

An aerial photograph of an ancient archaeological site. A large, circular stone wall, possibly a fortification or a ceremonial enclosure, dominates the upper half of the image. The wall is made of light-colored stone and has several smaller structures and ruins attached to it. The surrounding landscape is lush green with many trees and smaller ruins scattered throughout. A dirt path winds through the site, and a small group of people can be seen in the lower right corner, providing a sense of scale.

EDITED BY

PETER
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The Oxford Handbook of
AFRICAN
ARCHAEOLOGY

THE OXFORD HANDBOOK OF

AFRICAN

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AFRICAN
ARCHAEOLOGY

Edited by
PETER MITCHELL

and
PAUL LANE

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PART I

INTRODUCTION

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INTRODUCING AFRICAN ARCHAEOLOGY

PETER MITCHELL AND PAUL LANE

INTRODUCTION

ONE hundred and forty years ago Charles Darwin (1871) identified Africa as the continent on which the human evolutionary story had begun. Several generations of archaeological and palaeoanthropological research have confirmed that his intuition was correct and have demonstrated that he was right on at least three counts: Africa (and specifically sub-Saharan Africa) was not only where the hominin lineage diverged from those leading to chimpanzees, bonobos, and gorillas, but also where both the genus *Homo* and—much more recently—our own species, *Homo sapiens*, evolved. In that triple, evolutionary sense, everyone everywhere is of African descent, and the long-term history of human populations on the African continent that archaeology and its cognate disciplines uncover is—or should be—of concern and interest to us all.

Traditionally, however, that is also where most general textbooks—and most university archaeology courses, at least outside Africa—have tended to stop, reflecting a belief, however understated, that once *Homo sapiens* successfully exited Africa the ‘real’ human story developed elsewhere, leaving Africa a cultural backwater, lit only by the material wealth of Pharaonic Egypt and the occasional reference to sites such as Great Zimbabwe or precolonial kingdoms like those of Benin and Ife in Nigeria. Despite its significant improvements in this regard, even Scarre’s (2009) general overview *The Human Past* continues to give the more recent African past far less attention than other parts of the world (and notwithstanding an excellent survey by Graham Connah, one of African archaeology’s leading practitioners and synthesizers). At a general level such imbalances ignore, or at least downplay, the incredible diversity and richness of Africa’s experiments in food production, social complexity, urbanism, art, state formation, and international trade over the past 10,000 years. Moreover, they make it difficult for us to situate those experiments alongside those of human societies in the Americas, Eurasia, Australasia, and the Pacific, and to consider the reasons for the many similarities, and differences, between them. And for the inhabitants of Africa

itself—and others whose ancestors only recently left, or were removed from, it—they form part of that more general nexus of neglect in which the rest of the world still too often views the continent.

In planning and editing the *Oxford Handbook of African Archaeology* we have been conscious of this background, just as we have been aware of—and indebted to—those colleagues who have attempted to synthesize the complexity of the African past before us. It is now several decades since a rival university press commissioned the *Cambridge History of Africa*, which included several continent- or region-wide syntheses of archaeological knowledge in its first two volumes (Fage 1978; Clark 1982), even if archaeology was increasingly lost sight of thereafter. The scale, indeed the ambition, of some of those contributions remains impressive, but much of what was written then, of necessity, has to be amended or re-evaluated in the light of new research and, indeed, of research techniques and strategies undreamt of in the 1960s and 1970s. The same holds true of the archaeological contributions to the *UNESCO History of Africa* (e.g. Ki-Zerbo 1981; Mokhtar 1981). More recent syntheses that have retained a commitment to comprehensiveness include those by Connah (2004), Phillipson (2005), and Barich (2010; in Italian), as well as Vogel's (1997) rather older *Encyclopedia of Precolonial Africa*. In partial contrast, the volume edited by Stahl (2005) provides a series of thorough, often provocative overviews on a selection of key topics and regions extending across the continent and from the Oldowan to the Kalahari debate and including some contributions of an avowedly theoretical character. In addition, the last decade or so has seen the publication of a number of more regionally, chronologically or thematically specific syntheses (e.g. Vernet 2000; Connah 2001; Mitchell 2002, 2005; Insoll 2003; Kusimba and Kusimba 2003; McIntosh 2005; Schmidt 2006; Huffman 2007; Willoughby 2007; Barham and Mitchell 2008), as well as single- and multi-author overviews for particular countries (e.g. Millogo et al. 2000; Vernet et al. 2000; Gado et al. 2001; Konaté and Vernet 2001; Bocoum et al. 2002; Edwards 2004; Finneran 2007; Insoll 2008; Schmidt et al. 2008; Gutierrez 2008; Gutron 2010).

The proliferation of these works is one of several signs attesting to the current vitality of African archaeology as a whole. Others include regular international, regional, and national conferences, the existence of three peer-reviewed journals dedicated to the subject at the pan-African scale, as well as others at more regional level, and the increasingly high profile of African archaeology in journals of broader, global remit. At the same time, it underlines the continued importance of attempting an overview of the subject that is spatially and temporally comprehensive, encompasses the theory and practice governing how African archaeology is undertaken, provides ready access to—and evaluation of—existing research, and indicates where future fieldwork, analysis, and thinking might profitably be directed. Whether the current *Handbook* succeeds, even in small measure, in attaining these goals is for its readers and reviewers to judge, but we have believed it to be worth the attempt. Our intention, then, has been to commission a series of chapters by colleagues working across the continent for incorporation within a volume that sets African archaeology within its theoretical, methodological, and historical context and simultaneously spans the entire history of human culture on the African continent, from the very earliest stone tools and cut-marked bones some 2.6 million years ago to the archaeologies of colonial intrusion and indigenous resistance and transformation of the 19th and 20th centuries. To do this, we have drawn upon the good will and generosity of 74 other individual authors, representing a broad cross-section of Africanist archaeologists within Africa and beyond. Together, they come from

16 countries (including six in Africa itself), reflect both more established and younger, newly emerging members of the academic community, and include 20 who are either based in Africa or, being of African descent, currently live and work in Europe and North America.

We have organised the *Handbook* into seven parts. Following this Introduction, 18 chapters in Part II (Doing African Archaeology: Theory, Method, Practice) examine how African archaeology is *done*: how did it emerge as a recognizable element within the broader discipline? What do cognate subjects, among them oral history, linguistics, and genetics, have to offer it, and archaeology them? How do archaeologists approach the study of particular topics (migration, religion, landscape, for instance) or the analysis of particular classes of material culture (metalworking, stone tools, ceramics, rock art)? And how is Africa's archaeological heritage managed, presented, and taught, and within what political context is this done? Our decision to put these chapters first reflects our conviction that to do otherwise would be to suggest that a straightforward narrative account of what happened when in Africa's past is unproblematic. It is not, and it would be wholly wrong to offer such a narrative without some sense of how it has been, and is being, constructed.

The rest of the volume then proceeds in broadly chronological sequence, beginning with Part III (Becoming Human), which addresses the archaeological, fossil, and genetic evidence for early human origins from the beginning of the hominin line and the earliest archaeological evidence to the evolution of the one surviving hominin species, *Homo sapiens*, some 200,000 years ago. Following this, Part IV (Hunters, Gatherers, and Intensifiers: The Diversity of African Foragers) considers the variation evident across time and space in the ways in which people structured their material and cognitive worlds while securing food and many necessary raw materials by exploiting a wide range of extraordinarily well-known plants and animals, all free of that close human control implied by the term 'domestication'. Nine chapters cover these issues.

With Part V (Food for Thought: The Archaeology of African Pastoralist and Farming Communities) the focus shifts to societies that took—or for the most part inherited and developed—a radically different approach to their subsistence needs, obtaining food from many different (and by no means always indigenously African) domesticated animals and plants combined together in a diversity of ways. After two initial chapters considering how such species were brought under effective human management and how the processes involved in this may be discerned by archaeologists, 11 further chapters trace the emergence and expansion of food production across North Africa and along the Nile, through the Sahel, the forest zone of West Africa, and the highlands of East Africa and, finally, across almost all of that enormous expanse of the continent that lies south of the Equator. Necessarily involved in the latter part of this story, too, are ongoing debates about the emergence of metallurgy south of the Sahara, the expansion of the Bantu languages, and a variety of experiments in agricultural intensification.

As elsewhere in the world, for many parts of Africa food production formed the social and economic basis on which more complex social formations were founded—formations that included both states and urban centres, though the enduring persistence of clan- and lineage-based societies in many parts of the continent emphasizes how far from universal the creation and expansion of states was before the 20th century. After introductory chapters considering the archaeology of precisely those communities, as well as the archaeologies of African urbanism and state formation, the remaining 15 chapters of Part VI (Power, Prestige, and Consumption: African Towns and States and their Neighbours) address the relations

between town and state, elites and non-elites, states and states, and—an increasing theme—Africa and other parts of the world. That last topic is developed and extended in the final part of the *Handbook*, Part VII (African Societies and the Modern World System), which examines how African communities participated in the creation of the globalized world in which they now live. Along with the more ‘obvious’ contributions that consider European exploration of and settlement in parts of Africa and the impact of the Atlantic era trading systems (slaves, but not only slaves), the five chapters brought together here also address the place of Africa within the Ottoman ‘world system’, yet other colonial encounters (such as those between the Swahili and the Sultanate of Oman), and the archaeology of the African diaspora in the Americas.

The mandate given to the individual contributors was to produce essay-length overviews of their respective topics that would, as comprehensively as possible, indicate the current state of play within their research fields, as well as the directions along which future work might flow. With Lane taking primary responsibility for Parts II and VI and Mitchell that for Parts III, IV, V, and VII, for each chapter we initially sought an abstract and, after this had been agreed, invited authors to develop this into a full-length article. Once each chapter was submitted in draft form both of us read through it, identifying areas that might have been overlooked or that warranted development, and editing it for length and conformity to the *Handbook*’s overall style. Final versions of each chapter, revised in the light of these suggestions and of new work that had appeared in the interim, were then again edited by both of us before submission to the Press. During our editing we strove to insert cross-references between chapters wherever this seemed likely to be helpful to readers, for example by tying regional or period overviews to theoretical and methodological topics covered in Part II or by highlighting historical connections between different regions of the continent. We have also endeavoured to make sure that all the references cited are readily available for checking by those wishing to do so. For that reason, only in exceptional circumstances have we admitted references to doctoral theses or web-based sources, and we have completely excluded the citation of unpublished conference papers and abstracts or the ‘grey’ literature of contract archaeology.

While discussing the *Handbook*’s structure and our approach to its compilation, it may also be helpful to address briefly issues of chronology and geographical nomenclature. In all cases we have adhered to the standard English versions of place names, including those of Africa’s modern nation-states (thus, Ivory Coast rather than Côte d’Ivoire, for example). To distinguish between the two Central African countries known as Congo we have employed their respective capitals as suffixes, thus Congo-Brazzaville and Congo-Kinshasa. Where appropriate, we have also discriminated between Somaliland and the remainder of the former Somalia.

Encompassing several million years, the story covered by this *Handbook* is one that archaeologists have dated using a great diversity of techniques with widely varying levels of resolution (see discussion in Barham and Mitchell 2008: 48–58). While encouraging individual contributors to note the specific dating methods involved at relevant points, we have sought to standardize the frameworks within which dates are expressed, as well as the abbreviations used for them. Thus, for the Pliocene and much of the Pleistocene authors frequently make use of ‘mya’ (for millions of years ago) and ‘kya’ (for thousands of years ago), but may also place events within the global framework of Marine Isotope Stages (MIS; Wright 2000). For periods postdating the Last Glacial Maximum and, in some cases,

extending into the middle part of the Holocene, the preference is for BP, i.e. uncalibrated radiocarbon years counted back from the baseline of the radiocarbon method in AD 1950. All other dates are expressed in calendar years BC and AD, whether they reflect the calibration of radiocarbon determinations, actual calendrical dates, or estimates obtained by other means, such as oral histories or the presence in archaeological stratigraphies of datable imported goods.

Notwithstanding our best efforts and those of our colleagues, we are conscious that some omissions remain. The most obvious is undoubtedly the lack of any overview of Africa's palaeoclimatic and palaeoenvironmental history, although individual authors frequently make reference to aspects of this when contextualizing archaeological or palaeoanthropological data. Readily acknowledging the absence of any detailed discussion of these topics, we can only plead that to do justice to the diversity and complexity of that history, and of the scientific techniques employed to recover it, would require a Handbook of its own. Other gaps are more methodological or theoretical in nature: stable isotope analysis, in which one African university (Cape Town) is a world leader, features in many chapters but is not discussed on its own; the teaching of African archaeology at university level, both within Africa and beyond, undoubtedly merits much fuller examination than it could be given here; so too, the operation of contract archaeology and the frameworks governing cultural resource management, growing aspects of the discipline in many parts of the continent (cf. Arazi 2009). Turning to omissions in chronological or regional coverage, we are conscious that while Egypt's Pharaonic past rightly receives a chapter of its own, there is next to nothing here about its archaeology under Macedonian or Roman rule (for which, however, see Bowman 1996; Manning 2009), even less about its medieval Islamic architecture or archaeology (cf. Williams 2008). Other gaps reflect what are often genuine lacunae in (at least recent) fieldwork: Sierra Leone; Guinea Bissau; South Sudan; Somalia; the Darfur region of Sudan; much of the Congo Basin (but see Lanfranchi and Clist 1991 for an overview and, for recent work, in Gabon Oslisly 2001, Assoko Ndong 2002, and Clist 2006; in Equatorial Guinea Mercader and Marti 2003 and Gonzalez-Ruibal et al. 2011; and in Congo-Kinshasa Mercader 2003); Angola (but see Gutierrez 2008); and the continent's various islands and offshore archipelagos, such as Sao Tomé and Príncipe, Cape Verde, and the Comoros (but see Mitchell 2004; Sørensen and Evans 2011). The coverage for Malawi, Zambia, and Mozambique, although rather better, is still less than that accorded to some of their neighbours. Sadly, the reason for many of the current gaps is all too often due to continuing or long-term political instability and military strife. Where this is not the case, or where such difficulties ease, just as much as where they do not exist at all, we hope that the review papers collated here may serve as a spur to future archaeological research.

We trust, too, that the *Oxford Handbook of African Archaeology* will prove to be of service to students of archaeology wishing to gain an initial acquaintance with the complexity of the African past and how it is being approached, as well as to colleagues—many of them perhaps non-Africanists—who, for purposes of teaching or research, require access to readable, thorough summaries of current archaeological knowledge about Africa and its history. As the reviews brought together here demonstrate, that history is of general interest way beyond the evolution of the hominin line or of *Homo sapiens* as a species. Current evidence strongly suggests that as well as being where modern humans evolved biologically, Africa is also where that nexus of complex cognitive skills and practices summarized by the

term 'behavioural modernity' first crystallized, and at a date arguably before the effective dispersal of *H. sapiens* beyond the continent. If so, then Africa retains the longest archaeological record left by behaviourally modern humans on any continent, and one that—without imputing unnecessary stasis—encourages comparison between Pleistocene contexts and what is known, archaeologically and ethnographically, of much more recent hunter-gatherers.

Fast forwarding into the Holocene and we can identify several further themes of universal concern, several of them including instances where what happened in Africa may differ quite profoundly—and thus very informatively—from what happened elsewhere in the world. Examples include: the processes whereby many hunter-gatherers opted to change their subsistence base and shift to producing food (with multiple instances of an initial preference for pastoralism completely independently of cultivation, what Marshall and Hildebrand 2002 neatly term 'cattle before crops'); hitherto unsuspected complexity in the pathways by which cultivation was adopted, including several instances whereby initially chosen staples were eventually replaced by others; the possibility that, south of the Sahara, ferrous metallurgy arose independently of other parts of the world and without long, prior experience of metal-working in copper and bronze; the emergence of urbanism and of social complexity in the absence of hierarchically organised, coercive state apparatuses (cf. McIntosh 1999); and a growing appreciation of the significant role played by African societies in long-distance networks of trade and communication and of the role of such systems in the transformation of African societies themselves, including a previously unsuspected antiquity for connections across the Indian Ocean (Fuller et al. 2011) and an increasingly well-understood contribution to the formation of the Atlantic world and the post-Columbian Americas (Ogundiran and Falola 2007), including the latter's botanical landscape (Carney and Rosomoff 2009). Igor Kopytoff's (1987) conceptualization of African 'internal frontiers' also has much to contribute in a comparative sense to the study of other regions, and is one to which archaeologists have much to contribute in turn (e.g. Monroe and Ogundiran 2012). Other themes and emergent perspectives that are simultaneously beginning to shape the direction of archaeological research on the continent and contribute to wider debates within the discipline include such topics as landscape historical ecology (e.g. Lane 2010; Stump 2010), indigenous and postcolonial archaeologies (e.g. Schmidt 2009), the politics of heritage (e.g. Meskell 2012), and the intersections between history and archaeology (e.g. Stahl 2001; Swanepoel et al. 2008). At the same time, the richness of Africa's ethnographic record permits us to explore the meanings that people have given to material objects and the landscapes in which those objects and people existed—and often continue to exist—in particularly nuanced and subtle ways which go beyond simple mining for suitable analogies for use in the interpretation of the archaeological record of other regions of the world. While archaeological research in Africa must always have as its primary focus a responsibility for communicating its results to the populations among whom it is carried out and whose ancestors—in many cases—it studies, in all the areas that we have just identified African archaeology has much to say to the practice and theory of archaeology elsewhere in the world. Indeed, it is our contention that an African perspective is now essential to most debates of significance in world archaeology as a whole. We trust that this *Handbook* is a contribution to that realisation.

Finally, we should both like to express our deep gratitude to all those who have made this Handbook possible: our colleagues for their willingness to participate in writing it; the staff

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PART II

DOING AFRICAN ARCHAEOLOGY

Theory, Method, Practice

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CHAPTER 2

ARCHAEOLOGICAL PRACTICE IN AFRICA

A Historical Perspective

GRAHAM CONNAH

INTRODUCTION

THE origins of archaeology were in Europe, so that its development in the African continent was initially shaped by European perceptions, subsequently modified by American influences. Only during the last half-century have indigenous Africans had a voice in the archaeologies of their own countries, which have nevertheless often retained approaches adopted from overseas. The practice of archaeology in Africa thus needs to be examined in terms of the underpinning concepts and operative models that have influenced the way that it has been carried out. The history of African archaeology should be understood as something more than a catalogue of discoveries and discoverers. Important though they have been, as demonstrated by the contributors to the leading synthesis on the subject (Robertshaw 1990a), they have merely been performances and actors. It has been the patterns of thought behind them that have decided who did what and where and how. Bruce Trigger demonstrated this when he called his general history of archaeology *A History of Archaeological Thought* (Trigger 1989). Given the diversity of influences that have impacted on African archaeological practice, it is the way that practitioners have thought that requires primary attention.

Two matters need to be considered at this point. First, in the discussion that follows, 'archaeological practice' is interpreted as meaning both the way that archaeological research is conducted in the field and laboratory and the way that it is written about in the publications that result. The subject thus has a presentational as well as an investigative aspect and, indeed, is inevitably judged by the published outcomes that constitute the only lasting record of its activities. Consequently, there exists a huge body of literature spread over at least two centuries and in a variety of languages. In the case of African archaeology, although accumulated over a shorter period, the volume of published material is also both large and linguistically varied. Selection is therefore essential, and inevitably the choice of what is considered

relevant will be influenced by the way that writers think about the subject, which in turn will be influenced by their cultural background, education, professional experience, and socio-political views. The second matter that needs to be considered is affected by similar influences; this is the problem of how to interpret the geographical term 'Africa'. It has been argued that the concept is 'a European invention' (Mitchell 2005: 2), and Kwame Appiah (1992: 3–27) has discussed 'the invention of Africa' at some length. There has even been the practice of beheading the continent to produce 'sub-Saharan Africa', as if this constitutes the only 'true' Africa (cf. MacEachern 2007). In the present discussion, the whole of the continent is considered, even if some parts of it can be given only scant attention.

ARCHAEOLOGICAL BEGINNINGS

The earliest substantial archaeological investigations in Africa were along the lower Nile during the 19th century. These grew out of a long-standing European fascination with 'Ancient Egypt', that is to say the period of the Pharaonic dynasties (Baines and Malek 2000: 22–9). Research was dominated by the impressive architecture and the organic evidence preserved by the country's dry environment, including mummified human remains and extensive documentary records. Consequently, Egyptological scholarship inevitably required skills in philology, epigraphy, and art history, as well as archaeology (O'Connor 1990). In these circumstances, the quality of excavation and other field investigations lagged behind those in Europe, and research strategies concentrated on tombs and temples, giving less attention to settlements. It was only in the latter part of the 20th century that archaeology in Egypt began to adopt best international practice. Prior to that, Egyptology was characterized by esoteric, introverted scholarship. In the process, Ancient Egypt became regarded as part of the Mediterranean ancient world, divorced from the rest of Africa: the Pharaonic state had influenced parts of the Nile Valley to its south but received little of significance in return. Considering that it owed its very existence to an African river and that during its later history several of its pharaohs were Nubians, this was a remarkable case of intellectual myopia. In addition, in spite of the work of Flinders Petrie (Drower 1999) and Gertrude Caton-Thompson (Caton-Thompson and Gardner 1934), for a long time insufficient attention was given to the pre-literate origins of the Egyptian state and its hunter-gatherer and food-producing predecessors.

In the rest of Africa, however, it was stone-using hunter-gatherers who were the focus of early archaeological investigations. Nineteenth-century archaeologists regarded them as survivors from the past whose investigation could throw light on the earliest inhabitants of Europe. Furthermore, the application in Europe of the 'Three Age System' and the discovery of stone artefacts in South Africa at much the same time as their formal recognition in Europe in the 1850s (Deacon 1990: 40), inevitably led to the adoption in Africa of the European epochal model. Study of the African 'Stone Age' came to dominate African archaeology as it developed both in southern Africa and in other parts of the continent; not only was it relevant to European interests (albeit regarded as peripheral) but later periods in Africa were thought to be short and not worth archaeological investigation. Along with the use of the Three Age concept in Africa went the European idea of 'prehistory', which had

emerged in the middle of the 19th century. In Africa, prehistory was thought to consist of the Stone Age and nothing else (Fig. 2.1). This remained a characteristic of African archaeology until the middle of the 20th century. H. Alimen's *Prehistory of Africa* (Alimen 1957) devoted only 10 out of 428 pages of text to later archaeology, and they were concerned with 'African megaliths' that were undatable, while even Desmond Clark's later *Prehistory of Africa* (Clark 1970) had only 35 pages on the subject of 'Farmers and present-day people' out of a total of 223.

Investigators of the African Stone Age were initially concerned to link it, so far as possible, with the European sequence. For example, the term 'Acheulean' was widely adopted in Africa, and the French Aurignacian was thought by some to have originated in the Maghreb (Sheppard 1990). Research became dominated by the classification of assemblages of stone artefacts, which were often collected from eroding surfaces rather than excavated from stratified deposits. Archaeology developed more quickly in South Africa than in most other parts of the continent. It was there during the 1920s that John Goodwin introduced a local typology and nomenclature for the Stone Age that was influential for a long time (Shepherd 2003), even in some other parts of the continent. Goodwin had been trained in Cambridge, however, and his classificatory model remained conceptually European. Significantly, two of Europe's leading prehistoric archaeologists of the early 20th century, the Abbé Breuil and Miles Burkitt, both visited South Africa and saw parallels with Europe in the African Stone Age (Burkitt 1928; Davis 1990). Breuil, in particular, believed that the rock art of southern Africa had ultimately 'descended from European cave-painting' (Davis 1990: 282), and his book *The White Lady of the Brandberg* included diffusionist views considered extreme even at the time (Breuil 1955).

The problem with both stone artefact assemblages and rock art in Africa was the same: there were no effective methods of dating. Nevertheless, strenuous efforts were made during the first half of the 20th century to provide a chronological framework for stone artefacts. Van Riet Lowe's work on the Vaal River terraces was one such, the Casablanca coastal sequence another (Fig. 2.2), but the most important was the East African system of 'pluvials' and 'interpluvials' that were long thought to correlate with glacial and interglacial periods in Europe. It was only at the end of the 1950s that the increasing availability of radiometric and other absolute methods began to provide an independent means of dating the African Stone Age that rendered previous attempts obsolete (Clark 1990: 190–91). However, there remained the problem of what it was that was being dated; did the stone artefact assemblages represent 'cultures', in the archaeological sense promoted by Gordon Childe in Europe, or were they better explained in terms of function or variations in raw material? Again, the European influence prevailed, so that Goodwin and van Riet Lowe (1929) entitled their book *The Stone Age Cultures of South Africa*, just as Louis Leakey (1931) called one of his books *The Stone Age Cultures of Kenya Colony*. As for rock art, whether in South Africa, the Sahara, or elsewhere, it provided important 'documents' of the past but, as they could neither be dated nor 'read' with any certainty, much of their investigation was limited to descriptive recording, relative sequencing and subjective interpretation. Once more the European influence was apparent.

There was, however, one aspect of the study of Africa's past that influenced European scholarship rather than being influenced by it. This was the first recognition of palaeontological and archaeological evidence for early hominins in Africa, evidence that eventually proved to be of world significance. The discovery of the australopithecines in South Africa during the 1920s and 1930s, although not generally accepted until the late 1940s, was of major importance.

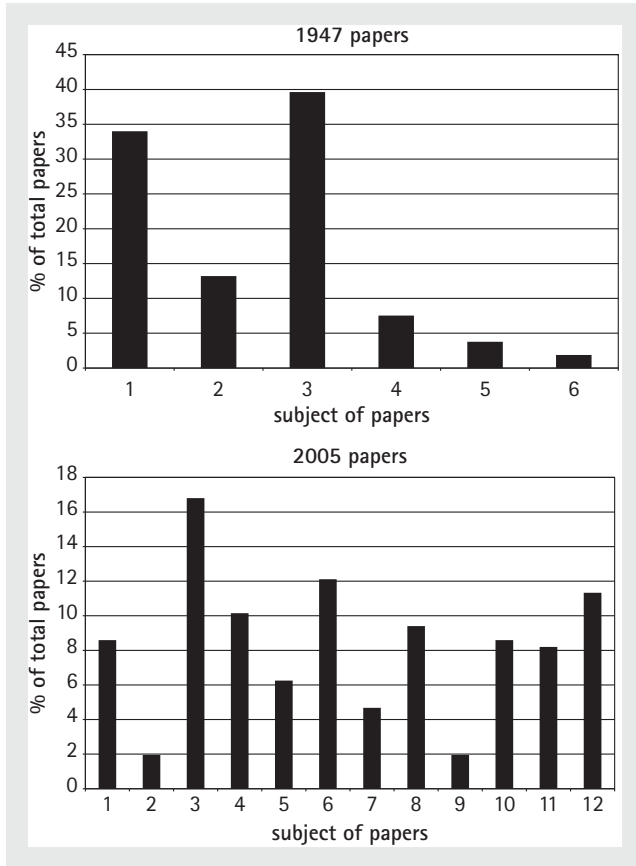


FIG. 2.1 Growth and changes in African archaeology 1947–2005: *above*, subjects of 53 papers at the 1947 Pan-African Congress on Prehistory (Nairobi); *below*, subjects of 256 papers at the 2005 Congress of the Pan-African Archaeological Association for Prehistory and Related Studies (Gaborone). Numbers for 1947 indicate: 1. Geology, general palaeontology, and climatology; 2. Human palaeontology; 3. Prehistoric archaeology (Stone Age); 4. Rock art; 5. Later archaeology; 6. Unassigned. Numbers for 2005 indicate: 1. Palaeoecology, taphonomy, and geochronology; 2. Fossil hominins; 3. Palaeolithic archaeology, hunter-gatherer communities, and Stone Age technology; 4. Later hunter-gatherer themes and transition to food production; 5. Early food production, including use of iron; 6. Development of sociopolitical complexity, also trade and contact; 7. Ethnoarchaeology; 8. Historical archaeology; 9. Archaeology and information technology; 10. Rock art and symbolic behaviour; 11. Sociopolitics of archaeology and heritage; 12. Heritage management, tourism, and development. Sources: for 1947, Leakey (1952); for 2005, Pan-African Archaeological Association for Prehistory and Related Studies (2005). Some regrouping of papers was necessary, particularly for 2005.

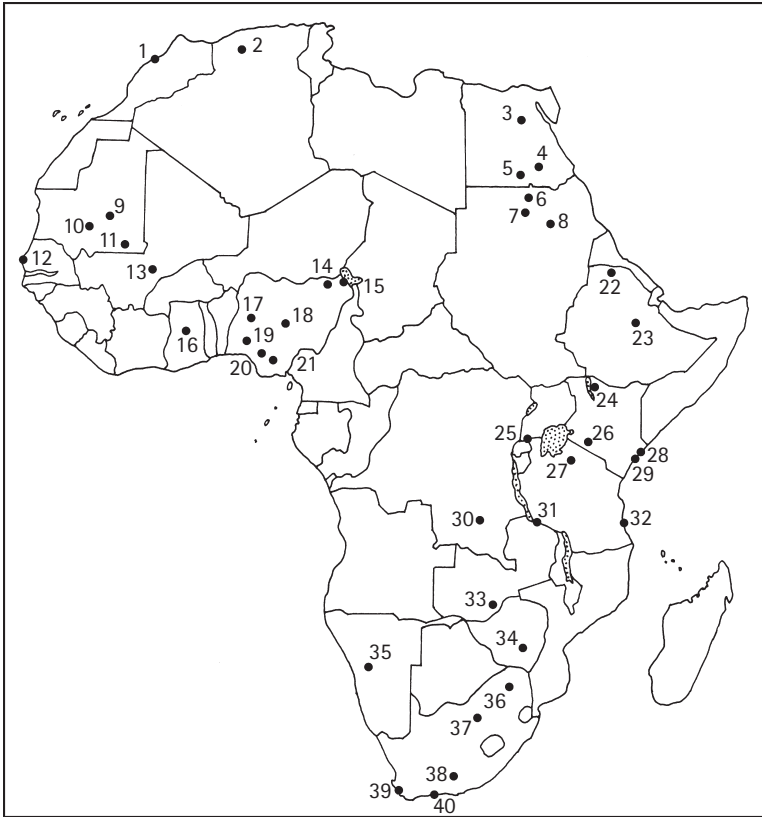


FIG. 2.2 Map of Africa showing sites, locations and areas mentioned in Chapter 2. Aksum: 22; Aswan Dam: 4; Benin City: 20; Brandberg: 35; Cape Town: 39; Casablanca: 1; Dakar: 12; Dhar Tichitt: 9; Dufuna: 14; Gajiganna: 15; Great Zimbabwe: 34; Gwisho Hot Springs: 33; Hadar: 23; Ife: 19; Igbo-Ukwu: 21; Interlacustrine Region: 25; Jebel Sahaba: 6; Jenné-jeno: 13; Kadero: 8; Kainji: 17; Kalambo Falls: 31; Kerma: 7; Kilwa: 32; Klasies River Mouth: 40; Koumbi Saleh: 11; Lake Turkana: 24; Lower Nile: 3; Maghreb: 2; Makapansgat: 36; Manda: 29; Melkhoutboom: 38; Nabta Playa: 5; Olduvai: 27; Olorgesailie: 26; Shanga: 28; Taruga: 18; Tegdaoust: 10; Upemba Depression: 30; Vaal River: 37; Volta Basin: 16.

Nevertheless, the major actors were again ‘outsiders’: Raymond Dart from Australia and Robert Broom from Scotland. Both were somewhat maverick researchers, Dart particularly so (Derricourt 2011). A hyper-diffusionist given to poorly substantiated conclusions, his most celebrated excess was during the 1950s concerning the ‘Osteodontokeratic Culture’ (Dart 1957). Faunal remains from Makapansgat Cave, South Africa, were claimed on ambiguous evidence to have been used as tools and weapons by early hominins. It is remarkable that it was such a man who in 1925 made the first identification of an australopithecine. Robin Derricourt (2009a: 282) is probably justified in arguing that ‘the “discovery” of *Australopithecus* was not methodologically a scientific discovery but a fortunate stumbling on the truth’. Whatever the case, the finding of early hominins in South Africa was of fundamental importance, because they suggested an enormous but unknown time-depth for the African past.

It was in East Africa during the 1960s, however, that the great antiquity of such evidence was eventually established. This was the achievement of Kenyan-born but Cambridge-trained Louis Leakey and his second wife, Mary Leakey, who was English. At Olduvai Gorge in Tanzania they were able to establish a stratified palaeontological and archaeological sequence some 2 million years long, containing volcanic ash that could be dated by potassium-argon. Furthermore, by excavating surfaces, the Leakeys successfully investigated the horizontal distribution of evidence relating to early hominins. This technique, pioneered by Mary Leakey at Olorgesailie in Kenya during the 1940s (Clark 1990: 198), was subsequently adopted on many early hominin sites. It led to the uncovering of what appeared to be ancient campsites and butchery sites, although some were subsequently questioned as the science of taphonomy developed. In addition, the Leakeys' son Richard, along with the South African Glynn Isaac and others, worked at various early hominin sites around Lake Turkana, in Kenya, from the 1960s onwards. Sites were also investigated in Ethiopia, of which one of the most important was Hadar, where American researcher Donald Johanson recovered the partly complete skeleton of a female *Australopithecus afarensis*, known colloquially as 'Lucy' (Johanson and Edey 1981).

The investigation of early African hominins after 1960 involved researchers from an increasingly international background, mostly external to Africa, who were usually funded from outside the continent. The quality of fieldwork, excavation, and analysis was generally high, and incorporated geological, palaeoenvironmental, chronological, and faunal evidence, as well as giving increasing attention to site-formation processes and taphonomy. Overall, their research produced a remarkable quantity of hominin fossils belonging to *Homo*, *Australopithecus* and other genera (Klein 2009). Typically, new discoveries were claimed to be of major importance, prominently announced in the media, and assigned to new species or even new genera. By 2005 about 7 genera and 26 species names (including subspecies) were in use. As Robin Derricourt (2009b: 193, 197) has remarked, this does 'not just reflect preferences between "lumpers" and "splitters" but nationalisms, egos and the maintenance of the image of the scientist-hero'. Subsequently, many fossils were reassigned or renamed as analyses progressed, followed by yet more claims of uniqueness for further discoveries. One of the more remarkable examples was *Tchadanthropus uxoris* (Coppens 1966), which later turned out to be a heavily eroded modern skull. It nevertheless drew attention to the possibility of early hominin discoveries outside of East and southern Africa. Significantly, since Coppens' discovery, Chad has produced two unambiguously early hominin fossils of importance (Brunet et al. 1995; Wood 2002).

Primatological research during this period also contributed to the study of early hominins. There was a long history of scientific interest in African primates (Groves 2008), but long-term detailed observations of primates in the wild were a new development. Notable examples included the work of Jane Goodall (1986) on chimpanzees, which challenged the traditional idea that humans were distinguished by the making of tools, and of Dian Fossey (1983) on gorillas, which threw light on primate social relationships. Investigations of this sort, supported by numerous laboratory studies of primate behaviour, provided a broader context for interpreting the fossil evidence of hominin evolution.

Although both palaeoanthropologists and archaeologists participated in the investigation of many early hominin sites, field practices differed to some extent from those on other Stone Age sites. In the years just before and after the Second World War a number of new researchers entered this latter field. Several made particularly significant contributions, including

Frenchman Jacques Tixier (1963) in the Maghreb, Belgian Jean de Heinzelin de Braucourt (1957) in the Belgian Congo (now Congo-Kinshasa), Englishmen Thurstan Shaw (1944) in the Gold Coast (now Ghana) and Charles McBurney (1967) in Libya, and Desmond Clark (1969, 1974, 2001), who was also English and worked in Northern Rhodesia (now Zambia) and elsewhere. The last three were Cambridge-trained, part of a trend that was to continue in African archaeology. Like others working on the African Stone Age during this period, they focused on the typology of stone artefacts and the construction of cultural stratigraphic sequences. Most remarkable were Desmond Clark's excavations at Kalambo Falls, on the border between Zambia and Tanzania, that produced a sequence commencing 300,000–400,000 years ago and continuing till the first or early second millennium AD (Phillipson 2005: 69). Excavations started in 1953, continuing for some years, and publication took from 1969 till 2001, so that this research occupied almost half a century.

INFLUENCE OF THE 'NEW ARCHAEOLOGY'

By the 1960s the 'New Archaeology' promoted in the United States and Britain had begun to affect the ideas of researchers in Africa. To some extent the Burg-Wartenstein symposium of 1965 (Bishop and Clark 1967) was a defensive reaction by those still fixated on the classification and nomenclature of stone artefact assemblages (Robertshaw 1990b: 86–7). This gathering lasted for three weeks and involved geologists and palaeontologists as well as archaeologists; these were mainly established researchers rather than those with new ideas. The symposium's terminological recommendations were influential for a while, but interest gradually faded and a nomenclature newsletter that was circulated after the symposium eventually died. As John Parkington (1993: 96) has argued, archaeologists working on the African Stone Age became less interested in 'cultural labelling' and, as dating methods improved, 'Attention could now be directed at the use of artefacts to answer behavioural questions.'

Indeed, since the 1960s there has been an increasing emphasis on the study of human behaviour and its environmental context during the African Stone Age, fuelled by a broadening both of the evidence and of the means to retrieve and investigate it. Deep-sea cores have provided information on changing climates (e.g. Weldeab et al. 2007) and established a global Marine Isotope Stage sequence that can replace the old Three Age System (Barham and Mitchell 2008). Faunal studies have become important, such as at the Klasies River Mouth excavations in South Africa (Singer and Wymer 1982) or at Nabta Playa in the Egyptian desert (Wendorf et al. 2001). Botanical evidence has received increasing attention, as at Melkhoutboom Cave, South Africa (Deacon 1976) or Dhar Tichitt, Mauritania (Neumann 2003). Similarly, pollens have been studied in order to throw light on the environments in which Stone Age people lived (e.g. Lézine and Vergnaud-Grazzini 1993). Organic evidence also includes wooden artefacts, a reminder that stone artefacts must have been used to shape many such objects that have not usually survived in archaeological contexts. At Kalambo Falls, wooden objects that had probably been worked were found in the Acheulean levels (Phillipson 2005: 71), but at Gwisho hot springs in Zambia a number of definite wooden artefacts were recovered from a Later Stone Age context (Fagan and Van

Noten 1966). Most impressive was an 8.5 m dugout canoe from Dufuna, in northeast Nigeria, found in alluvium at a depth of 5 m and dated to about 6000 cal. BC (Fig. 2.3). The oldest known boat in Africa and one of the oldest in the world, it indicates successful exploitation of aquatic resources at that time (Breunig 1996).

Other subsistence strategies of Stone Age people have also received attention, such as seasonal movements in South Africa (Parkington 2001) or molluscan exploitation in North Africa (Lubell et al. 1976). In addition, evidence of interpersonal violence has been identified, as at Jebel Sahaba in Sudan (Wendorf 1968). Furthermore, the 1966 'Man the hunter' conference and its subsequent publication (Lee and DeVore 1968) helped to focus attention on aspects of Africa's past hunter-gatherers other than stone artefacts. Subsequently, the deterministic approach of the New Archaeology's processualism began to lose favour, as many archaeologists accepted that people in the past had not been mere puppets of their environment but had repeatedly exercised choice in coping with the world around them. There was an increasing concern to understand how people had made their choices, and to seek their thoughts, symbolism, and beliefs. This cognitive emphasis formed part of archaeological approaches loosely known as post-processualism. Perhaps their most important impact was in the field of rock art studies, which had previously tended to stall. Work in southern Africa by Patricia Vinnicombe (1976) and David Lewis-Williams (1983) demonstrated that meaning could be extracted from such art by drawing on relevant ethnography. Combined with an improving chronology, these developments were to affect rock art studies worldwide.

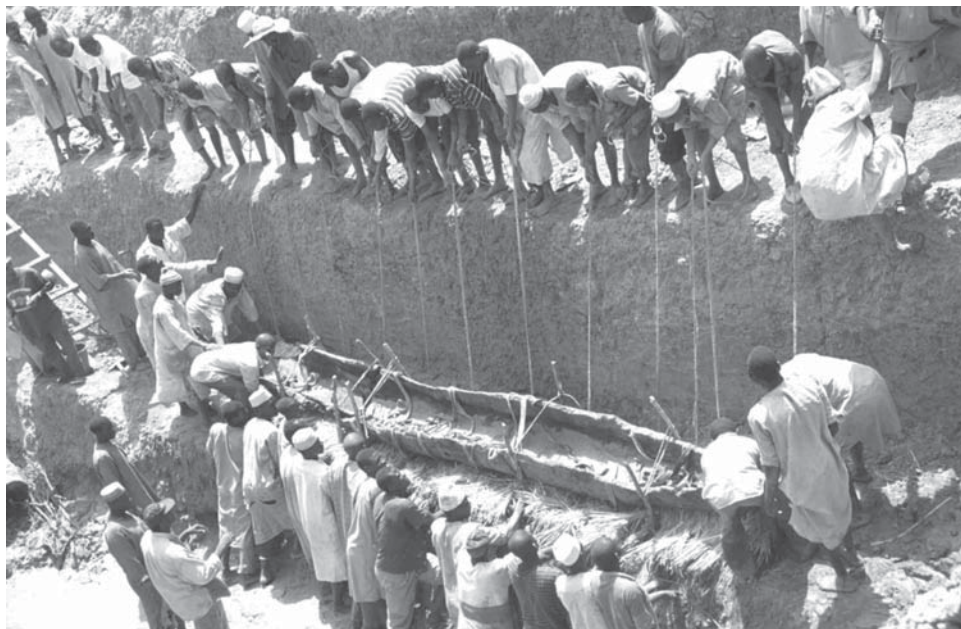


FIG. 2.3 Many hands make light work! Recovering the dugout canoe from Dufuna, in northeastern Nigeria, found in alluvium at a depth of 5 m and dated to about 6000 BC. The oldest known boat in Africa and one of the oldest in the world, it is amongst the most significant hunter-gatherer artefacts from the continent (photograph courtesy of Peter Breunig, Johann Wolfgang Goethe Universität, Frankfurt-am-Main).

As archaeologists in Africa turned towards a broader analysis of hunter-gatherers, so the problem arose of how, why, and when they became, or were replaced by, food producers. From the 1960s onwards this was an increasingly important focus of research. Inevitably, explaining the onset of food production involved questions of indigenous development, diffusion, or even migration. The growing interest in what was often referred to as the origins of farming occurred at about the same time as a realization that the later African past did have a substantial time-depth and was worth studying. To distinguish it from the Stone Age, the unfortunate name 'Iron Age' was adopted and has continued to be used by many archaeologists, a sad relic of 19th-century thinking. Although it appeared that food production in Africa was first practised by stone-using peoples in the more northerly parts of the continent, early farming in the south seemed to be later in date and to some extent associated with the adoption of iron technology. Consequently, research concerning the earliest domesticated plants and animals in Africa concentrated on the Sahara, the Nile Valley, and adjacent areas, whereas research on early farming communities further south became associated with the expansion of Bantu-speaking peoples suggested by linguists and historians (e.g. Oliver 1966).

These developments began during the 1960s, by the end of which many European colonies in Africa had achieved independence. Political changes had an impact on archaeology—both on the identity of researchers and on the objectives of their research. In an influential paper, Bruce Trigger (1984) defined three types of world archaeology: Nationalist, Colonialist, and Imperialist. Nick Shepherd (2002) has discussed these in an African context, although he has reservations about them. Indeed, Trigger's categories are simplifications, as even he seems to have realized. Nevertheless, the history of archaeological practice in Africa is to some extent explicable in these terms. The early concentration on Stone Age studies by European scholars, who were often part of the colonial establishment in the regions that they investigated, was clearly Colonialist archaeology. Research was often more concerned with matters of relevance to analogous European evidence than with questions of importance within Africa. Furthermore, later periods were perceived as not worth investigation because colonial thinking insisted that their time-depth was limited. Nevertheless, in spite of the Colonialist label, it would be a mistake to regard such archaeologists as necessarily supportive of the regimes in which they worked; in some cases their results implicitly contributed to the demise of colonial convictions.

POST-INDEPENDENCE

With independence, Colonialist archaeology tended to be replaced by Nationalist archaeology, but the situation was often more complicated than that. Many established Africanist archaeologists of European origin continued to conduct research in newly independent African countries and, indeed, a number of new expatriate appointments were made from similar backgrounds. For example, the influence of Cambridge-trained archaeologists has already been mentioned regarding John Goodwin, Miles Burkitt, Thurstan Shaw, Charles McBurney, Desmond Clark, and Louis Leakey, to whom should be added Bernard Fagg. During the 1960s, however, a new generation of Cambridge products became involved in African

archaeology, including Ray Inskip, John Parkington, and Pat Carter in South Africa, Brian Fagan, David Phillipson, and Steve Daniels in Zambia, Merrick Posnansky in Uganda, Glynn Isaac in Kenya, Graham Connah and Robert Soper in Nigeria, and Paul Ozanne, Colin Flight, and Richard York in Ghana. In some cases these researchers later moved to other African countries or went to posts in the United States or Britain. Similarly, there were archaeologists who had been trained at other British universities, such as John Sutton, as well as archaeologists from European universities, museums, or research organizations, particularly in France and Belgium. Nevertheless, symptomatic of the end of the Colonialist period, Britain turned its back on African archaeology for several decades and offered very little employment for those with African experience. Even the Englishman Desmond Clark, the doyen of Africanist archaeologists, never held a post there.

Paradoxically, the increase in expatriate archaeologists in Africa during the 1960s was actually a product of the new Nationalist archaeology. Newly independent African governments wanted to encourage research into the past of their people, seeing this as a means of establishing a national identity that they felt had been neglected during the colonial period. In the short term few African archaeologists were available, hence the continuing involvement of outsiders. There was, however, a marked change in research objectives. In East Africa, continuing work on human origins could inspire national pride, but elsewhere stone-using people of the remote past were less relevant to modern African communities than the farming societies of the last few millennia. As a result, the domestication of plants and animals and the subsequent proliferation of food-production strategies attracted a lot of research attention. At the end of the 1960s, *The Domestication and Exploitation of Plants and Animals* (Ucko and Dimbleby 1969) contained little African subject matter, yet by 1976 a whole book could be devoted to *Origins of African Plant Domestication* (Harlan et al. 1976), and by 1984 there appeared *From Hunters to Farmers: The Causes and Consequences of Food Production in Africa* (Clark and Brandt 1984). Books on this subject have continued to appear (e.g. van der Veen 1999; Blench and MacDonald 2000; Hassan 2002).

A consequence of the growth of research in this subject has been the increasing participation of specialists other than archaeologists, such as archaeobotanists, archaeozoologists, palaeoclimatologists, geneticists, and linguists. Both they and archaeologists have been drawn from a wide variety of national backgrounds; the Blench and MacDonald book, for instance, included papers from researchers in twelve countries. There has been an internationalization of research into this aspect of Africa's past. For example, in the 1960s the American Patrick Munson (1976) conducted research at Dhar Tichitt, in Mauretania; during the 1970s Polish archaeologist Lech Krzyżaniak (1978) excavated at Kadero, Sudan; and during the 1990s German researcher Peter Breunig investigated sites around Gajiganna, in northeastern Nigeria (Breunig and Neumann 2002).

Much the same happened with another research subject that became important during the decades following independence: the investigation of African iron technology and its origins. An early excavation of relevance was by Englishman Bernard Fagg, who showed that iron smelting had been practised at Taruga, in northern Nigeria, during the late first millennium BC (Fagg 1969). Many other projects followed: Belgian archaeologist Francis van Noten (1979) investigated sites in the East African Interlacustrine Region; French archaeologist Danilo Grébénart (1988) discussed early evidence in Niger; the American Peter Schmidt (1997) conducted research in Tanzania; and Norwegian Randi Haaland (2004) carried out fieldwork in Sudan. Such investigations often included, or consisted of, re-enactments of

iron smelting, when Africans who remembered former practices were encouraged by archaeologists to demonstrate how the smelting had been done. Again, participation in research projects by specialists became essential, in this case archaeometallurgists (e.g. Miller and Killick 2004). More anthropologically inclined archaeologists investigated the sociocultural and symbolic aspects of iron smelting (Bisson et al. 2000).

However, the outstanding example of internationalization in African archaeology during the 20th century occurred during rescue work in the 1960s before the construction of the Aswan High Dam in Egypt (Hassan 2007). Egyptians, Sudanese, Ghanaians, British, Germans, French, Italians, Swedes, Danes, Norwegians, Finns, Poles, Americans, and others all contributed to this massive project that continued for some years and produced literally thousands of publications. Egyptology had long appealed to scholars of many nations, and the Nubia Campaign was in some ways an extension of this attraction. Contemporary dam schemes in other parts of Africa attracted much less attention; for instance, the Volta Basin Research Project in Ghana resulted in numerous mainly small excavations but relatively little publication, and the Kainji Dam Project in Nigeria was a virtual failure (Kense 1990: 148). With the end of the Nubia Campaign, something of the international character of African archaeological research persisted, but gradually it was Imperialist archaeology that became dominant. This was because so many researchers and their funding came from the United States, although Britain, France, Germany, Canada, and some other countries played a similar role. African archaeology became a data source from which doctoral students, postdoctoral fellows, and more senior researchers from such countries could quarry material for theses and publications. Such projects usually involved only brief periods in the field, and contributed little in return to the country and its nationals that provided the subject of the research. Even the main scholarly organization of relevance, the Society of Africanist Archaeologists, was centred in North America. There were, however, notable exceptions to this general trend, the long-continued work of American researchers Susan and Roderick McIntosh in Mali and Senegal being a particularly important example (e.g. McIntosh 1998).

A third research subject that became important following African independence was the investigation of 'complex' societies, including topics such as the growth of urbanization, the formation of states, and the role of long-distance trade. Excavations at Great Zimbabwe had already demonstrated the potential of such research (Garlake 1973), but attention now turned to sites in other parts of the continent. Neville Chittick's (1974, 1984) excavations at Kilwa and Manda made major contributions to understanding the Swahili towns of the Tanzanian and Kenyan coast, as did Mark Horton's (1996) later excavations at Shanga, in Kenya. Also important was the work of Charles Bonnet (1990) at Kerma, Sudan, and of David Phillipson (2000) at Aksum, Ethiopia. On the other side of the continent, Thurstan Shaw (1970) at Igbo-Ukwu, Frank Willett (1967) in Ife, and Graham Connah (1975) in Benin City, all in Nigeria, also contributed to the investigation of social complexity, although the first two projects focused on art. To the north, in francophone West Africa, much of the relevant archaeological research was organized by the Institut Français d'Afrique Noire, in Dakar (after independence the Institut Fondamental Afrique Noire). Perhaps the most important archaeologist was Raymond Mauny (1967, 1970), whose contributions as a synthesist provided a foundation for work by others, including extensive excavations at Tegdaoust (Robert 1970) and Koumbi Saleh (Berthier 1997), both in Mauritania, and at Jenné-jeno (McIntosh 1995), in Mali. Archaeology at such urban sites often had a descriptive culture-historical emphasis, but this changed when Susan and Roderick McIntosh and others introduced a processual approach

in the late 1970s (de Barros 1990; McIntosh 2005). Far to the south, Belgian archaeologists recovered extensive burial evidence of social complexity by the end of the first millennium AD, in the Upemba Depression of southeastern Congo-Kinshasa (Nenquin 1963; de Maret 1992).

Meanwhile, in southern Africa, particularly in South Africa and Southern Rhodesia, the archaeology of later periods ran into political problems. Rhodesian settlers of European origin had long insisted that Great Zimbabwe had been built by people from outside Africa, in spite of clear archaeological evidence that it was the work of the ancestors of indigenous Shona. During the period of Unilateral Independence from 1965 to 1980, the settler view was given government approval (Garlake 1982), and so serious did the matter become that two leading archaeologists who opposed the official interpretation, Roger Summers and Peter Garlake, were forced to resign their posts (Maggs 1993: 72). However, legitimate independence eventually resulted in a government to whom the indigenous origin of Great Zimbabwe was unquestionable, and the new country was named after the famous site.

Further south, in South Africa, there were also problems. Here, a long-standing obsession with the Stone Age had resulted in the neglect of what was called the 'Bantu period', which was thought to be short and of little archaeological interest. This was very convenient for the official Apartheid government view (Giblin, Ch. 19 below) that African farmers had only penetrated the southern extremity of the continent at about the same time as the arrival of the earliest Dutch settlers in the 17th century (Marks 1980). Several things changed this situation and opened up archaeological research into the last two millennia. One was the increasing availability of radiocarbon dates, which demonstrated a long tradition of farming in South Africa; other major contributions were the work of Revil Mason (1962) at the University of the Witwatersrand and of Ray Inskeep (1978), who arrived at the University of Cape Town in 1960. The latter departed for Oxford in 1972, but by then he had contributed substantially to the development of South African archaeology, particularly of its later societies (Maggs 1993; Schrire 2003).

As Apartheid dragged on through the 1960s–1980s, South African archaeologists built up a picture of the later past in their region (Fig. 2.4) that conflicted more and more with their government's view. Yet, given the prevailing repression, they understandably avoided political confrontation. It was therefore ironic that as an anti-Apartheid gesture they were excluded from a major conference in the United Kingdom in 1986, because of their tacit support of a regime that most of them found anathema (Hall 1990: 76). However, this was a complex issue concerning which many in the international archaeological community held conflicting opinions, and which led to the formation of the World Archaeological Congress when the European-based International Union of Prehistoric and Protohistoric Sciences was unable to resolve the dispute that developed (Ucko 1987). Meanwhile, by retreating into their discipline, South African archaeologists had unwittingly perpetuated Colonialist archaeology in South Africa long after it had been replaced by Nationalist archaeology in most of the continent. In South Africa this change only finally happened with the end of Apartheid in the early 1990s. Until then, archaeology remained an activity in which black South Africans played only minor roles (Shepherd 2002, 2003).

Indeed, the involvement of Africans in the archaeology of their own continent has had to overcome many problems. The earliest to be trained as archaeologists were often sent to British, European, or American universities, from which they did not always return to their own countries. Since the 1960s graduate and postgraduate study of archaeology has developed in a

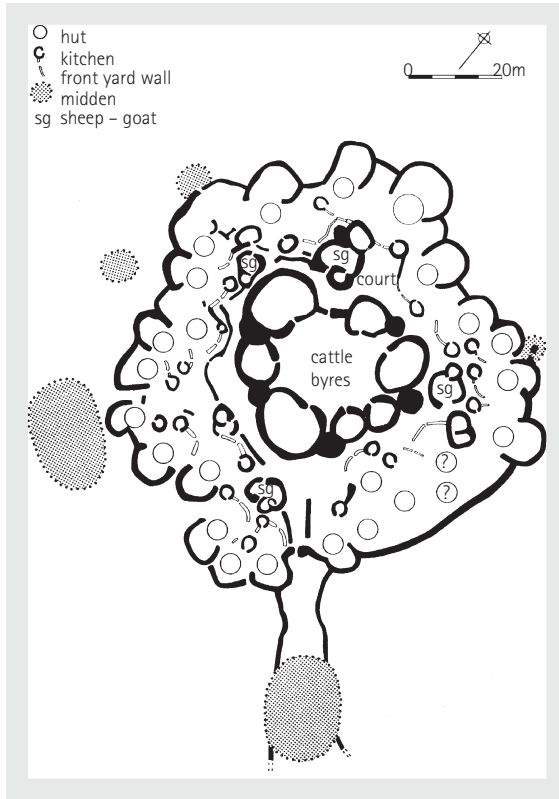


FIG. 2.4 Ground plan of the eastern unit in the stone-walled settlement at Boschoek, near Johannesburg, South Africa. Sites of this type belong approximately to the late 18th century AD, and are important because they provide substantial socioeconomic information about their former occupants (Huffman 1986: fig. 6.2) (illustration courtesy of Tom Huffman, University of the Witwatersrand, Johannesburg).

number of African universities, of which the University of Ghana, University of Ibadan, in Nigeria, Université Cheikh Anta Diop, in Senegal, University of Dar es Salaam, in Tanzania, University of Zimbabwe, University of Botswana, and the Universities of the Witwatersrand and of Cape Town, both in South Africa, are amongst the best-known examples. However, their graduates have not always stayed in the discipline. More lucrative and higher-status employment with governments or the private sector has sometimes been more attractive. Senegalese archaeologist Ibrahima Thiaw (2003: 215, 216) has commented that in his society 'What archaeologists do is locally associated with people suffering mental disability' and that 'relatives and friends who visited me . . . expressed disappointment seeing me holding a trowel and covered with dirt'. Nevertheless, although archaeology has sometimes seemed alien to the African public, many people have a great interest in their own past, particularly as presented in oral traditions. There is often a political dimension to this interest, as demonstrated by the impact of Cheikh Anta Diop's insistence during the 1960s and later that Ancient Egyptians were Black Africans and that through Ancient Greece they had influenced the whole western world (Holl 1990: 302). It did not matter that archaeologists criticized this; Diop was telling

other Africans what they wanted to hear and neatly turning the diffusionist views of earlier Eurocentric archaeologists on their head.

Through no fault of their own, other African archaeologists have had only limited success in commanding international attention. Their employers (universities, museums, and government departments) have frequently suffered from chronic under-funding that has crippled research, particularly field research, and severely limited academic teaching. Without adequate transport or equipment, with indifferent access to current journals and monographs, and with limited opportunities to obtain radiometric dating or attend international conferences, it is no wonder that professional archaeologists in some countries have achieved so little. The wonder is that some have achieved so much in these circumstances: Felix Chami in Tanzania, Gilbert Pwiti and Innocent Pikirayi in Zimbabwe, Simiyo Wandibba in Kenya, Bassey Andah, Edwin Okafor, and Alex Ikechukwu Okpoko in Nigeria, James Anquandah in Ghana, Alexis Adande in the Republic of Bénin, Téréba Togola in Mali; these are just a few of the African archaeologists who stayed at home and managed to do significant work in spite of all the difficulties (Posnansky 1996). It is instructive to read both an outsider's view (Shaw 1989) and an insider's view (Musonda 1990) on the state and future of archaeology in Africa at the time that they wrote. Later, Hassan (1999) took a more positive approach to the subject.

There have also been three developments that are improving the situation. The first has been the growth of cultural resource management funding in the face of development projects. Although this has had more impact in southern Africa (Deacon 1996; van Waarden 1996) than in other parts of the continent, and has inherent weaknesses (MacEachern 2001; Arazi 2009; Arazi and Thiaw, Ch. 16 below), properly handled it can produce remarkable results. An outstanding example is the Chad to Cameroon oil pipeline project that 'resulted in location and excavation of cultural remains along a 1070-kilometre transect, in part through regions of Africa where little research had previously been undertaken' (Lavachery et al. 2005: 175). The second development has been an increasing tendency for archaeological international research projects to be conducted on a collaborative basis, in which teams from overseas provide financial and technical support but involve participation by African archaeologists whose local knowledge is often so vital and who are thus able to participate in work that would otherwise be difficult for them to undertake. Such collaboration has often included opportunities for African students to complete postgraduate studies in archaeology, funded from overseas sources, of which the Urban Origins programme directed by Paul Sinclair of Uppsala University in Sweden (SAREC 1993) is an outstanding example that assisted African archaeologists in East and Central Africa and, by publishing their theses, added substantially to the archaeological literature of those areas. The third development has been the increasing availability of journals and other publications on the Internet, bringing some relief to African archaeologists working in institutions with inadequate library resources.

Partly because of African financial difficulties, poor government infrastructures, corruption, and inadequate security, the last few decades have witnessed an increasingly intensive plundering of Africa's past (Schmidt and McIntosh 1996; Shaw 1997). Both institutions and individuals in the so-called 'developed' world have discovered a passion for African antiquities, particularly art, which has driven an illegal international trade. This has developed from a long-established trade in African art, which dealt mostly with modern reproductions

particularly for the tourist market (Steiner 1994). The result has been an onslaught of looting at archaeological sites in some parts of the continent and the theft of artefacts from museums in Africa, sometimes with the connivance of staff whose wages are often inadequate or not forthcoming for lengthy periods. Without doubt, the real blame for these activities lies with the ultimate purchasers and the international dealers who supply them, often with no questions asked. It is the latter who make the big profits, not those who do their bidding in the countries concerned. There has also been a shameful reluctance by some western countries to apply adequate legislative control to this activity (Kusimba and Klehm, Ch. 17 below), although the 1993 Mali–USA Bilateral Accord is an important exception (McIntosh 1996: 788–9).

Much that has been written about African archaeology in recent years has been concerned with socioeconomic and political aspects (e.g. Stahl 2004, 2005). Less attention has been given to the theoretical and methodological problems of fieldwork and consequent analysis. Many surveys and excavations have tended to be relatively small and short-term, because they were either undertaken by visiting postgraduate students with limited funds and time or carried out by indigenous archaeologists constricted by the circumstances already discussed. Except in early hominin research, there have been few research programmes on the scale of David Phillipson's (2000, Ch. 55 below) work at Aksum, in Ethiopia, or of that of Savino di Lernia and Daniela Zampetti (2008; di Lernia, Ch. 36 below) in Libya, or of Peter Breunig and his colleagues (Magnavita et al. 2009; Breunig, Ch. 38 below) in the West African Sahel. In particular, archaeologists investigating urban sites have often had to work at too small a scale (Connah 2008). Remote sensing, physical, and electronic sub-surface prospection, rigorous sampling procedures, and open-area excavation followed by statistical analysis of recovered data have needed more attention at such sites. Indeed, archaeological science needs greater application in many cases, although the situation is improving. Similarly, ethnoarchaeology would repay more consideration at many sites (MacEachern 1996; Lyons, Ch. 7 below), and linguistics should contribute increasingly to archaeological interpretation (e.g. Blench 2006; Ch. 4 below), as also will genetics (e.g. Bradley and Loftus 2000; MacEachern, Ch. 5 below) and oral traditions (Schmidt 2006; Ch. 3 below).

An aspect of African archaeology given relatively little attention until the last few decades has been so-called 'historical archaeology'. This concerns the archaeological investigation of places and periods for which written documentation exists, although oral tradition has been treated as also relevant (Schmidt 1978, 2006). Given the variability in time and space of the boundary between 'prehistory' and 'history' in Africa, it is doubtful if the concept of historical archaeology is appropriate in this context (Connah 2007). Certainly it can mean different things to different researchers (Reid and Lane 2004). In practice, however, historical archaeology has been mainly concerned with European–African contact over the last five centuries or more, and it is therefore no surprise that it has had more attention in South Africa than elsewhere (Hall 1993). In other parts of Africa there has been less activity (although see DeCorse 1997; Horton 1997; Wesler 1998; Part VII below) and, not surprisingly, African archaeologists have been less interested in the material evidence of colonialism and other European activity in their continent than have colleagues from Europe and America. A part of historical archaeology that particularly deserves more attention is maritime archaeology (Werz 1997; Breen, Ch. 15 below), although it makes demands on funding and expertise that can be difficult to meet.

CONCLUSION

Much of African archaeology has been characterized by particularism; syntheses, especially at a continental level, have been relatively rare (e.g. Phillipson 2005; Stahl 2005). Even studies dealing with large parts of the continent are not that common (e.g. Connah 2001; Mitchell 2005), although areas of lesser size have received more attention (e.g. Pikirayi 2001; Mitchell 2002; Schmidt et al. 2008). At such levels, problems that plague much of African archaeological thought become particularly apparent. The Eurocentric 19th-century Three Age System and the associated concept of prehistory continue to characterize much analytical and interpretive writing. In spite of attempts to see the African past in different ways (e.g. Phillipson 1985; Barham and Mitchell 2008) and the expression of doubts about the prevailing static approach (Connah 1998: 5–6), these outmoded ideas remain current in many places. For instance, a ‘total history’ of Borno in northeast Nigeria (Connah 1981, 2009) was ignored by later researchers who preferred to see that part of Africa’s past in traditional European terms (Breunig and Neumann 2002). Clearly, the practice of African archaeology is still haunted by its own past, and a new imaginative *African* approach is very much needed for the 21st century.

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CHAPTER 3

ORAL HISTORY, ORAL TRADITIONS, AND ARCHAEOLOGY

The Application of Structural Analyses

PETER SCHMIDT

SINCE historical archaeology gained a foothold in Africa during the late colonial era, the use of oral traditions and oral histories has been a hallmark of African archaeology (Schmidt 1983, 1990, 2006). Pioneering efforts by Lanning (1966) and Posnansky (1966, 1968, 1969) on the historical traditions associated with sites such as Bigo and Mubende Hill (Fig. 3.1) set the scene for an experimental approach in East Africa that complemented a burgeoning interest in histories written from local oral perspectives. Archaeologists in many other regions of Africa soon turned to oral testimonies, both traditions and direct historical accounts, to supplement and question documentary records pertaining to the African past of the last several millennia (Willet 1970; van der Merwe and Scully 1971; Sutton 1973; Andah and Okpoko 1976; Maggs 1976; Keteku 1978; Scully 1979; Wright and Kus 1979). Most attempted to verify oral accounts by using archaeological evidence (cf. Schmidt 1983), an approach that often led to ambiguous results, compelling investigators to pay greater attention to oral traditions not only as symbolic commentaries about social and political contests but also as ways to view structural change in societies over time. Several methods arose to account for such non-literal narratives about the African past, among them structural analysis.

Coeval with Lanning and Posnansky's pioneering efforts, Africanist historian Jan Vansina (1965) argued that scholars could valorize local oral traditions through a multidisciplinary approach that evaluated oral testimonies using critical comparative analyses, including archaeology. He employed Posnansky's (1968) research at an Ankole capital site, the Bweyorerere palace (cf. Reid, Ch. 61 below), as an example of how oral traditions could be brought together with archaeology to sort out the significance of oral texts and affirm their historical veracity, including evidence for a destructive fire that was identified with that



FIG. 3.1 Interlacustrine East Africa, with the Bigo and Rugomora Mahe sites highlighted in Uganda and Tanzania, respectively.

discussed in the royal genealogy during the second of its four claimed occupations of the site. While this ‘verification’ of oral tradition produced positive results, we now know that archaeology was unable to answer many other questions about the site (Schmidt 2006). At the time, however, Vansina (1965) nevertheless enthusiastically advocated the use of archaeology to verify oral traditions, although his optimism had waned by the publication of a later landmark text, *Oral Tradition as History*, in which archaeological data play only a minor role (Vansina 1985).

In the meantime, important strides had been made by others, best exemplified perhaps by the research of Susan and Roderick McIntosh (1980, 1986) into oral traditions and archaeology in Mali. This research showed the importance of bringing multiple sources of evidence to bear upon widely accepted historical narratives and opened important insights into Mali’s history by showing how European and Arab ethnohistoric accounts about the origins of the town of Jenné-jeno, fixed to the 13th century AD, were contradicted by indigenous oral

traditions pointing to a much earlier genesis for this ancient community (MacDonald, Ch. 57 below). The material evidence excavated at Jenné-jeno affirmed a mid-first-millennium rise of urbanism, a finding that escaped the clichéd representations of the published literature while rewriting history bolstered by material evidence. This important work, among others, fell outside Vansina's (1985) gaze when his archaeological discussions reduced complex studies to summaries, glossing their contributions to history-making.

At broadly the same time, Schmidt's (1978) study of Haya oral texts in northwestern Tanzania used a detailed structural exegesis of several oral traditions about both the ancient Bacwezi rulers supposed to have ruled in the Interlacustrine region and the more recent royal Hinda clan (Fig. 3.2). As one of the first Vansina-inspired systematic examinations of how oral traditions may be used with archaeology, this explored the importance of the iron tower in the Rugomora Mahe oral traditions (Fig. 3.3). This is an origin myth for iron that uses the structural outline of the Tower of Babel myth. It is a *specific* origin or aetiological myth that has borrowed a transformed Tower of Babel cliché to do its work in communicating about the origins and memorializing ancient ironworking in the region. It does not relate to differences between people, an interpretive position imposed upon the Haya text by reference to more universal meanings for Babel-like tales. To impose a universal interpretation, such as favoured by Vansina (1985) on the Katuruka iron tower tale, we would be left without any sense of the myth's place in the symbolic life of the Haya and other peoples of East and Central Africa, especially when such stories are explicitly associated with iron production and human reproduction. As an aetiological story that memorializes the role and antiquity

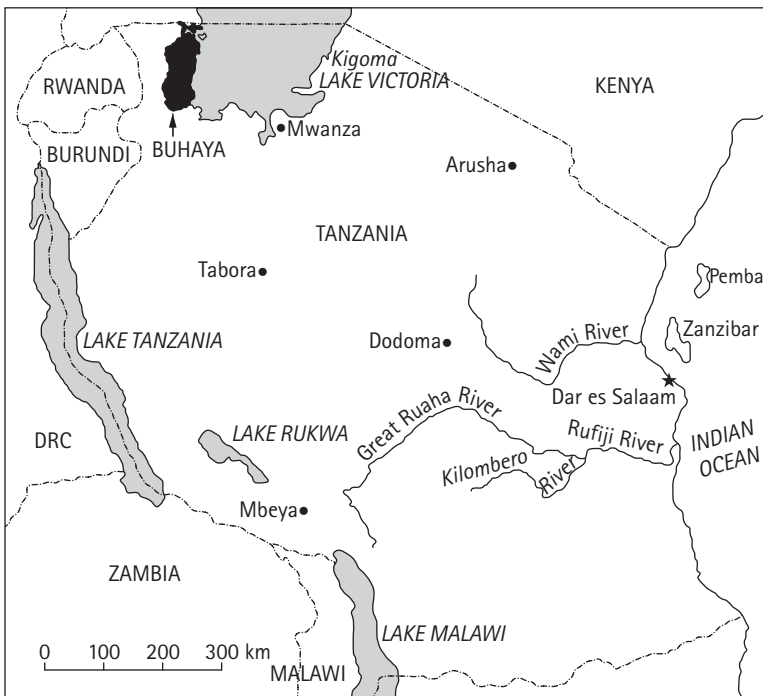


FIG. 3.2 Buhaya is located in the far northwestern corner of Tanzania, now known as Kagera Region.

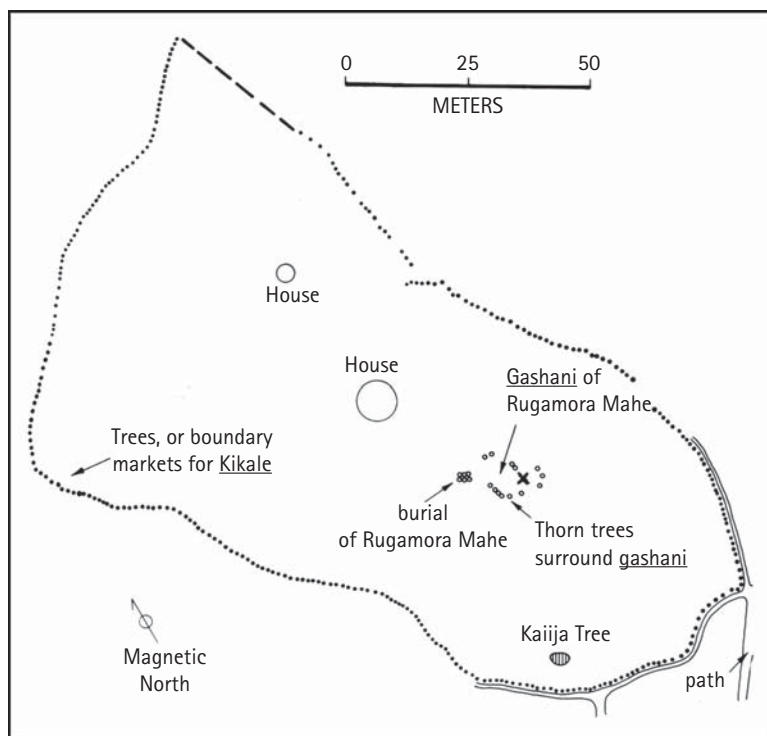


FIG. 3.3 The *kikale* or palace of Rugomora Mahe (1650–1675) is marked by his *gashani* or burial estate and the *Kaiija* shrine tree, incorporated into the precincts of the royal palace. The ancient forge was excavated just north of *Kaiija* tree.

of iron, the iron tower myth also captures the central symbolic reproductive role of iron among the Haya. For a deeper understanding of what the iron tower myth means for Haya sexual practices and human reproduction, and how these related meanings are linked to technology and history, it is instructive to review some of the history of the Katuruka research. In particular, this illustrates how more diverse ways of thinking about how aetiological myths are configured to encapsulate local histories as well as how they function as timeless principles of human reproduction, powerful tropes in symbolic armatures that confer enhanced legitimacy and power when controlled by specific social groups.

The *Kaiija* tree—the place of the iron forge—was far more than a mnemonic of great importance; it was also the focal point of identity for different social groups, among them the Hinda royal clan and the indigenous ironworking clan known as the Bayango (Fig. 3.4). Iron production and the symbolic landscape are two of the most important cultural features of Katuruka and surrounding villages. The *Kaiija* tree is linked to a local myth that says that the first Hinda king in this area, Rugomora Mahe, had his ironworkers build an iron tower to the heavens to observe Kazoba, the sun god. Before reaching the sun, the iron tower collapsed and beat upon Katerero, a village known for its ironworking and located on a ridge to the west across a swamp. This landscape is filled with place names the meanings of which are potent sexual tropes that repeat those found in ironworking—the furnace as a fertile bride



FIG. 3.4 The *Kaiija* tree (about 1970). *Kaiija* was purposefully killed during the late 1990s and early 2000s, but remains a vital place and the central feature of a heritage museum at the site (photograph, Peter Schmidt).

who gives birth to multiple fetuses (iron blooms), and iron smelters using blow pipes and bellows metaphorically referenced as phalluses and testicles.

The *Kaiija* tree is not only a very ancient monument to the genesis of iron production but is also linked with these landscape-based tropes, the most prominent of which is *katerero*—beating, beating—the rhythmic pounding of the hammer upon the forge and also the rhythmic beating of a penis upon a clitoris prior to sexual penetration (Schmidt 1983, 1997, 2006). To practise *katerero* during sex is to create vaginal fluid. Significantly, the stream located just below *Kaiija* (the iron tower/phallus) is named *Kiizi*, or vaginal fluid. Passing through the village of *Katerero* leads one to a descent into *Kanyinya*, or, pushing, pushing—the place of entry. Thus *Kaiija*, the iron phallus, the wellspring of human reproduction, celebrates iron production that ensures agricultural production and the reproduction of society (Fig. 3.5). These, then, are the embedded meanings held in the iron tower myth and preserved by its

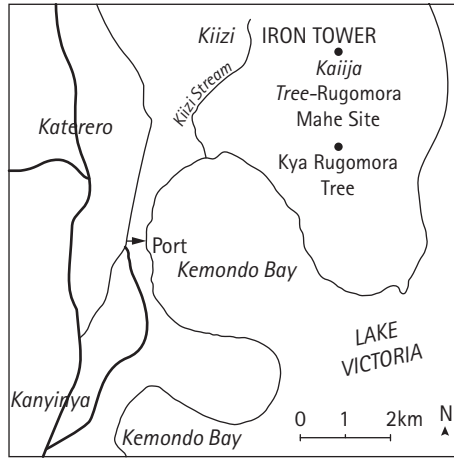


FIG. 3.5 The landscape around the *Kaiija* tree (which is paired with the Kya Rugomora shrine) is filled with symbolic meanings attached to ironworking, including the iron tower's collapse onto Katerero.

concrete mnemonic setting, a set of conditions and insights that cannot be obscured by a Tower of Babel gloss.

Contrary to what anthropological convention has maintained over the last several decades, Lévi-Strauss's development of a structuralist approach opened ways to see and better understand structural change and similarity when applied to various periods, especially when genealogically organized. By placing this study in broader comparative perspective, it should be possible to recognize reordering of cult influence and practice over time if oral traditions providing different structural readings over time are ordered by, say, genealogy. To affirm the usefulness of structural analysis in historical studies, however, contradicts the thinking of many historians and anthropologists who have (mostly correctly I believe) maintained that the structural method is arbitrary and not replicable. The chief objection is that structuralism treats myth and other oral traditions as synchronic, timeless expressions, disconnected from historical process (e.g. Barnes 1971; Leach 1966, 1970), a view shared by Vansina (1983, 1985).

The absence of a thorough and more exhaustive discussion within African history and archaeology about using structuralism for important historical insights is mystifying. Both Feierman (1974) and Atkinson (1975) in history and Schmidt (1978) in archaeology made historically profitable use of structural analysis. Feierman's (1974) treatment of the Mbegha myth among the Shambaa about the kingdom's founder (a hunter), for example, draws on structural analysis to demonstrate the affinities between the Mbegha story and an earlier myth about Sheuta, also a hunter who became chief of the Shambaa.

Feierman's analysis was a harbinger in African history in its use of structuralism to strip away mystifications and relate a tale to rites of passage and a much more ancient myth. That his method was not openly discussed in methodological debates in African history is informative. The utility of structuralism was kept under wraps, not to be taken up in a discourse about analysis of oral texts in Africa. We see a similar but more explicit treatment with Atkinson's (1975) analysis of early Buganda myth, which sorted out narrative patterns in early

Buganda mythology through structural analysis. Even though these patterns were logical and persuasive—'[Atkinson] . . . documents the full extent of the structuring'—the analysis remains unacceptable because 'Unfortunately, he interprets the contents away in structuralist fashion' (Vansina 1985: 170). This is an important moment, with the most eminent practitioner and critic of oral tradition analysis finding value in such analyses but simultaneously denying them through either silence or rejection. Perhaps such critiques cast a chill on other experimental attempts.

Nearly two decades before Vansina proffered his opinion on these innovative attempts to make sense out of oral texts, anthropologists had been examining other ways of applying structural analysis to historical and folk texts. One of the first was Hammel (1972), who argued that folk texts reflect the times, institutions, and social contests during which they were told and, sometimes, recorded. Hammel reasoned that with some diachronic control over the text, we should be able to observe important historical processes, changing values, behaviour, and struggles over institutions. Of the early experiments with structural analysis, Hammel's research into a well-known European folk tale 'The Three Bears' provides more explicit signposts for textual analysis. His treatment demonstrates how dated texts showed elaboration through time, particularly in the addition of more elaborate binary relationships—the paradigmatic elements of tales distilled from content. Hammel's innovative treatments also show how elaboration in the sequencing of tale elements—the syntagmatic component of his structural analysis—could be discerned. Thus for Hammel, elaboration and increased perfection of a text through time marked critical periods in western life, changing values, behaviour, and institutions. It would appear that the concept of increased perfection, given that it is premised on tightly dated published texts, has little utility for African oral traditions; but rapid increases in binary elements clearly held promise as diagnostic markers for social change, particularly when different social groups hold similar evidence that is structured by genealogical ordering.

With reference to Biblical texts, Leach (1966) then asked how this essential diachrony of the traditional hermeneutic related to the synchrony of a structural analysis, and showed how structural analyses of Old Testament texts demonstrate a three-phase unit in which the same characters appear but in different costumes. Showing how myth history is consistently structured over the chronology set out by the Biblical texts, with variation and different themes such as endogamy/exogamy and Israelite/Foreigner integral to all phases of the stories, he put structural analysis to work in explaining sociological and political relations and how these reverberate in the way the texts are fabricated. Both Leach and Hammel thus developed ingenious ways to finesse the structuralist conundrum of synchronic dominance, creating instructive signposts for understanding the potentials and possibilities of such analyses for African oral texts.

When anthropologists of African oral tradition tried to apply Leach's insights to oral texts, they met the barricades erected in African history best illustrated when Willis (1976) used structural analysis to create insights into historical process among the Fipa of southwestern Tanzania. Acknowledging Feerman's influence and arguing that his analyses revealed three structurally distinct levels of traditional lore, with myth expressing cosmological symbolism as the deepest strata, Willis observed that the middle stratum of tales from three different ritual-political sources are randomized and lack the binary relationships found in the first. The third period, during which there were two centralized states, is marked by significant structural change, a change in texts manifest by the absence of symbolic elements and a

regular sequencing of events, what we might consider as increased arbitrariness, thus fitting Willis's observations with those of Hammel and, later, Eva Hunt (1977). Recognizing that his construct lacked a firm chronological framework, Willis called for archaeological research to provide it, but his call failed to receive a positive response, at least from other historians (e.g. Vansina 1983: 308).

Hammel's (1972) monograph opened new possibilities for structural analyses at the same time as Atkinson and Feierman were taking up related but as yet undisclosed pathways. Drawing on these insights, Schmidt (1978) reasoned that, since genealogical ordering is highly valued by the Haya in their oral traditions concerning social groups (clans as well as larger political entities such as kingdoms), structural analysis seeking rapid expansion of binary relationships should point to significant social change. The first analysis focused on various genealogical representations by different social groups about Kiziba royal history in far northern Buhaya. Different clan histories agreed that a moment of significant social experimentation and institutional development occurred around the seventh generation of royal history. Structural analysis of these texts revealed a proliferation of binary oppositions that pointed to and affirmed the creation of a new royal cult. The paradigmatic relations arising from the content related to oppositions between expensive/cheap, white/black, dangerous/benign, Bacwezi/Bito royal, etc. A significant increase in these oppositions related to the creation of a new cult to counter the influence of Bacwezi spirit mediums who had steadfastly been opposing the throne for generations. The structural analysis stretched across many generations of oral traditions, bringing together patterns of opposition that would otherwise have gone unnoticed within the context of individual generations. Once the proliferation of symbolic oppositions arising out of new cult creation had been acknowledged, it was then easier to recognize parallel processes in the more southerly kingdom of Kyamutwara at a similar generational moment.

The second focus in structural analysis of Haya oral traditions takes inspiration from both Hammel and Leach. The large corpus of tales from different social groups in the kingdom of Greater Kyamutwara exhibits similar sequencing in the structure of the oral traditions of King Rugomora Mahe and those associated with the ancient Bacwezi. A syntagmatic analysis of the sequencing of events in some of the Rugomora stories showed a pattern that mimics some but not all of Bacwezi myth. These sequences were drawn from bits and pieces of Bacwezi myth but clearly testified to a significant complexity in the genesis of the Rugomora myth. The second analysis also examined paradigmatic relationships between the various elements in the story, revealing paradigmatic relationships that often bore significant affinities between Bacwezi myth and the Rugomora legend. Again, it was not a wholesale adoption of Bacwezi mythology but rather Bacwezi myth that structured part of the content and form of the Rugomora legend. The names of the actors were, of course, changed, along with some other details; yet without structural analysis applied to this synthesis we would have inappropriately concluded that the history of Rugomora was a bounded history relatively free of other influences.

The reasons for these changes relate to the hegemony of the Hinda royal clan being extended over territory and sacred shrines that were previously controlled by indigenous groups. The adoption of myth sequences taken directly from Bacwezi myth related to royal appropriation of the oral genres of the most powerful practitioners of religion and ritual, the *embandwa* spirit mediums of the Bacwezi. This appropriation not only helped neutralize their political influence but also created the illusion that the royal usurpers had a continuous link to the ancient past, a key constituent in their legitimacy as the new ruling group.

Decoding the Rugomora stories and their rootedness in the Bacwezi past has been closely linked to unveiling the deeper meanings associated with the iron tower myth and the geography of the tower. The iron tower myth, linked to the *Kaiija* shrine and reproductive iron symbolism, assumed a different kind of potency when archaeology revealed an ancient iron forge dating to 500 BC, directly tied to the construction of the tower, the earliest ironworking evidence found in East or Central Africa (see Chirikure and Mapunda, Chs 10 and 42 below). The Hinda royals, archaeology disclosed, took over this ancient shrine about 1675, a date congruent with royal and other clan genealogies. As Vansina (1985) observes, memory and concrete, physical place have much to do with such deep time preservation.

Lévi-Strauss (1978) also suggested drawing on archaeology as a way to solve conflicting tales, while the structural anthropologist Eva Hunt (1977) used archaeology as a metaphor in discussing how structuralism could be used together with historical texts to isolate key social change. Most useful in her analysis is her examination of arbitrariness and elaboration, both clear signposts of change such as the growth of new cults and the overthrow of institutions like priestly hierarchies. Since much African oral tradition touches upon institutional history interpenetrated by ritual and myth, the methods she proposes resonate with the goals of isolating major periods of change that may have been inscribed in the material record. As a way forward, Schmidt (1997, 2006) suggested that an analysis of tropes—symbolic language in metaphor and metonymy—will reveal moments of elaboration, particularly when texts are genealogically ordered. The most arbitrary trope (graded by its transformational effect) is metonymy (Fernandez 1977; Ricoeur 1977; Tilley 1999), often expressed in naming, e.g. ‘the saxophone led the band’. When metonymy proliferates in oral texts, it signals major social realignments, i.e. ‘that significant changes in the patterning of history or the abrupt rise of altered symbol systems mark periods of rapid historical change’ (Schmidt 2006: 107). This can be illustrated by the renaming of indigenous ruling groups with the royal Hinda clan name—for example, the Bayango become the Hinda-Bayango. This transformation of an indigenous group (into foreign interloper) through naming is accompanied by the renaming of other social groups; for example, ironworkers became the Bahuge or ‘forgetful ones’ because they failed to pay proper respect to the Hinda king. These metonymies point to deeper shifts in hierarchical relationships, the displacement of powerful social groups who control the productive economy.

As an instrument of ‘integrative identity’ (Ricoeur 1977), metonymy depends on contiguity for its transformation programme. The saxophone—an object contiguous to the player—comes to represent the player, with the player taking on the identity of the saxophone. The unfolding of integrative identity under conditions of contiguity, a hallmark of metonymy, may also play out across space. When Rugomora Mahe incorporated the *Kaiija* shrine into the precincts of his palace, he created a relationship of contiguity in which the identity of the Hinda royals came to be characterized by the iron tower and its associated symbology. So, too, the mixing of fragments of Bacwezi mythology into Rugomora Mahe’s history created a new historical syntax, a metonymic relationship of contiguity allowing Hinda history to be understood through the lens of ancient symbolic armatures tied to human reproduction and the productive economy.

Finally, an examination of ritual history reveals that the Hinda also manipulated this domain to create the illusion of legitimacy in the sea of indigenous groups. Because the Hinda were cattle keepers, they lacked the identity of ironworkers and their mystical transformational power. This conundrum was solved by the institutionalization of a ritual process

at the installation of a new king when the king was made to work iron, declaring at the end of the ritual, 'I am Iron'—a metonymic process that reiterates Hinda skill at creating new relationships through contiguity and naming. Structural analysis links together these processes in different domains—mythological, ritual, geographic—to reveal a major point in Haya history, with change in all these domains signalling larger political and economic change. In this manner, then, structural analysis applied to text and landscape exposes historical processes and negotiations among social groups that would otherwise remain hidden.

A retrospective view of Lévi-Strauss's contributions to historical studies reopens more potent treatments of oral texts and promises to enrich and expand our repertoire of analytical methods appropriate to uncovering relationships to deep pasts studied by archaeologists. It is now clear that Lévi-Strauss was misunderstood, that he did not see an antimony between diachrony and synchrony, that in fact 'It should be possible to study in terms of structure the passage from one state to another in any system or society' (Gaboriau 1970: 162). Certainly those who have sought to put such a perspective into practice and derive historical insights from structural analyses—Leach, Hammel, Feierman, Atkinson, and Willis—have left us a legacy that remains hidden and unfortunately forgotten in the study of African history and archaeology. Victor Turner (1977) and others sympathetic to the use of structural analyses in historical studies would be discouraged to learn of the consequences of such strictly enforced orthodoxy at the expense of deeper understanding of historical processes.

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CHAPTER 4

LANGUAGE, LINGUISTICS, AND ARCHAEOLOGY

Their Integration in the Study of African Prehistory

ROGER BLENCH

INTRODUCTION

AFRICA constitutes a mosaic of some 2,000 languages (Lewis 2013), falling into four major phyla and a few isolates. The density of languages and their patterns call for interpretation and explanation in terms of prehistory. Linguists would like to understand and model the processes responsible for the synchronic situation, and have typically turned to archaeology and, more recently, genetics. Archaeologists have been more circumspect, with many ignoring the results of linguistic research or actively opposing any conjunction of the disciplines (e.g. Eggert et al. 2006). Interest can be highly selective, for example in discussions of the Bantu expansion (de Maret, Ch. 43 below), while bypassing many other significant problems, such as the homeland and expansion of the Mande peoples (MacDonald, Ch. 57 below). This failure to explore integrated prehistory does not necessarily operate elsewhere the world: the Indo-European and Oceanic regions offer more encouraging examples of a willingness to synthesize.

Despite this, the study of African languages should have much to teach us about the continent's prehistory. Languages are spoken by peoples, and human migration is as much a fact of the past as it is visible in the present. Not only does the pattern of languages testify to these movements on a broad scale (Fig. 4.1), but embedded in the lexicon of individual languages is a complex texture of reconstructible terms relating to subsistence and loanwords that can provide rich evidence for micro-level case histories. This chapter outlines the major methodological issues around relating language to other disciplines in African prehistory, and sketches some recent case histories that illustrate these procedures.

Table 4.1 Numbers of African languages by phylum

Phylum	Number	Source
Niger-Congo	1524	Lewis (2013)
Afroasiatic	332	Lewis (2013)*
Nilo-Saharan	198	Lewis (2013)
Khoesan	24	Lewis (2013) ^o
Austronesian	1 (in Africa)	Lewis (2013)
Unclassified	7	Author

* Arrived at by deducting 34 Arabic dialects from total.

^o Living languages only. With extinct languages, total was c. 70.

because of the expansion of Arabic northwards and eastwards, and Austronesian, which is mainly centred in Southeast Asia and Oceania. Language numbers are distributed very unevenly across the phyla (Table 4.1). This division into phyla owes much to the work of Joseph Greenberg (1963), although there have been many changes and additions since his proposals were first set out. The coherence of the first three phyla is generally accepted, although single, authoritative sources that provide the type of proof usual in Indo-Europeanist or Austronesianist circles are lacking. Until recently, most Khoesan scholars were sceptical of the unity of Khoesan, partly because of the inadequate documentation of so many languages and partly because of the wayward transcription of clicks (Westphal 1962, 1963; Köhler 1981). However, following new research in the 1980s and a clearer perception of how sound correspondences work with clicks, most now consider that Southern African Khoesan does form a group (Traill 1986; Vossen 1997). Two languages, Kwadi and Eastern ǀHôã, resist integration in the North/Central/South scheme now widely adopted. In both cases, poor documentation makes any final judgement provisional. Hadza and Sandawe, both spoken in Tanzania, are often assigned to Khoesan because of the presence of clicks, but evidence for joining them to Southern African Khoesan is sorely lacking.

Apart from the well-known and largely established phyla, a few African languages defy easy classification, although it is surprising that their number should be so small. In other regions with high language diversity, notably the New World, New Guinea, Australia, and Siberia, isolates are common. Assuming modern humans originated in Africa (Lahr, Ch. 23 below), there should be many more. The synchronic pattern of African language phyla must therefore reflect large-scale population movements, change, and assimilation in a relatively recent period. Table 4.2 lists those languages that remain unclassified. Except for Bangi Me, these peoples are either foragers or were so until recently, suggesting that they were marginalized communities, relics of a once more widespread network of hunter-gatherers. The broad pattern is thus of a small number of phyla expanding relatively recently and assimilating a complex mosaic of forager peoples speaking highly diverse languages.

A general problem for archaeologists attempting to make sense of linguistic hypotheses is that linguists by no means all agree. Although there is a general consensus on the four established phyla just mentioned, beyond that their internal classification and membership remain much disputed. For example, in the case of Nilo-Saharan, for example, Ehret (2001)

Table 4.2 African language isolates

Language name	Location	Source	Comments
Bangi Me	Mali	Blench (2007a)	
Hadza	Tanzania	Sands (1998)	
Jalaa (= Cuŋ Tuum)	Nigeria	Kleinwillinghöfer (2001)	Probably extinct
Kujarge	Sudan	Doornbos and Bender (1983); Lovestrand (p.c.)	Probably East Chadic
Kwadi	Angola	Westphal (1963), Güldemann (2008)	Perhaps Khoesan
Laal	Chad	Boyeldieu (1977)	
Ongota	Ethiopia	Fleming (2006), Sava and Tosco (2000)	Perhaps Afroasiatic
Oropom	Uganda	Wilson (1970)	Existence unconfirmed
Sandawe	Tanzania	Sands (1998)	Probably Khoesan

reconstructs >1,700 roots for proto-Nilo-Saharan, whereas Bender (1996) could only find around 100 (Blench 2002). Ehret includes names for cultivated plants while Bender finds none; clearly the trust placed in an individual author reflects the reader's presuppositions about the antiquity of a language family. Similarly at odds are reconstructions of Afroasiatic by Ehret (1995) and Orel and Stolbova (1995), a case where there is a fundamental dispute between those who believe it to be associated with the terminal Pleistocene Natufian culture of the Levant (e.g. Militarev 2003; cf. Bellwood 2005) and those who canvass Ethiopia and the Horn of Africa—almost certainly the correct solution, as Ethiopia is home to the greatest diversity of Afroasiatic languages. The issue here is that all types of large-scale phylum level reconstruction are highly preliminary; the type of scholarly honing characteristic of Indo-European or Austronesian has yet to be undertaken in Africa. The datasets are vast and constantly under revision. The archaeologist is probably better off regarding proposals on this scale as tools for thinking, rather than as some finished product that can be picked up and interpreted.

METHODOLOGIES

The classification of African language phyla has a wayward history, in part because of the simultaneous use of very different paradigms. Four main strategies can be distinguished (Table 4.3), but in fact they tend to slide into one another. For example, Niger-Congo is often said to be characterized by the presence of nominal affixes marking noun classes, and Greenberg (1963) used this as a major feature in assigning the Kordofanian languages to Niger-Congo. But alternating nominal affixes also occur in scattered Nilo-Saharan languages (Daju, Koman, Kadu); thus, a feature once considered an indicator of genetic affiliation turns out to be purely typological. When Doke (1945) and Guthrie (1948) first developed their classification of Bantu, it was an explicitly referential, numerical, and geographical scheme

Table 4.3 Types of classification applied to African language phyla

Category	Sense
Areal	Languages that are geographically proximate and may share features but which do not constitute evidence for genetic affiliation
Genetic	Languages that go back to a common ancestor
Referential	Systems that assign a classification purely for reference purposes
Typological	Languages that share common features (phonological, morphological, etc.) but which have no necessary genetic connection

intended to help bring order to a large number of languages the relationships of which were then unknown. Later, as Herbert and Huffman (1993) point out, Guthrie (1967–71) began referring to his numbered zones *as if* they were genetic, i.e. as if the historical relations between the alphanumeric groups had somehow been demonstrated. The Nuba Hills in Sudan represent a clear example of areal features confounding perceptions of genetic affiliation. Although their languages include both Niger-Congo and several quite different groups of Nilo-Saharan, a common lifestyle and extensive intermarriage and cultural interaction has created a zone with many areal features in common. There is thus a tendency to refer to ‘Nuba Hills Languages’ as if they represented a genetic unity.

Lexicostatistics is the counting of cognate words in a standardized list and assigning a numerical value to their relationship. Despite some 19th-century precursors, it was not until Swadesh (1952) that this idea made a significant impact on the scholarly community. Lexicostatistics initially proved attractive to Africanist researchers as a way of ordering a large mass of languages of uncertain relationship, with one early use of it to classify the Gur languages (Swadesh et al. 1966). Related to lexicostatistics is glottochronology, the hypothesis that languages change at a standard rate over time and that by applying an algorithm to lexicostatistical results, the approximate ages of language families can be estimated. Armstrong (1964) applied glottochronological methods to estimate the time-depth of southern Nigeria’s Kwa languages. Although there is a long list of sceptical evaluations of lexicostatistics, its mathematical presentation is very alluring and there have been many attempts to modernize it (e.g. Lamb and Mitchell 1991; Ehret 2002). Its most recent incarnation is the Automated Similarity Judgement Programme (AJSP) proposed by the Max Planck Institute, which eliminates human cognacy judgements (Müller et al. 2009). Although its output is somewhat idiosyncratic (e.g. linking Dogon with the Caddoan family of North America), advocates see it as a major advance in modelling language relationships. It is safe to say that, as they have virtually no empirical content, such methods will continue to be promoted by their advocates but be ignored by researchers espousing field-based approaches.

Much of the interplay between linguistics and archaeology in Africa depends upon assigning genetic affiliations to the languages under consideration. Where we place individual languages in the global mosaic of language phyla is essential to developing archaeological interpretations. The key strategy in determining genetic affiliation is the identification of shared innovations. When any new speech form develops, it is marked by innovation. Changes occur in the speech of individuals and may spread to the whole community over time. These changes can be extended by analogy to other sounds, lexemes, or

clauses, according to rules internal to the language. The methodology of reconstruction is usually known as the comparative method, and has a venerable, if controversial, history (Durie and Ross 1996). The key element in the mutual interplay of historical linguistics and archaeology is the identification of reconstructible lexical items with potential links to archaeology.

Shared innovations are sets of changes that have occurred at the level of a protolanguage, and are reflected in its daughter languages, allowing linguists to assign a particular language to a genetic grouping. However, protoforms can also encode cultural information directly relevant to the reconstruction of prehistory. For example, terms for livestock species such as ‘goat’ or crops such as ‘Bambara groundnut’ can be reconstructed to proto-Bantu, and it is thus a reasonable assumption that the Bantu began their journey across the equatorial forest with these species as part of their subsistence repertoire.

A distinctive feature of the history of African language classification has been a widespread unwillingness to analyse commonalities between languages as the result of contact and borrowing, except in the case of transparent and recent loanwords. Historical linguists seek reconstructions that can be assigned to protolanguages. Shared words common to a group of languages may indicate relatedness, but may also point to the spread of new technologies or social change. How we interpret a common form exists in a feedback relationship with our historical understanding of its cultural role and chronology. We assume that people have always eaten and drunk, slept and died, and that where we find a widespread root referring to these concepts it can be used in historical reconstruction. By contrast, words for ‘tobacco’ in Africa all resemble one another, partly because they were adopted from contact languages when tobacco was introduced from the New World (Pasch 1980). Tracking loanwords can provide much information that is unavailable through other means. The nautical vocabulary of Swahili, for instance, shows clear evidence of borrowing from both Old Malay and Portuguese (Table 4.4), and linguistics can also be used to track the spread of introduced crops, including vegetative species that leave no archaeological trace (Blench et al. 1997; Bahuchet and Philippon 1998; Blench 2009a).

Table 4.4 Sources of Swahili nautical vocabulary

Swahili	Gloss	Source language	Source word	Gloss
<i>sambo</i>	ship (archaic)	Old Malay	<i>sambaw</i>	seagoing vessel
<i>sapi^a</i>	raft	Javanese	<i>sampan</i>	harbour boat; canoe
<i>taliki</i>	rope to lift cargo	Malay	<i>tarik ~ tarek</i>	pull, haul, drag
<i>utari</i>	ship's cable	Malay	<i>tali</i>	rope, cord, line
<i>barakinya</i>	schooner	Portuguese	<i>barraquinha</i>	
<i>batela</i>	small boat	Portuguese	<i>batel</i>	
<i>bereu</i>	tar	Portuguese	<i>breu</i>	
<i>bunta</i>	pontoon	Portuguese	<i>bunta</i>	
<i>furutile</i>	dock	Portuguese	<i>flotilha</i>	
<i>gana</i>	tiller	Portuguese	<i>cana</i>	

Sources: Martin Walsh (pers comm.), Kiraithe and Baden (1976)

As with language shift, trajectories of language change observable today clearly also occurred in the past, although they muddy the waters of conventional language diversification models. One such process is pidginization and its relative, creolization (Thomason and Kaufman 1988). The characteristic of pidgins and creoles is that they mix vocabulary, phonology, and syntax from their source languages. Earlier descriptions often characterize them as 'simplified', but this is a culturally loaded term. A language may be simplified from the point of view of speakers of a particular language, partly because they do not recognize complexity in an area that is underdeveloped in their own language. Contact languages have developed in Africa in a variety of situations, most notably for trade, as a consequence of slavery or in armies (Heine 1982), and for communication between employers and employees (Mesthrie 1989).

GENETICS, MATERIAL CULTURE, AND OTHER PARALLEL DISCIPLINES

Since the 1990s publications on the human genetics of Africa have grown substantially. An overview of African mtDNA observes that 'Africa presents the most complex genetic picture of any continent, with a time depth for mitochondrial DNA (mtDNA) lineages >100,000 years' (Salas et al. 2002), while Tishkoff et al. (2009) claim to observe strong associations between genetic and linguistic diversity, reflecting the concomitant spread of languages, genes, and culture. Sadly, the attractiveness of this congruence is unsupported by the unequal distribution and small number ($N = 121$) of sampling points used (Tishkoff et al. 2009: Supporting Material Map A) and by systematic omission of contrary arguments (cf. MacEachern, Ch. 5 below).

Despite this optimism, convincing large-scale correlations with archaeology and linguistics are probably still far in the future. On a smaller scale, the potential for correlations between the distribution of the Bantu languages, archaeology, and genetics would seem to be high, with Underhill et al. (2001) suggesting the haplotypes defined by M2/PN1/M180 polymorphisms as markers of that expansion. Their evidence of strong founder effects in that sub-clade (40% of the members share the M191 mutation) is independently supported by results from Y-STR haplotypes in a South African Bantu population (Thomas et al. 2000), where the proportion of YAP⁺/sY81G lineages was $80 \pm 5\%$, of which more than half shared the same 6 Y-STR based haplotype or its one-step neighbours. In other studies, Pereira et al. (2001) have tracked the mtDNA of Mozambican populations both within the Bantu heartland and in its outliers in the diaspora, while Beleza et al. (2005) established possible patterns of the Bantu 'western stream' focusing on a movement down the coast to Angola. Ribot (2011) has argued that the Bantu expansion can also be detected using classic osteometric techniques.

Greater knowledge of African biogeography can also increasingly be linked to the expansion of language families, especially in constrained environments such as islands or deserts. A well-known example concerns the correlation of the current distribution of Nilo-Saharan languages with archaeological finds of bone harpoons (Table 4.5) and other evidence of aquatic resource exploitation dating to the early Holocene when more plentiful rains

Table 4.5 Cognate words for 'hippopotamus' in Nilo-Saharan languages

Family	Subgroup	Language	Attestation
Central Sudanic	Sara	Nar	<i>àbà</i>
Gumuz		Kokit	<i>ba a</i>
Maba		Aiki	<i>bùngùr</i>
Songhay		Kaado	<i>bà à</i>
Songhay		Koyra Chiini	<i>ba a</i>

supported lakes and rivers in currently hyperarid regions (Sutton 1974; Drake et al. 2010; Barich, Ch. 31 below).

CASE HISTORIES

Space does not permit detailed discussion of individual case studies, but a brief examination of a few may be useful. First, the Bantu languages, which have well-attested links, share a large number of phonological, morphological, and lexical isoglosses and certainly represent a recent expansion, generally accepted to have involved a major element of migration—‘demic diffusion’ in archaeological language (Ashley, Ch. 6 below). From an origin near the Cameroon/Nigeria border, the widely accepted model has Bantu splitting into at least two groups, one heading east along the northern edge of the rainforest and the other staying in the west and moving south and southeast through the rainforest (Blench 2010b). The relatively recent date of these events has made it possible to link particular groupings with pottery styles in a manner not yet possible elsewhere in Africa (Phillipson 1977; Huffman 2007; but see Eggert 1992 for a critical approach to simplistic correspondences between pottery styles and Bantu subclassification; also Lavachery et al. 2010; de Maret, Ch. 43 below).

Both livestock and pottery appear in the southern African archaeological record prior to the arrival of the Bantu. Sadr and Sampson (2006) conclude: ‘Thin-walled, fibre tempered pottery appears [in southern Africa] two to four centuries before the arrival of Iron Age agro-pastoralists who were uniformly associated with thick-walled ceramics.’ Despite being archetypical foragers, Khoesan languages incorporate deep-level etymons for livestock-related activities (Vossen 2007). Pastoral systems in southwest Africa show evident cultural features similar to those of Cushitic herders in northeast Africa (Blench 2009c). This argues that there was a ‘lost’ branch of the Cushitic family whose speakers encountered the early Khoe and transferred basic herding skills as well as the animals (fat-tailed sheep and long-horn taurine cattle). Fig. 4.2 depicts this interaction somewhere in present-day Zambia, a region now entirely occupied by Bantu speakers. Cushitic languages have almost entirely disappeared, overwhelmed by the expansion of Neolithic farmers in a later period.

A second example concerns Austronesian, not usually considered an African language phylum, but spoken today throughout Madagascar and on the Comoros. Earlier models of the peopling of Madagascar relied on a simple migration from insular Southeast Asia, where

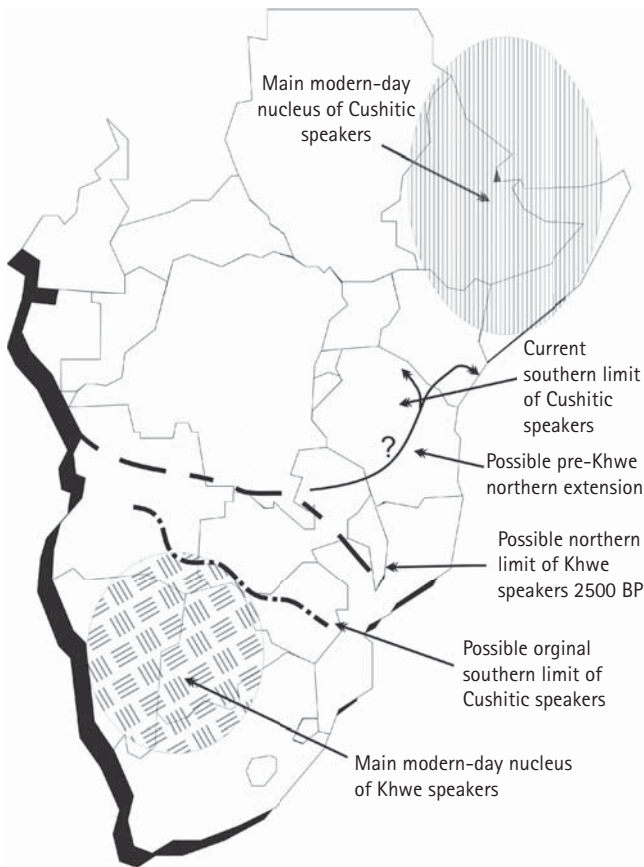


FIG. 4.2 Potential overlaps between the distributions of Cushitic and Khoe speakers.

Malagasy's closest links are with Barito languages on Kalimantan (Dahl 1951). However, it has also been considerably influenced by Malay, acquiring many nautical and other technical terms (Adelaar 1996). There are also numerous loans from the Bantu languages of the East African coast, especially the Sabaki group (Table 4.6), showing that early Austronesian mariners must have been in direct contact with African coastal populations at a date preceding the earliest archaeological evidence for Austronesian settlement on Madagascar (Blench 2010a; cf. Radimilahy, Ch. 65 below). Combining archaeology with a better knowledge of East African Bantu languages produces a more complex three-way model for Malagasy's development that includes multiple interactions between various migrant and resident populations at different periods, as well as layers of loanwords from diverse regions (Beaujard 2003; Walsh 2007; Blench 2007b, 2009b).

Finally, let us consider an even more recent case, the movement of languages associated with the Atlantic slave trade. Slavers were obviously not concerned with the languages of their victims, but speakers of Niger-Congo predominated in the Americas, since Afroasiatic and Nilo-Saharan languages tend to be spoken inland and so were less affected by the trade. Slaves carried their languages to the New World, in many cases continuing to speak them for some considerable time. In some cases, well-established Niger-Congo languages like Yoruba

Table 4.6 Malagasy mammal names of Sabaki origin

Malagasy	English	Scientific name	Etymology
ampongy	Eastern avahi	<i>Avahi laniger</i>	cf. Swahili (Unguja) k^hima punju 'Zanzibar red colobus, <i>Colobus kirki</i> '; Nyakyusa kipunji 'Highland mangabey, <i>Rungwecebus kipunji</i> '
ankomba, komba	Crowned lemur († related lemur spp.)	<i>Eulemur coronatus</i>	cf. Swahili (Unguja) k^homba 'galago spp.' < Proto-Sabaki *nkomba 'galago'
antsanga	Bushpig	<i>Potamochoerus larvatus</i>	cf. Swahili (Unguja) kitanga 'solitary male bushpig'
antsangy	rice tenrecs	<i>Oryzorictes</i> spp.	cf. Swahili (Tanzanian mainland) sange 'elephant shrew spp.'; Mijikenda (Giryama) ts⁽ⁿ⁾anje 'Four-toed elephant shrew, <i>Petodomus tetradactylus</i> '
gidro	Crowned lemur	<i>Eulemur coronatus</i>	cf. Swahili (southern dialects) ngedere 'Blue monkey, <i>Cercopithecus mitis</i> '

Table 4.7 Americanisms of probable African origin

American term	Gloss	First citation	Etymology
<i>chigger, jiga, jigger</i>	sandfly	1756	W. Indies <i>chigoe</i> (1668) (cf. Wolof and Yoruba <i>jigà</i> 'insect', Luba <i>njiga</i>)
<i>cooter</i> *	turtle	1835	<i>kuta</i> root is widespread in Africa, e.g. Bambara <i>kuta</i> , Luba <i>kuda</i>
<i>gombay</i>	cow	?	cf. proto-Bantu * <i>gombe</i>
<i>goober</i>	peanut	1833	Bantu (cf. Kikongo and Kimbundu <i>nguba</i> 'peanut').
<i>gumbo</i>	okra stew	1805	Luba <i>kingumbo</i> , Mbundu <i>ngombo</i> for 'okra'
<i>jive</i> (talk)	insincere, inflated speech	1928	Wolof <i>jev, jeu</i> talk about someone absent, especially in a disparaging manner
<i>okra</i>	okra	1679	Twi and similar Kwa languages <i>kr mā</i>
<i>pinda, pinder</i>	peanut	1794	<i>mbenda</i> in many coastal languages of southern Cameroun and Gabon (Pasch 1980)
<i>tote</i>	to carry	1677	Kikongo <i>tota</i> 'pick up', Kimbundu <i>tuta</i> 'carry, load'
<i>yam</i>	sweet potato	1588	< Port. <i>inhame</i> or Sp. <i>igname</i> , from a W. African language (cf. Fulfulde <i>nyami</i> 'to eat', Twi <i>anyinam</i> 'species of yam')
<i>zombie</i>	living dead	1871	Kikongo <i>zumbi</i> 'fetish', Kimbundu <i>nzambi</i> 'god'

* Also *cooter-grass*, *cooter-back road*, *cooter-log* 'bench for idlers', and *box-cooter* 'uncommunicative person'.

and Kikongo were parlayed into ritual languages used in the ceremonies of syncretic religions such as Santería. Haiti and Cuba, in particular, remain reservoirs of these languages today. We know too that Nupe, spoken today by up to a million people in west-central Nigeria, was also spoken in Brazil in the 1850s under its Yoruba name, Tapa (Rodrigues 1932). However, most of the transplanted languages died out, though often leaving lexical and grammatical traces in the modern creoles spoken in many regions—for example Berbice Dutch in Surinam, which draws its vocabulary fairly evenly from four distinct sources, Kalabari (in Nigeria's Niger Delta), Arawakan, Dutch, and English (Kouwenberg 1993).

The possible African origin of words and place names in the southern United States has been the subject of much controversy. Early identifications of exotic-sounding toponyms with Amerindian words sometimes concocted strained etymologies (Vass 1979), but the turning point was probably the identification of 'Africanisms' in the dialect of the Gullah people of Georgia's Sea Islands (Georgia Writers' Project 1940; Turner 1949). Westcott (1974) subsequently demonstrated a Bini origin for almost thirty Gullah personal names, precipitating a reversal of the earlier pattern such that seeking an African heritage became fashionable, with the consequence that elaborate claims for African sources were put forward, some dependent on very contorted etymological chains (e.g. Vass 1979). That said, detailed comparison with individual languages can often yield plausible etymologies. Table 4.7 shows a number of words in American English of fairly uncontroversial origin.

CONCLUSION

Africa's language map provides an important starting point for a broad-brush history of the continent over the last 20,000 years. The pattern of phyla points to large-scale movements, particularly the gradual assimilation of diverse foraging populations by expanding agriculturalists. Historical reconstruction can provide striking insights into the economic history of particular regions, for example in relation to agriculture or pastoralism. Loanwords allow us to track the spread of innovations that may not be reflected in the archaeological record. New techniques in human and animal genetics are providing fresh insights into migration and domestication, although the claims of their proponents still frequently outrun their evidential value.

The classification of African languages is not without controversy, and new discoveries and fresh analyses ensure that the picture is constantly evolving. For archaeologists to make sense of the large-scale patterns of migration and cultural evolution, they need to maintain an informed but sceptical awareness of the current picture, and to incorporate linguistics in the broader reconstruction of prehistory.

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CHAPTER 5

GENETICS AND ARCHAEOLOGY

SCOTT MACEACHERN

INTRODUCTION

THE last fifteen years have witnessed a vast increase in information on genetic relationships among human populations. Beyond all its other scientific and medical implications, this research provides an extraordinary body of data for testing against archaeological reconstructions of the African past. Generation of historical reconstructions based upon the biological relations of modern African populations allows researchers to juxtapose such reconstructions (presumably derived from population movements, marriage patterns, etc.) with those based upon cultural variation (expressed e.g. through similarities or differences in language or material culture). Comparisons between patterning revealed using these different approaches might indicate that genetic and cultural variability run in parallel, indicating that biological and cultural interactions went hand in hand. In other cases, genetic and cultural patterning might be quite different, revealing biological interactions not directly reflected in cultural variability or vice versa. Both outcomes would be interesting and informative for African history and prehistory.

Such approaches have obvious potential to impact a great variety of research problems in African archaeology, but they also generate significant challenges. While serious questions about interdisciplinarity and sociopolitical power relationships are nothing new, the potentials and difficulties of collaboration between archaeologists and geneticists—and the African people in whose communities both work—may be particularly fraught (Nyika 2009). In many ways, the relationship between genetic research and archaeology now is comparable to that between radiocarbon and archaeological research fifty years ago, when the initial appearance of radiocarbon dating was marked by the same extremes of rejection and uncritical acceptance among archaeologists that often accompany the results of genetic research (Pollard and Bray 2007). It seems likely that the iterative and interactive relationship between genetics and archaeology will ultimately effect transformations similar to those that took place in the case of radiocarbon, but that point has not yet arrived.

VARIETIES OF GENETIC ANALYSES

Different kinds of genetic analyses have been undertaken among African (and other human) populations through time, and these differences can have significant effects on research results. Until the early 1990s, most such research involved the so-called classical polymorphisms: genetic variants expressed serologically or immunologically or detected through analysis of blood proteins (ABO, Rh factors, haemoglobin variants, etc.; Cavalli-Sforza et al. 1994). Variability in these polymorphisms was relatively easy to study before the development of more fine-grained analytical techniques (especially the polymerase chain reaction [PCR]) over the last twenty-five years, and a substantial literature on these classical markers exists. Some of these genetic systems have significant adaptive consequences (e.g. haemoglobin S in the presence of malaria, or the human leukocyte antigen [HLA] system), which limits their utility for studying ancient population relations. Note too that samples originally gathered in the course of this research are still being used as genetic sources in more recent studies, and so uncertainties in data-gathering procedures and ethnic identifications from some decades ago may still be embedded in much more recent genetic reconstructions of African history.

Over the last two decades, a great deal of genetic research into the human past has taken the form of lineage-based analyses involving the study of genetic systems that do not undergo recombination and are thus passed down untransformed from one generation to the next. This lack of recombination makes the definition of historical lineages relatively straightforward. The best-known such system is the mitochondrial DNA [mtDNA] genome, which is inherited maternally, although research on the non-recombining region of the Y-chromosome (NRY), inherited through the paternal line, is also now extremely significant. Besides the simplicity of phylogenetic reconstructions that non-recombination makes possible, the smaller effective population size and rapid mutation rates for both mtDNA and NRY allow studies of relations among human populations at spatial and temporal scales that are useful archaeologically (i.e. over the period of evolution and dispersal of modern humans in Africa and across the globe). The fact that mtDNA and NRY are respectively passed down maternally and paternally means that their comparison can inform researchers on demographic processes that differentially affected women and men, such as variation in marriage patterns (see below on the 'Bantu expansion').

For all their undoubted utility, lineage-based analyses have two major limitations. First, and most obviously, they illuminate only a single line of maternal or paternal descent among the vast number of ancestors of any individual. Second, the fact that mtDNA and NRY are non-recombining means that each acts as single genetic loci and correspondingly each generates only single phylogenetic trees. There is a randomizing component in the structure of any single gene tree, based on variations in sampling and the vagaries of conservation and disappearance of different alleles through generations, and such randomizing factors cannot easily be accounted for through lineage-based methods. Analysis of autosomal DNA (i.e. DNA from the recombining portions of the human genome) partially avoids these disadvantages, since each sampled position on the autosome potentially acts as a different genetic locus. Phylogenetic trees derived from analyses of many different loci can thus be compared and random errors at any one locus corrected, at least to some degree. The

disadvantage of autosomal analysis is, of course, that definition of historical lineages is impossible over significant time periods: instead, the result is a biogeographic comparison of sampled modern populations.

Geneticists have studied autosomal variation for decades—indirectly in the case of the classical markers—but such research has been significantly enhanced over about the last five years by advances in analytical techniques, especially in the automation of analysis of single-nucleotide polymorphisms (SNPs), with accompanying advances in bio-informatics. These techniques allow simultaneous comparison of variation at tens or hundreds of thousands of loci on genetic material gathered from thousands of individuals, in ‘genome-wide’ or ‘whole-genome’ scans (e.g. Bryc et al. 2010). This allows a more complete examination of similarities and differences across the autosome, and potentially more detailed and reliable accounts of the relations of modern populations. Genome-wide scans will probably become significantly more common in the study of genetic relations among populations, as the necessary technology becomes more widely available and affordable, and it is important for archaeologists to remember that these approaches vary in significant ways from lineage-based analyses. It should also be noted that SNPs are only one form of DNA sequence variation (albeit an extremely important form) used in population studies, based upon research problem orientation, the perceived advantages of different systems, and data availability.

CHALLENGES TO COLLABORATION: DATA COMPARABILITY AND THE LAST PARAGRAPHS PROBLEM

Substantive collaboration between geneticists and archaeologists will occur when reasonably comparable data sources deriving from the two fields can be tested against one another. Without such comparability, insights gained from one discipline may generally inform research agendas in the other, but advances will be piecemeal and it will remain extremely difficult to establish with any confidence that patterning in one dataset has anything to do with patterning in the other. ‘Comparable’ in such a case may mean various things. First, data from both fields must simply exist for the area under study, which in Africa is by no means a given. Thus, a considerable amount of genetic research has been undertaken on modern African forager groups, especially Khoisan and Pygmy/BaTwa populations, because of their putative relevance to the study of prehistoric inhabitants of Africa and the origins of modern humans (see below). Populations in certain geographical areas, like the southern Lake Chad Basin, are reasonably well known genetically. On the other hand, research on farming populations in most of central, southwestern, and southern Africa is restricted to a relatively small number of Bantu-speaking groups, few populations have been sampled in West Africa between Senegambia and the Lake Chad Basin, very little genetic research has been undertaken on Saharan populations, and in eastern Africa many Bantu-, Cushitic-, and Nilotic-speaking groups have never been studied.

Archaeologists’ knowledge of the African past is similarly geographically patterned, with some areas much more extensively investigated through survey and excavation than others.

Congruencies in our state of knowledge for different regions exist, often involving criteria of access, political circumstances, or resources: for example, east-central Africa is not very well known either archaeologically or genetically, while significant research in both disciplines has taken place in the Lake Chad Basin, Senegambia, and the Nile Valley. However, some areas are comparatively well known genetically but not archaeologically, or vice versa. Compounding these differences in coverage is the fact that genetic research typically involves only one of a number of genetic systems and their expressions, as noted above. Few regions of Africa currently offer comparable data from different genetic systems for the same population (see e.g. Wood et al. 2005; Tishkoff et al. 2007). This is a significant problem, given that different systems may have been subject to quite different selection pressures and may inform us about different sociocultural processes (e.g. asymmetrical mating patterns or male–female mobility).

Even if congruent genetic and archaeological data exist for a particular area or population, basic issues of data evaluation remain: how does one systematically compare variation in biological characteristics (e.g. genetic polymorphisms) with variation in some elements of material culture, and how does one then establish that these very different kinds of data reflect common historical processes (MacEachern 2000; cf. Pluciennik 2006)? In the past, such comparisons were sometimes impressionistic, when for example the different coordinates in principal-components analyses of genetic variation across space were associated with different events in African history, like the Bantu Expansion and the invention of agriculture (Cavalli-Sforza et al. 1994: 189–92; cf. Novembre and Stephens 2008). More recent historical interpretations of genetic data have been more systematic, more modest, and better founded in data, but the challenge of establishing associations between genetic and material culture (and, perhaps, linguistic) patterning remains significant (Blench, Ch. 4 above). In addition, techniques for estimating the time-depths of genetic processes—the occurrence of a particular mutation, for example—remain less precise than radiocarbon dating, which sometimes renders comparison of genetic and archaeological reconstructions difficult.

Significant issues of scale also exist. Archaeologists work at a variety of spatiotemporal and cultural scales, from the continental to very local levels. Most would probably acknowledge that these different scales of research are all valuable to the overall project of investigating African history and Africa's historic role in the world. To this point, genetic research in Africa has been almost exclusively concerned with large-scale questions, with historical reconstructions that operate regionally or across the whole continent and over significant time-scales. To a degree, this orientation can be traced back to limitations of data coverage, with usually small samples of varying (and often unknown) representativeness from different ethnic groups, and to the poor temporal resolution of genetic reconstructions noted above. In addition, genetics research has become Big Science, directed toward Big Questions, with more modest questions perhaps falling by the wayside. Researchers therefore know relatively little about the structuring of genetic variability within ethnic groups across Africa or the relationships between ethnolinguistic boundaries and changes in the states of different genetic systems. Indeed, it is entirely unclear what the 'genetic boundary' between the ethnic groups forming the basis of geneticists' interpretations in Africa would look like. Remarkably few examples of more detailed research on intragroup variability exist in Africa (but see Veeramah et al. 2008), and it is notable that some of the few papers examining this topic have done so for reasons largely unconnected with specifically African history (Thomas et al. 2000; Kaplan 2006; Parfitt 2006).

Interdisciplinary research in archaeology and genetics is frequently hobbled by conceptual misunderstandings in both directions, as researchers working in Africa do not take sufficient account of research perspectives outside their own disciplines. We might designate this the ‘Last Paragraphs Problem’, as it is in the concluding paragraphs of genetics papers, in which genetic patterning is linked to historical process, that many of the problems arise. Archaeologists and other social scientists are often intimidated by the specialized terminologies and complex procedures associated with genetic research. The result is an unfortunate tendency either to more or less disregard genetics research when trying to understand the human past in Africa and elsewhere, or to accept the results of genetic research somewhat uncritically, skipping to the last paragraphs of research papers in historical genetics (where the historical reconstructions usually reside) and trying to reconcile those reconstructions with pre-existing culture histories derived from more familiar sources. Current syntheses of African prehistory (see e.g. Phillipson 2005; Stahl 2005) give notably little consideration to genetic research, especially for recent periods.

Geneticists, on the other hand, often do not appear to appreciate the scope or pace of research in the social sciences, including African archaeology, and in some cases employ inadequate or dated sources in formulating their own historical constructions—the other side of the Last Paragraphs Problem. The contrast between the sophistication of genetic analysis and the superficial knowledge of African history, prehistoric archaeology, and/or ethnography displayed in some (but by no means all) genetics papers can be quite striking. Encyclopedia entries, mass-media texts on African history and archaeology, academic texts written fifty or more years ago, and passed-on claims about African prehistory made in earlier papers by other geneticists are simply not sufficient resources for any serious historical contextualization of the results of genetic research. It is difficult to avoid the impression that some geneticists rely for their understandings of the African past upon distant memories (and perhaps hoarded textbooks) from introductory undergraduate courses in anthropology or archaeology (cf. Mitchell 2010).

At the same time, effective historical reconstructions do get made. In Africanist research, archaeologists and geneticists do not often converse with one another, but neither do they entirely talk past one another. Rather, they speak at disciplinary tangents: at the intersection of those tangents new understandings are formed, but opportunities for effective collaboration are also often missed. It is to these more positive, and often extraordinarily informative, cases that we now turn.

MODERN HUMAN ORIGINS AND MODERN HUNTER-GATHERERS

Some of the earliest, and certainly best-known, genetic research in Africa involved the use of mtDNA and subsequently NRY data to respectively establish maternal and paternal lineages that link modern peoples around the world to small ancestral populations of females and males living in Africa (Cann et al. 1987; Underhill et al. 2000). Originally undertaken to test conflicting models of modern human origins, this work effectively supported a recent African origin model (Lahr, Ch. 23 below). Establishing the time-depth of these ancient

populations is complicated by assumptions about effective population sizes for males and females through time, and the much larger size of and lack of knowledge of variation across the NRY genome when compared to mtDNA. Current estimates for the most recent common ancestor of modern humans based on mtDNA data yield a date of approximately 160,000 years (Soares et al. 2009), in good agreement with palaeoanthropological evidence for the appearance of *Homo sapiens idaltu*, with a subsequent expansion of modern humans out of Africa approximately 70,000–50,000 years ago.

Research on the origins of modern human populations in Africa is undertaken chiefly using data from modern African forager populations, and illustrates both the potentials and difficulties of deriving historical inferences from genetic data. That research seems to indicate that members of San and Pygmy/BaTwa populations tend to exhibit mtDNA and NRY lineages that exist close to the roots of phylogenetic trees for these genetic systems, and that (for mtDNA at least) there was substantial genetic isolation of these lineages in Africa during much of the Middle/Upper Pleistocene, with other lineages appearing and decreasing levels of genetic isolation after 60,000–70,000 years ago (e.g. Behar et al. 2008). Even the Sandawe and Hadza, living only about 150 km apart, are claimed to have been genetically isolated for 15,000–20,000 years, with such isolation ending only within perhaps the last 4,000 years (Tishkoff et al. 2007). If these claims are supported by future research, genetic isolation may be partly explained by palaeoenvironmental data suggesting periodic and exceptionally severe mega-droughts in tropical Africa over generally the same period (Behar et al. 2008; cf. Cohen et al. 2007). Such data have obvious implications for how archaeologists view the cultural evolution of modern humans during the Pleistocene (cf. Barham, Ch. 24 below). They are especially significant for understanding widespread Middle Stone Age industrial traditions like the Lupemban, since they imply the existence of only small and isolated human populations in eastern and southern Africa over much of the period of modern human evolution. A number of archaeological models have identified regional differentiation in MSA stone tool traditions with widening social networks and the development of stylistic or symbolic behaviour (e.g. Brooks and McBrearty 2000), but these genetic data raise the possibility that such differentiation was due to cultural and biological isolation instead.

At the same time, there are substantial challenges to reconciling these interpretations with archaeological and other reconstructions. Isolation of small African populations over multiple tens of millennia is not obvious archaeologically for the late Pleistocene, although that might partly be due to assumptions that archaeologists have brought to their data. It is difficult to envisage how periodic episodes of even extreme drought could have enforced population separations on the order of 50,000–100,000 years, as interpreted from the mtDNA data. More problematical—because harder to test—are assumptions made about human identities and the historical status of African forager groups. Thus, the claim that a genetic differentiation of Khoisan, Hadza, and Sandawe populations over the period 30,000–50,000 BP (at least) implies a similar time-depth for click phonemes common to these different languages (Knight et al. 2003; Tishkoff et al. 2007) offers no model for linguistic conservatism over such extraordinary time-scales, and risks conflating modern and very ancient linguistic and cultural identities.

One important side effect of these genetic investigations of modern African foragers has been the Western reinscription of San, Pygmy/BaTwa, and other African populations as fossilized remnants of ancient times, holdovers from the Pleistocene. The mtDNA and NRY variations used to generate these phylogenetic trees do not appear to have major adaptive

significance—if they had, they would be correspondingly less useful for indicating ancient population relations—and these genetic studies in no way indicate that the people with DNA from these ancient lineages are ‘less modern’ than other humans. However, these modern forager communities have been directly identified with early modern humans from the period before the expansion out of Africa, both by geneticists (e.g. Wells and Read 2002) and by journalists disseminating this research to western publics (e.g. Wade 2006). When a significant paper in human genetics identifies Biaka Pygmies as ‘one of the oldest distinct African populations and, hence, one of the oldest human populations in the world’ (Chen et al. 2000: 1372), with the phrase ‘oldest human population’ widely repeated in the media, it bespeaks a fundamental conflation of genetic variability and historical identity that Africanist researchers must resist when possible. More recent debates over the functioning of particular genes for brain development provide another example of the assumption of African ahistoricity: Mekel-Bobrov et al. (2005), for example, take a lack of cultural advance on the continent in the late Pleistocene and Holocene as given, and assume it in turn to be explained by the distribution of particular variants of the ASPM gene, a classic example of the Last Paragraphs Problem.

LATE PLEISTOCENE AND HOLOCENE POPULATION DYNAMICS

Genetic analyses of most non-forager populations in Africa (excepting groups like the Sandawe, because of their putative linguistic connections to San-speaking forager groups; Güldemann and Stoneking 2008) are most often used to generate evidence for prehistoric population expansions and migrations in different parts of the continent. As with research on modern human origins, problem orientations for geneticists tend to derive explicitly or implicitly from prior research in other disciplines. In both modern human origins research and more recent analyses, this involves using palaeoanthropological and archaeological data, but for more recent periods problem orientations from historical linguistics predominate. This is perhaps not surprising, given Africa’s linguistic diversity, the broad commonality involved in some phylogenetic approaches in the two disciplines, and the lack of archaeological data in many areas. One widely held assumption in such research has been that such population expansions frequently occur as well-integrated ‘packages’ often associated with initial spreads of farmers into a region (e.g. Diamond and Bellwood 2003). Genetic reconstructions are then most often understood as the result of the dispersals of named linguistic groups.

Thus, the Holocene social/cultural phenomenon most intensively studied in African genetic research is the ‘Bantu expansion’. A substantial number of studies exist on the genetic legacy of migrations associated with Bantu-speaking populations (Beleza et al. 2005; Quintana-Murci et al. 2008; Berniell-Lee et al. 2009; cf. Bostoen et al. 2009), although as noted above their geographical distribution is extremely patchy. There is, of course, a significant preceding literature on the nature of the processes through which Bantu languages came to be spoken over large areas of Africa, based upon linguistic, archaeological, and ethnographic evidence (de Maret, Ch. 43 below). Genetic data certainly indicate that these processes

involved substantial movements of people at some places and at some times, i.e. that the 'Bantu expansion' was indeed a demographic phenomenon, as well as a linguistic and cultural one. This may, however, be something of proving a commonplace: previous researchers had accepted that at least part of this vast and complex process would have involved actual population movements, although they might have disagreed on the extent and dynamics of such movements. At this point, genetic data are not sufficiently fine-grained to inform us about the origins of such population movements, and so geneticists (and archaeologists) use historical linguistic reconstructions to locate their origins in the southern borderlands between Nigeria and Cameroon. Perhaps the most important contribution of genetic research to this point has been in analysis of the dynamics of the Western Bantu expansion (Beleza et al. 2005), in an area little known archaeologically and where those dynamics have not been well understood.

Genetic data can very usefully inform us about some of the large-scale past demographic processes that have left traces among Bantu-speaking populations, and may illuminate ancient population movements. Thus, diversity in NRY lineages among modern Bantu-speaking populations is significantly lower than is mtDNA diversity (Salas et al. 2002; Wood et al. 2005; Bostoen et al. 2009), an observation that led researchers to conclude that the 'Bantu expansion' involved asymmetrical reproduction patterns between immigrating farmer and indigenous forager populations. This might have involved females from forager communities disproportionately reproducing with men from Bantu-speaking farmer communities and thus contributing to mtDNA diversity, while polygyny would have lessened the diversity of paternal lineages. These processes would presumably have been associated with adoption of Bantu languages by in-marrying woman, and by the children of these couples (Wood et al. 2005). However, this observation highlights the disjuncture between description and explanation: while these genetic data may indeed illuminate ancient demographic interactions in early Bantu-speaking populations, they do not provide an *explanation* for the spread of Bantu languages on a macro-scale. The picture becomes particularly complicated when we consider that Yoruba, a non-Bantu language of the Niger-Congo family and a language not (as far as we know) associated with comparable range expansions, exhibits the same asymmetrical pattern of mtDNA and NRY diversity as do the Bantu languages (Tishkoff et al. 2007).

Thus, late Pleistocene and Holocene genetic reconstructions over much of Africa are dominated by accounts of a variety of encounters between proto-Bantu and (putatively Pygmy/San) foragers. Only in areas beyond those where Bantu is spoken, such as the Sahelian and Sudanian environmental belts running east-west to the south of the Sahara, do other ancient population relationships receive much attention. One particular nexus for research has been the southern Lake Chad Basin, an area of great linguistic and cultural diversity, probably because of its central location along routes of migration and trade linking the Atlantic with the Nile and North Africa with areas south of the Sahara. In and around the Mandara Mountains, along the basin's southern peripheries, ethnic diversity is greater than almost anywhere else in Africa, especially among Chadic-speaking montagnard populations that have been one focus of genetic investigations for more than two decades (e.g. Spedini et al. 1999; Cruciani et al. 2002, 2010; Coia et al. 2005; Cerny et al. 2009; Tishkoff et al. 2009). The region's location and cultural characteristics have also encouraged significant ethnographic, archaeological, and linguistic research during the last sixty years, making it one of

the few areas of sub-Saharan Africa where detailed comparisons between the findings of these different disciplines may be feasible.

Genetic research here over the last decade highlights the advances and challenges inherent in such multidisciplinary undertakings. Using classical polymorphisms, Spedini et al. (1999) still identified Mandara montagnard populations as *paléonigritique*, an entirely obsolete designation dating to before the Second World War implying more or less unchanged remnants of an ancient stratum of African culture, pushed into refuge areas by more advanced societies and accompanied by assumptions about the historical isolation of populations that, in some cases, lived only kilometres apart. At more or less the same time, however, other researchers used NRY data to posit long-range connections between some of these 'isolated' Chadic-speaking montagnard groups and West Asian/North African populations (Cruciani et al. 2002), a connection which, if verified, would probably be associated with early Holocene human movements across a 'Green Sahara'.

Ten years later, genetic understandings are appreciably richer. Data exist on mtDNA, NRY, and autosomal genetic variation for many Lake Chad Basin and neighbouring populations (although too often without comparable data in these different systems for the same groups), allowing very interesting, albeit tentative, reconstructions of population relationships and migrations over the last 7,000–8,000 years, informed by historical linguistic and (to a lesser extent) archaeological and palaeoenvironmental reconstructions. In the context of increasing rainfall levels and environmental changes, these involve an early Holocene movement into the region from the Nile Valley of ancestral Nilo-Saharan speakers, and their subsequent interactions with ancestral Chadic-speaking groups moving out of a desiccating Sahara in the mid-Holocene (e.g. Tishkoff et al. 2009). Other genetic investigations have productively examined more recent population interactions in the region (Hassan et al. 2008; Keita et al. 2010). One contribution of genetic research to these issues lies in its identification of significant east–west migrations and interactions south of the Sahara, especially between East Africa, the Nile, and Lake Chad. Archaeologists working in this area have tended to examine north–south interactions between Saharan and sub-Saharan regions; they have done so in part because of the lack of archaeological data available east of Lake Chad and in southern Sudan. The genetic research thus provides valuable orientation for future archaeological fieldwork.

In this region, the goal of combining data from a variety of different sources into integrated models of African history is probably as close as anywhere on the continent, as far as data quality is concerned. Significant challenges still exist, however, including the perennial basic issues of data comparability: how can researchers establish linkages between patterning in genetic, archaeological, and linguistic data, and to what extent would this be furthered by common data formats and analytical approaches in these different fields of study? How do geneticists best account for rather different results when different genetic systems are being studied (a problem not unfamiliar to archaeologists comparing different realms of material culture)? Perhaps most fundamentally, how do researchers reconcile the ethno-historical evidence for diversity of origins among populations in this area, with small genetic samples often gathered under assumptions of low in-group genetic variability? While genetic contributions from different ancestral populations are frequently acknowledged (e.g. Tishkoff et al. 2009: figs 3 and 4), no intermediate level of genetic identity between the individual and the ethnic group is allowed for in these studies, even though the

internal historical diversity of many modern (and presumably ancient) African populations is widely accepted by anthropologists and archaeologists alike.

These challenges—and others like them faced by researchers working elsewhere in Africa—are significant, making the elucidation of the complex relations between genetic variation and variation in different aspects of human culture certainly a long-term process. Still more challenging will be the formulation of procedures for interpreting such relations in the distant past. However, archaeologists should not let these difficulties obscure the tremendous capabilities that exist in genetic studies of African history, capabilities that are being demonstrated almost daily. The development of truly interdisciplinary research initiatives, involving genetics, archaeology, historical linguistics, and related disciplines, undoubtedly has the potential to transform our understanding of the African past.

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CHAPTER 6

ARCHAEOLOGY AND MIGRATION IN AFRICA

CERI ASHLEY

INTRODUCTION

THE archaeology of Africa is littered with migration narratives. Indeed, key migration events from Africa have shaped global history, from the hominin dispersal 'Out of Africa' (Barham, Ch. 24 below) to the more recent forced exodus of the Atlantic slave trade (Thiaw and Richard, Ch. 68 below). Closer to home, local and regional migrations within Africa are a recurring leitmotiv within archaeology and history, from the grand narratives of the sub-continental Bantu Migration hypothesis (de Maret, Ch. 43 below) to local origin histories that talk of the impact of 'outsiders' (Kopytoff 1987). However, despite this prominence and seeming ubiquity, African archaeology has often had a complicated and contested relationship with migration, and it remains a potentially divisive issue. As an introduction to some of the key trends in archaeological approaches to migration, this chapter outlines some of the past archaeological uses of migration paradigms, as well as exploring theoretical and methodological issues associated with its application to African archaeological contexts.

ARCHAEOLOGY AND MIGRATION

Migration and its twin, diffusion, came to prominence in archaeology in late 19th-/early 20th-century Europe, where they became the interpretive cornerstone of the culture historical approach to archaeology. Culture history embraced a local historical scale of analysis, and sought to trace individual cultures as they interacted and intermixed through the migration of people, or the diffusion of ideas (Daniel 1950). It was arguably with Gordon Childe, the 'organising genius of European migrations' (Adams et al. 1978: 493), that migration truly came to the fore. At the heart of Childean culture history was the notion of the archaeological culture and the idea that past societies produced culturally distinct objects

and practices. Any change in this material manifestation was believed to reflect significant cultural disruption, typically as the result of outside influence, either the migration of another culture or the diffusion of a new technology or style. The culture historical approach suffered from a well-documented theoretical backlash with the rise of processual archaeology (Shennan 1989), which rejected its specificity in favour of modelling and testing cross-cultural processes. As the linchpin of culture history, migration similarly suffered in what has been described as the 'retreat from migrationism' (Adams et al. 1978). As a result, for a long time and for many, migration effectively fell off the archaeological agenda in favour of 'indigenist' or 'immobilist' modelling (Chapman and Hamerow 1997; Härke 1998).

Recent decades, however, have seen the slow re-emergence of migration as a respectable topic of archaeological enquiry. In 1987, in a theoretical turnabout, Renfrew (1987: 3) asked whether archaeology had, in rejecting migration, 'thrown the baby out with the bathwater', prompting a new wave of research led by Anthony (1990, 1997; cf. Chapman and Hamerow 1997; Härke 1998; Burmeister 2000) that has seen archaeologists from a broad range of theoretical backgrounds and methodologies embrace the topic once more. Recent work has also covered a wide chronological span, with for example an important debate in European palaeolithic archaeology between migration versus regionalism (Gamble 1993; Otte and Keeley 1990). Regional research trajectories have also been noted (Härke 1998), with one of the most successful and active arenas of migration research emerging in the American Southwest (Cameron 1995). Sustained archaeological investigations of colonization, in effect studies of the impact of migration rather than of the process, have also emerged, again in a wide variety of contexts, from the settlement of previously empty landscapes to the period of European colonial expansion (e.g. Lyons and Papadopoulos 2002; Rockman and Steele 2003; Gosden 2004; Stein 2005).

Discussion

Despite this recent re-engagement with migration and breadth of research, fundamental theoretical and methodological issues still remain, central to which is the question of definition. The ad hoc use of migration in culture history contributed to its earlier demise (Adams et al. 1978), whilst its frequently axiomatic application remains an issue (Burmeister 2000). Attempts to categorize and define migration have emerged, but with little consensus (Chapman and Hamerow 1997); definitions can be split into narrow and broad categories. Anthony (1990, 1997; cf. Tilley 1978), for example, argues that migration involves a broad spectrum of activities and actions that can include seasonal movement such as transhumance, whilst Adams et al. (1978) demand a tighter definition in which migration requires large-scale, permanent, and intentional relocation. Indeed, some researchers question the very idea that a single, all-encompassing definition is even possible given archaeology's vast chronological, political, and demographic range (e.g. Chapman and Dolukhanov 1992; Cameron 1995).

The issue of how and why past communities migrated is similarly problematic. In the past, archaeology tended to use the 'wave-of-advance' model for demographic spread, in which the build-up of population density forced relocation in a search for fresh resources. Recent research has, however, emphasized a wider range of migratory movement, with Anthony (1990) drawing on Lee's (1966) 'Laws of Migration' to include circular or tethered migration

alongside career, coerced, and chain migration. The question of incentive and motivation also remain complex, with Anthony (1990, 1997) again drawing on Lee (1966) to develop the 'push-pull' model in which the decision to move is governed by the balance of negative factors in the home area against positive factors in the migrant destination (cf. Burmeister 2000). Migration has returned to the archaeological agenda, but is clearly still subject to intense debate.

ARCHAEOLOGY AND MIGRATION IN AFRICA

The idea of migration and external demographic influence was deeply embedded in early European encounters with Africa, and became a central pillar of colonial rhetoric. Following prevalent Enlightenment thinking, African society was regarded as inherently primitive and backward; any indication of civilization and advancement must, therefore, logically come from outside. This approach was clearly steeped in a broader moral philosophy, but also suited the very specific demands of colonial ideology, which sought to legitimize European expansion into, and rule over, Africa. Invoking migration as a long-term historical phenomenon could justify ongoing incursions by Europeans, as well as reiterating the notion that Africa needed such influxes to advance and develop. This rhetoric was perhaps most perniciously applied in southern Africa, where early commentators such as Stow and Theal developed the idea of 'empty lands' to which migrating Europeans and Africans were equally entitled (Dubow 1995: 66–74). The case of the Hamites provides another illustrative example of such an approach. Believed to descend from Noah's cursed son Ham, the Hamites came to be regarded as a quasi-racial, linguistic, and cultural entity (Sanders 1969), who spread from the Near East across Africa, bringing superior technologies, skills, and intellect (e.g. Johnston 1913). Portrayed as a branch of the Caucasian 'race' (Sanders 1969), they were allegedly responsible for a raft of innovations; as Seligman (1957: 85) famously stated, 'the civilisations of Africa are the civilisations of the Hamites' (cf. Reid, Ch. 61 below).

Such racist thinking remained powerful for a long time, but lost favour in the post-Nazi era (Sanders 1969) as a new generation of professional archaeologists approached African independence. Despite the decline of this 'outsider' paradigm, migration remained highly influential within archaeological and historical reconstructions. Perhaps unsurprisingly, given the European training of many of the period's practitioners, culture-history was the archaeological mainstay and migration thus took its place as a primary agent of change. Culture-history provided a convenient tool to link disparate pockets of archaeological data, whilst migration could explain the diffuse spread of such cultural features. Sutton (1977), for example, sought to understand the distribution of dotted wavy line ceramics across eastern Africa and the Sahara, suggesting that it reflected an interconnected 'Aqualithic' culture that had spread west from the Rift Valley (cf. Barich, Ch. 31 below). Still more influential has been the link made between the Early Iron Age cultural package and the spread of Bantu languages (cf. de Maret, Ch. 43 below).

Nevertheless, despite the centrality of migration as an explanatory device at this time, an emerging undercurrent of scholarship soon challenged its automatic use. Unlike New Archaeology's epistemological rejection of migration as the handmaiden of culture history,

the theoretical implications of migration were generally not the prime concern in sub-Saharan Africa. Rather, the enduring reliance on the idea of ‘outsiders’, even intra-African ones, grated in the new nation states, and growing voices emphasized *in situ* development and self-determination instead (Lwanga-Lunyigo 1976; Gramly 1978). By the 1980s, migration was therefore increasingly melting away from its position as the *de facto* explanation of culture change.

Within the Bantu migration hypothesis some very specific concerns emerged. Alongside allegations of interdisciplinary tautology, some began questioning the essential viability of such large-scale population movements (Eggert 2005). Vansina (1995), for instance, challenged the very premiss of the migration, arguing for pulses of small-scale, local dialect-chaining that cumulatively led to the wide dispersal of Bantu languages. Robertson and Bradley (2000: 287) voiced similar disquiet when suggesting that the drawing of ‘large arrows scything across big blank maps’ of Africa took no account of its complex topographical and environmental mosaic, and that migration’s enduring appeal was linked to a neo-colonial mindset. While these concerns are well known from the Bantu migration literature, they are not alone; Sutton’s (1977) Aqualithic suffered a comparable fate, with Holl (2005), for example, critiquing its empirical foundations and arguing for parallel evolution rather than migration *per se*. For many, migration remains intimately connected to colonial era rhetoric and comes with too much historical baggage to be suitably applied; as Chami (1994: 32) states, ‘it is difficult to disentangle the mind from the diffusionistic/migrationist/Hamitic paradigm.’

Paradoxically, however, migration remains a central organizing device within African archaeology, whether openly acknowledged or implicitly applied. Perhaps most vocal in its continued promotion is Tom Huffman, who continues to embrace large-scale migration narratives in explaining the history of farming communities in southern Africa (Huffman 2002, 2006, 2007; cf. Mitchell and Schoeman, Chapters 33 and 64 below). The issue of migration within African archaeology is therefore clearly divisive, and has the potential to polarize broader discussion down the pro/anti-migration divide. Such an approach is not always useful, and can unduly simplify a complex situation and created an artificial intellectual rift.

The Kintampo debate

An excellent case study that encapsulates the to-and-fro fortune of migration within African archaeological thought is that of early agricultural Kintampo communities in central Ghana (Casey, Ch. 41 below). Having identified a suite of microliths and comb-impressed ceramics, Davies (1962) drew on typological similarities to Sahelian material to argue for a southerly invasion of Sudanic intruders c. 3600 BP. Stahl (1985) later challenged this culture-historical model, arguing that the chronological overlap between Kintampo material culture and that of earlier Punpun hunter-gatherers indicated *in situ* development and economic intensification rather than large-scale migration. More recently, Watson (2005a) critiqued Stahl’s approach, arguing that the presence of two distinct ceramic technologies clearly indicated discrete potting communities, and thus the migration of a new population into the area. Unlike Davies, however, Watson’s approach moved beyond simplistic ‘invasions’, speculating that the migrants may have moved from the Sahara in a ‘leap-frogging’ motion (cf. Anthony 1997), as each group clears the path for the following migrants. The adversarial tone of Stahl’s

(2005) response and Watson's (2005b) counter-response reiterate how divisive an issue migration can be, although a recent paper sounds a somewhat more conciliatory note (Watson 2010: 155).

DISCUSSION

Migration has thus clearly played a fluctuating role within African archaeology, simultaneously being reviled, embraced, and ignored within the discipline. Existing polemics arguably leave a gap in the middle ground that must be embraced for migration to be shorn of simplistic modelling or political baggage. In order to do this, key areas of debate and future enquiry need to be addressed. Three are tackled here.

Definition

All too often migrations are implicitly assumed without being specifically defined. This is, of course, a broader issue within archaeology, but remains critical in African archaeology. Some forms of population movement are easier to discern and less contentious. Colonization of Africa's islands, for example, required a degree of deliberate and active movement over some distance (Mitchell 2004), whilst responses to environmental change such as the Holocene repopulation of the Sahara after the hyperarid Last Glacial Maximum cannot be disputed (MacDonald 1998; Barich, Ch. 31 below); as Mitchell (2004: 236) notes, 'Colonising new environments is rarely anything other than a purposeful, informed undertaking.' Such types of migration, or perhaps more accurately, colonization, can be taken as read. However, human mobility is a daily occurrence, and what constitutes migration within the African context requires clarification; can, for example, Anthony's economic migration be equally applied to mobile Hausa merchants and Rift Valley pastoralists? Should Robertson and Bradley's (2000: 288) assertion that the topography of Africa would probably only have allowed mass migrations in the last 400 years be taken seriously? Africanists need to be clearer in what they mean by migration, deciding whether models developed outside the continent are appropriate and whether a single definition can ever be applied.

Having recognized that migration occurs, there is also an urgent need to understand and explain more clearly its mechanisms. Current debate is often polarized, but much of this can be attributed to sometimes polemical approaches; the sweeping black arrows antagonize anti-migrationists who resort to extreme localism, parallel evolution, and reductive immobilism. This essentializes and simplifies what is a complex and multi-faceted phenomenon. Indeed, there may be a strong case to argue that the particularities of Africa mean that specific forms of migratory activity occurred; Kopytoff's (1987) treatise on the 'Internal African Frontier', for example, draws on the relatively low population density of precolonial Africa, as a result of which wealth in people, not land, was the path to power. Within such a scenario, the prevalent wave of advance model, reliant as it is on growing population density, becomes potentially redundant. It is therefore essential that new research addresses specific local conditions in order to develop appropriate models.

Identifying migration: material culture and identity

Like wider migration research, African archaeology has typically recognized migrating peoples through their diagnostic, and intrusive, material debris. Ceramics, in particular, have become a proxy for past population movement, with the Bantu migration hypothesis structured almost entirely around ceramic distributions. This is perhaps not surprising; Childe long ago recognized the value of ceramics, as everyday domestic artefacts, in reflecting migrant identity. However, Childe (1951) also emphasized the need to use a polythetic assemblage of multiple recurring objects in recognizing archaeological cultures. In contrast, for much of African archaeology ceramic data is often the primary, if not the sole, *fossile directeur*. Supporters of this method argue that ceramics are a perfect tool for expressing identity; 'because of the vital relationship between language and material culture, ceramics can be used to recognise and trace movements of groups' (Huffman 2002: 3). However, critics argue that this approach is too deterministic, and that material culture does not behave so predictably, or in such neat concert with nebulous sociocultural identities (e.g. Pikirayi 2007). Moreover, the specific behaviour of ceramics, or of material culture in general, in a migration environment is poorly studied in African archaeology. One of the few studies is that of Collett's (1987) examination of migrating Kololo and Nguni material signatures in southern Africa during the 19th century *Mfecane* (cf. Schoeman, Ch. 64 below). Intriguingly, Collett found that ceramic variability did not behave uniformly, with migrant Nguni communities losing their ceramic style, while the Kololo introduced their own Linyanti ceramics to the Barotse kingdom of western Zambia. The role that material culture plays within a migrant society thus needs to be reviewed more closely, and existing frameworks re-examined; it is perhaps dangerous to assume that ceramics alone can reflect population movement.

After migration: frontiers and boundaries

The idea that 'migration is a process, not an event' (Anthony 1990: 905) requires archaeologists to explore its long-term impact, recognizing that the journey itself is perhaps not as important as the new social situations created by relocation. This is arguably one area where African archaeology has been more successful, particularly in studying frontier relations and responses; as Kopytoff (1987: 7) notes, 'Africa has been a "frontier continent"'. For instance, Alexander's (1978) model of frontier relations between hunter-gatherers and farmers, in which a porous boundary, or 'moving frontier', between pioneer farmers and endogamous foragers allowed considerable contact and interaction, has been applied in both southern and eastern Africa (Alexander 1984; Lane 2004).

Another highly influential frontier model to have emerged from Africa is Kopytoff's (1987) 'Internal African Frontier', which has been applied in numerous archaeological contexts, both in Africa (e.g. Usman 2009) and beyond (e.g. Schlegel 1992; cf. Anthony 1997; Chapman 1997; Burmeister 2000). As noted, Kopytoff's thesis focuses around the idea of wealth-in-people, not land, creating a dynamic in which mobility shaped political authority, as leaders sought to retain followers and stop defection to other polities, or the establishment of new communities. Fission, according to Kopytoff, was thus a regular political strategy, a means by which to challenge or escape authority. Whereas Alexander's frontier model

centres around early contact phases, Kopytoff's model has been used to explore a wide range of political contexts, from farming communities to state-level societies. Exploring the archaeology of frontiers and the effects of migration therefore seems to have been a more successful pursuit in African archaeology than perhaps the search for the migration itself.

CONCLUSIONS

Global archaeology is slowly re-engaging with migration as an explanatory device, overcoming some of the earlier theoretical divisions that 'banished it from centre-stage' (Chapman and Hamerow 1997: 1) and beginning a new chapter of targeted research. In Africa, migration never really left archaeological discourse, but it did become a highly divisive issue that split researchers and arguably led to polemical and undue simplification of a nuanced debate. Migration is clearly a central dynamic within African society, and therefore a new era of engagement is needed. In particular, researchers need to develop new theoretical approaches to migration, making it much clearer what is meant by the term, as well as reviewing how it is identified archaeologically. While wider archaeological investigations of migration may be a useful resource, such work should not simply be imported direct to the African context, as migratory behaviour can be affected by time and place, and it is thus essential that appropriate models be developed for African archaeology. It is also apparent that one of the more successful and interesting outcomes of migration research has been exploration of the long-term effects of such movement, and the archaeology of contact situations. It may be that attention should therefore shift from the contested and problematic identification of migration and focus instead on what happens after such events.

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