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Documenting Precolonial Trade in Africa

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Abstract and Keywords

Promoted by necessity, scarcity, and/or abundance, trade is one of the most essential cultural behaviors that promoted contact and exchange of ideas, commodities, and services between individuals and communities and variously transformed African societies of different regions and time periods. Anthropological, historical (including historical linguistics), and archaeological evidence points to the existence, on the one hand, of intra-African trade and, on the other, of external trade between Africa and those outside the continent. Traditionally, however, trade and exchange involving perishable and organic commodities such as grain and cattle have until now been very difficult to identify due to a lack of well-resolved documentation techniques. By comparison, that some objects such as metal artifacts, glass beads, ceramics, and porcelain are pyrotechnological products, with a high survival rate that makes their trade and exchange easily visible archaeologically. Given the well-known regional differences across the continent, it is essential to combine multiple sources and techniques, in a multipronged way, to provide a dynamic picture of the mechanics of precolonial African trade and exchange of various time periods and geographies.

Keywords: trade, exchange, oral accounts, precolonial Africa, archaeology, historical documents, anthropology, interaction

What Is Trade?

Trade is one of the earliest research themes within anthropology and by extension archaeology. Academic engagement with trade and culture contact can be traced to early 20th century, with debates of acculturation and diffusion that defined so much of what archaeology and anthropology became started.¹ By the 1960s and 1970s, economic anthropology and historical and ethnographic studies from Africa (Figure 1) had a global impact on seeing trade and exchange not solely arising out of necessity, but having a social rather than economic context rooted within the substantivist-primitivist paradigm of Dalton and Polanyi,² and ultimately in cultural materialism in social sciences of the latter half of the 20th century. These have shown that African economies were embedded in reciprocity, redistribution, and administered exchange.³



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Figure 1. Map of Africa showing various countries and the distribution of some of the resources that were traded and exchanged in antiquity. Map created by the author.

Anchored on this historiographical background, Africanist anthropologists, archaeologists, historians, and allied specialists have since the 1960s and 1970s invested a significant amount of effort in understanding the nature and mechanisms of trade and exchange between societies of various time periods.⁴ Perhaps the most crucial question is, what is trade and exchange? This is pertinent because despite being “overused,” many professionals use the term without defining it

such that trade inevitably becomes “every form of contact.”⁵ According to Renfrew, in its broadest sense, trade is the reciprocal traffic, exchange, or movement of materials or goods through peaceful human agency.⁶ Initially, trade and exchange facilitated the direct or indirect transfer of ownership of goods or services from one individual, group, or community to another in exchange for other commodities. Not surprisingly, trade was often traditionally narrowly viewed as the commercial dimension of exchange.⁷

While trade and embedded exchange were often disorganized, they too could be organized and institutionalized with permanent or shifting distribution and redistribution centers such as markets. Itinerancy, which involved traders moving from area to area to

trade, was also a well-developed system of trading and exchanging by different groups in parts of Africa (e.g., post-1000 CE Soninke and Hausa peoples in West Africa and post-1600 CE Tsonga and Njanja people in southern Africa). When compared to purely commercial trade, exchange is much broader and includes the reciprocal exchange of goods through mechanisms such as gifts, tribute payments, piracy, brigandage, and even marriage alliances.⁸ As with trade, exchange also involved direct or indirect contact, migration, political conquest, and much more. Barter, a system that saw the direct exchange of goods and services for other goods and services without the use of a medium of exchange such as currency, was the earliest form of trade and exchange. It is believed to have possessed both practical and symbolic significance and was a feature of sedentary and nonsedentary communities as well as of hunters and gatherers, pastoralists and farmers.⁹

From 10,000 years ago onward, communities in the Sahara and the Nile Valley were involved in trade and exchange, and by 5000 BCE had acquired domestic animals from Asia. Aksum (c. 200–800 CE) and Roman and post-Roman North Africa (c. 146 BCE to post-340 CE) used coinage as a medium of trade. Coinage was however not the only currency (*sensu* medium of exchange) used; among the Kru of Liberia and Sierra Leone, *kissi* pennies were used as currency in the 19th century just as brass rods were used by the Tiv of Nigeria in West Africa (c. post-1600 CE).¹⁰ In Central and parts of southern Africa, copper ingots (Katanga crosses) were used as a medium of exchange from around 1000 CE onward.¹¹

From both theoretical and practical points of view, the presence of goods and materials manufactured in one region, when found in another, with no production evidence of its own, suggests trade and exchange. It is, however, essential to exercise extreme caution before attributing all seemingly exotic materials such as a single glass bead, a piece of Chinese celadon, or a piece of Islamic fritware to trade even in regions with no productive capacity of their own because they might have been exchanged as gifts and such. Even so, there are instances when commodities and services as well as gifts and tribute were exchanged between areas with production capabilities of their own. Furthermore, contact often promotes subsequent imitation and innovation resulting in stylistically similar objects such as pottery and trinkets being independently made in a wide area through a relay of ideas. Under all these complexities, it may be difficult to separate commercial motive (trade) from other forms of exchange (including ideas, in the case of imitation), even through careful contextual analysis.¹² Given this difficulty of separating the purely commercial exchange (trade), particularly relating to communities of the deep past, from more inclusive and broader forms of exchange, it is prudent to simultaneously consider trade and exchange as broadly defined because, despite possible differences in motive, goods, services, and ideas changed hands under both circumstances.¹³ All this confirms the recognition that trade and exchange are more than just commercial transactions.¹⁴

Generally, trade and exchange could be conducted by anybody anywhere, depending on circumstances and conditioned by the level of societal development. While in some communities trade was done on a part-time, seasonal basis by everybody,¹⁵ in others it was controlled by a higher authority and was performed on a more organized and full-time basis.¹⁶ Even so, trade and exchange for daily necessities would most likely have been performed on a continuous basis, perhaps conditioned by availability during different seasons or periods of the year. In general, trade was motivated by several factors, among them necessity, sociocultural and religious needs, economic considerations, political considerations, and much more. Regardless of motive, the consequences of trade and exchange extended to stimulating innovation and imitation through culture contact, various forms of interaction, dispersal of plants and animals, and even permanent settlement.¹⁷ However, it is obvious that under trade and exchange, goods changed hands: peacefully, forcefully, fairly, or otherwise. While it is tempting to classify trade into binaries such as internal versus external, long distance versus short distance, and luxury versus necessities, it is important to note that all forms of trade were closely intertwined and morphed into one another, thereby often making such bifurcation, outside analytical convenience, unnecessary.

Essential as trade and exchange were to humanity through time, the most fundamental question is how we document localized and nonlocalized forms of trade, particularly for the deep periods when conventional historical sources are limited and when it is well known that archaeological coverage is very poor in many of Africa's regions. This question is pertinent because owing to the high visibility of objects such as glass beads and porcelain (that appeared mostly from 700 CE onward) used as evidence of trade and exchange in regions such as East Africa, it was traditionally easier to document transcontinental trade when compared to localized trade involving commodities such as grain and cattle. The poor coverage in terms of archaeological research often motivates the drawing of big arrows across Africa, accompanied by doses of speculation, to explain directionality of trade across vast expanses of archaeologically unexplored lands. In the absence of reliable scientific techniques and skills within Africa, required for reconstructing trade and exchange, Africanist scholars often relied on the partial and often very vague and imprecise reports by semi-to fully literate Arabic traders who visited regions such as East and West Africa, particularly for the periods after 700 CE. Modern advances in scientific techniques of investigation now make it possible to reconstruct, within limitations, trade involving organic and inorganic commodities.¹⁸ A combined-source and -technique approach as advocated in the next section is the only useful way to develop a nuanced documentation of trade and exchange and its aftermath such as mobility, transfer of ideas, exchange of objects, and flow of plants and animals within, into, and out of Africa temporally and spatially.

Sources and Techniques for Documenting African Trade

Within the past 10,000 years or so, various African communities located in different topographies (e.g., the Sahara, Nile Valley, East and southern Africa) participated in trade and exchange relationships on various scales: local, regional, and intercontinental, as well as temporal and spatial.¹⁹ An understanding of the mechanics of trade at this multiscale level requires combined-source and multi-technique approaches that accord significant weight to the local context as a major building block toward reconstructing the global picture.

Documentary Sources for Studying African Trade of Different Time Periods

That many of Africa's regions share different cultural trajectories is beyond questioning and in fact produced a very interesting history of the continent and its peoples. As a form of recording daily activities and memories, writing in Africa began in ancient Egypt (c. 3000 BCE) and over time spread to Nubia.²⁰ Through written texts, ancient Egyptians recorded events that included trade within Egypt and between Egypt and surrounding areas, wherever the resources were.²¹ What makes ancient Egypt and Nubia of unique interest is that often there are images such as those in the Tomb of Rhekmire (c. 1550–1298 BCE) that not only document the mundane life of privileged classes but also comment on trade and exchange relationships with various areas. For example, the “world's first known map” (Turin Papyrus scroll)—a spatial rendition of the gold mines in the Eastern Desert around 1160 BCE shows the location of various mines that produced gold that was traded and consumed within Egypt.²² From its African trade partners, such as Nubia, Punt, and many others, ancient Egypt sourced gold, slaves, and ivory, ebony, and skins, but it is not clear what was exchanged in return, but bronze objects and glass beads are some of the possibilities. Ancient Egyptian documentary sources neither clearly articulate the mechanics of the trade within their territory and outside it nor fully present dynamics of the trade. However, it is known that sailboats were used along the Nile and the Red Sea, and donkeys and in later times; camels would have been used in the trade with Nubia and Kush.²³

Aksum (c. 270–700 CE) in modern-day Ethiopia is another literate region that preserved written information on trade and exchange relationships from the early 1st millennium CE.²⁴ Documentary sources intimate that trade, mostly conducted via the port of Adulis, connected Aksum to the Mediterranean world, southern Arabia, and communities on the Indian subcontinent. Aksum exported ivory, tortoise shell, gold, and emeralds, and imported silk and spices. As with most documentary sources, very little is known about the mechanics of localized forms of trade, but it is possible that there were localized markets for such trade. The Aksum coinage minted (in increasing order of value) in bronze, silver, and gold would have greased such localized trade.²⁵

Shifting focus to West Africa, from the establishment and flourishing of the trans-Saharan trade (more intensely post-700 CE), there exist some limited literary texts that document trade and exchange relationships along the trade routes.²⁶ 1st-millennium CE Arabic reports are sometimes vague and were often not based on firsthand, information but they mention important places where trade took place and the commodities that were exchanged. With the gradual adoption of Islam in West Africa (between 750 and 1400 CE), some of the events at the courts of the kings and mosques were also recorded, but this happens after the 13th century. Accounts of Muslim scholars and travelers such as Ibn Battuta (c. 1304–1368) have also been useful for documenting the trans-Saharan trade.

We know from documentary sources that Mali (c. 1200–1550) had well-established caravan routes that converged at Niani and other trading posts that were under military protection by the empire. Mali exchanged slaves, gold, and kola nuts for salt and possibly copper from across the Sahara. Along with the trade and exchange of material goods went the dispersal of Mande (language of Malian Empire), technology, and culture.

As more and more of West Africa became Islamized, local Islamic scholars recorded various daily and religious activities. Such historical information is recorded in the Timbuktu manuscripts that became abundant after the 15th century CE.²⁷ The historian Levtzion relied heavily on these documentary sources when recording trade within successive West African states of Ghana (c. 700–1200 CE), Mali (c. 1200–1550), and Songhai (c. 1300–1600).²⁸ A detailed study of Islamic manuscripts by Jeppe and Diagne shows that while having a religious bias, other kinds of useful information can be obtained from these records.²⁹ The documentary sources identify the major commodities such as gold, kola nuts, and slaves that were exchanged for, among others, salt and the various trading and staging posts (e.g., Gao, Timbuktu, Jenne, Koumbi Saleh) where such trade took place.

With the rise of the Atlantic trade (c. 15th–19th centuries CE), more commercial traffic developed between West African coastal regions and Europe. This resulted in European settlement in areas such as Senegal and Ghana. The Portuguese established forts at places such as Elmina in modern Ghana (in 1482) to promote trade with communities in the interior. With the onset and intensification of the slave trade, more documentary sources appeared in the form of diaries, slave log reports, and much more. This information illuminates trade and exchange relationships that took place and the often traumatizing phenomenon in which trade in basic commodities such as iron fueled the slave trade and violation of the people who produced the commodities.³⁰

With the establishment of Islam on the East African coast, various writers commented on daily activities on the coast and hint at trade between the coast and the southern African interior. Writers such as al Masudi (c. 856–956 CE) comment on the trade between East Africa and the hinterland believed to be the Zimbabwe Plateau.³¹ According to Masudi, the hinterland supplied iron, gold, ivory, and possibly slaves in exchange for glass beads, cowries, and cloth. In this area, the Portuguese overtook the trade from the late 15th century onward and established trading stations such as Dambarare in the interior by the beginning of the 16th century CE. They left many documentary sources that within limitations have been used for understanding trade relations with the Mutapa state (c. 1400–1900 CE) and between the Mutapa and the Portuguese.³² In the Kingdom of Kongo (c. 1390–1914) in modern-day Angola, the Portuguese also left various reports that are an important source of information. Across the entire African continent, documentary sources had increased in frequency by the eve of European colonization, largely due to the activities of missionaries, travelers and traders and military personnel.

Useful as they are, written or documentary sources only provide a partial view of the past. Egyptian written texts and tomb paintings are biased in favor of the upper classes and are very thin on the mechanics of trade and activities involving the lower classes either within Egypt or between Egypt and other societies. Islamic texts on the trans-Saharan trade do not provide significant information on the activities of non-Muslims, while some accounts even by celebrated explorers and geographers such as Herodotus, Ibn Battuta, and al Masudi were often based on hearsay and not eyewitness accounts. Portuguese reports in west, central and southern and eastern Africa are also limited in that, apart from being authored by illiterate to semi-illiterate folks, they do not provide many details about local trade or the issues that did not interest them.³³ Furthermore, written documents do not exist for much of the African continent including central Africa, thereby motivating for other sources of information such as oral texts.

Oral Sources for Documenting Precolonial African Trade and Exchange

If one of the limitations of documentary sources on precolonial African trade is that they mostly provide the view of the observers (and not the observed), then the main advantage of oral sources is that they avail the much-needed perspective from the observed groups. Many African societies had oral literacy that was sustained through traditions handed on to the future. The *griots*, who were official court historians and custodians of royal narratives in West Africa (from roughly mid-1st millennium CE to the 19th century) and *imbongis* (storytellers and praise singers) among the historical Zulus of South Africa, are well-known promoters of oral literacy. However, such official traditions were biased in favor of court activities and not mundane, day-to-day events. Oral sources include traditions, myths, and legends that were transmitted by word of mouth from one generation to another.³⁴ Often, these traditions were repeatedly recited and performed to the point that, within limitations, they reflected some commonly held positions.

In the area around the modern Cameroon/Nigeria border (Sukur region), oral traditions dating to from the 16th century onward pointed to the existence of intensive iron production that annually produced 60,000 hoes to meet the demand of the empire of Bornu. Ironically, this trade sustained slave raids in the producer area, creating a very complicated historical dynamic in which producers of iron were shackled and manacled using their own creation.³⁵ In central Africa, most of what we know about trade and exchange relationships involving the Luba (c. 1585–1889) and Lunda (c. 1665–1887 CE) comes from oral traditions.³⁶ One of the most important pillars of local and outward trade in these communities was copper whose ingots were often stylistically group specific. For example, the Yeke, Sanga, and Luba made distinctive types of ingots whose names and trade patterns are still firmly etched in local memories.³⁷

In southern Zambezia, much is known about communities that populated the region defined by the Indian Ocean to the east, the Kalahari Desert to the west, the Zambezi River to the north, and the Soutpansberg range of mountains to the south. Beach makes the point that in this region, speakers of dialects of a language now known as Shona had a well-developed oral literacy.³⁸ Using insights from oral sources gathered from the region, Mudenge studied trade within the Torwa-Changamire (c. 1400–1900 CE) and Mutapa (c. 1400–1900 CE) states and highlighted that cattle raising and by implication cattle trade was an important branch of the economy that superseded gold trade.³⁹ This cattle-centric localized trade system frustrated the Portuguese, who were interested mostly in gold. Thus, while traders at the Indian Ocean coast placed so much value on gold, local traditions make it explicit that this was not the view of local people.

As a source of information for precolonial trade, oral sources are affected by several limitations. Firstly, they are easily forgotten. Secondly, they suffer from chronological telescoping. Thirdly, they can easily be changed to suit prevailing contexts. Fourthly, most oral traditions tend to favor the dominant, although careful historical work may produce oral traditions associated with the common people. Fifthly, nowadays, the utility of oral traditions is diminished by the feedback that often takes place between the oral and the written. What was oral is now written and what is written is now in people's minds creating a complicated web that is difficult to disentangle. However, whatever their limitations, oral sources are a formidable source of historical information pertaining to trade.

Historical Linguistics and the Documentation of Precolonial Trade and Exchange

Words and their history, when reconstructed through space and time, are now a key source of studying African history and by extension trade and exchange. This falls within the ambit of historical linguistics.⁴⁰ Decoding history from words and languages proceeds by way of language genetic classification to develop a framework of language change through time. This change can be estimated back to an ancestral language spoken centuries if not millennia earlier. Thereafter, linguists deploy different statistical techniques (e.g., lexicostatistics and glottochronology) to establish relationships between languages, map changes between modern languages and presumed ancestors, and identify changes in the meaning of words and grammar. Using historical linguistics, De Luna came up with the concept of “bushcraft” whereby Botatwe farmers (Bantu) in south central Africa collected among other things foods, ivory, medicines, and honey from the bush and traded within and between their communities.⁴¹ The reconstruction of the meaning of Botatwe words opened insights into local and regional trade networks involving copper, iron, honey, and ivory that suggested that this region was as innovative as historically and archaeologically better-known regions such as the Limpopo Valley in South Africa, northeastern Botswana, and southern Zambezia. Techniques of comparative linguistics such as glottochronology are limited in that they cannot date with precision when language changes took place. This makes it important for researchers to attempt to combine the linguistic picture with the archaeological material record, oral historical accounts, and where available documentary sources. Nevertheless, comparative linguistics is an important tool for historical reconstruction of trade and exchange in Africa.

Archaeology and Precolonial African Trade

Archaeology is a major source that, in multiple ways, contributes to our understanding of precolonial African trade. Most archaeological work has targeted trading centers and staging posts associated with well-known trade routes (e.g., Jenne, Gao, and Timbuktu for the trans-Saharan trade in West Africa), centers of power that might have depending on context, controlled and/or administered trade (e.g., Aksum, Kilwa, Koumbi Saleh), production centers associated with goods that were distributed (e.g., Meroe in the Sudan and Bassar in Togo and Rooiberg in South Africa), and the distribution of specific trade items (e.g., copper ingots used as currency in Central Africa) on the landscape.

Archaeological excavations performed in various regions of Africa have enhanced our understanding of trade in societies at different levels of sociopolitical organization. Evidence from the Rift Valley regions of Ethiopia suggests that obsidian was widely

traded and exchanged from the Middle Stone Age (c. 70,000) onward until the last few thousand years. As far as hunters and gatherers are concerned, Mitchell demonstrated that within the last 10,000 years, communities resident in southern Africa practiced trade and exchange known as *hxaro* initially between themselves and later with farmers (from early 1st millennium CE onward).⁴² At Sehonghong in Lesotho, evidence suggests that hunter-gatherers traded and exchanged ostrich eggshell beads, animal skins, and meat with farmers who occupied the KwaZulu-Natal coastal plains. This shows that trade and exchange constitute one of the most established cultural behaviors attested in the African past.

Archaeological excavations at trading centers across Africa have greatly enhanced our understanding of precolonial trade and exchange in Africa. For example, excavations at Gao (c. 750 CE onward), a trading town on the Niger River in West Africa, yielded artifacts from across the Sahara such as glass beads and bronze artifacts that attest to the fact that this place was an important staging post for trans-Saharan trade.⁴³ Excavations at other trading centers in the same region such as Tadmekka on the southern edge of the Sahara Desert in Mali yielded coin molds and other objects that demonstrate the existence of trade and exchange and the use of coinage in Islamized trading towns of West Africa from the 9th and 10th centuries CE onward.⁴⁴ In southern Africa, archaeological excavations at Chibuene (c. 700 to 1700 CE) on the Indian Ocean coast in Mozambique as well as the later Swahili towns such as Kilwa has also exposed trade items such as glass beads, and imported ceramics that were in demand on the coast and in the interior. These were exchanged for ivory, gold, tortoise shells, and perhaps slaves. Islamized East African trading towns such as Kilwa (c. 1100–1600 CE) had coinage systems that greased trade and exchange. These few examples suggest that the archaeology of known trading centers is essential for throwing light on materials that were traded and exchanged in various directions in numerous parts of Africa.

Archaeological work outside of trading centers has also identified objects that are known to indicate consumption of materials, commodities, and ideas originating from different areas. For example, excavations at Igbo Ukwu (c. 800–900 CE) in Nigeria produced a significant amount of glass beads that are like those used in regions such as southern Africa at the time. In addition, Igbo Ukwu yielded spectacular bronzes that were produced using tin and copper from widely separated areas of Nigeria. Furthermore, Igbo Ukwu yielded thousands of glass beads that were imported from North Africa and the Middle East. The similarity between Igbo Ukwu beads and Zhizo types in southern Africa suggests chronologically overlapping connections between, on the one hand, West Africa, North Africa, and the Middle East and, on the other, southern Africa and the Middle East via East Africa. This attests to the fact that from 700 CE onward most African regions were networked through the emerging trading system that with time intensively connected Afro-Eurasia.

Excavations at Aksum by Phillipson recovered significant material such as coins that can be used to understand trade and exchange at this prominent place.⁴⁵ Other objects of varying provenance such as ivory, tortoise shells, spices, and silk articulate Aksum's connections locally and within the wider region including the Indian Ocean, Red Sea area, Gulf of Oman, and the Arabian Peninsula. In West Africa, excavations at Jenne Jenou in the inland Niger Delta uncovered glass beads, and bronze items that originated from farther north, confirming that the inhabitants of this region participated in the trans-Saharan trade. However, the same excavations highlighted that localized trade in grain and other local resources preceded trans-Saharan trade by centuries. Moving to East Africa, excavations at Swahili towns such as Shanga identified glass beads, Islamic ceramics, and Chinese porcelain that were sourced through the Indian Ocean-based trade and exchange system. Shifting into the interior, Great Zimbabwe (1000–1700 CE) yielded significant quantities of glass beads, fewer than a hundred fragments of imported ceramics, and bronze objects, gold objects, and tin ingots, suggesting that it participated in local and regional trade. An Arabic coin and imported ceramics like those used at Kilwa in the 14th and 15th centuries were also recovered from Great Zimbabwe confirming direct or indirect connections between these places.

Archaeological research in numerous parts of Africa exposed the existence of large-scale production debris that is consistent with commodities production beyond local needs. For example, the city of Meroe, which became the capital of the Kingdom of Kush around 591 BCE, is characterized by the presence of huge slag mounds, which attest to its status as a major iron production and trading center.⁴⁶ Shuttling to post-16th-century West Africa, de Barros documented very large slag mounds in Bassar Togo that are remnants from an extensive trade and exchange in iron.⁴⁷ Indeed, this archaeological observation from large-scale production centers is supported by historical information that makes an explicit case for specialization and trade in metal. Other resources such as salt that were intensively exploited at Taghaza (Mali) were traded across large parts of North and West Africa and partly sustained the economy of empires such as Ghana, Mali, and Songhay.

However, some nuance is essential: Chirikure's archaeological study of places associated with the historically known specialized Njanja iron production in central Zimbabwe yielded stunningly contrasting results from production centers.⁴⁸ While historical sources explicitly associate the Njanja with large-scale trade- and exchange-oriented iron production,⁴⁹ Chirikure did not find any evidence of large-scale slag mounds like those of West Africa at places historically associated with the Njanja iron industry. This differential does not suggest that compared to West Africa there was no large-scale metals trade in southern Africa: it simply alludes to variability in the organization of production. In southern Africa, production was concentrated in small centers dispersed over the landscape, whereas at Meroe, Bassar, and other places, it was concentrated in a few areas such that debris could accumulate to huge heights. Therefore, understanding the production context and organization of production is essential for documenting trade and exchange.⁵⁰

In fact, across Africa, a wide range of objects generally referred to as “currencies” were used as mediums of exchange. Excavations by de Maret and colleagues at Sanga and other places in the Democratic Republic of Congo identified different types of copper ingots that were traded over wide areas from 900 CE onward. These copper ingots continued to be used as a medium of trade and exchange well into the historical period. Another currency example is that of manillas, which were made of imported European bronze and brass and were widely used in West Africa from around 1500 onward. These currencies had exchange as well as symbolic value in regions of Nigeria such as Calabar. While trade and exchange may have been localized, various distribution mechanisms such as direct contact at individual or market levels may have been employed. Alternatively, a subsequent relay from producer to consumers may have been employed. This form of distribution likely accounted for the presence of Chinese porcelain in the interior of southern Africa with neither the Chinese nor residents of the interior of southern Africa moving in either direction.

As with other sources, conventional archaeology that only focusses on object typologies or presence or absence of objects to document trade is severely limited. Often, the mechanics of trade between different communities and regions remain speculative because the directionality of the trade is not always obvious. Furthermore, such archaeology is mostly constrained by the surviving evidence: it is historically known that various communities in West, Central, and southern Africa traded in perishable commodities such as grain. But leaving the preservation problems aside, it is difficult to separate grains of the same crop produced either in different or similar areas. Even with inorganic materials, it too is difficult to infer directionality of trade. Fortunately, there now exists a wide array of techniques that make it possible within limitations to identify the source of archaeological objects to determine trade and exchange. While such techniques are now readily available in Europe and America, they are still not easily accessible to many African researchers. However, scientific techniques on their own do not provide magic answers; they are only as good as the archaeological context.

Scientific Techniques for Documenting Precolonial African Trade

A large suite of analytical techniques is now available to meet different archaeological research needs.⁵¹ The full inventory of scientific techniques often deployed for compositional and elemental study of archaeological materials is very long. Here, only a few will be discussed for illustrative purposes only. Because each single technique works better for accessing different kinds of information, the most common practice is to combine multiple techniques.

Two techniques that have been used with remarkable degrees of success in documenting precolonial African trade are X-Ray Fluorescence (XRF: Wavelength Dispersive XRF and portable XRF) and ICPMS (both laser ablation and solution). These techniques were combined by Robertshaw and colleagues, who sourced glass beads found in different parts of southern Africa.⁵² Although it has long been known that trade beads found in the region came from different areas, typological work did not often identify the source of glass beads used in different time periods and whether such sources remained constant through time. To source some of the glass beads, Robertshaw and colleagues studied the major, minor, and trace element composition of glass beads used between 800 and 1650 CE and showed that the sources of raw materials used to make glass beads varied through time and were specific to Egypt, the Arabian Peninsula, and India, prompting them to model changes in glass-bead supply from Egypt to the Middle East and India and the Pacific that corresponded with geopolitical events in these regions through time.

Prinsloo and Colombari used Raman spectrometry in combination with pXRF to provenance the celadon found at some of southern Africa's sites such as Mapungubwe and Great Zimbabwe.⁵³ The resulting chemical signatures pointed them to workshops in China that produced the celadon that ended up in southern Africa. This exposed a network of trade whereby commodities made in China ended up through various networks of distribution in India, and from India to East Africa and East Africa to interior southern Africa. This demonstrates the power of analytical chemistry in illuminating the movement of goods between and among peoples.

Scientific techniques have also played an important role in determining the movement of copper-based objects between regions of West Africa such as the *Mare de Kissi* region of Burkina Faso and Roman West Africa via places such as Marandet in Niger.

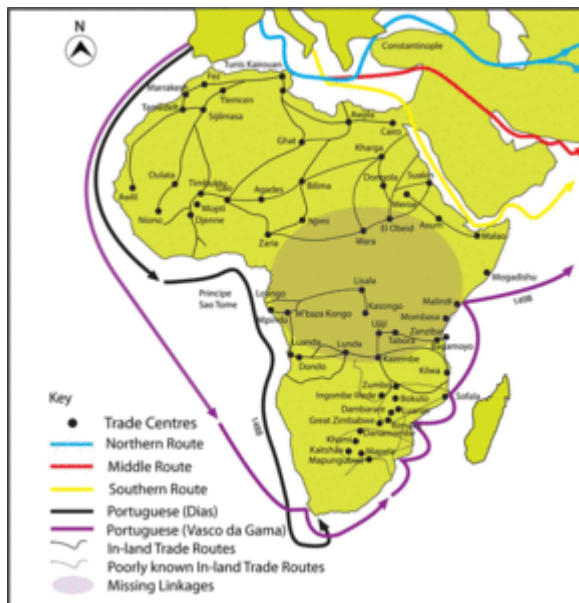
Archaeometallurgical analyses were complemented by lead isotope analyses of *Mare de Kissi*, indicating that the copper-based objects from cemeteries dating between the 1st century BCE and 9th century CE in this region of West Africa closely resembled that of copper-based objects recovered from parts of Niger and Roman North Africa. The isotopic data suggested that the *Mare de Kissi* copper objects like those other parts of West Africa such as Niger may have originated from the Mediterranean region and beyond, thereby supporting a north-to-south movement of commodities through time.⁵⁴

Negash and Shackley utilized instrumentation techniques such as XRF to geochemically provenance the source of thirty-one Middle Stone Age (MSA) obsidian tools recovered from the archaeological site of Porc Epic situated in Dire Dawa, Ethiopia.⁵⁵ Based on elemental composition of artifacts and material from obsidian sources, supplemented by stylistic similarities of the obsidian tools, Negash and Shackley concluded that obsidian was transported to distances over 250 kilometers away, where it was used to make tools. This implicates the possible existence of trade and exchange as an integral component of modern human behavior during the MSA between 60,000 and 78,000 years ago.

While scientific techniques often produce exceptionally exciting results, their application is prone to several limitations that must always be borne in mind when reconstructing precolonial trade and exchange mechanics and patterns. The main one is that often conclusions are drawn from very small sample sizes to generalize about trade and exchange in very large areas, which while producing good indicators may not mean much in practice. Furthermore, because of poor archaeological research coverage, samples are often drawn from sites that are geographically well separated, leaving major gaps that are only filled in using common sense. In addition, the resolution of techniques differs, and given the costs associated with laboratory work, only a combined-source approach seems the best way forward. It is therefore prudent to use data from other sources—documentary, linguistic, and oral—to offset limitations in sample areas and sample sizes.

Discussion of the Literature

Because of different regional histories, sources and techniques of documentation that work so well in one region may not in another. In ancient Egypt, Nubia, and Aksum, written literacy and documentary records produced a layer of information that is important in understanding early trade and exchange. For regions of the continent such as West Africa, the spread of Islam was associated with Islamic literacy and a bias toward religious and not “pagan” activities. Oral literacy and oral sources that are the staple of reconstructing trade and exchange in areas without documentary history are also of great service even where written sources exist because of the alternatives they provide. In some cases of contact, languages of “trade and exchange” emerged, and these dispersed across wide areas. For example, the languages of traders such as Mande and Soninke became widespread in West Africa just as Arabic increasingly found its way into some coastal East African languages resulting in the crystallization of a Swahili identity. In central Africa, Botatwe, a Bantu language, is rich in the history of trade and exchange that involved neighboring and widely separated communities in parts of Zambia, parts of Zimbabwe, and parts of Angola.⁵⁶ Archaeology (including scientific techniques) provides information relating to both recent and deep time scales. Because of their ability to predict and determine movement of commodities across the landscape, scientific techniques are important in understanding the mechanics of trade. Because of source limitations, the best approach to document precolonial trade and exchange in Africa (Figure 2) is to combine multiple sources for multiple perspectives. However, it is simply not enough to use one source or technique to prove or disprove what the other suggests given the different contextual strengths of the sources.



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Figure 2. This map shows the known trade routes from a combined-source approach.⁶⁹ Map created by the author.

In West and East Africa, contact with North Africa and the Indian Ocean rim has exposed these regions to societies with written literacy. In the early years of such contact, most of the information was imprecise and was sometimes based on thirdhand accounts.⁵⁷ With time, however, the resolution of documentary sources increased with more direct contact. After the 2nd millennium CE, local Islamic scholars documented trade and other activities taking

place in these areas. For example, the legend of Mansa Musa, a Malian monarch who went on a pilgrimage to Mecca with significant amounts of gold that crashed the Egyptian stock market in the 14th century CE, provides a glimpse into life during this period. Similarly, the Timbuktu manuscripts also present good information on various West African communities from the 14th century CE onward.⁵⁸ East Africa too had its own Islamic scholars who recorded trade and exchange activities in this area. Indeed, with the advent of the Portuguese and intensified European excursions into Africa, more written sources became available for coastal regions along the Atlantic and Indian Oceans. However, such sources are often very patchy in their coverage and do not extend in detail to sectors of the communities such as commoners or those without political power.⁵⁹ In all these situations, archaeological excavations at places associated with trade and the deployment of scientific techniques to provenance objects from excavations is essential, to complement and to plug the gaps in historical (including linguistic) sources.

Besides chronological depth, archaeology provides another layer of information with potential to document trade and exchange at multi-scalar levels. These scales based on the examples presented above include local objects that were produced and traded and exchanged locally and instances where the same commodities were exchanged for those from outside. This made trading centers and staging posts such as Adulis, Goa, and Kilwa confluences of commodities, people, and ideas of varying provenance. The introduction of Islam and associated infrastructure such as mosques and texts in East and West Africa is a good example of this confluence. The Portuguese also built churches in Angola at Mbanza Kongo (c. 1475 onward) from which they attempted to spread Christianity with a

few locals becoming converts. Still in Angola, the Portuguese attempted to set up iron foundries, but the low quality of the product could not outcompete locally produced iron.

However, in areas where there was permanent settlement of traders from other regions such as Mbanza Kongo (Angola), Dambarare (northern Zimbabwe, c. 1600–1690), and others across Africa, it is important to exercise caution before attributing the presence of all exotic goods to the motive of trade and exchange. A reanalysis of the frequency of imported ceramics at Portuguese trading sites in northern Zimbabwe and chronologically overlapping local sites associated with elites and commoners exposes some very refreshing perspectives. For example, the Afro-Portuguese trading center of Dambarare (c. 1600–1690), situated in a gold-rich area of northern Zimbabwe, yielded over 3,000 imported ceramics, while a very high number is known from related staging centers such as Baranda, Angwa, and Luanze. By comparison, research has identified very minimal fragments of imported ceramics from former Mutapa capitals such as Zvongombe and Kasekete, where local ceramics dominate.⁶⁰ Traditional narratives on trade and exchange in this region often categorize imported ceramics as elite objects that were widely traded and exchanged. However, such a view is contradicted by the very low uptake of such imported ceramics (at elite and commoner residences) in northern Zimbabwe if their high frequency at Portuguese trading centers is considered. A more plausible explanation is that the large numbers of imported ceramics at trading centers such as Dambarare, where the Portuguese were resident, were for use by the Portuguese themselves.⁶¹

We can elaborate this observation by comparison with the frequency and distribution of imported ceramics at Swahili sites on the Indian Ocean Coast. Here, archaeologists have recovered a significant quantity of imported ceramics from Swahili households of elites in towns such as Shanga, Gedi, Kilwa, and many others. In contrast, not many imported ceramics were recovered from wattle and daub houses where commoners were believed to have resided. Therefore, the low presence of imported ceramics at hinterland 2nd-millennium CE elite and commoner sites in southern Africa, when compared to a higher coastal frequency, suggests a preference for local pottery in the interior and a preference for imported ceramics by coastal elites signaling different value systems.

The way hinterland locals seem to have shunned imported ceramics in their value system in northern Zimbabwe emphasizes the point that in each community, materials, values, and ideas passed through cultural filters before they could be locally accepted.⁶² Because of this local agency, not everything from the other world(s) was locally accepted. Like Stahl, Prestholdt argues that only ideas and values from outside Africa that fitted preexisting cultural logics were accepted, while those that did not were rejected.⁶³ Citing the example of the 19th-century Maasai, Prestholdt discusses how American brass-wire producers suffered huge financial losses when they adjusted the diameter of wire gauges to thicknesses that were not locally acceptable.⁶⁴ This local rejection forced the American wire producers to swing back to generally accepted standards. In other examples, traders at Delagoa Bay (modern-day Maputo) experienced losses when they brought the “wrong” color of glass beads, while the Portuguese attempt to establish iron foundries at Mbanza

Kongo failed because the product was inferior to the local product. These examples demonstrate that local communities exercised a great deal of agency in terms of selecting what they valued and or did not value in contact and trade and exchange situations.

This idea of value is also important to the extent that while Indian Ocean-based traders placed high value on gold, many hinterland communities did not. In most of Africa, copper and its alloys bronze and brass were more valuable than gold. Not surprisingly, Herbert labelled copper the “red gold” of Africa.⁶⁵ The red color of copper appealed to color schema associated with ancestors and hence spoke to established value systems. However, imported alloys such as brass were worked in West and southern Africa using locally established techniques and methods showing that locals were interested only in materials and not know-how from the other “worlds.” In many parts of Africa, if the color scheme was the same, local and imported materials could substitute one another. For example, Indian red beads were often used as substitutes for copper given the similarities in the color. This further underscores the fact that objects were only locally accepted if they were aligned to existing values and logics.

Another important observation is that most existing knowledge about trade and exchange is mostly biased in favor of the socially conspicuous classes such as the elites and the commodities associated with them. The rulers and upper classes also had access to resources and resided in towns and capitals that attract most archaeological work.⁶⁶ As such, mundane activities practiced by commoner classes such as local trade in grain and cattle are often poorly investigated and poorly known. Isotopic techniques such as strontium analyses of cattle bone are unlikely to be helpful in differentiating cattle traded from areas with the same geology. However, where relevant, oral traditions speak to the existence of trade and exchange in animals and other agricultural products. This again endorses the view that multiple sources of documentation are required to fully understand trade and exchange in precolonial Africa.

One of the major assumptions in studies of precolonial trade in Africa and elsewhere is that if one were to find objects stylistically associated with a specific area in another distant land, this would serve as proof of trade and exchange. Such an assumption is even more questionable in cases where there is stylistic similarity of objects in areas with their own sources of raw materials. For example, the presence of distinctive cross-shaped ingots known as Katanga crosses is often used as evidence of trade and exchange between Great Zimbabwe and Central Africa. To date, no geochemical work has ever been performed on the Great Zimbabwean and or similar cross-shaped ingots from other parts of the country to empirically prove that they indeed originated from Katanga. This case of cross-shaped copper ingots raises the possibility of imitation: through various forms of interaction, people obtain ideas on how to make some things and make them exactly as in the area of origin. As such, it may be possible that the Katanga crosses at Great Zimbabwe and other known copper-producing areas south of the Zambezi such as Copper Queen are imitations resulting from the exchange of ideas. While this is a difficult case, a major challenge that confronts archaeologists is the need to separate gifts from trade items and imitations from trade items. The other line of evidence to infer a central

African connection to southern Zambezia is the presence of double iron gongs at Great Zimbabwe. Because there appears to be no local industry specializing in those objects at Great Zimbabwe or elsewhere in southern Zambezia, it is possible that rather than suggesting the presence of trade, the gongs were given to rulers of Great Zimbabwe as gifts.

In some cases, it may also be possible that local innovation stimulates the local production of commodities like imported ones. For example, studies of glass beads, crucibles, and attached slags using Scanning Electron Microscopy (with an attached Energy Dispersive Spectrometer, SEM-EDS), XRF, and EMPA (Electron Microprobe Analysis) by Lankton and colleagues concluded that the early to mid-2nd millennium CE Yoruba of Nigeria independently produced their own glass, which they used to make glass beads.⁶⁷ The recipe and composition of such glass is different from that of known producer regions of North Africa, Europe, and Asia. The significance of this case study is that often there was independent development of technologies comparable to those that produced imported objects.

How do we estimate the volume of trade and scale of production across Africa's regions and timescales? This question is easier to address the closer we get to the present. For example, in West Africa ship log books from the 17th century onward provide an idea of the quantity of cargo on the ships. However, estimating the volume of trade is more difficult for contexts in which there was no written literacy for most of the time. In West Africa, it is not easy to estimate the amount of gold that was exported through trans-Saharan trade, and the same applies to other regions such as southern Zambezia. Even in cases where written records are available, the amount of gold imported from Nubia by Egypt is unknown. The scale of trade within Africa is a very difficult to estimate because of the approximately five-million-year history of humanity and the different ways in which different societies organized their production. Furthermore, there is a strong relationship between demography and scale and intensity of trade and exchange. Densely populated regions such as West Africa are often characterized by large-scale metal-production evidence that so far has not been recovered from southern Africa.

The final discussion point of the literature relates to reconstructing directionality of trade, scale of trade, and consequences of trade. One potentially useful way to achieve this is to map oral, linguistic, written, and archaeological information to produce distribution maps. Useful as it is, oral and written historical information often does not deal with physical objects and places where events occurred in the past. Archaeological experience has shown that it is not always easy to find places mentioned in either oral or written sources on the ground. An oft-cited example is that of the legendary thriving East African town of Rhapta mentioned in the *Periplus of the Erythraean Sea*. Since time immemorial, the search for Rhapta has failed to locate it. Similarly, Portuguese written records point to the existence of the trading town of Massapa near Mount Fura (Mount Darwin) in northern Zimbabwe, but the identification of the actual site eluded many historians and researchers until Pikirayi identified Baranda, which yielded hundreds of imported ceramics and thousands of glass beads confirming its status as a major trade

center.⁶⁸ While the primary objective of archaeology is not to validate information from historical sources, it is essential to combine leads from different sources to develop nuanced reconstructions of the past. Scientific techniques can add another layer of fine-grained details to the mix.

Documenting precolonial trade and exchange in Africa is a worthwhile endeavor that is complicated by topographic, cultural and chronological differences between various areas. However, only a combined-source and combined-technique approach that pays due regard to different contexts is the best way to studying and understanding the topic.

Primary Sources

Naturally, the breadth of the African continent and the depth of its past dictate that for every region and each period in the past, there exists a significant number of primary sources that are available. These include archaeological sites, artifacts, documentary sources, recordings of oral interviews, ethnographic specimens, and much more. Every African country has a government department responsible for museums, antiquities, and archaeological sites (e.g., Supreme Council of Antiquities in Egypt, IFAN in Senegal, National Museums of Kenya). However, there are large collections of archaeological artifacts from Egypt, Ethiopia, Nigeria, Mali, Zimbabwe, and many other countries that are in museums such as the British Museum in London, Louvre in Paris, and Smithsonian in Washington, DC.

As far as archives are concerned, each African country has national archives where researchers can access historical and anthropological information. Outside the continent, there are also good archives at SOAS in London, John Hopkins in America, and many other places.

Examples of Antiquities Bodies in Africa

National Commission for Museums and Monuments, Nigeria.

Supreme Council of Antiquities.

Ethiopian National Museum, Addis Ababa.

National Museums and Monuments of Zimbabwe.

South African Heritage Resources Agency.

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