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.

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

Ajetunmobi, R.O.


Allen, Jamey D.
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
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.
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
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
Hundreds of opercula of the snail *Revoilia guillianopsis* 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.
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.

Berthier, Sophie
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  

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  

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

Biton, Marlene  

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.  

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

Botha, Rudolf  

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 et al.  

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**


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**


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

**Brent, Michel**


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.

**Busch, Jürgen**


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

**Bvoc ho, Godhi**


Examines archaeological ornaments as chronological indicators and communication devices. The period covered ranges from the 8th-18th centuries A.D. 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**


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.*
Powder-glass beads have a long history in Africa. Early examples appear at Mapungubwe, South Africa, in archaeological contexts dated to A.D. 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.


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. A.D. 1000.

Caton, Alex


Chami, Felix A.

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.

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

Chirapa, J.

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

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. Sengelov, F. Steyaert, C. Verhaeghe, and K. Bostoen

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

Connah, Graham
A unique hoard of 622 carnelian and quartz beads believed to date to the 1st or 2nd millennium A.D. 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.
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.
Contains a section on Trade Beads (pp. 188-192).

Dapschasuskas, Rimtautas
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.

**d’Errico, F., L. Backwell, P. Villa, et al.**

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**

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, F., M. Vanhaeren, N. Barton et al.**

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 Sub-Saharan 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**

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.

**DeCorse, Christopher R.**

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.

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.

DeCorse, C.R., F.G. Richard, and I. Thiaw  
2003 Toward a Systematic Bead Description System: A View from the Lower Falemme, Senegal.  
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  
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.

Dempf, Martina  
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, J., K. Klehm, and L. Dussubieux  
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.

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.

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

DuBroc, Beau Richard  
Concentrates on the ostrich eggshell beads recovered in practically every level of this site occupied continuously for almost 1,000 years.
Duhard, J.-P.
On the ancient stone beads found at Korogoussi, Nigeria.

Edwards, David N.
Includes material on glass beads, including mosaic types.

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

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

Eluyemi, Omotoso

Nigeria.

Euba, O.
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.

Farcy, Henri
A general discussion of glass trade beads in Zanzibar and central Africa from around 1850 to 1925.
**Fernández, V.M.**  
Beads from a ca. 18th-century-B.C. cemetery in Nubian Sudan (pp. 296, 313-315, 320, fig. 13). Summary in English.

**Flexner, J.L., J.B. Fleisher, and A. LaViolette**  
Discarded potsherds or stone cobbles with long grooves abraded into their surfaces are some of the most common artifacts on late 1st-millennium A.D. 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.**  
Principally about the Ghanian 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.

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.

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

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

**Gijanto, Liza**  
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.**


**Gokee, Cameron D.**


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.

**Gott, Suzanne**


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.


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.*


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

**Gratien, Brigitte**


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**


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

Gurstelle, Andrew W.
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 et al.
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
The excavation of the necropolis of Kapanda in Angola produced cowries and glass beads (including ground chevrons).

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
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.

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.

**Hansen, Ine Askevold**


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.**


**Harter, Pierre**


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

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


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.**


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.


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

**Henshilwood, C., F. d’Errico, M. Vanhaeren et al.**


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

Holden, Constance
Discusses and illustrates the shell beads reported by Hensh ilwood 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.
Discusses the production of and trade in carnelian beads in Chad.

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

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*
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**

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

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

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).

Discusses carnelian and glass beads in the western Sahel.

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**

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.**

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.


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 B.P. to just after 1790 B.P. It should be noted here that further work may revise these dates and descriptions somewhat, but not to any material extent.

**Jerardino, Antonieta**


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**


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.**


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

**Karklins, Karlis**


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


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.

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 Carmel Schrire

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

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.

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

Killick, David

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

Kimura, Birgitta and Dinote Kusia Shenkere

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 !Khuiseb Delta, Namibia. The various types are attributed to one of three 
periods which roughly correspond to the 18th, 19th, and 20th centuries, respectively.

Klapwijk, Menno
1991  Minute Glass Beads from the North-Eastern Transvaal, South Africa. *South African 

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

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

Klenkler, C.E.

Prehistoric beads, pendants, etc. (pp. 120-125).

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

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, 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 
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**  
An overview of beads in Ghana.

**Lahitte, Miriam**  
On ostrich eggshell beads from a fortress ruin in northern Sudan dating ca. 750-350 B.C.

**Liu, Robert K.**  
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**  
Explores the history and much-debated technology of making these rare and controversial beads.

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

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

2012  *Aspekte der napatanischen Gesellschaft. Österreichische Akademie der Wissenschaften Denkschriften der Gesamtaademie* LXVII.  
Located in northern Sudan, the cemetery of Sanam, which dates to the 8th-7th centuries B.C., yielded a variety of beads, pendants, and amulets.

**Longa, Anna**  
In a complex of tumuli cemeteries dating to the first centuries A.D. 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.**

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

**Magnavita, Sonja**

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


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

**Manzo, Andrea**

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.


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 B.C.

**Marshall, L. Wilson**

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

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.

McIntosh, Susan K.

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 B.C. to ca. A.D. 1400.

Milburn, M. and R. Schneider

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

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.

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.

Mitchell, P.J.

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

Munro-Hay, S.

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.

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**


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.


An unusual tubular glass bead was found at a Meroitic temple complex in Sudan dating to the late 3rd or 2nd century B.C. 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**


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

**Nourisson, Pascale**


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.

**Ohinata, Fumiko**


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**


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

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 (A.D. 1000-1400).

**O’Hear, Ann**
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.


**Oppor, Howard and Marie-José Oppor**
On imitations of gneiss beads in Mali made from powdered glass and crumbs of Medieval Islamic glass beads.

**Oppor, Marie-José and Howard Oppor**
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.

An in-depth study of the subject, this 16-page pamphlet is illustrated with four color plates.

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

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

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

**Orton, Jayson**
Ostrich eggshell beads were produced at this site attributed to the Later Stone Age.
Pallaver, Karin
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
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
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. et al.
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.

Philips, T. (ed.)
A massive exhibition catalog, mainly with color illustrations, covering the whole of Africa from the earliest times and includes several entries relating to beads.

Picard, John and Ruth Picard
Presents 8 pages of excellent full-color images of a wide range of chevron beads. Each is described but no interpretive information.

Presents 4 pages of excellent full-color images of a wide range of tabular beads. Each is described but basically no interpretive information.
This 16-page booklet presents 4 pages of excellent full-color images of a wide range of fancy beads. No descriptions nor interpretive information.

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.

This and the following volumes beautifully illustrate numerous beads in the categories represented.


**Pikirayi, Innocent**
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**
Located in Ethiopia, the disturbed tumulus yielded a green stone pendant, a carnelian bead, and 75 glass beads.

**Poissonnier, Bertrand and B. Hirsch**
Attributed to the 15th century, Tumulus 2 at Meshalâ Maryam, Ethiopia, yielded many glass beads.

**Radimilahy, Chantal**
Describes the recovered beads and proposes local production for the glass specimens.

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

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-Damehouégo (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 Doguéme (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**

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


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 A.D.

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

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.**
Botswana, Namibia.

**Robertshaw, Peter**

Beads were found among the burials: iron, a few glass, and possible ivory (p. 14) dated to ca. A.D. 900-1200. Uganda.

**Robertshaw, Peter, Marilee Wood, Anne Haour et al.**

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**  
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**  
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, B.**  

**Saitowitz, Sharma J.**  
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.

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


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

Simak, Evelyn
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
This book is a magnificent showcase of African-made beads and is based on the authors’ extensive collections of beads from all the different regions of Africa. 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 of the photographs are full-page views.

Smith, Andrew B. and Leon Jacobson
Beads formed from shell, seeds, and ostrich eggshell were recovered from this site whose occupation began ca. 1800 B.P. 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
At several sites, small ostrich eggshell beads are associated with hunter-gatherers while large eggshell beads relate to herders.

Stahl, Ann B.

Stanfield, Kirk
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.

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

Then-Oluska, Joanna
Outlines a major project intent on creating a catalog of Lower Nubian beads with interpretive data. Sudan.

Excavations at the Early Makurian burial site of El-Ar 1 in Ab Naqaqir (the late 4th/early 5th century A.D.) 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.

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.

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 B.C. Briefly described in Näser (2013).

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.

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.


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 B.C.-A.D. 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.

Thiw, Ibrahima

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 Martinón-Torres

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 (A.D. 1000-1900). The analytical study employed optical microscopy, ED-XRF, and SEM-EDS.

Thornton, Robert

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.

Hlamba Mlonga Hill was occupied between the late 10th and 15th centuries A.D. 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**

Terra cotta and stone beads.

**Trebbin, Cornelius**

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**

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.**

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**

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**
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**


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**


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**


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

**Villa, P., S. Soriano, T. Tsanova, I. Degano, T. Higham et al.**


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.**


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

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

Wilmsen, Edwin N.
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.)
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, Thomas H. and Athman Lali Omar
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: A.D. 1150-1700.
Withers, Sara
Discusses the beads and bead sample cards that Arkell collected in the 1930s in what was then the Anglo Egyptian Sudan.

Wood, Marilee
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.

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.

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 A.D., are described and placed in the context of Indian Ocean trade during that period.

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.

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 A.D., were found in the excavations. They are described and compared to other bead assemblages of this period in southern Africa.

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.

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.

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.

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.

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.

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

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**

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
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.

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

Zerboni, Andrea and Pietro Vignola
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.

Zwan, Nelleke van der
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.