Harmattan, Paris.

The excavation of the necropolis of Kapanda in Angola produced cowries and glass beads (including ground chevrons).

2001 Découverte d'un rite funéraire inconnu – La Sépulture de Caotinha. *Revista Arqueologia* 377:46-50.

Glass beads recovered from a grave in Caotinha, near the village of Caota, south of Benguela, Angola, produced examples of “Nueva Cadiz” glass beads.

### **Haigh, John**

2003 Present-Day Bead-Making in Ghana. In *Ornaments from the Past: Bead Studies After Beck*, edited by I. Glover, H. Hughes-Brock, and J. Henderson, pp. 115-117. The Bead Study Trust, London.

Presents a concise description of the production of powdered-glass beads in a number of villages to the northwest of Kumasi in south-central Ghana. The beadmakers are semi-independent craftsmen whose principal occupation is farming.

2010 Bauxite Mining and Bead Production in Ghana. *Beads: Journal of the Society of Bead Researchers* 22:3-12.

Abompe is the current bauxite beadmaking site in Ghana and the hills above the village are pocked with thousands of pits dug in search of the raw material. Pit counts by transect at Odumparara Bepo, the Abompe mining area, suggest the presence of possibly as many as 4,700 pits. These appear to have been created in the past 100 years.

### **Hamela, Ato Hansemo**

2009 Review of *African Beads: Jewels of a Continent*, by Evelyn Simak and Carl Dreibelbis (2010). *Beads: Journal of the Society of Bead Researchers* 21:131.

### **Hansen, Ine Askevold**

2011 The Role of Ochre in the Middle Stone Age. M.A. thesis. Department of Archaeology, Conservation and History, University of Oslo.

Investigates whether the use of ochre is ritual or utilitarian or both in MSA African contexts. Beads colored with ochre, primarily from South African sites, enter into the equation.

### **Harlow, M.**

2000 Glass and Beads. In *Archeology at Aksum, Ethiopia, 1993-7*, edited by David W. Phillipson, pp. 458-460. *Memoirs of the British Institute in Eastern Africa* 17.

### **Harter, Pierre**

1992 The Beads of Cameroon. *Beads: Journal of the Society of Bead Researchers* 4:5-20.

Reviews the various kinds of glass beads widely used in west-central Cameroon. Includes many examples of beadwork as well as beads.

### **Heath, Barbara J.**

2017 Commoditization, Consumption, and Interpretive Complexity: The Contingent Role of Cowries in the Early Modern World. In *Material Worlds: Archaeology, Consumption, and the Road to Modernity*, edited by Barbara J. Heath, Eleanor E. Breen, and Lori A. Lee. *Routledge Studies in Archaeology*.



Explores the intersection of global systems of circulation with local consumer practices through the examination of cowries using three case studies in West Africa and North America.

**Helm, Richard, Alison Crowther, Ceri Shipton, Amini Tengeza, Dorian Fuller, and Nicole Boivin**

2012 Exploring Agriculture, Interaction and Trade on the Eastern African Littoral: Preliminary Results from Kenya. *Azania: Archaeological Research in Africa* 47(1):39-63.

Three Later Stone Age and Early-Middle Iron Age sites produced a number of shell, bone, and limestone beads, as well as several glass beads of a later period.

**Henshilwood, Christopher S.**

2007 Fully Symbolic *Sapiens* Behaviour: Innovation in the Middle Stone Age at Blombos Cave, South Africa. In *Rethinking the Human Revolution: New Behavioural and Biological Perspectives on the Origins and Dispersal of Modern Humans*, edited by C. Stringer and P. Mellars, pp. 123-132. MacDonald Institute Research Monographs.

Wearing personal ornaments such as beads implies a comprehension of self-awareness or self recognition, an important factor in cognitive evolution and that may have been selected for long before the introduction of beads.

2009 The Origins of Symbolism, Spirituality & Shamans: Exploring Middle Stone Age Material Culture in South Africa. In *Becoming Human: Innovation in Prehistoric Material and Spiritual Cultures*, edited by C. Renfrew and I. Morley, pp. 29-49. Cambridge University Press.

The presence of marine-shell beads at Blombos Cave, South Africa, provides material evidence that by 75,000 BP human communication was mediated by symbolism, an unambiguous marker of modern human behavior.

**Henshilwood, Christopher, Francesco d'Errico, Marian Vanhaeren, Karen van Niekerk, and Zenobia Jacobs**

2004 Middle Stone Age Shell Beads from South Africa. *Science* 304(5669):404.

Discusses and illustrates 41 tick shell beads from Blombos Cave in South Africa. Their stratigraphic context indicates they are 75,000 years old.

**Henshilwood, Christopher S. and Benoît Dubreuil**

2011 The Still Bay and Howiesons Poort, 77-59 ka: Symbolic Material Culture and the Evolution of the Mind During the African Middle Stone Age. *Current Anthropology* 52(3):361-400.

Based on finds in South Africa, the authors argue that the use of beads and body painting implies the presence of properties typical of modern cognition: high-level theory of mind and awareness of abstract social standards.

**Henshilwood, Christopher S. and Marlize Lombard**

2013 Becoming Human: Archaeology of the Sub-Saharan Middle Stone Age. In *The Cambridge World Prehistory, Vol. 1*, edited by C. Renfrew and P. Bahn, pp. 106-130. Cambridge University Press, Cambridge.

Provides a summary of marine-shell and ostrich-eggshell beads recovered from early Sub-Saharan sites.

**Holden, Constance**

2004 Oldest Beads Suggest Early Symbolic Behavior. *Science* 304(5669):369.

Discusses and illustrates the shell beads reported by Henshilwood et al. (2004), and also illustrates an ostrich eggshell bead (one of two) from Serengeti National Park in Tanzania. The Tanzanian beads have not yet been firmly dated, but could be as much as 110,000 years old.

**Holl, A.**

1995 Réseaux d'Echanges Préhistoriques dans la Plaine Tchadienne. *Sahara* 7:17-28.

Discusses the production of and trade in carnelian beads in Chad.

**Holloway, Joyce**

2017 Review of *Wild Beads of Africa*, by Billy Steinberg and Jamey Allen (2017). *Beads: Journal of the Society of Bead Researchers* 29:87-88.

**Hopwood, Lisa E.**

2009 Glass Trade Beads from an Elmina Shipwreck. M.A. thesis. University of West Florida, Pensacola.

Presents a detailed account of the glass beads found on a shipwreck off the coast of Ghana. The bead assemblage consists mainly of monochrome seed beads. Several analytical approaches helped uncover data about these beads including a descriptive database, comparative and ethnohistorical research, and analysis of spatial patterns and anomalies in the wreck site. Initially attributed to the 19th-century, it now appears that the wreck dates to the mid-17th century (Cook 2012).

**Horton, Mark**

1996 *Shanga: The Archaeology of a Muslim Trading Community on the Coast of East Africa*. Memoirs of the British Institute in Eastern Africa 14.

Contains a section on Beads and Bead-Making. Dating primarily to the 12th-13th centuries, the beads are of various materials, but especially shell, glass, and stone. Kenya.

**Hurst, H.R. and S.P. Roskams**

1984 *Excavations at Carthage: The British Mission*. Vol. I, Part 1. British Academy/Department of Prehistory and Archaeology, University of Sheffield.

Beads of coral, bronze, bone, and glass were found in excavations at Carthage, Tunisia, North Africa.

**Huysecom, E., B. Chevrier, A. Mayor, T. Pelmoine, N. Cantin, L. Chaix, A. Leplongeon, L. Lespez, S. Loukou, M. Rasse, M. Truffa-Giachet, H. Bocoum, A. Camara, I. Hajdas, B. Lebrun, and Chantal Tribolo**

2016 Transitions et continuités dans la vallée de la Falémé (Sénégal): résultats de la 18ème année de recherche du programme international «Peuplement humain et paléoenvironnement en Afrique». In *Swiss-Liechtenstein Foundation for Archaeological Research Abroad, Annual Report 2015*, edited by Daniel Schneider, pp. 103-160.

Stone and glass beads were recovered from a number of sites in the Falémé Valley of Senegal.

**Ige, O. Akin**

2010 Classification and Preservation of Ancient Glass Beads from Ile-Ife, Southwestern Nigeria. In *Glass and Ceramics Conservation 2010: Interim Meeting of the ICOM-CC Working Group October 3-6, 2010, Corning, New York*, Hannelore Roemich, editorial coordinator, pp. 63-74. ICOM Committee for Conservation in association with The Corning Museum of Glass.

Several types of glass beads are identified and characterized according to their unique production processes, chemical composition, and cultural uses. A preservation method adapted from ancient practices is being developed to prevent the deterioration of the beads.

**Insoll, Timothy**

1993 Looting the Antiquities of Mali: The Story Continues at Gao. *Antiquity* 67:628-632.

Describes the destruction of archaeological sites near Gao for the antiquities market by looters.

1996 *Islam, Archaeology and History: The Gao Region (Mali) ca. AD 900-1250*. Cambridge Monographs in African Archaeology 39. British Archaeological Reports, International Series 647.

Deals with the bead finds in the region of ancient Gao (pp. 67-69, 81-82, 104-105).

2001 Dahlak Kebir, Eritrea: From Aksumite to Ottoman. *Adamatu* 3:39-50.

Reports surface evidence for the medieval or later manufacture of glass and carnelian beads at this important trading station on the Red Sea (pp. 46-47).

2003 *The Archaeology of Islam in Sub-Saharan Africa*. Cambridge University Press, Cambridge.

Discusses carnelian and glass beads in the western Sahel.

2013 Lithic and Other Non-Metal Small Finds. In *Temporalising Anthropology: Archaeology in the Talensi Tong Hills, Northern Ghana*, edited by Timothy Insoll, Rachel MacLean, and Benjamin Kankpeyeng, pp. 149-170. *Journal of African Archaeology Monograph Series* 10.

Includes a discussion of the recovered beads and cowrie shells.

2015 *Material Explorations in African Archaeology*. Oxford University Press, Oxford.

Section 2.3.3 discusses the use of beads and cowries to decorate and transform the body in Africa.

**Insoll, Timothy, David A. Polya, Kuldeep Bhan, Duncan Irving, and Kym Jarvis**

2004 Towards an Understanding of the Carnelian Bead Trade from Western India to Sub-Saharan Africa: The Application of UV-LA-ICP-MS to Carnelian from Gujarat, India, and West Africa. *Journal of Archaeological Science* 31:1161-1173.

Outlines the results of chemical analysis and subsequent principal component analysis undertaken in an attempt to differentiate Gujarati and West African carnelian samples, and thus begins to allow inferences to be made regarding a possible trade in carnelian between these two regions primarily in the medieval period, based upon more objective data.

**Insoll, Timothy and Thurstan Shaw**

1997 Gao and Igbo-Ukwu: Beads, Interregional Trade, and Beyond. *African Archaeological Review* 14(1):9-23.

Excavations at Gao in eastern Mali have uncovered a sizable assemblage of imported and locally produced beads which are similar in many ways to the beads excavated at the site of Igbo-Ukwu in Nigeria. The similarities between the two assemblages suggest interregional trade along the River Niger. As the likely source of many of the beads is Fustat in Egypt, Gao may well have been the middleman between Igbo-Ukwu and Fustat.

**Jacobson, L.**

1987 The Size Variability of Ostrich Eggshell Beads from Central Namibia and its Relevance as a Stylistic and Temporal Marker. *The South African Archaeological Bulletin* 42(145):55-58.

The size distributions of ostrich eggshell beads from a number of central Namibian assemblages fall into three types characterized by the presence or absence of beads larger than 7.5 mm in maximum diameter and by the shape of the distribution.

1987 More on Ostrich Eggshell Bead Size Variability: The Geduld Early Herder Assemblage. *The South African Archaeological Bulletin* 42(146):174-175.

A follow-up to the previous article which provides additional information on the eggshell beads from Geduld, an early herder site. The lower herder component, defined on the basis of pottery, dung horizons, and dates, stretches in time from just before 1980 BP to just after 1790 BP. It should be noted here that further work may revise these dates and descriptions somewhat, but not to any material extent.

**Jerardino, Antonieta**

1995 The Problem with Density Values in Archaeological Analysis: A Case Study from Tortoise Cave, Western Cape, South Africa. *South African Archaeological Bulletin* 50:21-27.

It is suggested that, when evaluated interactively, three parameters (area of settlement, rates of accumulation of unfinished ostrich eggshell beads and finished beads and pendants, as well as rates of accumulation of domestic debris) can provide useful insights as to how densities were generated in archaeological contexts.

**Juma, Abdurahman**

2004 *Unguja Ukuu on Zanzibar: An Archaeological Study of Early Urbanism*. Uppsala University, Department of Archaeology and Ancient History, Studies in Global Archaeology 3.

Excavations at a farming community on Zanzibar, Tanzania, uncovered beads of shell, copper, and glass. These are attributed to the 6th-11th centuries.

**Kabiru, Angela W.**

2016 Beauty and the Bead: Ostrich Eggshell Beads through Prehistory. *Kenya Past and Present* 43:17-24.

An overview of the subject from the prehistoric period to the present day.

**Karklins, Karlis**

1992 Identifying Beads Used in the 19th-Century Central East Africa Trade. *Beads: Journal of the Society of Bead Researchers* 4:49-59.

On the local names and types of beads which poured into Africa, their many regional variants, and the historical documentation about them.

2002 The Giacomuzzi Bead Sample Book and Folders. *Beads: Journal of the Society of Bead Researchers* 14:31-63.

Presents detailed descriptions of the beads, all of wound construction and mostly fancy varieties, made by the acclaimed Venetian firm operated by the Giacomuzzi brothers during the 3rd quarter of the 19th century. Many of the beads were traded into Africa.

2004 The Levin Catalogue of Mid-19th-Century Beads. *Beads: Journal of the Society of Bead Researchers* 16:39-50.

The Levin Catalogue is composed of two similar collections of glass and stone beads assembled by Moses Lewin Levin, a London bead merchant whose business operated from 1830 to 1913. A total of 621 beads of 128 different varieties makes up the collections which can be dated to the period 1851-1869. The beads are recorded as having been used in the African trade.

2007 Eighteenth-Century Glass Beads from the English Slaving Fort at Bunce Island, Sierra Leone. *Beads: Journal of the Society of Bead Researchers* 19:17-31.

While countless tons of European glass beads flowed into West Africa over the centuries, there is still relatively little information concerning what specific nations were importing over time. This situation is somewhat alleviated by two collections of beads surface collected at the site of a British fort of coastal Sierra Leone. Although it is impossible to assign the beads to a specific period in the fort's history, it is clear that they are of 18th-century origin and were part of the goods traded by the British.

#### **Karklins, Karlis and Bernard Clist**

2018 Les perles importées et locales. In *Une archéologie des provinces septentrionales du royaume Kongo*, edited by Bernard Clist, Pierre de Maret, and Koen Bostoen, pp. 337-348. Archeopress, Summertown, Oxford, UK.

Discusses the beads recovered from 21 sites in the Democratic Republic of Congo. Materials include glass, ceramic (Prosser molded), metal, stone, organic materials, and plastic. Contexts range from the 17th to the early 20th century.

#### **Karklins, Karlis and Carmel Schrire**

1991 The Beads from Oudespost I, A Dutch East India Company Outpost, Cape, South Africa. *Beads: Journal of the Society of Bead Researchers* 3:61-72.

The site of a provisioning station operated by the Dutch East India Company near the Cape of Good Hope during the late 17th and early 18th centuries produced a variety of European beads of several materials. A "typical" Dutch bead assemblage of the period, it is significant because it comes from one of very few independently dated bead-producing sites in southern Africa.

#### **Katsamudanga, Seke**

2007 Environment and Culture: A Study of Prehistoric Settlement Patterns in the Eastern Highlands of Zimbabwe. Ph.D. thesis. Faculty of Arts, University of Zimbabwe.

Several sites produced beads: Gwenji II Hill site (a shell bead and an ostrich eggshell bead), Manjowe Rock Shelter (a blue glass bead); and Murahwa Hill (beads of glass, shell, copper, and brass, as well as cowrie shells). The material ranges from the Stone Age to the 16th-17th centuries for the glass beads.

#### **Kelly, Kenneth G.**

2001 Change and Continuity in Coastal Benin. In *West Africa During the Atlantic Slave Trade*, edited by Christopher R. DeCorse, pp. 81-?. Leicester University Press, Leicester.

Briefly describes and illustrates the beads of stone and clay recovered from Savi on the coast of Bénin.

#### **Kennedy, Carolee G.**

1991 Prestige Ornaments: The Use of Brass in the Zulu Kingdom. *African Arts* 24(3):50-55.

Describes how Zulu craftsmen made brass beads and other ornaments, and how they were used.

**Killick, David**

2009 European Trade Beads in Southern Africa. *Beads: Journal of the Society of Bead Researchers* 21:80-82. Reprinted from *The Bead Forum* 10:3-9 (1987).

A survey and discussion of work on trade beads as a means of dating archaeological sites.

**Kimura, Birgitta and Dinote Kusia Shenkere**

2009 Beads in Konso, Southern Ethiopia. In *Proceedings of the 16th International Conference of Ethiopian Studies*, edited by Svein Ege, Harald Aspen, Birhanu Teferra, and Shiferaw Bekele, pp. 369-381. Trondheim.

The use of glass trade beads as archaeological chronological markers and indicators of trade is well-known, but what they mean to their users has been less studied. This paper explores the use and meaning of beads in contemporary Konso society. In addition, it reports the analysis of an excavated bead assemblage from the Karate region of Konso (ca. 19th-20th centuries). Personal ornaments among the Konso include metal bracelets, shells, and ostrich eggshell and glass beads.

**Kinahan, Jill**

2000 *Cattle for Beads: The Archaeology of Historical Contact and Trade on the Namib Coast*. University of Uppsala, Department of Archaeology and Ancient History, Studies in African Archaeology 17.

Presents a detailed description and discussion of the very varied collection of European glass beads recovered from 19 sites of the !Khuseb Delta, Namibia. The various types are attributed to one of three periods which roughly correspond to the 18th, 19th, and 20th centuries, respectively.

**Kinahan, John**

1995 Much Ado about Herding at Geduld: A Response to Smith and Jacobson. *South African Archaeological Bulletin* 50(162):176-177.

Differences of opinion regarding the pastoral sequence at Geduld in northwestern Namibia involve size differences in the ostrich eggshell beads found there.

1996 Alternative Views on the Acquisition of Livestock by Hunter-Gatherers in Southern Africa: A Rejoinder to Smith, Yates and Jacobson. *South African Archaeological Bulletin* 51(164):106-108. Ostrich eggshell beads enter into the debate.

**Klapwijk, Menno**

1991 Minute Glass Beads from the North-Eastern Transvaal, South Africa. *South African Archaeological Bulletin* 46:34-37.

Describes the discovery of very small glass beads which have not been reported before in South Africa. There is a strong possibility that more such beads exist in archaeological sites in this country, but they have probably not been recovered because of the size of the sieves used during excavation. Archaeologists are urged to attend to this problem.

**Klehm, Carla**

2014 Trade Tales and Tiny Trails: Glass Beads in the Kalahari Desert. *The Appendix* 2(1). <http://theappendix.net/issues/2014/1/trade-ales-and-tiny-trails-glass-beads-in-the-kalahari-desert>, accessed 15 January 2014.

Discusses and illustrates the glass beads found at Khubu la Dintša in Botswana. The site is attributed to the period AD 1220-1420.

**Klenkler, C.E.**

1986 *Sahara: Objets Préhistoriques*. Dodo Publications, Geneva.  
Prehistoric beads, pendants, etc. (pp. 120-125).

**Kobusiewicz, Michał, Jacek Kabaciński, Romuald Schild, Joel D. Irish, and Fred Wendorf**

2009 Burial Practices of the Final Neolithic Pastoralists at Gebel Ramlah, Western Desert of Egypt.  
*British Museum Studies in Ancient Egypt and Sudan* 13:147-174.

The site yielded abundant beads and pendants of carnelian, agate, chalcedony, diorite, gneiss, limestone, hematite, ostrich eggshell, petrified wood, burnt clay, shells of *Nerita* species, Nile bivalves, animal teeth, and bird bones.

**Koleini, Farahnaz, Innocent Pikirayi, and Philippe Colomban**

2016 Raman (RS) and XRF Classification of Glass Trade Beads from Baranda (16-17th c. AD), Northern Zimbabwe. <https://www.academia.edu/26869716/>, accessed 8 August 2016.

A multi-analytical study of the beads reveals information about their composition, origin, and distribution.

**Koleini, Farahnaz, Linda C. Prinsloo, Wim M. Biemond, Philippe Colomban, Anh-Tu Ngo, Jan C.A. Boeyens, and Maria M. van der Ryst**

2015 Towards Refining the Classification of Glass Trade Beads Imported into Southern Africa from the 8th to the 16th Century AD. *Journal of Cultural Heritage* 16(2):159-172.

Glass trade beads excavated at 11 sites along the upper reaches of the Limpopo River in Botswana are visually classified according to their morphological properties (color, size, etc.) and analyzed with Raman spectroscopy and portable X-ray fluorescence (XRF). Energy Dispersive Spectroscopy (EDS) of one bead shows that two types of glass were sintered together to form a recycled product.

**Kołosowska, Elżbieta and Mahmoud El-Tayeb**

2007 Excavations at the Kassinger Bahri Cemetery Sites HP45 and HP47. *Gdańsk Archaeological Museum African Reports* 5:9-36.

The male individual in Grave HP45/1 at a Post-Meroitic cemetery in Sudan was accompanied by a diadem and necklace of faience beads. Similar items were found in Grave 47/3.

**Kumekpor, M.L., Y. Bredwa-Mensah, and J.E.J.M. van Landewijk**

1995 *The Ghanaian Bead Tradition: Materials, Traditional Techniques, Archaeological and Historical Chronology, Bead Usage, Traditional-Sociological Meaning*. Ghana Bead Society, Special Paper 1.

An overview of beads in Ghana. See Carey (1996-1997) for a review.

**Lahitte, Miriam**

2013 Gala Abu Ahmed, Perlen und Fragmente aus Straußeneischale. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 24:75-104.

On ostrich eggshell beads from a fortress ruin in northern Sudan dating ca. 750-350 BC.

**Liu, Robert K.**

2015 Nubian Mosaic Face Beads: The Enigma of Variations. *Ornament* 37(4):40-45.

Not only discusses the iconography of the Nubian specimens uncovered at Kusk (Meroë) in Sudan, but also Roman face beads in general.

**Liu, Robert K., Peter M. Ahn, and Dudley Giberson**

2001 Bodom and Related Beads: Investigating African Powder-Glass Technology. *Ornament* 25(2):28-33.

Explores the history and much-debated technology of making these rare and controversial beads.

**Liu, Robert K., Sage Holland, and Tom Holland**

2017 Ancient Nubian Face Beads: The Problem with Suppositions. *Ornament* 40(2):34-39.

The study of several face beads from a site in Nubia presents a compelling case for the supposition that all forms of facial images for early face beads were derived from a Gorgon cane, adapted by beadmakers into Medusa and numerous other variations.

**Lizé, Patrick**

1984 Wreck of the Pirate Ship Speaker on Mauritius. *International Journal of Nautical Archaeology and Underwater Exploration* 13:121-132.

A cache of garnet, agate, and glass beads was found on the wreck of a ship which sank in 1702.

**Lohwasser, Angelika**

2004 Die Kleinfunde aus Gala Abu Ahmed im Unteren Wadi Howar. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 15:143-167.

This site in northern Sudan yielded a wide variety of faience beads as well as those of stone and metal. Napatan Period.

2008 *Fragmente der napatanschen Gesellschaft. Archäologisches Inventar und funeräre Praxis im Friedhof von Sanam – Perspektiven einer kulturhistorischen Interpretation.* Band II. Schriftliche Habilitationsleistung im Fach Ägyptologie, Berlin.

A variety of beads, pendants, and amulets were recovered from the cemetery at Sanam in northern Sudan. It dates to the 8th-7th centuries BC.

2012 *Aspekte der napatanschen Gesellschaft.* Österreichische Akademie der Wissenschaften Denkschriften der Gesamtakademie LXVII.

Located in northern Sudan, the cemetery of Sanam, which dates to the 8th-7th centuries BC, yielded a variety of beads, pendants, and amulets.

**Longa, Anna**

2011 Beads and Warriors. The Cemetery at Hagar el-Beida 2 (Sudan). *Polish Archaeology in the Mediterranean, Research 2008* 20:499-508.

In a complex of tumuli cemeteries dating to the first centuries AD in the region of the Fourth Nile Cataract, the bodies of the deceased were richly equipped with bracelets and finger rings, but primarily strings of beads wound around the necks and hips. The beads were made of a variety of materials: faience, various stones, glass, and ostrich eggshell.



**Machiridza, Lesley H.**

2012 Material Culture and Dialectics of Identity and Power: Towards a Historical Archaeology of the Rozvi in South-Western Zimbabwe. M.A. thesis. Department of Anthropology and Archaeology, University of Pretoria.

Presents an analysis of the glass (drawn and wound), metal (copper and bronze), and shell beads.

**Magnavita, Sonja**

2003 The Beads of Kissi, Burkina Faso. *Journal of African Archaeology* 1(1):127-138.

Archaeological investigations on settlements and graveyards near the Mare de Kissi reveal human occupation at that location from at least the 4th century BC up to the 12th-13th centuries AD. About 5,000 beads of stone (mostly quartz), metal (mainly iron), and glass were recovered. The latter may have come from Byzantine North Africa.

2009 Sahelian Crossroads: Some Aspects on the Iron Age Sites of Kissi, Burkina Faso. In *Crossroads/Carrefour Sahel: Cultural and Technological Developments in First Millennium BC/AD West Africa*, edited by Sonja Magnavita, Lassina Koté, Peter Breunig, and Oumarou A. Idé, pp. 79-104. *Journal of African Archaeology Monograph Series* 2.

Discusses the recovered beads of glass, stone, and baked clay, as well as cowries, dating to the 1st and early 2nd millennia AD. The chemical composition of the glass beads is also provided.

**Malafouris, Lambros**

2008 Beads for a Plastic Mind: The 'Blind Man's Stick' (BMS) Hypothesis and the Active Nature of Material Culture. *Cambridge Archaeological Journal* 18(3):401-414.

Uses the example of the Blombos shell beads found in South Africa in order to explore the role of early body decoration in the emergence of human self awareness.

**Manzo, Andrea**

2005 Aksumite Trade and the Red Sea Exchange Network: A View from Bieta Giyorgis (Aksum). In *People of the Red Sea: Proceedings of Red Sea Project II*, edited by J.C.M. Starkey, pp. 51-66. *British Archaeological Reports, International Series* 1395.

Two mosaic glass beads, most likely made in Egypt and datable to Late Hellenistic-early Roman times, were found in a Proto-Aksumite nobleman's tomb in Ethiopia (p. 54, figs. 7-8). One is a face bead.

2012 *Italian Archaeological Expedition to the Eastern Sudan of the University of Naples "L'Orientale" – Report of the 2011 Field Season*. Università degli studi di Napoli "L'Orientale," Naples.

Site UA53 produced a single ostrich eggshell bead (p. 91) and several "cowrie-lip beads" (p. 95-96). These may date to the 2nd to early 1st millennia BC.

**Marek, Tonia**

2015 The Bead that Gives Its Power to Priests in Dogon Country. *The Bead Forum* 67:1-2, 4-5. The Dogon of Mali attribute power to a certain stone bead they call *magarra*.

**Marshall, L. Wilson**

2009 Fugitive Slave Communities in 19th Century Kenya: A Preliminary Report on Recent Archaeological and Historical Research. *Nyame Akuma* 72:21-29.

Beads of glass, shell, and copper alloy were recovered from communities established by people escaping slavery in 19th-century Kenya.

2012 Typological and Interpretive Analysis of a 19th-Century Bead Cache in Coastal Kenya. *Journal of African Archaeology* 10(2):189-205.

Provides an analysis of 3,968 beads unearthed at Amwathoya, a late 19th-century Giriama homestead site. The typological analysis draws on both historical bead names from 19th-century Eastern Africa and broader classificatory schemes developed by archaeologists elsewhere in the world.

2018 Consumer Choice and Beads in Fugitive Slave Villages in Nineteenth-Century Kenya. *International Journal of Historical Archaeology*; DOI: 10.1007/s10761-018-0457-2.

The inter-household distribution of European glass beads in two villages reflects considerable variation in the performance of female identity, suggesting varying norms of feminine adornment.

#### **Martins Torres, Andreia**

2013 As Contas a Bordo da Fragata Sto. António de Taná (1697) Um Exemplo de Intercâmbios num Mundo Global. *História Revista* 18(2):187-216; <https://www.academia.edu/26148103/>.

Describes the beads recovered from the wreck of the frigate *Sto. António de Tana* which sank at Mombasa, Kenya, in 1697, and investigates their presence in the context of connections between India and Africa. Materials include stone, shell, jet, wood, seeds, and glass.

#### **Mattingly, David, Marta Lahr, and Andrew Wilson**

2009 DMP V: Investigations in 2009 of Cemeteries and Related Sites on the West Side of the Taqallit Promontory. *Libyan Studies* 40:95-131.

Bead materials at two monumental Garamantian cemeteries in southwestern Libya were predominantly carnelian and amazonite, glass, and ostrich eggshell. At TAG001, in two cases, two strands of beads were found twisted together and placed around the waist or hips of the body.

#### **McCall, G.S., T.P. Marks, J.T. Thomas, M. Eller, S.W. Horn, R.A. Horowitz, K. Kettler, R. Taylor-Perryman**

2011 Erb Tanks: A Middle and Later Stone Age Rockshelter in the Central Namib Desert, Western Namibia. *PaleoAnthropology* 2011:398-421.

Excavation revealed a large number of ostrich eggshell beads, as well as a few glass examples. All were found in Later Stone Age or mixed levels.

#### **McIntosh, Susan K.**

1995 *Excavations at Jenné-Jeno, Hambarketolo, and Kaniana (Inland Niger Delta, Mali), the 1981 Season*. University of California Publications in Anthropology 20. Berkeley.

Describes the recovered stone and glass beads, including the results of chemical analysis of six of the glass specimens. The beads range in age from the last two centuries BC to ca. AD 1400.

#### **Meuller, Margaret**

2017 Ethiopian Beads, Then and Now. In *Journal: Borneo International Beads Conference 2017*, edited by Heidi Munan and Anita MacGillivray. Kuching, Sarawak, Malaysia.

Offers a thorough description of historical personal ornamentation within the context of Ethiopian history. The timeline of bead trade is reviewed with reference to archaeological evidence.

**Milburn, M. and R. Schneider**

1985 The Sahara Salt and Beads Trade Prior to 1875: Some Queries. In *Actes du IVème Colloque Euro-Africain sur l'histoire du Sahara et des relations transsahariennes entre le Maghreb et l'ouest Africain du moyen-âge a la fin de l'époque Coloniale, Erfoud (Maroc) 20-25 octobre 1985*. Institut International d'Anthropologie, Paris.

Although there are many references to beads in literature on the trans-Saharan trade (several of which the authors cite) very little is actually known about the beads, their place of manufacture, sources of material, or their age.

**Miller, D.E. and J. Kinahan**

1992-1993 The Metallurgical Analysis of Copper Beads and Ore from Archaeological Sites in Central Namibia. *Communications of the Geological Survey of Namibia* 8:73-86.

Several beads from three site areas in Namibia were subjected to metallographic and chemical analysis. All appear to date to the 18th century.

**Miller, Jennifer M.**

2012 The Ostrich Eggshell Beads of Mlambalasi Rockshelter, Southern Tanzania. M.A. thesis. Department of Anthropology, University of Alberta, Edmonton.

As in southern Africa, there appears to be a steady change in external bead diameter over time in East Africa as well, and extends well into the Later Stone Age.

**Miller, Jennifer M., Elizabeth A. Sawchuk, Amy L.R. Reedman, and Pamela R. Willoughby**

2018 Land Snail Shell Beads in the Sub-Saharan Archaeological Record: When, Where, and Why? *African Archaeological Review* 35(3):347-378; <https://doi.org/10.1007/s10437-018-9305-3>.

Collates data on land-snail shell beads found at over 80 archaeological sites in at least eight African countries, spanning the early Holocene to recent past. As LSS beads are often lumped with ostrich eggshell beads, the authors illustrate methods for identifying this raw material.

**Miller, Jennifer M. and Pamela Rae Willoughby**

2014 Radiometrically Dated Ostrich Eggshell Beads from the Middle and Later Stone Age of Magubike Rockshelter, Southern Tanzania. *Journal of Human Evolution* 74:118-122.

Three of the samples date to the MSA, and represent the earliest directly radiocarbon dated OES beads currently known. This new data demonstrates that the tradition of OES beadmaking is not unique to the LSA, but began sometime during the terminal stages of the MSA.

**Mitchell, P.J.**

1996 Prehistoric Exchange and Interaction in Southeastern Southern Africa: Marine Shells and Ostrich Eggshell. *African Archaeological Review* 13(1):35-76.

Discusses the trade of shells and ostrich eggshell including beads made from them and infers regional zones of social interaction.

**Mukhwana, Kufwafwa**

1992 An Attribute Analysis of Archaeological Beads from Shanga, Northern Kenya Coast. M.A. thesis. Department of History, University of Nairobi.

Glass, semi-precious stones, metal, ivory, teeth, bone, shell, coral, and terra cotta comprise the raw material of the recovered beads. The stratigraphic sequence seems to extend from ca. AD 950 to 1400.

**Munro-Hay, S.**

1989 *Excavations at Aksum*. British Institute in Eastern Africa.

Presents an account of the late Neville Chittick's work at Aksum in Ethiopia. It contains a chapter on beads by Mrs. Helen Morrison.

**Mupira, P.**

1991 A Classification of Imported Glass Beads from Some Iron Age Traditions in Zimbabwe. B.A. honors dissertation. History Department, University of Zimbabwe.

2007 Farming Communities on Murahwa's Hill, Central Eastern Highlands of Zimbabwe: ca. 500-1900 AD. *Zimbabwea* 9:63-82.

Describes the beads and cowrie shells recovered from the Murahwa Hill site. The beads were of glass, shell, copper, and brass. The material ranges from the Stone Age to the 16th-17th centuries for the glass beads.

**Näser, Claudia**

2004 The Small Finds. In *The Capital of Kush 2. Meroë Excavations 1973-1984*, edited by Peter L. Shinnie and Julie Anderson, pp. 215-350. *Meroitica* 20.

Excavations at this site in Sudan yielded a wide variety of beads, pendants, and amulets. Materials include glass, faience, carnelian, ostrich eggshell, gold, copper, and perforated cowries. Molds for the production of amulets and beads were also recovered.

2013 Die Feldkampagne der Archaeological Mission to Musawwarat im Frühjahr 2013. *Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 24:7-14.

An unusual tabular glass bead was found at a Meroitic temple complex in Sudan dating to the late 3rd or 2nd century BC. It consists of a perforated complex cane slice with a sun form in the center and encircled by a square-filled border (Figure 6). A detailed study is provided in Then-Obluska (2014).

**Nixon, Sam**

2008 The Archaeology of Early Islamic Trans-Saharan Trading Towns in West Africa: A Comparative View and Progressive Methodology from the Entrepot of Essouk-Tadmekka. Ph.D. thesis. Institute of Archaeology, University College London.

Presents a detailed discussion of the beads (including chemical analysis) excavated at a site in northern Mali that was occupied from ca. AD 750 to 1400. Glass beads predominate but there are also those made of stone, ostrich eggshell, ivory, and fossils.

**Nourisson, Pascale**

1992 Beads in the Lives of the Peoples of Southern Togo, West Africa. *Beads: Journal of the Society of Bead Researchers* 4:29-38.

Beads serve as ornaments, currency, and symbols of wealth and prestige and are used occasionally in voodoo. The article covers the latter uses at greater length.

**O'Hear, Ann**

1986 Ilorin Lantana Beads. *African Arts* 19(4):36-39, 87.

This article deals with red stone beads (called *lantana* by Hausa traders) that were produced in Ilorin, Nigeria, during the 19th and 20th centuries. Several color and b&w photographs.

1998 Lantana Beads: Gender Issues in their Production and Use. In *Beads and Bead Makers: Gender, Material Culture and Meaning*, edited by Lidia Sciama and Joanne B. Eicher, pp. 117-128.

**Ohinata, Fumiko**

2002 The Beginning of 'Tsonga' Archaeology: Excavations at Simunye, North-Eastern Swaziland. *Southern African Humanities* 14:23-50.

Occupied at some time between the late 17th and late 19th centuries (Late Iron Age), the site produced both glass and ostrich eggshell bead which are described in Table 2.

**Ogundiran, Akinwumi**

2002 Of Small Things Remembered: Beads, Cowries, and Cultural Translations of the Atlantic Experience in Yorubaland, 1600-1850. *The International Journal of African Historical Studies* 35(2-3):427-457.

Thorough discussion of the significance and use of cowries and glass beads in Yoruba culture, West Africa, over the centuries. Nigeria, Benin.

2003 Chronology, Material Culture, and Pathways to the Cultural History of Yoruba-Edo Region, Nigeria, 500 B.C.-A.D. 1800. In *Sources and Methods in African History: Spoken, Written, Unearthed*, edited by Toyin Falola and Christian Jennings, pp. 33-79. The University of Rochester Press, Rochester.

Discusses (pp. 47-48) the production of glass and stone beads at Ile-Ife, Old Oyo, and Oba Isin and their function as badges of high political office in the Yoruba-Edo region during the Classical Period (AD 1000-1400).

**Ogundiran, Akinwumi and O. Akinlolu Ige**

2015 "Our Ancestors Were Material Scientists": Archaeological and Geochemical Evidence for Indigenous Yoruba Glass Technology. *Journal of Black Studies* 46(8):751-772.

Compositional analysis of crucibles, glass cullet, and glass beads excavated at Osun Grove (Osogbo, Nigeria) reveals that the Yoruba of West Africa developed a unique glassmaking technology that lasted till the 17th century.

**Opper, Howard and Marie-José Opper**

1989 Granitic Beads and their Simulations. *Ornament* 13(1):74.

On imitations of gneiss beads in Mali made from powdered glass and crumbs of Medieval Islamic glass beads.

**Opper, Marie-José**

1994 Review of *Perles d'Afrique*, by Marie-Françoise Delarozière (1994). *Beads: Journal of the Society of Bead Researchers* 6:86.

**Opper, Marie-José and Craig Eady**

2015 Imitations of Natural Objects Made for the African Trade by the French Factory Bapterosses. *The Bead Forum* 66:1-2, 7-8.

Among the ornaments produced by the Bapterosses factory in Briare, France, during the 19th and 20th centuries were beads and pendants imitating coral, pearls, stones, shells, and teeth.

**Opper, Marie-José and Howard Opper**

1989 Diakhité: A Study of the Beads from an 18th-19th-Century Burial Site in Senegal, West Africa. *Beads: Journal of the Society of Bead Researchers* 1:5-20.

Describes the beads from Europe and elsewhere that were interred with the remains of the dead and places them into the perspective of Senegambian history from the 18th to mid-19th centuries.

1989 *Kiffa Beads: Mauritanian Powdered Glass Beads*. Self published, Alexandria, VA. An in-depth study of the subject, this 16-page pamphlet is illustrated with four color plates.

1989 Rare Mauritanian Kiffa Beads. *Ornament* 12(3):32-35.

On a rapidly disappearing type of bead made from powdered glass and decorated with symbols; worn in women's hair at weddings.

1990 Ancient Amazonite and Scorzalite Beads. *Ornament* 13(3):34-37, 6, 13, 15.

On highly prized green and blue beads used across Northern Africa from pre-dynastic Egypt to the present day.

1991 Review of *Beads and Beadwork of West and Central Africa*, by Margret Carey (1991). *Beads: Journal of the Society of Bead Researchers* 3:83-84.

1993 Powdered-Glass Beads and Bead Trade in Mauritania. *Beads: Journal of the Society of Bead Researchers* 5:37-54.

Discusses the history, manufacture, and relevance to Mauritanian culture of Kiffa beads.

**Orton, Jayson**

2009 Rescue Excavations at Diaz Street Midden, Saldanha Bay, South Africa. *Azania: Archaeological Research in Africa* 44(1):107-120.

Ostrich eggshell beads were produced at this site attributed to the Later Stone Age.

**Osakue, Emmanuel Ehimen**

2008 African and Borneo Beads: Comparative Analysis of Semantic and Semiotics. M.A. thesis. Universiti Malaysia Sarawak, Kota Samarahan, Sarawak.

Undertakes to present a comprehensive analysis of African and Borneo beads to unveil their various messages and roles in these two regions.

**Pallaver, Karin**

2009 "A Recognized Currency in Beads:" Glass Beads as Money in 19th Century East Africa: the Central Caravan Road. In *Money in Africa*, edited by E. Catherine, H. Fuller, and J. Perkins, pp. 20-29. The British Museum, London.

Glass beads of Venetian origin, among others, became one of the main means of payment and exchange along the central caravan road that connected Bagamoyo on the coast, to Tabora, in the Western region of Unyamwezi, to Ujiji, on the Eastern shores of Lake Tanganyika.

**Panini, Augusto**

2007 *Middle Eastern and Venetian Glass Beads: Eighth to Twentieth Centuries*. Rizzoli International Publications, New York.

A beautifully illustrated survey of ancient to modern glass beads collected in several West African countries, especially Mali.

**Pearson, A., B. Jeffs, A. Witkin, and H. MacQuarrie**

2011 *Infernal Traffic: Excavation of a Liberated African Graveyard in Rupert's Valley, St Helena*. Council for British Archaeology Research Report 169.

From 1840 to 1872, "liberated Africans" taken from slave ships by Royal Navy patrols were taken to camps on the remote South Atlantic island of St. Helena, about 1,000 miles off the west coast of Africa. Many died and were interred there with their meager personal possessions. These included a variety of glass beads and two cowries. The beads are thoroughly described and discussed.

**Peressinotto, D., A. Schmitt, Y. Lecoite, R. Pouriell, and F. Geus**

2004 Neolithic Nomads at El Multaga, Upper Nubia, Sudan. *Antiquity* 78(299):54-60.

Forty-two Neolithic burials at El Multaga include 15 with beads among the grave goods: a string of 13 amazon stone beads found at a child's neck, amazon stone beads scattered in another, and a single amazon stone bead at the neck of an adult. Three ivory rings, sheep teeth, and ostrich eggshell bead fragments were associated with some burials.

**Picard, John and Ruth Picard**

1986 *Chevron Beads from the West African Trade*. Beads from the West African Trade Series I. Picard African Imports, Carmel, CA.

Presents 8 pages of excellent full-color images of a wide range of chevron beads. Each is described but no interpretive information. See DeCorse (1989) for a review.

1986 *Tabular Beads from the West African Trade*. Beads from the West African Trade Series II. Picard African Imports, Carmel, CA.

Presents 4 pages of excellent full-color images of a wide range of tabular beads. Each is described but basically no interpretive information. See DeCorse (1989) for a review.

1987 *Fancy Beads from the West African Trade*. Beads from the West African Trade Series III. Picard African Imports, Carmel, CA.

This 16-page booklet presents 4 pages of excellent full-color images of a wide range of fancy beads. No descriptions nor interpretive information. See DeCorse (1989) for a review.

1988 *White Hearts, Feather and Eye Beads from the West African Trade*. Beads from the West African Trade Series IV. Picard African Imports, Carmel, CA.

This lavishly illustrated booklet contains 31 full-page color photographs of an inordinate variety of glass beads, many of which are dated through comparison with the sample cards of several European manufacturers and dealers. The text provides brief histories of two major bead exporters: the Societa Veneziana Conterie and J.F. Sick & Co. See DeCorse (1989) for a review.

1989 *Russian Blues, Faceted and Fancy Beads from the West African Trade*. Beads from the West African Trade Series V. Picard African Imports, Carmel, CA.

This and the following volumes beautifully illustrate numerous beads in the categories represented. See Francis (1991) for a review.

1991 *Millefiori Beads from the West African Trade*. Beads from the West African Trade Series VI. Picard African Imports, Carmel, CA.

See Francis (1991) for a review.

1993 *Chevron and Nueva Cadiz Beads*. Beads from the West African Trade Series VII. Picard African Imports, Carmel, CA.

See Smith (1993) for a review.

#### **Pikirayi, Innocent**

1993 *The Archaeological Identity of the Mutapa State: Towards an Historical Archaeology of Northern Zimbabwe*. University of Uppsala, Department of Archaeology and Ancient History, Studies in African Archaeology 6.

Analyzes the glass beads from several sites in the study area which are generally attributed to the 17th century. Shell and copper beads are also mentioned but not described.

#### **Poissonnier, Bertrand**

2012 Les tumulus de Qopros (Mänz): Premiers indices d'une culture originale (The tumulus of Qopros Mänz: First Elements of an Original Culture). In *La Culture Shay d'Ethiopie (Xe-XIVe siècles): Recherches archéologiques et historiques sur une élite païenne*, edited by F.-X. Fauvelle-Aymar and B. Poissonnier. De Boccard, Paris.

In Ethiopia, the disturbed tumulus yielded a green stone pendant, one carnelian and 75 glass beads.

#### **Poissonnier, Bertrand and B. Hirsch**

2012 Le tumulus 2 de Meshalä Maryam (Mänz). In *La Culture Shay d'Ethiopie (Xe-XIVe siècles): Recherches archéologiques et historiques sur une élite païenne*, edited by F.-X. Fauvelle-Aymar and B. Poissonnier. De Boccard, Paris.

Attributed to the 15th century, Tumulus 2 at Meshalä Maryam, Ethiopia, yielded many glass beads.

#### **Radimilahy, Chantal**

1998 *Mahilaka: An Archaeological Investigation of an Early Town in Northwestern Madagascar*. Studies in African Archaeology 15.

Describes the recovered beads and proposes local production for the glass specimens.

#### **Randsborg, Klavs and Inga Merkyte (eds.)**

2009 Chapter 8. Burials. In *Benin Archaeology: The Ancient Kingdoms*, pp. 56-136. *Acta Archaeologica* 80(1):5-282.

Sodohomé, the most ancient grave site on the plateau of Abomey, Benin, produced a variety of glass beads attributed to the 17th century, as well as several bauxite specimens (pp. 99-104). Grave 1 at Kana-Damehouégbo (Mihonhikpota), yielded a belt composed of a number of cowrie shells, flat beads made of ostrich eggshell, nine European glass beads, and six other beads (one is likely a mollusc, five are stone) as well as a necklace of glass beads including a blue chevron bead (pp. 110-119). Graves at Doguème (Guédevi), Abomey, contained glass (including faceted chevrons), shell, stone, and bronze beads, as well as cowries (pp. 119-126). The finds are summarized on p. 130.



**Rasoarifetra, Bako**

2003 Essai de typologie des perles des sites archéologiques du Nord de Madagascar. *Studies in the African Past* 3:169-188. University Press, Dar Es Salaam.

Presents a typology for beads recovered from archaeological sites in northern Madagascar.

2011 Les perles de Vohémar, origine et marqueurs culturels. In *Vohémar, cité-État malgache*, edited by Jean-Aimé Rakotoarisoa et Claude Allibert, pp. 178-193. *Études Océan Indien* 46-47.

The funerary objects recovered from the necropolis of Vohemar, Madagascar, are largely composed of glass and stone (carnelian and rock crystal) beads. The archaeological contexts and chemical analysis of various samples reveal that the origin of these beads is closely linked to flourishing trade networks in the Indian Ocean from the first millennium AD.

**Rehren, T. and S. Nixon**

2014 Refining Gold with Glass – An Early Islamic Technology at Tadmekka, Mali. *Journal of Archaeological Science* 49:33-41.

Analysis of the glass adhering to crucible fragments found in a goldsmith's workshop and glass beads found in association suggests that the Tadmekka goldsmiths were processing gold using crushed glass beads as a flux, rather than working glass as a material in its own right.

**Robbins, L.H.**

1999 Direct Dating of Worked Ostrich Eggshell in the Kalahari. *Nyame Akuma* 52:11-16. Botswana, Namibia.

**Robertshaw, Peter**

1997 Munsu Earthworks. *Azania: Journal of the British Institute in East Africa* XXXII:1-20. Beads were found among the burials: iron, a few glass, and possible ivory (p. 14) dated to ca. AD 900-1200. Uganda.

**Robertshaw, Peter and Marilee Wood**

2017 Glass Beads and the Gold Burials of Zambia. *The Bead Forum* 71:1-3.

The cemetery at Ingombe Ilede has been dated to the 14th or early 15th century, just prior to Portuguese contact. Recent AMS dating, however, suggests that the real age of the cemetery falls between the late 15th and early 17th centuries, dating that is supported by the recovered glass beads.

**Robertshaw, Peter, Marilee Wood, Anne Haour, Karlis Karklins, and Hector Neff**

2014 Chemical Analysis, Chronology, and Context of a European Glass Bead Assemblage from Garumele, Niger. *Journal of Archaeological Science* 41:591-604.

Garumele, also known as Wudi, is reputed to have been a capital of the Kanem-Borno "empire," but its date of settlement and occupation remain unclear. To help rectify this situation, a sample of 44 glass beads recovered during excavations were chemically analyzed using LA-ICP-MS. The results indicate that the beads are of European origin, probably Venetian and/or Dutch, and that most belong to the late 17th or 18th century.

**Rodrigues, M. Conceição**

1993 Contribuição para o Estudo das Contas de Origem Mediterrânica recolhidas em Angola. In *Actas do 1.º Congresso Mediterrânico de Etnologia Histórica*, vol. 3, pp. 349-364. Instituto Mediterrânico, UNL, Lisbon.

A contribution to the study of beads of Mediterranean (Venetian) origin collected in Angola.

**Rousaki, Anastasia, Alessia Coccato, Charlotte Verhaeghe, Bernard-Olivier Clist, Koen Bostoen, Peter Vandenabeele, and Luc Moens**

2015 Combined Spectroscopic Analysis of Beads from the Tombs of Kindoki, Lower Congo Province (Democratic Republic of the Congo). *Applied Spectroscopy* 70(1):76-93.

Micro-Raman spectroscopy and chemometrics on handheld XRF results were used to characterize beads found during archaeological excavations in the Congo. Metallic objects, organogenic materials, and glass beads were studied. The glassy materials seem to be of European production.

**Roy, Ben**

2000 The Beads (Chapter 6). In *Urbanism, Archaeology, and Trade: Further Observations on the Gao Region (Mali)*, edited by T. Insoll, pp. 98-107. British Archaeological Reports, International Series 829.

**Sadr, Karim, Andrew Smith, Ina Plug, Jayson Orton, and Belinda Mütti**

2003 Herders and Foragers on Kasteelberg: Interim Report of Excavations 1999-2002. *The South African Archaeological Bulletin* 58(177):27-32.

Smith et al. (1991) saw the cultural distinction between Bushmen and Khoekhoe in ostrich eggshell bead diameters. This is not supported by the evidence from Kasteelberg on the southwest coast of South Africa.

**Saitowitz, Sharma J.**

1988 Classification of Glass Trade Beads. *Southern African Museums Bulletin* 18(2):41-45.

Reviews the classification terms used to describe beads by North American bead researchers and suggests that these be used in future South African bead studies so that the data may be presented in a uniformly acceptable manner.

1990 19th Century Glass Trade Beads from Two Zulu Royal Residences. M.A. thesis. University of Cape Town.

Presents a formal analysis of the beads recovered the two Zulu capitals of Mgungundlovu (1829-1838) and Ondini (1873-1879), South Africa.

1996 Glass Beads as Indicators of Contact and Trade in Southern Africa ca. AD 900-1250. Ph.D. dissertation. University of Cape Town.

**Saitowitz, Sharma J., David L. Reid, and N.J. van der Merwe**

1996 Bead Trade from Islamic Egypt to South Africa c. AD 900-1250. *South African Journal of Science* 92:101-104.

Plasma mass spectrometry was used to determine the rare earth element contents of glass beads excavated in the former northern and eastern Transvaal. They were found to be identical with those of beads made in

al-Fustat (Old Cairo), and document the existence of a trade link with the Mediterranean via the Red Sea 1,000 years ago.

**Saitowitz, Sharma J. and C. Garth Sampson**

1992 Glass Trade Beads from Rock Shelters in the Upper Karoo. *South African Archaeological Bulletin* 47:94-103.

Analyzes the beads (mostly dating to the first half of the 19th century) recovered from nine sites in the upper Seacow River valley of South Africa.

**Schrire, Carmel and Janette Deacon**

1989 The Indigenous Artefacts from Oudepost I, a Colonial Outpost of the VOC at Saldanha Bay, Cape. *The South African Archaeological Bulletin* 44(150):105-113.

The artifacts recovered from a Dutch trading post in South Africa include ostrich eggshell beads. See Wilson et al. (1990) for comments on the beads.

**Simak, Evelyn**

2006 Traditional Mauritanian Powder-Glass Kiffa Beads. *Ornament* 29(5):50-54.

This article bringing together what is known about these beads, and illustrates a range of the different forms and color combinations, giving interpretations of the colors and motifs used.

**Simak, Evelyn and Carl Dreibelbis**

2010 *African Beads: Jewels of a Continent*. Africa Direct, Denver.

This book is a magnificent showcase of African-made beads and is based on the authors' extensive collections. The beads are from various sources and have been surface collected, recovered from archaeological sites, or attained through purchase. All materials are covered. The photographs are provided with informative captions and many are full-page views. See Hamela (2009) for a review.

**Smith, Andrew B. and Leon Jacobson**

1995 Excavations at Geduld and the Appearance of Early Domestic Stock in Namibia. *South African Archaeological Bulletin* 50(161):3-20.

Beads formed from shell, seeds, and ostrich eggshell were recovered from this site whose occupation began ca. 1800 BP. A detailed study of the eggshell beads is provided in an appendix by Royden Yates.

**Smith, Andrew B., Karim Sadr, John Gribble, and Royden Yates**

1991 Excavations in the South-Western Cape, South Africa, and the Archaeological Identity of Prehistoric Hunter-Gatherers Within the Last 2000 Years. *South African Archaeological Bulletin* 46:71-91.

At several sites, small ostrich eggshell beads are associated with hunter-gatherers while large eggshell beads relate to herders.

**Smith, Andrew B., Royden Yates and Leon Jacobson**

1996 Geduld Contra Kinahan. *South African Archaeological Bulletin* 51(163):36-39.

A response to Kinahan (1995) which involves ostrich eggshell beads.

**Smith, Marvin T.**

1991 Review of *Chevron and Nueva Cadiz Beads*, by John Picard and Ruth Picard (1993). *Beads: Journal of the Society of Bead Researchers* 5:63-64.

**Stahl, Ann B.**

2008 Dogs, Pythons, Pots and Beads: The Dynamics of Shrines and Sacrificial Practices in Banda, Ghana, AD 1400-1900. In *Memory Work: The Materiality of Depositional Practice*, edited by Barbara Mills and William Walker, pp. 159-186. School of Advanced Research Press, Sante Fe.

**Stanfield, Kirk**

2000-2001 The Krobo and *Bodom*. *Beads: Journal of the Society of Bead Researchers* 12-13:63-76. Reviews the controversial subject of the large *Bodom* powder-glass beads, and how they may have been made. Stanfield concludes that the Krobo of Ghana are likely the original makers of these beads.

**Steinberg, Billy and Jamey Allen**

2017 *Wild Beads of Africa*. Privately published, Los Angeles.

This lavishly illustrated volume offers new insights into the art and technology of powder-glass beads (often referred to as *Bodom* or akoso) while also providing an extensive glossary of related bead history, manufacture, and classification. See Holloway (2017) for a review.

**Steiner, C.**

1990 West African Trade Beads: Symbols of Tradition. *Ornament* 14(1):58-61.

Beads once prized as “European” are now prized as “African” and sold to the New World and the Pacific, an anthropologically interesting trade shift.

**Tapela, Milton C.**

2001 An Archaeological Examination of Ostrich Eggshell Beads in Botswana. *Pula: Botswana Journal of African Studies* 15(1):60-74.

Concludes that both hunters/gatherers and herders/farmers made their own beads, rather than the former trading them to the latter.

**Teruzzi, Giorgio and Anna Alessandrello (eds.)**

2007 *Trade Beads: From Venice to the Gold Coast*. Centro Studi Archeologia Africana, Milano.

This exhibition catalog provides a brief overview of the Venetian bead industry including well-illustrated descriptions of the two major glass beadmaking processes and the various styles/types of beads (some on sample cards) that were produced for trade in Africa as well as elsewhere.

**Teske, Peter R., Isabelle Papadopoulos, Christopher D. McQuaid, Brent K. Newman, and Nigel P. Barke**

2007 Climate Change, Genetics or Human Choice: Why Were the Shells of Mankind’s Earliest Ornament Larger in the Pleistocene Than in the Holocene? *PLoS ONE* 2(7): e614; doi:10.1371/journal.pone.0000614

Beads made from *N. kraussianus* shells found at early sites in South Africa decrease in size from the Pleistocene to the Holocene. This is likely due to increased temperatures as a result of climate change at the beginning of the present interglacial period.

**Then-Obluska, Joanna**

2012 “The Unregarded Art” and “Sense of Order” – A Multidimensional Study of Lower Nubian Beads from the Oriental Institute Collection. *The Oriental Institute 2011-2012 Annual Report*, pp. 139-141.

Outlines a major project intent on creating a catalog of Lower Nubian beads with interpretive data. Sudan.

2013 A Few Millimeters via Thousands of Kilometers: An Asian ‘Etched’ Carnelian Bead in Early Makurian Nubia, Sudan. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 24:117-123.

Excavations at the Early Makurian burial site of El-Ar 1 in Ab Naqaqir (the late 4th - early 5th century AD). Uncovered an etched carnelian bead unique to Sudan. The broad cultural, geographical, and historical framework of etched beads is summarized here in an effort to contextualize the El-Ar bead.

2013 Medieval Transcultural Medium: Beads and Pendants from Makurian and Post-Makurian Dongola in Nubia. *Polish Archaeology in the Mediterranean, Research 2010* 22:679-720.

Beads have always constituted a traditional element of personal adornment in Nubia and their production, use, and circulation did not cease despite religious, political and social changes in the medieval period. The beads and pendants found at the site are made of marine shells, ostrich eggshell, wood, bone, stone, seeds, clay, faience, and glass. They date to the 6th-17th centuries. Sudan.

2014 An Early Roman Mosaic Glass ‘Flower’ Bead from Musawwarat. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 25:69-72.

Provides a detailed study of a tabular bead composed of a perforated cane slice with a flower-like design in the center and enclosed by a square-filled border. It was found at a Meroitic temple complex in Sudan dating to the late 3rd or 2nd century BC. Briefly described in Näser (2013).

2014 The Code of the Hidden Beads – From the Kerma to the Islamic Period According to the Fourth Cataract Material from the Gdańsk Archaeological Museum Expedition Excavations. In *The Fourth Cataract and Beyond: Proceedings of the 12th International Conference for Nubian Studies*, edited by Julie R. Anderson and Derek A. Welsby, pp. 1069-1090. British Museum Publications on Egypt and Sudan 1.

Presents an overview of the 13,000 beads recovered from 73 burials at the fourth cataract of the Nile in Sudan. Materials include shell, ostrich eggshell, bone, semiprecious stones, metal, faience, and glass.

2014 The Secret Life of Nubian Eye Beads: An Interdisciplinary Analysis of Beads from the GAME Collection. *Gdańsk Archaeological Museum and Heritage Protection Fund African Reports* 11:107-112.

A stone anthropomorphic figure and a string of several hundred beads, including many eye beads, were found in a subsidiary pit associated with the burial of a woman dating to the Transitional Late Meroitic/Post Meroitic period. The eye beads are examined in detail to elucidate different aspects: the study of material and production techniques, as well as comparative and social analyses. Sudan.

2015 Beads and Pendants from Sedeinga, Nubia. *Beads: Journal of the Society of Bead Researchers* 27:29-45.

Excavations conducted during the 2009-2014 seasons at the burial site of Sedeinga, Nubia, produced 3,400 beads and pendants of various materials which date to the Late Napatan and Meroitic periods, ca.

400 BC-AD 300. During a period dominated by faience and glass in bead production, the use of organics and stones indicates strong links with the neighboring Nubian deserts, an overland connection with the Red Sea coast, and, surprisingly, an interest in the resources of the Nile River.

- 2015 “Jewels of Ancient Nubia” – A Glance Through the Eye Bead from Berenike. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 26:263-265.  
Provides details about an exceptionally beautiful set of 22 glass beads with monochrome bodies decorated with mosaic eyes and criss-crossing gold-in-glass trails that was found in Meroe tomb Beg. N 15, Sudan.
- 2016 Early Makuria Research Project. Late Antique Beads and a Napatan Amulet from the Early Makuria Phase II Tumuli Cemetery at El-Detti (about AD 450-550), Season 2015. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 27:139-144.  
The beads and pendants from a site in Sudan are made of a variety of materials (ostrich eggshell, bone, stone, glazed com-position, glass, and metal-in-glass) using diverse techniques. The majority of items can be paralleled at contemporary post-Meroitic sites.
- 2016 Meroitic Beadwork: An Overview Based on Finds from Sai in Ancient Nubia. *Polish Archaeology in the Mediterranean* 25:691-724.  
Provides a preliminary overview of beads and pendants found at three Meroitic cemeteries dating to the 1st-4th centuries AD. A wide variety of materials are represented including shell, stone, metal, faience, and glass.
- 2016 Trade and Faith in Nubian Early Makuria (AD 450–550): Macroscopic Examination of Personal Adornments from el-Zuma in Nubia. *Polish Archaeology in the Mediterranean* 25:741-760.  
The el-Zuma tumuli cemetery is dated to the Early Makuria Phase II (AD 450-550). Although the graves were heavily robbed, the recovered beads and pendants provide an overview of the materials (marine shell, coral, ostrich eggshell, stone, faience, and glass) and techniques used in their production.
- 2017 Royal Ornaments of a Late Antique African Kingdom, Early Makuria, Nubia (AD 450-550). Early Makuria Research Project. *Polish Archaeology in the Mediterranean* 26(1):687-718.  
Discusses recently excavated adornments and ornaments from the tumulus cemetery of el-Zuma in Upper Nubia.
- 2018 Beyond the Nubian Gold: Meroitic Beads between the Fifth and Sixth Nile Cataracts. *Beads: Journal of the Society of Bead Researchers* 30:31-43.  
Discusses the beads and pendants excavated from 16 graves at the Berber Meroitic cemetery in Sudan. Dated to between the 2nd century BC and the 3rd century AD, the graves yielded a wide range of beads made of various materials. Of note are a number of metal-in-glass specimens decorated with an impressed lozenge motif on one side and the figurative motif of Harpocrates on the other.
- 2018 Short and Long Distance Contacts of Late Antique Nubia: A View through the Bead Hole. In *Nubian Archaeology in the XXIst Century: Proceedings of the Thirteenth International Conference for Nubian Studies, Neuchâtel, 1st-6th September 2014*, edited by Matthieu Honegger, pp. 587-595. *Orientalia Lovaniensia Analecta* 273.  
Discusses the trade of beads and pendants in Late Antique Nubia (Sudan) between the 4th and 6th centuries AD (i.e., during the post-Meroitic Period, aka the Early Nobadian and Early Makuria Period).

**Then-Obluska, Joanna and Barbara Wagner**

2017 Glass Bead Trade in Northeast Africa in the Roman Period. A View According to the Museum of Archaeology University of Stavanger Assemblage. In *Annales du 20<sup>e</sup> Congrès de l'Association Internationale pour l'Histoire du Verre, Fribourg / Romont 7-11 septembre 2015*, edited by Sophie Wolf and Anne de Pury-Gyse, pp. 248-256. Verlag Marie Leidorf, Rahden.

**Thiaw, Ibrahima**

1999 Archaeological Investigations of Long-Term Culture Change in the Lower Falemme (Upper Senegal Region) A.D. 500-1900. Ph.D. dissertation. Rice University, Houston.

Artifacts recovered at Fort Senudebu, Senegal, include ceramic and copper beads, as well as a variety of European glass beads attributed to the 19th century. The beads are discussed in text with a more thorough analysis in Appendix D by C. DeCorse and F. Richard.

**Thondhlana, Thomas Panganayi**

2005 Style, Space and Time: A Critical Analysis of the Chronology and Spatial Distribution of Copper and Copper Alloy Beads from Zimbabwean Iron Age Sites. B.A. Special Honours Dissertation. Archaeology Unit, History Department, University of Zimbabwe, Harare.

**Thondhlana, Thomas Panganayi and Marcos Martín-Torres**

2009 Small Size, High Value: Composition and Manufacture of Second Millennium AD Copper-Based Beads from Northern Zimbabwe. *Journal of African Archaeology* 7(1):79-97.

This investigation introduces a new dimension to the previous typological analyses of the metal bead assemblages from Zimbabwean archaeological sites. It presents the microstructural and chemical characterization of 50 copper-based beads, most of them from Later Farming Community period sites in northern Zimbabwe (AD 1000-1900). The analytical study employed optical microscopy, ED-XRF, and SEM-EDS.

**Thornton, Robert**

2012 Glass Beads and Bungoma: Southern African Traditional Knowledge (Bungoma), Material Culture, and Indian Ocean Trade and Exchange. <https://www.academia.edu/1715513/>, accessed 9 June 2017.

Examines possible links between the southern African practices of “traditional healing” (*bungoma*) and the material culture that constitutes the tools of the healer. These tools include glass and metal beads.

**Thorp, C.**

2009 Excavations at Hlamba Mlonga Hill, Malilangwe Trust, South-Eastern Zimbabwe. *Journal of African Archaeology* 7(2):191-218.

Hlamba Mlonga Hill was occupied between the late 10th and 15th centuries AD. Evidence from glass beads, faunal remains, and remains of metallurgical activities shows that these past communities exploited local resources including wildlife and rich iron deposits in order to build wealth through trade with surrounding regions.

**Togola, Téréba**

2008 *Archaeological Investigations of Iron Age Sites in the Mema Region, Mali (West Africa)*. British Archaeological Reports, International Series S1736, Cambridge Monographs in African Archaeology 73.

Terra cotta and stone beads.

**Trebbin, Cornelius**

1985 *Achate geschliffen in Idar-Oberstein – Amulette, Schmuck und Zahlungsmittel in Afrika*. Museum Idar-Oberstein Publication 6.

Describes and discusses agate bead and amulet production at the famed stone-working center of Idar-Oberstein, Germany, and their use in Africa.

**Van der Merwe, N.J., S.J. Saitowitz, J.F. Thackeray, M. Hall, and C. Poggenpoel**

1989 Standardized Analyses of Glass Trade Beads from Mgungundlovu and Ondini, Nineteenth Century Zulu Capitals. *South African Archaeological Bulletin* 44(150):98-104.

Large samples of glass beads from the two sites in South Africa have been examined using a standardized, internationally recognized classification scheme. Results of statistical analyses are presented to demonstrate variability in bead frequencies within and between the sites.

**Vanacker, C.**

1984 Perles de verre découvertes sur le de Tegdaoust. *Journal des Africanistes* 54(2):31-52.

On beads from a medieval site in Mauritania, probably produced by a technique still in use in the region.

**Vanhaeren, M., F. d'Errico, K.L. van Niekerk, C.S. Henshilwood, and R.M. Erasmus**

2013 Thinking Strings: Additional Evidence for Personal Ornament Use in the Middle Stone Age at Blombos Cave, South Africa. *Journal of Human Evolution* 64(6):500-517.

Reports on newly identified beads recovered from four Middle Stone Age levels at Blombos Cave and, in particular, a cluster of 24 perforated *Nassarius kraussianus* shells that probably originate from a single piece of beadwork.

**Vanhaeren, M., F. d'Errico, C. Stringer, S.L. James, J.A. Todd, and H.K. Mienis**

2006 Middle Paleolithic Shell Beads in Israel and Algeria. *Science* 312(5781):1785-1788.

Perforated marine gastropod shells at the western Asian site of Skhul and the North African site of Oued Djebbana indicate the early use of beads by modern humans in these regions. Analyses of sediment matrix adhered to one *Nassarius gibbosulus* from Skhul indicate that the shell bead comes from a layer containing 10 human fossils and dating to 100,000 to 135,000 years ago, about 25,000 years earlier than previous evidence for personal decoration by modern humans in South Africa.

**Verhaeghe, Charlotte**

2014 Funeraire rituelen in het Kongo Koninkrijk: de betekenis van de schelp- en glaskralen in de begraafplaats van Kindoki, Mbanza Nsundi, Neder-Congo / Funerary Rites in the Kongo Kingdom: The Meaning of Shell- and Glass Beads in the Cemetery of Kindoki, Mbanza Nsundi, Lower Congo. M.A. thesis. Ghent University, Ghent.

A great number of shell and glass beads were found together with symbols of power such as metal bracelets and weapons. Discusses the origin of the beads and how and why they were used in the Kongo Kingdom.



**Verhaeghe, Charlotte, Bernard-Olivier Clist, Chantal Fontaine, Karlis Karklins, Koen Bostoen, and Wim de Clercq**

2014 Shell and Glass Beads from the Tombs of Kindoki, Mbanza Nsundi, Lower Congo. *Beads: Journal of the Society of Bead Researchers* 26:23-34.

At the burial site of Kindoki, linked with the former capital of Kongo's Nsundi province, a great number of shell and glass beads were found together with symbols of power in tombs attributed to the first half of the 19th century.

**Vibe, Ingrid**

2007 San Personal Ornaments from the Later Stone Age at Blombos Cave and Blomboschfontein, Southern Cape, South Africa. M.A. thesis. Department of Archaeology, University of Bergen.

This study concentrates on beads made from ostrich eggshell and *Nassarius kraussianus* shells.

**Vierke, Ulf**

2004 *Die Spur der Glasperlen: Akteure, Strukturen und Wandel im europäisch-ostafrikanischen Handel mit Glasperlen (Tracing Glass Beads – Actors, Structures and Change in European-East African Trade in Glass Beads)*. Universität Bayreuth, Kulturwissenschaftliche Fakultät. Bayreuth African Studies Online (4).

Explores the route of glass beads from their European production sites in Upper Franconia and Northern Bohemia to the Maasai in East Africa. But the beads themselves are not the center of the research but rather the actors dealing with them: the manufactures, the industrial producers, the merchants in Europe and Africa, the women crafting the beadwork, and the ones wearing the beadwork.

**Vila, André**

1984 *La prospection archéologique de la vallée du Nil, au sud de la cataracte de Dal, Nubie soudanaise. Fasc. 14: La nécropole de Missiminia. III, Les sépultures ballanéennes. IV, Les sépultures chrétiennes*. C.N.R.S. Paris.

Beads of various kinds from the Christian period and the preceding "Ballana Phase" in Nubian Sudan (pp. 167-173).

**Villa, Paola, Sylvain Soriano, Tsenka Tsanova, Ilaria Degano, Thomas F.G. Higham, Francesco d'Errico, Lucinda Backwell, Jeannette J. Lucejko, Maria Perla Colombini, and Peter B. Beaumont**

2012 Border Cave at the Beginning of the Later Stone Age in South Africa. *Proceedings of the National Academy of Sciences* 109(33):13208-13213.

Discusses implications of two South African assemblages that date to the beginning of the Later Stone Age. Artifacts include ostrich eggshell beads.

**Walz, Jonathan R.**

2010 Route to a Regional Past: An Archaeology of the Lower Pangani (Ruvu) Basin, Tanzania, 500-1900 C.E. Ph.D. dissertation. Department of Anthropology, University of Florida, Tallahassee.

Investigation of a number of sites uncovered beads of various materials including glass (both European and Indo-Pacific), land and marine shell, ostrich eggshell, stone, ivory, bone, and metal (copper and iron). Unfortunately, detailed descriptions are lacking although some examples are shown in color photographs.

**Walz, Jonathan R. and Laure Dussubieux**

2016 Zhizo Series Glass Beads at Kwa Mgogo, Inland NE Tanzania. *Journal of African Archaeology* 14(1):99-101.

Comments on the beads of glass, stone, shell, copper, and ostrich egg shell recovered from contexts attributed to the period from the mid-8th to the mid-10th century.

**Whitelaw, Gavin**

2014 An Archaeology of Colonization: Excavations at a Stonewalled Site near Rosetta, KwaZulu-Natal. *Southern African Humanities* 26: 83-100.

Glass and copper beads were among the artifacts recovered from a structure probably built by labor tenants in the 1870s or 1880s and used until at least the early 1900s. South Africa.

**William, Bruce B.**

1993 *Excavations at Serra East. Parts 1-5: A-Group, C-Group, Pan Grave, New Kingdom, and X-Group Remains from Cemeteries A-G and Rock Shelters*. Oriental Institute Nubian Expedition 10.

A variety of stone, faience, metal, and ostrich eggshell beads were recovered from ancient burials at this site in northern Sudan.

**Williams, Sarah**

1987 An "Archaeology" of Turkana Beads. In *The Archaeology of Contextual Meanings*, edited by Ian Hodder, pp. 31-38. C.U.P., Cambridge.

On the social and ideological meanings of beads worn by the Turkana people of northern Kenya.

**Wilmsen, Edwin N.**

2003 For "Trinkets" Such as Beads: A Revalorization of Khoisan Labor in Southern African History. In *Sources and Methods in African History: Spoken, Written, Unearthed*, edited by T. Falola and C. Jennings, pp. 80-101. University of Rochester Press.

A survey of the European glass beads that have been excavated in the Angola-Botswana-Namibia region appears in the section on "Trade."

**Wilson, Alexandra (ed.)**

2003 *The Bead is Constant*. Ghana U.P., Accra.

Contains chapters on bead wearers; bead importers and traders; bead producers; beads in the archaeological record of Ghana; methods of manufacturing glass beads; and *aggrey* beads.

**Wilson, M.L., W.J.J. van Rijssen, L. Jacobson, and H.D. Noli**

1990 Comments on the Indigenous Artefacts from Oudepost I. *The South African Archaeological Bulletin* 45(152):122-124.

Points out errors in the conclusions drawn regarding ostrich eggshell bead sizes in Schrire and Deacon (1989), with a response from the authors.

**Wilson, Thomas H. and Athman Lali Omar**

1997 Archaeological Investigations at Pate. *Azania: Journal of the British Institute in East Africa* XXXII:31-76.

An early Swahili site in Kenya with bead grinders in levels 73-74 of period IA; no shell beads. The earliest shell beads are in the 11th-century deposits of period II. Green, black, yellow, and blue glass

beads are in period II, red and white beads in period IV, and pink beads in period V. The 57 beads are mostly drawn round, but hexagonal and cylindrical forms also occur. Period III-V: AD 1150-1700.

**Withers, Sara**

2007 The Studies of A.J. Arkell on the Movement of Beads in the Anglo Egyptian Sudan in the 1930s. In *International Bead & Beadwork Conference*, edited by Jamey D. Allen and Valerie Hector. Rezan Has Museum, Istanbul.

Discusses the beads and bead sample cards that Arkell collected in the 1930s in what was then the Anglo Egyptian Sudan.

**Wood, Marilee**

2000 Making Connections: Relationships Between International Trade and Glass Beads from the Shashe-Limpopo Area. *South African Archaeological Society, Goodwin Series* 8:78-90.

Imported glass beads provide evidence of trade between the local inhabitants and the world beyond, beginning in at least the 10th century. In this region, four main series of glass beads have been identified. These series have the potential to be used to ascertain and fine-tune site chronology.

2002 The Glass Beads of Kaole. In *Southern Africa and the Swahili World*, edited by F. Chami, G. Pwiti, and C. Radimilahy, pp. 50-65. *Studies in the African Past* 2.

Discusses the beads recovered from the Kaole Ruins, Tanzania; 13th-18th centuries. They are mainly imported glass Indo-Pacific trade beads but some are from Europe, China, and possibly the Middle East; the rest are mainly of local shell. Color illustrations.

2004 Beads from the Nhaucati Site. In *Changing Landscapes: An Environmental History of Chibuene, Southern Mozambique*, edited by A. Ekblom. *Studies in Global Archaeology* 5.

Nhaucati is a small site adjacent to Chibuene on the coast of southern Mozambique. The glass beads found there, which date from about the 8th to the mid-10th centuries AD, are described and placed in the context of Indian Ocean trade during that period.

2005 Glass Beads and Pre-European Trade in the Shashe-Limpopo Region. M.A. thesis. University of the Witwatersrand, Faculty of Humanities, Johannesburg.

During the Islamic period (8th-15th centuries) glass beads are the most abundant evidence of international trade in southern Africa. The author divides them into identifiable series that have temporal parameters. Once identified, the beads can help interpret site chronology as well as regional and international interaction. Glass beads are also useful in reconstructing trade patterns in the Indian Ocean.

2006 Degue-Mufa Glass Bead Analysis. In *Privileged Places in South Central Mozambique*, by S. Macamo. *Studies in Global Archaeology* 4.

An archaeological site on the Zambezi River in central Mozambique, Degue-Mufa was a trading station, or fair, that was important for conducting trade with the interior of Mozambique and Zimbabwe. Over a thousand glass beads, dating mainly to the 19th century AD, were found in the excavations. They are described and compared to other bead assemblages of this period in southern Africa.

2008 Post-European Contact Glass Beads from the Southern African Interior: A Tentative Look at Trade, Consumption and Identities. In *Five Hundred Years Rediscovered*, edited by N. Swanepoel, A. Esterhuysen, and P. Bonner. Witwatersrand University Press, Johannesburg.

Imported glass beads that were traded into the interior of southern Africa over the past 500 years have the potential to help interpret several aspects of archaeological sites where they are present. These include illuminating trade contacts and routes, determining cultural affiliations, and refining site chronology. This study includes a brief introduction about using beads in site interpretation and a discussion and interpretation of bead assemblages from four areas in the interior of southern Africa.

2009 The Glass Beads from Hlamba Mlonga, Zimbabwe: Classification, Context and Interpretation. *Journal of African Archaeology* 7(2):219-238.

The glass beads excavated at a 10th-15th-century site in eastern Zimbabwe are cataloged and separated into bead series based on morphology. They are compared to closely related beads that occur in archaeological contexts of the same period in the Shashe-Limpopo basin and the Zimbabwe culture area.

2011 A Glass Bead Sequence for Southern Africa from the 8th to the 16th Century AD. *Journal of African Archaeology* 9(1):67-84.

Many tens of thousands of glass beads have been recovered from well-dated archaeological sites of the 8th-16th centuries in southern Africa, making it possible to develop a temporally sensitive bead sequence which is made up of seven series. The series were developed based on morphological characteristics and recent chemical analysis has confirmed those results.

2011 *Interconnections: Glass Beads and Trade in Southern and Eastern Africa and the Indian Ocean 7th to 16th Centuries AD*. Uppsala University, Studies in Global Archaeology 17.

Beads recovered from southern African archaeological sites are organized into series, based on morphology and chemical composition determined by LA-ICP-MS analysis. The results are used to interpret the trade patterns and partners that linked eastern Africa to the rest of the Indian Ocean world, as well as interconnections between southern Africa and East Africa.

2016 Eastern Africa and the Indian Ocean World in the First Millennium CE: The Glass Bead Evidence. In *Early Exchange Between Africa and the Wider Indian Ocean World*, edited by Gwyn Campbell, pp. 173-193. Palgrave Macmillan, Basingstoke, UK.

Based on glass chemistry and method of manufacture, glass beads excavated at Unguja Ukuu, Zanzibar, provide insight into East African trade in the Indian Ocean during the second half of the 1st millennium.

2016 Glass Beads from Pre-European Contact Sub-Saharan Africa: Peter Francis's Work Revisited and Updated. *Archaeological Research in Asia* 6:65-80, doi:10.1016/j.ara.2016.02.007.

Discusses a wide variety of glass beads from 7th-17th-century contexts in southern, eastern, and western Africa and results of chemical analysis of the glass used to make them. Beads from southern Africa are compared to those in East Africa, highlighting the probability that trading circuits to the two regions frequently differed.

2017 Trade in the Old World – Mosaic and Other Glass Beads in the 8th to 9th Century AD. In *Journal: Borneo International Beads Conference 2017*, edited by Heidi Munan and Anita MacGillivray. Kuching, Sarawak, Malaysia.

Examines colored glass beads of the 8th-9th centuries unearthed in Zanzibar and traces their origins and distribution throughout Africa, Egypt, Thailand, the Near East, and Scandinavia.

**Wood, M., L. Dussubieux, and P. Robertshaw**

2012 Glass Finds from Chibuene, a 6th to 17th Century AD port in Southern Mozambique. *South African Archaeological Bulletin* 67(195):59-74.

The investigators have identified a new glass bead series (the Chibuene series) that is distinct morphologically and chemically. These beads are drawn, mostly tubular, and have been heat rounded. This series may be earlier than the Zhizo series and, apart from Chibuene, has only been identified at Nqoma, in western Botswana. A Near Eastern origin for the glass is suspected.

**Wood, M., L. Dussubieux, and L. Wadley**

2009 A Cache of ~5000 Glass Beads from the Sibudu Cave Iron Age Occupation. *South African Humanities* 21:239-261.

This site in South Africa produced strings of various colors of glass beads, some copper beads, and also two perforated *Conus ebraeus* shells. A necklace of shell disc-beads interspersed with blue glass beads was also present. Sixteen of the beads were analyzed chemically using LA-ICP-MS. The results indicate the beads originated in India.

**Wood, Marilee, Serena Panighello, Emilio F. Orsega, Peter Robertshaw, Johannes T. van Elteren, Alison Crowther, Mark Horton, and Nicole Boivin**

2017 Zanzibar and Indian Ocean Trade in the First Millennium CE: The Glass Bead Evidence. *Archaeological and Anthropological Sciences* 9(5):879-901; doi: 10.1007/s12520-015-0310-z.

A sample of the beads recovered from the 7th-10th-century sites of Unguja Ukuu and Fukuchani on Zanzibar Island was analyzed by LA-ICP-MS to determine the origins of the glass, and potential trade relationships are considered.

**Woodhouse, H.C.**

1997 Ostrich Eggshell Beads in Southern Africa. *Rock Art Research* 14:41-43.

**Yates, Royden**

1995 Appendix B: Report on the Analysis of Ostrich Eggshell Beads from Geduld. *South African Archaeological Bulletin* 50:17-20.

Material dated to ca. 2000-1300 BP at a site in Namibia that initial changes in OES bead size are associated with the appearance of pottery and herding.

**Zampetti, Daniela**

2013 The Small Finds: Beads, Worked Bone Artefacts and Figurines. In *Life and Death of a Rural Village in Garamantian Times: Archaeological Investigations in the Oasis of Fawet (Libyan Sahara)*, edited by Lucia Mori, pp. 139-156. Arid Zone Archaeology, Monographs 6.

Discusses the beads and pendants of various materials including stone, bone, ivory, ostrich eggshell, glass, and faience.

**Zeebroek, Renaud**

2015 Perles et tissus. Les instruments monétaires au Katanga / Beads and cloths. Monetary objects in Katanga. *Afrique : Archéologie & Arts* 11:21-38.

In the late 19th century, Luba Katanga (Democratic Republic of Congo) used European glass beads as currency. Separated into different categories, they were used for commercial exchanges, social (bridewealth), and decorative and symbolic uses.

**Zerboni, Andrea and Pietro Vignola**

2013 Garamantian Green Stone Beads from Fewet. In *Life and Death of a Rural Village in Garamantian Times: Archaeological Investigations in the Oasis of Fewet (Libyan Sahara)*, edited by Lucia Mori, pp. 157-167. Arid Zone Archaeology, Monographs 6.

The first scientific attempt to describe green stone beads from a Garamantian context and to verify some of the assumptions concerning the provenance and trading of the Garamantian emerald in ancient times. Includes chemical analysis.

**Zerboni, Andrea, Pietro Vignola, Maria C. Gatto, Andrea Risplendente, and Lucia Mori**

2017 Searching for the Garamantian Emerald: Reconsidering the Green-Colored Stone Beads Trade in the Ancient Sahara. *The Canadian Mineralogist* 55(4):651-668.

The composition of green-colored stone beads found at Fewet, a Garamantian site (2nd century BC - 1st century AD) in the Libyan Sahara reveals they consist of serpentinite and amazonite.

**Zwan, Nelleke van der**

1985 *Oog voor Kralen*. Afrika Museum, Berg en Dal, Netherlands.

Richly illustrated catalog of African beads and necklaces past and present with chapters on materials, glass trade beads, social role, and function. In Dutch with German translation.