

Theory, methods and results in the reconstruction of African music history

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PAPER PREPARED FOR SUBMISSION TO AZANIA

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TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
TABLES	2
PHOTOS	2
MAPS	3
ABSTRACT	3
1. INTRODUCTION.....	1
2. TYPES OF EVIDENCE AND METODOLOGICAL TOOLS.....	1
3. EXAMPLES OF ARCHAEOLOGICAL AND ICONOGRAPHIC EVIDENCE.....	2
3.1 Direct finds	2
3.2 Rock gongs, lithophones and stone clappers.....	7
3.3 Iconography	7
4. POLYPHONIC WIND ENSEMBLES	12
4.1 Introduction.....	12
4.2 Characterisation	12
4.3 Distribution in Africa	14
4.4 Interpretative framework.....	17
5. CONCLUSIONS	19
BIBLIOGRAPHY	19
DISCOGRAPHY	21

TABLES

Table 1. Sources of evidence for musical practice.....	1
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PHOTOS

Photo 1. Flute fragment, Haua Fteah.....	2
Photo 2. Ocarina? from Mauretania	2
Photo 3. Clay whistle, Mofu-Gudur	3
Photo 4. Double iron bell from the manoscritto Araldi.....	4
Photo 5. 'Sao' bronze, Northern Cameroun	5
Photo 6. Dogon performer, transverse horn, Bankass 2004.....	5
Photo 7. West African transverse ivory horn, Tradescant collection	6
Photo 8. Kongo ivory horn with cornetto characteristics	6
Photo 9. Playing lithophones among the Noni of the Cameroun Grassfields	7
Photo 10. Lutenist, Iskawene	7
Photo 11. Hunters' ensemble, Dallol Mawri, Niger	8
Photo 12. Portuguese struck pot.....	9
Photo 13. Axum church painting; St. Yarid presents music to Gebre Maskel.....	9
Photo 14. Stamped rattle player, Benin plaque	10
Photo 15. Pluriarc player, Benin plaque.....	10
Photo 16. Benin rattling-staff, <i>uxurhe</i>	10
Photo 17. Xylophone, gourd trumpet and harp from the manoscritto Araldi.....	11
Photo 18. Sansa/mbira from Bonanni (1722).....	11
Photo 19. Transverse clarinet ensemble of the Mwaghavul.....	13
Photo 20. Redrawn ensemble of end-blown horns, Jebel ben Ghnema	14

Photo 21. Ensemble of end-blown horns, Jebel ben Ghnema	15
Photo 22. Gourd trumpet ensemble, Chad	15

MAPS

Map 1. African distribution of polyphonic wind ensembles	17
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ABSTRACT

The reconstruction of the prehistory of African musical instruments and musical structures has barely begun, despite the importance of music in African culture in the present. The paper reviews the sources of information for the history of music in Sub-Saharan Africa with examples from direct finds, iconography and text sources. If the claimed flute fragment at Haua Fteah is accepted, it may predate modern humans, which would be of considerable significance for claims about early cognitive capacity. Due to the richness of the material, and the fact that little of it is relevant to other parts of the continent, Egypt is generally excluded from this study. If diverse sources of evidence can be combined with the rich ethnographic record, then it is possible to reconstruct large-scale patterns, both of the spread of instruments and the distribution of musical practices. A methodological example of how such data integration would work is given; the reconstruction of polyphonic wind ensembles, a musical form characteristic of Sub-Saharan Africa from Burkina Faso to Mozambique. This has the particular interest of being identifiable in Saharan rock art. The evidence suggests that archaeologists may not be identifying musical instrument fragments in their excavations and the combination of ethnography and other sources allows us to explore a much broader range of culture history than is usually recognised.

1. Introduction

The archaeological image of the African past continues to be heavily dominated by pottery and stone tools. Although we may pay lip-service to the richness of experience in prehistory, this is poorly reflected in actual reconstructions of culture. Ethnoarchaeology is predominantly studies of potters and pottery techniques to the exclusion of many other aspects of cultural life (David & Kramer 2001). An area that has so far had very limited attention is the reconstruction of African musical life. Wachsmann (1971a) includes a number of papers on historical topics, but only one directly concerns archaeology. Music archaeology is a well-recognised subdiscipline in Europe (Seewald 1934), China (So 2000) and the New World (Marti 1968, 1970) where abundant remains have been recovered. While there are more material traces in Africa than many archaeologists realise, the field would be rather thin without recourse to a variety of disciplines. Reconstructing musical life thus requires effective synthesis.

The paper¹ reviews the sources of information for the history of music in Sub-Saharan Africa with examples from direct finds, iconography and text sources, and discusses the theoretical issues relevant to linking these to tell a coherent story. Due to the richness of the material, and the fact that little of it is relevant to other parts of the continent, Egypt is generally excluded. If diverse sources of evidence can be combined with the rich ethnographic record, then it is possible to reconstruct large-scale patterns, both of the spread of instruments and the distribution of musical practices. A methodological example of how such data integration would work is given; the reconstruction of polyphonic wind ensembles, a musical form characteristic of Sub-Saharan Africa from Burkina Faso to the Kalahari. This practice has the particular interest of being identifiable in Saharan rock art. For lack of familiarity, archaeologists may not currently be identifying musical instrument fragments in their excavations and the combination of ethnography and other sources allows us to explore a much broader range of culture history than is usually recognised.

2. Types of evidence and metodological tools

Evidence for musical practice can be gathered from a number of sources (Table 1).

Table 1. Sources of evidence for musical practice

Category	Class	Example
Direct finds	Composite	Egyptian tomb instruments
	Metals	Fragments of bells
	Stone	Rock gongs, lithophones
Iconography	Rock-paintings	Lutes and trumpets in the Acacus
	Bronzes	Benin bronzes
	Terracottas	Nok terracottas
Ethnographic practice		Synchronic ethnomusicology
Comparative linguistics		Study of instrument names
Textual sources		Sudanese chronicles, traveller reports and engravings

The tools usually available to musicologists in Europe, notably written sources², are rare (though see Kirby 1933; Charry 1996). Linguistic studies are also sparse, though see Hause (1948) and Cloarec-Heiss (1999). In the case of Ancient Egypt, many actual instruments survive (Hickmann 1962; Manniche 1991). In specific cases, the Egyptian data is illuminating, but it has sometimes tended to obscure the larger patterns by placing undue emphasis on a particular data point. Typically, the ancient presence of an instrument in Egypt was taken to show that it ‘spread out from’ Egypt, which may not be the case.

¹ An early version of some parts of this paper was presented at the SAFA meeting in Toronto in 2002. I would like to thank the musicians who have kindly discussed their music and allowed me to inspect their instruments. Fieldwork data derives from numerous field trips to various countries in Africa from 1971 to the present (2012). Thanks to Cornelia Kleinitz for sending her papers on rock gongs and Jacob Bess for introducing me to Mwaghavul culture.

² There is some information to be derived from the accounts of Arab geographers and early travellers which has yet to be fully exploited (e.g. Hause 1948). Generally, though these accounts are so imprecise that the relation between scholarly ink spilled and useful data is highly disproportionate.

Examples of music history drawn from oral tradition are relatively abundant and papers in Wachsmann (1971a) provide useful case studies. However, these are small points of light in a picture which is otherwise largely obscure. But even a cursory survey of African traditional music reveals large-scale patterns and continent-wide forms and it is thus tempting to pick up a broader brush and to link these with other types of cultural history. Wachsmann (1971b) is an attempt to do this with the instrumental repertoire of the Ganda, tying various instruments to different traditions of origin and a variety of migration routes.

Reconstructing African cultural history through the distribution of material culture or related practices such as musical forms is of course deeply unfashionable. Its early exponents were the German ethnologists of the *Kulturkreislehre* school (e.g. Ankermann 1901; Sachs 1928) and their Swedish successors, notably Izikowitz (1936) and Lagercrantz (1950). Detailed and painstaking as much of this work was, it made little real impression of scholars from other disciplines, largely because of the lack of an interpretative framework. In part this was because they made no attempt to fit their findings with other disciplines, such as linguistics and prehistory. But they do provide an unparalleled database of datapoints for building geographical mapping of material and social culture, and also the background to test assumptions about independent innovation. The example of African wind polyphony given in §4. takes forward some of these ideas into the arena of historical reconstruction.

3. Examples of archaeological and iconographic evidence

3.1 Direct finds

Except from Egypt, direct finds are extremely rare. Egyptian instruments, mostly from tombs, are reviewed at length in Hickmann (1962) and important collections such as the British Museum in Manniche (1991). These will not be discussed here except where they are relevant to other parts of Africa. Neaher (1979) describes bronze bells in Southern Nigeria which have either turned up as surface finds or are preserved on shrines, but none of these are dated.

The earliest record of a musical instrument in Africa is almost certainly the oldest in the world, namely part of a bone flute from Haua Fteah (McBurney 1969). Photo 1 shows an image of the fragment, with the remaining fingerhole. At the time of excavation, this type of material was poorly dated, due to the problems of dating beyond the radiocarbon horizon. With the re-excavation of Haua Fteah, a more precise date of the layer from which it was recovered is possible. Currently it is assigned to the 'latter part of MIS5', which would make it Eemian, around 110,000 BP (Sacha Jones p.c.). However, work to establish a more precise date is still in progress. If a date of this period is established, this would be not only the oldest musical instrument ever recovered, but a signal that there must be serious questions about widespread assertions on the evolution of cognitive capacity and behavioural modernity.

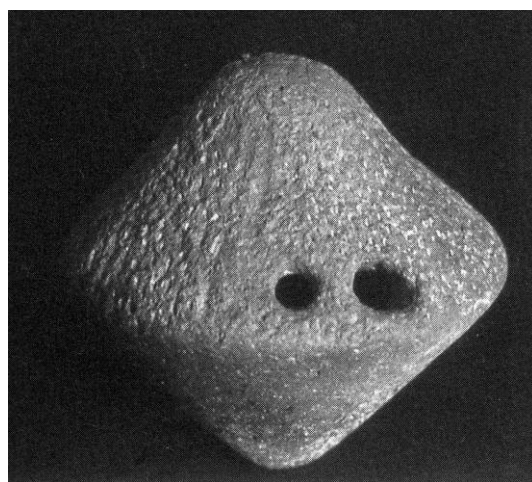
However, there is a literature asserting that these putative fingerholes are simply bones with carnivore punctures. This is the case made by Davidson (1991) and a review in D'Errico et al. (1998) re-affirms a sceptical position. It is hard not to see ideological elements at work here; resistance to the idea that they are musical instruments may derive from the cognitive model they imply, namely that culture was not a unique possession of modern humans. But the neatness of

Photo 1. Flute fragment, Haua Fteah



Source: Haua Fteah archive

Photo 2. Ocarina? from Mauretania



Source: Soleilhavoup & Foessel (2009)

the hole and the striking similarity to Palaeolithic flutes from Europe and those in the New World ethnographic record suggests strongly to a musicologist that this is indeed a sound-producer. It is notable that when ethnomusicologists review the same evidence, they conclude that music must be a practice coincident with the appearance of archaic modern humans, or, even more transgressively, continuous with the rhythmic beating of chimpanzees (e.g. Montagu 2004; Williams 1967).

A problematic find is the ocarina described by Soleilhavoup & Foessel (2009) from a site just north of Nouakchott (Photo 2). This was a surface find, although associated shells date the site to the Chalcolithic of Mauretania, i.e. about 2500 BP. Soleilhavoup describes experiments to make sounds with the object; as it has an interior cavity, a whistling noise can be produced and the pitch altered using the second hole. Nonetheless, if this is a musical instrument, it is quite unlike any other clay ocarina reported from Sub-Saharan Africa. Spherical and cylindrical terracotta ocarinas are made in a region between Central Nigeria and Chad. Photo 3 shows a typical instrument, photographed at a circumcision camp held among the Mofu-Gudur in the Mandara Mountains of Northern Cameroun in February 2009. The usual organological principle guiding such instruments is a shaped embouchure at the top of the instrument and one or more fingerholes on the side. They are usually played in sets graded in size or even tuned, and several sizes would usually occur together. The Libyan instrument does not confirm to this pattern and would be relatively difficult to play, so it may well be something else, such as an ornament, with the two holes used for a suspension cord. Clay musical instruments of this type have never been recorded in excavation reports from the region but archaeologists may not generally aware of the possibility of such instruments.

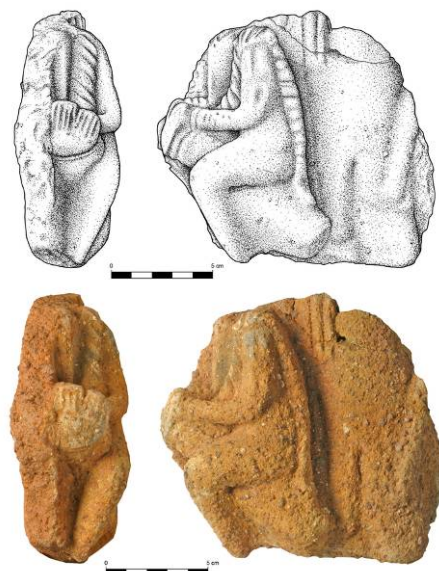
Photo 3. Clay whistle, Mofu-Gudur



Source: Author photo

A less controversial example is the representation of musical instruments on the Nok terracotta plaques of Central Nigeria. Long known from chance surface finds, a great diversity of figurines and plaques have now been excavated *in situ* (Rupp et al. 2008). Figure 1 shows a plaque depicting a drummer seated astride a long subconical drum, beaten with the palms of the hands. Nicole Rupp (2010) has published a version of this as a greyscale image, but I am indebted to her for this colour version. The figure is from the site near Jan Ruwa and a date of around 5th century BC. Even more remarkably, extremely similar drums are still played in the Nok³ area today. Figure 2 shows two drummers playing subconical drums with the palms of the hands to accompany the appearance of the Nangbezhi masquerades⁴ as part of the funeral ceremonies for an elderly woman in the village of Dogon Kurmi in April 2012. The association of these long drums with masquerading further suggests that some of the more outré dress elements in the Nok terracottas might also be a part of masquerade costumes.

Figure 1. Nok terracotta plaque showing long subconical drum



Source: Nicole Rupp (p.c.)

³ The culture in question is referred to as 'Nok' since this is where the first figurines were found. However, the large number of sites now identified by the German archaeological survey shows clearly that the centre of gravity of the Nok culture was somewhat west of Nok, around the modern-day settlement of Kagarko.

⁴ A gallery of images of this ceremony can be seen at the author's website. URL:

Some classic Mediterranean-world instruments such the Greek *aulos* (often described as a flute, but actually a double clarinet) have been recorded from Nubia but seem not have spread further south. Dixon & Wachsmann (1964) illustrate a statuette of an *auletes*, a player of the *aulos*, found in the royal tombs at Meroe. It is dated to the reign of Nakatamani (2 BC to 23 AD). There is no evidence the double-clarinet ever occurs south of Nubia in Sub-Saharan Africa. However, it is worth noticing that many Egyptian instruments, such as the harp, long-neck lute and lyre, do also occur in Sub-Saharan Africa (Blench 1984). These connections were the subject of many early observations held to confirm beliefs about high civilisations (Johnston 1899). There is indeed some evidence that the arched harp spread southwards, but for other instruments, Egypt was simply part of a larger culture area and the exact site where instruments developed is difficult to determine.

Figure 2. Drummers accompanying Nangbezhi masquerade



Source: Author photo

A highly characteristic musical instrument found almost throughout Sub-Saharan Africa is the clapperless iron bell (Boston 1964). The relative cost of iron previously ensured they were restricted to courts and chiefs, or used in important ceremonies. Photo 4 shows a seventeenth century representation of such a bell, carried by a runner for a Kongo chief, from the Araldi manuscript (Bassani 1978). These bells are typically either single or double and are illustrated on the Benin bronze plaques and in some of the earliest European illustrations of Sub-Saharan Africa musical instruments. Fragments of iron clapperless bells have been found in numerous excavations in DRC (Laurenty 1995). However, the collapse in the value of iron following European imports has meant this instrument is available to anyone and it is now common in all types of popular music.

Photo 4. Double iron bell from the manoscritto Araldi



Cast bronze figures conventionally associated with the 'Sao' culture, but more likely produced by the peoples ancestral to the modern-day Kotoko, regularly occur as surface finds or from mounds emerging from the low-lying plain running up to the southern edge of Lake Chad (Lebeuf & Lebeuf 1977). Bronzes first appear in the layers associated with the 2nd century BC, but the great burst of creativity, when most of the bronze figures appear, is the twelfth and thirteenth centuries. Photo 5 shows a transverse horn player depicted in one of these figurines. Transverse horns are one of the most common sound-producers of Sub-Saharan Africa, occurring from Senegal to South Africa. Typically they are made from elephant tusks or antelope horns but more rarely of wood, vegetable stalks and sets of calabashes glued together. In more recent times, cowhorns and even industrial waste such as beaten-out metal and plastic tubing have been used. Photo 6 shows a Dogon performer playing a transverse antelope horn, photographed in Bankass, Mali in 2004.

Photo 5. 'Sao' bronze, Northern Cameroun



Source: Author collection

Some of the ivory transverse horns used in royal courts in Central Africa may well be centuries old, to judge by the patina. The oldest example known is an original ivory horn from the Tradescant collection in the Ashmolean Museum in Oxford dated 1685 (Photo 7), and described as '*Lituus indicus eburneus, curvatus; una extremitas humanae manus speciem exhibet. In media parte foramen habet ad canendum aptatum*' in their catalogue. Instruments like this may represent part of the early 'tourist' trade on the coast, ivory carved in part to European aesthetics (e.g. Bassani 1975). If so, then the state of the instrument today suggests that part of the proximal end must have been broken off. The *Musée Royal de L'Afrique Centrale* (MRAC) in Tervuren has a magnificent collection of such horns going back to the early period of Belgian contact with the Kongo area (Laurenty 1974). Many were confiscated by Belgian colonial officials both as an attempt to demonstrate that local rulers no longer exercised power and because they could be used to warn nearby villages of impending tax-collection exercises (see Carrington 1949 for a description of this). De Keyser (2010) reports on a hybrid instrument collected in 1938 which combines characteristics of the African instrument and the European cornetto, which points to a seventeenth or eighteenth century provenance (Photo 8).

Photo 6. Dogon performer, transverse horn, Bankass 2004



Source: Author photo

Photo 7. West African transverse ivory horn, Tradescant collection



Source: Ashmolean Museum, Oxford

Photo 8. Kongo ivory horn with cornetto characteristics



Source: RMCA Ethnomusicological collection MO.1967.63.884

Globally speaking, transverse horns are extremely rare, with end-blown horns and trumpets predominant worldwide. However, an unexpected ‘island’ of transverse horns occurs in Bronze Age Ireland, where they are typically found in hoards, together with pellet bells and other bronze artefacts. Figure 3 shows one such horn in the National Museum in Dublin. Normally this would be regarded as a coincidence, but the Irish instrumentarium has at least one other traditional instrument of clear African provenance, the *bodhrán* or circular goatskin frame drum, which closely resembles the *bendir* of the Maghreb. The transverse horns may be unrelated, but the possibility of a link should be kept in mind.

Figure 3. Transverse bronze horn, Ireland



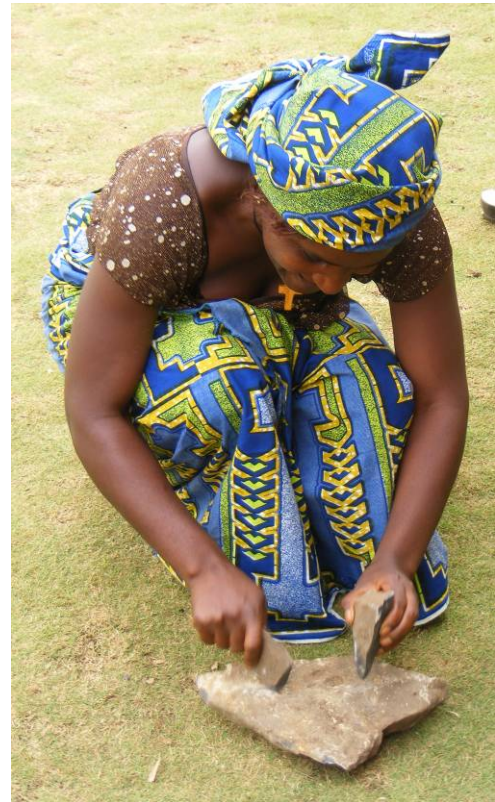
Source: Author photo, National Museum, Dublin

3.2 Rock gongs, lithophones and stone clappers

One of the presumed ancient instruments of Africa is the rock gong. Rock gongs constitute an intermediate category between excavated objects and landscape features. They consist of naturally occurring rock formations which produce a ringing tone when struck, usually with another stone. There is an association with rock slides, at least in Nigeria, but elsewhere petroglyphs are found on the same sites. Rock gongs seem to be virtually a global phenomenon, but Africa and Northern Europe are particular foci (Lund 2009). The first report of rock gongs in Africa is Fagg (1956), closely followed by Goodwin (1957), illustrating the rock gongs of Central Nigeria. Catherine Fagg (1997) has written up this material in more detail. Rock gongs have been reported throughout Southern Africa and are also widespread in Nubia (Kleinitz 2007, 2008, 2010). Since there is no necessary anthropic change to the material, rock gongs are hard to date. Associations in Nubia mean it is likely they are as old as the petroglyphs with which they are associated, and the same is true elsewhere in Africa.

In situ rock gongs are typical of the archaeological literature, but sounding stones are also used in other ways. Certain stones have ringing characteristics and can be used as lithophones. King (1961) describes the egg-shaped stone clappers used by the Yoruba in southwest Nigeria. More strikingly are large struck idiophones, such as found in Northern Togo among the Kabiye people (Anakesa & Amar n.d.). These instruments, known as *pinchanchalasi*, consist of an arrangement of five flat stones arrayed in a circle around the performer and struck with two stones. A second performer beats out an ostinato on a single stone. As with rock gongs, these instruments are likely to be of great antiquity, although they have so far not been recognised in archaeological sites. Similar practices are also found in the Grassfields of Cameroun. Photo 9 shows a ringing stone plaque being played with two stones. Unusually, these lithophones are played by Noni women for secret society dances.

Photo 9. Playing a lithophone among the Noni of the Cameroun Grassfields



Source: Author photo

3.3 Iconography

Representations of musical practice in archaeological contexts are uncommon except in Egypt, but the Nok terracotta is one such. An important iconographic source of information about African music are the galleries of rock art in the Sahara. Unfortunately many of the usual uncertainties of chronology apply to rock art and dating by style remains controversial. However, it is striking that when music is illustrated it suggests a musical life different from the Sahara today and which has much more in common with Sub-Saharan Africa.

In one of the first reviews of this topic, Le Quellec (1994) describes some instruments in Saharan rock art. Viallet (1995) was able to print high-quality images of lute and trumpet players in the rock paintings of the Tassili. The lutes are particularly interesting, as they are long-necked lutes with piriform resonators such as are still played in Niger today. Photo 10 shows a lutenist from Iskawene in the northwest Tassili. Photo 11 shows an ensemble of hunters playing long-necked lutes, *gurumi*, in Dallol Mawri, SW Niger. Viallet (1995) shows other images of similar lutes in the Hoggar and also in the Acacus in Libya. None of the rock art images of the lute show the other types of lute found in West Africa, the boat-lute and the lutes with circular resonators, for example, those made from gourds. Charry (1996) has reviewed the synchronic and ethnohistorical literature

Photo 10. Lutenist, Iskawene



Source: Viallet (1995)

on lutes in West Africa, and demonstrates the complexity of both forms and the problems of a simple 'transmission from Egypt' model espoused by earlier writers. Almost certainly it is more fruitful to think of a large area of lute development stretching between Mauretania and the Near East with regional subtypes.

Photo 11. Hunters' ensemble, Dallol Mawri, Niger



Source: Bornand (2004)

In the case of the lute we also have excellent historical sources. Al-ʿUmarī⁵ (ca. 1300-1384) writing about the period 1337-1338 says 'When the king of this kingdom [Mali] comes in from a journey a parasol (*jitr*) and a standard are held over his head as he rides and drums are beaten and guitars (*tunbūr*) and trumpets made of horn are played in front of him (Levtzion & Hopkins 1981: 266-7). A few years later in 1355-56, Ibn Baṭṭūṭa (ابن بطوطة) (1304-1377) visited Mali and reports 'The singer come out in front of him [the sultan] with gold and silver instruments (*qunburī*) in their hands' (Levtzion & Hopkins 1981: 291). The term *qunburī* has been the cause of some controversy, since it is either an erroneous transcription the Persian term *tunbūr* used by Al-ʿUmarī or the first record of the indigenous term *gunebri*. In 1468, the first European mariner to observe the lute was Alvise da Ca' Da Mosto (1507), a Venetian slave trader, who describes the music of Cayor (Northern Senegal) as follows; 'In this country they have no musical instruments save two: the one is a large Moorish '*tanbuchi*' which we style of big drum; the other is after the fashion of a viol; but it has, however, two strings only, and is played with the fingers, so that it is a simple rough affair of no account⁶.

Viallet (1995) also illustrates musicians at two rock art sites in the Acacus, Ti-n-Sheikh and Ti-n-Anneuin, although his interpretations of the musical instruments in use seem very wayward. His Figure G. shows a group of musicians sitting in a circle around a player of a musical bow. The musical bow is adaptation of the hunting bow, and the string is stopped and plucked with the fingers so as to emphasise the natural harmonic series, like a Jews' harp (Balfour 1899). Musical bows are played throughout Sub-Saharan Africa (Camp & Nettl 1955) and are represented in San rock art, but are no longer played in the Sahara. Even more striking is the group from Ti-n-Anneuin (Figure H. in Viallet). This shows a group of nine musicians, eight seated in a circle around a performer who appears to be beating on an amphora-like pot. Six of them are apparently beating a vessel and in front of them are two projecting crossed sticks. Viallet interprets this as a circle of

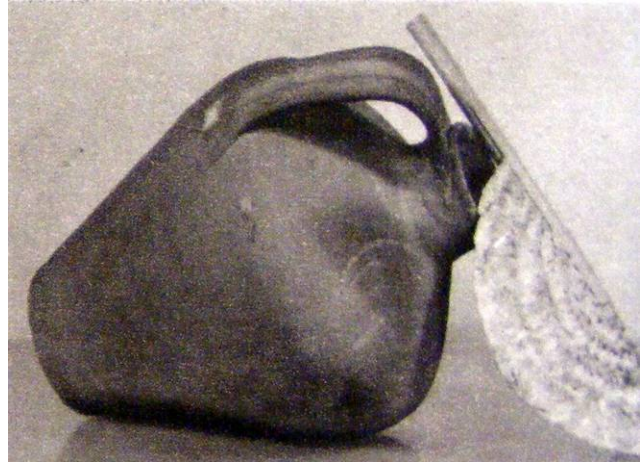
⁵ (العمرى الله فضل بن أحمد الدين شهاب)

⁶ Translation from Crone (1937)

singers, though he is unable to explain the curious projections. These are almost certainly temporary drums, such as are still played by Tuareg women today. A mortar or a pot has a skin stretched across the mouth, and the skin is held in place by a rope tightened by crossed sticks. This arrangement seems at first sight rather awkward, but it uses entirely objects carried for other purposes, and is thus high practical for nomadic people. The clay jar in the centre of the circle is also quite striking. Clay jars (often struck on the mouth with padded beaters) are known from parts of Sub-Saharan Africa such as Central Nigeria (Gourlay 1978). However, they are also found in Songhay communities in Gao and (more surprisingly) in parts of rural Portugal (Photo 12) (Veiga de Oliveira 1966). In principle, to find such an instrument used in the central Sahara would not be surprising.

Another unique source are the rock paintings of the Ennedi in Chad which clearly show the arched harp common in the region immediately due south (Bailloud 1997). Ziegert (1967) was the first to describe the rich gallery of rock art at Jebel Ben Ghnema in southern Libya. Wolff & De Cola (2011) have re-analysed this material and in some cases redrawn the figures. The particular interest of this gallery are the representations of music and dance, in particular the ensembles of wind instruments. In view of their relevance to the example of polyphonic wind music explored in the second part of this paper, further description of this material is given in §4.3.

Photo 12. Portuguese struck pot



Source: Oliveira (1966)

Ethiopia also has a number of valuable iconographic sources, notably in religious paintings, although these mostly serve to show that the instruments we know from the ethnographic present were also used in the past (Kebede in Kubik 1982). A characteristic semi-mythical story often shown in these paintings is the presentation of music by St Yarid to the Emperor Gebre Maskel, traditionally in the sixth century. St Yarid is supposed to have passed over the secrets of musical notation, as well as the instruments themselves, including the lyre and the sistrum (itself a remarkable survival from the Ancient Egyptian instrumentarium).

Photo 13. Axum church painting; St. Yarid presents music to Gebre Maskel

Photo 13 shows a painting in the church of St Mary Zion at Axum where St Yarid hands a sistrum to the king, who is so mesmerised by this that he accidentally stabs the saint in the foot with his spear. In the background a musician is holding the *malakat*, a long wooden trumpet with a cowhorn bell.



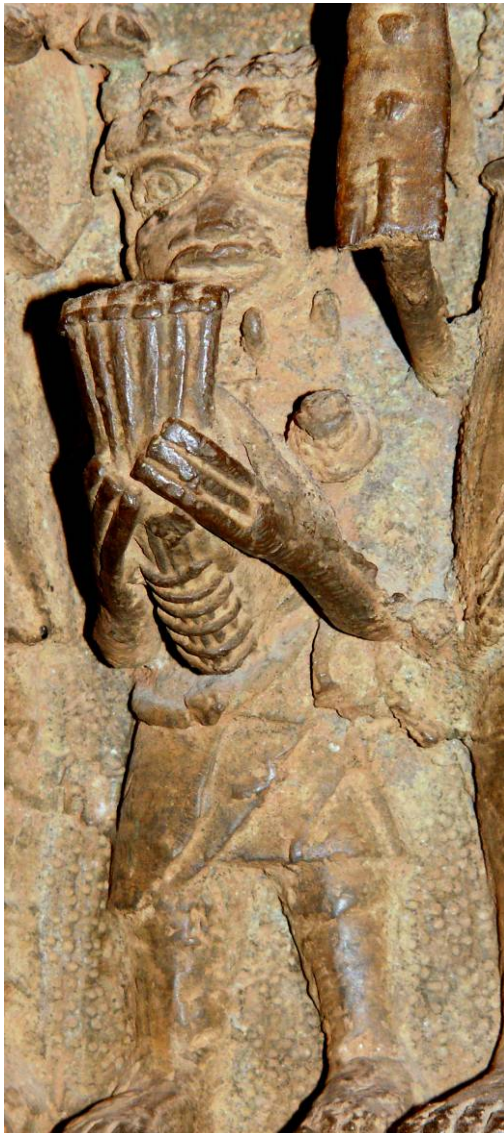
Source: Wall painting, St Mary Zion, Axum

Reviewing all the musical instruments depicted in Ethiopian churches would be beyond the scope of this

paper. There are also very substantial dating issues, since paintings are regularly repainted and the content sometimes altered and modernised. Wachsmann (1971b) in his study of the Kiganda instrumentarium,

reproduces Ethiopian paintings of the *krar* or lyre and the *masenqo* or single-string fiddle, both of which have counterparts in Uganda. In view of this, Ethiopia remains an important resource yet to be exploited.

Photo 15. Pluriarc player, Benin plaque



Source: British Museum
in Hamburg.

A specific but rich source are the musical practices depicted on the Benin bronze plaques (Dark & Hill 1971). These are a collection of some three thousand bronze reliefs which formerly decorated the palace of the Oba of Benin before they were seized by the British expeditionary force in 1897. They are thought to date from the 16th century onwards and probably ceased manufacture some time after 1650 (Dark & Hill 1971). They are described by Dapper (1668) who was there in the 1640s but no other outside observer mentions them until they were found during the British Expedition in 1897. Apart from a collection which reached the British Museum (and was promptly published in Read & Dalton 1899) the great majority was auctioned off to defray the costs of the military force and ended up largely in Berlin with a smaller number of items

Photo 14. Stamped rattle player, Benin plaque



Source: British Museum

Photo 16. Benin rattling-staff, *uxurhe*



Source: Author collection

The Benin plaques depict scenes of court life, including musical performance. The instruments illustrated are not necessarily a representative sample of Edo musical instruments; horns, bells and stamped rattles seem to predominate, and drums are rare. Musical performers seem to be of very low status, since they are almost without exception figured much smaller in size than royal and aristocratic figures. Nonetheless it is striking that many of the instruments represented remain in use today. Photo 14 shows the *uxurhe*, a stamped rattle made of bronze. Partly cast, partly hammered, it has internal cavities which contain rattling pellets and which jingle when the instrument is stamped on the ground. Photo 16 shows a modern example of a rattling staff for comparison. By contrast, Photo 15 shows a performer on the *pluriarc*, a type of multi-necked harp where the strings pass from the resonator to a series of parallel bows fixed to the underside of the resonator. This instrument, which was once common throughout Central and Southern Nigeria, and is found in early 20th century ethnographic

Photo 17. Xylophone, gourd trumpet and harp from the manoscritto Araldi



Photo 18. Sansa/mbira from Bonanni (1722)



Source: Bonanni (1722)

collections, has now almost completely disappeared, so the Benin plaques record its former importance as a court instrument. The comparison with ethnographic instruments was already made in Read & Dalton (1899) and shows an engraving of *pluriarc*.

Another quite different source of information about African musical instruments from the sixteenth century onwards are European drawings and engravings. Bassani (1978) has collected together two of the most important sources, the manoscritto Araldi (about 1670) and the Gabinetto Armonico of Bonanni (1722). Araldi represents music from near the mouth of the River Congo and Northern Angola, and (given the representational conventions of the period) generally reliable (for details of the manuscript and its recovery see Pistone (1969).

Bonanni (1722) is a much more problematic source. Apart from an enthusiasm for fantastical instruments which do not occur in any culture, he was also prone to make up organological features which were not clear to him. Moreover, he sometimes confounds instruments from different continents, an error Praetorius (1619) was also prone to make. Nonetheless, we owe Bonanni the first clear picture of an African *sansa* or *mbira*⁷ an instrument with a box-resonator and a series of tuned metal tongues, which are plucked with the thumbs on

⁷ This instrument, not found in other continents, does not really have an agreed organological name. It is also called the 'thumb-piano' in some sources, though this is deemed inappropriate by some authors.

the same principle as the musical box (which may well derive from it). Photo 18 shows his engraving, which from the heavy keys also points the Angola/DRC region.

4. Polyphonic wind ensembles

4.1 Introduction

The previous sections have described the variety of sources available for the reconstruction of the music history of Sub-Saharan Africa. This section aims to provide an example how such sources can be combined to describe a distinctive practice in African music which is also strongly linked to the patterns of social organisation we aim to identify in the archaeological record. One of the most significant musical structures that characterises ‘African’ music is the polyphonic wind ensemble. From eastern Mali across to Ethiopia and down to South Africa, ensembles of wind instruments, similar in organological type but graduated in size, constitute some of the most distinctive and involving forms of music. Paradoxically, they are also one of the forms of music most under threat, because they emerge from the broadly egalitarian nature of African village life; for performances to take place they require a large number of players of similar status to be regularly present within the village. As labour migration, radio music and world religions make an increasing impact on village communities, so these types of co-operative music are often the first to disappear. Ironically, the rich sound has influenced twentieth century composers and both Gyorgy Ligeti and Steve Reich have acknowledged its influence on their work.

Nonetheless, this remarkable music is still very much alive in many parts of the continent, and new evidence of its forms is constantly coming to light. No previous literature treats this type of music synthetically on a continent-wide basis, though there have been a number of studies of individual musical forms (e.g. Kirby 1933). Most notable of these is the work of Simha Arom (1991) on the polyphonic ensembles of Central Africa. Arom has probably made the single most important set of contributions to knowledge of this topic through a series of recordings (see discography in Dehoux et al. 1995) and has also carried out experimental work with performers to understand how the musical parts are fitted together.

The polyphonic wind ensemble is documented in some of the very earliest sources on Africa, and can also be discerned in Saharan rock art. Its very distinct structure and its widespread distribution suggests that it must be of great antiquity, and that it is central to the organisational principles of African music. Moreover, it is strongly correlated with particular types of social structure, and thus provides both a musical and a sociological window on the African past. In terms of methodology, the reconstruction of this form illustrates the process of integrating synchronic ethnography, archaeology and ethnohistorical sources.

4.2 Characterisation

The main musicological characteristics of polyphonic wind ensembles are;

- a) Ensembles consist principally of wind instruments, with some added percussion, either drums or untuned idiophones. Chordophones are very rarely included. Especially in Ethiopia, some vocal ensembles seem to be structural copies of wind ensembles.
- b) The wind instruments are of the same type, organologically. Occasionally the base instrument in the ensemble is different, for example a horn is added to an ensemble of flutes, but instruments operating on radically different principles are rarely mixed.
- c) The principal organological types are trumpets and horns (labrosones) and flutes (edge-instruments); reed instruments of any type are extremely rare.
- d) In most cases, instruments produce a single note. One instrument is assigned to each degree of the scale, even where the instruments are capable of producing a wide variety of notes, for example, notch-flutes. The tuning of such ensembles is almost invariably pentatonic or heptatonic⁸.
- e) The minimum compass represented in such ensembles is usually an octave, although a tessitura of more than three octaves has been recorded. Additional octaves always double the main melody-line and do not seem to be given independent lines.
- f) Each musical part is of approximately equal importance; canon or hocket-like structures are common.

⁸ One exception to this is the calabash horn ensembles found between eastern Nigeria and Chad where tuning is fairly aleatory and players look for a graduation in size and contrasts in timbre

As an example, Photo 19 shows the *velan*, a transverse clarinet ensemble characteristic of the Mwaghavul people of Central Nigeria at the Wus Festival in Panyam in 2010. Up to ten players take part and the music can cover a range of two octaves. It is played by men for post-harvest celebrations, and the players dance round slowly in a circle, accompanied by a barrel-drum.

Photo 19. Transverse clarinet ensemble of the Mwaghavul



Source: Author photo

Such ensembles reflect a rather specific social context and some sociological generalizations can also be made;

- a) Instruments are almost invariably played by men; women sing in polyphonic vocal ensembles, sometimes in association with the wind instruments, but do not play the instruments themselves.
- b) Such ensembles are rarely if ever found in highly stratified societies, and do not play for courts, chiefs or other authority figures.
- c) Polyphonic wind music is rarely found where the world religions are predominant, whether Islam or Ethiopian Christianity. Indeed, where European Christianity is spreading, such ensembles tend to disappear, except where they are preserved through conscious cultural revival.
- d) Polyphonic wind ensembles do not usually exist in societies with a class of professional musicians.
- e) They are not usually found where named compositions are attributed to individual composers.
- f) They are rarely associated with the central ceremonies of a particular society, and indeed have a strong, though by no means exclusive, association with beer-drinking or other entertainment.

An apparent exception, both in terms of associations with authority and distribution might be the groups of transverse ivory horns blown at African courts, described by many travellers (see references in Arom 1991). These ivory horn ensembles were common from Senegambia to Mombasa, but the music they play is not the equal part polyphony characteristic of village groups. Recordings suggests that it was structurally quite distinct from the other instruments, in the nature of heterophonic fanfares similar to the long trumpet groups of Islamic West Africa (Gourlay 1982).

4.3 Distribution in Africa

The earliest likely published record of wind ensembles is recorded in the journals of Vasco da Gama who saw Khoikhoi people performing wind music at Mossel Bay, East of the Cape of Good Hope in 1497;

‘and they began to play upon four or five flutes, some of which were high and some low, so well in fact that they played harmoniously...’

Ravenstein (1898)

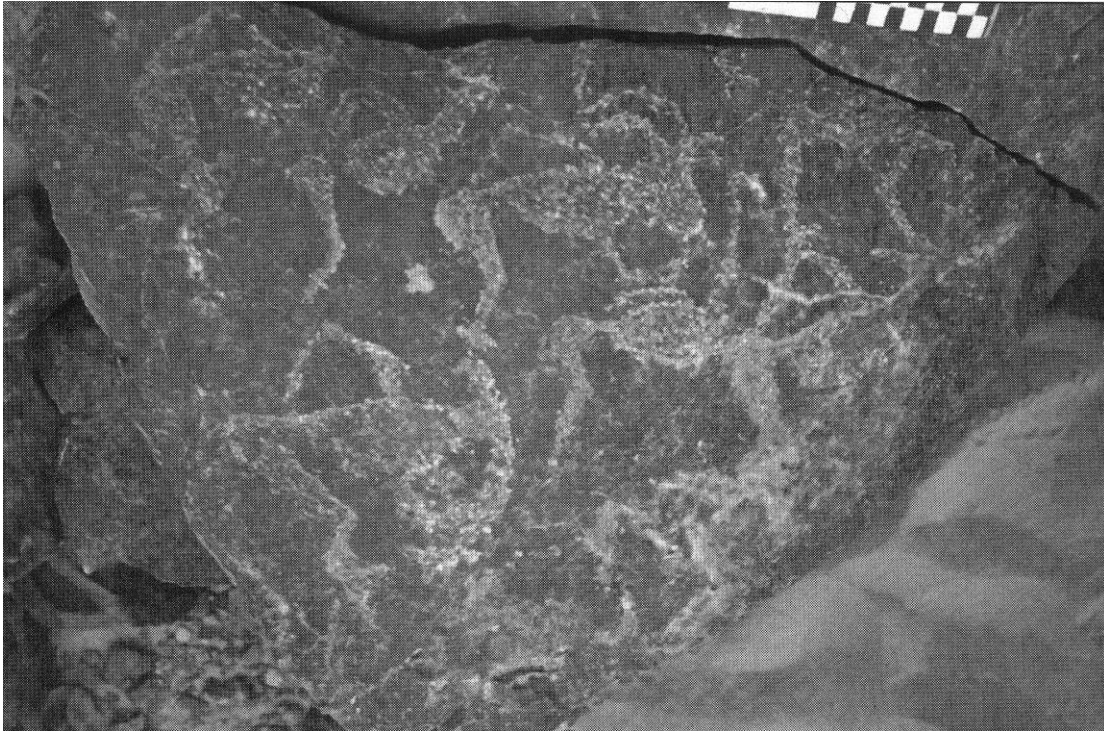
Kirby (1933) has collected other early records of polyphonic wind ensembles, some of which involve very large numbers of players, such as the Nama performers witnessed in 1661 who included ‘one to two hundred strong men’. These references are of particular value because the Nama Khoi have long been displaced from South Africa proper and the present day populations no longer play polyphonic wind music.

Saharan rock art may provides striking earlier evidence for this practice. The paintings at Jebel Ben Ghnema in southern Libya described by Wolff & De Cola (2011) include both single end-blown trumpets and those played in ensembles. Photo 20 and Photo 21 shows an ensemble of end-blown horns, both redrawn and as photographed.

Photo 20. Redrawn ensemble of end-blown horns, Jebel ben Ghnema



Photo 21. Ensemble of end-blown horns, Jebel ben Ghnema



Source: Wolff & De Cola (2011:63)

For comparison, Photo 22 shows an ensembles of flutes and trumpets among the Tupuri of Chad, photographed in the 1960s. The trumpets are made from sections of cylindrical gourds glued together. The players dance around in a circle, each one with an individual motif, making a complex polyphonic whole.

Photo 22. Gourd trumpet ensemble, Chad



Map 1 shows a synthesis of the present-day Africa-wide distribution of polyphonic wind ensembles, including the likely distribution of Khoi ensembles at the time of Portuguese contact and the nucleus of vocal polyphony in Ethiopia. It is assumed that the areas which are now disjunct were once connected in a continuous zone. It is likely that the spread of Islam in NW Nigeria is responsible for breaking the link with the ensembles found across Burkina Faso and those in Central Nigeria. There are many uncertainties in such a map, both because of the inadequate descriptions in many texts and because some areas remain unreported. Even in the area marked, the presence of the ensembles is highly variable, and found among one group, but absent among its neighbours. Some regions, Angola for example, remain largely unknown ethnomusicologically, and may or may not fall within this area of distribution. Sometimes it is necessary to listen to actual recordings to determine the construction of the music. Most striking is the vocal music of the Mikea, which is a type of yodelled polyphony more characteristic of the Central African rainforest (OCORA 1997). Blench (2007) has proposed that some groups of Mikea hunter-gatherers are genuine descendants of forager migrants from the African mainland, and this does appear to be further evidence to support this. Other pictures from Madagascar, for example from the Tanala area, show several flautists playing together (Sachs 1938). However, actual field recordings (Auvidis n.d.) show clearly that this music is not polyphonic but heterophonic (where all players play an underlying melody simultaneously, but vary it rhythmically) which would be expected from the music of an Austronesian people (Yampolsky 1999).

One of the most complex areas and most difficult to interpret is the Ethio-Sudan borderland where Omotic and Cushitic-speakers are adjacent to Nilo-Saharan speakers. Many groups in this region practise a variety of types of vocal and instrumental polyphony (Jenkins n.d, 1994). The Maji, for example, use ensembles of single-note pipes, sometimes in combination with panpipes, in the classic African style. They imitate instrumental polyphony by cupping their hands into aerophones, and practice vocal polyphony with a restricted tessitura and use of falsetto in a style which strongly resembles the rainforest Pygmies.

San of Southern Africa speakers also have polyphonic music but it is essentially vocal. Structurally, it appears quite unlike the wind polyphony recorded from elsewhere in Africa, although it has been argued that it resembles the vocal polyphony of the Pygmies (England 1967). There are important structural differences between this type of two- and three-part polyphony and the multi-octave ensembles characterised here. Nonetheless, the link may be found in southwest Ethiopia. Omotic and Nilo-Saharan speakers in this area retain polyphonic styles reminiscent of the Pygmies as well as more complex styles and it seems likely enough that from this centre of diversity emerged the characteristic one-note-to-a-part wind polyphony.

Map 1. African distribution of polyphonic wind ensembles



4.4 Interpretative framework

Polyphonic wind ensembles are one of the most widespread types of music in Sub-Saharan Africa, and they are found among both foragers and agriculturalists in all regions. They are recorded some of the earliest sources as well as rock art. Putting a more precise date to this is not possible, although sets of clay ocarinas may yet turn up in excavations. But synchronic ethnography can contribute significantly to the sociology of these ensembles and thus more generally to the understanding of acephalous versus complex societies in prehistory. The following sociological generalisations emerge from the literature on numerous otherwise highly varied societies, suggest that the links between musical and social structures have considerable time depth.

Gender restrictions. No wind ensembles where women are the principle performers have ever been recorded. It is more broadly true that women are often excluded from performance on melody instruments in Sub-Saharan Africa. Typically, women are highly prestigious singers and may play percussion to accompany their singing, but hardly ever play flutes, xylophones or stringed instruments.

Absence from stratified societies. Lomax & Arensberg (1977) once developed an argument for a worldwide correlation between egalitarian societies and vocal or instrumental polyphony. At a rather basic level this makes sense; societies where everyone is conceptualised as of equal status might well develop a music where the parts are of equal value. But polyphony can have many realisations, and European polyphony is clearly not a reflection of egalitarian social structures; indeed it developed to express stratification and apartness in the medieval church. Similarly, there are many acephalous societies, including those in West Africa, where polyphonic forms do not occur.

Absence from societies which have adopted world religions. With few exceptions, this type of polyphonic ensemble does not occur in societies which have adopted either Islam or Orthodox Christianity. The underlying reason is a profound connection between the world religions and emergent social stratification. World religions co-occur with a pluralistic array of social and economic niches, which in turn probably reflect increases in population densities. As different social groupings develop, the tenets of a 'universal' religion can be manipulated to further their local interests. Egalitarian ideologies are typically discarded and with them music that might be reflective of those ideologies.

Absence from societies with professional musicians. Professional musicians are rare in Africa overall, probably because most agricultural societies simply did not have enough surplus to support specialised performers. But a strong association exists with the presence of world religions; professional musicians are found in the Islamised societies of the West African Sahel and on the East Coast, as also in Ethiopia. Elsewhere, even where musicians are caste, as in parts of West Central Africa, they engage in other productive activities. So it is likely that world religions and professionalisation of music are part of the same nexus, as also the presence of named composers.

Musical consequences from the establishment of expert musicians. Specialised professionals develop to serve the interests and needs of particular classes, typical of stratified societies. The more effectively they serve powerful individuals and class values the more status they themselves gain. It is therefore in their interest to discourage the notion that all individuals have equal musical skills and can contribute equally to performance. Rather, it is valuable to create a mystique that there are specialised, hereditary skills that only certain families can possess. It is also probably no accident that professional musicians tend to play stringed instruments (in Senegambia, the *kora*, in Hausaland the lute and in Ethiopia the *masenqo* fiddle) because they can sing and play without depending on others. Although such societies often mobilise large groups of musicians, allocation of musical responsibility is uneven, reflecting the divisions in the larger society.

Absence from societies which have named composers for musical compositions. Most folk traditions across the world have no ossified compositional tradition similar to the West, except perhaps for parts of East Asia. The idea of a fixed composition which must somehow be respected and ascribed to a named composer may have arisen in the 12th century in Europe, but until composition began to be associated with earning an income composers seem to have been fairly casual about ascription and claiming credit⁹. In a way, the situation is similar across Africa; most societies have no tradition of ascribing things to a named composer, with the exception of stratified societies with professional musicians. The emphasis is rather placed on the performer; great performers are remembered and sometimes their ability to produce memorable words. New melodies or arrangements or dispositions of instruments are rapidly absorbed and indeed their origin soon forgotten. In recent times this has begun to change as radio performance makes possible the generation of an income from songs.

⁹ Or more strongly, ascribe all musical compositions to the ancestors or spirits, suggesting individual claims would be socially disruptive.

Disjunction from central rituals. This probably the shakiest generalisation; what counts as a central ritual will vary from one anthropologist to another. There is at least one highly prominent exception, the Venda of South Africa, whose *tsikona* ritual is accompanied by reed flutes (Kirby 1933). Nonetheless, it is broadly true. Across a sample of such groups in West-Central Africa, the most common association appeared to be with beer-drinking and life-cycle festivals such as marriage. The explanation may be the association of key ceremonies with age. Acephalous societies, for all their absence of stratification by social group, very commonly practice age stratification, the attribution to an elder generation of authority and ritual power that cannot be attained by the next generation down. The age-grade systems of East Africa are perhaps the most well-known and concrete realisation of this, but it is true across much of Africa. If so, then a type of mirror of stratification occurs in acephalous societies, where the older exclude the younger. If so, this would provide a motive for excluding 'democratic' musics.

Archaeologists working in Africa are fond of the rise of complex societies and distinguishing hierarchy and heterarchy the archaeological record. But it is helpful to recognise that many of the documented state-like systems are relatively recent and that acephalous, egalitarian societies have dominated the continent in terms of area and numbers for millennia. One of the clear correlates of such societies are the polyphonic wind ensembles discussed in this example, whose attributes can be recovered from the ethnographic and historical record. Understanding such phenomena also leads to a broader interpretation of the culture of such societies.

5. Conclusions

The purpose of this paper is to draw attention to the diverse sources of information for the reconstruction of the prehistory of African music. Evidence comes from direct finds, iconography and historical sources. Although an established discipline elsewhere, archaeomusicology has yet to be taken up as a serious subdiscipline in Africa. Importantly, imagery seems often to have been misinterpreted through a lack of familiarity with current musical practice. Comparisons of images in rock art with existing music in Sub-Saharan Africa allow us not only to make sense of what is depicted, but establish the societies with typically 'African' characteristics were present in the Central Sahara until the spread of Islam. The example of wind polyphony illuminates the methods available for reconstructing something as intangible as music, and by analogy, other aspects of culture that are not available for direct inspection. Material culture studies are often used by archaeologists as exemplars of possible past contexts of use, but less often as phenotypes that can be used to reconstruct the past more directly.

Bibliography

- Ankermann, Bernhard 1901. *Die Afrikanischen Musikinstrumente*. Berlin: Druck von A. Haack.
- Arom, S. 1991. *African polyphony and polyrhythm*. Cambridge: Cambridge University Press.
- Bailloud, G. 1997. *Art Rupestre en Ennedi*. Saint-Maur: Editions Sépia.
- Balfour, H. F. 1899. *The Natural History of the Musical Bow*. Oxford: Clarendon Press.
- Bassani, Ezio 1975. Due olifanti afro-portoghesi nelle collezione pubbliche italiane. *Rassegna di studi musicali, Firenze, Centro Studi Rinascimento Musicale*, 2: 97-103.
- Bassani, Ezio 1978. *Gli antichi strumenti musicali dell'Africa nera*. Padova: G. Zanibon.
- Blench, R.M. 1984. The morphology and distribution of sub-Saharan musical instruments of North-African, Middle Eastern and Asian origin. *Musica Asiatica*, IV:155-191.
- Blench, R.M. 2007. New palaeogeographical evidence for the settlement of Madagascar. *Azania* XLII:69-82.
- Bonnani, Filippo 1722. *Gabinetto armonica pieno d'istromenti sonori indicate, e spiegati dal Padre Filippo Bonanni*. Roma: Giorgio Placko.
- Boston, J.S. 1964. Ceremonial iron gongs among the Ibo and the Igala. *Man*, LXIV:52.
- Ca' Da Mosto, Alvise da 1507. Libro Primo: In comenza el libro de la prima Navigatione per loceano a le terre de Nigri de la Bassa Ethiopia per comandamento del Illust. Signor Infante Don Hurich fratello de Don Dourth Re de Portogallo. In: Francanzano, Montalboddo ed. *Paesi novamente ritrovati et Novo Mondo da Alberico Vesputio Florentino intitolato*. Vicenza.
- Camp, Charles M. and Bruno Nettl 1955. The Musical Bow in Southern Africa. *Anthropos*, 50(1./3): 65-80.
- Carrington, John F. 1949 *Talking drums of Africa*. London: Carey Kingsgate Press.
- Charry, Eric 1996. Plucked Lutes in West Africa: An Historical Overview. *Galpin Society Journal* 49: 3-37.
- Cloarec-Heiss, F. 1999. Les harpes: ce que leur nom révèle. In: *La parole du fleuve: harpes d'Afrique centrale*. Bruguière, P. & J-L. Grootaers eds. 35-47. Paris: Cité de la Musique.

- Crone, G.R. ed. 1937. *Los Viajes de Cadamosto*. London: Hakluyt.
- Dapper, Olfert 1668. *Naukeurige Beschrijvingen der Afrikaensche gewesten*. Amsterdam: Jacob von Meurs
- Dark, P. and M. Hill 1971. Musical instruments on Benin plaques. In: *Essays on Music and History in Africa*. Wachsmann, K.P. ed. 65-78. Evanston: North-western University Press.
- David, N. & C. Kramer 2001. *Ethnoarchaeology in action*. Cambridge: Cambridge University Press.
- Davidson, I. 1991. The archaeology of language - a review. *Antiquity*, 65: 39-48.
- Dehoux, V. et al. eds. 1995. *Ndroje balendro: musiques, terrains et disciplines*. Paris: Peeters.
- Dixon, David M. & Klaus P. Wachsmann 1964. A sandstone statue of an *auletes* from Meroë. *Kush*, XII: 119-125.
- D' Errico, Francesco Paola Villa, Ana C. Pinto Llona & Rosa Ruiz Idarraga 1998. A Middle Palaeolithic origin of music? Using cave-bear bone accumulations to assess the Divje Babe I bone 'flute'. *Antiquity* 72: 65-79.
- De Keyser, I. 2010. Een Afrikaanse hybride hoorn en het Cross Cultural gebruik van trompetten en hoorns. In: Marc Leo Felix (ed), *White Gold, Black Hands: Ivory Sculpture in Congo*. Vol. 1. pp. 222-233. Heilungkiang (PR China) : Gemini Sun Qiquhar,
- England, N.M. 1967. Bushman counterpoint. *Journal of the International Folk Music Council*, XIX:58-66.
- Fagg, Bernard 1956. The Discovery of Multiple Rock Gongs in Nigeria. *African Music*, 1(3):6-9.
- Fagg, M. Catherine 1997. *Rock Music*. Oxford: Pitt Rivers Museum.
- Goodwin, A.J.H. 1957. Rock Gongs, Chutes, Paintings and Fertility. *The South African Archaeological Bulletin*, 12(45): 37-40.
- Gourlay, K.A. 1978. Kimkim: A Woman's Musical Pot. *African Arts*, 11(2): 56-64.
- Gourlay, K.A. 1982. Long trumpets of Northern Nigeria in history and today. *African music*, 6(2):48-72.
- Hause, H.E. 1948. Terms for musical instruments in the Sudanic languages. Supplement to the *Journal of the American Oriental Society*, issued with Vol. LXVIII.
- Hickmann, Hans 1962. *Aegypten: Musikgeschichte in Bildern*. Leipzig: Deutscher Verlag für Musik.
- Izikowitz, Karl Gustav 1935. *Musical and Other Sound Producing Instruments of the South American Indians: A Comparative Ethnographical Study*. Goteberg: Elanders Boktryckeri Aktiebolag.
- Johnston, Harry Hamilton 1899. *A history of the colonisation of Africa by alien races*. Cambridge: Cambridge University Press.
- Kebede, Ashenafi 1982. Unattributed text in: *Ostafrika. Musikgeschichte in Bildern*, 1/10. Kubik, Gerhard ed. Leipzig: VEB.
- King, Anthony 1961. A Report on the Use of Stone Clappers for the Accompaniment of Sacred Songs. *African Music*, 2 (4): 64-71
- Kirby, P.R. 1933. The reed-flute ensembles of South Africa: a study in South African native music. *Journal of the Royal Anthropological Institute*, LXIII: 313-388.
- Kleinitz, Cornelia 2007. Rock Art and Archaeology: The Hadiab Survey. *Sudan and Nubia*, 11: 34-42
- Kleinitz, Cornelia 2008. Soundscapes of the Nile valley: 'Rock music' in the Fourth Cataract region. In: A.A. Both, Eichmann, R., Hickmann, E. und L. Koch (eds.), *Studies in Music Archaeology VI. Challenges and Aims in Music Archaeology*. Rahden: Verlag Marie Leidorf, 131-146.
- Kleinitz, Cornelia 2010. Acoustic elements of (pre)historic rock art landscapes at the fourth Nile cataract. *Polish Archaeology in the Mediterranean*, Supplement Series, 2(2) fasc. 1. Warsaw: Warsaw University Press.
- Lagercrantz, Sture 1950. *Contribution to the ethnography of Africa*. (Studia Ethnographica Upsaliensia, I). Lund: Hëkan Ohlssons Boktryckeri.
- Laurenty, J.S. 1974. *Systématique des aerophones de l'Afrique centrale*. Tervuren: MRAC.
- Laurenty, J.S. 1995. *L'organologie du Zaïre. Tome I. Introduction et bibliographie*. Tervuren: MRAC.
- Le Quellec, J-L. 1994. La musique dans l'art rupestre saharienne. In: *Sons originels : préhistoire de la musique*. M. Otte ed. 219-242. Actes de la Colloque de musicologie. Liège : ERAUL.
- Lebeuf, Jean Paul & Annie 1977. *Les arts des Sao. Cameroun, Tchad, Nigeria*. Paris: Chêne.
- Levtzion, Nehemia & J.F.P. Hopkins, eds. 1981. *Corpus of Early Arabic Sources for West African History*. Cambridge: Cambridge University Press. [2nd ed. 2000] Princeton: Yale UP.
- Lomax, Alan & Conrad Arensberg 1977. A Worldwide Evolutionary Classification of Cultures by Subsistence Systems. *Current Anthropology*, 18: 659-708.

- Lund, Cajsa 2009. Early percussion stones in Scandinavia: finds and traditions. *Studia instrumentorum musicae popularis*, I: 129-150.
- Manniche, Lise 1991. *Music and Musicians in Ancient Egypt*. London: British Museum Press.
- Martí, Samuel 1968 [2nd ed]. *Instrumentos musicales precortesianos*. México: Instituto Nacional de Antropología e Historia.
- Martí, Samuel 1970. *Alt-Amerika*. Musikgeschichte in Bildern, i/7. Leipzig: VEB.
- McBurney, C.B.M. 1969. *The Haua Fteah (Cyrenaica) and the Stone Age of the southeast Mediterranean*. Cambridge: Cambridge University Press.
- Montagu, Jeremy 2004. How Old Is Music? *The Galpin Society Journal*, 57: 171-182.
- Neaheer N.C. 1979. Nigerian Bronze Bells. *African Arts*, XII(3):42-7.
- Pistone, Giuseppe 1969. I manoscritti 'Araldi' di Padre Giovanni Antonio Cavazzi da Montecuccolo. *Atti e memorie, Accademia Nazionale di Scienze, Lettere e Arti di Modena*, 9: 152-65.
- Praetorius, Michael 1619. *Syntagma Musicum III*. Wolfenbüttel: Elias Holwein.
- Ravenstein, E.G. (ed. and trans.) 1898. *A Journal of the First Voyage of Vasco da Gama, 1497-1499*. London: Hakluyt Society. (reissued by Cambridge University Press, 2010).
- Read, Charles Hercules & Ormonde Maddock Dalton 1899. *Antiquities of the city of Benin and other parts of West Africa in the British Museum*. London: British Museum
- Rupp, Nicole 2010. Beyond Art. Archaeological studies on the Nok Culture, Central Nigeria. In: *West African Archaeology: New developments, new perspectives*. Philip Allsworth-Jones ed. BAR International Series 2164. 67-78. Oxford: Archaeopress.
- Rupp, N., Breunig, P. and Kahlheber, S. 2008. Exploring the Nok enigma. *Antiquity* 82 (316), June 2008, Project Gallery.
- Sachs, Kurt 1928. *Geist und Werden der Musikinstrumente*. Berlin: Reimer.
- Sachs, K. 1938. *Les Instruments de Musique de Madagascar*. Paris: Institut d'Ethnologie.
- Seewald, Oscar 1934. *Beiträge zur Kenntnis der Steinzeitlichen Musikinstrumente Europas*. Vienna: Anton Schroll.
- So, Jenny F. ed. 2000. *Music in the age of Confucius*. Washington: Freer Gallery of Art and. Arthur M. Sackler Gallery, Smithsonian Institution.
- Soleilhavoup, F. & R. Foessel 2009. Un objet à produire les sons dans le Chalcolithique de Mauritanie. *Sahara*, 20: 191-192.
- Veiga de Oliveira, Ernesto 1966. *Instrumentos musicais populares Portugueses*. Lisboa: Fundação Couste Gulbenkian.
- Viallet, Louis-Noël 1995. La musique de luth et de trompe dans la peinture tassilienne. *Sahara*, 7: 96-101.
- Wachsmann, Klaus P. ed. 1971a. *Essays on Music and History in Africa*. Evanston: North-western University Press.
- Wachsmann, Klaus P. 1971b. Musical instruments in Kiganda tradition and their place in the East African scene. In: *Essays on Music and History in Africa*. Wachsmann, K.P. ed. 93-133. Evanston: North-western University Press.
- Williams, Leonard 1967. *The Dancing Chimpanzee: A study of the origins of primitive music*. London: Andre Deutsch.
- Wolff, Richard & Lorenzo De Cola 2011. Les gravures rupestres du djebel Ben Ghnema (Sud Libyen): une relecture. *Sahara*, 22:57-84.
- Ziegert, H. 1967. *Dor El Ghussa und Gebel Ben Ghnema*. Wiesbaden: Franz Steiner Verlag.

Discography

Some of the best evidence musical practice is found not in published articles but on the notes of recordings, some of which are extensive and scholarly. Unfortunately, especially in the case of LPs, these are hard to find and are not necessarily kept in institutions of record. CD re-issues often omit some of the illustrations accompanying the original LP releases due to the difference in format. Publication details are often marked irregularly.

- Anakesa, Apollinaire & Daniele Segre Amar n.d. [but after 2005] *Orchestres et lithophones kabiyé*. Paris: OCORA.
- Auvidis n.d. *Bemiray: polyphonies des Hauts-Plateaux*. Paris: Auvidis.
- Bornand, Sandrine 2004. *Chasseurs du Dallol Mawri*. OCORA.

- Jenkins, J. n.d. *Ethiopia II: Music of the Cushitic peoples of South-West Ethiopia*. Unesco Collection –An Anthology of African music. Barenreiter. BM 30 L 2305.
- Jenkins, J. 1994. *Ethiopie: musiques vocales et instrumentales*. Paris: OCORA. C 580055/56. Originally issued as OCR 44 in 1968.
- OCORA 1997. *Pays Mikéa*. Paris: Radiofrance, OCORA. [CD]
- Yampolsky, Philip 1999. *Sulawesi: Festivals, funerals and work*. Music of Indonesia 18. Wsshington: Smithsonian Institution.