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Two Vanished African Maritime Traditions and a Parallel from South America

Roger Blench

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Abstract Maritime traditions that extend along coastlines are more vulnerable to disruption and disappearance than areal trading networks. The paper describes two cases from Africa, the likely early movement of Bantu speakers down the coast of West Africa and the Swahili trading diaspora that reached southern Mozambique by at least the seventh century. Both of these have disappeared from the ethnographic and historical record but can be recovered through archaeology and linguistics. A parallel is made with the trade route that linked the coastal region of Peru and Ecuador with Western Mexico and may have been active from as early as 4,000 BP until the Spanish conquest. The hypothesis is that areal networks, such as those in island SE Asia and the Pacific, which are driven by colonisation and bidirectional exchange, are more likely to persist because they are more resilient due to the number of broken 'links' they can withstand. Linear expansions may be driven by a quest for trade and resources but are usually not necessary to survival.

Résumé Les traditions maritimes qui s'allonge les littoraux sont plus vulnérables a être rompus que les réseaux aréales. La communication décrit deux cas de l'Afrique, le mouvement probable des locuteurs de langues Bantoues vers la sud, sur la cote Ouest de l'Afrique, et le diaspora Swahili qui s'atteigne le sud de Mozambique par le septième siècle. Tous les deux sont couramment disparus, mais leurs structures peuvent être récupéré à travers l'archéologie et la linguistique. Une comparaison est faite avec une réseau parallèle qui a lié la littoral de Pérou et Ecuador avec l'ouest de Mexique qui a peut-être commencé par 4,000 BP et qui a duré jusqu'a la conquête par les Espagnoles. La hypothèse est que les réseaux aréales peuvent survivre parce qu'ils ont plus de résilience a cause de la nombre de liens rompues ils peuvent supporter. Les expansions linéaires peuvent être stimulés par la quête pour la commerce et les ressources, mais en générale ils ne sont pas nécessaires pour survivance.

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Introduction

It is easy to imagine that once maritime traditions develop, the historical clock will not run backwards, that technologies will continue to improve, and movement across the sea becomes more rapid and effective. This is the story of navigation in Europe since the first transcontinental essays of the Portuguese in the fifteenth century. Yet there is plenty of evidence from other regions of the world that maritime skills may be far more ephemeral, developed when needed and easily discarded. Peoples such as the Tasmanians, the Guanche, the Moriori, the prehistoric Maltese and the Andamanese must all have had seagoing technologies to reach their isolated islands, yet in all cases, evidence for these skills was absent at first European contact. There is evidence that the great seagoing period of the Austronesians was almost over when Captain Cook reached Tonga in 1773, when the large *druas* capable of tacking were beginning to replace the Polynesian catamaran (Haddon and Hornell 1936). On a larger scale, the Chinese naval enterprise that brought about the major voyages of Zheng He [Cheng Ho] in the Indian Ocean was abruptly ended following political change within China (Filesi 1972).

This paper will argue that similar maritime traditions existed on both the east and west coasts of Africa, that they fell into disrepair and that their outlines were obscured by later developments. Their existence can be inferred from archaeological, linguistic and material culture evidence, although it is more difficult to surmise what led to their disappearance. To develop the idea that undocumented maritime traditions can disappear, leaving only fragmentary traces in the synchronic ethnographic record, a comparison is made with the maritime traditions of the west coast of South and Central America. These traditions, I will argue, were responsible for the spread of culture elements from Peru and Ecuador to Mesoamerica, but likewise must be reconstructed from archaeological, biological and ethnographic parallels.

A point of theoretical interest emerges here: the different fragility of linear and areal networks. Populations depending on multi-point connections between small islands rely on maritime skills to survive, in order to adapt to changing patterns of resource availability. Insular Southeast Asia and the Pacific are characterised by a complex pattern of large and small islands interconnected by long-distance trade networks. These emerged with the development of advanced navigation by the Austronesians at least 4,000 BP and perhaps earlier (Bellwood *et al.* 1995). The climax of this was the colonisation of remote Oceania by the Polynesians, which lasted from ca. 3,400 BP until the near present. This is an example of an areal network, which builds a web of connections and can thus withstand the breaking of individual links.

The line of Swahili trading communities that connected modern Somalia with southern Madagascar and Mozambique was an example of a linear network, although at its northern end it was partly areal, encompassing Arabia, the Comores and northern Madagascar. When the coastal trade was disrupted at its southern end, it did not recover, leaving linguistic communities isolated and the archaeological record

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of deserted settlements. The northern areal network survived Portuguese incursions and flourished until the mid-twentieth century. Still, there is little doubt in the minds of historians of East Africa that such a network existed. In the case of West Africa, the disappearance was of sufficient antiquity for even its reality to be disputed. This suggests that linear expansion and exchange is less adaptable and more vulnerable to permanent disruption.

The Maritime Expansion of the Bantu on the West Coast of Africa

The expansion of the Bantu-speaking peoples from southern Cameroun across the equatorial forest to eastern and southern Africa is one of the great migration narratives of human history. As early as the late nineteenth century, Harry Johnston (1886) posited a Bantu origin somewhere in Southern Cameroun, and this view was given significant support by Joseph Greenberg (1963) in his rethinking of the structure of Niger-Congo. This view is now generally accepted by linguists (see review in Blench 2006), despite dissent from some archaeologists (*e.g.* Eggert *et al.* 2006).

The model, such as it is, places the Bantu in what is now Southern Cameroun expanding east and south, possibly along the rivers or due east along the northern edge of the equatorial forest, from around 3,500 years ago. However, 'Bantu' is essentially a linguistic concept, based on the observation of the close relationship between a large number of languages spread from Nigeria to the East African coast and South Africa. The potential for correlation with archaeology is driven by the historical reconstruction of the proto-Bantu lexicon. Although he had a predecessor in Meinhof, Malcolm Guthrie (1967–1971) established the core conceptual framework for the reconstruction of the proto-Bantu lexicon. This has hardly changed through the revisions of Meeussen (1980) and the electronic database represented by Bantu Lexical Reconstructions III.[1]

The concept of an initial expansion across the equatorial forest is supported by reconstructions of rather generic forest mammals such as pangolin, elephant and monkey. Wotzka's (1995) detailed study of archaeological pottery along the main waterways of the Democratic Republic of the Congo, dated 400–100 BC, also suggests the importance of aquatic corridors to the migrating Bantu population. Despite this, linguistic evidence for a riverine movement is harder to find. Valiant attempts to reconstruct names of river fish in more restricted geographical areas (*e.g.* Ankei 1989; Mouguiama-Daouda 2005) only lead to the conclusion that some Bantu expanded along rivers and caught fish, which could be seen as self-evident. The potential to reconstruct agriculture for these early communities is strong, with 'banana', Bambara groundnut, okra and possibly a species of yam as potential cultigens (Blench 1996). Bostoen (2005, 2007a, b) has also provided evidence for the reconstruction of oil palm and—more surprisingly—pearl millet in proto-Bantu. However, all these are part of the same conceptual model: small groups with rudimentary agriculture expanding along waterways, with a cultigen repertoire of vegetative crops adapted to high humidity.

[1] Online at http://www.metafro.be/blr/bantou_history

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Nonetheless, it remains a possibility, geographically at least, that the early Bantu also had a seagoing culture and spread down the west coast of equatorial Africa. Jan Vansina (1995, p. 186 and fn. 16) considered this idea when he says 'the original Bantu language…expanded…with a secondary movement towards the lower Ogooué area, achieved in part by seagoing people.' One piece of striking evidence for this is the isolated Seki language on the estuary of the Muni, which is split from its relatives and suggests seaborne travel. He does not follow up this suggestion, which was based purely on lexicostatistical 'trees' of Bantu languages created by the MRAC at Tervuren. Klieman (2003, pp. 53–6) also makes an argument for an early coastal expansion of Bantu languages and settlements, but it is hard to reconcile her dates (from 6,000 BP) with the archaeological record. Nonetheless, a completely different approach but leading to a similar conclusion is a study of languages and genes along the coast of Gabon and Cameroun (Van der Veen 2007). The latter's Fig. 9 shows early coastal migrations complementary to the inland migrations. It appears that the movement of the Fang and other peoples towards the coast in more recent times (probably related to the early Iron Age secondary expansions) assimilated the rather fragile coastal culture and replaced it with a more inward-looking agricultural subsistence with low-level inshore fishing.

If one strand of Bantu expansion was a rapid coastal movement southwards, a reflection of this would be a reconstructible terminology relating to the sea. Despite this, there has been virtually no work on the lexicon of marine life specific to the Bantu of the west coast of Africa. The standard reconstructions do not list a proto-Bantu form for 'whale', and marine life of all types, the lexicon of the seashore and related fishing technologies have been almost entirely excluded from the set of canonical forms. Curiously, one early author, Gehr (1912), among a comparative list of Bantu A language animal names, included the dolphin, manatee, whale and *Seeelefant.*[2]

The hypothesis of a reconstructible maritime vocabulary is confirmed by the results from ethnoscience research with fishing communities in southwest Cameroun in 2009 and 2010. These communities speak Bantu A languages, and this region is usually considered the core area from which the Bantu expansion began 3,000–4,000 BP (Greenberg 1963; Clist 2005). Hence, if some Bantu A group peoples developed a terminology for this biota and a well-identified list of such terms is compiled, early coastal expansion can be tracked. A full listing of the evidence for this is beyond the scope of this paper, but extensive datasheets listing more than 50 reconstructions for fish and sea mammals, as well as sea and weather conditions, types of boats and fishing gear, have been posted on the web.[3] We know that the island of Fernando Po was regularly visited before the Iron Age and that its stone was in particular demand for axes on the mainland (Sheppherd 1983). The ancestors of the Bubi, its first Bantu-speaking residents, reached the island prior to the diffusion of iron smelting, and sea fishing was presumably a major aspect of their subsistence strategies[4] (Tessmann

[2] This latter is particularly intriguing since there are no 'sea elephants' (*i.e.* elephant seals) this side of the Atlantic, this being a New World genus. The referent must therefore be an ordinary seal. However, according to the standard reference (Jefferson *et al.* 1994), there are no seals along this part of the West African coast.

[3] See http://www.rogerblench.info/Language/Niger-Congo/Bantu/Bantu%20page.htm for a lengthy paper synthesising reconstructed roots as well as individual datasheets for Bantu A languages.

[4] According to Scott Smith (personal communication), only one Bubi village on Fernando Po still fish as part of their subsistence.

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1922). Research with the Wuvia, a colony of Bubi living on the coast of Cameroun north of Limbe, confirmed a familiarity with a rich variety of marine fauna, as well as the many open water species entering the numerous estuaries around the Bight of Biafra, which can be brackish in certain seasons. This points to a flourishing maritime culture on the west coast of Africa that has yet to be documented. The vocabulary of coastal peoples revealed a rich vocabulary of marine life with a large number of apparently innovative forms, including terms for 'whale' and 'dolphin', 'storm' and 'ocean' as well as a variety of fishing techniques. Crabs, marine shells, sea conditions, fishing and canoe management techniques can all be reconstructed. To provide just a sample of the material it has proven possible to collect, Tables 1 and 2 present examples of the terms for 'whale' and 'ocean' as examples of the type of material that can be collected.

Whales were never captured by coastal peoples but can be seen off the coast of Cameroun and Gabon and are occasionally beached.[5] The whale features in oral traditions and its rib bones are sometimes used to adorn the chairs of chiefs, rather like elephant tusks in inland areas. Common species in this area are the sei whale (*Balaenoptera borealis*) and Bryde's whale (*Balaenoptera edeni*), but there may well also be sperm whales (*Physeter catodon*) (Best 2007). Table 1 shows the common term for 'whale' in northwest Bantu.

The speakers of Bantu A group languages had a panoply of words describing the sea and weather conditions. Table 2 shows two terms for 'ocean' or 'sea'.

There appear to be two main words, *#mwanʒa* and *#tube*. Duala seems to have retained both, probably to distinguish the sea from the open ocean. Although languages such as Wuvia have **mwànʒà* as the current lexeme, *#tube* survives in fossil form in compound terms and may have been the original Bantu term for 'sea'.

Many other terms can be cited, covering numerous fish and shellfish species, boat and fishing technology, ocean conditions and the weather. Bulkens (1997), in a study of Bantu words for 'canoe', points to a root **ato* which occurs from the Nigeria/Cameroun border to southern Gabon. This is enough to establish the existence of widespread common terms in these languages, but an important methodological issue is demonstrating the antiquity of this vocabulary. By definition, these words are confined to littoral populations and are not attested across the range of Bantu A and B languages. Although there are some possible etymologies deriving them from pre-existing Bantu roots, they are less than certain.[6] The other methodological issue is tracking attestations further south; ideally, some of these roots would also occur among coastal populations from Gabon to Angola; further research is under way to explore this.

The archaeological evidence for the Bantu expansion is far from perfectly established, but there are a number of sites in the Cameroun/Northern Gabon region which point to a 'Neolithic' population appearing quite suddenly in the archaeological record, for example at the Epona II site ca. 3,500 BP (Clist 1995, p. 149) and the pits in Southern Cameroun that date to 2,900 BP and later (MacEachern 2010). If there was an additional push southwards along the west coast, it should be reflected in patterns of pottery and settlement. The coastal archaeology in this region remains

[5] No oral traditions refer to pre-Spanish whale hunting, and the techniques used today in São Tomé were introduced by the Basques.

[6] Koen Bostoen (p.c.) suggests this root for 'whale' consists of the root **dond-* 'to follow' plus a deverbative suffix. This may be so, but the semantics are far from obvious.

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Q16t1.1 **Table 1** Words for 'whale' in northwest Bantu

Language	Attestation
Londo	ǹdʒóndʒì
Isu	ǹdʒóndʒì
Wumboko	nʒónʒì
Wuvia	nʒónʒì
Duala	ǹdʒɔ̀ndʒì
Yasuku	ǹdʒɔ̀ndʒì
Tanga	ǹdʒóńʒì
Yasa	ǹdɔ́ndʒì

poorly developed. The main source is the excavations of Bernard Clist in Gabon (Clist 1995, 1998, 2005; also Van Neer and Clist 1991). The coastal Iron Age site of Oveng, 12 km north of Libreville, dates to 1,700 BP, and a detailed analysis of the faunal remains indicates that its occupants lived largely by collection of marine species, such as the shells *Anadara senilis*, *Tympanotonus fuscatus*, *Tympanotonus radula* and the oyster *Ostrea tulipa* (Van Neer and Clist 1991) and a variety of fish species adapted to brackish- or seawater. There is additional evidence for a smaller component of gathered forest produce and hunting of small mammals. The authors point to the significance of this subsistence strategy and its relevance for the Bantu expansion, expanding the perspective of 'across the forest' models in authors such as Vansina (1990, 1995). Earlier work at Pointe-Noire and in Angola is reported in scattered sources (Clist and Lanfranchi 1991). Pais Pinto (1988) describes the Cachama sites near Benguela where the collection of marine resources predominates. The site of Benfica, near Luanda, dating to ca. 1,800 BP, also suggests a subsistence strategy where marine resources were highly significant. Sites with published faunal analyses are few and far between, but descriptions of ceramic traditions are more common and also point to movement down the coast earlier than 1,800 BP. Denbow (1986, 1990) describes the ceramics of Tchissanga, near the mouth of the Congo, which consistently date to around the sixth century BC and are related to the Okala traditions in Gabon and those of Ngovo in the DRC. Denbow links these to a major movement of western Bantu speakers towards the Kalahari, where they encountered Khoisan speakers.

Klieman (2003, pp. 52–3, 55) argues for a significantly earlier primary expansion of the A Group Bantu (6,000–5,000 BP) on the basis of glottochronology. Her

t2.1 **Table 2** Words for 'sea/ocean' in northwest Bantu

Language	Attestation
Londo	mbo
Isu	mwándʒá
Wumboko	mwánʒà
Wuvia	mʷànʒà
Malimba	túbɛ̀
Duala	múndʒà
Duala	túbɛ̀ *haute mer*
Yasuku	túwɛ̀
Tanga	túbɛ̀
Yasa	túbɛ̀

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argument is that sites such as Shum Laka provide evidence for 'the entrance of Neolithic peoples into areas around and about the hunter-gatherers' and that we should accept some pre-ceramic sites as part of the split of the 'proto-Bantoid' community. The major problem with this approach is that glottochronology is simply not accepted by the majority of historical linguists (see discussion of controversies in McMahon and McMahon 2005) and the absence of unambiguously dated early sites in the region where Narrow Bantu is spoken (see tables in Clist 2005).

The literature on the Bantu expansion and the standard list of PB reconstructions assume a land-based spread across the equatorial rainforest following the rivers. But there is nothing inherently impossible about an active Bantu maritime culture spreading rapidly down the western seaboard of Africa after 3,500 BP, and indeed, this has some support from archaeology. The collection and synthesis of maritime vocabulary in the languages of coastal Cameroun point to a rich lexicon that has previously gone unrecorded. Early traffic with the island of Bioco, perhaps connected with the stone axe trade, has shown that pelagic fishing techniques and a knowledge of the open ocean must have been a significant element in Bantu subsistence. The problem is how far south this population expansion was able to push before increasingly rough surf forced its bearers inland. Until more data are available on coastal languages in Gabon and other countries further south, this question will remain difficult to answer.[7] Figure 1 represents both the likely location of the Bantu homeland and the possible extent of the coastal expansion in West Africa.

The analytic point that emerges is that maritime subsistence cultures often depend on a small population of highly skilled people able to exploit a seasonal and highly patchy resource. Where the coastline is narrow with few islands, populations are thinly stretched and may have poor communications. If they do not have the political organisation that would allow them to transform these skills into a quasi-military operation and thus the control of a significant land area, they are vulnerable to the expansions of inland peoples with larger populations and more social and political capital.

The Early Period of Swahili Expansion

The Swahili peoples of the East African coast are well known for their distinctive maritime culture (Horton and Middleton 2000). This culture is presently in decline due to modern shipping vessels, but when it was recorded in the 1950s and 1960s, the general perception was that it owed much to Omani and Arab influence (Prins 1965; Jewell 1976; Gilbert 2005). However, both the date of its inception and the influences that were responsible for the transformation of agriculturalist inland Bantu into mariners, as well as the geographical extent of Swahili trading voyages, all remain controversial (Spear 2000). A seafarer's guide dating from ca. AD 50, *The Periplus of the Erythraean Sea*, attests to a flourishing coastal culture (Casson 1989), while by the time of *Ptolemy's Geography* (Stevenson 1932), with a text dating to the fourth century AD, there is evidence for a knowledge of Madagascar and the coast of

[7] Jean-Marie Hombert (p.c.) points out that many littoral populations in Gabon today, such as the Myene, are recent migrants, so there is no guarantee new data will yield significant results.

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Fig. 1 Hypothetical route of Western Bantu maritime expansion

Mozambique (Blench 2010). The evidence for Bantu migrant agriculturalists reaching the East African coast is usually associated with the appearance of Kwale ware in the second century AD (Soper 1967, 1982; Chami 1999). Kwale ware is found as far as Mozambique, although whether this can be attributed to a maritime connection is doubtful.

There is, however, a strongly held contrary view expressed in the work by Felix Chami (*e.g.* 2001; Chami and Kwekason 2003) according to which there have been pottery-using agriculturalists on the Tanzanian coast and into Mozambique since 3,000 BC. The bearers of this culture were already Bantu speakers according to this interpretation (Chami and Kwekason 2003, p. 78). This appears to be a major revision of the view of Swahili origins expressed in Chami (1994, 1998) which attributed them to a 'Limbo' phase of Early Iron Working said to date from the 'last centuries BC'. Given what we understand about the dating of the Bantu expansion from the perspective of West Africa, it is difficult to accept this chronological model, though of course not the possibility of slightly earlier dates for Bantu on the Coast. Juma (2004), who reviews neighbouring sites as part of a description of the site of Unguja Ukuu on Zanzibar, has only a relatively late date for his phase I, around AD 500. Studies of offshore islands such as Shanga, north of Lamu, point to a gradual expansion of maritime culture, as well as Islamisation starting in the eighth century (Horton 1996). Archaeology in Madagascar has so far uncovered no settlement site earlier than the fifth century AD, and even that is a single date that has not been

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replicated (Dewar 1994, 1997). There is indirect evidence for the arrival of foragers on Madagascar as early as the fifth century BC, summarised in Blench (2007) and Crowley (2010) and increasingly accepted by archaeologists (*e.g.* Parker Pearson *et al.* 2010), but no claim has been made that this is evidence for a pottery-using agricultural society.

Although many of the names of vessels and technical terms for parts of the ship are apparently borrowed from Arabic, the perception of an Arab source for maritime skills may well be misleading. There is good evidence for intensive contact with island Southeast Asia prior to the period of Arabisation, and sharing of technical terms with Malay suggests that the early influence of Austronesian navigators, such as those who colonised Madagascar, has been significantly underestimated. Shepherd (1982) represents an earlier incarnation of this idea, sketched out before much of the modern evidence was available.

A likely corollary of this is that Malay ships were not simply sailing to Madagascar but were participating in an active 'raiding and trading' culture all along the East African coast (Blench 2010). Medieval Arab sources point to the possibility of semi-permanent Indonesian trading outposts on the coast. Ferrand (1907) was the first writer to propose Southeast Asian identities for the islands mentioned in the Arab geographies. We know, for example, that the East African coast was considered important enough for the 'Waqwaq' raiders and traders from Sumatra to mount a raid on Qanbalu (an island on the coast as yet unidentified) in AD 945 (according to Buzurg ibn Shahriyar in the *Book of the Wonders of India*, ed. Freeman-Grenville 1981). The Waqwaq seem also to have settled on the Sofala coast, where al-Mas'udi mentions them in the early tenth century (Freeman-Grenville 1962, p. 14). Early sources suggest that the coastal Bantu did not develop seagoing vessels for long-distance trade until quite late.[8] Al-Idrisi, writing in AD 1,154, says;

> The Zenjs [the people of the East African coast south of Cape Guardafui] have no ships for voyaging…The people of the isles of Ziibag [here Ziibag = Western Indonesia] come to the country of the Zenjs in large and in small ships. They trade with them and export the Zenj merchandise, for they understand each other's language. (Al-Idrisi, ed. Ferrand 1907)

As Hornell (1936) observed, the statement that the Indonesians understood the language of Zenj only makes sense if we assume there were settlements on the coast where Austronesian languages were spoken, not merely on Madagascar. The period between the eighth and tenth centuries was one of marked change, with many earlier towns, like Unguja Ukuu (Juma 2004) and Tumbe abandoned (Fleisher and Wynne-Jones 2011). Tumbe shows signs of houses burned in the eighth and ninth centuries (Fleisher and Wynne-Jones 2011). It has not usually been suggested that this was due to the impact of raiding from across the Indian Ocean, but the chronology suggests this as a possibility.

Zanzibaris especially like to trace their ancestry to Oman, which functions as prestigious origin for cultural traits (Horton and Middleton 2000). But indirect evidence points to contact with Java as a stimulus to nautical evolution along the

[8] 'Long-distance' is a moveable feast; the Kwale Ware on Mafia island (Chami 1999) shows there were boats suitable for relatively short journeys from the coast.

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East African coast. Swahili appears to have borrowed a variety of terms related to ships and their construction, to geographical features and exploitation of marine resources from Malay or Javanese.[9] Given that Swahili subsequently borrowed massively from Arabic and later Portuguese in these lexical areas, a likely period for this contact is during the eighth and ninth centuries, as these terms do not have reflexes in Swahili outliers. The phonology of Sabaki is sufficiently well understood to assert that these terms did not enter Swahili *via* Malagasy, as they show none of its characteristic morphology (see Blench 2009 for a more extended discussion). Table 3 identifies these borrowings.

We know from the testimony of Al-Idrisi quoted earlier that the Zenj were in intensive contact with Sumatra. Although the early land-based cultivators seem to have been able to reach the closer offshore islands such as Mafia, the transformation of the Swahili into long-ranging seafarers may result from Malay contact. Curiously, a parallel evolution occurred in China; as Manguin (1980, p. 274) points out, China only began to build an oceangoing navy in the eighth and ninth centuries after contact with large Southeast Asian vessels.

One result of the development of new maritime skills was an early expansion of Swahili, both down the East African coast and into the Indian Ocean, probably from the eighth century onwards, assuming Tana ware is a proxy for Swahili presence, at least in the early phases.[10] Nurse and Hinnebusch (1993), in their overview of Sabaki lects, provide a brief glimpse of this literature. Essentially, there were coastal colonies north of the Swahili heartland between Kismayu and Muqdishu (ChiMwiini centred on Brava), in the Comores[11] (described by Chamanga and Guenier 1979; Full 2006) and a string of settlements southwards into central Mozambique. Table 4 presents a summary table of the linguistic evidence for these.

The earliest Swahili sites associated with Tana ware[12] are seventh century (Chami 1998; LaViolette and Fleisher 2009; Fleisher and Wynne-Jones 2011). Helm *et al.* (2012) provide evidence for a characteristic repertoire of cereal crops (sorghum, pearl millet, finger millet) associated with these sites. Parker Pearson *et al.* (2010, p. 79) report three sites with Triangular Incised Ware at the mouth of the Menarandra River in the south of Madagascar, to which they assign seventh- to tenth-century dates. He says (2010, p. 85), 'The sites…raise the intriguing possibilities that colonisation of the south might have been initiated by Swahili communities and/or that the mouth of the Menarandra might have been an enclave for Swahili traders.' This does not seem unlikely in view of the archaeology of the coast, but why traders would choose such an inaccessible site for an entrepôt is still opaque. It is likely that some of the coastal settlement reported in Sinclair (1991) reflects Makwe presence. There is every reason to think that Swahili explored still further south (Duarte 1993). Sinclair (1982) describes the site of Chibuene, more than 1,500 km south of Kilwa in southern

[9] I am grateful to Martin Walsh for his suggestions for items in this table.

[10] This paper discusses the coastal trade networks, but this is not to exclude the substantial inland spread of Tana/TIW pottery, which must indicate overland trade.

[11] Nurse and Hinnebusch (1993, p. 18) remark that they do not consider Comorian to be a dialect of Swahili. While this may be so in a strictly linguistic sense, there seems to be little doubt that the presence of a very closely related language on the Comores reflects the early period of Swahili maritime expansion.

[12] The terminology is somewhat diffuse, and related styles that have been identified include Wenje ware, Kitchen ware, Triangular Incised ware and Maore ware.

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t3.1 **Table 3** Borrowings from Austronesian languages into Swahili reflecting early nautical culture

	Swahili	Malay and other Austronesian
t3.3	Nautical terms	
t3.4	*Sambo*, 'ship' (archaic) (Sw-?Amu)	*Sambaw*, 'seagoing vessel' (old Malay)
t3.5	*Sapha*, 'raft, bundle of logs lashed together' (Sw-Pemba), *sapa* (Sw-Jomvu)<**sampa* (earlier Sw)	*Sampan*, 'harbour boat; canoe' (Malay, Javanese),
t3.6	*Taliki*, 'rope used to lift cargo or foot of a sail' (Sw-N dialects)	*Tarik*~*tarek*, 'pull, haul, drag' (Malay); *tarika* 'pull' (Malagasy)
t3.7	*Utari*, 'ship's cable' (Sw-Amu)	*Tali*, 'rope, cord, line' (Malay)
t3.8	Geographical	
t3.9	*Tao*, 'something curved, *e.g.* an arc, arch, bend of a river, bay or inlet, hem of a dress' (Sw [Johnson])>*tao la pwani* 'bight, bay' (Sw [Prins])	*Telok*, 'bay (of sea), bend (in river)' (Malay)
t3.10	*Karange*, proper name of an islet off the NE Tanzania coast (Sw-Tanga)	*Karang* [=*karaŋ*], 'coral reef, coral rock' (Malay, Javanese), *harana* (Malagasy), *hàraña*~*hàra* 'quartz, rock crystal' (Malagasy-Tañala)
t3.11	Marine exploitation	
t3.12	*Utupa*, 'fish poison' (Sw)	*Tuba*>*akar tuba*, 'root of *Derris elliptica* used as fish poison' (Malay)
t3.13	*Ng'amba* [=*ŋamba*], 'hawksbill turtle, *Eretmochelys imbricata*' (Sw)	*Kambar*~*kambau*, 'leatherback turtle, *Dermochelys coriacea*' (Malay)

Key: *Sw*—Swahili, followed by the dialect, *e.g.* Swahili-Jomvu. Where followed by a name in square brackets, it is this author who gives the term, *e.g.* Sw [Prins]. Similarly with Malagasy, *e.g.* Malagasy-Tañala

t4.1 **Table 4** [Former] Swahili settlements on the East African coast south of Tanzania

People	Location	Reference
t4.3 Koti	Koti Island, Angoche	Schadeberg and Mucanheia (2000)
t4.4 Mwani	Cabo Delgado Province, on the coast north of Pemba from Arimba to Palma, including Ibo and Moçimboa da Praia, and the offshore Querimba Archipelago	Rzewski (1979)
t4.5 Makwe	Cabo Delgado Province, on the coast from the Tanzania border south to Quionga, Palma, until just south of Olumbe, and in the interior along the Rovuma River until Pundanhar. Also spoken in Tanzania	Devos (2007)
t4.6 Mgao	Village between Mtwara and Sudi on southern Tanzanian coast	Nurse and Hinnebusch (1993, p. 13) say that this is Maraba (*i.e.* northern Makwe) speaking and earlier reports of a distinct dialect are erroneous

Linguistically speaking, these languages are somewhat controversial, as they can be considered either a local language (Makua, Makonde) under heavy Swahili influence or dialects of Swahili with local contact elements

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Mozambique, as first occupied in the eighth or ninth century, indicated by a range of imported materials, local pottery identical to that found in Manda, Shanga, Kilwa, and the Comoros and extensive bead and iron manufacturing. Ekblom (2004), who focused on the environmental history of Chibuene, gives the date of first settlement as seventh century, and Wood (2012), in her study of trade beads, uses similar dates. Chibuene was apparently an important trading port in the early Middle Ages and most likely a major outpost of the Swahili. Unlike the others, however, the early settlement did not prosper, and it was abandoned ca. AD 1,000.

Further north at Sofala, the first Portuguese visitors encountered a Muslim trading community, apparently of Omani origin, trading and in conflict with the local Makonde population (Alcaçova 1963 [1506]). Dickinson (1975) describes the pottery sequences of Sofala, but without radiocarbon dates. Despite their relative proximity to Madagascar, the Comores do not seem to have been settled until the ninth to tenth centuries (Allibert and Verin 1994; Wright 1984, 1992). There is also a Swahili-speaking settlement in the northwest of Madagascar, at Nosy Be, in the town of Maradoka ('many shops'). Nurse and Hinnebusch (1993, p. 14) analyse the rather scanty linguistic material on this dialect and conclude it is closely related to KiUnguja and thus a relatively recent migration. However, as they point out, the presence of early Sabaki loanwords in Malagasy points to much earlier contact with Madagascar, which might well be linked to the Tana Ware sites reported in Parker Pearson *et al.* (2010). Simon (2006) has a more extended investigation of early Sabaki borrowings in Malagasy, although not linked to archaeological data. Figure 2 is a composite map of the East African coast showing the main outliers of Swahili, as well as the archaeological site of Chibuene.

In the case of the Swahili, it is not that the maritime tradition disappeared; it was transformed first by contact with the Arab world and then the Portuguese. Rather than persisting as a coastal culture, trading with settlements southwards to Mozambique, it became reoriented eastwards towards the Gulf. As a result, our image of Swahili culture is dominated by Islam, the rise of stone towns and the trade to Arabia. But in its early phase, contact with the islands of Southeast Asia played a part in the development of a trading culture along the East African coast, which can be recovered from linguistic and archaeological evidence.

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Sea Routes from Peru and Ecuador to Western Mexico

The disappearance of these African coastal maritime cultures can be paralleled on the west coasts of Central and South America. Our knowledge of the maritime technologies and capacity of New World cultures is very limited, in part because the Hispanic invasion caused large, indigenous seagoing vessels to rapidly disappear. Francisco de Xerez, who accompanied Pizarro on his second voyage to Peru in 1526, described a large trading vessel filled with luxury goods (de Samano 1968, pp. 10–11 [1527]). Heyerdahl (1996) has brought to light early Spanish sketches of the balsa-wood rafts used for the coastal trade along the west coast of South America, some of which are shown as carrying as many as 150 passengers. Some few smaller crafts survived into the early modern period, but ethnographic documentation is effectively impossible (Edwards 1965). Recent discoveries in Chilean rock art point to a culture

Q11

Fig. 2 Hypothetical sites of Swahili coastal movement

of exploitation of large pelagic species, whales and sharks that had apparently gone out of use by the time of the Spanish conquest (Niemeyer 2010; Museo Chileno 2008).

Evidence from archaeology points to a flourishing sea route which may have been active as early as 4,000 BP onwards linking the Peruvian coast to Central America and western Mexico (Marcos 1977–1978). All traces of the technologies that underpin this route are no longer present, so that shared material culture uncovered by archaeology remains the most significant indicator of its existence. Borhegyi (1959) lists a large number of cultural traits common to Ecuador and Mesoamerica, although without postulating an explanation. Q12

Maritime connections with Peru and Ecuador are also represented by the western Mexico shaft tomb tradition (*tumbas de tiro*). This refers to a set of interlocked cultural traits in the western Mexican states of Jalisco, Nayarit and, to a lesser extent, Colima to its south, roughly dating to the period between 200 BC and AD 400 (Taylor 1970; Anawalt 1992). Nearly all of the artefacts associated with this tradition were uncovered by looters and are without specific provenience, making dating problematic. Shaft tombs also appear in northwestern South America in a timeframe slightly later than western Mexico (*e.g.*, 200–300 CE in northern Peru, later in other areas; see

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Meighan 1969). The physical similarities between the northwestern South American and western Mexican tomb types are unmistakable (Hosler 1995), while Kubler (1984) finds that the western Mexican chambers 'resemble the shafted tombs of the upper Cauca river in Colombia'. These dates are too close to be certain about the direction of transmission, but for the purposes of this argument, what matters is the extreme similarity of the material culture. Anawalt (1992) also mentions what appears to be a case of faunal translocation, the painted jay, *Cyanocorax dickeyi*, which has an isolated population in western Mexico, far from its natural range in Ecuador and Northern Peru.

Later still, Hosler (1988, 1995) describes the traditions of metalworking which appear in western Mexico around 600 AD.[13] She argues that the source of this was a maritime exchange system and that the initial introduction was from Ecuador, Colombia and lower Central America. Western Mexican smiths worked primarily in copper during the initial period, with low-arsenic alloys, as well as silver and gold. Lost-wax cast bells (Fig. 3) were introduced from lower Central America and Colombia during this phase, along with several classes of cold-worked ornaments and hand tools, such as needles and tweezers. Hosler identifies the prototypes for these small, often utilitarian, items appear rooted in southern Ecuador and northern Peru. Shimada (1999) notes the common presence of copper ingots, 'copper axe money', in both western Mexico and Peru from AD 1,100 onwards. A second phase is identified, from 1200 to the Spanish Conquest, where the techniques are characteristic of southern Peru. She says, 'strong evidence exists for connections between west Mexico and northern South America in the prehispanic era' (Hosler 1995, p. 15). Evidence for a thriving maritime culture also comes from the trade in shells, particularly *Spondylus* and *Strombus*, both along the coast and inland in Peru and Ecuador (Paulsen 1974; Pillsbury 1996) as well as the exploitation of offshore island resources. Shimada (1987) documents the Moche presence on numerous offshore islands, including those well beyond their coastal presence, and points to the mining of guano for fertiliser as well as the collection of shells for ritual purposes. Figure 4 represents a synthetic map of likely trading networks on the west coast of South–Central America.

A disadvantage in the comparison between Africa and the New World case is the absence of linguistic evidence. This is the unfortunate consequence of the relatively brutal conquest of the west coast of Peru and Ecuador by the Spanish. The Mochica language of Northern Peru was flourishing, so much so that a grammar was published in 1644 (De la Carrera 1939). Although it proved possible to collect fragmentary materials on the Mochica language before its disappearance (Cerrón-Palomino 1995), we generally have no idea what languages were spoken along the coastal strip from Northern Chile to Ecuador. As a consequence, the type of linguistic work available for the African coasts is impossible in the case of the west coast of South America.

The maritime connections between Mexico and South America are not generally disputed, but they are often passed over in silence for lack of any direct evidence for maritime technology. For example, the synthesis of Mesoamerican archaeology by Foster and Gorenstein (2000) makes no mention of these issues, despite describing all

[13] The date given in Hosler (1988) is AD 800, but by the later publication, it is stated to be AD 600.

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Fig. 3 Cast bronze bells, Monte Alban, West Mexico (author's photo, Museo Nacional de Antropología, Cuidad México)

the relevant cultures. For nearly 4,000 years, the west coast of South America was the locus of a vibrant corridor transmitting ideas, technology and subsistence strategies north to Mexico. Yet its existence is only an indirect inference from comparisons of material culture. This represents an example comparable to those described for

Fig. 4 Hypothetical sea route along the west coast of South–Central America

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Africa, where a coastal culture disappears from the ethnographic record and can only be recovered from archaeology and linguistics.

Conclusions

This paper suggests that there were at least two important coastal expansions in African prehistory, which have largely passed unnoticed in conventional narratives. During the earliest phase of Bantu migration, fishermen able to exploit offshore and coastal resources such as shellfish seem to have moved down the west coast from Cameroun, perhaps as far as Angola. On the opposite side of the continent, populations ancestral to the Swahili acquired more advanced ships and began developing a network of trading connections and settlements at least as far as southern Mozambique from the eighth century onwards. The evidence for these migrations in the archaeological record is somewhat fragmentary, but linguistic data also support these models, providing both evidence for settlements and pointers towards the subsistence strategies of these populations.

Maritime cultures strung along a narrow line are highly vulnerable to political and socio-economic change. In the case of the East African coast, the dominance of the Omanis and later the Portuguese, from respectively the twelfth and sixteenth centuries, effectively isolated the settlements in the southern region, the trading settlements went into decline and the populations became absorbed into the dominant mode of agricultural subsistence. The situation in West Africa is less clear, but it seems that subsequent expansions of interior Bantu groups, such as the Fang and the Kongo, may have overwhelmed these isolated coastal settlements. As a consequence, the transmission of seagoing skills and linear connections were broken. Maritime cultures such as these are fragile and once disrupted are not easily rebuilt. These disappearances can be compared to the fate of a similar culture which connected the west coast of Peru and Ecuador with Central America from at least 4,000 BP until the Hispanic era. Comparisons of material culture provide strong evidence for the continuing importance of this route, and the very earliest documents show sketches of the type of vessels involved. However, the violent military conquest by the Spanish in the sixteenth century and introduction of European shipping make problematic the ethnographic reconstruction of this network. At the same time, the development of maritime skills is not reflected in the pre-Hispanic iconographic record, although the ubiquitous representations of fish and marine shells in civilisations such as Chan Chan in Northern Peru underlines the importance of ocean-based subsistence.

The broader analytic lesson to be drawn is that certain types of maritime traditions are more vulnerable to disruption than others. Linear expansions along coasts may be a consequence of geography or arise from inadequacies of sailing technology in relation to sea conditions. But their motivation is usually trade and a search for resources, and settlement is only an incidental consequence. By contrast, spreads through islands and archipelagos, such as those in Southeast Asia and the Pacific, are driven by a search for land to

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colonise and typically evolve into bidirectional exchange networks, to such an extent that they may become a core subsistence activity. As a consequence, they typically have much greater longevity.

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Q1. The citation “Mougiama–Dauda 2004” was changed to “Mouguiama–Daouda 2005.” Please check if appropriate.
Q2. Please check if the numbers occurring after reference citations have been correctly captured as page numbers.
Q3. “3–4,000” was changed to “3,000–4,000”. Please check if appropriate.
Q4. Footnote 3 was changed to "See http://www.rogerblench.info....." Please check if appropriate.
Q5. The citation “Best 2000” was changed to “Best 2007.” Please check if appropriate.
Q6. This phrase was changed to "among coastal populations." Please check if appropriate.
Q7. "*Tympanotus*" was changed to “*Tympanotonus.*” Please check if appropriate.
Q8. *T. radula* was changed to *Tympanotonus radula*. Please check if appropriate.
Q9. "6–5,000 BP” was changed to “6,000–5,000 BP.” Please check if appropriate.
Q10. The citation “Hinnebusch & Nurse (1993)” was changed to “Nurse and Hinnebusch (1993).” Please check if appropriate.
Q11. Figure 2 contains blurry text. Please provide a replacement. Otherwise, please advise if we can proceed with the figure as it is.
Q12. "Meoamerica" was changed to "Mesoamerica." Please check.
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Q14. This sentence was changed to "Thanks to Marieke Martin and Dan Duke both for help with logistics...." Please check if appropriate.
Q15. Please provide access dates for the URLs of the references Bulkens (1997) and Van der Veen (2007).
Q16. Please check table 1 and 2 entries if presented correctly.

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