African Archaeology Without Frontiers

Papers from the 2014 PanAfrican Archaeological Association Congress

Edited by Karim Sadr, Amanda Esterhuysen and Chrissie Sievers

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The National Lotteries Commission (NLC) of South Africa provided the lion's share of funds to make the event possible. Geoff Blundell and Bruce Rubidge made invaluable contributions to the funding proposal. The then vice chancellor of Wits Professor Loyiso Nongxa was a staunch supporter of PAA2014 and facilitated infrastructural and logistical support from the university. Deputy vice chancellors professors Yunus Ballim, Belinda Bozzolli, Patrick Fitzgerald, Derek Keats and Rob Moore provided generous assistance in one way or another. The dean of the Faculty of Science Professor Andrew Crouch and the faculty's financial director Mr Manfred Malomo also gave unstinting support. Ms Andrea Leenen of the Palaeontological Scientific Trust (PAST), as well as the Wenner-Gren Foundation provided funds to sponsor international students to attend the congress. The French Institute in South Africa (IFAS) kindly translated all documents to help make this a truly bilingual congress.

The core of the congress was a five-day international conference that took place in mid-July 2014. A day of workshops for invited archaeology students from several countries preceded the main conference, and three days of excursions to visit important heritage sites in South Africa took place immediately after the main event. A mid-conference excursion took delegates to the world-famous Cradle of Humankind.

About 450 delegates from Africa, Europe and North America registered to participate in PAA/SAfA 2014. These included academics and senior postgraduate students plus staff of museums and government agencies involved in heritage and archaeological matters. The day-to-day logistics were admirably handled by Ms Fiona Storie and her team from Scatterlings Inc. Wits postgraduate students Byron Aub, Matthew Caruana, Kate Croll, Sarah Elliot, Phillip Law de Lauriston, Matt Lotter, Rosa Moll, Obankeng Rampete, Shani Reddy, Chiara Singh, Ilan Smeyatsky, Lauren Solomon and David Witelson looked after delegates, provided audio-visual support in the lecture rooms and generally helped to make the conference roll smoothly. The local organising committee was composed of Amanda Esterhuysen, Catherine Namono, Steven Sack, Karim Sadr (chair), Alex Schoeman, Ben Smith (president of PAA), Dominic

Stratford and Francis Thackeray. Paula Marais at the Origins Centre kindly managed the Lotto budget. A final word of thanks is merited by Jill Weintroub, this volume's copy editor, who put in much effort and hours of hard work.

Apart from the keynote papers, a total of 16 manuscripts were submitted shortly after the conference for publication in the proceedings. All papers were reviewed by two independent referees and nine were approved for publication. Some papers that were submitted but not published in the proceedings will be placed online at the website of the PanAfrican Association (http://www.panafprehistory.org/en/).

The editors wish to thank the NLC who generously contributed funds towards this publication. The NLC relies on funds from the proceeds of the National Lottery. The Lotteries Act guides the way in which NLC funding may be allocated. The intention of NLC funding is to make a difference to the lives of all South Africans, especially those more vulnerable and to improve the sustainability of the beneficiary organisations. Available funds are distributed to registered and qualifying non-profit organisations in the fields of charities; arts, culture and national heritage; and sport and recreation. By placing its emphasis on areas of greatest need and potential, the NLC contributes to South Africa's development.

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Introduction

An Invitation Fulfilled

Amanda Esterhuysen, Karim Sadr and Chrissie Sievers

African archaeology in the twenty-first century is challenged to transcend not only national and linguistic boundaries that separate scholars and researchers, but also disciplinary boundaries between archaeology and the many other fields of study that can enrich our understanding of the past, as well as the artificial boundaries within archaeology itself, such as those drawn between the study of different 'ages' that should not be understood in isolation. These and other issues are among the topics addressed in this edited collection of papers drawn from the proceedings of the landmark 2014 PanAfrican Archaeological Association of Prehistory and Related Studies Congress. Held in Johannesburg nearly seven decades after the conference planned for 1951 was relocated to Algiers for ideological reasons following the National Party's rise to power in South Africa, the 2014 meeting marked a historic return to the southern tip of the continent and provided an opportunity for professional African archaeologists to showcase the value of archaeology and related disciplines in foregrounding African cultural values and historical achievements.

The first PanAfrican Congress for Prehistory and Related Studies was, according to Mary Leakey, 'very much Louis's brainchild' (1984: 91). Louis Leakey conceived of the conference in 1944 and solicited support from colleagues in South Africa, England and later France. In his memoirs he reflected that he felt strongly that the 'moment was most opportune to inaugurate a pan-African congress of prehistory' (1974: 193). It was an exciting time in history, full of the promise of change, and Leakey would no doubt have been aware of the political momentousness of the pan-African movement that held its fifth congress in Manchester, England, immediately after the war. Many key African leaders attended this congress, and there was a strong feeling among Africans and people of African descent that liberation, freedom and pan-Africanism were 'idea[s] whose time had come' (Abrahams 1947: 11). Leakey would also have taken cognisance of the formation of the United Nations Educational, Scientific and Cultural Organisation in 1946. The organisation specifically promoted the role that

science could play in promoting peace and security and it provided a platform for scientists to dispel the biological myth of race and to question racism.

Leakey, having recognised the scientific and cultural significance of Kenyan fossils and material culture, felt the palaeo world was ready to accept 'Darwin's prophecy that Africa would prove to be the birthplace of mankind' (1974: 210) and invited 55 delegates from 26 countries to attend the inaugural PanAfrican Archaeological Congress of Prehistory and Related Studies in Nairobi in January 1947. Despite relatively few Africans being in attendance, the delegates were keenly aware of the importance of prehistory and palaeo studies in Africa, and of the need to encourage governments in Africa to develop and systematise studies in prehistory (G.A. & A.J.A. 1947: 170). For many delegates the congress marked the beginning of a new chapter in research and collaboration following the period of stagnation and isolation that had been brought about by the war (G.A. & A.J.A. 1947: 69).

The liberal sentiment of the 1940s however did not translate into an easy transformation and immediate liberation of African countries. For many Africans, it marked the beginning of the liberation struggle and the fight for freedom. The development of archaeological and prehistoric studies was similarly patchy and often slow to respond to the liberation cause (Hall 1984).

The South African archaeologists and palaeoanthropologists who attended the first congress were riding the crest of a wave of discoveries and government support. Studies in archaeology and palaeontology had flourished under the political patronage of General Jan Smuts, who provided an air force plane to fly the delegates to the conference in 1947 (Shepherd 2003: 832). The delegates carried with them an invitation from the South African government to meet in the Union of South Africa in 1951 (G.A. & A.J.A. 1947: 170). This meeting sadly would only take place 67 years later in the Republic of South Africa, because, as Leakey recalled, the then South African government made an 'unacceptable condition that non-whites could not participate' (1974: 203).

In 1948 the National Party came to power in South Africa and its intention to reject pan-Africanism and to segregate society along racial lines was a matter of political record. A raft of legislation aimed at hardening the separation of South Africans along racial lines was now imminent. In 1949 Leakey felt the need to warn colleagues attending the African regional conference in Johannesburg that without transformation South African researchers would not be accepted in other African countries (Dubow 2006: 249). Not long after, the South African government rescinded Smuts's invitation to host the second PanAfrican congress and Smuts's death in 1950 marked the end of political support and the beginning of a period of isolation (Shepherd 2003: 832).

The 14th PanAfrican Archaeological Congress thus in many ways marks a milestone for South African archaeology. While it is not the first conference to have been

held or attended since the advent of democracy, it has provided an occasion to look back, reflect and revisit some of the original goals of the first PanAfrican congress, particularly the need to collapse or transcend borders, lobby governments, increase collaboration and encourage a comparative framework for an African archaeology. These themes certainly provided the impetus for the topic of the conference: African Archaeology Without Frontiers.

However, despite sharing some goals with the first congress, the nature and scope of archaeology is significantly different today. In 1947 the focus was almost exclusively on hominins and the earlier Stone Age and since then there has been a proliferation of fields, sub-fields, methodologies and theoretical approaches. New generations of Africanists now study the archaeology of the liberation struggle and routinely question western models of conservation and heritage. Most fields have undergone major theoretical introspection and efforts have been made to make practices public and transparent. Ways of thinking about the African past have changed and the boundaries and frontiers are evolving and moving in new and interesting ways. This collection of papers captures a small portion of the extraordinary range of topics and the geographical spread of current research. The chapters have been arranged according to region rather than by theme, but here we briefly highlight some of the ideas common to each.

The opening contributions by keynote speakers Chapurukha Kusimba and Akin Ogundiran explore the theme of archaeology without frontiers. Their addresses approach the topic from different perspectives, and thoroughly explore the social and political factors that presently innovate or constrain the discipline. The authors highlight the new networks that have formed at a regional and global level and motivate for further institutional change to bring about a truly pan-African archaeology. They encourage practising archaeologists to interrogate methodological boundaries, particularly those that continue to invoke a subtext of European prejudice and superiority, and to create cross-disciplinary networks to produce more critical and productive ways of thinking about the past. However, they raise some red flags. They caution that global forces are creating new and different boundaries, inequalities and a resurgence of nationalisms. These neo-liberal and nationalist pressures may place constraints and temptations in the way of aspirant archaeologists. Stereotypes and job insecurity will deter students from studying archaeology and others might never attain an opportunity as universities grow increasingly unaffordable.

The theme of working across disciplines and creating opportunity for comparative research within Africa is common to many of the papers in this volume. The chapter by Matthew Davies, Caleb Adebayo Folorunso, Timothy Kipkeu Kipruto, Freda Nkirote M'Mbogori, Henrietta L. Moore, Emuobosa Akpo Orijemie and Alex Schoeman presents a compelling argument for academic networking. The authors have a cross-disciplinary focus and their work is carried out in three African countries

by researchers on different continents. The research points to the value of comparative research as well as the benefits of resource sharing and capacity building.

The papers by Narcisse Santores Tchandeu and Dirk Seidensticker provide an opportunity for comparative studies by adding to our knowledge about rock art and its presence at particular sites and areas in Cameroon and central Africa respectively. At an intimate scale these studies refine regional networks and produce a nuanced understanding of local change. Adrianne Daggett, Marilee Wood and Laure Dussubieux offer fresh insight into the early Indian Ocean trade network. They focus on one node in a much broader system of trade through a study of beads excavated at Thabadimasego in Botswana. Their study, which is also cross-disciplinary in essence, foregrounds the interconnected nature of regions within southern Africa during the tenth century and offers insight into the mechanisms of trade and exchange politics.

Festo W. Gabriel through his study of the Makonde community in Tanzania demonstrates the need to contextualise and historicise heritage practices and resources. Heritage, often driven by tourism and marketing agendas, tends to ignore the complex nature of cultural enactments and traditional performances and the social role that these play at the level of the community. Similarly, Kate Smuts and Nic Wiltshire's research into the use of digital platforms for heritage management across South Africa presents the many challenges faced by conservation authorities, particularly when trying to encourage and enable heritage management at the local, regional and national levels.

Philip de Barros and Gabriella Lucidi highlight the value of ethnoarchaeology and work closely with community members to document evidence of specialist activities. Through their detailed study of bloom crushing mortar sites in the Bassar region of Togo, they provide new insights into the intricacies of iron working and draw attention to the similarities between these and other grinding sites and to the potential for misidentification and misinterpretation of these sites.

Elinaza Mjema's study of Zanjian-period settlements in Tanzania drives home the point that old divisions and assumptions need to be questioned and challenged. Her study of material culture from pre- and post-Swahili contexts shows continuity in certain material forms. From this she argues that the Zanjian settlements were not simply replaced by Swahili culture but that the people from these earlier settlements contributed to the social transformation. Tim Forssman likewise questions the hard boundaries created between forgers and farmers in the northern part of South Africa, and argues for interaction and assimilation rather than the sudden abandonment of a forager way of life.

As a whole, this collection of diverse papers from a historic congress illustrates the range of research in Africa as well as the challenges facing archaeologists and heritage practitioners who work on the continent.

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Keynote Address 1

Imagining an African Archaeology Without Frontiers

Chapurukha M. Kusimba

It is with humility that I address the 14th Congress of the PanAfrican Archaeological Association for Prehistory and Related Studies and the 22nd biennial meeting of the Society of Africanist Archaeologists. I am honoured to be the first Kenyan to address this congress 63 years after the scheduled congress was withdrawn. I wish to thank Professor Karim Sadr for inviting me to address this august group. I doubt that I can pretend to walk in the footsteps of the fathers who founded the congress 66 years ago. What I can proudly assert is that the purpose of that congress was to create an African archaeology without frontiers. Indeed, throughout much of its history, the African continent was a frontier-less entity. People as well as its bounty of life forms moved freely across this beautiful, diverse landscape. They still do today except under quite different conditions and circumstances. Professor Sadr asked me to speak to the theme of an African past and future that is not bound by frontiers, real or imagined, that divide archaeologists and diminish the impact of the continent's contributions to global history.

The theme of the 2014 joint meeting, African Archaeology Without Frontiers, challenges us to transcend national, linguistic, disciplinary and epochal boundaries that separate archaeology's practitioners in Africa. Often, archaeologists work on what are essentially similar research questions, be they focused on technological, ecological, economic or even political themes. Often, these themes mirror the universal questions that are aimed at identifying global patterns. African archaeology has moved forward from its early days as a peripheral sub-discipline of European prehistory to being a diverse field at the centre of global archaeology. Today, practitioners of African archaeology are drawn from all corners of the world. There are research and teaching programmes involving Africa in archaeology departments all over the world. The diversity of practitioners cuts across gender, class, ethnic and national identities.

This is an exciting time to be an archaeologist working in Africa precisely because this may well be the only continent where archaeology in all its dimensions – from

hominid evolution to protohistory – can be studied. Furthermore, there are few restrictions on who can conduct research in Africa and on what topic. In a world where everything was equal, Africa would be the best place in which to study to the fullest the human career in all its diversity.

As Africanists, we are among the most fortunate in that this may be the only place left where the practice of archaeology can still be carried out as it was intended. That window and opportunity might be closing quickly, but we have an opportunity to dictate the manner in which we can keep it open longer.

Scholars of globalisation today describe the paradox of our contemporary world. On the one hand, our contemporary reality is seeing the breaking down of boundaries of time, space, culture and difference at a pace that is quite dizzying. As mobile networks stretch and bend communication, contact becomes possible at nearly every point in time and space, enabling global economic integration and unprecedented levels of migration and trade.

Discourses and social movements debate human rights and the social contract at a global level. On the other hand, these centripetal effects are opposed to the countervailing process – that of the new and existing boundaries that are being built up and that seem stronger than ever. The centrifugal effects include the creation of greater inequalities of wealth and access; the demand by many ethnic communities for autonomy or national identity; the resistance to global integration or to ideologies thought to be or associated with the west that sometimes lead to violence or terrorism; the weakening of the power of states and fissioning of communities and the resistance or subversion of national boundaries. In my keynote lecture today I want to speak to the influence of these countervailing trends of the coming together and the coming apart – these contradictory effects of globalisation – and how they affect African archaeology as we practise it today.

I want to focus on three topics. First is the boundaries that have been broken down for archaeology in Africa. Second, I want to remind us of the boundaries that still remain, and that in some cases have become even firmer than ever before. Finally, I want to propose some ways in which our practice of archaeology can work towards a discipline that is truly without boundaries.

On breaking down boundaries

The past 30 years have been a period of tremendous growth for African archaeology. The number of grants, research funds and media available for publishing research and results has burgeoned.

African archaeology has much to contribute to global research questions such as climate change, technological innovation, migration, domestication, trade, conflict and warfare and ethnic identity formation. Rich ethnographic examples and oral

traditions can be directly connected to the persistence of cultural practices. These practices provide archaeologists with numerous opportunities to study the past as part of the lived present. Furthermore, national boundaries have been a recent invention in Africa and have never been particularly firm. Therefore, collaborations among scholars from different countries on research areas that cross political barriers have been easy in Africa and have greatly improved the resource base and opportunities for data sharing and training of future generations of scholars. Collaborations among scholars based in Africa have increased and now it is not unusual for African-born archaeologists to conduct research outside their own nations. African universities are increasingly training advanced students in archaeology through the PhD level. Specialised laboratories for conducting collections-based research are now common from Cairo to Cape Town. Even more promising for the future, large archaeological sites and unexplored regions still have great potential. The story is still largely unwritten in central Africa, the Sahara and many other regions.

On challenges to be overcome

In spite of these improvements, most of us who have been practising archaeologists in Africa over the same period would probably agree that we never fail to encounter the same challenges and frustrations that our predecessors experienced. Boundaries persist and in some cases are more intractable than ever. The public has typically envisioned archaeology as a discipline primarily engaged in the recovery of the earliest examples of long-gone manifestations of primitive humankind's lifeways. Many see archaeologists as largely concerned with the question of origins, for example of domestication, writing, urbanism and so on (Smith *et al*. 2012). This misrepresentation of archaeology and its practitioners as adventurers only concerned with personal glory minimises archaeology's scientific credentials and reduces its impact and relevance to daily concerns of making a living. The persistent image of Africa as an exotic 'dark continent' underscores this distortion of African archaeology.

Funding difficulties and disparities have been with us since the days of A.J.H. Goodwin and Clarence van Riet Lowe. Economic disparities between the west and the rest have been tempered in recent decades, but African economies remain among the world's most struggling. The impoverishment of many African countries continues to disadvantage archaeology. Economic growth, while beneficial, has introduced differences and disparities within African societies. These class differences are compounded by or sometimes clouded by the rhetoric of ethnic and regional interests. Politics has become more divisive than ever in Africa, its governments often more hapless than ever. The final challenge is the political challenge in Africa.

Unfortunately, the loser in this new globalised world of ours is governance. At independence, African governments set ambitious goals for unity, development,

health and education. In the face of neo-liberal reforms, we have rethought the role of the state in Africa and we must admit that in many cases we have reaped a success story widely touted in the media. There has been economic growth and there has been a growing middle class in some of Africa's most successful countries. In the face of neo-liberal reforms, increased trade and entrepreneurialism has by and large improved the fortunes of millions of Africans. The inventiveness and resourcefulness of Africans has been widely celebrated and with good reason. But especially in Africa and in spite of economic growth, governments remain the thorn in our sides. Millions of Africans cannot get simple state services without paying bribes. Governments are underfunded, incompetent or absent. Ethnic and regional tensions beset politics, divide nations and communities, and make the discussion of real political ideologies or practices impossible in many countries. Failed states abound in the Horn and the Sahel, bringing the evil of terrorism into the daily lives of Africans. This raises an obvious point about the state of archaeology today in its African context. Archaeology is overwhelmingly practised by civil servants as a part of the mission of government. Governments oversee research at universities and museums and protect cultural patrimony through the gazetting of monuments and the prevention of illicit excavation and export of protected cultural materials.

Today, most African governments have resources to pay the salaries of archaeology and heritage managers but do not have budgets devoted to research or the cost of the heritage management of sites. Furthermore, the divisions both ethnic and class-based of the new globalised Africa are greater than ever before in countries like my native Kenya. The national patrimony is increasingly seen as the heritage of particular ethnic groups or communities and can be used as a political wedge. For example, when the fabled monuments of Kilwa and Gede are increasingly interpreted as contributions of the Swahili, whose identity as authentic Africans remains in dispute, it is hard to imagine the governments of Kenya and Tanzania generating political will at the national level to preserve these sites. In cases where political ethnicity and religious differences devolve into open warfare, the destruction of heritage sites such as the library at Timbuktu is the next step. The continued sorry state of government in Africa puts archaeology at tremendous peril.

I want to give three examples to make my point. First, this spring I agreed to provide written testimony in court in Kenya on behalf of the National Museums of Kenya, which had lost in a dispute between a landowner and the government of Kenya over ownership of the site of Mtwapa, a coastal town with 800-year-old standing architecture where I have been working since 1986. Our studies showed that the site was first inhabited in 1732 BC, making it one of the oldest continuously inhabited settlements on the East African coast. Because of the site's importance, the National Museums had recommended that the site be gazetted as a national monument (Kusimba *et al*. 2013).

The current owners, who are foreign nationals, filed a suit in court as they wanted to build a hotel on the site. I learned about the outcome of the case when the National Museums had lost the case and appealed. I was invited to provide expert evidence, but it was too little too late and the owners prevailed. Because of poverty and weak governance, developers can often make compelling cases about their ability to bring jobs to areas, to improve livelihoods and to protect archaeological sites better than the beleaguered national institutions charged with protecting the national patrimony.

The second example involves my work at Chicago's Field Museum of Natural History, where I was a curator for 20 years. On four occasions, I was able to identify illicitly exported African antiquities. We contacted national officials at African embassies and received no response regarding the materials being held by US customs. The trove included Nok pieces among others. Only the government of Mali responded and materials were returned. For Nigeria and the Ivory Coast, no response was forthcoming. After six months, the US government was forced to return these items of questionable provenance to the importers.

The third example recollects a surreal experience I had in 2013 at the Field Museum. I received an alarmed email from a colleague who had recently visited our gift shop. This scholar had been deeply involved in the effort to recover trafficked ancestral shrines from the Mijikenda of Kenya, known as *vigango*, that had made their way to North American museums. To her horror, she had discovered one such statue for sale in our gift shop! I immediately ran downstairs and confirmed that the *vigango* was indeed authentic and on sale in my own museum at US$1 000. Flustered and embarrassed, I immediately had the piece removed. But this lesson taught me how difficult the effort to safeguard patrimony can be in a world without boundaries, and with error-prone and imperfect human institutions both inside Africa and out. We must be vigilant and we must strive for more effective communication that begins at home.

On solutions

What solutions can we as practitioners work towards in our daily efforts and practice? To start with, we must become activists in the preservation of the sites we work with. How can we forge an Africa that protects the cultural patrimony of its diverse and pluralistic public? First we must train local scientists, share data and examine topics that unite the public and bring diverse communities together. Avoid the trap of primordial ethnicity and avoid the simplistic connections between archaeological sites and present-day communities. We should speak out on issues that weaken the state and divide our audience: political ethnicity, class-consciousness and class snobbery, ethnic stereotyping, nepotism and corruption. African archaeologists must support each other in the quest for funding, encourage collaboration and share data. They should build bridges among themselves and support each other by contributing to laboratories and

organisations that collaborate and share data. The poorly developed institutions in many African settings are an opportunity to create new partnerships across national boundaries – which are of course of dubious colonial origins in the first place.

Many lions of our field remain as examples to us, such as J. Desmond Clark, Thurston Shaw, Gertrude Caton-Thompson, Richard Leakey, Bassey Andah, Peter Schmidt, Pierre de Maret, Fekri Hassan, Susan McIntosh and Nikolaas van der Merwe. The pioneering efforts of the late J. Desmond Clark, who conducted multi-country African research and shared his research results without boundaries in the training of Africanists many of whom are present here today, need to be emulated as widely as possible. Indeed, many of Clark's own students have continued this effort. Paul Sinclair in a little over two decades has achieved what was once thought of as unachievable. Today, as we congregate here, we can't help noticing that the attention being paid to vitally important topics such as the evolution of social complexity, the origins of urbanism and the interregional networks that made possible the founding and flourishing of states is traceable to our collective commitment to African archaeology's contributions to global history. Sinclair marshalled funding from the Swedish Agency for Research and Economic Cooperation and was able to train scholars all over eastern and southern Africa, with the conviction that it is possible for Africans to lead. The late Professor Bassey Andah, the first African-born PhD in archaeology, embarked on a programme of training African scholars and thanks to his efforts West Africa boasts a large number of home-grown scholars.

I want to mention why I think it is so critical to share information today. Creating databases is the new frontier and many other fields are way ahead on this front. We still see the ability to gain access to a site as a means of career building or as a research achievement in and of itself.

Today's data analysis tools are extremely powerful. Through social network analysis and other tools, we now have the capacity to find patterning in large data sets. We must publish and share our data as routine practice in archaeology. Here, I would like to commend Jeff Fleisher and Stephanie Wynne-Jones, whose efforts at creating and sharing large databases of ceramics from the eastern coast of Africa are worth emulating for the whole continent. Shadreck Chirikure's efforts to develop an analytical lab for studying the history of technology in Africa, centred at the University of Cape Town, will ensure that Nikolaas van der Merwe's pioneering efforts in archaeometry will go forward into the future.

Finally, I want to leave you with some thoughts to consider as we imagine an African archaeology without frontiers. What persistent boundaries do you encounter? What boundaries do you inadvertently build or maintain? How can we pull down boundaries that marginalise our discipline and alienate us from each other? Today, only a handful of African-born scholars work outside Africa. In North America, for

example, only one is employed in an Anthropology department, the traditional home of archaeology; the rest are employed in African and African Studies programmes. Several African scholars have complained of being discouraged by their advisors from considering employment in the west as an option. Within the continent, we are witnessing the creation of independently funded research institutions that have increasingly taken on the responsibilities of national research and heritage institutions. Some of these institutes claim corruption, poor leadership and funding problems as a motive for breaking ranks with state-sponsored institutions. Although these new research organisations offer the promise of new funding, collaborations and connections, they also run the risk of further marginalising state institutions and local scholars and students. A risk in the future is essentially separate and unequal streams of scholarship: one globalised, and one for the civil servants of local and national museums. At the same time, the risks for diminishing accountability and increasing marginalisation of local scholarship increase. African archaeologists must learn to speak with one voice and to support each other, as is done in other regions, for example, among Mayan students. As Africanists, these challenges are curable, but seeking long-term solutions must ultimately rest with everyone being committed to a level playing field.

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Keynote Address 2

A Continental Vision for African Archaeology

Akinwumi Ogundiran

Distinguished guests, colleagues, ladies and gentlemen, I respectfully acknowledge all the previously established protocols. I bring you greetings with *as-salāmu 'alaykum* in Arabic, *sälam* in Amharic, *hujambo* in Swahili, *ẹ kú'kàleẹ̀* in Yoruba, *ndewo* in Igbo and *sawubona* in Zulu. I am grateful to the local organising committee for giving me the honour and privilege to address this second joint conference of the PanAfrican Association for Prehistory and Related Studies (PAA) and the Society for Africanist Archaeologists (SAfA). I dedicate this talk to the founding fathers and mothers of our two associations, and to the younger generation of African and Africanist archaeologists.[1]

I would like to start my brief remarks by sharing with you a story from the vast repertoire of Yoruba mythology. This is the story of Èṣù and two best friends. These two friends were archaeologists. They were in the field one summer digging at adjacent sites when Èṣù, one of the major deities in the Yoruba pantheon, passed by. He walked on the narrow path that divided the sites of the two friends. That fateful day, Èṣù was wearing a very tall hat, blue on one side and red on the other. He exchanged pleasantries with both men. Later in the day, while the two friends were taking a break, they talked about the man with the gorgeous hat. One of the friends referred to him as the red-hat man. The other called him the blue-hat man. Then they stopped to ask each other whether they were talking about the same man. They agreed that indeed it was the same person but they could not agree on the colour of his hat. The two friends argued passionately, each saying he saw and knew the true colour of the hat that Èṣù was wearing. They exchanged unpleasant words as each man professed to know the right answer and demanded to be acknowledged as the victor in the emerging violent discussion. They were on the verge of destroying their long-standing friendship when Èṣù suddenly reappeared. He stopped the quarrel. The friends explained their disagreement. Then, Èṣù showed them the two-sided coloured hat and lectured them on the partiality of perspectives. The lesson of the tale is obvious by now. But I am not yet done with Èṣù.

In the Yoruba worldview, Èṣù rules over the interstices of all networks. He is the master of communications, and he embodies the spiritual principle of connection and juxtaposition of time, space and experience. Èṣù occupies the delicate seams of different worldviews and multiple perspectives. He strives to change convention into innovation and stasis into dynamism (see Aiyejina 2010; Falola 2013).

I have brought up the mythology, metaphysics and metaphors of Èṣù at this auspicious and unlikely occasion – a scientific gathering – in order to introduce a classic African conceptual clarity to the theme of this conference – African Archaeology Without Frontiers. A place beyond or without frontiers could be a space of newness, a Shakespearean 'undiscovered country', or Èṣù's crossroads where tradition collapses, where truth and meaning are negotiable. The theme of this conference agrees with the guiding principle of Èṣù. And, if there is to be a patron deity for archaeology among the 400+ divinities in the Yoruba pantheon, I believe Èṣù is best qualified to serve in this capacity. The predisposition of archaeology to communicate across disciplines and with multiple audiences is not only consistent with the vision of Èṣù; it also makes archaeology the nexus for an emancipatory science and liberal arts education.

Not too long ago, archaeologists in Africa – expatriates and citizens – responded with enthusiasm to the nationalist call to help build postcolonial nations rooted in the prideful memory and history of the precolonial past (Robertshaw 1990; Mitchell & Lane 2013). Our pioneers along with their colleagues in the fields of history and literature saw it as their responsibility to provide intellectual rationale for the multicultural, multi-ethnic or multiracial postcolonial state. Decades have passed. Our task is unfinished just as our nation-states remain a work in progress. However, archaeologists must now respond to the new imperatives of globalisation, cross-border movements, cultural overlaps across national boundaries, and the reality of historical cultural fluidity across the continent. Why must we respond to these reshufflings of experience? Because our fundamental task as scholars of historical science is to capture the experience of time in particular places (Ogundiran 2013). There is another reason: how the present time is experienced and the aspirations we have for the future affect how we view, interpret and interrogate the past.

In preparing for this occasion, I was tempted to pose the question: What archaeology do we need for twenty-first-century Africa? In the spirit of the multidimensionality of Èṣù, my muse for this presentation, I knew that there would be as many answers to this question as the number of archaeologists in this room. Therefore, I thought we could perhaps reach a consensus on the kinds of intellectual imperatives and social practice of African archaeology that should serve as the guiding framework in our journey to reach that place beyond the frontiers, the crossroads where Èṣù resides. I was meditating on this subject when I fell into a trance. I dreamed that Èṣù took me to the top of Mafadi mountain (the highest place in southern Africa). There he showed me this mathematical problem written on a slab: Africa + archaeology multiplied by

x + y + z minus boundaries a + b + c equals cultural history + continental vision multiplied by 55 + n.

I am sure you have memorised the equation. I will need your help because Èṣù asked me in my dream to solve this mathematical problem. He sternly told me that if I did not, he would refuse to take me down the mountain. And, he knows very well that I am afraid of heights and cannot climb down from the peak of Mafadi by myself. I was now filled with anxiety and drenched in sweat. Mathematics is not my strength, but Èṣù comforted me that this was only tenth-grade algebra. I should be able to solve the problem. Then this provocateur disappeared. Left to my own devices, I rolled up my sleeves and decided to first establish the dependent and independent variables in this equation. Then, I generated this hypothesis: a continental praxis of African archaeology plus cultural history should equal these four goals: 1) to meaningfully account for Africa's long and variegated experiences of time, 2) to build bridges across the frontiers of archaeological knowledge as well as scientific and humanistic disciplines, 3) to realign the interests of multiple constituencies into a common cause, and 4) to use archaeology as a critical basis for facilitating a new African consciousness relevant for meaningful living in the twenty-first century and beyond.

Cultural history as anthropological archaeology with history

In the course of making the efforts to solve the mathematical problem, I made a number of discoveries on Mafadi. The first one is that cultural history is the crossroads where all pathways of human experience converge (for relevant perspectives on this, see Hunt 1989; Ortner 1999; Pauketat 2001). Cultural history privileges process-based frameworks and conceptualises culture as socially constructed, experimental, historically constitutive, agent-centred, self-representational (referential) and performative. In its archaeological frame, it is not concerned with the anthropology of the dead but seeks to answer questions about the history of local communities, and the ancestry and genealogy of living cultures, practices and traditions. It is a historical, processualist-approach archaeology that takes what living communities say about their past and how they relate to that past as an integral part of formulating archaeological research questions and research design. For this reason, cultural history is a juxtaposition of oral historical sources, ethnography and archaeological methods/data. Cultural history is not an old-fashioned opponent of anthropological archaeology. It is what makes anthropological archaeology a liberating historical science because it challenges us to explore the fluidity, interpolation and experience of time, space and material in the process of culture making, the creation/re-creation of societies and the self-realisation of individuals and communities (Ogundiran 2011).

I am an interpolation of this fluidity of time, experimental dynamics of materiality and multidimensional spatiality. I grew up in a place where the majority of farmers

still use hoes and cutlasses whose forms date to perhaps AD 300. In my youth, I worked side by side with my father using those tools to cultivate African, American and even Asian crops – yams, millet, black-eyed peas, plantains and corn. I helped my mother grind peppers, tomatoes and onions on grinding stones with prototypes that go far back to 9000 BC (Alabi 2005; Ogundiran 2005). I grew up eating vegetable concoctions cooked in clay bowls, pounded yam made in wooden mortar and pestle and I drew my drinking water from the communal vat permanently located in the corner of our courtyard. The forms of many of these domestic material lives predated me by 3 000 to 1 100 years but the spatial arrangement, visual scape and sonic ambiance of the place where all of these happened in the 1960s through the mid-1970s would have been unrecognisable to those ancestors of many millennia ago. As a postcolonial child of Africa, my experience is not unique. Many African archaeologists can identify with these interpolations of time and space that are the building blocks of my experience. This experience is central to my approach to archaeology, and it influenced my attempt to solve the mathematical problem that Èṣù presented to me.

The cultural historian does not merely investigate the chronological and distributional patterns of the archaeological record. Instead, he or she seeks to account for all aspects of the archaeologies of social action, practices and ideas. If this were not so, the article titled 'In small things remembered: beads, cowries, and cultural translations of the Atlantic experience in Yorubaland' (Ogundiran 2002a) would not have been possible. Cultural history enables us to fulfil the epistemological stance that the present African heritage is a continuity of disruptions and changes that have defined African lives for about 200 000 years. Our renewed efforts at community archaeology and heritage studies can also only be meaningfully realised within the framework of cultural history. To do otherwise is to alienate these communities from their cultural patrimony in the same way many of our African communities have been alienated from their natural resources such as oil, diamonds, gold and land. It is this spirit of cultural history that many of you in this room have used to push back the dominant narratives of chiefdom, complex society, pristine states and urbanism in World Prehistory and World Archaeology textbooks (see McIntosh 1999). And, it is in this spirit that many of us have insisted that historical archaeology cannot and must not be defined in terms of European expansion and documentary sources alone but also in terms of the deep-time historical artefacts of African subjects (Schmidt & Patterson 1995; Reid & Lane 2004; Schmidt 2006). Our discipline has therefore been pushing methodological boundaries far and wide, collapsing the boundaries between prehistory and history (Ogundiran 2013).

What are these spaces and places beyond the frontiers?

During my wanderings on Mafadi, Èṣù reappeared. He must have noticed that I was lost with the mathematical problem that he had asked me to solve. He was in a better

and nurturing mood this time. He asked me to pay attention to the space around me as the likely source of information for solving the equation. He drew my attention to the different roads that lead to the base of the mountain. Some of them are wide and clean, and others are narrow and bushy. Some have signs, and some do not. None of the roads has an endpoint in sight.

African epistemology and ontology

Èṣù pointed out a road that he identified as 'African epistemology and ontology'. He reminded me that the discussion of interdisciplinarity has always been an important dimension in the study of Africa's past (for a recent endeavour, see De Luna *et al*. 2012). He then asked: 'How come we have spilled so much ink on the epistemologies of the cognate disciplines and their relationships with archaeology but we have said comparatively little about the epistemologies and ontologies of the people that form the subject of our studies?' He reminded me that our empirical archaeological data repeatedly demonstrate the cosmopolitan, accumulative and experimental principles of African societies and their cultural production. One of the challenges facing us today, he reminded me, is how to place these African epistemologies and ontologies at the starting point and centre of our theorising and explicating of past African experience and the implications for the global present. This type of challenge is not limited to archaeology. It is a task that confronts virtually all disciplines concerned with knowledge production about Africa. The challenge is exacerbated by the profound impact and legacies of the Enlightenment order of knowledge in Africa and other previously colonised spaces, especially in the global South.

It is good that many of us are aware of and have called attention to this problem (see Lane 2011; Mire 2011; Ogundiran 2012; Giblin 2013). Likewise, various national governments and international institutions as well as academic journals (for example, *Indilinga: African Journal of Indigenous Knowledge Systems*) are developing policies and intellectual frameworks to recognise and make use of Africa's indigenous knowledge as an integral part of the global and universal order of knowledge (for example, IKS Workshop Declaration 2004; World Bank 2004; Bates *et al*. 2009). The emerging perspective from these efforts is that African ways of being and knowing over the past several millennia privilege dynamism over dogma, and a collage of practices over cultural purity. Time and time again, these collages of African practices have confounded many of our attempts to make sense of African innovations through the millennia. Don't get me wrong. I recognise that we have been studying the symbols, meanings and hermeneutics in the archaeology of African experiences and practices (such as MacEachern 1994; Insoll 2009).

However, there is a vast ground to cover in using Africa's deep-time philosophical principles to interrogate the meaningfulness of our archaeological data. This would involve going beyond the use of ethnoarchaeological methods that only collect data

on material practices and oral history (see Lane 2011; Mire 2011; Giblin 2013). It is also important to listen carefully to the transcripts of experience in multiple spheres of African knowledge systems (such as Ogundiran 2014), especially those dealing with some of the hot topics in archaeology: cultural production (tradition), settlement formation (for example, urbanism), technology, trade and exchange, rituals, socio-political formation, power, authority, identity, materiality and natural resource management. To make our interpretations compatible with the historical sensibilities of our subjects, we must understand their conception of time, space, person and community. Roderick McIntosh's (2000) exploratory work on the Mande weather machine offers a good model to follow in our efforts to reach this place beyond the frontiers – where the deep-time African philosophical principles are used to explain human experiences of time and place as well as the causative factors of cultural processes that are the substance of our studies. The facticity of African epistemologies and ontologies in terms of their accumulative and experimental dimensions would, for example, need to inform our debates and interpretations on the beginnings and mosaic of iron technology in Africa (see Killick 2004; Holl 2009). And, our interests in the beginnings of food production in Africa would need to shift from the end product – domestication – and instead focus on the processes of ecological management so that we can capture the true mosaic of strategies that undergirded food production in Africa's fragile landscape for many millennia.

And the recent surge in genetic studies in archaeo-zoology and archaeo-botany holds promise to investigate not only animal and plant domestication and human–environment relationships but also human-to-human interactions across short and long distances (see Gifford-Gonzalez 2013, and other papers in *African Archaeological Review* 30). The conjoining of new opportunities of genetic studies with the materiality and metaphysics of human–animal and human–plant relations is also one of those places beyond the frontiers that awaits our exploration. To reach this Promised Land, we must be guided by the sensibility that it is in these plant and animal lives that we have been realising our own humanity.

Archaeology of consciousness and 'useable' or socially relevant archaeology

I looked eastward from this crossroad mountaintop and what I saw was this beautiful and seductive view of a road with many names. Some people call it Useable Archaeology Avenue and others name it Socially Relevant Archaeology Road. In response to multiple constituencies, African governments and institutions, funding agencies in the west and the local populace among whom we work, we are confronted by the need to generate products that have relevance for problem solving in contemporary Africa and in the global world (Davies 2012). This road looks familiar. It seems to be the expanded version of a narrow path first created about 30 years ago. You will recall that

the structural adjustment programmes imposed on almost all developing countries in the 1980s by the global North, the World Bank and the International Monetary Fund resulted in hyper-inflation in the face of stagnation of wages and scarcity of foreign exchange in Africa. This also translated in many African countries into the idea that archaeologists should be concerned with using the knowledge of the past to find solutions to the problems of underdevelopment and material poverty (for example, see Andah 1985, 1990). The recent efforts, however, emphasise how archaeological methods and data can help recover the past and present knowledge systems in Africa for solving contemporary problems about the environment, farming practices and even heritage management. An example of this type of useable past archaeology that moves beyond documenting, protecting or managing an archaeological site is the African Farming Network led by Matthew Davies of the University of Cambridge and involving researchers from different disciplines (landscape archaeology, geo-archaeology, bio-archaeology, social anthropology, environmental science) at six universities in the UK, Nigeria, Kenya and South Africa, including the host institution of this conference, the University of the Witwatersrand (Wits). The goal of this network is to share knowledge and develop research capacity concerning the archaeology, history, development and current operation of farming systems across Africa. Its modus operandi is novel in that the network is conceived as a pan-African entity to facilitate reciprocal knowledge sharing across the continent. In a project like this, we are confident that the continental vision for African archaeology is more than a dream. It is a reality. We must be steadfast, though, that heritage management does not become an excuse to abandon archaeological research as has happened in a number of archaeology departments in West Africa. The heritage managers will have nothing to manage if archaeological knowledge is not being renewed through ongoing problem-oriented research programmes.

Trans-border archaeology

A continental vision for African archaeology cannot, however, be realised without breaking down the barriers of our national and ethnolinguistic boundaries in the ways we conceptualise research questions and implement research agendas. During that period of my trance on Mafadi, I saw a jeep speeding up to the base of the hill with a flag bearing the words 'Urban origins in eastern and southern Africa project'. The driver was Paul Sinclair. One project that epitomises the transnational framework of archaeological research in Africa is the Swedish government-funded 'Urban Origins' project, otherwise known as the SAREC (Swedish Agency for Research and Economic Cooperation) archaeological project. Initiated in 1987, this interdisciplinary and multi-country project not only reveals the long-term archaeological history, indigenous origins and environmental contexts of urban centres in eastern and southern

Africa, but also helps to build capacities for archaeological research and education on the continent. The project gave birth to a new generation of archaeologists in eastern and southern Africa, all of whom are now leaders in the discipline from Somalia to Madagascar, Kenya to South Africa (for a few of the publications that originated from or were inspired by the project, see Chami 1994; Pwiti 1996; Radimilahy 1998; Pirikayi 2001; Sinclair *et al*. 2011). The project inspired the creation of the African Archaeology Network programme, with seed funding from the Swedish International Development Cooperation Agency and SAREC.

The African Archaeology Network includes not only eastern and southern Africa but also a number of countries in West Africa (Chami *et al*. 2001). It is a pan-African project that seeks to generate new empirical evidence and develop new models on how ancient African societies exploited resources, developed settlements (especially urban landscapes), adjusted and responded to political and environmental upheavals, and established long-distance trade networks. The African Archaeology Network has allowed African students to be trained in African countries other than their own and has therefore exposed them to new methodologies and archaeological experiences that are different from those of their home countries. The SAREC archaeological initiatives remain a golden and exemplary model in north–south as well as continental cooperation. One can hope that this model of cooperation will be emulated by similar well-funded foreign interventions on the continent as the platform for empowering African archaeologists as true collaborators and for creating transnational cooperation among African institutions.

Comparative framework for trans-border archaeology

Inspired by the intercommunicative vision of Èṣù and his methodic use of comparison as a process for disclosing patterns and generating theory, systematic comparative archaeology is an essential tool in this vision of continental archaeology. This is not new in East African and southern African archaeology. But cross-border and cross-cultural comparative work has eluded West African archaeology for a long time. If you are a West Africanist you might have noticed, as I have, that the ceramic complexes of Ile-Ife and Benin in Nigeria, the middle Niger Valley (Jenne-Jeno) and central Ghana (especially Begho and Banda) share a number of diagnostic decorative elements 'routinely placed on discrete areas of the pots' of similar forms from about AD 1000 to 1500 (Stahl 2001: 125). These similarities include rustications and incrustations on the rims of bowls (Ogundiran 2002b). What could be responsible for these subcontinental similarities? Did these similarities in Jenne-Jeno, Begho and Ile-Ife originate from population movements between the northern rainforest and the Niger Bend and vice versa, and were these linked to trade and other commercial activities at the beginning of the eleventh century? The ongoing studies across western Africa indicate that

these questions can no longer be ignored. Our tendency to demarcate West African archaeology into the current ecological bands – Sahel, savanna and rainforest belts – has militated against comparative and integrative approaches. These demarcations may be relevant for studying environment-determined moments such as food production but certainly not for the archaeology of social actions and practices at multi-scalar levels. We need to come up with new spatial frameworks for African archaeology beyond these ecological schemes.

The recent efforts by Anne Haour and her collaborators on African pottery roulettes are exemplary of the kinds of cross-border collaboration that must lay the foundation for effective comparative continental archaeology (Haour *et al*. 2010). Building on the work of Olivier Gosselain, the project has sought to find answers to a problem: How to develop systematic classification parameters for roulette decorations as the basis for investigating several archaeological questions dealing with identity, technology, economy and social interactions in West Africa?

The need for changes in institutional practices

In order to realise the full promise of this continental vision of African archaeology, our national archaeological administrations would need to bring their policies forward into the twenty-first century. In addition to the African Union (AU), we have five regional economic communities, each focusing on creating free-trade areas, common regional customs unions and a single market. What is striking is that our cultural policy experts at the AU have not been proactive in speaking the pan-African cultural language consistent with their pan-African economic visions.

If a single currency and a single market are desirable for the well-being of the people in each of these regions (and I agree they are), then a single archaeological permit that allows multinational archaeological teams to think, study and research across national boundaries must be possible. The cultural department of the AU should be able to issue archaeological permits that cut across two or more economic blocs. The artificiality and porosity of our national boundaries makes it urgent for national administrators of archaeological patrimonies to look beyond the boundaries that constitute the positions they occupy. Our colleagues from the global North have long been attentive to crossing these boundaries despite all the inconveniences and apprehensions that such border crossings tend to generate. This border crossing has produced wholesome approaches to the archaeology of trade, regional interactions, urbanism, ethnicity, iron technology and landscape history across Africa. It is imperative that PAA and the African Archaeological Network collaborate with the scientific communities in their respective regions to explore the establishment of regional laboratories that would advance archaeological research on the continent. Recently, it was announced that Wits University has established Africa's first accelerator mass

spectrometry (AMS) radiocarbon dating lab. Ladies and gentlemen, after this conference, we need to go back to our respective institutions across the continent in order to explore collaborations that would generate support for this new facility.

For this continental collaboration to become a reality, large national cultural institutions such as the National Commission for Museums and Monuments in Nigeria with a total appropriated budget of about US$27 million in fiscal year 2013,[2] must return to their original mandate: to award research grants to university professors and graduate students for archaeological research. We need our heritage management institutions to become agents of positive change, not cogs in the wheel of archaeological progress in Africa. We need them to become advocates for pan-African collaboration through regional blocs and the AU. We need them to provide the infrastructure that would strengthen African archaeologists and institutions to enter into partnership with foreign and continent-based institutions as co-equals for the kinds of trans-border research agendas that we need to do at this time.

At this crossroads, the leadership and members of our two associations – PAA and SAfA – must be ready to raise their voices against these lingering colonial archaeologies that sometimes connive with the 'patronage and corruption' of national governments and bureaucrats to the detriment of the development of local and national archaeologists (Karega-Munene & Schmidt 2010: 326; also see relevant chapters in Schmidt 2009). When the leading archaeologists of those countries raise their voices against unethical practices, it will not do us any good to bury our heads in the sand or to remain in defiant silence against their outcry for justice and mutual respect. Our science is worthless when we are unable to manage basic human relationships in the national spaces where we work. We will have collapsed these boundaries between us and them when we learn to write *with* the local scholars instead of writing *for* them.

Transcontinental archaeology

A continental vision for African archaeology is not for Africa alone. Many of us have built on the pioneering works of Merrick Posnansky (1984, 2009), who led the efforts towards the creation of what we now refer to as African Atlantic archaeology or archaeology of the Black Atlantic. This is a sub-field that allows us to think comparatively across the Atlantic 'pond' on the making of African cultural formations in the modern world from about 1500 into the 1800s. In collaborative publications such as *Archaeology of Atlantic Africa and the African Diaspora* and *Materialities of Ritual in the Black Atlantic* (Ogundiran & Falola 2007; Ogundiran & Saunders 2014), we have succeeded in Africanising diaspora archaeology in the Caribbean, North America and to some extent in South America. Ours has been a rewarding effort in collapsing the

boundaries of cultural history and anthropology and in pursuing a scientific archaeology that locates the analytical framework of cultures, peoples and societies in their proper historical moments and geographies.

The continental, Africa-centred framework has also taken us to a new plane of understanding in East Africa, showing that part of the world as an important focus of ancient transcontinental and regional trade from around 1200 BC even before the formation of the Swahili states (for the latter, see Kusimba 1999; LaViolette 2013). Felix Chami's (1994) work in particular has blurred the mental boundaries between the Nile Valley and the rest of the continent. We now know that Juani Island off the coast of Tanzania was an entrepôt of commerce supplying African ivory and possibly iron to the north and east in exchange for glass beads from Ptolemaic Egypt and pottery from India (Shubart 2002). The discovery of a 600-year-old Chinese coin on the Kenyan island of Manda by Chap Kusimba and his colleagues does more than prove the existence of trade between China and East Africa (Prigg 2013). We now need to move beyond mapping the flow of trade goods to also investigate how Africans shaped these ancient trading networks and the societies they traded with. Similar to what we have done for Black Atlantic archaeology, we need to apply a continental vision of African archaeology to explain the African diaspora cultural formation in the Indian Ocean world.

Conclusion

The theme of this conference references the elasticity of Èṣù in his propensity to widen the path for the people of the world. As Èṣù dealt with me in my dream, this conference points us towards innovative strategies of studying the past, asking us to reflect on the collage and juxtaposition of methodologies as a window to absorbing the experimental moments of cultures, communities and societies in the making. We are being challenged to explore new grounds of collaboration, networks and connections in Africa's cultural history. In order to go beyond the frontiers, we must be ready for some chaos. But this chaos, consistent with the spirit of Èṣù, is 'the creative wellspring from which beauty and delight flow, where passions arise' (Iles 2000: 17) and new solutions are brought forth. In this continental vision for African archaeology and those frontiers beyond the frontiers, cultural history beckons us to write humanistic archaeological science stories that balance imagination with facts, myths with history and experiment with experience.

At this point I woke up from my dream. It had been a good dream. Wide awake, I realised that we need not look too far for this place beyond the frontier. You and I: we are the crossroads of time, space and material. We are the moment, the subject, the agent and the place beyond the frontiers.

Notes

[1] This essay is the updated version of the keynote address presented at the joint 14th PanAfrican Association for Prehistory and Related Studies and 22nd Society for Africanist Archaeologists Conference held at the University of the Witwatersrand (South Africa), 14 to 19 July 2014. I have preserved the oral presentation format of the original version and the timeframe of the occasion it was prepared for. My appreciation goes to Arlen Nydam, Adisa Ogunfolakan, Kola Oseni, Dele Odunbaku and Lea Koonce Ogundiran for cheerfully serving as my sounding boards during the preparation of the essay.

[2] http://www.budgetoffice.gov.ng/2013-budget_details/34.%20Summary_Culture.pdf.

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1 The 'Useable' Archaeology of African Farming Systems

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Abstract

Rural African farming has often been viewed as ephemeral, shifting cultivation with low output and high unreliability. At the same time, it is often understood as static and relatively unchanged for centuries. More recent historical and archaeological studies of African 'intensive' farming systems have challenged this narrative, yet detailed analyses of such systems and the potential to draw 'lessons' from them for the future remain limited and restricted to relatively few locations. This paper presents an overview of a new research network designed to share and generate insights into African farming systems across the continent. The network links projects in Kenya (Marakwet), Nigeria (Tiv) and South Africa (Bokoni) in an attempt to develop comparative and pan-African approaches, as well as build unique research capacity, experience, approaches and knowledge in Africa and for Africa. In the paper we introduce each of the partner projects and the specific interdisciplinary and locally engaged approaches under development. We highlight some of the main theoretical and methodological issues addressed by the network, including diachronic approaches to physical geography (soils, water, vegetation), demography (population densities, settlement patterns), farming practice (crops and crop regimes, fallowing, fertility), regional exchange (reciprocity, market exchange, related pastoral systems), broad cultural changes (the nation/region, governance, religion), land tenure (kinship and inheritance, land law), landscape (mapping, perception, temporality), challenges of integrating science and humanities disciplines (social anthropology, landscape archaeology, geo-archaeology, archaeo-botany, paleo-ecology) and local community engagement (public anthropology/archaeology, indigenous knowledge).

Résumé

L'agriculture rurale africaine a souvent été considérée comme éphémère, culture itinérante avec une faible production et un manque de fiabilité. En même temps, elle est souvent comprise comme statique et relativement

inchangée pendant des siècles. Les plus récentes études historiques et archéologiques des systèmes agricoles intensifs africains ont contesté ce récit, mais des analyses détaillées de ces systèmes et la possibilité d'en tirer des « leçons » pour l'avenir restent peu développées et relativement limitées à quelques endroits. Cet article présente une synthèse des travaux issus d'un nouveau réseau de recherche visant à partager et générer des connaissances sur les systèmes agricoles africains à travers tout le continent. Le réseau relie les projets au Kenya (Marakwet), au Nigeria (Tiv) et en Afrique du Sud (Bokoni) dans une tentative de développer des approches panafricaines comparatives, ainsi que de renforcer les capacités de recherche, l'expérience, les connaissances et approches en Afrique et pour l'Afrique. Dans cet article, nous présentons chacun des partenaires du projet ainsi que les approches interdisciplinaires locales en cours de développement. Nous soulignons quelques-unes des principales questions théoriques et méthodologiques abordées par le réseau, notamment les approches diachroniques de la géographie physique (sols, eau, végétation), la démographie (densité de population, les modes d'hébergement), la pratique de l'agriculture (cultures et régimes agricoles, la mise en jachère, la fertilité), les échanges régionaux (réciprocité, échange sur le marché lié à des systèmes pastoraux), les grands changements culturels (la nation/région, la gouvernance, la religion), le régime foncier (de parenté et d'héritage, le droit de la terre), le paysage (cartographie, perception, temporalité), les défis de l'intégration de la science et des disciplines humaines (anthropologie sociale, archéologie du paysage, géo-archéologie, archéo-botanique, paléoécologie) et l'engagement de la communauté locale (anthropologie publique/archéologie, connaissance indigène).

Introduction

Most archaeological research into African farming has tended to focus on origins, domestication and spread (see Lane 2004; Casey 2005; Neumann 2005; Manning *et al*. 2011), with comparably less emphasis on recent developments, diversification, specialisation and intensification (although see Widgren & Sutton 2004 for an exception). Diverse bodies of research are, however, demonstrating how Africa's present-day environments are the products of deep human engagements with nature (such as Johnson & Anderson 1988; Leach & Mearns 1996), and how these complex, recursive human–environment histories must be understood if we are to effectively manage the present and plan for the future (see Lane 2011; Davies 2012; Marchant & Lane 2013; Stump 2013). This process involves understanding the ongoing environmental trends that extend across the pre- to the postcolonial (Davies 2012, 2013: 21–22), alongside deeper understandings of indigenous knowledges and technologies (Lane 2011; Stump 2006, 2013; Davies *et al*. 2014a, b). The process also involves understanding and critiquing the ways in which present-day environmental planners utilise inaccurate pseudo-historical narratives to justify modern development interventions, support colonial land management practices (Lane 2010; Stump 2010) and impose forms of exclusionary conservation (Brockington 2002). Interdisciplinary archaeology can

and should play a leading role in this process in both Africa and globally (Davies & M'Mbogori 2013; Stump 2013), while African case studies and approaches have the potential to take a leading role in the increasingly significant global fields of historical ecology (see Balée 2006) and resilience theory (see Redman 2005).

This desire to develop such 'useable' (Davies 2012) and 'indigenous' (Lane 2011) archaeologies of historic African farming systems inspired us to form the African Farming Network in early 2013 (see www.farminginafrica.wordpress.com). The network aims to explore comparative approaches to recent African farming systems across the continent by sharing knowledge and approaches and developing common research aims, questions and methods across three partner projects in Kenya (Marakwet), Nigeria (Tiv) and South Africa (Bokoni). Despite the seemingly divergent ecological and agricultural nature of each partner project, we emphasise the common issues and challenges faced across Africa, such as poor local research knowledge and funding, legacies of colonial and postcolonial environment/land policy, low or unreliable agricultural output and land alienation. With variation, the partner projects share a loose common timeframe spanning the last 500 years, as well as certain common cultivars (sorghum [*Sorghum bicolor*], pearl millet [*Pennisetum glaucum*] and maize [*Zea mays*]) and similar land management challenges (water management, soil management, agro-pastoral management). The network further highlights the benefits to be gained by engaging in a pan-African dialogue bringing together established and emerging scholars from different backgrounds and research environments across Africa's internal frontiers (especially the west/east/south divide) and across temporal divisions (past vs present; archaeology vs anthropology) to rethink existing research aims and goals, develop comparative approaches and generate new interdisciplinary ideas and capacities. The network consequently links scholars with backgrounds in social anthropology, cultural heritage, ethnoarchaeology, landscape archaeology, geo-archaeology, archaeo-botany and palynology from six institutions in four countries including the University of Ibadan in Nigeria, the National Museums of Kenya and the British Institute in Eastern Africa in Kenya, the University of the Witwatersrand in South Africa and the universities of Cambridge and University College London in the UK (further information on the network members can be found via the network website). The network has operated through practical field workshops, with four workshops in Marakwet, Kenya; Bokoni, South Africa; Tiv, Nigeria; and Cambridge, UK, already completed. We expect the network to develop beyond its initial three-year cycle into a formal pan-African research and training programme.

In this paper we briefly introduce each of the three partner projects and summarise their research goals and results to date. We then outline how the African Farming Network has and will contribute to each project and what comparative generalisations

are beginning to emerge. Finally, we outline our plans for the future of the network including programmes of research, capacity building and training. Overall, this paper attempts to set an agenda for future interdisciplinary studies of recent African farming systems.

Partner projects

The African Farming Network has explicitly developed as a dialogue between Africa's diverse regions and ecologies by linking projects in East, West and South Africa. Each partner project aims to explore the history of a precolonial agricultural system over approximately the last 500 years and into the twentieth century, linking deeper-time archaeological and historic data to contemporary issues of land management. Despite great differences in ecology, climate and culture history, each partner project is linked by its commitment to a diachronic approach to Africa's recent past and present, and by the desire to better understand the complex interconnections of human social and cultural phenomena with ecological and biophysical processes. Each project explores temporal and spatial patterns of human settlement, demography, political economy, consumption, kinship, labour mobilisation, gender, exchange and land tenure, in conjunction with questions of soil fertility and conservation, vegetation patterns, crop and animal ecology, water management and climate. Consequently, each project aims to apply a range of anthropological, historical and archaeological techniques including oral historical interviews, participant observation, archaeological survey and GIS-based mapping, standard excavation, geo-archaeology (soil chemistry, micro-morphology), paleo-ecology (climatic records and especially pollen), archaeo-botany (crop recovery, experimental cultivation, crop genetics and phytoliths) and remote sensing (historic aerial and satellite imagery). Each project holds a commitment to local community engagement and the development of new channels of communication, which present research results to the community and relevant stakeholders in effective and useful formats.

Each of the projects has its own history of research in which different approaches have been emphasised and in which differing constraints are apparent. However, we see these differences as opportunities to learn from each other and to apply the full range of approaches across each project. In Marakwet, research has largely been ethnographic and ethnohistorical with a major component of landscape mapping. In Bokoni, the research is focused to a greater degree on archaeology, because cultural continuity into the twentieth century is challenged by the disruptions of nineteenth-century conflict and colonial land alienation. Nevertheless, knowledge of precolonial land management at Bokoni has much to contribute to contemporary challenges and the Bokoni research team are beginning to explore these possibilities. In Tiv, previous work has been both archaeological and ethnoarchaeological, spanning the

greatest temporal range and demonstrating cultural continuity over more than the last 500 years. However, here previous research has focused less directly on the technology and practice of agriculture. While these differences of research history might seem challenging, we would argue that they open up space for the respective projects to learn from one another in productive ways. As outlined below, ethnographic insights into the complexities of African farming systems gained from Marakwet and Tiv provide important context for the interpretation of data from Bokoni. Similarly, the archaeological research applied in Bokoni and Tiv has much to contribute to the predominantly ethnographic approach at Marakwet. Ethnographic work on soils and crops at Marakwet complements archaeological work on soils and phytoliths in Bokoni, and both offer techniques and methods transferable to Tiv. This list of shared insights and developing complementary methods could be extended considerably and is explored in detail in the discussion below. We begin, however, by introducing each project in turn.

Marakwet, Kenya

The Marakwet number around 300 000 people (KNBS 2009) and inhabit the low-lying central and western portion of the semi-arid Kerio Valley, the adjacent Elgeyo Escarpment and, increasingly, the wetter highlands of the eastern Cherangany Hills of north-west Kenya (figure 1.1). Our current research primarily concerns the Kerio Valley and Elgeyo Escarpment region comprising a 40 km north-south stretch of the valley from Arror in the south to Chesegon in the north (Kipkorir 1973; Kipkorir, *et al*. 1983; Moore 1986; Dietz *et al*. 1987). The underlying geology is of the basaltic crystalline basement complex and soils tend to be moderately acidic with low nitrogen content but moderately well suited to agriculture (Dietz *et al*. 1987: 10–16; French 2014). Rainfall in the valley is around 900–950 mm per annum but with considerable variation (Dietz *et al*. 1987: 16–22).

Settlement tends to concentrate on the escarpment in the west and at small centres joining the road at the foot of the escarpment. A number of seasonal and perennial streams dissect the hillside into hill-spurs on which people build their homes, and provide water for both domestic use and irrigation. High on the escarpment small dams are constructed to take water from these streams which are then contoured in channels (locally known as 'furrows') through the habitation areas and down onto the fertile alluvial and colluvial fans at the foot of the escarpment. Here networks of irrigation and complex field systems extend across the valley floor to the Kerio River where a wide range of crops are grown including maize, finger millet, sorghum, cassava, beans, yams and various fruit and vegetables.

The Marakwet are well known for their ethnography and history (Kipkorir 1973, 2010) as well as more detailed studies of domestic space, gender, daily practice and

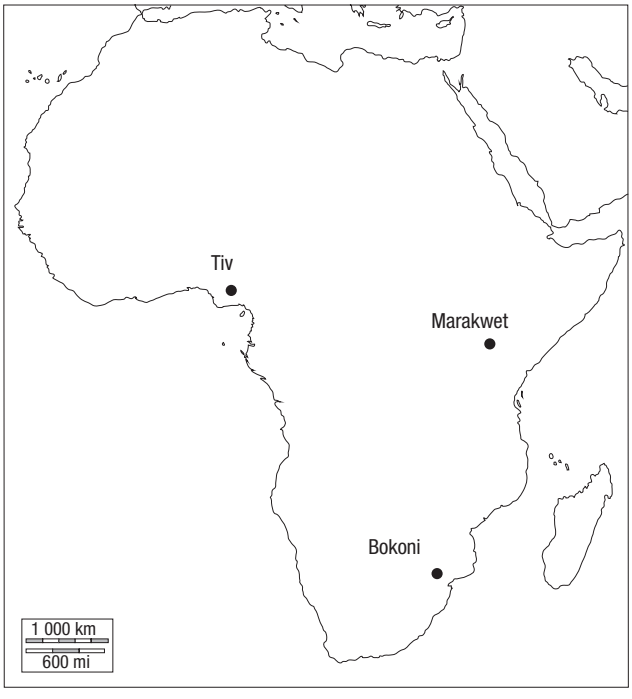

Figure 1.1 Location of the African Farming Network partner projects. Source: M. Davies

modernity (Moore 1986, 2011). They have attracted attention in development and agronomic circles in relation to their intensive irrigation-based agricultural system (Soper 1983; Ssennyonga 1983; Dietz *et al*. 1987; Adams *et al*. 1997; Östberg 2004, 2014; Watson 2004), which has occasionally been upheld as a possible model for sustainable agricultural development both locally (Kipkorir *et al*. 1983; Adams 1996; Watson *et al*. 1998; Adams & Watson 2003) and generally (Adams & Anderson 1988; Widgren 2000: 255, 2004: 11), as well as an analogy for past farming systems such as Engaruka in northern Tanzania (Sutton 1989: 109, 2004: 119). While large parts of the system were in existence during the late nineteenth century (Thomson 1887) and the oldest evidence for intensive farming in the region likely stems back to around 300 years ago (see below), the longevity and stability of this agricultural system has yet to be explored since no detailed historical or archaeological investigations have been conducted (although see Soper 1983 for an exception). Similarly, studies of the recent history of the farming system, including the history of various external interventions, remain largely piecemeal and/or outdated (such as Barrow 1983; Critchley 1983; Kipkorir 1983; Watson *et al*. 1998).

Our recent work has built on the longstanding anthropological research of Henrietta Moore and has largely focused on the Marakwet landscape, especially the history and layout of the irrigation system and its role in broader agricultural practice (Davies *et al*. 2014a, b).[1] We have worked with a trained team of local researchers to GPS/GIS-map the extent of the irrigation network, detailing some 91 main irrigation channels totalling more than 315 km in length. The largest channel runs for more than 14 km and descends some 1 400 m from its off-take high on the escarpment to the fields on the valley floor.

Particularly notable has been the expansion of the irrigation system since 1980, with 30 new channels added, alongside various reorganisations (Davies *et al*. 2014a, b). We conducted higher resolution mapping of the secondary and tertiary branches in the Tot-Sibou region in the north of Marakwet. These form an extensive capillary network extending from the main branch and out into the patchwork of fields.

Mapping field boundaries and the collection of data pertaining to the history of more than 200 separate fields (including information of cropping schemes and yields) has demonstrated complex patterns of land access, tenure and management that explicitly reference deeper histories of clans and lineages and historic instances of relatedness and reciprocal obligation. A wide variety of social networks and exchange relationships extend across the landscape linking diverse parts of the Marakwet region, often across ecological zones (especially between the lowlands and highlands). These networks (based on formal friendships known as *tilia* as well as on marriage ties, patrilineal and matrilineal descent and age-set/initiation groups) extend across ethnic and economic boundaries, thus linking the Marakwet to neighbouring Pokot herder groups (Pollard *et al*. forthcoming). We further mapped out and recorded more than 500 instances of historic agricultural interventions – mostly minor repairs in concrete and stone to traditional irrigation structures, but including larger-scale interventions such as the construction of a major irrigation pipeline by the Red Cross in 2012. Our recent detailed mapping of demography and household structures alongside comparable data from the early 1980s (Moore 1986) allows for analysis of changing population dynamics, which can be related to histories of fields and irrigation. Ongoing analysis of historic aerial photography from 1964 alongside recent satellite imagery should allow for further quantification of changes to areas of cultivation, settlement and vegetation (especially highland forest).

Overall, our data present an emerging, finely resolved historical analysis of the Marakwet farming landscape over the last 30 to 40 years, but also speak to deeper timescales and the 'temporalities' inherent in African farming landscape construction. We have argued (Davies *et al*. 2014a, b) that the Marakwet system of farming has a time depth of some 300 years based on oral histories and sequences of generations. This is supported by radiometric dates from both settlement sites and irrigation channels

from neighbouring communities with similar agricultural technology (Davies 2008, 2012). However, this deeper chronology requires further clarification and we plan to explore the dating of historic settlement sites, landscape features (such as irrigation) and geo-archaeological signatures (especially soil profiles), alongside standard archaeological investigations of multiple sites with a deeper antiquity including various Iron Age and Later Stone Age localities. Nevertheless, we argue that at the broadest scale, the Marakwet landscape seems to demonstrate enduring continuity through time with the last 35 years typified by expansions of both population and farming – a trend especially evidenced by the foundations of new irrigation channels.

At higher temporal resolutions our data point to the lived experiences of farming practice and the daily, seasonal and longer-term decisions made by Marakwet farmers, which combine to construct the landscape. Analysis of the Marakwet landscape at Tot-Sibou village in the north of the region reveals not one simple form of farming, but rather four major forms with multiple subtle variations. These include irrigated 'semi-permanent' fields at the foot of the escarpment cultivated by individual households on land held by specific households and lineages. These are contrasted with areas of shifting communal cultivation further downslope on land held communally at the clan level. In these communal fields, the entire clan comes together to select an area for temporary cultivation (for two to three years). This land is then cleared by all males of the clan working together before being parcelled out to individual lineages and then households in equal proportion. While the semi-permanent fields therefore represent a short fallowing system of between one and five years, the communal fields represent a long fallow system of 15 to 20, and both evidence widely different forms and scales of labour mobilisation, organisation and decision making. In addition to these two types of cultivation, many families are able to cultivate along the permanent river banks using forms of flood recession, while other families have small gardens on the escarpment alongside their homes (figure 1.2).

These varying forms of cultivation represent a small selection of the daily activities undertaken by any one individual or household. Choices of where, when and what to cultivate, how to manage labour, how to fulfil kin-based and other obligations, how to participate in local networks of exchange and alliance all impact on what tasks are undertaken, where, when and at what timescales, and they each leave a physical mark on the landscape. Ingold (1993) has referred to this as the taskscape of activities through which the landscape is formed. He further points to the inherent temporality of these activities (and thus of the landscape) which stem from daily routines of waking, working and sleeping, seasonal routines of planting, weeding, irrigating and harvesting, and life cycles of births, initiations, marriages and deaths. Households themselves have cycles of growth and decline as demonstrated by Moore (1986) and so do aspects of the landscape (c.f. Davies 2014) – indeed, physically and cognitively

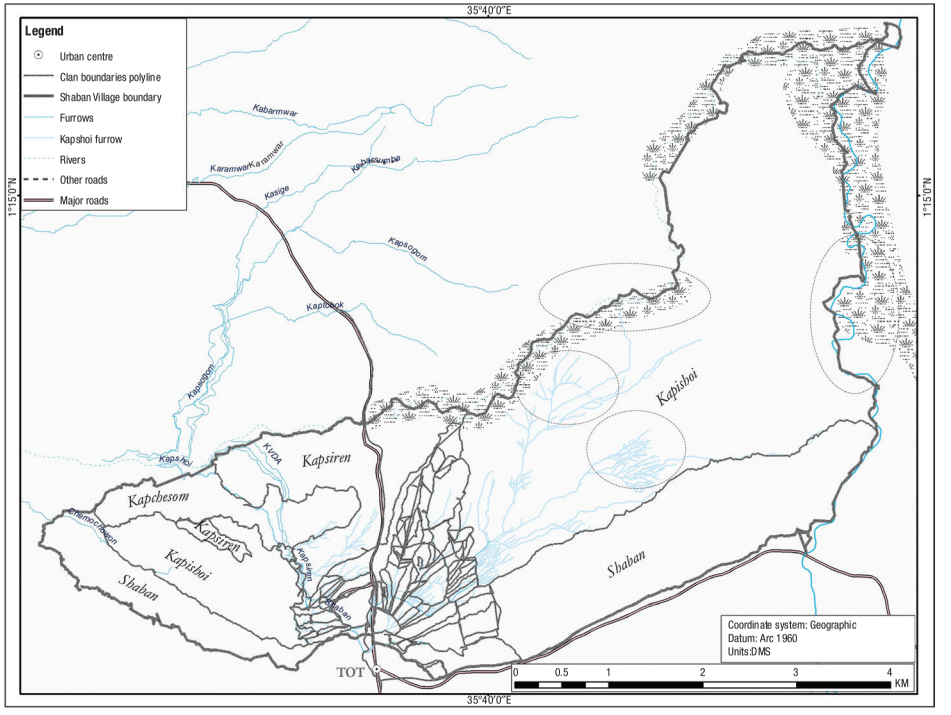

Figure 1.2 Fields and irrigation in Tot-Sibou, northern Marakwet. The map shows main clan boundaries (Shaban, Kapishoi, Kapsiren, Kapchepsom), the irrigation furrow of Kapishoi clan, the semi-permanent fields (grid pattern bottom centre), areas of shifting cultivation (circled right of centre), areas of riverside flood recession cultivation (circled around water courses) and the habitation zone (bottom left). Source: M. Davies

the Marakwet household extends into the landscape and vice versa. Nested household relations (especially those of gender and generation) are themselves nested in and shape the landscape. For example, the capillary networks of irrigation flex and shift across the landscape along with the growth and decline of the households that use them (and which, among other things, relates to balances of gender and generation). Similarly, field boundaries alter, disappear and reappear, and soil fertility and structure change, all in line with these human routines and cycles. Within the landscape, certain features such as the main irrigation channels and houses are constructed consciously in single phases or stages, while other elements such as changes to vegetation, soils and field boundaries occur unconsciously and incrementally through the tasks that form the daily practice of farming.

A major aim of this analysis, shared with the other African Farming Network projects, is to provide insights from the long-term history of the Marakwet landscape to address contemporary landscape challenges. As noted above, we have recorded multiple major agricultural interventions spanning the last century, including a substantial new irrigation project established by the Canadian Red Cross in 2012 (see Davies & Moore 2016 for further details). These previous landscape interventions have largely been unsuccessful because they failed to take into account the broader history of landscape management (soils, fertility, labour, crops, water) and its temporalities as elucidated by our ongoing research. For example, there has been a recurrent assumption since the 1940s that 'traditional' irrigation is ineffective and at risk of immediate degeneration, a theme most recently reiterated by Kipkorir and Kareithi (2013) and an idea that underpins the recent creation of a 'modern' irrigation scheme by the Red Cross. In contrast, our data demonstrate the longer-term sustainability of Marakwet farming and water management practices and highlight the expansion of irrigation structures through time, especially over the last 35 years. Our data thus challenge the basis on which many external agricultural interventions have been and continue to be made.

While these human, material, temporal and spatial understandings of the Marakwet landscape remain partial and preliminary, we believe that our research trajectory operates, learns from and intersects with the other partner projects at a number of levels. On the one hand we are developing particularistic understandings of the dynamics of the Marakwet landscape and community itself, but at the same time we are attempting to demonstrate the sheer human and ecological complexity of indigenous African farming systems. At this second level, we aim to demonstrate the more general interplay of population, labour, gender, kinship, exchange, soils, water, vegetation, crops, animals, climate and history that must be explored in any study of an indigenous farming community, past or present. Our data are therefore to some extent 'ethnoarchaeological' in their relationship with the Nigerian and South

African projects but not in the way of direct analogy. Rather, our data highlight the possible interplay of different factors and the possible temporal (daily, annual, decadal, centennial), spatial (household, village, landscape), quantitative (population size/density, yields, rainfall) and human (individual, family, lineage, clan, community) ranges within which these interactions may occur.

The Marakwet research has some distance to go; indeed, we are only just beginning to scratch the surface. However, our immediate plans will draw directly on the knowledge and skills of the Bokoni and Tiv projects to focus further on the dating of landscape features and settlement sites, soils (chemistry and micromorphology) and archaeo-botany (crop genetics, phytoliths and ethnobotany), as well as developing more effective means of engaging and communicating with the local community. As will be explored below, in each of these regards the African Farming Network has a strong role to play in shaping, facilitating and sharing necessary research capacity.

Tiv, Nigeria

The Middle Benue Valley of Nigeria, referred to here as Tiv-land, has been the focus of systematic anthropological and archaeological investigations since 1975 by a team of researchers from the University of Ibadan, originally led by the late professor Bassey Andah. The goals of the multidisciplinary investigations were to shed light on the settlement history and settlement patterns, land-use patterns, technological and social developments, and the beginnings of food production and iron working in the area (Folorunso & Ogundele 1993; Folorunso 2005). The project also explored ethnoarchaeological and oral historical perspectives on the cultural characteristics of the populations living in the area today (Folorunso 1992, 1993b, 1998, 2003), including patterns of migrations and the implication of this evidence for understanding the question of the Bantu homeland (see also Andah *et al*. 1981; Andah 1983, 1998). The Tiv are well known ethnographically, being the subject of many studies (see Bohannan & Bohannan 1953; Bohannan 1954).

The Tiv homeland is mostly south of the Benue River in central Nigeria and our renewed study, developed under the African Farming Network, is located in the Katsina-Ala Valley, in the south-eastern part of Tiv-land. The Tiv are the largest ethnic group in Benue state with approximately 5.1 million people (National Population Commission 2006). The climate is tropical, having a wet season from May to October and a dry season from November to April. From December to February a dry north-easterly wind, known as 'harmattan', blows off the Sahara, causing a marked drop in humidity. The vegetation is principally Guinea savanna grassland consisting of tall grasses interspersed with trees of moderate height. The vegetation is thick during the wet season and becomes patchy during the dry season. The soils are generally characteristic of tropical ferruginous

types derived from crystalline rocks with appreciable quantities of ferromagnesium minerals. The area is well watered by rivers and streams that are usually flooded during the rainy season, inundating wide stretches along their banks.

The Tiv are principally subsistence farmers whose staple crops are varieties of yams (*Dioscorea sp.*), bulrush or pearl millet (*Pennisetum glaucum*) and guinea corn or sorghum (*Sorghum bicolor*). The Benue Valley area allows participation in both the grain-based economies to the north and the yam-based economies of the regions to the south. This ecological position permits year-round farming activity. Yams are harvested in July or August and guinea corn ripens in May or June. Yams are the primary and the most prized crop and are planted at the start of the crop-rotation cycle. They form a major part of the Tiv diet and it is not unusual to see yam being pounded in the early morning for breakfast. Sweet potatoes (*Ipomoea batatas)*, cocoyams (*Colocasia esculenta)*, maize (*Zea mays)*, cassava (*Manihot esculenta)* and groundnuts (*Arachis hypogaea*) were probably introduced in the sixteenth century or later (with the possible exception of one sort of cocoyam and one sort of groundnut) and are considered mere substitutes for the main staples; they are planted on lands lying fallow from other crops (Folorunso & Ogundele 1993).

Extensive survey and ethnographic mapping conducted from the 1980s to 1990s revealed that the choice of farmland is determined by its closeness to the compound, yet it must be far enough away (approximately 400 to 500 m) not to be menaced by goats. The compounds (Folorunso 1998) are part and parcel of the farms, surrounded by kitchen gardens where a large proportion of the vegetables are grown, including garden eggs, as well as tobacco and cotton, mostly for local use. A small number of livestock is kept in the compound with occasional sheep, goats and chickens. Most kitchen gardens adjoin orchards where oranges, grapefruit and guava are grown. Immediately beyond the orchards are the farmlands. It can be said that the Tiv live on their farms; however, people in need of additional farming land may move away from their compounds. People usually go to their collateral kinsmen to seek such additional farming land, and they are provided with one or two rooms in the compound of their hosts, which they use while visiting their farms (Folorunso & Ogundele 1993). In general, the Tiv have a complex pattern of settlement through time with homesteads inherited by the eldest son and younger sons establishing satellite settlements radiating away from their childhood home. Pressure on land appears to be increasing as this radial pattern of expansion gradually populates the landscape. However, elucidating the broader historic dynamics of this pattern following models from Marakwet and Bokoni will be undertaken in future research.

The Tiv have a clear gendered division of labour with both men and women clearing the land, but men undertake the hoeing of mounds and ridges and prepare the land for planting, while women undertake planting and weeding (Folorunso & Ogundele

1993; Folorunso 2003). Women harvest yams and other root and vegetable crops, but both sexes perform complementary tasks in the harvesting of grain crops. Both men and women see themselves first and foremost as farmers, and any other craft they practise is carried out in their spare time. Every married woman in Tiv-land has the right to access a farm sufficient to cater for the needs of herself and her dependants. It is obligatory for her husband to provide such a farm and to perform or supervise the heavy work on it. Correlating changing historic patterns of settlement with household structures and thus household labour and land requirements will form a major focus of future research and will complement previously undertaken archaeological research.

Several archaeological sites ranging from the Late Stone Age through the Early Iron Age to the historic period have been identified in the study area (Folorunso 1993a, b, 2005). Excavations at several of these sites (figure 1.3) confirm that populations utilised rock shelters from around the third century BC to the end of the first millennium AD. However, from the fourteenth century, open hilltop settlements dominate the archaeological landscape of Tiv-land. Excavations conducted in two rock shelters at Tse Dura Hill yielded three occupation phases (Folorunso 1993a). The earliest

Figure 1.3 An abandoned Tiv house platform at Ushongo Hill. Photograph: M. Davies

contained stone chopping tools and small quantities of pottery. Following a hiatus, the second occupation phase contained iron slag, 'Neolithic'-type artefacts and pottery with radiocarbon dates suggesting it began around the third century BC and ended towards the end of the first millennium AD. The latest phase was restricted to the top-soil and belongs to the historic period, as it contained clay smoking pipes and pottery (Folorunso 2005: 176). Contemporaneous with these recent rock shelter horizons are hilltop settlements. These are characterised by circular-based houses and granaries resembling present-day Tiv compounds and a number have been mapped and excavated in various parts of the Katsina-Ala Valley. These include key sites such as Ushongo and Tse Dura (Folorunso 1993a, b, 2005; Folorunso & Ogundele 1993). Radiocarbon dates suggest fourteenth and fifteenth centuries for these occupations; however, settlement sites with earlier and contemporary occupation may be located on the lower plains where they may be overprinted by more recent settlement and are consequently yet to be identified.

This previous research has exclusively focused on sites of 'deeper' antiquity with clearly 'archaeological' characteristics and has consequently paid little or no attention to the more recent evolution of the farming traditions of the Tiv, including their field systems and terracing. Six decades of casual observation of Tiv agricultural technology and techniques have shown superficially little variation or change (Bohannan 1954). The crops cultivated and the methods of cultivation certainly reflect an intimate understanding of the environment but Tiv farming traditions have a long history, and changes must have taken place with the adoption of crops introduced from Asia and the New World alongside small-scale innovations and variations. It is this gap in the knowledge of the evolution of the farming traditions of the Tiv that forms the subject for future research in Tiv-land. Building on the existing archaeological and ethnoarchaeological research, we hope to elaborate the changing interplay of social structures and labour with the qualities of land, crops, animals and climate across the recent past and into the present.

Following a successful network meeting in Tiv in January 2015, it is apparent that multiple methods already employed in the Marakwet and Bokoni projects can be usefully applied in Tiv. In particular, oral historical encounters with a range of informants quickly elucidated a range of historic agricultural knowledge concerning changing farming practices, crops and environmental characteristics. The maintenance of soil fertility through time up to the present appears a particularly complex challenge but one not unsusceptible to the types of micro-morphological and chemical soil analysis being applied in Bokoni and Marakwet. Crop histories are complex, with not only a wide range of species apparent but also multiple local varieties, each with detailed historical narratives. Creating botanic collections of these alongside their oral histories would seem to prove especially important. Informants offered considerable detail on

changing settlement patterns over the recent past and suggested means to map, record and explore these historic changes in settlement and population size/structure. The meeting also presented an opportunity to collect samples from riverine soil profiles for palynological and micro-morphological analyses, thus beginning the process of constructing a finely resolved local paleo-ecological sequence.

Following this meeting, the primary objectives will be to establish (a) the earliest crops associated with the Tiv, (b) the timing and introduction of 'new' crops and dynamics associated with these events, (c) the effects of the latter on indigenous farming traditions (layout and quantities of land, labour structures and so on), (d) the uses of plants in symbolisms and linguistic expressions of the people, and (e) the impact of these long-term understandings on the operation and implementation of present-day land use and management, especially contemporary challenges of soil fertility and the increasing scarcity of land. The project will rely on ethnography, environmental archaeology, geo-archaeology and oral traditions to achieve these set objectives, making use of both the theoretical and practical insights and capacities developed through the African Farming Network (see discussion below).

Bokoni, South Africa

The initial focus of the Bokoni project was less anthropological than the Marakwet and Tiv projects because, unlike in Marakwet and Tiv, there is little continuity between the precolonial and present occupants of the region. However, drawing on the Tiv and Marakwet projects, we have started to broaden our research scope since we recognise that there are substantial continuities in the challenges, such as soil and moisture management, faced by farmers in this region. Moreover, our understandings of the dynamics of farming will remain partial if we do not grapple with historical and current land-use patterns. While our understanding of farming in precolonial Bokoni remains tentative, insights gained through our archaeological research have the potential to contribute to current land reform discussions in the region.

In Bokoni, a series of historical and colonial events from the eighteenth century onwards fundamentally transformed the nature of occupation and farming. However, the agricultural remains found at Bokoni evidence a previously intensively cultivated and densely populated landscape, knowledge of which has much to say about contemporary land use, especially under the current situation of land restitution (figure 1.4). Nevertheless, the only avenue into traditional farming in Bokoni is through the physical network of stone walls, terraces, stone-lined paths and stonewalled roads that mark the location of past agricultural communities (Delius & Schoeman 2008; Delius *et al*. 2012). This archaeological footprint stretches for approximately 150 km south to north, from the rolling grasslands of Carolina in the south, to the rugged mountainous mixed bushveld landscape around Orighstad in the north.

Figure 1.4 A stonewalled Bokoni homestead in Mpumalanga, South Africa. Photograph: G. Williams (2011). Courtesy A. Schoeman

The geography and geology of this region is complex. Among others, the Komati, Elands and Crocodile rivers cut through the numerous valleys and hills in the region. The underlying geology (and thus associated surface soils) is dominated by shale, arenite, granite and gabbro. Most of the regional soils are suitable for forestry and grazing or intermediately well suited for contemporary arable agriculture (Coetzee forthcoming). In the southern and central parts of the region, diabase intrusions occur often. The soils associated with the diabase intrusions are generally nutrient-rich clay soils, but due to the rocky terrain associated with diabase, outcrops are not suited to contemporary mechanised large-scale farming, but could prove useful to small-scale labour-intensive farming. Like the geography, rainfall is variable across the region, ranging from 600 to 1 200 mm per annum (Dent *et al*. 1989).

The geology and geography of Bokoni helped to shape the configuration of Bokoni stonewalled settlements, but did not determine it. Many of the choices were social. The Bokoni project strives to better understand the choices that informed the past in this region through combining multiple sources of evidence, including archaeological (such as site distribution, soil chemistry, settlement patterns and terrace construction) and historical data (such as oral traditions about Bokoni and missionary records),

alongside ethnographic inspiration and other techniques drawn from the network partners and elsewhere. This combination of sources allows for deeper insights into the experiences of people who lived at these sites, their indigenous technology and regional distribution. These insights into successful past farming practices have relevance in contemporary South Africa where small-scale farming is often viewed as unproductive and government approaches to land reform tend to favour large-scale mechanised farming (Hall 2009).

The Bokoni sites were previously interpreted as the remains of occupations by historically known African communities (Van Hoepen 1939), in particular the neighbouring Pedi (see Evers 1973, 1975; Marker & Evers 1976; Collett 1979, 1982). In the mid-1990s, Schoeman (1997, 1998) linked these stonewalled settlements to oral traditions about Pedi attacks on the Koni, as recorded by Hunt (1931). Consequently, she suggested that these stonewalled sites were the remains of Koni occupations. This insight facilitated the Bokoni project's search for additional sources on the history of the region. One of the key sources identified was the Master's dissertation of C.W. Prinsloo (1936), who interviewed people living in the region and wrote a brief account of Bokoni history based on the oral traditions he had recorded (Delius & Schoeman 2008). The dissertation contained important information, including that the northern part of the region that today is marked by stone walls and terraced architecture was remembered in the 1930s as the ancestral homeland of Sekoni speakers. Prinsloo's (1936) informants referred to the area as Bokoni.

The large-scale spatial correlation between the oral and archaeological data is present at a more refined scale. Sites are not distributed evenly through the region; clusters occur in the Carolina-Machadodorp area, north of Machadodorp, as well as near Lydenburg (Coetzee forthcoming; Mason 1968; Maggs 2008). These clusters are located in similar areas to the sites referred to as the 'capitals' Moxamatsi, Moxhloxi-Pela and Khutwaneng in the oral traditions recorded by Prinsloo (1936).

The traditions recorded by Prinsloo (1936) facilitated the untangling of the occupation sequence (see Schoeman & Delius 2011; Delius *et al*. 2012), which had previously been treated as largely contemporaneous (Evers 1973, 1975; Marker & Evers 1976; Collett 1979, 1982). Now four phases are recognised. The earliest phase, which predates the eighteeth century, centred on the Komati River valley. Site selection was informed by agricultural concerns, and nutrient-rich diabase soils were favoured (Solomon 2012). The largest site density in Bokoni occurs in this southernmost zone (Coetzee forthcoming), and several sites show substantial amounts of superpositioning, which speaks to the duration of this occupation phase (Schoeman forthcoming). This phase came to an end when the violence in the region increased, leading to the abandonment of Moxamatsi. During the next phase, sites remained located on open rolling hills that were well suited to terrace agriculture. It is likely

that refugia situated in gorges and other defensive locations were established at this time, but they would have been used only when needed. The third phase, dating from the mid-eighteenth to the mid-nineteenth centuries, was characterised by endemic regional conflict. Consequently, refugia became sites of permanent settlement and were transformed into strongholds; open-air sites were largely abandoned. This appears to have been a widespread pattern and important sites in neighbouring polities, such as KoNomtjarhelo in the Ndzundza area, also become fortified strongholds. The final phase in Bokoni history is characterised by dispossession and dispersal, and signalled an end to the distinct Bokoni stonewalled and terraced architecture (Schoeman & Delius 2011; Delius *et al*. 2012).

While violence dominates the historical narratives (see Hunt 1931; Prinsloo 1936; Van Warmelo 1944a, b), the majority of archaeological sites in the region are located on gentle slopes in non-defensive contexts close to streams and rivers. These locations speak to farming-related choices and the development of an agricultural system in which managing land, crops and livestock played a central role. This system is materialised in the dense hillside agricultural terraces, which are intersected with roads that led livestock out of the villages and homesteads to the valleys, presumably to grazing.

The importance of agriculture is also manifest in Southern Phase 1 villages and isolated homesteads that show a strong preference for clay soils. Some of these nutrient-rich clay soils resulted from diabase weathering (Solomon 2012). The magnesium calcium cation ratios of these diabase soils are not ideal for agriculture. However, magnesium leaches out more easily than calcium and consequently the cation ratios on the slopes are suitable for agriculture while the cation ratios in the valleys are not (Delius & Schoeman 2008). Managing these soils to ensure maximum yield for African domesticates would have been an important strategy during the changing climatic conditions in the region over the last 600 years (see Hattingh 2013; Sjöström 2013). Terracing and a range of soil management strategies ensured that these clay soils were suitable for farming African crops (Solomon 2012), which according to preliminary macro- and micro-botanical remains initially included finger millet (*Eleusine coracana)*, pearl millet (*Pennisetum glaucum)* and sorghum (*Sorghum bicolor)* (Collett 1979; Hattingh 2013). In order to better understand how traditional African crops would have responded to the conditions, an experimental cultivation plot was established in southern Bokoni. Here a range of traditional African crops are cultivated. These crops are used to establish a comparative phytolith database. In addition, changes in soil chemistry are monitored annually and results will be presented in future articles.

Systematic archaeological research has been conducted for only the last four years by the Bokoni archaeological research project, but our research has placed Bokoni back on the southern African historical and archaeological agenda. The significance

of Bokoni for contemporary research is twofold. First, the approach to farming in this region is visible and thus creates scope for a new approach to the archaeology of farming and farming communities in South Africa. Second, because Bokoni was 'forgotten' in academic discourse for most of the twentieth century, it has largely remained outside of colonial and apartheid identity categories. This *tabula rasa* has aided the Bokoni research team (such as Delius *et al*. 2012; see also Widgren *et al*. forthcoming) to develop a finer understanding of the formation and character of this precolonial society. Notwithstanding this nuanced approach to farming, landscapes and society advocated by the Bokoni archaeological research project, some scholars have tried to impose colonial and apartheid categories onto the people of Bokoni.

The Bokoni archaeological research project is also trying to shift the focus away from generalised cultural systems to a scale where households become visible. Focusing on the household offers 'a theoretically informed counterweight to the large-scale systems and processes that are frequently invoked by archaeologists to explain social and cultural change' (Pluckhahn 2010: 332). Working at this scale allows us to focus on what households do and this facilitates the development of a humanised reconstruction (Tringham 2001: 6925–6926) of the Bokoni past. Central to our focus on households is the recognition that during the first two phases of the Bokoni sequence, hillside slopes were not reserved for farming, but were also the location of the homesteads. The homesteads were generally surrounded by terracing, and tended to consist of multiple houses around a central livestock enclosure. This homestead configuration is similar to that of most farming communities in southern Africa (see Kuper 1980), and if these spatial similarities reflect social similarities, each house would have been under the control of a woman. Similar to the women in Marakwet and Tiv, these women would have been responsible for running the households, as well as for the day-to-day labour associated with farming. In this context, the embeddedness of the homesteads in the terraces would have assisted women in balancing their household and farming duties.

Our present understanding of the relationship between labour and space will be deepened through further research. The pursuit of this topic in Bokoni will articulate with the collaborative and comparative research by all three projects into the relationship between space, social structure and the management of agricultural labour. This is one of the areas of ongoing comparative research discussed in the next section.

Discussion: comparative research topics and developing capacity

Over the last three years, the African Farming Network has provided the space to share and discuss a wide range of common research interests and methods. Although widely disparate in terms of context and geography, the many intersecting concerns of the partner projects, some already noted above, have been encouraging. In particular,

we would like to highlight five complementary areas in which each project will continue or develop research. We also hope to develop skills and training across these themes and to share these research capacities between the partner projects. We have already had some success in this regard with a number of complementary graduate and postdoctoral research projects under way, supported and informed by the network.[2]

1) *Archaeologies of households, settlement patterns and land use*

   Each of the network projects is grappling with understandings of the physical layout of domestic households/compounds and how these reflect social structure (kinship, descent, marriage), which in turn relates to the availability and management of agricultural labour. In both Marakwet and Tiv, contemporary compounds and direct historical data provide a rich context to explore the material manifestations of social organisation. However, in both projects there is a need to extend this present-day and late twentieth-century data backwards in time through detailed survey, excavation and sampling (of both recently and older abandoned households). Such studies are significant for they help us to better understand present-day demographic trends, carrying capacity, changing relations of gender and generation and local population impacts. The intersection between household compositions and the life cycle of households also helps us to understand the nature of changing settlement patterns and what these mean in terms of fluctuating population sizes and density. In particular, understanding how, why and where people abandon and create new households and over what timescales (annual, decadal, generational) allows us to begin to quantify what the archaeological record actually means in terms of population size and structure. At the same time, understanding the temporal and spatial nature of settlement also impacts on understandings of land use, including the kinds and quantities of land required at any one time and the positioning of those lands vs settlement. This allows us to make predictions as to the nature and extent of land use and human impacts, and to actively test this through targeted surveys, analyses of soil profiles (chemistry and micro-morphology) and vegetation regrowth patterns. In both Marakwet and Tiv, earlier ethnographic work on household compounds and social organisation is being revitalised and combined with wider surveys of recent and historic settlement patterns and land use. This work is informing the 'household' approach at Bokoni, which is grappling with high-resolution habitation sequences and possible geo-archaeological (especially soil chemistry), archaeo-botanical (especially phytoliths) and dating (OSL [optically stimulated luminescence] and TL [thermoluminescence]) methods of understanding spatial behaviour at domestic and landscape scales. These specific technical analyses being developed in Bokoni will be usefully employed in Marakwet and Tiv to extend those sequences backwards in time.

Each of the projects aims at a high chronological resolution reflecting continuous lived experiences (decadal analysis vs centennial) rather than discontinuous chronological 'periods'.

2) *Archaeologies of land and labour*
Closely allied to analysis of households and settlement patterns is understandings of social structure and its role in labour mobilisation and access to land. Again, both Marakwet and Tiv point to the ways in which patterns of descent and marriage condition access to land and the labour available to work land at household and wider social scales. Patterns of descent often condition the size of productive units (as in single household vs communal cultivation by lineages), which in turn shape settlement patterns and pattern of land use. For example, in Marakwet, patrilineal descent and residence creates clustered patterns of related male-headed households with adjacent cultivation plots. However, labour is mobilised in at least two ways with some plots cultivated solely at the household level and others (in different locations and with a different system of fallow) cultivated communally at the lineage level. These different patterns of labour and land use thus also have different temporal and biophysical characteristics with different soil chemistries and micro-structures. Similarly, patterns of marriage condition the size of households (via degrees of polygamy and patterns of patri-/matrilocality) and thus the labour force and quantity of land available/needed. There is a balancing act between having enough people to cultivate land, enough land to support the extended household and enough 'capital' (especially bride wealth, cattle and so on) to marry. However, while this is well understood ethnographically, it has rarely been explored through time, despite the fact that changing household sizes and structures (identified by structures, hearths, grindstones and refuse deposits) have much to say about relative wealth, population density, land pressure and anthropogenic impact. Again, in Marakwet and Tiv, ethnography and ethnohistory provide context, but the archaeological methods developing in Bokoni offer the potential to extend these sequences into deeper time. In Bokoni, the extensive evidence of stone-built households, field walls and terraces offers unique potential to understand changing land–labour relationships, even in the absence of relevant ethnography, and also to relate these deeper-time understandings of land management to present-day land-use conditions.

3) *Archaeologies of soils, plants, animals and water*
Each network project deals with specific issues of soil and water management, which might be recast as indigenous technical and environmental knowledge. The projects evidence sophisticated and innovative forms of soil conservation (terracing, lynchets, stone lines, field boundaries), soil fertility maintenance

(possible manuring, mulching, burning of regrowth), fallowing regimes (with multiple cycles in each system), crop rotations, inter-cropping (cereals, legumes, vegetables) and histories of crop succession (African domesticates, Asian domesticates, American domesticates, cash crops).

Also evident is the inter-management of animals and crops with a range of possibilities, from the complex animal enclosures and cattle roads of the mixed Bokoni system through to the development of specialised separate herding communities (such as the Pokot) around the specialised Marakwet farmers. Each project thus investigates how these different techniques are balanced in specific contexts alongside issues of labour, demography, land quality and climate. Again, the projects demonstrate not only the sophistication of the engineering and technology of precolonial African agricultural systems, but also the range of variation employed across the continent and through time. As sub-fields, we envisage the development of distinct archaeologies on topics such as 'anthropogenic soils', 'anthropogenic vegetation' and 'human–crop relations', with each explored through a range of archaeological, oral historical and ethnographic techniques and taking into account both scientific and humanistic perspectives.

4) *Archaeologies of daily lives, landscapes and time*

The diachronic and household–landscape perspectives applied by each project offer a unique temporal and spatial resolution not normally applied in standard ethnographic and experimental studies of rural farming systems. One key is the mapping out of landscape activities (from daily tasks to more singular events) and features at a range of scales both archaeologically and ethnographically. Thus the projects aim to move beyond the analysis of single 'sites' and toward an understanding of more continuous landscape features such as field boundaries, paths, irrigation channels, vegetation patterns and anthropogenic soils. A second key is the recognition of the temporal scales (daily, annual, life cycle, generation) at which activities are conducted and thus over which the landscape is formed. Understanding these scales provides a more nuanced concept of the palimpsest which is the landscape and how this might be explored archaeologically. Of particular importance is the issue that certain elements of the landscape accrue incrementally, being shaped and altered continuously over time, while others are subject to varying degrees of punctuated change involving single or multiple discrete phases of construction (but also with abandonment, reconstruction and reorganisation at different temporal and spatial scales). Thus we are beginning to realise how necessary it is to not simply refine our periodisation, but to move beyond standard archaeological notions of distinct chronological phases and punctuated change and toward continuous

views of human action with variable cycles or scales, including concepts of social time involving the rhythms of daily life, the life cycle and inter-generational time. Naturally this requires finely resolved systems of dating and each project already employs a range of (ethno) historical sources alongside radiometric techniques, but we will continue to pursue the development and correlation of high-resolution temporal analyses. Marakwet and Tiv provide the ethnographic inspiration for these temporal and spatial analyses but in each case the temporal patterns observed in the recent past need deeper historical context. In Bokoni, the lack of an ethnographic present has driven experimentation with detailed excavation and sampling, and while these techniques are yet to come to full fruition, the expertise already developed bodes well for Bokoni and the partner projects.

5) *Community research and useable pasts*

When working on the history and archaeology of living landscapes we believe that it is necessary to draw on the deep historical understandings of the local community itself. Consequently, each partner project holds a commitment not only to provide feedback to the local community but also to engage the community in the research process and to utilise local understandings and knowledge so as to drive interpretation and project design. In Bokoni this aim is more complex, but the team has begun to engage with communities who now live in the region. Local engagements are well established in Marakwet and are being reignited in Tiv. Complementary to this general aim is the attempt to produce knowledge with contemporary relevance for present-day environmental and agricultural management. As the topics above indicate, the types of economic, social and environmental data under exploration should be of considerable contemporary relevance (see for example Davies 2012). However, the means of presenting and communicating this information in an effective format are still under development. In Marakwet, the employment of a full-time local research team and the establishment of a permanent research centre seem to be positive experiments in community engagement, but time will tell how successful these and other developing techniques (schools education programmes, online resources and so on) will be. Certainly, moving our research engagements (and publications) beyond the archaeological community and into development practice and policy will be one major future challenge. As noted above, in Marakwet, the research is already engaging with an ongoing agricultural development project funded by the Red Cross and is utilising project data to develop a critical understanding of this initiative. In Bokoni, engagement with broader heritage stakeholders is well under way and a heritage tourism project has been piloted. In addition, the team has started to work with small-scale farmers in southern

Bokoni. In Tiv, preliminary data collected in January 2009 suggest that there is considerable contemporary scope for developing archaeologies and oral histories of settlement patterns, population growth, soil fertility and crops with real contemporary relevance.

Conclusions: resource sharing and capacity building

The African Farming Network hopes to contribute to a re-evaluation of precolonial African farming systems by demonstrating their often underestimated complexity and sophistication. Ultimately, we hope that comparison of common themes across the network will allow for an assessment of some of the Africa-wide variations and common solutions in each area while also generating knowledge that will be of use in the management of present-day African landscapes. We hope also to establish effective common methods for the study of these topics applicable across the continent. Key to this endeavour is the establishment of common pools of shared talent and research capacity which may be deployed and utilised by different projects, irrespective of country or region.

The final and perhaps most significant immediate outcome of the African Farming Network thus appears to be the potential for collaboration on issues of scientific analysis and developing opportunities for collaborative training, capacity building and resource sharing. The Bokoni team hopes to share scientific archaeological insights and skills with Kenyan and Nigerian students in areas such as dating, soil science and the analysis of phytoliths, and to build up unique reference botanic collections (Hattingh 2013; Sjöström 2013). Also apparent are opportunities through the UK contingent to develop analyses of African crop genetics and to build on the existing Bokoni expertise in soil science through the addition of micro-morphology. Similarly, the Tiv team has an important skills set in palynological research focused on the relatively recent past, which will deepen insights into environmental context and farming in both Bokoni and Marakwet (Orijemie & Adebisi Sowunmi 2013). Indeed, pollen samples from both Tiv and Marakwet have already been collected for analysis by one of us (Orijemie), with the aim of exploring agriculture-related pollen regimes across Africa. In Marakwet, the extensive use of local researchers to GPS-map the landscape, the integration of landscape and oral historical data, and the establishment of a major project GIS offer replicable field methods and a source of expertise in spatial analysis which can be exported across the network. Finally, the ethnographic components of both Marakwet and Tiv provide well-established testing and training grounds for ethnographic and ethnoarchaeological research and to build contemporary reference collections (of crops and soils, among others), which we hope will be explored by students from each of the respective partner countries.

Ultimately, the African Farming Network remains at an experimental stage, but the insights already generated and the possibilities for future collaborative and pan-African research seem extensive and exciting.

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Notes

[1] Full details on the Marakwet project will be presented in future articles. Unpublished project reports from 2011, 2012 and 2013 can be accessed via the project website: http://marakwetheritage.com/writing/project-reports/.

[2] Davies, three-year Leverhulme postdoc on 'applied agro-archaeology of Eastern African farming systems' (Cambridge); Orijemie, application for two-year Newton International Fellowship postdoc on the long-term history of farming in Tiv (Cambridge); Hattingh, doctoral project on African domesticate phytoliths (Witwatersrand); Lunn-Rockliffe, doctoral project on Marakwet foragers (Oxford); Warren, planned doctoral project on Bokoni ceramics (Witwatersrand); Nongadi, doctoral project on farming in south-east Nigeria (Cambridge); Solomon, Master's project on Bokoni soil chemistry (Witwatersrand); Coetzee, Master's project on the regional distribution of Bokoni sites (Pretoria).

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2 Defining Cultural Heritage among the Makonde of Tanzania

Festo W. Gabriel

Abstract

This paper examines understandings of cultural heritage resources among communities in the Mtwara region of Tanzania, and suggests possible measures for their sustainable conservation. It explores the extent to which local communities are engaged in the conservation of cultural heritage resources, and investigates the levels of awareness and understanding of cultural heritage in the region. In this regard, the paper presents and discusses some of the research findings showing how local Mtwara communities view and understand cultural heritage resources. Community-based methods were used in the process of data collection including interviews, archaeological ethnography and focused group discussion. These revealed both tangible and intangible cultural heritage resources to be in a poor state of conservation. The research suggests this situation stems from a wide range of causes including a lack of awareness of the value of cultural heritage resources, as well as the impact of modern economic establishments. The tangible and intangible cultural heritage resources in Mtwara region are deteriorating at an alarming rate and no measures are being taken to rescue these precious resources.

Résumé

Cet article est un produit d'une recherche menée dans la région de Mtwara de la Tanzanie. Il porte sur la compréhension et la conscience des ressources du patrimoine culturel par les communautés locales de la région de Mtwara et discute quelques résultats de recherche portant sur la signification des ressources du patrimoine culturel selon les communautés locales. Les méthodes communautaires ont été utilisées dans le processus de collecte de données, comprenant entretiens, ethnographie archéologique et discussion avec les groupes cibles. À part les ressources potentielles du patrimoine culturel trouvé à Mtwara, des niveaux inquiétants de conservation ont été constatés en ce qui concerne les deux ressources du patrimoine culturel tangible et intangible. Cette situation découle d'un large éventail de causes, y compris un manque de prise de conscience de la valeur des ressources du patrimoine culturel, ainsi que l'impact des établissements économiques modernes. Les ressources du patrimoine culturel tangible et intangible à Mtwara se détériorent à un rythme alarmant et il n'y a pas de

mesures prises pour sauver ces précieuses ressources. Cet article dévoile la compréhension par les communautés locales des ressources du patrimoine culturel et propose des mesures possibles pour la conservation durable des ressources du patrimoine culturel dans la région de Mtwara.

Introduction

The Mtwara region forms part of the Swahili coast and includes the offshore islands of Comoros, Zanzibar and Pemba as well as the northern parts of Madagascar (Horton 1996; Chami 2005). It borders Lindi region to the north, the Indian Ocean to the east and is separated by the Ruvuma River from Mozambique in the south (figure 2.1). To the west it borders the Ruvuma region. The region occupies 16 729 km^2 or 1.9 % of Tanzania's mainland area of 945 087 km^2 (Tanzania Tourist Board 2012). The majority of the indigenous people of the region are of Bantu origin. The most dominant groups include the Makonde of Newala, Tandahimba, Masasi and Mtwara rural. Other groups are the Makua of Masasi and Mtwara rural, and the Yao who also live in Masasi (Tanzania Tourist Board 2012). The Mozambican Makonde groups inhabit the northern part of Mozambique in the Cabo Delgado province. Their core area is the Plano Alto de Mueda, the high plateau rising to about 600 m above sea level from the southern bank of River Ruvuma. On the northern bank, in Tanzania, the Tanzanian Makonde have their traditional homeland on a similar high plateau in Mtwara, the Makonde Plateau (Saetersdal 1999). It rises from the northern bank of the river and is traditionally viewed as the core area of the Tanzanian Makonde groups. However, the area is shared with other ethnic groups: the Makua, Mwera, Yao, Matambwe and Swahili communities on the coast.

The political as well as the cultural history of the Makonde community is poorly documented and little is disseminated. Like their once hostile Makua neighbours, they were portrayed throughout the eighteenth and nineteenth centuries as raiders and looters of the new beleaguered colonial coastal settlement (Alpers 1975). The Portuguese established effective occupation in northern Mozambique within a decade of the Berlin Conference, but complete control was only imposed subsequent to an attempted German invasion in 1917, when the boundary between German East Africa and Mozambique was formally drawn. The Makonde suffered severely from European incursions into their territory. Most of the 50 000 Mozambicans who died while serving as porters during World War 1 were Makonde. A flu epidemic in 1919 exacerbated the situation, creating what the colonialists perceived to be a labour shortage in northern Mozambique (Vail & White 1980: 211). Increased exactions by the Portuguese administration were never passively endured by the Makonde, who strenuously resisted taxation, forced labour and forced growing of cotton through sabotage, arson,

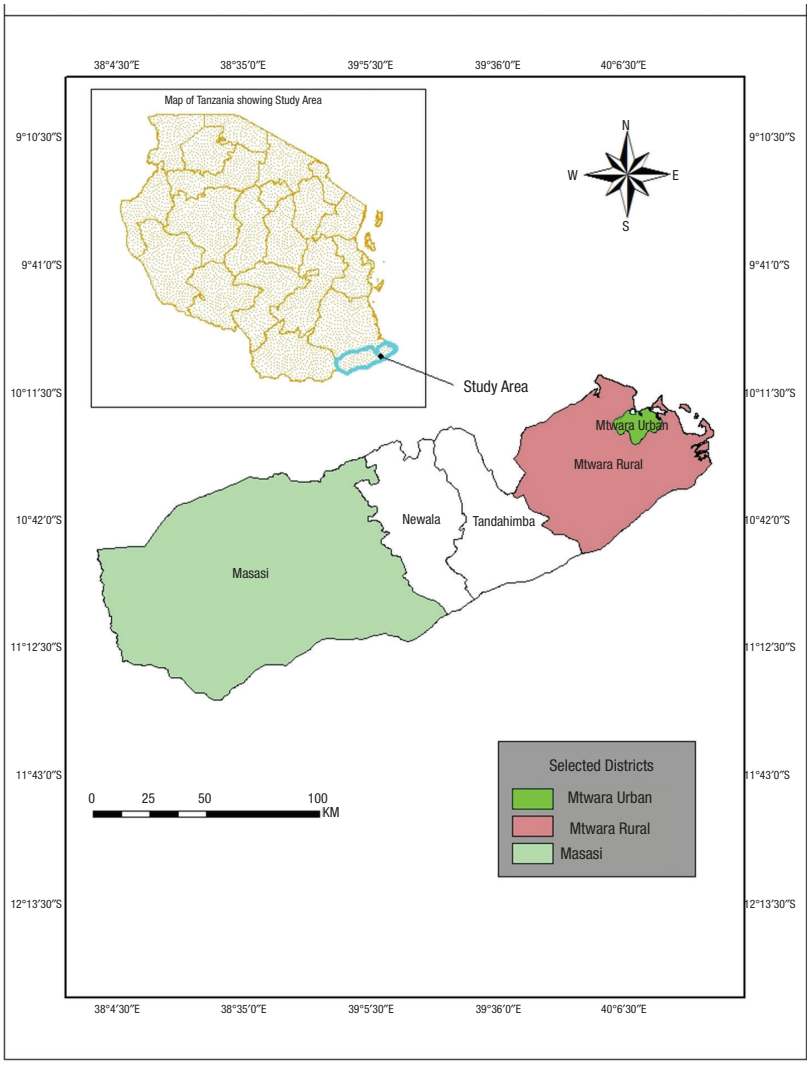

Figure 2.1 A map of Tanzania showing the location of the Mtwara region. Source: Leonard Masanja, GIS Unit, Stella Maris Mtwara University College

occasional insurrection and flight, either to Tanganyika or into the wilderness to form new communities (Stephen 1990). Following the discovery of gas and oil, Mtwara is among the fastest-growing regions in Tanzania. There are government plans to transform the area into an industrial city and economic centre for the country. Apart from gas extraction and ongoing oil exploration, Mtwara is endowed with a number of cultural heritage attractions that are both tangible and intangible.

Meanings and forms of heritage

The term 'heritage' can be presented as a sociocultural process in which negotiated relationships are formed between legacies of the past and stewards of the present. The product of such a relationship is an ethos of conservation for future generations (Milliken 2012). Thus 'heritage' in this sense is not so much a 'thing' as it is a process in which we relate to things (Howard 2003; Smith 2006). Regardless of how 'heritage' is defined, there are certain classes within which we can place items of heritage. Dallen and Boyd (2003: 3, cited in Watkins & Beaver 2008) see heritage as 'tangible, immovable resources (such as buildings, rivers, natural areas); tangible movable resources (such as objects in museums, documents in archives); or intangibles such as values, customs, ceremonies, lifestyles and including experiences such as festivals, arts and cultural events'.

Heritage therefore can be divided into two categories. The first category is that which presents itself in a material, tangible form: archaeology, art, movable objects, architecture and landscape. The second category is referred to as 'intangible' cultural heritage. This designation was conceived so that certain realities that remained unseen over a period of time, and that did not fit as part of any other established heritage category, could be recognised and taken into consideration (Barillet *et al*. 2006).

Mapunda and Msemwa (2005: 264) note that 'a cultural heritage resource, that is an historic monument and at the same time a work of art whether an historic building, garden, ensemble or site that results from a creative design process can be defined on the basis of specific concepts'. According to Msemwa (2005), different communities perceive cultural heritage resources differently, depending on their respective historic and cultural backgrounds. In most cases, local communities' understandings of cultural heritage resources have been confined to intangible heritages. The concept 'cultural heritage resources' as used in this paper refers to those tangible and intangible remains/legacies due to human activity or practices, which are of importance or significance to our understanding of the history, culture and achievements of past societies, and which together constitute the cultural heritage of a country or of humankind in general.

The Convention for the Safeguarding of Intangible Cultural Heritage adopted by the United Nations Educational, Scientific and Cultural Organisation (Unesco) in 2003 defines intangible cultural heritage as 'the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage' (Section 1, Article 2: Definitions). It would include such elements as material culture, ritual culture, symbolic culture and even language-as-culture, values and beliefs, while in some circumstances, 'ideologies and meanings' might also be included (Blake 2000). Other aspects not mentioned in the Unesco definition include social systems and beliefs, social relations, philosophies,

ideas and values as well as traditional knowledge. These aspects of society are usually perpetuated through daily life and activities, social situations and institutions. They grow, change and die as the social situation demands (Mulokozi 2005). This study focuses on some inheritable aspects of culture with both tangible and intangible characteristics. It is due to this inheritability characteristic that the term 'cultural heritage resources' has been adopted in this study.

Conceptualising cultural heritage resources and antiquities laws in Tanzania

The recognition of cultural heritage resources as having universal importance was first established in the 1954 Hague Convention when it affirmed that 'damage to cultural property belonging to any people whatsoever means damage to the cultural heritage of all mankind since each people makes its contribution to the culture of the world' (Forrest 2007: 129). It thus introduced into international law the notion that cultural heritage is of general importance to all humankind, irrespective of where that cultural heritage is situated. This recognition established a conceptual basis for subsequent Unesco conventions. It has been stated by the World Heritage Convention that loss through cultural deterioration or disappearance of cultural heritage assets constitutes an impoverishment of the heritage of all humanity (Joffroy 2005). The World Heritage Convention is based on the premise that 'parts of the cultural and natural heritage are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole' (Unesco 1972: 1). The destruction or deterioration of cultural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world (Forrest 2007). Regardless of Tanzania's richness in cultural heritage resources, this paper argues that Tanzania has adopted the Unesco recommendations and conventions on a piecemeal basis by concentrating on the conservation of tangible cultural heritage resources, while little effort has been given to the conservation of intangible cultural heritage resources.

In recent years, cultural heritage has come under increasing danger in all regions of the world through the intensification of a globalising economy. Heritage in both the developed and developing worlds is endangered by national and transnational free market development. Neo-liberal policies of deregulation, privatisation, cost cutting and individualism are frequently criticised for giving low priority to preserving heritage for future generations (Manuel 2004). Tanzania is custodian of an impressive array of globally significant cultural heritage resources that range from the Pliocene era, about four million years ago, to the present (Karoma 1996). Apart from outstanding tangible archaeological sites such as Laetoli, Olduvai Gorge, Isimila, rock art sites, iron-working sites and architectural monuments along the coast and in the interior, Tanzania is also rich in intangible cultural heritage resources. Mtwara is one of the regions in Tanzania endowed with a number of cultural heritage attractions, both

tangible and intangible. However, conservation of these cultural heritage resources has been affected by changing socioeconomic processes and cultural dynamics in both local and global dimensions.

Traditional practices by the Makonde of Mtwara are no longer performed in the same way as in the past. This is due mainly to culture change caused by cross-cultural interaction from within and outside Tanzania. Some scholars (such as Liebenow 1971) suggest that factors such as the geographical isolation of the Makonde and the obstacles posed by the physical terrain may be given to account for the Makonde's lack of response to modernisation (Gallagher 1972). In recent years, these factors no longer appear pertinent, as the influence of globalisation especially after the discovery of natural gas in Mtwara has led to an integration of traditional life into modern life among the Makonde. This unavoidable wave of multi-cultural interaction has affected both tangible and intangible cultural heritage resources of the Makonde community. This study reveals that most of the *Jando* and *Unyago* ritual principles[1] are no longer adhered to by the majority of local communities. For example, the circumcision rite, which is a fundamental symbol of *Jando* among the Makonde, is now performed in hospitals rather than in traditional settings as was done in the past. The ritual flour, popularly known as *mbepesi*[2] in the Makonde language, is rarely used in ritual performances as it was in the past. This is due to western cultural influence, which undermines traditional practices. In this case, the conservation of intangible cultural heritage resources of Makonde communities has been compromised.

The current ritual practices and other traditional performances among the Makonde community have lost their authenticity when compared to the way they were carried out in the past. The community members who were interviewed in this study admitted that there was a noticeable impact of cross-cultural interaction on their traditional way of life. Many see little promise of a future for their cultural, and particularly intangible, heritage resources amid continuing cross-cultural interaction. In their view, it has been a challenge to maintain their traditional way of life in the face of multicultural influences. This study observed that elders of the Makonde community remained optimistic that their cultural heritage resources would be maintained regardless of cross-cultural influences. However, this view was contrary to that expressed by the youth, who were mostly advocates for western culture.

The cultural heritage found among the Makonde community of the Mtwara region particularly (and the Mtwara municipality and Mtwara rural district) includes the Mikindani historical harbour site, as well as remains of colonial infrastructure such as the railway from Nachingwea in Lindi to the Mtwara port. Others are monumental remains such as the graveyard, old mosque and other architectural mounds in the Mvita ancient settlement (Gabriel 2015). There are also remains related to the Mozambique liberation movement legacy in Tanzania, such as tombs, campsites

and sacred places. The Mtwara region is also rich in intangible cultural heritage resources such as traditional dances, traditional medicine and witchcraft, oral narratives, songs, memoirs, indigenous technologies, especially sculpturing technology, and many other ritual practices such as *Jando* and *Unyago* ceremonies. However, little effort has been made to safeguard all these cultural heritage resources for the benefit of present and future generations. The reason behind the poor conservation of these cultural heritage resources should be attributed not only to reckless national policies but also to lack of community involvement in conservation strategies. The existing legislation, though still effective, lacks clear guidelines for the involvement and participation of communities (Kamamba 2005). As Lipe (1977) correctly observed, archaeologists need to persuade the public about the scientific and societal values of protecting and conserving cultural heritage resources. Also, the public needs to be informed about the enormous untapped potential contribution of heritage resources to both the national and the local economy (Mabulla 1996).

The International Council of Museums' code of professional practice emphasises that heritage resources should be protected so that they can last forever (ICOM 1989). A legal framework for the protection and conservation of national antiquities has a long history in Tanzania although its efficiency is yet to be realised. In 1937 the colonial government made two major decisions regarding heritage resources. First, it established a museum in Dar es Salaam called the King George VI Memorial Museum, and second, it passed the Monuments Preservation Ordinance. The museum – which in 1962, a year after independence, was renamed the National Museum of Tanzania – was charged with collecting, preserving, displaying and interpreting for the nation all movable heritage property, be it archaeological, palaeontological, historical or ethnographic.

The Monuments Preservation Ordinance, on the other hand, empowered the governor to declare and gazette structures of historical significance such as monuments, and areas and sites of archaeological, scientific and historical significance as reserved areas (Mapunda 2001). In 1957, the government established an agency, the Antiquities Department, charged with the task of conserving immovable cultural property such as archaeological and palaeontological sites and monuments. Seven years later, the Monuments Preservation Ordinance was repealed and replaced by the Antiquities Act of 1964. This Act, with major amendments made 15 years later under the Antiquities (Amendment) Act of 1979, remains the principal legal document for the management of heritage resources in Tanzania to date (Mapunda 2001). Regardless of all these legal initiatives, the conservation of cultural heritage resources in Tanzania remains inadequate given the poor conservation status of heritage resources in the country. For the purpose of this paper, focus has been given to the way local communities understand cultural heritage resources and the importance of engaging them in conservation initiatives, using the Makonde community of Mtwara as a case study.

Local communities' perspectives on cultural heritage resources

This section examines local communities' understanding of the concept 'cultural heritage resources'. The examination was guided by a question that required local communities to explain their understanding of the concept. The question intended to assess local communities' perceptions of cultural heritage resources as opposed to professional or academic conceptions. In addition, the question intended to assess how local communities, particularly the Makonde community, value and conserve their cultural heritage resources, especially intangible heritage.

Archaeology in Tanzania has to a large extent been exclusively dominated by professional practices, with little attention given to local communities' involvement. This tendency not only creates dialectical understanding but also hinders the sustainable conservation of cultural heritage resources. The interviews with local communities revealed that their understanding of cultural heritage resources is confined to intangibles as compared to tangibles. The tangible cultural heritage resources that were mentioned are associated with ritual practices. For example, some ritual practices are performed in the Mvita graveyard (figures 2.2 & 2.3) as a sign of intangible aspects attached to tangible cultural heritage resources.

Sixty informants were interviewed to represent the local communities of the research area. As expected, in some instances the informants' responses differed from one another. For example, in one of the group interviews, the following understanding of the concept 'cultural heritage resources' or '*rasilimali urithi tamaduni*' as commonly understood in the Kiswahili language, was given:

> Rasilimali urithi tamaduni ni mambo mbalimbali ya kijadi au ya kimila yaliyofanywa na wazee wetu kama vile matambiko, Jando na Unyago, pamoja na ngoma za asili. Kulikuwa pia na miiko mbalimbali, – Mfano, mtoto akitoka Jando alikuwa haruhusiwi kuingia nyumba ya baba yake. Ilikuwa pia ni mwiko kwa watoto kuhudhuria shughuli za mazishi. Hayo yote ni mambo ambayo ni ya zamani lakini bado yanaendelea kufanyika mpaka sasa japo si kwa kiwango kama cha zaman.[3]
>
> **Translation:** Cultural heritage resources are various traditions or customs which were performed by our ancestors such as ritual offerings *Jando* and *Unyago* and traditional dances. There were also different taboos, for example a boy coming from *Jando* initiation was forbidden to enter his father's house. It was also a taboo for children to attend funeral ceremonies. All these are things which are ancient but they are still done today although not to the same extent as it was in the past.

A total of 36 (60 %) of the 60 informants who responded to the question about cultural heritage resources confined their understanding to intangible cultural practices. These mainly included *Jando* and *Unyago* rites, traditional dances, taboos,


Figures 2.2 & 2.3 A scatter of a cat carcass (left) and goat bones (right) slaughtered in the graveyards at Mvita ancient settlement. Photograph: F. Gabriel (2013)

sacrifices, sacred places, traditional games (such as *Ndingi, Bao, Mdomo*), traditional foods, traditional medicine and witchcraft. Eighteen informants (30 %) confined their understanding of cultural heritage resources to past histories and oral narratives. For example, one of the informants had the following views:

> Zamani wazee wetu walikuwa na hadithi ambazo zilikuwa na mafundisho mengi kwa jamii. Mfano, nikusimulie hadithi hii ambayo ilikuwa maarufu sana. Kulikuwa na ndege mkubwa sana akiitwa Nantimpwamedi kwa lugha ya kimakonde. Ndege huyu wa ajabu alijenga uhasama hata kutaka kusababisha vita baina ya vijiji viwili vya Magomeni na Mtawanya ambavyo vilitegemea kupata maji toka kisima kimoja. Kila mara mojawapo ya wanakijiji kutoka vijiji hivi alipomaliza kuchota maji ndege huyo alishuka chini na kutibua maji. Kijiji kingine walipofika walikuta maji ni machafu mno na kudhani kuwa watu wa kutoka kijiji jirani ndio wamefanya hivyo…wakati huo ndege alijificha juu ya mti akiwatazama wana-vyolalamika … Ilifika kipindi vijana wa vijiji hivi viwili wakatangaziana vita dhidi yao. Hata hivyo wazee wakaomba vijana wavute subira wakati suluhu ikitafutwa … Wazee wa vijiji hivi viwili waliitisha mkutano na kuchagua wanne miongoni mwao (wawili kutoka kila kijiji) ambao walitakiwa kujificha jirani na kisima ili kuona ni nani anachafua maji. Wakiwa mafichoni walikuja akina mama toka Magomeni kuchota maji na kuondoka bila kuyachafua. Walipoondoka tu yule ndege alishuka na kuyatibua maji. Walipokuja watu wa Mtawanya walikuta maji yamechafuka na kupandisha hasira dhidi ya watu wa Magomeni. Lakini wakati wote huo wazee walikuwa wakiangalia kinachoendelea huko mafichoni. Siku iliyofuata wazee waliwachukua vijana wanne, wawili toka kila kijiji na kwenda nao mafichoni ili washuhudie kinachochafua maji. Vijana walishuhudia namna ndege mkubwa alivyovuruga maji na kutambua kuwa hakuna mojawappo ya vijiji vile viwili kilichohusika na uchafuzi wa maji. Walisikitika na kufikisha taarifa katika vijiji vyao juu ya hali halisi na kuondoa uhasama

baina yao… Hapo ndipo wanakijiji wakajua kuwa 'UZEE DAWA' (Old is gold) kwa maana kuwa wasingelikuwa wazee vita ingetokea na madhara yangekuwa makubwa. Hivyo hadithi hii inaonesha kuwa palipo na wazee haliharibiki jambo.[4]

Translation: In the past our elders had stories that had a number of lessons for the community. For example, let me tell you the following story that was very popular. There was a huge bird that the Makonde called *Nantimpwamedi* in their language. She stirred enmity between two villages, Magomeni and Mtawanya, that shared a water source, to the extent of almost causing war between them. Whenever one of the villages finished fetching water, the bird came down and stirred the well dirty. When the other village came and found that the water was dirty they thought the other village had stirred it up. All this time the bird would remain hidden and observe how people were complaining. There came a time when youths from the two villages declared war against each other. However, elders of the two villages advised them to be patient as an amicable solution to the problem was sought. The elders of the two villages convened a meeting and chose four of them (two from each village), who were supposed to hide around the well and find out what was happening. While in hiding, women from Magomeni came to fetch water and left without dirtying it. After they had left, the bird came down from the tree and stirred up the water. Soon after came the people from Mtawanya. They found the water dirtied and became angry with the people from Magomeni village. All that time the elders were observing all from their hiding places. The next day they took four young men, two from each village, and went with them to the hiding place so that they could witness what was dirtying the water. The young men witnessed how the huge bird stirred up the water and realised that no one from either village was responsible for the malicious act. They were remorseful and communicated the news to their villages, thus ending the hostilities. It is at that point that people admitted that 'old age is gold', meaning that with elders nothing can go astray.

From the story above one finds that to some local community members, cultural heritage resources are confined to the wisdom embedded in the traditional narratives they inherit from their ancestors. Apart from the wisdom communicated through folklore, cultural heritage resources were also attributed to the day-to-day cultural formation of the youth. Elders in the community had the responsibility of watching the steps of their children in various social aspects. For example, in one of the group interviews, one participant had the following view:

Wakati wa chakula wazee walikuwa makini sana kuangalia jinsi watoto wao wanavyokula. Kwa mfano, mtoto akionekana kukata tonge kubwa mzee angeweza kumuuliza 'mnakula na nani? Au tonge hilo litapita mdomoni?[5]

Translation: At meal time, parents would closely monitor their children's table manners. For example, when a child took a big lump of food, the elders would reprimand him by asking 'with whom are you eating?' or 'will that lump go through your mouth?'.

Another participant said:

> Wakati wa Jando, vijana wa kiume walifundishwa mambo mengi ya kimila ikiwemo namna ya kutunza familia zao. Walifundishwa pia namna ya kuwa jasiri na wakakamavu kwa lengo la kutoa ulinzi kwa jamii. Hata watoto wa kike nao kwenye. Unyago wao walifundishwa maadili mbalimbali yanayowahusu akina mama ikiwa ni pamoja na namna ya kuishi na waume zao.[6]
>
> **Translation:** During the *Jando* rituals, young boys were taught a number of cultural issues including how to take care of their families. They were also trained on how to be strong and courageous in order to protect their community. Similarly, young ladies in their *Unyago* ritual ceremonies were exposed to women-related morals, including how to take care of themselves and their husbands.

Another informant expressed the following views on what is meant by cultural heritage resources:

> Mambo ya kale ni masimulizi ya mambo ya zamani kama vile namna wazee walivyosuluhisha matatizo kwenye jamii kwa kutumia mabaraza ya wazee. Inahusisha pia miiko hasa nyakati za Jando ambapo wazee waliwafundisha watoto mambo ya jadi kwa njia ya misemo na nyimbo. Lakini pia vijana wakifanya kosa Jandoni waliadhibiwa na wakubwa wao maarufu kama walombo.[7] Hakuna tambiko lililofanyika pasipokufanya pepezi kwa kutumia unga wa mtama. Hii ilifanyika ili kuomba dua kwa wahenga ili lisitokee balaa lolote kwa wana Jando lakini pia ili wapone haraka.[8]
>
> **Translation:** Cultural heritage comprises narrations of ancient ways of life, such as the way elders solved social problems through their councils. It includes taboos especially during *Jando* rites where youths were taught cultural norms by elders using educative sayings and songs. In *Jando* rituals, errant initiates were punished by their traditional mentors popularly known in the Makonde language as *walombo*. It was customary for all *Jando* and *Unyago* rituals to be preceded by *mbepesi*. This was a ritual offering given to the ancestors using finger millet flour, and was done to ask for blessings from the ancestors for quick recovery of the circumcised youths and to protect them from evils.[9]

Although the study area had a number of built heritage resources, the informants did not give much value to them as compared to intangible cultural heritage resources. Even at the Mikindani historical site, which is rich in built heritage, informants' responses were dominated by intangible cultural practices. What they knew about the Mikindani historical site was the Arab history, slave trade and German colonial history in the area. It was noted that the local community in the Mikindani area accorded little attention to monumental buildings.

> Mambo ya kale ni kama vile historia ya Waarabu waliotawala hapa Mikindani kwa miaka mingi pamoja na historia ya biashara ya utumwa. Lakini baadaye walikuja wajerumani ambao ngome yao kubwa ikiwa ni pale Boma.[10]

Translation: Cultural heritage resources include the history of Arabs who ruled Mikindani for many years as well as the history of the slave trade. Later on came the Germans whose administrative base was at the Old Boma.

As revealed in the interview excerpts above, local communities' understanding of cultural heritage was mainly confined to intangible heritage resources. Typically, traditional dances, initiation ceremonies such as *Jando* and *Unyago*, traditional foods, witchcraft, traditional medicine, local beliefs and taboos, ritual practices such as *mbepesi* and other traditional practices characterised their responses. There were a number of ritual sites in the research area that were mentioned by the informants as sacred places for ritual practices.

Cultural identity of the Makonde ethnic group

The cultural identity of the Makonde people is predominantly symbolised by their most important cultural functions: their initiation rites. Through initiation rites the young Makonde persons are transformed into adult members of society. As Tore Saetersdal (1999: 130) notes, 'intricate patterns of scarification are applied to the male and female initiates' bodies thus subjectifying the individuals into culturally meaningful symbols. The symbols are governed by strict traditional rules and reflect Makonde culture'.

Other forms of bodily mutilation are performed, such as filing of teeth into points and the application of a wooden lip plug (*ndonya* in the Makonde language) in females. Such decorations are found mostly among the Maconde of Mozambique[11] although they are not as common as they were just a generation ago (Saetersdal 1999). The masks used in these rites mirror the tattooed face of the Maconde female ancestors and are a symbol of the matrilineal order of society, continuation and cultural knowledge (Duarte 1987). This kind of identity expressed by way of bodily mutilation is not as popular among the Tanzanian Makonde. According to local informants, the culture of tattooing faces by Makonde people follows a practice in which tattoo motifs were designed according to clans for the sake of identification of blood relatives. Each clan had its own decorative patterns to differentiate it from other clans. When commenting on this, one of the informants had the following views:

Chanjo kwa wamakonde ilikuwa ni zaidi ya urembo bali pia kitambulisho kwa watu wanaotoka ukoo mmoja kwani watu walichanjwa kwa namna mbali mbali kufuatana naukoo … Hii ilisaidia hasa wakati wa mtawanyiko wa watu kujua wale ambao ni ndugu wa ukoo mmoja.[12]

Translation: Tattoos among the Makonde people went beyond decoration as it also served as a symbol of identification among people belonging to the same clan. This was because the tattooing styles were based on clans so that people could identify each other, especially during migrations.

Figure 2.4 Makonde dancers traditionally dressed in bark-cloth. Photograph: F. Gabriel (2013)

The Makonde have cultural performances which, according to the local communities, not only link them to their ancestral spirits but also create a social bond among community members of all ages and genders. Some cultural performances by local communities, popularly known as 'Makuya',[13] are performed annually in the form of a competition among the Makonde, the Makua and the Yao. These traditional performances in the local communities' viewpoint were beyond recreational performances in that they were accompanied by several other messages in the form of songs, gestures, inspirations and ethics. It is a forum in which cultural performers and their audience (the public) are able to learn about their cultures and cultural principles. These performances are carried out in a purely traditional way using traditional instruments and traditional clothing (figure 2.4). In the words of one of the traditional dancers:

> Ngoma ya namna hii pamoja na kuwa kiburudisho lakini pia ina mafundisho mengi kwa jamii. Mfano, kama unavyoona mavazi na zana zitumikazo ni za asili hii ikiwa na maana kwamba tunatakiwa kuthamini utamaduni wetu. Nyimbo zinazoimbwa ukizisikiliza kwa makini zina ujumbe muhimu sana kwa jamii hasa vijana ambao hawathamini utamaduni wao.[14]
>
> **Translation:** The dance of this kind though it is an entertainment it also has a lot of lessons to the society. For example, as you can see the dresses and instruments are cultural in nature meaning that we should value our culture. The songs are full of valuable message to the community, particularly youths who do not value their culture.

Conclusion

It has been revealed by this study that local communities' understanding of the concept 'cultural heritage resources' is largely confined to certain cultural practices, traditional performances and life experiences. All these entail social togetherness and identity,

reconciliation, cleansing and a linking bridge between the local communities and their ancestors. Cultural practices and traditional performances create and strengthen social bonds among local communities. These cultural practices and traditional performances among the Makonde community are important heritage resources that have been passed down from generation to generation. However, this study discovered that interest in cultural practices and traditional performances has been declining over time, especially among youths. It was also observed that the meaning and value of cultural heritage resources has changed over time. This has been partly caused by culture changes due to social interaction, particularly the influence of western culture. Therefore, to the Makonde community, cultural heritage is all about their past lifeways, which are reflected in the present life and will continue to mark their future life. As Michael Brown (2005: 49) states, heritage management should 'balance between heritage as a resource for all humanity and as something that belongs to, and remains controlled by, its communities of origin'.

Notes

1 *Jando* refers to a circumcision rite for male youths while *Unyago* refers to female initiation ceremonies. Both are accompanied by ritual practices that prepare initiated youths for adulthood.

2 This ritual flour, whitish in colour, was smeared on the bodies of ritual performers. Nowadays people use any white-coloured flour instead of the ritual flour.

3 Interview notes, group interview with elders, 12 June 2013, at Mtendachi village in Mtwara rural district.

4 Interview with an old man, 13 July 2013, at Ziwani village in Mtwara rural district.

5 Group interview with elders, 25 June 2013, at Mdui village in Mtwara rural district.

6 Fieldnotes, interview with Musa Muharami, 23 August 2012, at Tandika Street in Mtwara-Mikindani municipality.

7 A supervisor of the *Jando* ritual who acts as a traditional mentor to the initiates.

8 Group interview with elders, 26 June 2013, at Ziwani village in Mtwara rural district.

9 *Mbepesi* is a popular ritual practice among the Makonde, Makua and Yao of Mtwara region.

10 Fieldnotes, interview 6 September 2012, at Mikindani village in Mtwara, Mikindani municipality.

11 The name Maconde with a 'c' has been used to refer to Mozambican Maconde and with a 'k' for Tanzanian Makonde.

12 Interview with Mzee Raphael Nandipa (75 years old), 18 July 2013, at Mbae village.

13 Makuya is an acronym for Makonde, Kua and Yao, the ethnic groups of Mtwara region.

14 Interview with a group leader of the Makonde dancers, 16 October 2013, at Nangwanda grounds.

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3 The Indigenous Roots of Swahili Culture in Pangani Bay, Tanzania

Elinaza Mjema

Abstract

Many Zanjian settlements on the East African coast from around AD 600 were slowly drawn into larger Swahili cultural networks of the thirteenth to sixteenth centuries AD. Indigenous communities along Tanzania's coast were not left behind in this cultural transformation that transpired across the region. Evidence from Pangani Bay on the northern coast of Tanzania suggests that both cultural continuity and change occurred in the period between the eighth and the fifteenth centuries AD. The study is grounded on archaeological fieldwork conducted in the surroundings of Pangani Bay in 2012 where major Swahili cultural strata directly overlie those of the Zanjian period. The study uses the comparative approach as a tool for understanding the development of Swahili culture in the area. It compares and contrasts pottery, glass beads and fauna from both Zanjian and Swahili phases. Pangani Bay shows negligible differences of material culture and economic traditions between the late first and the first half of the second millennia AD. That is, the later local ceramic styles show only minor differences from those of the late first millennium AD, while faunal data suggest the similarity in subsistence economy between Zanjians and Swahilis. Correspondingly, glass bead data indicate that although maritime trade became distinctly sophisticated during Swahili times, early involvement in oceanic intercontinental trade began in the Zanjian period. Therefore, this study reveals that the Zanjian communities in Pangani had already developed the cultural frameworks on which the Swahili cultural system was built. The paper focuses on the analysis of ceramic, faunal and bead data.

Résumé

De nombreux établissements Zanjian sur la côte d'Afrique orientale d'environ 600 après JC ont été lentement attirés dans les plus grands réseaux culturels Swahili du 13ème au 16ème siècle après JC. Les communautés indigènes le long de la côte de la Tanzanie n'étaient pas laissées en arrière dans cette transformation culturelle qui a eu lieu dans toute la région. La preuve de la baie de Pangani sur la côte nord de la Tanzanie suggère que la continuité et le changement culturel ont eu lieu entre le 8ème et le 15ème siècle après JC. L'étude est fondée sur les travaux archéologiques effectués dans la région de la baie de Pangani en 2012, où les grandes strates culturelles Swahili

recouvrent directement celles de la période Zanjian. L'étude utilise l'approche comparative comme un outil pour comprendre le développement de la culture Swahili dans la région. Elle compare et contraste la poterie, les perles de verre et la faune verre des phases Zanjian et Swahili. La baie de Pangani montre des différences négligeables de la culture matérielle et des traditions économiques entre la fin du premier et de la première moitié du 2ème millénaire après JC. Autrement dit, les styles céramiques locaux ultérieurs montrent seulement des différences mineures à ceux de la fin du premier millénaire après JC alors que les données fauniques suggèrent la similarité dans l'économie de subsistance entre Zanjian et Swahili. Proportionnellement, les données de perles de verre indiquent que, bien que le commerce maritime soit devenu sophistiqué pendant les périodes Swahili, l'implication précoce dans le commerce océanique intercontinental a commencé dans la période Zanjian. Par conséquent, cette étude révèle que les communautés Zanjian à Pangani avaient déjà développé des cadres culturels sur lesquels le système culturel Swahili a été construit. L'étude se concentre sur l'analyse des données de la céramique, de la faune et de la perle.

Introduction

Pangani Bay (5° 25′ 60″ S, 39° 0′ 0″ E), on the northern Tanzanian coast, is located at the Pangani River mouth (figure 3.1). Excavation by the author at Pangani Bay in 2012 resulted in a series of discoveries that suggest much continuity between the communities prior to the thirteenth century AD and those of the Swahili culture. A deep stratigraphic sequence (figure 3.2) was encountered with archaeological assemblages (table 3.1) that indicated that rural communities residing in wattle and daub houses existed both at Kimu and Muhembo sites in Pangani Bay from the eighth to the thirteenth centuries AD. The pottery used by these communities belongs to TIW (triangular incised ware)/Tana traditions (Chami 1994: 13; Horton 1996: 410). TIW/Tana traditions have been redefined by Mjema (2015: 1) as a result of nomenclature problems arising through previous terminologies. Thus, this paper uses the word 'Zanjian' to indicate cultural assemblages with the redefined TIW/Tana pottery.

The excavation at Pangani Bay above the strata bearing Zanjian traditions encountered archaeological assemblages that indicated a cultural change in the period from the thirteenth to the fifteenth centuries AD. Parts of the settlements previously characterised by wattle and daub houses were transformed into stone buildings. Pottery with a triangular incised mark common during the Zanjian period, was replaced by neck punctuated ware (figure 3.3). Trade that ensured the acquisition of foreign items such as glass beads and imported ceramics was heightened and fishing and livestock-keeping activities were improved. The cultural assemblage associated with coral built structures has been considered to be Swahili (Middleton 1992: 36; Spear 2000: 286; Pollard 2007: 3; LaViolette 2008: 31).

The nature of the stratification of archaeological materials at Pangani Bay allowed for examination of these two cultural assemblages. Investigation focused on identifying

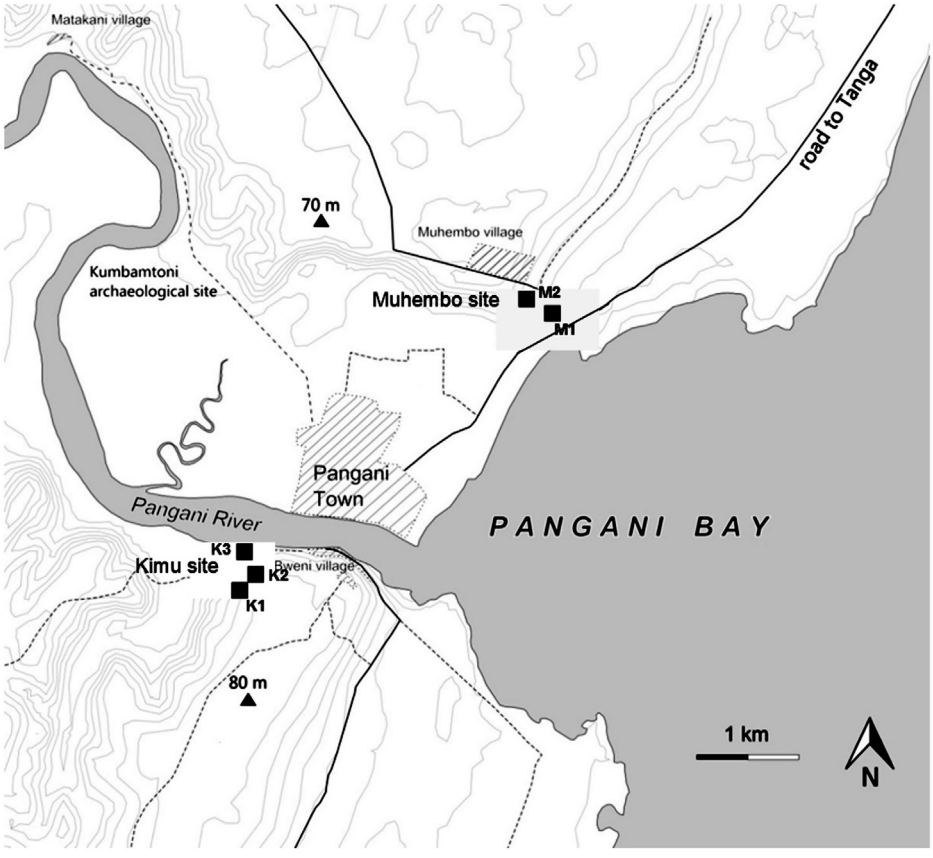

Figure 3.1 Map of Pangani Bay showing excavated trenches. Source: E. Mjema

the continuity and change of Zanjian–Swahili traditions from the first to the second millennium AD. In my study, ceramic decorations were useful for revealing variability over time. On the other hand, faunal data provided comparative results with information on variability over time in the consumption of shellfish. Also, glass beads shed light on the change in their importation and use. Thus, from the study of ceramics, fauna and bead data, cultural traits are compared for the examination of continuity and change from Zanjian to Swahili traditions.

The prevailing view has been that the Lamu archipelago may be the cradle of Swahili culture. It is here that Zanjian tradition evolved into Swahili culture and then spread southward along the East African coast (Allen 1981: 323; Nurse & Spear 1985: 97; Chami 1994: 90, 1998: 214). This view implies that Zanjian settlements on the Tanzanian coast collapsed, with no contributions to the formation of the subsequent

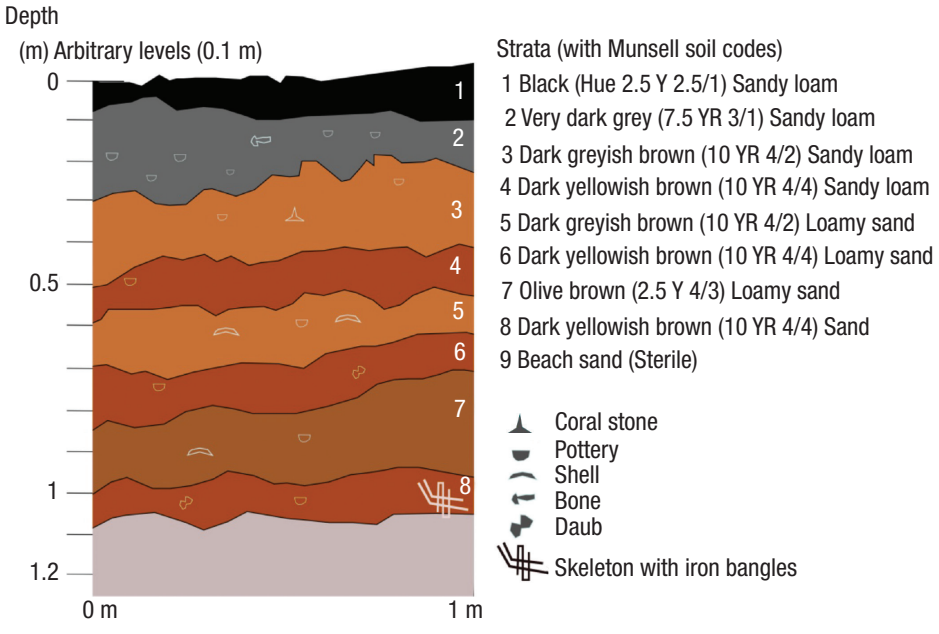

Figure 3.2 The stratigraphic sequences at Kimu site as shown by the eastern wall profile of trench K1. Source: E. Mjema

Table 3.1 Materials from all excavated trenches in 2012. Source: E. Mjema.

Trenches	**Excavation 2012**										
Size (m)	**LCM**	**FCM**	**GV**	**GB**	**NGB**	**D(g)**	**SG(g)**	**CS(g)**	**S(g)**	**FB(g)**	**NFB(g)**
K1 (2x1)	3 034	7	1	566	12	4 899	0	7 542	3 717	55	591
K2 (2x2)	2 524	5	4	1 085	7	1 877	46	9 501	9 436	17	819
K3 (2x1)	1 785	4	1	117	0	6 073	2 598	3 945	4 634	2	362
M1 (3x1)	1 840	11	4	2	20	587	22	1 590	7 340	19	53
M2 (2x1)	939	23	2	20	1	45	0	19 527	1 425	13	300
Total	10 122	50	12	1 790	40	13 481	2 666	42 105	26 552	106	2 125

LCM = Local ceramics, FCM = Foreign ceramics, GV = Glass vessels, GB = Glass beads, NGB = Non-glass beads, D = Daubs, SG = Slags, CS = Coral stones, S = Shells, FB = Fish bones, NFB = Non-fish bones, g = Grams.

Swahili culture (Chami 1994: 90, 1998: 214). While proponents of this hypothesis use pottery motifs to trace the spread of ceramic traditions from north to south, it is noted from other studies that similar pottery motifs and other cultural aspects such as maritime activities existed throughout the East African coast prior to the Swahili period (Fleisher & LaViolette 1999; Wynne-Jones 2005).

Swahili phase | Zanjian phase

Figure 3.3 Swahili and Zanjian pottery. Motif K exists in pottery from both phases. Source: E. Mjema

Before the current study, Pangani Bay and in particular the Swahili archaeological deposit was investigated and documented by Walz (2010), but the Zanjian phase there remained unstudied. Thus, the current study proceeded from where the previous work stopped. It attempted to explore the archaeology of each occupational phase (Zanjian and Swahili) separately, and to then investigate whether Zanjian traditions contributed to the origin of Swahili culture.

Fieldwork

The survey and archaeological excavation work, which lasted six weeks, was conducted in 2012 in the southern and northern parts of the Pangani River bank.

Excavation trenches named K1 (2×1 m), K2 (2×2 m) and K3 (2×1 m) were placed at Kimu site south of the Pangani River, and the others, M1 (1×3 m) and M2 (1×2 m), were located at Muhembo Hill (figure 3.1). Generally, trenches excavated at Pangani Bay revealed three consecutive occupational phases: Zanjian, Swahili and post-Swahili (figure 3.4). The Zanjian phase refers to strata 4–8 from trench K1 (figure 3.2). The charcoal sample from stratum five of trench K1 yielded a radiocarbon date of 942±28 BP and the sample from stratum six from the same trench is dated to 963±28 BP (table 3.2). Considering the pottery that emphasised the triangular incised mark (figure 3.3) and the radiocarbon dating from trench K1, the suggested date of the Zanjian phase was placed from c. 750 to AD 1250.

Stratigraphically, the Swahili occupational phase continues from the Zanjian phase and is seen in strata two and three of trench K1 (figure 3.2). The ceramic defining this phase is neck punctuated ware (figure 3.3) common on the East African coast and dated from AD 1250 to AD 1500 (Pollard 2007: 112). The post-Swahili phase is uncovered from stratum one of trench K1. This phase is indirectly dated to post-AD 1500.

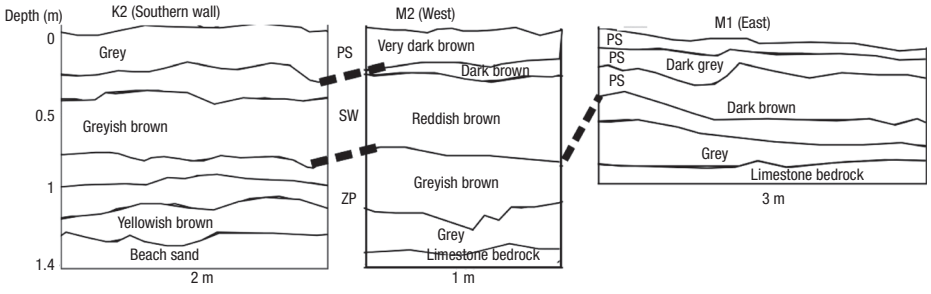

Figure 3.4 The distribution of occupational phases in Pangani Bay as revealed by excavation trenches from Kimu and Muhembo sites. ZP = Zanjian phase, SW = Swahili and PS = Post-Swahili. Source: E. Mjema

Table 3.2 Radiocarbon dates from trench K1 at Kimu site. Source: E. Mjema.

Lab No MAMS	Sample ID	Material	Date BP	±	Cal. Age (2 sigma)
17415	K1A L7 S102	Charcoal	942	28	cal AD 1026–1157
17416	K1A L7 S103	Charcoal	963	28	cal AD 1020–1154

Calibration according to OxCal v4.1.7 Bronk Ramsey (2010).

In summary, the excavation yielded a substantial number of archaeological remains and cultural strata (table 3.1). The earliest occupation in Pangani Bay is defined as a Zanjian phase based on the characteristics of local pottery that were mainly of TIW/Tana tradition. Archaeological materials of a Swahili phase are deposited on top of the Zanjian deposits. The characteristic artefacts during the Swahili period are local neck punctuated pottery. The post-Swahili phase is the topmost deposit in the general stratigraphy of Pangani Bay (figure 3.4).

Analysis of results

The pottery analysis contained 4 641 diagnostic sherds from the Zanjian phase, which were compared with 4 520 potsherds from the Swahili assemblage. The frequency variability of pottery shapes, size, temper and decoration attributes between the two phases was examined in order to record change and continuity of pottery-making traditions over time. Beginning with pottery shape, the study recognised six distinct vessel shapes from both Zanjian and Swahili pottery assemblages (figure 3.5).

Pottery shape analysis identified types in the Zanjian assemblage that were similar to those in the Swahili assemblage (figure 3.6). Two of the most common vessel shapes produced during the Zanjian phase, open bowls and necked jars, continued to be available in the Swahili phase. The increased frequency noted in the appearance of

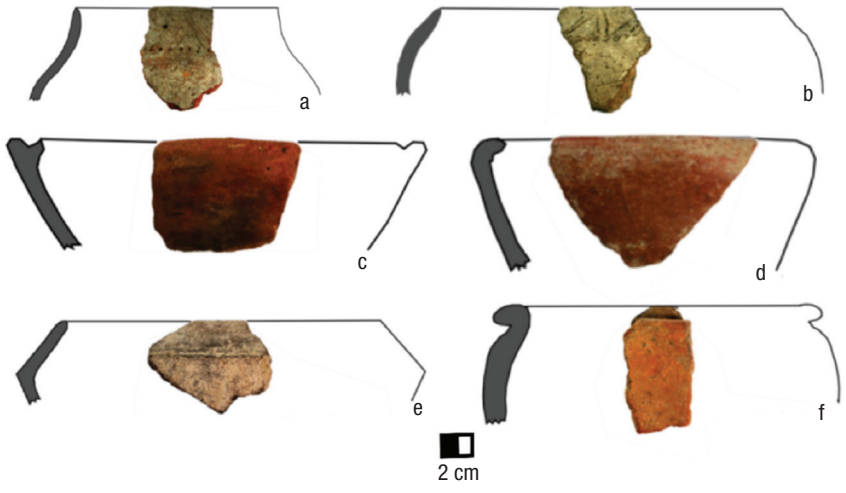

Figure 3.5 Different pottery shapes identifiable from Zanjian and Swahili phases at Pangani Bay sites. a = necked jars, b = globular jars, c = open bowls, d = closed bowls, e = carinated bowls, f = bowl with beaded rim. Source: E. Mjema

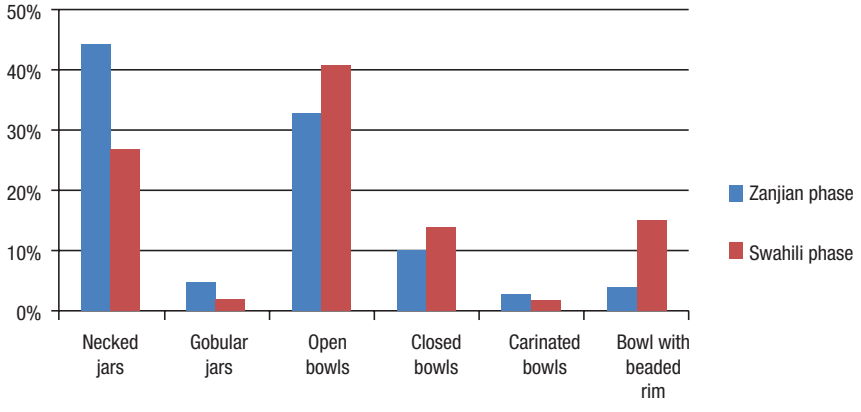

Figure 3.6 Frequency of major vessel shapes in Zanjian and Swahili phases. Source: E. Mjema

open bowls and bowls with beaded rims during the Swahili phase coincided with a declining frequency of necked jars. This diachronic pattern of vessel shapes supports the hypothesis that pottery traditions associated with Swahili culture are rooted in ceramic traditions found in Pangani Bay from the beginning of the eighth century AD.

The analysis of pottery motifs suggests a slight variation between the Zanjian and Swahili phases. The line motif formed by punctuation (motif K in figures 3.3 & 3.7)

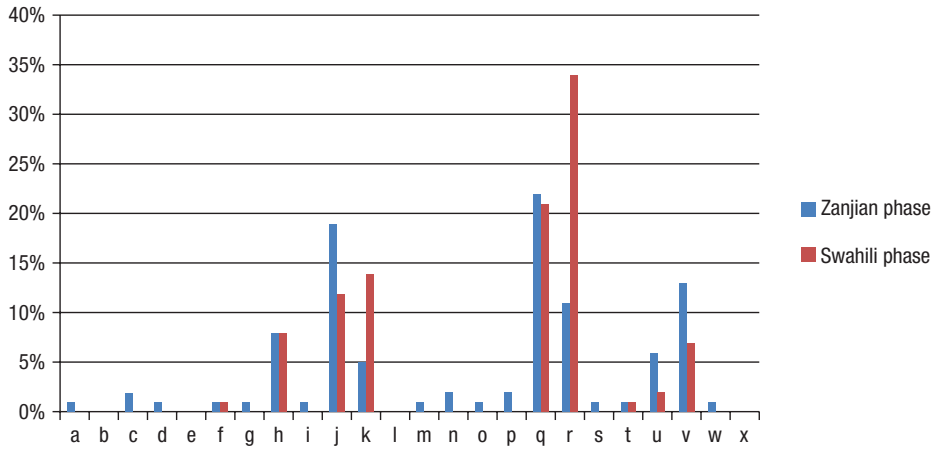

Figure 3.7 Frequency variability of vessel motifs in Zanjian and Swahili phases (Motif F = white or grey slip that is applied on exterior or interior or both surfaces of the vessels. Motif K = a horizontal succession of punctuates that form a single line motif). Source: E. Mjema

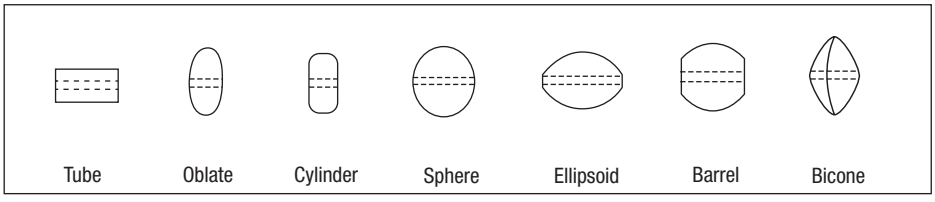

Figure 3.8 Bead shapes. Source/Courtesy: M. Wood (2005)

and grey slip (motif R in figure 3.7) are seen in the Zanjian phase, and are the most common motifs in the Swahili assemblage.

On the other hand, the analysis of glass bead typology indicates that most of the bead shapes existing in the Zanjian assemblage continue in the Swahili phase. For example, the predominant bead shape in both the Zanjian and Swahili phases is a cylinder (figures 3.8 & 3.9).

Furthermore, faunal data shed much light on the continuity and change of food economy from the Zanjian to Swahili periods. The analysis of diachronic patterns in the Zanjian–Swahili shellfish exploitation pattern is indicated in table 3.3. The data suggest that the shellfish species *Terebralia palustris*, *Cerithidea decollata* and *Chicoreus ramusus* (figure 3.10) were present in the Zanjian phase, but were common in the Swahili phase (table 3.3).

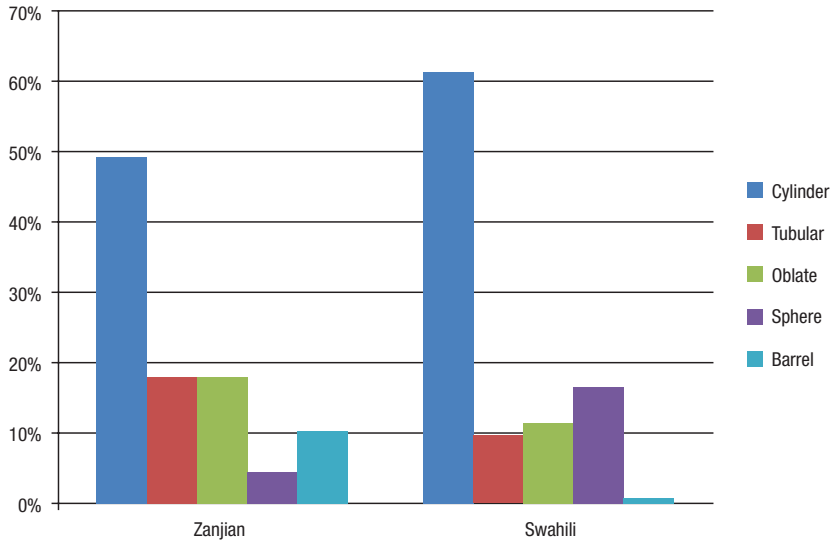

Figure 3.9 Frequency of major bead shapes in Zanjian and Swahili phases. Source: E. Mjema

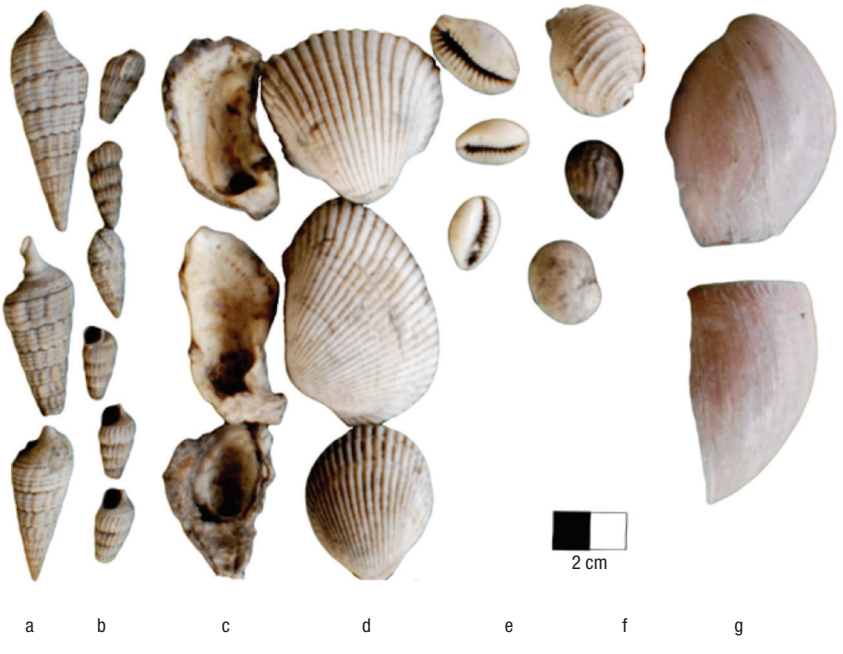

Figure 3.10 Shellfish common in Zanjian and Swahili phases. a = *Terebralia palustris* (mud whelk), b = *Cerithidea decollata*, c = *Saccostrea cucullata*, d = *Anadara* spp., e = *Cypraea annulus/moneta*, f = *Polinices mammilla*, g = *Achatina* sp. (landsnail). Source: E. Mjema

Table 3.3 Variability of shellfish exploitation from general Zanjian to Swahili phases. Source: E. Mjema

Shellfish species by letter	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
Zanjian phase										
Total weight (13 975 g)	2 652	676	2 854	1 038	121	232	2 887	282	792	323
100 %	**19**	**5**	**20**	**7**	**1**	**17**	**21**	**2**	**6**	**2**
Swahili phase										
Total weight (6 163 g)	1 578	2 156	325	300	52	680	427	76	188	381
100 %	**26**	**35**	**5**	**5**	**1**	**11**	**7**	**1**	**3**	**6**

Shellfish species names: A = *Terebralia palustris*, B = *Cerithidea decollate*, C = *Saccostrea cucullata*, D = *Anadara* spp., E = *Cyprae annulus/moneta*, F = *Haliotidae* spp., G = *Achatina* sp., H = *Polinices mammilla*, I = *Oliva* spp., J = *Chicoreus ramusus*.

Shellfish species including *Saccostrea cucullata, Anadara* spp., *Haliotidae* spp., *Achatina* sp., and *Oliva* spp. were common in the Zanjian phase but experienced a sharp decrease in the Swahili phase. However, shellfish species types such as *Cypraea annulus/moneta* and *Polinices mammilla* showed similar percentages of accumulation in both phases.

Discussion

In the second millennium AD, the inhabitants of Pangani Bay continued with local ceramic styles that exhibited minor differences to those used by their local ancestors. In the earliest occupation level, there was minimal application of punctuation marks as a decorative motif (figure 3.3) and the only motif that appears to have been preferred is the triangular incision mark. In contrast, lattice design, graphite-red burnished and comb-scraped wares were present from the earliest levels and may have provided design options and choices of motif for potters until the thirteenth century AD, during Swahili times.

The increased exploitation of shellfish species such as *Cerithidea decollata* and *Chicoreus ramusus* – used as bait by fishermen rather than for their meat – during the Swahili period probably indicates the stabilisation of a fishing tradition that was established during the Zanjian period. The decrease of shellfish species in the Swahili phase, such as those of *Anadara* spp. – used for beads – relates to the notable decrease in shell bead making after the increased importation of glass beads. The decrease of the shellfish species *Saccostrea cucullata* – collected for their meat – in the Swahili phase perhaps indicates some change in dietary behaviour as a result of the introduction of the Islamic religion, which discouraged the use of shellfish.

The glass beads showed slight variation through time, presumably indicating a continuity of similar culture. From the beginning of the Zanjian culture, beads provided a

means of body adornment, trade and ritual practices for Pangani inhabitants until the thirteenth century AD, during Swahili times. A similar continuity of cultural patterns defined by beads, fauna and pottery has been found from other archaeological sites on the coast, such as Shanga (Horton 1996). This demonstrates that the past community in Pangani Bay grew by itself parallel to other coastal sites of the time, such as Manda (Chittick 1984), Pate (Abungu 1996), Bandari kuu in Pemba Island (LaViolette 1999) and Chibuene sites on the Mozambique coast (Sinclair 1987).

Conclusion

The research data suggest that Zanjian traditions in Pangani Bay were the foundation of the later Swahili culture. Local inhabitants kept most of their pottery, trade and food traditions in continuity from the Zanjian to the Swahili periods. Minor changes are also recognisable, probably as a result of continuing contacts with neighbouring groups along the coast. Pottery with similar form and decoration was used from the Zanjian into the Swahili period. Food-gathering patterns and the type of food gathered, as revealed by shellfish, suggest some change and continuity. The long maritime trade traditions in Pangani Bay are confirmed by the recovery of Sasanian Islamic wares from the Persian Gulf during the Zanjian period, and black on yellow ceramics from the Red Sea during Swahili times. Apart from the observed internal cultural continuity, the pottery in Zanjian and Swahili communities in Pangani Bay shared similar features to that found in other sites on the East African coast (Shanga, Kilwa and Kaole) and its hinterland (Mombo). Such evidence insinuates a continuing regional connectivity of the inhabitants of Pangani Bay with other communities in East Africa.

Acknowledgements

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4 Is This an Anvil? Iron Bloom Crushing Sites in Northern Togo

Philip de Barros and Gabriella Lucidi

Abstract

This study of iron bloom crushing mortar sites in the Bassar region of northern Togo has revealed several important points: 1) the heterogeneous nature of sub-Saharan African iron blooms required that they be broken up to remove slag and charcoal as part of a refining process prior to the making of iron tools, 2) this process has been documented in the Bassar region and to a lesser extent in the Sukur iron-working area of the Mandara highlands of Nigeria, but it is likely to have been present in many other areas of West Africa and beyond that have not as yet been described, 3) the larger iron bloom crushing mortar sites or outcrops, called *likumanjool* in the western Bassar region, were used from the Late Stone Age through the Later Iron Age for a variety of purposes, including stone axe polishing, iron bloom crushing and refining, hot forging of iron ingots and tools, and the sharpening of metal tools, but were probably not used extensively for the grinding of grain as appears to have been the case in the Mandara mountains of north-eastern Nigeria, and 4) the Bassar region study has revealed at least two stages in the location, preparation and use of stone anvils for hot forging as the Bitchabe region of Bassar moved from generalised iron working toward specialising in smithing as the intensity of iron production and trade began to grow significantly after the sixteenth century. The results of this study will hopefully encourage others to identify and study iron bloom processing sites elsewhere in sub-Saharan Africa.

Résumé

Cette étude des sites mortiers de concassage du fer dans la région nord de Bassar du Togo a révélé plusieurs points importants : 1) la nature hétérogène des grosses barres de fer d'Afrique sub-saharienne nécessitent qu'elles soient brisées pour enlever les scories et le charbon de bois dans le cadre d'un processus de raffinage avant la fabrication d'outils ferreux ; 2) ce processus a été documenté dans la région de Bassar et dans une moindre mesure dans la ferronnerie de la région de Sukur dans les hauts plateaux de Mandara du Nigeria, mais il est probable qu'il ait été présent sans avoir été décrit dans de nombreuses autres régions de l'Afrique de l'Ouest et au-delà ; 3) les plus grands sites mortiers de concassage des produits du laminage ou des affleurements, appelés

likumanjool dans la région occidentale de Bassar, ont été utilisés à partir de la fin de l'âge de pierre à travers l'âge du fer ultérieur pour une variété de raisons, y compris le polissage de la hache de pierre, le concassage et le raffinage de grosses barres de fer, le forgeage à chaud des lingots et des outils, et l'affûtage des outils métalliques, mais n'ont probablement pas été largement utilisés pour le broyage des grains comme cela semble avoir été le cas dans les monts Mandara du nord-est du Nigeria ; 4) l'étude de la région de Bassar a révélé au moins deux étapes dans l'emplacement, la préparation et l'utilisation des enclumes de pierre pour le forgeage à chaud. C'est le cas pour la région de Bitchabe de Bassar partie de la ferronnerie généralisée vers la spécialisation en frappe comme l'intensité de la production et du commerce du fer a commencé à croître significativement après le 16ème siècle ; et 5) les résultats de cette étude, espérons-le, encourageront les autres à identifier et étudier les sites de traitement de grosses barres de fer ailleurs en Afrique sub-saharienne.

The Bassar region iron-working industry

The iron-working industry of the Bassar region of northern Togo (figures 4.1 & 4.2) has been studied since the German mining engineer F. Hupfeld (1899) described it more than

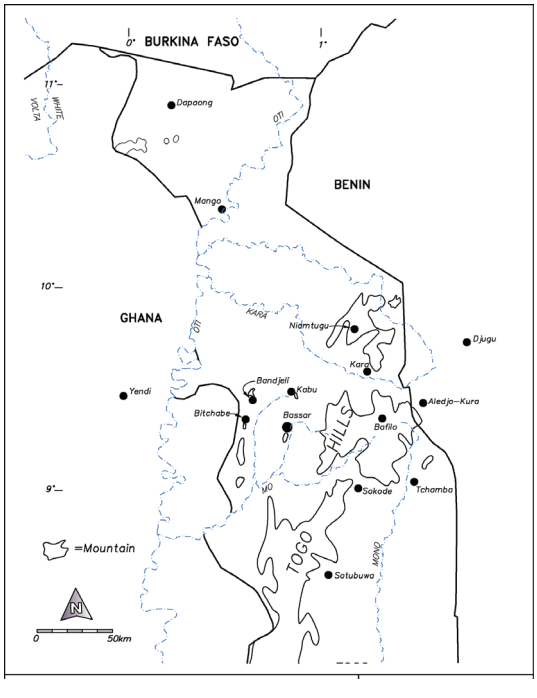

Figure 4.1 The Bassar region of northern Togo. Source: J. Paulson

a century ago. In-depth cultural anthropological and archaeological studies began in the 1980s with Martinelli (1982, 1984, 1992), Goucher (1984), De Barros (1985, 1986, 1988, 2001, 2012, 2013), Dugast (1986, 1992, 2012, 2013) and Hahn (1997). Iron working in the Bassar region can be divided into an Early Iron Age (ca. 400 BC–AD 150), which used small furnaces powered by bellows that produced for local needs and is documented primarily east of the Katcha River especially at Dekpassanware, and a Later Iron Age from the thirteenth through twentieth centuries that used tall, natural draft furnaces and produced for regional and supra-regional export (De Barros 1986, 2013).

When the German colonialists arrived in the 1890s, the western and eastern parts of the Bassar region differed in their political and economic organisation. To the west, the Bandjeli zone north of Natchamba specialised in smelting, the area from Natchamba south to Bitchabe and Ignare specialised in smithing, and Dimuri specialised in charcoal production (figure 4.2). It is not clear whether chiefdoms were present in the western region much before the colonial era. In the eastern region, smelting and smithing villages were associated with chiefdoms centred at Bassar and Kabu. The Bassar chiefdom developed in the late 1700s and the Kabu chiefdom ca. 1850 to 1860

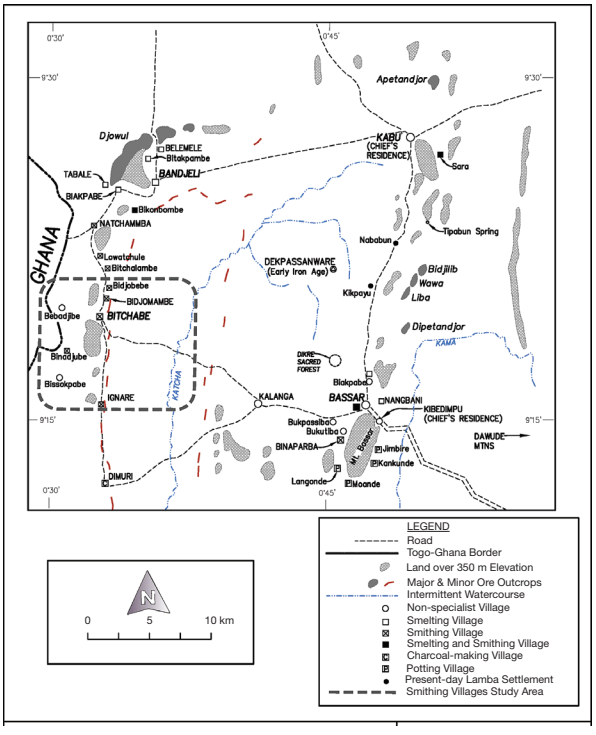

Figure 4.2 The Bassar region showing iron-working villages at contact (1890s). Source: P. de Barros & J. Paulson

(Gnon 1967; De Barros 1985). The richest ores were in the Bandjeli region with hematite as high as 69 % iron, whereas eastern region ore sources ranged from 35–45 % iron (Koert 1906; Lawson 1972; De Barros 1985: 126). Major Later Iron Age production centres existed not only near Bandjeli but also north of Kabu, east of Nababoun and just north of Bassar. The focus of this paper is on the zone that specialised in blacksmithing. These smithing villages included Natchamba, Lowatchule and Bitchalambe, but this study has focused on those to the south, including Bidjobebe, Bidjomambe, Bitchabe, Binadjoube and Ignare (figure 4.2).

Refining traditional iron blooms in Bassar

In traditional sub-Saharan African iron working, the iron bloom produced in a traditional clay smelting furnace contains considerable slag and charcoal that must be removed prior to the forging of iron tools (Hupfeld 1899; Cline 1937). In the Bassar region this was done by using a large, roughly spherical stone crusher or pounder (figure 4.3) for breaking up the bloom (*ŋkuyiki*) into smaller and smaller chunks of pure

Figure 4.3 Iron bloom crusher or pounder made of quartzite at site 312 near Bidjobebe. Note large cylindrical crushing mortar produced by the long-term action of this tool. Pen and 50 cm tape shown for scale. Photograph: P. de Barros (1981)

Figure 4.4 Smaller spheroidal hammer for pulverising smaller bloom fragments and small saucer mortars its action produces over time (site 312). Photograph: P. de Barros (1981)

or nearly pure iron (*akubil*) suitable in size for the hot forging of various tools, while at the same time removing bits of attached slag and charcoal (De Barros 1985: 166; Dugast 1986: 38–42). This was followed by the pulverising of the smaller pieces thought to contain a mixture of iron and slag, as well as material formerly removed from the exterior of the bloom, including *kukwoŋ*, a mixture of wood and charcoal located within the interior of the semi-circular to horseshoe-shaped bloom. Both types of material were referred to as 'gravier de fer' or 'iron gravel' (*ŋkutam*) (De Barros 1985: 161; Dugast 2013: 30–32). The latter activity was performed using smaller spheroidal stone hammers (figure 4.4). According to Yao Nambou of Bidjobebe (pers. comm. 1981), whose father was a master smith, the large, roughly spherical crushing hammers were used by his mother in a standing position and were thrown down with both hands, crushing the bloom chunks against the bedrock. This bloom crushing process often produced outcrops with one or more large and deep cylindrical mortars surrounded by numerous small to medium saucer mortars (figure 4.5). Rock outcrops that have been intensively used may include a combination of deep cylindrical mortars, shallow

Figure 4.5 Deep cylindrical mortar surrounded by numerous small mortars and a variety of conical and ellipsoid mortars, basins and slicks (feature T, site 299A, Bidjomambe). Photograph: P. de Barros (2013)

to deep conical or ellipsoid/ovoid mortars, and slicks, with some areas containing saucer mortars (figure 4.6). The slick areas are most likely the result of wear from pulverising smaller pieces of bloom containing iron and slag to create the 'iron gravel' (*ŋkutam*) noted earlier. While this usually produced small saucer mortars over time, it is likely such activity was not always confined to the holes but also affected adjacent areas. Other less intensively worked rocks may include circular to elliptical/ovoid mortars where larger pieces of bloom were broken up and small pockmarks where a rock was first used to pulverise smaller pieces.

The sexual division of labour for bloom crushing and refining varied in the different smithing villages of the Bassar region (De Barros 1986: 166–173; Dugast 2013: 29–36). For example, it appears that men as well as women broke up the bloom in Binaparba-Bassar (Dugast 2013: 30–31; Dugast, pers. comm. 2015), whereas women usually performed this task in the western region (De Barros 1986: 153; Dugast 2013: 32 n14, 35 n20). Women more often than not were engaged in the process of crushing or pulverising or grinding the smaller pieces into what is called 'farine de fer' or 'iron flour' (*ŋkuyim*)

Figure 4.6 Intensively used outcrop at site 298A (Bitchabe) showing deep cylindrical mortars, conical to ellipsoid basins and mortars, smaller saucer mortars and shallow slicks. Photograph: P. de Barros (2013)

(Dugast 2013: 30). After pulverisation, the iron flour or powder was separated from the slag powder by shaking the material up and down in a calabash, which brought the lighter slag powder to the surface, allowing it to be removed. This separation was aided by the fact that the iron flour is distinctly lighter in colour than the slag powder (Dugast 2013: 33 n16). The iron flour is viewed as indispensable for welding together the iron bloom pieces into a state where it can be forged into an ingot (*likɔpiil* or *dikɔpiil*) or iron hoe (*dikool*) or another tool (De Barros 1985: 173; Dugast 1986: 38–47, 2013: 28). It should be noted that while the iron flour (*ŋkuyim*) is used in the clay ball refining process described below, the remaining darker slag powder or 'micro-slag' is viewed as a waste product (*ncaakoom*) by the blacksmith. However, his wife or wives as well as their relatives added it to harden house walls and courtyard floors and/or to give them a brilliant decorative sheen (De Barros 1985: 161; Dugast 2013: 36).

The critical step in bloom iron refining involved the mixing of iron bloom pieces (*akubil*) with the iron flour (*ŋkuyim*) and the leaves of a riparian plant (*titaŋkummool*), which served as an adhesive, into a ball made from a red clay (*diwulindi*). The clay ball

is called *litaŋkunli* in the Bitchabe region and *ditaŋkundi* in Binaparba-Bassar (Martinelli 1982; Goucher 1984; De Barros 1985: 173; Dugast 1986: 40–42, 2013: 28–36).

In the Bitchabe region, the rock outcrop used to crush and/or pulverise the iron bloom is called a *likumanjool*; in Binaparba-Bassar, the term is *dikugbataŋkpal* for men and *dikusanjool* for women (De Barros 1985: 166–173; Dugast 2013: 35). The larger *likumanjool* sites usually consist of a large outcrop or a cluster of smaller rock outcrops that may contain both deep cylindrical mortars with a spheroidal bottom and relatively deep conical or ellipsoid basins resulting from the use of the large stone crusher or pounder, as well as many small, relatively shallow saucer mortars or simple pockmarks produced by the use of small hammers to create the iron flour (*ŋkuyim*) (figures 4.3–4.6). Based on the study of archaeological and ethnoarchaeological smithing village sites in the Bitchabe region in 2013, the smaller saucer mortars and pockmarks can be found alone (without the large mortars or basins) on clusters of large and small bedrock outcrops, large boulders and even small portable boulders or stones. The larger *likumanjool* sites are usually found near the smithing village and women often worked there in groups processing the iron bloom (see also Dugast 2013: 34–35). The smaller *likumanjool* sites found on boulders and sometimes portable stones are most often found scattered within areas reserved for forging called *ncaamɔŋki* (outside courtyard [*mmɔŋki*] for the forge [*kucaau*]), situated below the village habitation area (Dugast 2013: 34 n18). Given that only men actually forged tools, these small *likumanjool* were probably only used by men (Dugast 2013: 33, 37). An individual smithing workshop or 'atelier' within this forging zone area was called *kucaadi* (Dugast 2013: 36). In terms of the spatial organisation of the smithing village, habitation and forging areas were thus separated but adjoining (see also De Barros 1985: 173; David 1998: 42).

Iron bloom crushing mortar sites in West Africa and beyond

Since we know that traditional sub-Saharan iron blooms were a heterogeneous mixture of iron, slag and charcoal that had to be refined before forging iron ingots or tools, one would expect that iron bloom crushing mortar sites would be found throughout much of Africa. What is the evidence for West Africa?

David (1998: 29–31), in his study of grinding sites in the Sukur region in the Mandara mountains of north-eastern Nigeria, focuses primarily on food grinding, but he does discuss 'fining hollows and complexes' that are often dominated by what he calls 'crushing mortars' used for breaking up iron blooms. Crushing mortars are usually deeper than they are wide, with a bell-shaped cross-section (David 1998: 41).

> Fining hollows and complexes were used for the breaking up and initial mechanical fining of the iron blooms that Sukur used to produce in industrial quantities. … Fining hollows *only* occur as clusters or groups of clusters of hollows [mortars or basins] on bedrock outcrops,

> boulders and large blocks, rarely on smaller blocks. … A limited degree of tilting of all or part of the support was tolerated. Clusters include small, rough surfaced, sub circular pock marks or cupules … and in almost every case a smaller number of larger, smoother examples, some of which may be reused basin hollows and crushing mortars (David 1998: 34).

David (1998: 29, 41) states that such fining complexes exist in other areas of the Mandara mountains and notes that Sassoon (1962: 145, plate Lb) illustrates comparable sites from the Jos Plateau, but that the latter sites seem to lack the smaller hollows (saucer mortars) found at Sukur. This may be because bloom processing was different on the Jos Plateau (David 1998: 42), in that the refining process perhaps did not include the creation and use of 'iron flour' or it was produced in other ways. This is suggested by Sassoon's (1962: 145) description of the process. When describing how iron bloom (composed of slag, charcoal and iron granules) was crushed in large, deep, slightly oval to circular mortars, he says the furnace core (bloom) was

> broken into lumps and then pounded so that the charcoal and slag are reduced to a fine dust; the granules of metal resist the blows of the hammerstone. The slag and charcoal dust is then winnowed away, and the granules of iron can be gathered together and handed over to the blacksmith, who consolidates them by heating them in a small closed crucible in his forge, and then hammering the red-hot mass into a lump (Sassoon 1962: 145).

The deep pits where the bloom was crushed were as much as 12 inches (30.5 cm) deep and 24 inches (61 cm) in longest dimension (Sassoon 1962: plate Lb). No average figures are provided.

For the Sukur region, David (1998: 42) continues:

> Fining complexes often occur on supports large enough for several persons to have worked together. Groups of 40–50 hollows are not exceptional. The smallest might be described as pockmarks. Somewhat larger are those 5–8 cm across and 2–3 cm deep, their interior surfaces roughened by the repeated impacts of stone hammers transmitted through irregular fragments of bloomery iron. As hollows continued to be used, achieving diameters over 15 cm and depths of 8 cm or more, the randomising effects of continued hammering resulted in smoother interiors and more nearly circular plans and hemispherical cross-sections. As some hollows became favoured over others for breaking larger pieces of bloom, mature complexes came to include a number of larger hollows …

The iron bloom crushing mortar sites in the Bassar region generally conform to David's descriptions, but due to the intensity of iron production at some sites, these mortars average as much as 34 cm in depth, with some as deep as 44 cm, sometimes

with a spheroidal bulge at the bottom (De Barros 1985: 174). Other areas used for bloom crushing that did not evolve into cylindrical crushing mortars have taken the shape of more conical or ellipsoid basins with smooth sides (figures 4.5 & 4.6). Some intensively used *likumanjool* outcrops have well over 100 features on a single outcrop, such as outcrop A at site 298A (figure 4.6), and some have as many as 50–60 small saucer mortars crowded into a small area on a single relatively small outcrop. Smaller portable or nearly portable *likumanjool* found in smith workshop areas may have 20–30 pockmarks or saucer mortars taking up every available space.

Iron bloom crushing mortars are thus present in northern Togo (Bassar region) and parts of northern Nigeria (the Mandara highlands and the Jos Plateau). What about elsewhere? In the area of Bamessing in the Ndop Plain of the Cameroon grasslands, Warnier and Fowler (1979: 344) describe iron bloom processing on bedrock outcrops that is similar to that described for the Bassar region, also producing deep, more or less cylindrical mortar holes. In email correspondence with colleagues in Ghana, some are of the opinion that such sites exist in the Volta region in Kpando, but they have been insufficiently studied to be certain (Mustapha Mohammed, pers. comm. 2014). In the Ivory Coast, there may be such a site near Korhogo, described by Célis (1991: 167, figure 136) (Vincent Serneels, pers. comm. 2014).

What about elsewhere in sub-Saharan Africa? While no information has yet been located for southern Africa, probable iron bloom crushing mortar sites have been noted in East Africa. Fosbrooke (1954: 101–102, plate G) describes 'pock marks' resulting from the crushing of iron bloom pieces in the Pare region of northern Tanganyika, now Tanzania (see David 1998: 14). These marks average about 5 cm in diameter and are 1–2 cm deep, and they vary from a few to up to 53 on a given rock outcrop (Fosbrooke 1954: 101). The rock outcrops resemble those with small saucer mortars produced from crushing smaller pieces of iron bloom in the Bassar region. However, the goal was not to crush the bloom into 'iron gravel' for fining purposes, but rather to break up the bloom into the pieces needed to make a particular iron tool (Fosbrooke 1954: 102). Similar features are present in the neighbouring Chagga area (Fosbrooke 1954: 102 n2).

More recently, Humphris (2010: 265), in her work on the iron-smelting traditions of southern Rwanda, discusses 'grinding hollows' near a furnace site:

> … 3 m north of f1 [furnace remains], on a number of rocky outcrops, over thirty grinding hollows were observed (figure 6.6.3). These were all of a similar oval shape … with dimensions of between 10–25 cm in depth, and 25–45 cm in width, (measured at the widest point). All of the hollows had a smooth bottom, the rock having been ground flat over the years.

Local informants were interviewed but they had no memory of either the iron production or the use of the grinding hollows (Humphris 2010: 264–265, figure 6.6.3).

The hollows look similar to those illustrated by Sassoon (1962), but are somewhat smaller in size. Their proximity to the smelting furnace suggests they may be iron bloom crushing mortars, but more research is needed.

In discussion with colleagues, it would seem that aside from David's (1998) study, which focused primarily on food grinding, and the current study, little research has been done on rock outcrops used to process iron blooms. Moreover, as David (1998) suggests, without a careful archaeological and ethnographic study of specific outcrop types, many sites that were used as iron bloom crushing sites may be mistakenly assigned to grain grinding. Given the heterogeneous nature of traditional sub-Saharan African iron blooms, which must be broken up and refined prior to the making of iron tools, more research on this topic is clearly needed.

Is this an anvil?

In 2013, the authors spent several months in the Bassar region. One of the goals was to map and document *likumanjool* sites for comparative purposes. After recording site and rock outcrop dimensions at each site, and after mapping them with GPS, chalk was used to outline each rock feature: mortars, basins, grooves, abraded areas and slicks. The dimensions of each feature were then measured with the ultimate goal of measuring their volumes to establish a rough total volume figure for each major *likumanjool* site that could serve as a rough indicator of the intensity of iron tool production at the various sites studied near Bidjobebe, Bidjomambe, Bitchabe, Binadjoube and Ignare (figure 4.7). Time constraints precluded the study of Lowatchule, Bitchalambe and Natchamba.

While documenting site 312 near Bidjobebe, a co-author of this study, Gabriella Lucidi, asked whether a rock outcrop labelled FF might be an anvil rather than an outcrop used for bloom crushing. This question seemed reasonable so two soil samples were collected from adjacent to both sides of outcrop FF, as well as from an adjacent low, flat outcrop, to see if any hammerscales and/or microspatter were present that would confirm that hot forging had indeed taken place (Allen 1986; De Barros 2011). These hot forging waste products, also called *battitures*, are only a few millimetres long. Soil samples were taken in 29x20 cm cloth bags filled half-way, producing about a 1 kg soil sample. The samples were obtained adjacent to the potential anvils. The goal was to determine whether or not hammerscales and microspatter were clearly present, not to suggest a quantitative comparison between anvils.

During hot forging, hammerscales are derived from the flaking off of thin, generally bluish-grey flakes of iron from the tool being forged, whereas microspatter is the result of liquid slag being squeezed out of the iron and departing as a tiny sphere, which may occasionally be deformed upon striking a hard surface (Allen 1986). Standard geological sieves measuring 3.35, 1.7 and 1.0 mm were used to separate the hammerscales and microspatter into different-sized categories. These were stacked with the largest

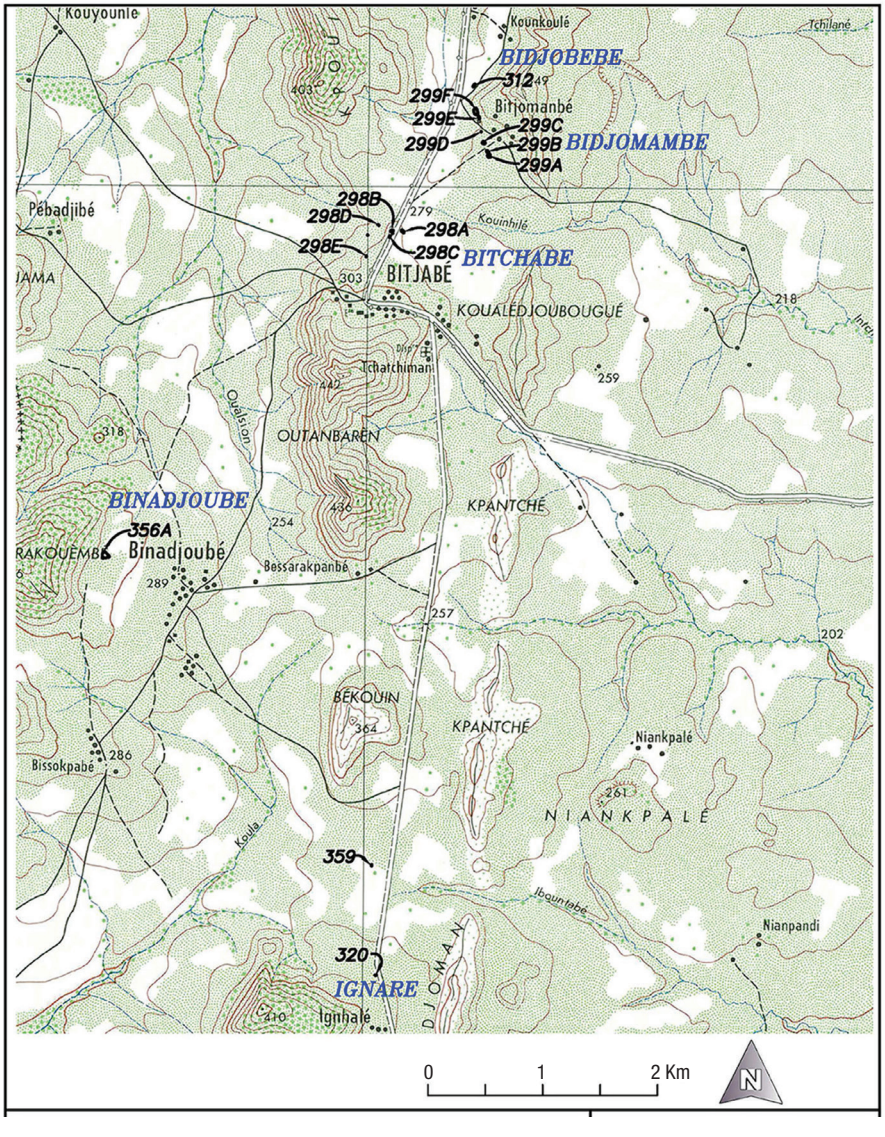

Figure 4.7 Iron bloom crushing mortar sites (*likumanjool*) discussed in the text. Source: J. Paulson

sieve-opening on top and the soil from each sample was then sieved, with the finest part of the sample (≤1 mm) being lost in the process.

For each screen size, a magnetic pencil was then used to extract magnetised particles. This is a tedious process that requires multiple passes of the pencil through the material in the screen, until one ceases to attract any particles. The magnetic samples were bagged separately and later washed and scrubbed with a toothbrush in

their screens so hammerscales and microspatter could be more easily identified. After drying, each washed sample was then carefully examined, piece by piece, under a small incandescent lamp to check for hammerscales and/or microspatter, which were then counted and bagged separately. The results were encouraging. All of the initial soil samples from site 312 near Bidjobebe tested positive for hammerscales and

Table 4.1 Evidence for hammerscales and microspatter at iron bloom crushing mortar sites investigated in the Bitchabe region. Source: P. de Barros

Village	**Site**	**Feature***	**Hammerscales (HS) Sieve Size (mm)**			**Microspatter (MS) Sieve Size (mm)**		
			3.35	**1.7**	**1.0**	**3.35**	**1.7**	**1.0**
Bidjobebe	312	H (north side)	0	2	36	0	1	5
		H (south side)	0	3	72	0	3	30
		Q	0	10	23	0	0	4
		U–V	0	0	15	0	0	0
		CC	0	8	224	0	6	23
		FF (east side)	0	5	36	0	2	5
		FF (west side)	1	5	17	1	9	7
Bitchabe	298A	PA1	0	0	139	0	1	10
		PA2	0	4	47	0	0	2
		PA3 (E)	0	1	11	0	0	3
	298B	PA1	0	1	25	0	0	2
		PA5	0	2	31	0	1	2
		PA2 (H)	0	0	17	0	0	3
		PA3?	0	0	4	0	0	1
		PA4?	0	0	3	0	0	0
	298C	PA1	0	1	19	0	0	3
		PA2 (H)	0	1	17	0	0	1?
Bidjomambe	299A	PA22 (E&W sides)	0	2	32	0	1	8
		PA23 (X)	0	2	56	0	1	9
		PA24	0	0	14	0	0	5
		PA25	0	7	45	0	3	11
	299B	PA27	0	51	707	0	4	38
Binadjoube	356A	PA1??	0	0	2	0	0	0

* PA = potential anvils; on site maps in this report, those with evidence of HS and MS are shown as A = anvil, whereas PA = potential anvil was used on the maps if the level of such evidence is limited or ambiguous due to the presence of an adjacent outcrop which might also be the source of the HS and MS. Letters in parentheses represent outcrops with iron bloom crushing mortar features.

usually microspatter. Outcrop FF (two samples), which prompted the study, produced 64 hammerscales and 24 microspatter, but the most dramatic evidence came from outcrop CC with 232 hammerscales and 29 microspatter (table 4.1). These results led to further soil sampling adjacent to outcrops H, Q and U–V. H is similar to FF in general shape and Q and U–V are low, flat outcrops like CC. Outcrop H (two samples) produced 113 hammerscales and 39 microspatter; outcrop Q, 33 hammerscales and 4 microspatter; and between outcrops U and V, 15 hammerscales and 0 microspatter.

Given this initial success, soil samples for potential anvils were also collected for sites 356A, 298A–C and 299A and B, and one or more anvils were demonstrated to be present at all of these sites except 356A (tables 4.1 & 4.2; figures 4.8–4.11). These newly discovered anvils are outcrops that vary in size and shape but generally have an upper surface that is more or less flat.

Table 4.2 The multi-functionality of iron bloom crushing mortar (*likumanjool*) sites in the Bassar region of Togo. Source: P. de Barros

Associated Village	Site	Rock Outcrops	All Rock Features[1]	Anvils[2]	Polished Stone Axe Grooves	Metal Tool Sharpening Surfaces	LPAs[3]
Bidjobebe	312	30	414	5–6	2 (Q)		
Bitchabe	298A	15	432	2–3	1 (A)	11 (A&B)	
	298B	18	220	3–5	11 (J&S)	3 (A, H)	
	298C	9	57	3		1 (D)	
	298D	3	14	ND		1 (C)	
	298E	2	22	ND		1 (A)	
	298A–E	47	745	8–11	12	17	
Bidjomambe	299A	28	434	4	13 (G, X, AA)	5–6 (G, N, Q?, AA; SS1–2)	
	299B	8	67	1	4 (A)	15 (SS1–5)	
	299C	10	42	ND	2–5 (B, SS1?)	19 (SS1–6)	
	299D	10	23	ND	1 (LPA3)	2 (SS1–2)	3
	299E	6	9	ND		LPA1?	3
	299F	7	28	ND			
	299A–F	69	603	5	20–23	41–43	6
Binadjoube	356A	10	65	1?			
Ignare 1	320	9	27	ND	3 (A, D)	3 (A, C)	
Ignare 2	359	12	128	ND	0	1 (D)	

[1] Includes all mortars, basins, grooves, slicks, sharpening surfaces
[2] Anvils are viewed as rock outcrops, not features
[3] Clay ball (*litaŋ kunli*) preparation anvils
Letters in parentheses refer to outcrops with iron bloom crushing mortar features.

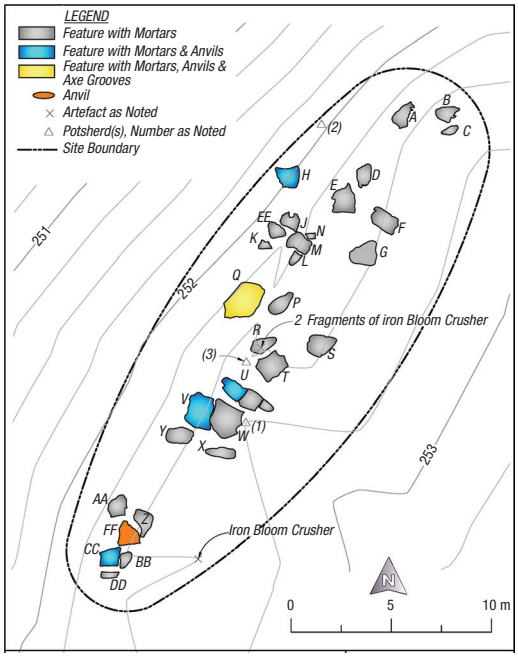

Figure 4.8 Site 312 *likumanjool* near Bidjobebe. Source: J. Paulson

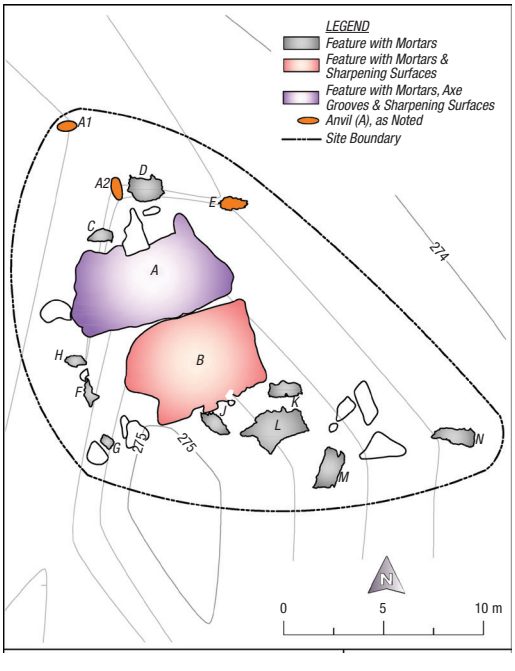

Figure 4.9 Site 298A *likumanjool* near Bitchabe. Source: J. Paulson

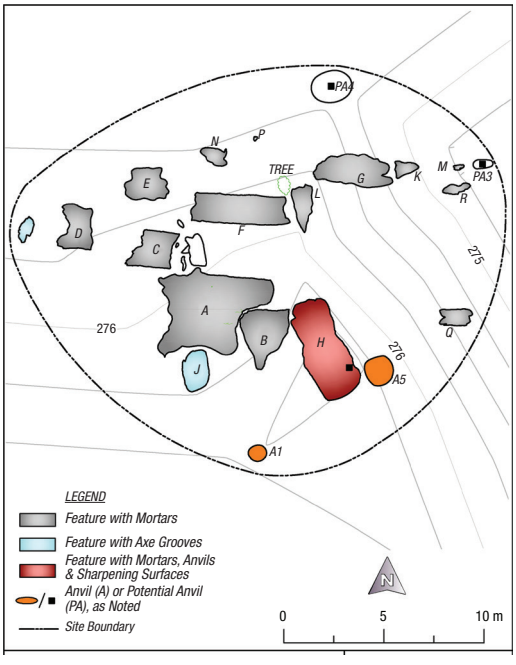

Figure 4.10 Site 298B *likumanjool* near Bitchabe. Source: J. Paulson

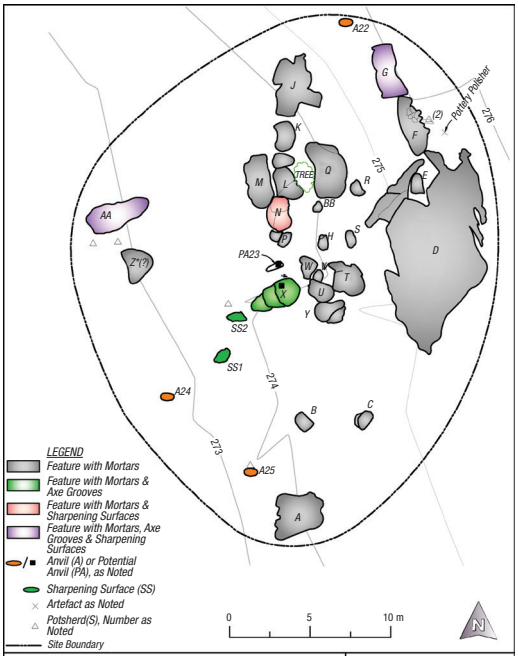

Figure 4.11 Site 299A *likumanjool* near Bidjomambe. Source: J. Paulson

Given the frequent presence of anvils at *likumanjool* sites it was decided to check for other potential site uses over time, including the presence of Late Stone Age stone axe polishing grooves and Iron Age metal tool sharpening surfaces. This unexpectedly led to the discovery of clay ball (*litaŋkunli*) preparation anvils at sites 299D and E (table 4.2; figure 4.7). The issue of whether these outcrops were used for grain grinding was also considered (see below).

Stone axe polishing grooves

These were found at all of the larger *likumanjool* sites except site 312 near Bidjobebe, including sites 298A and B near Bitchabe, 299A–D near Bidjomambe, and at site 320 near Ignare (table 4.2; figures 4.7–4.11). All of the axe polishing grooves are long and narrow (mostly 2–3 cm in width) and readily distinguishable from iron bloom crushing mortars and basins and metal tool sharpening surfaces. The number of grooves varied from 1–3 per outcrop to a set of 10 grooves on outcrop J at site 298B (figure 4.12). Some of the outcrops with axe grooves also had iron bloom crushing

Figure 4.12 Ten stone axe polishing grooves, outcrop J, site 298B near Bitchabe. Photograph: P. de Barros (2013)

mortars, including outcrops Q at site 312; A and D at site 320; A at site 298A; G, X and AA at site 299A; A at site 299B; and B at site 299C (table 4.2).

Metal tool sharpening surfaces

These were recorded in the field in 2013 and additional ones were identified from field photos in 2014. While none were identified at site 312, one or more were recorded at sites 298A–E near Bitchabe, including 11 examples on the large and intensely used outcrops A and B at site 298A (table 4.2). Two sharpening surfaces on outcrop ridges are illustrated, including feature 96 abraded on top of a polished stone axe groove (figure 4.13). At site 299A at Bidjomambe, sharpening surfaces were found on iron bloom crushing mortar outcrops (G, N & AA), and two outcrops (SS1 & 2) had only metal tool sharpening surfaces. For *likumanjool* sites 299B and C, all metal tool sharpening surfaces were found on rock outcrops adjacent to but not within the *likumanjool* outcrop cluster, whereas at 299D, one was associated with the *likumanjool* and one was not.

Figure 4.13 Two metal tool sharpening surfaces, with feature 96 on top of stone axe polishing groove, outcrop A, site 298A near Bitchabe. Photograph: P. de Barros (2013)

Litaŋkunli preparation anvils

Finally, while recording *likumanjool* sites at Bidjomambe, Chief Djayo, an 85-year-old traditional smith who worked as a hammerman, pointed out six rock outcrops associated with sites 299D and E that he said were used as anvils by the wives of blacksmiths to help prepare and shape the clay balls (*litaŋkunli*) prior to them being worked in the forge by their husbands. Their work involved mixing the iron bloom chunks with iron flour and the leaves of the riparian plant (*titaŋkummool*) into the red clay ball, which was then shaped with one of the stone hammer types described by Dugast (1986: 42–45). This was somewhat of a surprise as previous studies suggested only men prepared, shaped and worked the clay balls (Dugast 1986, 2013). These anvils are designated as *litaŋkunli* preparation anvils (LPAs) in table 4.2, and they deserve more study than was possible for this article.

Grain grinding mortars vs iron bloom crushing mortars

Until now, sites 320 and 359 near Ignare and site 356A near Binadjoube have not been discussed (figure 4.7; table 4.2). These are smaller sites than the large complexes found near Bitchabe, Bidjomambe and Bidjobebe.

Site 320 contains only 9 rock outcrops with 27 features, most of which are shallow slicks or basins, slicks and axe grooves. However, 10 features consist of large, relatively deep ovoid mortar features whose dimensions range as follows: 33.5–49 cm (length) by 30–42 cm (width) by 3–13 cm (depth) with mean dimensions of 44.6 by 35.6 by 8.1 cm (figure 4.14). There are no deep cylindrical mortars or groups of small saucer mortars. Site 356A has 10 rock outcrops with 65 features, including 16 ovoid mortars similar to those at site 320 with dimension ranges as follows: 28–53 cm (length) by 18–44 cm (width) by 2.5–12.5 cm (depth) with mean dimensions of 40.1 by 31.2 by 6.2 cm. Although shallower than those at site 320, the length-to-width ratio is virtually the same for the two sites (0.80 vs 0.78, respectively), suggesting they were produced by similar processes. This site also has a few relatively deep conical/semi-cylindrical mortars and groups of small saucer mortars.

Were the ovoid mortars at these two sites produced by grinding grain or crushing iron bloom? David (1998: 29) indicates that mature grain (millet and sorghum) grinding mortars in the Sukur region of the Mandara mountains of north-eastern Nigeria are ovoid in shape with dimensions typically ranging from 36–44 cm long by 23–32 cm wide by 7–11 cm deep, but provides no mean dimensions. While similar to those at sites 320 and 356A, given that David's data focus on well-worn basins, those at Bassar appear to be longer and especially wider than those at Sukur, suggesting perhaps differences in the size, shape and/or manner in which the crushing tool was used. The ovoid mortars at site 320 near Ingare were definitely assigned to iron bloom

Figure 4.14 Ovoid mortars at site 320, outcrop A. Photograph: P. de Barros (2013)

crushing by Chief Ali Nambou, whose father was a master smith who engaged in bloom crushing at the site (Ali Nambou, pers. comm. 1981). When asked to take us to an iron bloom crushing mortar site, the landowner of the site, who is also the local earth priest at Binadjoube, Bingitcha Kyiole, took us to site 356A. Site 356A also has some cylindrical mortars and groups of small saucer mortars that are typical of the sites near Bitchabe, Bidjomambe and Bidjobebe.

Site 359, situated north of site 320 (figure 4.7), is a somewhat larger site with 12 outcrops and 128 features. It is dominated by relatively deep conical or ovoid mortars which are sometimes associated with large groups of small saucer mortars; however, the mortars here are not as large as at sites 320 and 356A. Some of the ovoid mortars appear to have been reworked and deepened with smaller ovals or saucer mortars inside them (figure 4.15), and this kind of deepening reuse is also present near Binadjoube at site 356A at outcrops A and B. There is also evidence of reuse of existing basins and mortars at sites 298A and B and 299A and B. David (1998: 29–31) suggests this reuse pattern involves the reuse of grain and other grinding features for iron bloom crushing. Could this be the case at sites 320, 356A and elsewhere?

Figure 4.15 Reused and deepened ovoid mortars at site 359, outcrop E. Photograph: P. de Barros (2013)

First, it should be emphasised that in the Bitchabe region, archaeological sites of the last few centuries, including those occupied during the late nineteenth and early twentieth centuries as well as present-day villages, consistently show the presence of deep, semi-portable to portable mortars (called basin metates in California), which local informants state were used for the grinding of millet and sorghum. These mortars are found in direct association with habitation areas and there is little archaeological evidence of communal grinding sites as reported near Sukur (David 1998). Site types recorded during the intensive survey of 10 km^2 between the Katcha River and Bidjilib ore source to the east, as well as more critical surveys conducted elsewhere in the Bassar region, have produced only one or two possible communal bedrock mortar grinding sites (De Barros 1985: 730–740).

Second, there is at present no ethnographic evidence regarding a second iron bloom crushing method, though it is possible one existed in the distant past. In addition, large and small crushing hammers similar to those used elsewhere are present at sites 320 and 356A. As noted earlier, Sassoon (1962) has discussed and illustrated large, deep, slightly ovoid or conical mortars on the Jos Plateau of northern Nigeria, where bloom was crushed until all slag and charcoal were reduced to powder and winnowed out as dust, apparently without the separate step of using small hammers

in small saucer mortars to create such powder (David 1998: 29–31). For the Bitchabe region, however, what is perhaps more likely is that crushing mortar feature differences reflect differences in the duration and intensity of bloom crushing over time at particular sites, especially after the rise of large-scale iron production. As the intensity of production increased, and after ovoid mortars had reached a certain depth, some of them were deepened to eventually form the deep cylindrical mortars seen at Bidjobebe, Bitchabe and Bidjomambe.

Likumanjool site multi-functionality: discussion

The results of this study are summarised in table 4.2, which illustrates the historical multi-functionality of these sites, beginning with stone axe polishing during the Later Stone Age and their later use as anvils for the hot forging of iron tools, for iron bloom crushing and for metal tool sharpening during the Later Iron Age. The *litaŋkunli* preparation anvils were identified via oral traditions for the village of Bidjomambe and may not be typical of other smithing centres. Moreover, it would be hard to identify their presence with archaeological evidence as there do not seem to be any distinctive markings on these outcrops and *battitures* would not be present. At present, it seems unlikely that *likumanjool* sites were significantly used for grain grinding, but this use, especially during the Late Stone Age, cannot be excluded. The most intriguing aspect of the multi-functionality of the *likumanjool* sites is the presence of hot forging anvils, something that seems to have been forgotten in local oral traditions.

A proposed history of anvil production and use in the Bassar region

When the senior author first visited the Bitchabe region in 1981, the then district chief (*chef de canton*) Kofi Seydou emphasised that the reason the region had specialised in smithing for as long as they were able to remember was because of the high-quality (quartzite) stone used for the production of both stone anvils as well as some types of stone hammers (De Barros 1985: 205; Dugast 2013: 52 n45). This hard, compact, homogeneous, bluish-grey quartzite was particularly sought after for the large anvils used in the Bitchabe zone and at Binaparba-Bassar when the Germans first arrived in the late nineteenth century. In Binaparba-Bassar, the word for anvil is *dicaataŋkpal* (Dugast 1986: 42), literally 'forge stone'. However, based on the authors' field research in 2013, the term used in the Bitchabe area is *kukpɔkɔ*, a term Dugast (2013: 39 n30) says cannot be broken up into separate words in the Bassar language. The type of stone used for such anvils is referred to as *ntaŋkpajil* (Dugast 2013: 47 n39).

These large quartzite anvils were quarried in the nearby mountains (Dugast 1986, 2013; see also De Barros 1985: 173). A master smith would travel to a known source area and select a good-quality stone outcrop or large boulder. He would then return

with a group of powerful young men with a wooden transport frame lashed together with vines. After removing and partially shaping the stone by using alternating fire and water treatment, the team would then push and pull the transport frame along a path that was first cleared of vegetation. The trip back to the home village might take two to three days. Once there, it would be further shaped through a combination of fire and water treatment and by blows with a stone hammer. About half of its length was buried in a hole in the ground with a relatively flat surface exposed as the top of the anvil, which usually protruded about 20 cm above ground for young smiths but may be much lower for older smiths (see De Barros 2013: field notes; Dugast 2013: 54–55).

The discovery of numerous anvils within *likumanjool* sites, some with and some without iron bloom crushing mortars, suggests natural rock outcrops were first used as anvils, perhaps before and during the early period of specialisation in smithing in the Bitchabe region. With the rise of large-scale production, smiths became more particular about the stones used and began to quarry high-quality, homogeneous, hard and compact quartzite from the neighbouring hills for careful shaping and placement in the ground. The areas where natural stone outcrops were used as anvils often later became part of large *likumanjool* sites needed to deal with the rise of large-scale production. Additional radiocarbon dates obtained from various smelting mounds from Bidjobebe, Bidjomambe, Bitchabe, Binadjoube and Ignare in 2013 indicate decisively that specialisation in smithing began to develop by the mid-fifteenth century. Large-scale production began in the Bassar region by at least the mid-sixteenth century based on existing radiocarbon dates from the Bandjeli smelting zone (De Barros 1986).

Linguistic notes

The words in the Bassar language (*ncam*) are written using an agreed upon transcription method by a committee of linguists (Dugast 2013: 25–26 n4). The Latin alphabet is used with the addition of *ɔ* (similar to 'aw') and *ŋ* (as in 'ng' in camping). In addition, long vowels are doubled (*oo*), *u* is pronounced as in 'who', *c* as in 'tch', *j* as in 'dj' like in 'job', and *w* as in 'week'.

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5 L'art Rupestre au Cameroun, Nouvelles Découvertes et Contribution à L'iconographie Sous-Régionale

Narcisse Santores Tchandeu

Résumé

Les recherches que nous menons depuis 2009 ont permis de découvrir une dizaine de sites d'art rupestre dans l'Adamaoua, région centrale du Cameroun. Le répertoire iconographique de ces sites se compose de modèles d'armes et des jeux rupestres dont les références sont protohistoriques. Ceci se détache de la plus ancienne tradition des figures géométriques « abstraites » de Bidzar, dans le nord du pays. Grace à ces découvertes, le Cameroun fait désormais partie d'un réseau élargi des pays d'Afrique centrale qui ont connu un âge de fer remarquable, illustré par la représentation fréquente des armes métalliques. Un résumé des connaissances sur l'art rupestre au Cameroun montre que la variété de styles et de thèmes traités semble refléter celle des systèmes cosmologiques et sémiologiques. Comme tel, l'iconographie actuellement disponible permet de distinguer trois styles de représentation : le style géométrique « abstrait » de « mythogramme » trouvé à Bidzar ; le style géométrique « algébrique » de « ludogramme » (jeu rupestre) localisé des monts Mandara à l'Adamaoua ; le style schématique de « pictogramme » correspondant à un système phonétique dans l'Adamaoua. Ces représentations ont été partiellement décryptée en faveur de l'ethnologie comparative et à la lumière des traditions orales.

Abstract (Rock Art in Cameroon: Knowledge, New Discoveries and Sub-Regional Iconography)

Our research since 2009 has led us to a dozen rock art sites in the Adamaoua in central Cameroon. The iconographic repertoire of these sites is made up of weapon designs and rock games with protohistorical references. This breaks away from the older tradition of 'abstract' geometric figures from Bidzar in the north of the country. With these discoveries, Cameroon is now part of an extended central African network that has known a remarkable Iron Age as testified to by the frequent representation of metal weapons. A summary of knowledge on rock art in Cameroon shows that the variety of representation styles and themes seems to reflect that of cosmological and semiological systems. As such, currently available iconography makes it possible to distinguish

three representation styles: the 'abstract' geometric style of 'mythogram' found in Bidzar; the 'algebraic' geometric style of 'ludogram' (rock game) localised from the Mandara mountains to Adamaoua; and the schematic style of 'pictogram' corresponding to a phonographic system in the Adamaoua. These representations have been partially decrypted with reference to comparative ethnology and in the light of oral traditions.

Introduction

Trouvés dans des circonstances bien souvent inégales, les arts rupestres de l'Afrique centrale révèlent de plus en plus leur richesse et leur diversité grâce au regain d'intérêt des programmes scientifiques de recherches qui apportent des résultats satisfaisants et encourageants dans presque tous les pays de la sous-région.[1] Si certaines représentations ici manifestent un intérêt particulier parce qu'elles se rapportent à une ethnologie encore bien vivante dans plusieurs localités, des lacunes considérables existent cependant toujours pour ce qui concerne la restitution des séquences chronologiques y afférentes. Au Cameroun, le premier site d'art rupestre a été mis à jour par Buisson en 1934 à Bidzar, dans la partie soudano-sahélienne du pays. Dès lors, la plupart des travaux se sont concentrés dans cette zone mais sans grands résultats.

Dans le cadre de notre thèse, nous avons orienté nos recherches dans d'autres régions tropicales humides du Cameroun où se localisent d'importants gisements de latérite, roche la plus gravée en Afrique centrale ; c'est ainsi que nous avons pu trouver dès 2009 une dizaine de sites concentrés du centre au sud-est du plateau de l'Adamaoua, zone de transition savane-forêt. L'importance de ces découvertes apparaît à deux niveaux : au niveau de la classification thématique des modes de représentations et des systèmes sémiologiques correspondants, ce qui permet actuellement de distinguer trois types d'iconographies, les « mythogrammes », les « ludogrammes » et les « pictogrammes » ; et par rapport à l'extension des réseaux de diffusion des motifs d'armes de jet et de main, réseaux qui intègrent aujourd'hui le Cameroun dans une cartographie sous-régionale élargie à la République centrafricaine (RCA), la Republic Démocratique du Congo (RDC), le Congo et le Gabon. Si l'ensemble de ces sites atteste bien d'un âge du fer très édifiant dans la sous-région, les attributions chronologiques restent cependant bien partagées entre le fer ancien et le fer récent.[2]

Historique et méthodologie des recherches

Bien que les études faites sur les arts rupestres en Afrique équatoriale ne soient pas aussi avancées que celles menées au nord, au sud, voire à l'est du continent, l'accroissement des programmes de recherches scientifiques au Cameroun, en RCA, au Gabon, en RDC, jusqu'en Angola,[3] montre le regain d'intérêt qui y est porté depuis déjà plusieurs décennies. Les travaux synthétiques d'A. Galitzine en 1992 et 1994

signalaient déjà la présence de 165 sites (plus d'une centaine de sites gravés, un peu plus d'une dizaine peinte et associant gravures et peintures), constitués d'environ 7 500 représentations dans la sous-région (figure 5.1).

Au Cameroun, il a fallu attendre les années 1934 pour que le premier site d'art rupestre soit signalé par E.M. Buisson à Bidzar (figure 5.2) dans le cadre d'un travail général sur la préhistoire chez les populations non-islamisées ou des zones montagneuses au nord-Cameroun. En 1944, Beaudelaire produit un manuscrit sur les « Peintures rupestres de Bidzar avec croquis »,[4] ce qui traduit manifestement un relevé erroné vu la technique essentiellement gravée des pétroglyphes de Bidzar. Ce n'est qu'à partir de 1973 qu'A. Marliac (1973, 1978, 1983) dans le cadre d'une thèse de doctorat et de plusieurs travaux ultérieurs, fera un inventaire bien détaillé du site pourvu de levés topographiques, photographiques et graphiques. Parmi plus de 400 figures inventoriées, certains levés sont inédits vu la destruction, ces dernières décennies,

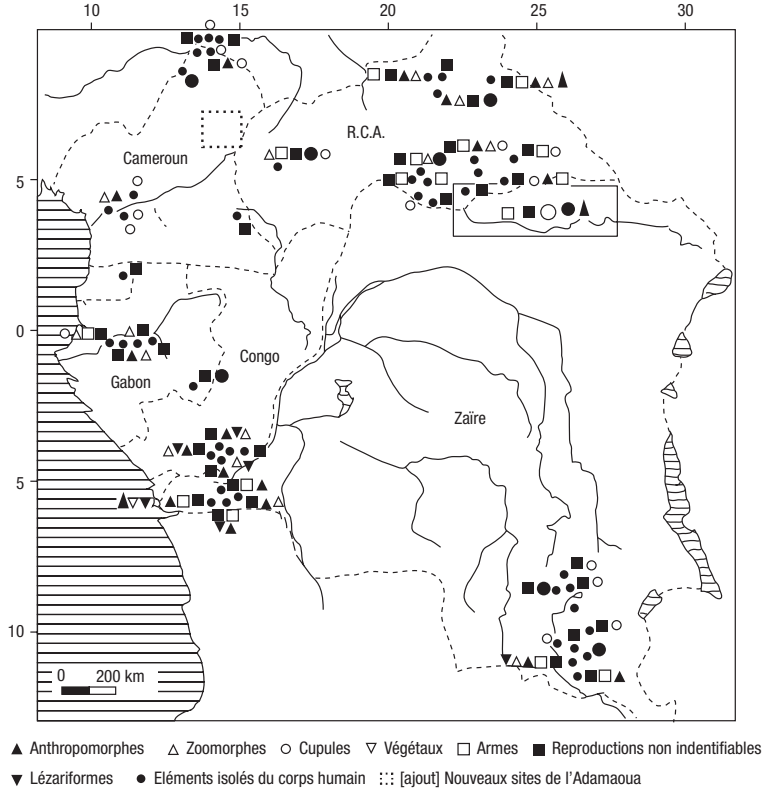

Figure 5.1 Sites d'art rupestre de l'Afrique centrale. / Map of rock art sites in central Africa. Source/Copyright : Graphisme de A.B. Awoundjia ; A. Galitzine (1998)

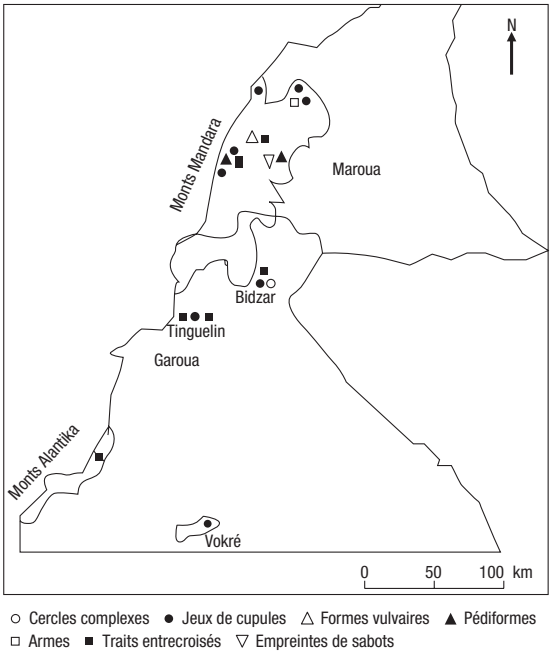

Figure 5.2 Sites de gravures de Bidzar, des monts Mandara et de la haute vallée de la Bénoué. / Map showing engraving sites at Bidzar, Mandara and the upper Benoue Valley. Source/Copyright : Graphisme de A.B. Awoundjia d'après https://www.google.com/search?q=cartes+du+cameroun=cartes+du+Nord-Cameroun ; Mars 2015

de plusieurs dizaines de motifs exposés à l'activité des carrières de marbre, laquelle activité est liée à l'implantation de l'usine « Cimencam » dans la région. Les analyses internes mettent en évidence un style purement géométrique, proche de l'abstrait (aucun sujet identifiable). Recourant à des piquetages, le module directeur est composé d'un cercle (prenant éventuellement l'allure d'un polygone), autour duquel bourgeonnent des arcs-de-cercle sous forme de pétales, cette figure pouvant se répéter de manière concentrique, sécante ou tangente à travers des réseaux linéaires. Face à cette expression abstraite des figures, l'auteur s'est référé au concept du « mythogramme » traduisant l'idée d'un mythe d'émergence ou d'origine commune des peuples, lequel mythe est ritualisé à travers une certaine répétition des motifs dans le temps et dans l'espace suivant un phénomène d' « inconscience collective ». A défaut d'avoir trouvé des témoins archéologiques directement associés au site, A. Marliac s'est appuyé sur les données de la paléogéographie pour attribuer un âge relatif aux gravures. Si à l'époque, l'auteur (1981: 110–111) a supposé que la stabilité du climat tropical, depuis environ 5 000 ans, serait responsable de la vitesse d'altération des faciès rocheux par

rapport à la position des petroglyphs,[5] cette hypothèse est aujourd'hui fortement contestée, le développement des études paléo-environnementales montrant au contraire que le climat a considérablement changé pendant cette période. Dès lors, cette instabilité régionale du climat, qui favorise plutôt une progression relativement rapide des faciès érosifs, tend à montrer que les gravures, encore conservées pour la plupart de ces fissures discriminantes, seraient bien plus récentes que la date extrême de 5 000–3 000 avant JC évoquée par l'auteur; mais en tout cas, les motifs ne sauraient être postérieurs à l'implantation au XVII^{e} s des Guidar dans la région, les traditions orales de ce peuple attestant que leurs ancêtres ont trouvé les représentations sur place. Par ailleurs, après maints efforts d'A. Marliac de sensibiliser les autorités publiques camerounaises sur l'importance du site, un communiqué officiel du ministère de l'information pour la protection des pétroglyphes a été publié, ce qui a ultérieurement conduit au classement depuis le 8 avril 2006 du site de Bidzar dans la liste supplémentaire du patrimoine culturel mondial reconnu par l'Unesco.

D'autres sites de gravures rupestres de 'moindre envergure' et limités parfois à un ou quelques motifs isolés, ont été mis à jour dans la haute vallée de la Bénoué notamment dans un rayonnement de moins de 300 km de Bidzar (figure 5.2). Ces sites ont tous en commun leurs réseaux de rainures entrecroisées comparables dans certains cas à des faciès érosifs des roches grenues. Au sujet par exemple des géoglyphes pariétaux de l'Alantika publiés par H. Alimen et P. Lecoq (1953), on a assisté à de vives controverses entre ces derniers d'un côté et l'Abbé H. Breuil de l'autre, remettant en question l'authenticité du site. Toutefois, d'autres réseaux de quadrillages dont les origines anthropiques sont bien avérées, ont été trouvés en pays Fali. C'est le cas des gravures pariétales de la grotte de Bané publiées par J. Lebeuf (1961) et constituées des petits treillis juxtaposés et superposés entre eux. C'est aussi le cas des gravures de la pierre-frontière de Tsolaram étudiées par J.-G. Gauthier (1993) et dont les réseaux de quadrillages renferment, par endroit, des motifs losangiques. Bien que l'ensemble de ces sites de la haute vallée de la Bénoué soient classés à l'âge du fer (relativement à l'implantation dès le XV^{e} siècle des Fali qui n'en revendiquent pas la paternité), J.-G. Gauthier a pourtant essayé d'établir un rapport entre le système ancien de transcription des gravures et certaines décorations actuelles des murs et des pagnes dans la région, les motifs pouvant servir de blason propre à un clan, à un lignage ou à un individu. Dans cette logique, les Koma des monts Alantika associent des pierres dressées à des poteaux de bois sculptés dont celles de formes fourchues, représentant des ancêtres féminins (selon les traditions orales) sont souvent décorées de réseaux de quadrillages.

C'est en dépolarisant les recherches du nord vers les zones encore non prospectées au centre du pays, que nous avons pu découvrir une dizaine de sites d'art rupestre dans l'Adamaoua (Tchandeu 2007–2009a, b) (figure 5.3). En évitant d'intensifier nos travaux autour de Bidzar comme nos prédécesseurs, nous avons opté pour une approche plus

extensive ; celle-ci tient surtout compte du type de support principalement gravé dans la sous-région, notamment la latérite, dont l'érosion met à nu de grands gisements cuirassés depuis le plateau de l'Adamaoua jusqu'aux vallées du centre à l'est de la RCA, zone où se concentrent les plus grands ensembles des sites d'art rupestre de l'Afrique équatoriale.

C'est cette approche, enrichie des fiches d'enquête iconographiques distribuées à des informateurs,[6] qui a été à l'origine de la découverte des sites de gravures de Ngaldi I et II, de Ngan'hâ I et II, de Koltchel, de Baloumgo, de Tchabbal Assao, de Magoéna, et de Nyambaka dans l'Adamaoua. Les inventaires, assortis de différents types de levés, ont permis de mettre en évidence deux thématiques principales : des armes de jet et de main construites autour d'une rainure en sagaie qui se ramifie selon la complexité de l'engin ; des motifs de jeux constitués de cupules en arrangements parallèles ou circulaires. A la lumière de l'ethnologie comparative, un rapport significatif a pu être établi entre les représentations d'armes d'une part et les modèles métalliques encore conservés dans les « trésors d'origine » des chefferies Mboum, parmi les plus anciennes implantées dans la région (Faraut 1981) d'autre part. Dans la même optique, certains jeux rupestres ont pu être interprétés grâce aux traditions orales et à la pérennisation locale de leur pratique transposée à même le sol. L'ensemble de ces sites, laissés à l'abandon lors de la conversion à l'islam de la plupart des populations locales (Mboum, Mbaya, Laka) au début du XIX^{e} siècle, sont encore considérés, selon les traditions orales Mboum, comme les «

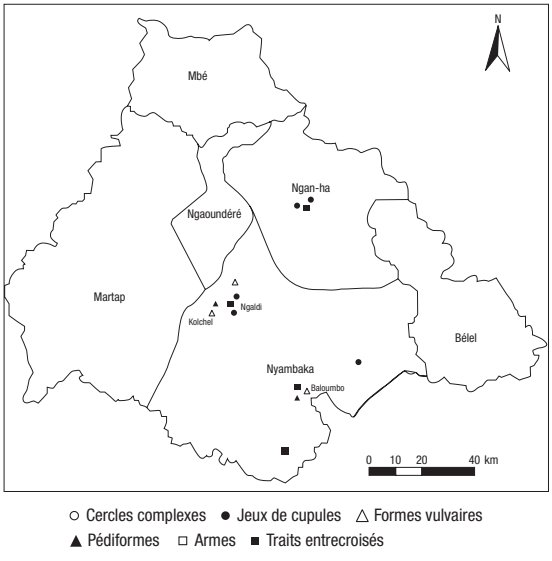

Figure 5.3 Sites de gravures de l'Adamaoua. / Map showing engraving sites in the Adamaoua. Source/Copyright : Graphisme de A.B. Awoundjia d'après www.google.com/search?q=cartes+du+cameroun&tbm/ bp.blogspot.com/-Ndéré+E.png ; Mars 2015

signes du *hâ* », inscriptions mythiques (Bah 1993: 66) figurant sur différents symboles du pouvoir, conservés dans les grottes occupées par les premiers ancêtres du groupe.[7] Si la période réelle d'implantation des Mboum reste imprécise dans la région, il est au moins certain que ce peuplement a connu un périple en pays Jukun (Meek 1931: 490) et n'a pas été à l'abri des conflits armés dès le XVI^{e}–XVII^{e} siècle face à la puissance guerrière des Mvuté et des Kondja, ainsi que celle des Péeré quelques décades avant la conquête peule (Mohammadou 1989). Par ailleurs, même si nos prospections dans les monts Mandara (figure 5.2) se sont révélées peu fructueuses, les pédifomes, empreintes de sabots et jeux rupestres trouvés dans cette zone, attestent bien de la fréquence de ce type d'iconographie de l'extrême nord au centre du pays ; toutefois, la présence quasi exclusive des gravures de formes vulvaires en pays Mafa, et des structures mégalithiques d'aspect phallique chez les Podoko, semblent révéler l'importance accordée à la symbolique sexuelle dans les pratiques culturelles locales.

Nouvelle classification thématique des modes de représentation et des systèmes sémiologiques correspondants

En recoupant les données préexistantes et celles issues de nouvelles découvertes, cette étude nous a permis de procéder à une nouvelle classification thématique des modes de représentation rupestre connus au Cameroun. Trois principaux styles, plus contrastés que familiers, ont provisoirement dérivé de cette classification : un style géométrique « abstrait » associé à un graphisme originel correspondant au concept de « mythogramme » à Bidzar ; un style schématique figurant des armes de jet et de main à travers une proto-écriture ou un système de transcription correspondant au concept de pictogramme dans l'Adamaoua ; un style géométrique algébrique, codifiant des jeux rupestres à travers un système rationnel de transcription mimique et arithmétique qui correspond au concept de « ludogramme » dans l'Adamaoua. Et ce dernier semble constituer une phase de graphisme intermédiaire entre les deux premiers modes de représentations puisque les jeux rupestres se retrouvent aussi bien associés aux gravures « abstraites » de Bidzar qu'aux figures d'armes de l'Adamaoua, lien qui cependant, impliquerait moins un scénario chronologique entre les différents sites que la possibilité d'une dispersion assez rapide et généralisée du jeu, lequel a pu facilement être incorporé sur divers types de supports favorisant ainsi sa circulation au gré des mouvements migratoires successifs dans la région.[8]

- *Le style géométrique « abstrait » des mythogrammes de Bidzar*

Concept utilisé pour la première fois dans le cadre de la préhistoire par Leroi-Gourhan (1964), le mythogramme peut être considéré selon M. Griaule (1949: 87) comme étant : « …un support graphique d'un foisonnement de contenus entrecroisés, support extrêmement abstrait mais pouvant être retrouvé à différents niveaux dans la société qui le reconnaît : habitat, rites, mariage… ». C'est dans ce sens qu'A. Marliac

a essayé d'établir un rapport entre les modes abstraits (aucun sujet reconnaissable) de transcription des figures géométriques de Bidzar et les systèmes de codification de l'habitation, des rites funéraires voire des systèmes de la parenté chez certains peuples des monts Mandara. En outre, la présence des grandes cupules, souvent au centre de certaines compositions, évoquerait davantage la thèse, selon l'auteur (Vincent 1991: 155), d'un mythe d'origine ou d'émergence commune des peuples : « On trouve des allusions fréquentes, dans les populations actuelles *Kirdi* du Cameroun du Nord, à un « trou original » d'où seraient sortis les ancêtres fondateurs ». La vitalité d'un tel mythe se manifeste par exemple lorsque, lors des passages en classes d'âge des jeunes chez les Mofu selon J.-F. Vincent (1991: 204), les impétrants doivent se courber, à genoux comme des animaux (référence faite aux ancêtres primordiaux assimilés à des animaux), les deux mains derrière le dos, afin de déguster les mets remplis dans des auges aménagées sur la roche par les premiers hommes, tradition que nous avons aussi vérifiée dans d'autres groupes comme les Mafa et les Kapsiki.

Le rapprochement entre les modes d'itération des figures de Bidzar et la conception de l'habitat chez certains peuples des monts Mandara, semble se traduire dans l'importance accordée au modèle mythique dans le développement ou la régénération des structures. Ainsi, lorsque certains montagnards ont dû abandonner les hautes terres pour regagner les piedmonts (en général sous la pression démographique, à la recherche des terres cultivables ou en raison du climat de pacification des basses terres), les ruines des constructions circulaires de leurs ancêtres servent toujours de modèles séminaux et de lieux de procession périodique pour les nouvelles générations. Construite au départ autour d'un noyau familial (case-grenier, case-cuisine, case de la femme et case vestibule de l'homme contrôlant l'unique accès de l'habitat), cette structure primordiale va progressivement s'agrandir en augmentant d'autres cellules sous la contrainte surtout de la polygamie. Ce processus de ramification de l'habitat ne semble pas étranger à la démarche des graveurs de Bidzar, ceux-ci auraient d'abord commencé par exécuter le motif circulaire le plus grand dont le rayonnement tend à déborder le panneau, ensuite, des cercles concentriques ou non, et enfin des arcs de cercle lobés. Au-delà de l'architecture de l'habitat, remarquons aussi que la tombe, de forme en majorité tronconique dans les monts Mandara, est rarement isolée, mais presque toujours en combinaison avec d'autres sépultures plus ou moins volumineuses (suivant une hiérarchisation des statuts sociaux des défunts), ce qui tend à reproduire un modèle mytho-rituel fondamental au sein des cimetières lignagers ou claniques. Le rite funéraire qui participe ici à une véritable métaphore entre la naissance (l'origine du monde) et la mort, consiste à introduire la dépouille à travers un orifice bien étroit et à l'installer, très souvent en position fœtale, dans un caveau vacant en forme de gourde, de botte, de cloche, de bouteille, etc., suivant les traditions culturelles.[9] La sépulture Kapsiki en particulier,

enfermant une combinaison de stèles au centre de l'édifice, présente des similitudes avec certains cercles à motifs concentriques et décentrés à Bidzar. Et le dénombrement des stèles renvoie systématiquement à celui des enfants du défunt (Marliac 1981: 155; Tchandeu 2007: 96). Il s'agit donc d'un système épigraphique qui traduit bien l'encrage des structures matriarcales chez les Kapsiki. Par différentiation à ces différentes approches comparatives assez abstraites des pétroglyphes, nous avons pu trouver, en pays Podoko, une constellation des motifs circulaires décorant le cadre d'entrée des cases de certaines épouses royales d'Oudjila (figure 5.4), ces motifs se rapporteraient, selon les traditions orales, aussi bien au rang de la femme au sein de la cours qu'à son statut d'épouse féconde. Il s'agit actuellement des seules figures locales qui se rapprochent concrètement des cercles bourgeonnant de Bidzar.

Par ailleurs, c'est moins dans la structure interne de chaque motif (figure 5.5) que dans leur mode de combinaison itératif, que les gravures de Bidzar participent à un système sémiologique propre,[10] ceci en intégrant des groupes ou familles de motifs délimités, dans le temps et dans l'espace, à travers une série de « panneaux significatifs ».[11]

Figure 5.4 Motifs décoratifs sur le contour d'entrée des cases d'épouses royales Podoko. / Decorative motifs on the contoured entrances to the living areas of Podoko royal wives. Source : G. Heimlich, Mission UR 192–IRD

Figure 5.5 Gravure piquetée sur marbre Bidzar, constituée de cercles concentrique bordés d'arc-de-cercle sous forme de pétales. / Pecked engravings on Bidzar marble consisting of concentric circles grouped in the form of petals. Source : G. Heimlich, Mission UR 192–IRD

Ainsi, l'organisation de ces familles de motifs, recoupées à travers des dalles-panneaux, décrit deux principaux modes de représentations :

- le mode rayonnant qui est le plus fréquent (figure 5.6) utilise, soit des grandes compositions circulaires et parfois polygonales, éventuellement reliées entre elles ou intégrant des éléments extérieurs, et concentriques à plusieurs autres figures, ou alors, des compositions réduites à quelques figures n'encadrant parfois qu'un seul ou deux éléments ;
- le mode linéaire qui se caractérise par l'utilisation presque unique des réseaux sécants, tangents ou reliés et ensuite disposés en ligne, plus rarement en triangle ou quadrilatère, le tout formant des groupes dont les plus réduits comptent deux à quatre éléments et les plus complexes, cinq à six éléments.

Il n'existe pas une opposition radicale entre ces modes, la transition étant négociée par des structures mixtes ou partiellement rayonnantes dont les figures peuvent par exemple être disposées en polygone autour d'une composition centrale. Les modes

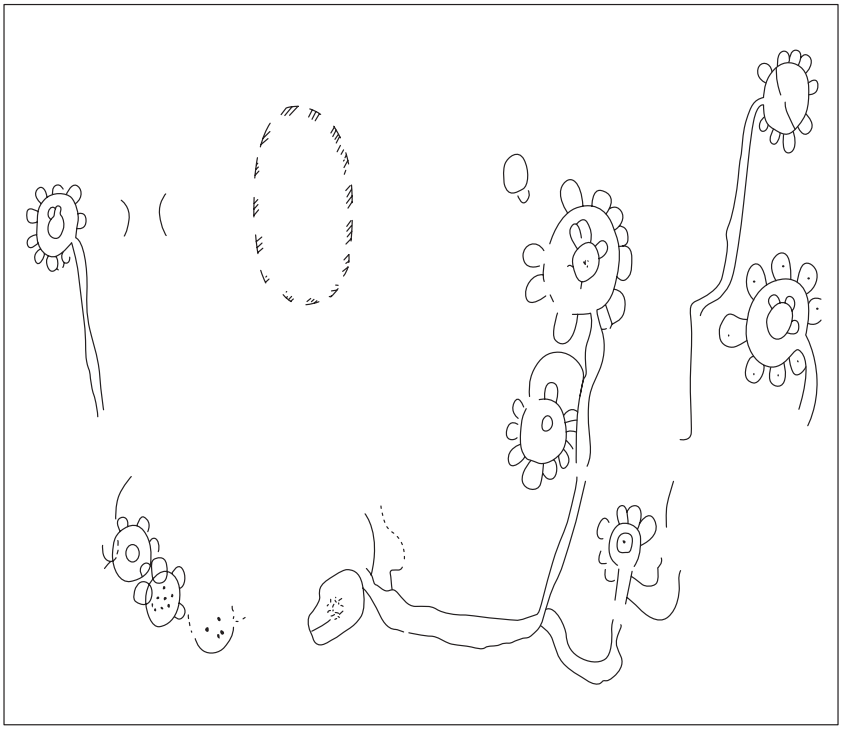

Figure 5.6 Exemple de groupes rayonnants à cercles bordés emboîtés reliés à Bidzar. / Example of nested circles and radiating groups linked to Bidzar engravings. Source/Copyright : Graphisme de A.B. Awoundjia ; A. Marliac (1981)

ainsi présentés semblent refléter des manières bien contrastées d'occuper l'espace tel que cela s'observe encore chez certains peuples « montagnards » du nord-Cameroun. Dans le domaine de l'habitat par exemple, les sociétés des monts Mandara ont mis sur pied deux principaux plans de construction : un plan courbe dont les unités se développent soit en enfilade (chez les Mofu), soit en labyrinthe (chez les Mafa), ou en arcs-de-cercle contigus dans le cas des Diy-Gi'd-biy, structures en pierres sèches les plus anciennement connues dans la région (David & Sterner 2003) ; et un plan bipartite plus récent où un ensemble de cases soigneusement alignées font corps avec des cours alternées (Seignobos 1977). Cette discrimination des formes, également perceptible dans le domaine funéraire à travers une confrontation entre pré-fosses circulaires et quadrangulaires, traduirait une différenciation des statuts sociaux et parfois du statut sexuel selon les traditions culturelles.[12]

- *Le style géométrique « algébrique » des ludogrammes de l'Adamaoua*

Bien que les cupules soient surtout connues pour leur rapport avec une ethnologie des meules dormantes dans la région (Marliac 1973), des auteurs comme A. Galitzine

(1994: 290) pensent cependant que certaines d'entre elles méritent une attention toute particulière : « Seules en effet, punctiformes ou cupules organisées (alignements, représentations) peuvent être clairement assimilées à l'art rupestre ». C'est dans ce dernier sens, à notre avis, qu'il faudrait aussi catégoriser les jeux rupestres, qui répondent à une variété d'organisations géométriques bien élaborées. Ayant eu l'opportunité d'observer certains de ces jeux en cours d'élaboration dans les monts Mandara, il est apparu que des exigences méthodologiques jalonnent leur exécution. La réalisation des motifs dans ces cas met souvent en scène une série de jeunes filles alignées ou disposées en cercles, utilisant des minuscules ou polissoirs arrondis avec lesquels elles percutent le rocher en écrasant leur pigment de maquillage, rituel volontiers rythmé par un chant qui harmonise les gestuels afin que les cavités obtenues, après une certaine période, aient des proportions comparables (figure 5.7). Un tel procédé, mobilisant toujours un petit groupe d'individus autour d'arrangements géométriques bien codifiés, pourrait être, d'un point de vue technique, à l'origine de la diversité des jeux rupestres, lesquels sont répartis de l'Extrême-Nord jusque dans l'Adamaoua où ces représentations sont les plus concentrées[13] (figures 5.2 & 5.3). L'association de ces motifs, aussi bien aux pétroglyphes géométriques de Bidzar qu'aux figures schématiques d'armes de l'Adamaoua, nous amène à les placer dans une phase régionale intermédiaire dans les processus de codification des systèmes graphiques. Des scénarios chronologiques faisant défaut, il faut envisager l'hypothèse d'une dispersion assez rapide de la forme la plus simplifiée du jeu (notamment celui à 12 trous) dans toute la région, ce qui aurait été surtout favorisé par des mouvements migratoires

Figure 5.7 Pigments de maquillage broyés dans des cupules disposées suivant un ordre géométrique prédéfini. / Ground colour pigments in cupules laid out in geometric order. Source : G. Heimlich, Mission UR 200–IRD

incessants sous la pression des empires soudanais, mais aussi à travers les réseaux matrimoniaux, la traite, et les centres commerciaux (lieux d'échanges et de loisirs). Les analyses internes des figures montrent qu'elles sont caractérisées par deux principaux modes de représentations : un mode linéaire qui est le plus fréquent, concentré dans les sites de l'Adamaoua et proposant quelques séquences à Bidzar ; un mode circulaire assez raréfié mais plus élaboré comme c'est le cas dans les monts Mandara, avec cependant des apparitions assez rudimentaires dans le Tinguelin. La pérennisation de ces représentations, d'ordinaire adaptées à même le sol ou sur une plaque de bois dans les pratiques populaires actuelles de la région et même au-delà (voir bibliographie), a favorisé des interprétations locales. C'est à la lumière de ces interprétations surtout nourries par les traditions orales, que cette forme d'expression graphique a été assimilée à une sorte de « ludogramme », système de transcription numérale d'un « jeu savant » qui nécessite une connaissance parfaite des codes structurels et fonctionnels, lesquels codes permettent aux protagonistes de « lire le jeu » et de communiquer à travers un langage, non pas verbal, mais essentiellement mimique et arithmétique.

Dans le site de Ngan'hâ (Tchandeu 2011) (figure 5.3) où affleure en plein air, sur dalle basaltique, une centaine de motifs de jeux, la plupart des figures consistent en des organisations des rangées parallèles de cupules. Parmi ces configurations, les jeux varient suivant une arithmétique de 12, 14, 16, 18, 20, 22, 24 à 26 cupules. Face à ces alignements parallèles, il existe toutefois certaines formes discriminantes constituées : soit des motifs qui s'organisent en forme d'amande (figure 5.8) ; soit des motifs qui s'entremêlent à d'autres sous forme de chevron ou de croisillon ; ou alors des cupules alignées en une seule rangée, ce qui laisse croire qu'il s'agit d'une figure inachevée.

A Ngaldi I (Tchandeu 2007–2009a, b) (figure 5.9), quatre motifs de jeux délimitent en partie un champ de gravures d'armes affleurant sur une dalle latéritique. Le jeu de douze cupules, déjà prédominant parmi les gravures de Ngan'hâ, apparaît exclusivement représenté ici. C'est aussi la même composition que l'on retrouve représentée à Ngaldi II (Tchandeu 2011) où les motifs s'entrecroisent pour former un chevron de 24 cupules esseulées sur une immense dalle latéritique. Bien que Bidzar soit à plus de 400 km de cette zone d'étude, les motifs de jeux rupestres qui y affleurent sur le marbre, se rapprochent pourtant des formes connues dans l'Adamaoua, par la taille miniaturisée des cupules, leur alignement parallèle et leur nombre pair d'au moins 12 motifs.

En ce qui concerne les jeux de cupules en organisation circulaire, elles se caractérisent en général par des motifs bien plus amples que ceux des jeux linéaires. Les deux spécimens remarquables observés à Oudjila (Tchandeu 2007–2009a, b) comptent respectivement 18 et 22 cupules concentriques, affleurant ensemble sur une dalle granitique légèrement bombée (figure 5.10). L'organisation la plus grande, présentée comme la plus ancienne (pré-Podoko) selon les traditions orales, est constituée de 18 cupules concentriques à quatre autres cupules ; tandis que la plus petite,

Figure 5.8 Jeu « Tilé » gravé sous forme d'amande sur basalte à Ngan'hâ. / 'Tilé' game engraved in the shape of almonds on basalt at Ngan'hâ. Source : G. Heimlich, Mission UR 200–IRD

Figure 5.9 Jeux « Tilé » gravés en alignements parallèles sur latérite à Ngaldi 1. / 'Tilé' games engraved in parallel alignments on laterite at Ngaldi 1. Source : R. Oslisly

Figure 5.10 Jeux « Dawa » gravés sous forme concentrique sur granite à Oudjila. / 'Dawa' games engraved in concentric circles on granite at Oudjila. Source : G. Heimlich, Mission UR 192–IRD

contemporaine à la fondation de la chefferie d'Oudjila au XVI[e] siècle,[14] compte 16 cupules concentriques à deux autres. C'est cette version plus récente à 18 cupules qui apparaît comme étant la plus répandue depuis les monts Mandara jusqu'au massif de Tinguelin où certaines formes moins élaborées ont été aperçues.

En ce qui concerne l'interprétation des jeux rupestres, elle a fait l'objet d'une observation-participante sur le terrain permettant d'appréhender de manière empirique leur mode de fonctionnement. C'est sous l'appellation « baram tilé » (littéralement pierre de jeu à trous) que nous avons découvert ces pratiques ludiques en pays Mboum. Avec le nombre de cases le plus réduit, le jeu de 12 qui est localement le plus répandu connaît plusieurs homologues africains, transposé sur des supports bien dynamiques dans le temps (à même le sol, sur du sable, sur des tablettes en bois et adapté en mode numérique suite à l'avènement des TIC). De telles représentations sont par exemple connues sous les appellations *wôli* ou *wali* chez les Bambara du Mali, *ewes*, *awalé*, *awari*, *owaré*, *awélé* chez certains groupes de Côte d'Ivoire et du Ghana, *ayo* chez les yoruba du Nigeria, *wure* chez les wolof du Sénégal, *ourin*, *ourri* au Cap-Vert, *oware* ou *owaré*, *wari* dans les Caraïbes, etc.[15] Les modes d'emploi de ces jeux de calcul, assez constants (notamment pour ce qui concerne le duo d'adversaires, le nombre initial de quatre pions par case, le sens régulier des cycles rotatifs, l'équation du gain et la somme d'au moins 25 pions à mobiliser pour être vainqueur de la partie) ont déjà fait l'objet de nombreuses études (Mvé Ondo 1990; Retschitzki 1990; L'Hôte 1994; Reysset & Pingaud 2003; Owona 2005, 2006; Raabe 2006; Chemillier 2007).

Bien que la pratique des jeux aux taux numériques les plus importants soit très raréfiée aujourd'hui, nous avons eu l'opportunité de rencontrer à Ngan'hâ un patriarche (92 ans environ)[16] qui nous a aidé à décrypter le jeu de 22 cupules (figure 5.11).

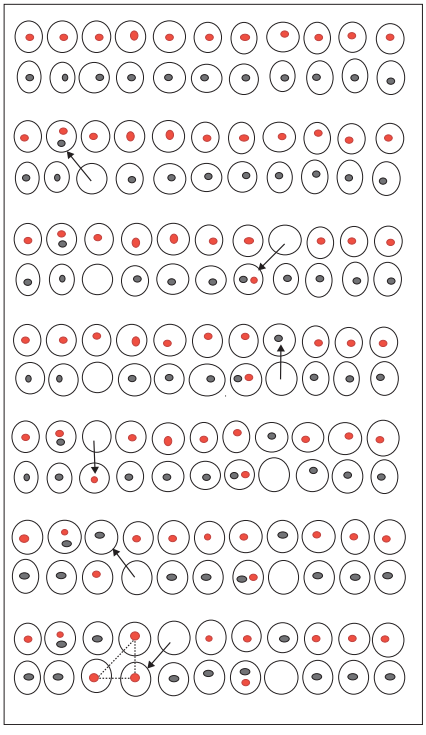

Figure 5.11 Mode de fonctionnement du jeu de 22 cupules. / Direction of play for the 22 cupules game. Source/Copyright : Graphisme de N. Tchandeu

Contrairement au jeu de 12 cupules, celui-ci se distingue par l'usage de deux types distincts de jetons notamment 11 grains de quartz et 11 graines de fruit respectivement répartis dans chacune des rangées du jeu. Les deux adversaires qui se font face ici n'ont le droit de manipuler alternativement qu'un seul jeton à la fois, en le déplaçant d'une rangée vers une autre. Dans ce zapping, le principe du gain consiste à former, à partir de trois jetons de même nature, un triangle dont l'un des angles au moins établit sa base en singleton dans la rangée de l'adversaire. Ce dernier essayera donc de déstabiliser le projet de son homologue en glissant opportunément un « corps étranger » dans l'un des angles du triangle, dans le but de récupérer à son avantage la structure ainsi déconstruite. A chaque « trio gagnant », les jetons sont vidés de leur contenant et placés hors du jeu. Les jetons résiduels, non capitalisables en fin de partie, sont remis à la personne ayant réalisé le dernier gain. Et c'est par décomptage des jetons gagnés tout au long de la partie que l'on détermine le vainqueur. Nous pensons que les modes de fonctionnement encore non élucidés des autres jeux, notamment de 14, 16, 18,

20, 24, 26 cupules, doivent répondre à l'une ou l'autre logique, soit du jeu à rotation latérale (12 cupules), soit du jeu à zapping transversale (22 cupules).

Dans le cas des jeux circulaires à cupules concentriques, celui de 18 trous qui apparaît comme la forme la plus répandue au nord de la chaîne (depuis le pays Podoko jusqu'à celui des Wandala), est de préférence inscrit sur un petit rocher à surface voûtée. Partout où nous avons aperçu ces représentations, elles se localisent bien souvent sur des sites symboliques à proximité par exemple des habitations des chefs de terre (représentant des premiers occupants). Par contre, les inscriptions éphémères à même le sol sont surtout vulgarisées dans des lieux de rassemblement à l'instar de la place du marché, constituant une plateforme populaire de rencontres, d'échanges et de divertissements. A Oudjila où nous avons découvert l'unique représentation rupestre à 22 cupules (figure 5.8), cette dernière, nommée *dawa*, est spécialement utilisée à l'occasion des fêtes de récolte. A cette occasion, seul le chef entouré de trois de ses plus hauts courtisans ont le privilège de pratiquer le *dawa* ; ce n'est qu'après cette partie symbolique qui marque le début des festivités que le reste de la population pourra se livrer à son tour aux jeux de 18 cupules, lesquels n'impliquent que la confrontation de deux adversaires. Dans tous les cas, les pions sont constitués des graines ovoïdes extraites des fruits de l'arbre sacré dit *séké*. Cependant, quatre pions contre six sont initialement répartis dans chacune des cases respectives des jeux à 18 et à 22 cupules. Comme dans le cas du jeu *tilé* de 12 cupules, le principe de *dawa* est rotatif dans le sens des aiguilles d'une montre, mais avec des cycles qui s'enchaînent cette fois-ci dans un rythme rayonnant en allant au départ du centre vers les périphéries pour revenir au centre et relancer le procédé. Et quel que soit le nombre de personnes engagées, elles ont respectivement leur chance de capitaliser leur tournée en étant attentives à toutes les probabilités de gains et de la possibilité de multiplier les cycles de passage dans une même tournée.

- *Le style schématique des pictogrammes de l'Adamaoua*

Contrairement aux pétroglyphes de Bidzar où aucun sujet concret n'a encore pu être littéralement identifié,[17] les gravures rupestres de l'Adamaoua reproduisent des modèles d'armes métalliques constituant encore de nos jours un élément essentiel des représentations symboliques, de la cohésion sociale et de l'identité culturelle des groupes locaux. Chez les Mboum où l'essentiel de ces engins ancestraux ont été jalousement conservés dans leur capital historique à Ngan'hâ (malgré la conversion massive du groupe à l'islam), le *hâ* (littéralement poignard en langue Mboum), est représenté sur tous les insignes du pouvoir, notamment sur les tuniques royales et les murs du palais, champlevé sur les cloches, les trompes, les hampes, les anneaux de pied et de cou, ainsi que sur d'autres bijoux en alliages cuivreux. Considéré ainsi comme le principe même du pouvoir du *bélaka* (chef divin chez les Mboum ; Bah 1993: 66), le hâ aurait été à l'originaire une « … curieuse pièce en métal revêtue de caractère de type hiéroglyphique ». A chaque fête saisonnière de récolte *borian'hâ* (littéralement culte

du *hâ*), une de ces pièces mythiques (progressivement supplées par des galets[18]) était conservée dans un sac rituel afin de décompter les années de règne du *bélaka*. C'est dans le « trésor d'origine » du *bélaka de Ngan'hâ*, chef suprême auprès des cinq autres *bélaka* (Faraut 1981: 165) que nous avons trouvé les différents prototypes de couteaux qui s'assimilent à ceux gravés sur les sites d'art rupestre. Ainsi, les gravures mettent en évidence des spécimens variés, regroupés à travers deux principaux prototypes d'armes : les armes de main sous forme d'entaille rectiligne en sagaie éventuellement pourvues d'un embranchement perpendiculaire en T ou t, fourchues en Y ou y cintrées en P ; les armes de jet qui se caractérisent par une ramification des tentacules de part et d'autre du module initial ; ce qui aboutit à des structures aussi complexes qu'elles peuvent parfois être superposées ou juxtaposées entre elles (figures 5.12 & 5.13).

Dans le site de Ngaldi I (Tchandeu 2007–2009a, b) où le répertoire est particulièrement riche, chaque motif ne trouve tout son sens qu'au sein du « groupe significatif »[19] qu'il intègre. Ces groupes s'autodéterminent en fonction aussi bien de leur position plus ou moins centralisée sur le panneau que du rapport d'expressivité, de superposition, de juxtaposition, du nombre et du type de motifs dans le groupe. Le rapprochement des gravures aux modèles métalliques montrent que les figures correspondent à des grades initiatiques et à des intonations (*hâ*, *rê*, *a'sok*, *a'rê* …) dont les échos sont variés d'un groupe à l'autre du panneau. Et ces grades initiatiques reflètent une hiérarchisation des pouvoirs socio-politiques et religieux entre les dignitaires qui détiennent exclusivement le spécimen mythique hérité de leurs ancêtres. C'est ce spécimen « originel »[20] dont l'usage généalogique participe à rendre sa patine « vénérable », qui est brandi (comme signe de la victoire contre les ennemis, gage de la domestication du sol et de la prospérité du groupe) lorsque le *bélaka* et ces dignitaires entrent en procession à l'occasion de la fête de récolte *borian' hâ*. C'est à la lumière de ce contenu ethnographique que trois principales thématiques ont pu être dégagées pour les différents groupes :

- le « groupe du *bélaka* » (figures 5.12 & 5.13) caractérisé par des gravures les plus expressives parmi lesquelles les armes de main sont prédominantes. Ces dernières sont représentées soit de manière isolée ou alors à travers la juxtaposition de longues files de motifs pouvant dépasser 120 cm de long. La présence marginale dans ce groupe de certains motifs plus ou moins complexes comme le cruciforme laisse à croire plus à des cas de superpositions qu'à la formation des armes de jet. Chez les Mboum, les armes de main constituent un attribut privilégié de l'autorité du chef, le *bélaka*. En effet, seul celui-ci est autorisé à manipuler cet engin d'auto-défense pendant un combat. Il s'agit donc d'une arme hautement symbolique qui correspond à la syllabe hâ, principe du pouvoir du bélaka, et qui est par exemple mise en emphase dans les mots *Borian'hâ* (culte du hâ), *Ngan'hâ* (montagne des armes), cité capitale du pays Mboum ;

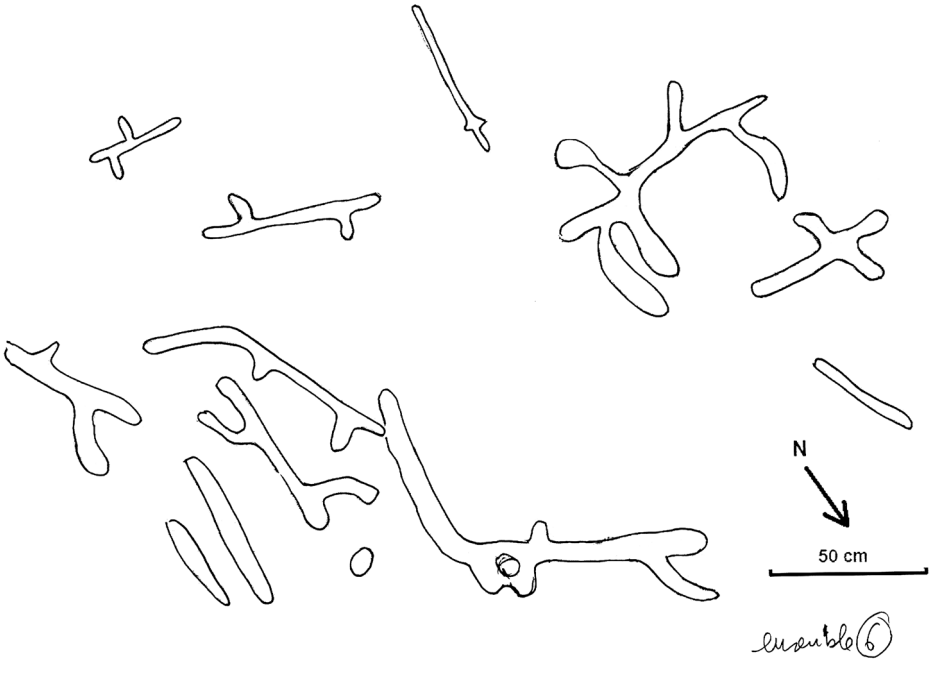

Figure 5.12 Relevés graphiques au polyane des figures du « groupe du Bélaka » disposées en ordre linéaire. / Line drawings of polyane engravings of the 'Bélaka group'. Source : R. Oslisly & N. Tchandeu

- le « groupe des dignitaires » caractérisé par des gravures peu expressives, aux contours parfois à peine visible, présente pourtant les cas les plus récurrents de superpositions et de juxtapositions de longues files de motifs. Ce groupe situé plus à l'est du panneau (haut versant) est dominé par des figures d'armes de jet parmi lesquelles s'improvisent des haches. En fonction du degré de complexité de ces armes (multiplication des lames) qui les rend plus ou moins dangereuses quand on les lance, elles indiquent les grades hiérarchiques des dignitaires qui ont le privilège de les manipuler. Dans ces cas, elles correspondent à une variété de syllabes et intonations comme *rê*, *a'sok*, *a'rê* … En outre, cette partie haute du panneau est délimitée par une cinquantaine de cupules rondes de taille moyenne (10 cm en moyenne) juxtaposées entre elles. C'est ce type de cupules, différentes de meules dormantes, qui servent souvent à écraser des pigments de maquillage avec lesquels les jeunes sont parés lors de certains rituels périodiques à caractère agraire ou initiatique. Le site aurait pu servir de plate-forme pour un tel scénario.

Figure 5.13 Exemple des figures du « groupe du bélaka » prédominées par des armes de main gravées de manière bien expressive au centre du panneau latéritique à Ngaldi I. / Example of figures of the 'Bélaka group' showing hand weapons engraved in the centre of a lateritic board at Ngaldi I. Source : R. Oslisly

- le « groupe du spécialiste rituel » constitué de la collection la plus riche et diversifiée en prototypes d'armes de jet. Situé plus à l'ouest du panneau (bas versant), les gravures assez expressives ici, sont le plus souvent autonomes et parfois juxtaposées en longues files. Si les haches sont assez fréquentes parmi les armes de jets, on remarque surtout la présence des tridents, conçus dans les traditions orales comme un des « faiseurs de pluie » les plus emblématiques, manipulés par les spécialistes rituels. Dans ces sociétés essentiellement agraires, la puissance de cet objet est telle qu'il doit toujours être conservé, caché dans une grotte, hors de portée du public. Les motifs de cette partie basse du panneau sont délimités par des jeux rupestres et par un groupe de cinq gros mortiers (22 cm de diamètre en moyenne) alignés. Dans le site de Ngan'hâ où ce type de mortiers est encore en activité, les populations locales disent qu'ils

servent à écraser les produits nocifs avec lesquels on empoisonne le tranchant des armes. Les Mboum recouraient à ce procédé en cas de conflits armés et l'utilisaient encore dans le cadre de la chasse des gibiers.

Contribution à l'iconographie de l'Afrique centrale

Contrairement à la plupart des régions du monde où les arts rupestres appartiennent à des sociétés disparues, ces types d'inscriptions font partie d'une ethnologie encore bien vivante liée à certains groupes humains de l'Afrique centrale, ce qui rend les représentations plus intéressantes à étudier à l'aune de l'ethnologie comparative et des connections relatives qu'elle permet d'établir dans la sous-région. Toutefois, si des rapprochements régionaux sont possibles lorsque les corpus sont exhaustifs et présentent des motifs fréquents entre des localités voisines, il peut aussi arriver en revanche de trouver des sites dont les corpus se révèlent tout à fait singuliers comme c'est le cas à Bidzar.

En effet, bien qu'étant l'un des ensembles de figures géométriques les plus importants de la sous-région, le site de Bidzar met en évidence des combinaisons circulaires dont le style « phytomorphe » ne se retrouve pourtant nulle part ailleurs en Afrique centrale. C'est dans ce sens qu'A. Marliac (1981: 146) fait remarquer que :

> Si l'on peut accepter la définition d'H. Alimen au sujet d'une province des gravures schématiques on peut tout aussi bien noter la diversité de quelques sites bien espacés qui illustre ladite province. Bidzar y apparaît tout à fait unique et isolé et cela nous fait d'autant plus déplorer sa destruction partielle.

Des figures circulaires simples, concentriques ou en chaîne connaissent cependant des homologues du Gabon (Oslisly 1988, 1989, 1992) jusqu'en Angola (Gutierrez 2003, 2008, 2009) en passant par la RDC (Mortelmans & Monteyne 1962; Heimlich 2014). Mais, il faut surtout atteindre l'est et le sud-ouest du continent pour trouver un véritable répertoire de motifs qui s'assimilent sensiblement à certaines figures circulaires complexes de Bidzar. De telles représentations, rarement constantes sur un même site, sont très souvent isolées ou associées à d'autres genres de figures, ce qui rend quasiment impossible l'établissement d'un lien entre des sites que la distance géographique, les contenus et la proportion des corpus éloignent. Au-delà du comparatisme très hypothétique avec d'autres rupestres africains auquel s'est prêté A. Marliac (1981: 146), nous pensons que la possibilité d'une circulation locale des motifs transposés sur d'autres supports (poterie, habitat, parure, corps humain, etc.), ouvrirait de meilleures pistes à la recherche. C'est dans ce sens qu'il faudrait inscrire les premières analogies que nous avons essayé d'établir entre les « phytomorphes » en « pétales » fréquents à

Bidzar, et la manière constante d'utiliser des constellations circulaires bourgeonnantes pour décorer les contours d'entrée des cases d'épouses royales Podoko (figure 5.4).

Les réseaux de rainures entrecroisés sont récurrents dans toute la sous-région où, comme dans le cas de la Haute Vallée de la Bénoué, ils constituent très souvent des figures isolées ou minoritaires au sein de certains corpus pour qu'on puisse établir des connections régionales significatives. Mais en général, la manière de représenter ces motifs semble varier de simples tracés entrecroisés comme ceux de Péné (Lebeuf 1965), aux treillis plus élaborés que circonscrit une figure circulaire ou plus souvent angulaire comme à Tsolaram (Gauthier 1993) ; les représentations les plus expressives étant volontiers associées aux figures zoomorphes et anthropomorphes comme dans la zone de Kiantapo, de Kiamakondé, de Kinshasa-Matadi, de Kassaola de Lovo, etc., en RDC (Mortelmans & Monteyne 1962; Heimlich 2014).

Dans le cas des représentations d'armes, les synthèses régionales faites par R. Lanfranchi et Clist (1991) et A. Galitzine (1992, 1994) (figure 5.1) montrent que l'un des ensembles les plus riches de la sous-région est sans doute illustré par le bassin de l'Uélé (nord RDC / sud-est RCA) et le plateau de Limbuma (nord-est RDC) (figure 5.1), les gravures y affleurent en majorité, comme dans le plateau de l'Adamaoua, sur des dalles latéritiques. Le corpus est essentiellement dominé des couteaux de jet et des lances à armature métallique éventuellement associés à des haches, des houes, des cupules, des pédiformes. Remarquons que l'utilisation du couteau de jet comme monnaie chez les Mangbetou (Le Quellec 2004: 81) est aussi attestée dans les coutumes de certains groupes non islamisés du nord-Cameroun, c'est par exemple le cas chez les Mofu où les traditions orales associent cet instrument aux « trésors d'origine ». L'emploi d'armes métalliques et / ou des outils lithiques par des faiseurs de pluies des monts Mandara et des plaines environnantes a aussi été signalé par J.-F. Vincent (1991: 630). Par ailleurs, les gravures d'armes au sud de la RCA (Bede & Lanfranchi 1978; Lanfranchi 1985), souvent inscrites également sur dalle latéritique, mettent surtout en évidence des couteaux de jet de plusieurs dizaines de prototypes ainsi que quelques lances à armature triangulaire, parfois associés à des tracés géométriques ou des silhouettes animales (quadrupèdes, oiseaux). Du reste, les motifs d'armes d'Elarmékora (Oslisly 1988, 1989, 1992) au Gabon évoquent des pointes de sagaie, des hachettes et des couteaux de jet dont la forme rappelle ceux qu'utilisaient encore les Kota et les Fang au début du XX^{e} siècle. Par leur forme schématique ramassée, cette iconographie rupestre du Gabon se distingue sensiblement du style plus allongé ou fusiforme des représentations de l'Adamaoua, de la RCA et de la RDC. Et si l'association des cupules aux gravures d'armes est signalée dans la plupart des sites de la sous-région, seule la zone de l'Adamaoua, à l'état actuel des connaissances, a permis de vérifier l'enrôlement de ces cavités dans le cadre spécifique des jeux rupestres. Nous espérons que les sites récemment mis à jour sur dalles latéritiques

dans la région de Boali au centre de la RCA, combinant aussi une diversité de motifs d'armes et des cupules parallèles du genre de celles de l'Adamaoua, pourraient nous en apprendre davantage, vu que les sites font encore de nos jours partie prenante des rituels agraires du groupe Mbaya.[21]

Conclusion

Les différents travaux effectués sur les arts rupestres de l'Afrique centrale montrent que ce type d'inscription a relativement prospéré dans presque tous les pays de la sous-région (Galitzine 1992, 1994, 1998), avec cependant des concentrations notables du bassin de l'Uélé (nord RDC / sud-est RCA) au plateau de Limbuma (nord-est RDC) (figure 5.1) ; les découvertes déjà susmentionnées du centre au sud-est du plateau de l'Adamaoua et dans la zone voisine au centre de la RCA, pourraient aussi intégrer cet axe parmi les pôles majeurs de production régionale. Se manifestant à travers une variété de techniques (gravures et / ou peintures en tracés continus ou en pointillés, impressions digitales, etc.), de supports (dalles horizontales, bancs, grottes, abris, etc.), et de modes (géométriques, schématiques et figuratifs anthropomorphes, zoomorphes, phytomorphes, etc.), cette iconographie traduit encore de nos jours l'expression des traditions culturelles vivantes dans certains groupes ethniques. Si la proposition des séquences chronologiques précises fait encore défaut (carence ou non viabilité des témoins archéologiques trouvés aux entours des sites), la représentation des thèmes, comme les armes, récurrents dans toute la sous-région, introduit cependant la limite temporelle de l'âge du fer dans de nombreux sites (la période d'introduction et de circulation du fer dans la sous-région restant encore à préciser dans plusieurs localités). C'est aussi sur une base thématique, enrichie par les données de la tradition orale, que nous avons essayé de comparer, de synthétiser et de classifier les différentes représentations connues dans l'aire soudano-sahélienne du Cameroun. De cette classification thématique, il ressort trois principaux modes de représentation qui semblent traduire des expressions sémiologiques distinctes : un style géométrique « abstrait » lié à un graphisme originel « mythogramme » (Marliac 1973, 1978, 1981, 1983), dont la traçabilité des représentations nous conduit au cœur des édifices cosmogoniques (système d'occupation de l'espace, d'enterrement, de parenté…) de certains groupes non islamisés des zones montagnardes ; un style géométrique algébrique transcrivant des jeux rupestres codifiés à travers une expression mimique et arithmétique « ludogrammes », largement diffusé via différents supports dans la région ; et un style schématique illustrant des armes de jet et de main dont les modèles métalliques, recensés chez les Mboum, correspondent à des grades initiatiques et à des intonations linguistiques propres. L'analyse des figures rupestres, à la lumière de la transposition des motifs sur différents supports liés à la culture matérielle et immatérielle des peuples, offre jusqu'à présent les meilleures possibilités d'interprétations de l'art rupestre.

Notes

1 Parmi certains pionniers dans les recherches, il faut citer : Calonne-Beaufaict (1914), de Bayle des Hermens (1975, 1984) en RCA ; au Bas Congo, les travaux de H. Breuil et G. Mortelmans (1952), G. Mortelmans et R. Monteyne (1962), et plus récemment G. Heimlich (2014) ; en République Populaire du Congo, les recherches de R. Lanfranchi (1985), R. Lanfranchi et B. Clist (1991) ; au Gabon les études de R. Oslisly (1988, 1992) ; au Cameroun, les publications de M.E. Buisson (1934), J. Lebeuf (1961), A. Marliac (1973, 1978, 1981, 1983), et plus récemment N. Tchandeu (2007–2009a, b).

2 Les attributions chronologiques évoquées jusqu'à présent restent bien relatives non seulement en raison de l'incertitude liée à la date d'introduction du fer en Afrique centrale, mais aussi à cause de l'absence de corrélation entre ces représentations affleurant bien souvent en plein air et les vestiges archéologiques qui les environnent. Au sud de la RCA par exemple, la présence des lances à armature triangulaire (de fabrication récente) permettrait de dater les gravures au fer réc entselon J.-L. Le Quellec (2004: 81) ; bien que peu probable, R. Oslisly (1988: 373–374) pense que les gravures de la vallée de l'Ogooué remonteraient à l'aube de l'ère chrétienne, laissées par des groupes de métallurgistes se déplaçant le long du fleuve Ogooué ; pour A. Galitzine (1998: 291) : « De façon générale, si rien ne s'oppose à une datation relativement ancienne de certaines représentations (Ier millénaire BCE), notamment au Gabon et au Zaïre, il semble, en l'état actuel des connaissances, que la plupart des sites doivent être placés entre le second âge du fer et les dernières migrations Bantu, soit, approximativement entre le Xe et le XIXe siècle AD, avec sans doute, une pointe autour des XVe–XVIe siècles au Zaïre. »

3 En plus des chercheurs déjà référés dans le cadre propre des arts rupestres de l'Afrique équatoriale, dans le prolongement de cette sous-région, il faut aussi mentionner les travaux de M. Gutierrez (2003, 2008, 2009) en Angola.

4 Cette étude synthétique reste sans doute perfectible, vu les découvertes récentes faites au Cameroun par N. Tchandeu (2007–2009a, b) ; les travaux effectués dans la zone de Boali depuis 2009 par le Centre Universitaire de Recherche et Documentation en Histoire et Archéologie Centrafricaine (CURDHACA), encore non publiés mais portés à notre connaissance par Sylvain Ouendemona, étudiant associé aux recherches et préparant un master sur le sujet à l'université de Yaoundé I ; ainsi que les nouvelles classifications opérées par G. Heimlich (2014) en RDC.

5 Dans cette hypothèse, les graveurs auraient à l'origine choisi des surfaces rocheuses apparemment saines lors de l'exécution des motifs.

6 Cette fiche iconographique est constituée des motifs les plus fréquents dans l'art rupestre de la région notamment, les cupules, les pédiformes et autres parties du corps humain, les lézariformes, les armes de jet et de main, les cercles et spirales, les réseaux de lignes entrecroisées. Les informateurs ont principalement été ciblés parmi les pasteurs peuls et bororo parcourant la région de fond en comble à la recherche perpétuelle de meilleurs espaces de pâturage.

[7] Informations recueillies en 2010 chez Yérima Idrissou, conservateur des « trésors d'origine » de la chefferie de Ngan'hâ.

[8] Les plus grands mouvements de populations dans la région ayant été causés sous la pression des empires Soudanais dont l'impact le plus important s'est fait ressentir autour du XV^{e}–XVI^{e} siècle par le Kanem-Bornou.

[9] Selon C. Jouaux (1995: 119) : Cette façon d'enterrer les morts apparaît bien comme une métaphore du phénomène de l'accouchement même si elle n'est pas explicitement présentée comme telle par les intéressés. … Certes cet accouchement où le défunt passe de l'extérieur vers l'intérieur et régresse à l'état de fœtus, se déroule « l'envers ».

[10] Si des constructions géométriques à partir du cercle sont fréquentes dans la sous-région où elles sont très souvent isolées ou associées à d'autres types de motifs aucun site n'a encore livré des figures dont le style des combinaisons, constant sur un vaste ensemble, est comparable à celui de Bidzar.

[11] Ce concept défendu par A. Marliac (1981: 90–95) met en évidence le cadre naturel mais symbolique des dalles-panneaux au sein desquelles s'autodéterminent les groupes de figures en étant aussi interactifs entre eux dans l'espace.

[12] Jouaux (1995: 89) remarque par exemple que les sépultures circulaires avec caveau en *bell-shaped* ou *flagon-shaped* sont souvent destinées aux individus respectés (notables, chefs de famille, veuves laissant des enfants mâles …), destinés à devenir de puissants ancêtres, les autres étant inhumés dans les tombes quadrangulaires ; chez certaines populations comme les Kapsiki et les Podoko, la tombe circulaire est réservée aux populations originaires du groupe, celles d'entre elles qui se convertissent à l'islam, tout comme les immigrés, se font enterrées dans des sépultures rectangulaires (Tchandeu 2007: 89). Au sud-ouest des monts Mandara où le mode d'inhumation serait plutôt tributaire du genre sexuel comme c'est aussi le cas des groupes voisins du Nigéria, Meek (1931: 297) fait remarquer que « men are buried in rectangular graves of the usual Muslim type, but women are buried in the flagon-shaped graves common in this part of Nigeria ».

[13] Cependant, face aux exigences méthodologiques qui nécessitent une certaine patience dans l'exécution des motifs sur la roche, on assiste par ça et là à une plus grande vulgarisation des formes éphémères inscrites à même le sol ou sur du sable comme en Angola (Chemillier 2007, 2009) ; les applications sur le bois, sans doute parmi les plus publiées (Mvé Ondo 1990; Owona 2005, 2006; Raabe 2006), sont surtout répandues dans la zone forestière du pays sous l'appellation de Songho.

[14] Les traditions orales rapportent que, lorsque les ancêtres des Podoko sont arrivés sur le site d'Oudjila, ils ont trouvé sur place une roche proéminente et des cupules que le Créateur aurait lui-même façonnées afin que ces représentations servent respectivement de « pierre de sacrifice » *mutta* (pour le culte), et de « pierre du jeu » *dawa* (pour se divertir). Frustrés par leur interdiction de participer aux tournois exclusivement réservés aux notables et aux

anciens, un groupe de jeunes enfants entreprirent alors de reproduire une version plus réduite du jeu sur le même panneau.

[15] http://fr.wikipedia.org/wiki/Awal%C3%A9 ; Mars 2015.

[16] Yérima Idrissou nous a présenté en 2010 cet ancien comme étant l'un des derniers informateurs encore capables d'expliquer le fonctionnement de ce jeu.

[17] La traçabilité des figures sur d'autres rupestres de la région ainsi que sur d'autres supports a apporté très peu de résultats depuis les études d'A. Marliac (1973, 1978, 1981, 1983), peut-être que les analogies que nous avons pu faire (Mission IRD [Institut de Recherche pour le Développement] août 2009) entre le module directeur de Bidzar et les motifs symboliques qui décorent les cadres d'entrée de certaines cases d'épouses royales (figure 5.4), pourraient offrir de belles possibilités pour les recherches avenirs.

[18] L'utilisation traditionnelle des pierres pour décompter les années de règne du *bélaka* est rapportée par des auteurs comme E. Faraut (1981: 162) et T. Bah (1993: 65) ; selon les informations obtenues chez Yérima Idrissou, ce procédé aurait remplacé celui plus ancien de l'usage de la pièce métallique *hâ*.

[19] Les figures sont regroupées en plusieurs paquets constituant des ensembles symboliques interactifs au sein du même panneau ; le concept de « groupe significatif » doit être distingué ici de celui de « panneau significatif » évoqué par A. Marliac (1981: 90–95) pour traduire la cohésion des groupes inter-communicants au sein d'une diversité de dalles – panneaux à Bidzar.

[20] En cas de perte ou de vol de l'objet selon les traditions orales, le dignitaire peut en commander une copie chez un artisan, copie qui subira par la suite certaines onctions sacrificielles qui consacrent de nouveau la pièce à l'usage rituel ; la fabrication de ces armes reste une activité artisanale d'autant plus vivante et rémunératrice ces dernières décennies qu'elle est de plus en plus tournée vers le secteur touristique.

[21] Sylvain Ouendemona qui prépare actuellement un master en archéologie sur le sujet à l'université de Yaoundé I et qui a participé à l'inventaire des sites en 2009 dans le cadre d'un programme du CURDHACA a volontiers échangé avec nous sur l'état actuel de ses recherches.

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6 Archaeology and History in Iron Age Settlements in the Congo Basin

Dirk Seidensticker

Abstract

Currently, the north-western Congo Basin – a crucial region as far as the so-called 'Bantu expansion' is concerned – represents almost a white spot on the archaeological map of central Africa. This paper aims at providing the outline of a settlement history of the region. It is based on a survey of 123 sites along the rivers Ubangi, Lua, Sangha, Ngoko and Likwala-aux-Herbes (Democratic Republic of the Congo, Republic of the Congo, Cameroon and Central African Republic) carried out in 1985 and 1987 by a team of archaeologists under the direction of Manfred Eggert. An analysis of the ceramics encountered in this region is part of my ongoing PhD thesis, which is supervised by Hans-Peter Wotzka at the University of Cologne. The currently drawn sequence of pottery style groups reaches back to the first settling of the rainforest by sedentary populations in the second half of the first millennium BC. The research area is of special importance in that it represents a north to south transect from the savannas north of Bangui in the Central African Republic into the heart of the rainforest, to south of Mbandaka in the Democratic Republic of the Congo. For the first time partial polishing of sherd sections has been used to provide detailed insight into fabric variability of Iron Age pottery from the Congo Basin. Through this, an underlying, deeply rooted marker of the different pottery groups in the Congo Basin seems to emerge.

Résumé

Actuellement, le nord-ouest du bassin du Congo – une région cruciale lorsque ce que l'on appelle « l'expansion bantoue » est concernée – représente presque une tache blanche sur la carte archéologique d'Afrique centrale. Le présent article vise à fournir les grandes lignes d'une histoire du peuplement de la région. Il est basé sur une recherche sur environ 120 sites le long des fleuves Oubangui, Sangha, Ngoko et Likwala-aux-Herbes (République Démocratique du Congo, République du Congo, Cameroun et Centrafrique) réalisée en 1985 et 1987 par une équipe d'archéologues, sous la direction de Manfred Eggert. Une analyse des céramiques découvertes dans cette région fait partie de ma thèse de doctorat en cours sous la supervision de Hans-Peter Wotzka, à l'Université de Cologne. La séquence actuellement établi des groupes de styles de poterie remonte à

la première colonisation de la forêt tropicale humide par des populations sédentaires dans la seconde moitié du premier millénaire avant JC. La zone de recherche est d'une importance particulière en ce qu'elle représente un transect Nord-Sud depuis les savanes au nord de Bangui en République centrafricaine, jusqu'au cœur de la forêt tropicale au sud de Mbandaka, en République Démocratique du Congo. Cet article présentera non seulement un aperçu général de certains grands groupes de céramique dans la zone de recherche mais contribuera aussi à apporter de nouvelles données sur la distribution de la poterie décorée à la roulette. De plus, il sera démontré que l'introduction de ce type particulier de décoration peut difficilement être considérée comme un changement fondamental, mais s'inscrit plutôt comme une évolution fondée sur des groupes et des formes de céramiques plus anciennes, comme dans la région des grands lacs d'Afrique orientale. Pour la première fois, le polissage partiel de petites sections a été utilisé pour fournir un aperçu détaillé dans la variabilité de fabrication de la poterie de l'âge du fer du bassin du Congo. Grâce à ceci, un marqueur profondément enraciné des différents groupes de poterie dans le bassin du Congo semble émerger.

Introduction

From 1977 to 1987, the River Reconnaissance Project, directed by Manfred Eggert, focused on the archaeology of the Congo Basin (Eggert 1983, 1984a, 1993, 1996). Within its framework, extensive boat surveys were performed. In 1991, Hans-Peter Wotzka submitted his PhD thesis summarising this project's discoveries in the inner Congo Basin; the study was published in 1995 (Wotzka 1995). Wotzka was able to reconstruct the settlement history of all explored tributaries under the bend of the Congo River. The resulting sequence of pottery style groups spans the last two-and-a-half millennia. He concluded that the first settlers did not penetrate the entire study area at once. The process of settlement might best be described as multiple successive waves of upriver expansion that continued at least into the sixteenth century AD. Its initial phase is represented by the oldest pottery style group found in the inner Congo Basin so far: the Imbonga pottery. Two of the main results Wotzka achieved in his thesis are that 'the explored parts of the Inner Congo Basin constitute a remarkably self-containing ceramic sphere in the course of the last 2 400 years' and that 'all pottery styles [that were encountered] could be traced back to the Imbonga group' (Wotzka 1995: 290).

For a number of reasons, the finds from those surveys covering the north-western Congo Basin have never been conclusively analysed up to now. Only two initial reports were published by Eggert. The first dealt with the survey along the rivers Ubangi and Lua in 1985 (Eggert 1987), while the second presented preliminary results of the survey along the rivers Sangha, Ngoko and Likwala-aux-Herbes in 1987 (Eggert 1992). Additionally, a short description on the pottery from both areas was included in a

well-known paper concerning the archaeology in the equatorial rainforest in general (Eggert 1993).

The main task of my PhD thesis is the analysis of the material which was discovered during the field campaigns of 1985 and 1987. The study area covers the north-western margin of the Congo Basin, extending more than 700 km from north to south and about 500 km from east to west (figure 6.1). It stretches from the savanna regions north of Bangui (Central African Republic) right into the heart of the rainforest, close to the town of Mbandaka (Democratic Republic of the Congo). The analysis is based upon the findings from 123 sites along the rivers Ubangi and Lua, Likwala-aux-Herbes, Sangha and Ngoko, as well as on the connecting stretch of the Congo itself. One-third of this body of material originates from excavations conducted at five different sites, while the bulk was collected during surveys.

The north-western Congo Basin

The initial phase of the settlement history of the inner Congo Basin is represented by the Imbonga pottery (Wotzka 1995: 59–68; figure 6.2). The most characteristic vessel forms are pots with round bellies, pronounced shoulders and profiled rims, as well as wide-mouthed bowls. The specific decoration pattern of Imbonga pottery comprises rocker-stamping on the lower half of the vessel, often combined with horizontal

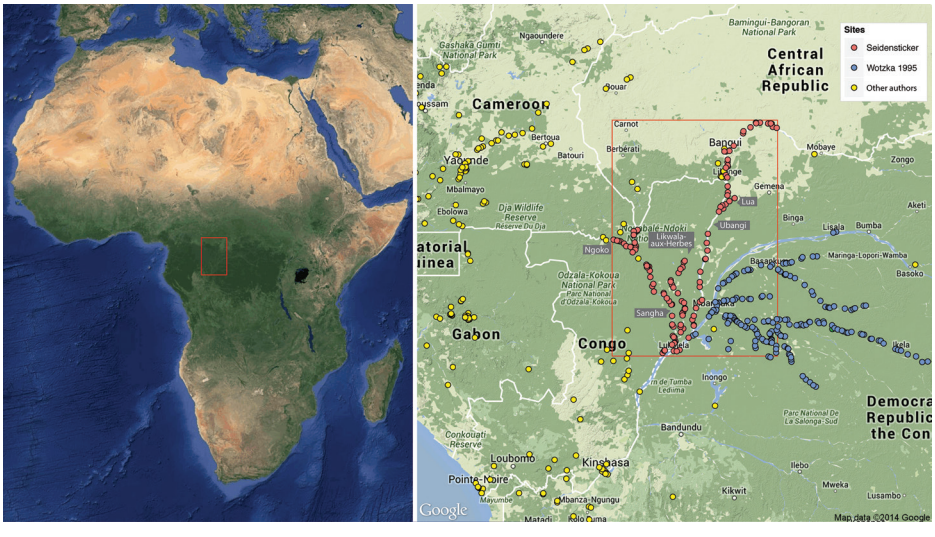

Figure 6.1 Location of the study area (red rectangle) and mapping of the sites incorporated in this study (red dots), and known sites in adjacent regions. Source: D. Seidensticker, mapping using Kahle & Wickham (2013)

grooves and incised or plastic ornamentation of the shoulder region. Imbonga pottery dates between 400 and 200 cal BC, and was found within a restricted area of roughly 280 x 220 km along the lower reaches of the rivers Lulonga, Ikelemba and Ruki-Momboyo (Wotzka 1995: 545, map 2; figure 6.2). Its origins are currently unknown and, to the west of the Congo River, Imbonga pottery was only found at two sites on the lower reaches of the Sangha River, namely Mitula and Mobaka (Eggert 1993: 319, figure 16.14; figure 6.2). Both findings were radiocarbon-dated into the fifth to second century BC (Eggert 1993: 314, table 16.6: KI-2894, KI-2895) and are therefore contemporaneous to the sites of the Imbonga group known from the inner Congo Basin.

Apart from these finds, the oldest well-documented pottery style groups of the north-western Congo Basin are quite different. The earliest style group in the south-western part, along the rivers Sangha and Likwala-aux-Herbes, is the so-called Pikunda-Munda pottery (figure 6.2). It is mainly characterised by its wide-mouthed bowls with approximately parallel sides, flared rims and round bases (Eggert 1993: 311–314). While rocker-stamp decoration is occasionally present, the general ornament scheme is based on linear elements produced by means of incision and grooving.

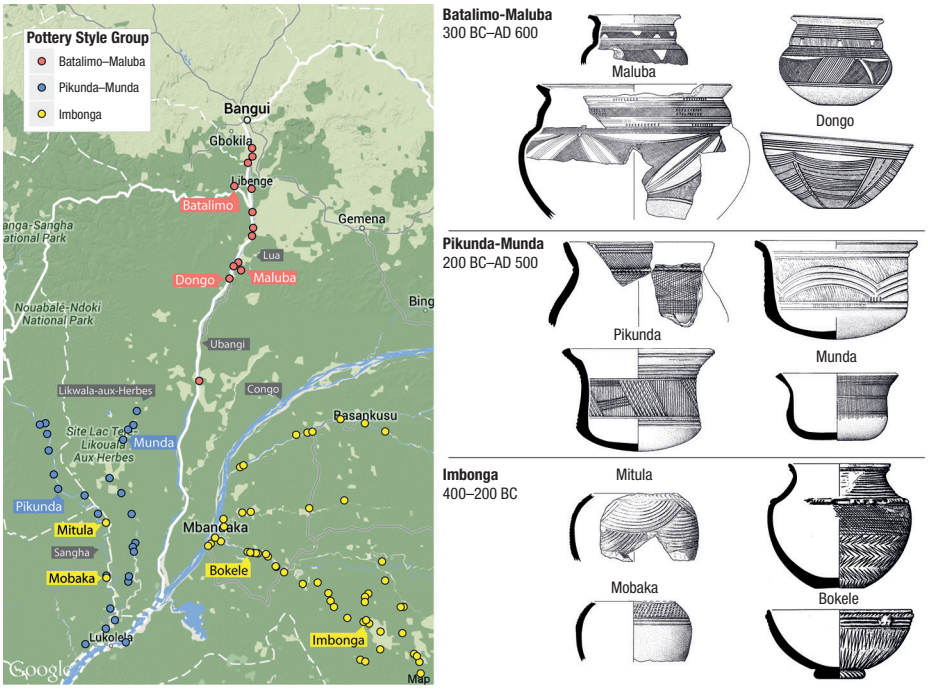

Figure 6.2 Mapping of known sites and representative pottery of the oldest known pottery style groups in the Congo Basin. Source: D. Seidensticker, mapping using Kahle & Wickham (2013)

In the northern part, to the south of the Ubangi bend, the regional sequence starts with the Batalimo-Maluba group (figure 6.2). It is named partially after the pottery that was excavated by Roger de Bayle des Hermens in Batalimo on the Lobaye River in 1968 (de Bayle des Hermens 1975). The same pottery type was also encountered in an excavation by Manfred Eggert in Maluba on the Lua River in 1985. The main forms are well-structured globular pots and wide-mouthed bowls, while the decoration scheme consists of alternating horizontal and vertical zones of elaborate cross-hatching, impression motifs as well as incised and grooved lines (Eggert 1993: 306–308).

Fabrics and partial polishing of sherd sections

For the first time partial polishing of sherd sections has been used to provide detailed insight into fabric variability of Iron Age pottery from the Congo Basin. The polishing was done using a Wirtz TE 200 grinding machine with a 40 µm diamond grinding wheel. The sections were then scanned at a resolution of 1200 dpi using a customary Epson GT-15000 flatbed scanner. Theoretically this resolution would correspond to a resolved length of 21,2 µm. While the scanner in use is theoretically capable of producing images at higher resolution, a resolution above 1200 dpi did not prove to be suitable as it did not add further characteristics to the resulting image. The definition of fabrics followed the principles best described by Hans-Åke Nordström (1972) and the recent implementation by Heiko Riemer (2011).

So far, only a small sample of around 20 polished sections from the inner Congo Basin exists. They all show a distinct and homogeneous type of fabric: mostly white burning clays that contain virtually no admixtures (figure 6.3). Variation is only observed due to the effects of the firing; more precisely, how profoundly the oxidation reaches into the sherd, and how clear the boundary between the core and the oxidised outer zone is. Based on several observations of pottery production and firing at the village of Ikenge on the Ruki River from 1977 to 1983 (Eggert & Kanimba Misago 1980; Wotzka 1991), this was expected for the present pottery (figure 6.3, Ikenge-Group). However, the small sample out of the known pottery groups of the inner Congo Basin showed that they follow a common scheme, which could be traced back as far as to the Imbonga pottery. Currently, a larger sample of polished sections is to be analysed from the material Wotzka excavated at a site near Mbandaka in 2012. The aforementioned oldest pottery group in the south-western part of the study area, the Pikunda-Munda pottery, together with some other groups along the Sangha and Likwala-aux-Herbes, relates to this technical tradition of the inner Congo Basin. Based on their fabrics, the pottery of those groups cannot be distinguished from those further to the east, across the Congo River.

Two additional fabrics were observed along the Sangha. One, which is characteristic for the Bobusa group, showed grog admixture (figure 6.3). The pottery of this

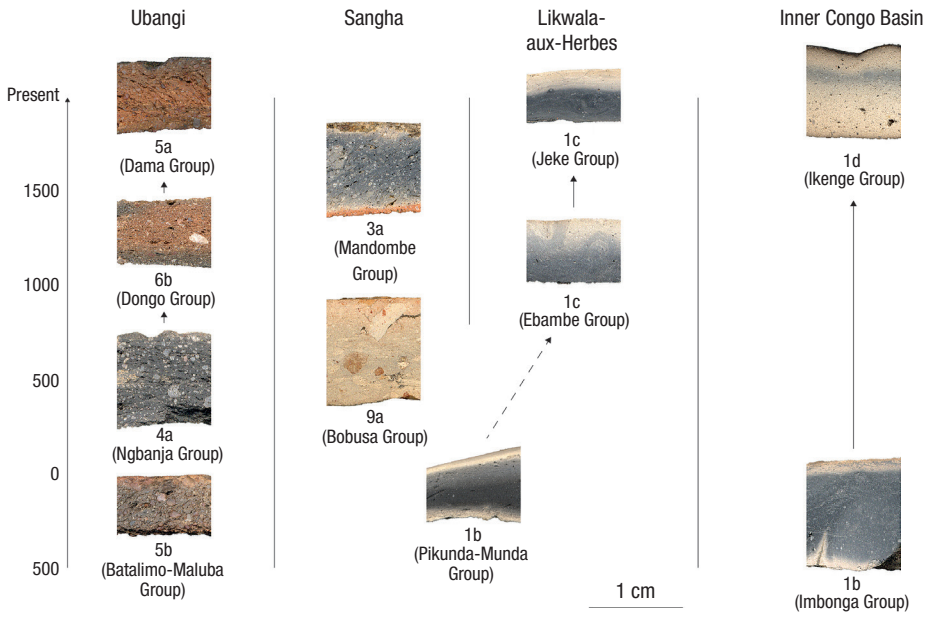

Figure 6.3 Generalised diagram of the regional distinctions in pottery fabrics (bold) through time. The shown fabrics are largely representative for the pottery style groups (in brackets). Source: D. Seidensticker

group is found only in the extreme south of the study area, along the lower reaches of the Sangha River and at its mouth into the Congo River. Unfortunately, based on currently available data, no reliable statement about the age of this pottery can be made. The closest comparisons for the stylistic characteristics – as well as for the fabrics – are finds from the Pool Malebo area, at sites like Gombe Point (Cahen 1976: 585–587, figure 7) or Île des Mimosas (Eggert 1984b: 279–280, figures 8–9) and the Loango Coast (Denbow 2014: 118–119). The second fabric, related to the Mandombe style group, contains substantial amounts of fine sands and organics, but is rather different from those fabrics that were observed along the Ubangi. This pottery might be connected to a breach in the settlement history of the region. This issue will be discussed in more detail below, within the small case study on the introduction of roulette decoration in the Sangha/Ngoko region.

In terms of its fabrics, Batalimo-Maluba pottery is quite different when compared to both Imbonga and Pikunda-Munda pottery. All ceramics found along the rivers Ubangi and Lua showed a distinct family of different fabrics (figure 6.3). They contain large quantities of non-plastic particles, like heterogeneous sand with quartz and laterite.

It is uncertain which fractions of these particles belong to the clay that was used and what was intentionally added as temper. Nevertheless, they illustrate the distinct way that pottery was produced in the northern part of the study area, which is different from that practised in the southern half, as well as in the inner Congo Basin. The observed fabrics show distinct regional varieties, which span in cases across large time spans. They represent the first steps of several distinct pottery production traditions present in the study area.

A comparative analysis of pottery production techniques, specifically roughing-out or primary shaping techniques, is unfortunately still pending. Recent analyses following these approaches showed great potential for unravelling additional knowledge concerning the identification of ancient pottery traditions (Huysecom 1994; Mayor *et al.* 2005; Livingstone Smith 2007a; Lindahl & Pikirayi 2010; Livingstone Smith & Visseyrias 2010), and in which pottery is seen as a 'media allowing for an interface between the past and the present' (Gosselain & Livingstone Smith 2013 : 125). While those studies rely on partially preserved or entire vessels, the body of pottery encountered by Eggert during his surveys comprised less than 25 % sherds larger than 120 by 120 mm.[1] Entire vessels or vessel fragments, pieces where at least the entire profile from rim to base was preserved, were only represented by 3 %. Because of that and to provide a systematic approach, the study of fabrics was preferred over the analysis of pottery technology thus far. Due to the lack of financial support for the project, the use of X-ray radiography, as applied successfully by Alexandre Livingstone Smith and Aline Visseyrias (2010), was not possible.

However, an integration of such approaches into the study is planned for the near future.

Case study: the introduction of roulette decoration in the Sangha/Ngoko region

A critical point in the settlement history of the north-western Congo Basin, apart from questions concerning the first settlement by pottery producing people, relates to the way in which roulette decoration was introduced. This distinct manner of decorating pots can easily be identified in the material. In 2007, Livingstone Smith published a study of the spread of roulette decoration. The oldest relics of this distinct type of pottery decoration are known from West Africa around 4000 BP (Livingstone Smith 2007b: 189). It then spread through the northern Sahel, as far west as Senegal and into the Great Lakes region of East Africa. Several earlier studies have identified the expansion of various types of roulette decoration as watershed events connected with the spread of distinct linguistic groups. For instance, carved roulette was considered a material marker of Adamaoua Ubangian language history (David & Vidal 1977). By analysing language shifts and roulette decoration in the Uele region of the Democratic Republic of the Congo and the naming of objects related to pottery production and

roulette decoration in the Kagera region of Tanzania, Mary McMaster (2005) makes a case against diffusion as the leading mechanism for the introduction of roulette decoration. Based on available radiocarbon dates for the introduction of cord-roulette in the latter region, a simple introduction through migration seems rather unlikely as well (McMaster 2005: 63). Nevertheless, McMaster sees roulette decoration as a watershed event in the regional settlement history. On the other hand, Ceri Ashley was able to determine a transitional pottery group between Urewe, the oldest style group in the intra-lacustrine regions of East Africa, and cord-roulette decorated pottery (Ashley 2010). She demonstrated a process of transition in the ceramics, since a less accomplished version of Urewe ceramics was replaced by several further non-roulette decorated variants around the tenth century AD (Reid 2013: 890–891). This pottery led to a group labelled Entebbe which features twisted string roulette as well as broad incisions. It is dated into the first half of the second millennium AD and was finally replaced by the typical range of roulette decorated ceramics.

Concerning the north-western Congo Basin, so far the single well-dated ceramic evidence in the Sangha/Ngoko region comes from the excavation of two pits at Pikunda on the Sangha River. A younger pit reached down 1 m below the surface (figure 6.4, A). It contained a distinctly homogeneous pottery that was labelled Mandombe and is characterised by globular pots with short necks and grooved rims (figure 6.5, 12–16). Its decoration scheme is based on diagonal grooves or comb impressions on the upper half of

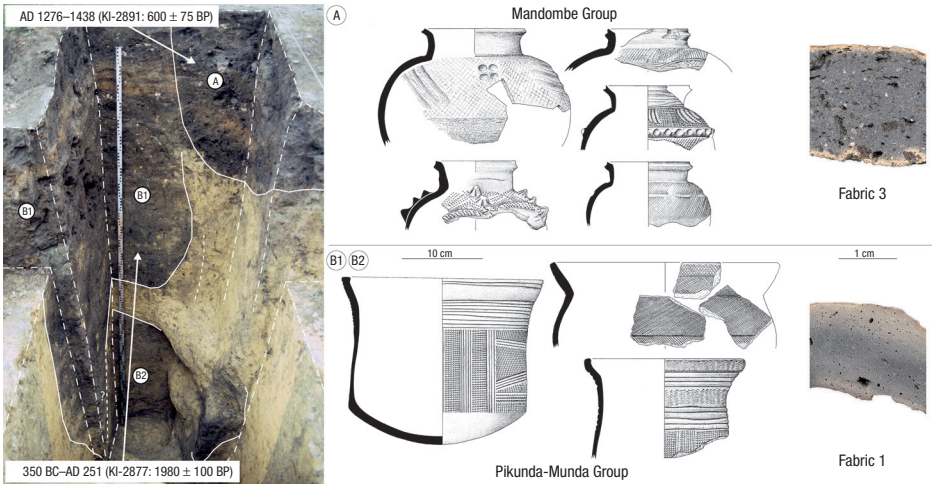

Figure 6.4 Feature PIK 87/1 at Pikunda on the Sangha River (left) with highlighted sampling points of the two radiocarbon datings (KI-2877, KI-2890). A representative selection of vessels (centre) as well as the respective fabrics (right) illustrate the disparity of the pottery from each part of the feature.
Source: D. Seidensticker

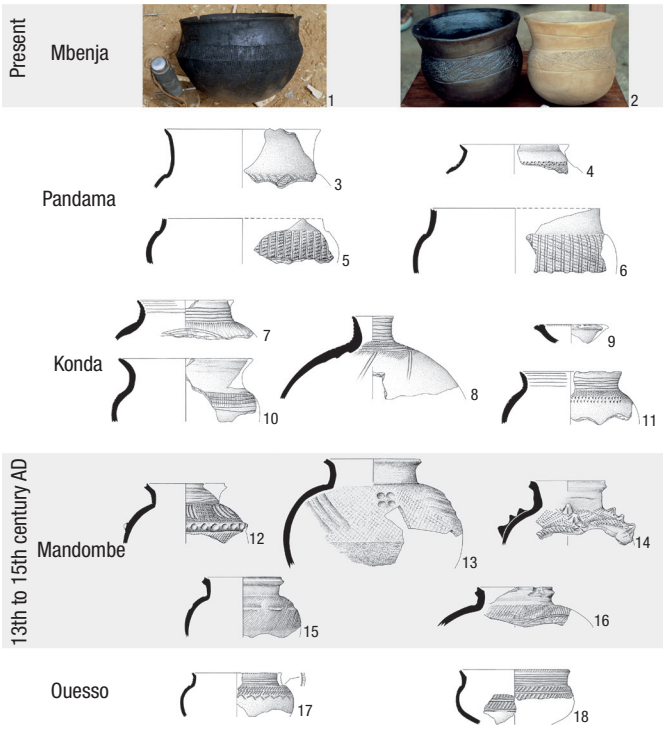

Figure 6.5 Pottery from various localities on the upper Sangha and the Ngoko River mentioned in the text. Source: D. Seidensticker

the belly, while the lower half was often roughened up using a clay slip. Additionally, this pottery shows a variety of *appliqués*, including knobs and ridges. One radiocarbon sample dates this distinct pottery to between the thirteenth and fifteenth centuries AD. As mentioned earlier, polished sections of this type of pottery showed that it must be distinguished quite clearly from the Pikunda-Munda pottery that occurred in both of the distinct stratigraphic horizons – labelled B1 and B2 – of the older pit (figure 6.4). This much deeper shaft-like pit reached down to around 3 m below the surface and pit A cut partially into it. Pit B was dated to between the fourth century BC and the third century AD by a second radiocarbon sample.

Besides the Mandombe pottery just described, several related ceramic groups could be identified within the corpus of surface finds from the Sangha and Ngoko region that might be younger than the Pikunda-Munda group as well. While the Mandombe pottery (figure 6.5, 12–16) is well dated thanks to the excavation at Pikunda, and another pottery labelled Mbenja was observed as being in use in 1987 (figure 6.5, 1), the chronological position of the other groups is hypothetical. However, all contemporary vessels

observed on both the upper Sangha and the Ngoko showed carved roulette decoration. On the other hand, an especially distinct pottery group, labelled Pandama (figure 6.5, 3–6), combines knotted strip roulettes with broad incisions. Another pottery group, labelled Konda (figure 6.5, 7–11), shows for all but two specimens no roulette decoration. Despite their ornamental differences, all these groups share a number of morphological features, including globular pots with round bases as the major vessel type.

Although it should be noted that very few specimens were collected and well-dated excavations were limited to the site of Pikunda, the results of this case study indicate that the introduction of roulette decoration in the Sangha/Ngoko region was not a radical and seemingly instant transformation. Currently, the only break in settlement history in the north-western Congo Basin is situated somewhere between the Pikunda-Munda pottery, which is ornamental and technically related to the inner Congo Basin, and the Mandombe pottery, which shows no signs of roulette decoration and no relation to earlier pottery in the study area. Roulette decoration was rather introduced within an existing system of pottery groups in the upper Sangha region after the duration of Mandombe pottery (figure 6.5). I therefore refrain from associating this ornamental innovation with profound demographic change, such as population replacement.

Preliminary conclusions

Some definitive conclusions may be drawn from these preliminary studies. First and foremost, the aforementioned oldest pottery groups in the north-western Congo Basin, Pikunda-Munda and Batalimo-Maluba, are basically contemporaneous. Both groups date to a period from around the third or second century BC to the fourth or fifth century AD. Therefore, they are at least 100 to 200 years younger than the Imbonga pottery in the inner Congo Basin. The Pikunda-Munda group does not constitute a distinct pottery tradition. Its characteristics more or less vanished in the Sangha region around 500 AD and a potential connection with younger groups in the Likwala-aux-Herbes region, namely the Ebambe and Jeke groups, is rather vague. On the Sangha River a distinct pottery tradition, which consists of the Ouesso, Mandombe, Konda, Pandama and Mbenja groups, emerges between the tenth and thirteenth centuries AD. Along the Ubangi River, the Batalimo-Maluba group seems to have been the starting point of a distinct regional development that reaches into present times. However, because my work on the pottery from the Ubangi is not yet complete, these results should be considered tentative for the time being. The roots of the two oldest pottery groups, Pikunda-Munda and Batalimo-Maluba, remain unknown. The enigma of origins adheres to the Imbonga group as well.

The cultural significance of the fabric analysis is founded on several observations: firstly, the small sample of sherds from the inner Congo Basin showed exactly the same family of fabrics throughout the last 2 500 years. Thus, it might be stated that the

technical aspects of the clay preparation did not change since the first settlement of the area. In contrast, this picture varies when one leaves the inner Congo Basin. Especially at the site of Pikunda at the Sangha River, a distinct process of change is observable (figure 6.4). While the earlier Pikunda-Munda pottery shows similar fabrics as the pottery in the inner Congo Basin, the later Mandombe pottery comprises a family of distinct and different fabrics. If one assumes that the same sources of clay were used, then an additional temper must have been applied deliberately. The other possibility might be that other clay sources were used to produce the Mandombe pottery. Since within both style groups the observed fabrics are reasonably homogeneous, these possibilities suggest at least a planned and deliberate preparation of the raw materials used. Thus the observed change in fabrics points towards a change in primary clay preparation and therefore pottery production techniques. In addition to that, preliminary distribution maps of the individual fabrics suggest that some encompass distinct areas.

Furthermore, the oldest radiocarbon-dated remains of iron production in the region are connected to the Pikunda-Munda group, namely two furnaces in Munda along the Likwala-aux-Herbes River. The introduction of iron metallurgy therefore dates into a timeframe from the second century BC to the fifth century AD. These dates are currently the oldest known from the region. While in the inner Congo Basin the first traces of iron metallurgy date into the tenth to fourteenth century AD (Wotzka 1995: 288), the oldest remnants of iron metallurgy to the north, from Sabélé (Central African Republic), date into the thirteenth to fifteenth century AD (Lanfranchi *et al.* 1998: 45).

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First and foremost, I would like to thank Hans-Peter Wotzka for his vital comments on an earlier draft of this paper as well as his positive criticism and support. Furthermore, I want to thank Manfred Eggert for allowing me to analyse his material of the River Reconnaissance Project from the field campaigns of 1985 and 1987 and for financing the work until 2014. His constant support and positive criticism were indispensable. Additional thanks go to Heiko Riemer for providing initial insights into fabric analysis and to Götz Ossendorf for revising a later draft of this paper. Finally, I would like to thank the German Academic Exchange Service, whose grant enabled me to present my paper at the 14th Congress of the PanAfrican Archaeological Association for Prehistory and Related Studies / 22nd Biennial Meeting of the Society of Africanist Archaeologists in Johannesburg.

Note

[1] The recording of sherd fragmentation followed the system of Bernard Clist (2004/2005: 89).

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7 Learning from Glass Trade Beads at Thabadimasego, Botswana

Adrianne Daggett, Marilee Wood and Laure Dussubieux

Abstract

In this paper we present the results of recent laser ablation-inductively coupled plasma-mass spectrometry analysis (LA-ICP-MS) of an assemblage of glass beads from Thabadimasego, an Early Iron Age site in north-east Botswana. Glass beads of Middle East and South Asian origins have been recovered from numerous sites across southern Africa and offer important evidence of trading connections both within southern Africa as well as between the subcontinent and other regions participating in the vast Indian Ocean trade network of the time. Results of the Thabadimasego bead analysis indicate that the site participated in some of the earliest manifestations of this exchange system.

Résumé

Dans cet article, nous présentons les résultats d'une analyse récente par spectrométrie de masse à plasma induit couplée à l'ablation laser (LA-ICP-MS) d'un assemblage de perles de verre de Thabadimasego, un site de l'âge du fer ancien dans le nord-est du Botswana. Les perles de verre d'origines du Moyen-Orient et d'Asie du Sud trouvées sur de nombreux sites d'Afrique australe offrent une preuve importante des liens commerciaux tant au sein de l'Afrique australe, qu'entre le sous-continent et d'autres régions participant dans le vaste réseau de commerce de l'océan Indien de l'époque. Les résultats de l'analyse de perles de Thabadimasego indiquent que le site a participé à quelques-unes des premières manifestations de ce système d'échange.

Introduction

Early Iron Age (EIA) settlements in southern Africa are broadly characterised as small Bantu-speaking agricultural communities that were more or less self-sustaining in terms of subsistence but nevertheless maintained extensive economic and cultural

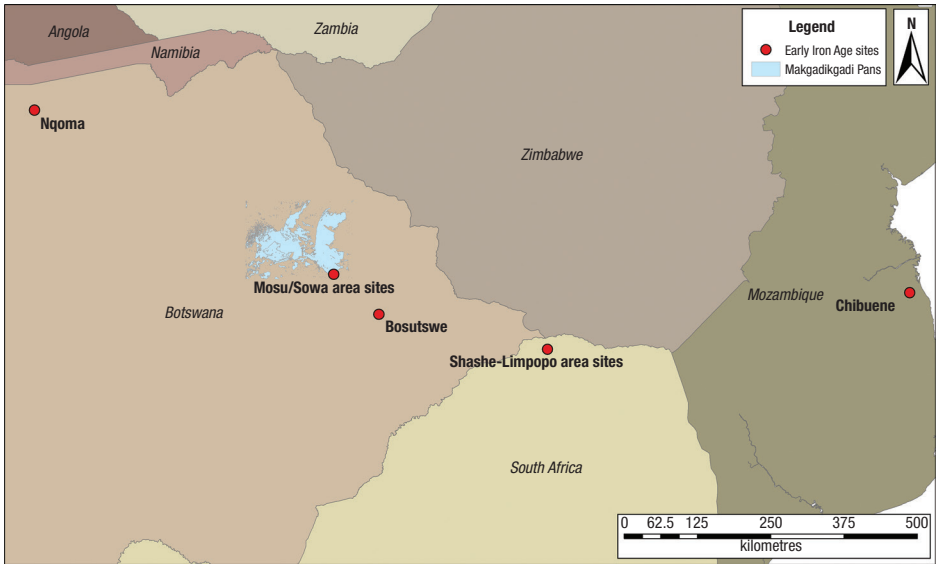

Figure 7.1 Map of southern Africa and sites mentioned in the text. Source: A. Daggett

relationships with one another (Mitchell & Whitelaw 2005; Huffman 2007). These relationships involved, to a greater or lesser degree over the centuries, the exchange of both bulk and luxury items. Some of these goods were local products and some, such as glass beads, were acquired via connections to trading networks further abroad across eastern coastal Africa and glass-producing regions across the Indian Ocean (Pwiti 1991; Popelka *et al.* 2005; Robertshaw *et al.* 2010). For the southern African EIA, access to and control over the foreign goods exchange network has been cited as a potentially important factor in the development of social complexity (Hall 1987; Huffman 2000). In this paper we discuss the results of recent research which places the involvement of Zhizo-era sites in north-east Botswana in the luxury goods exchange network from an early date (figure 7.1).

During excavations in 2012, approximately 40 glass beads were recovered from Thabadimasego, a small site on the Mosu Escarpment in north-east Botswana dated to the ninth century (figure 7.2). An additional handful was recovered from a test unit at site 16-A1-12, located on the nearest escarpment protrusion to the west of Thabadimasego. The glass beads were part of a larger assemblage excavated from both sites, which included hundreds of decorated ceramic sherds, faunal remains, shell beads, metal objects and carbonised seeds.

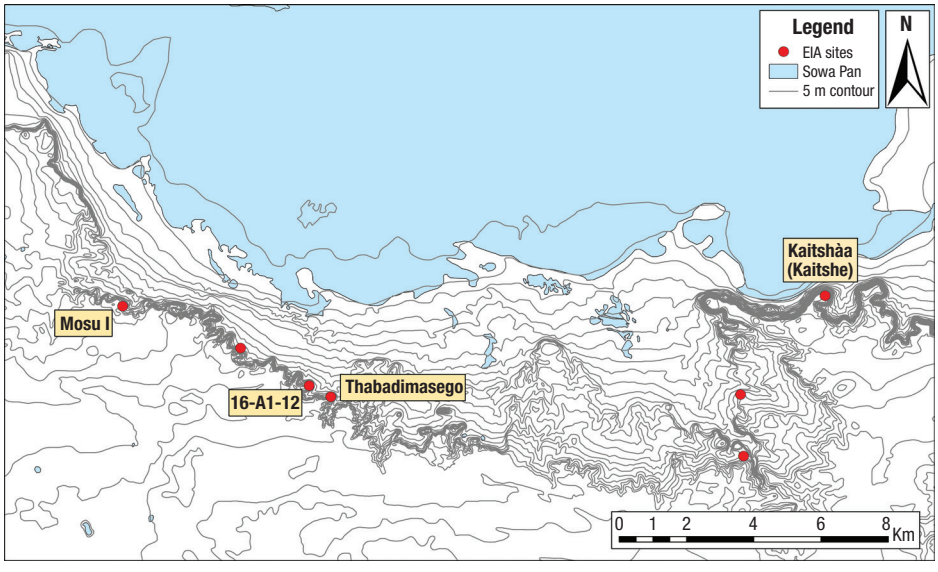

Figure 7.2 Map of south Sowa area. Source: A. Daggett

South Sowa in the Early Iron Age: emerging trends

Thabadimasego is one of several EIA sites that occupied the Mosu Escarpment overlooking Sowa Pan (Campbell & Main 1991; Main 2008). Other contemporary sites in this area which have been excavated include Mosu I (Reid & Segobye 2000a, b) and Kaitshàa (Denbow *et al*. 2015). The Mosu Escarpment consists of a series of bluffs, hills and plateaus stretching east–west for about 50 km just south of Sowa Pan, in north-east Botswana. The escarpment itself is part of the system of strandlines surrounding the entire Makgadikgadi Pans that resulted from shore formation during the existence of Palaeolake Makgadikgadi (Burrough *et al*. 2009, 2012). The Mosu bluffs are about 55 m tall from the perspective of the lowlands to their immediate north. They stand at about 990–1 000 m above sea level (Sowa Pan at its lowest is 890 m above sea level). The slopes tend to be steep and access to the top of the escarpment must be carefully negotiated via winding footpaths.

The features of south Sowa's physical environment present numerous natural resources suitable for human occupation as well as some that complicate that occupation. The escarpment and southern plateau host natural springs, edible plants such as grewia berry and morula, mopane and acacia for grazing livestock, and arable land for growing crops. The floodplain contains large beds of raw clay, stands of real fan palms (*Hyphaene petersiana*) which offer multiple uses, and additional grazing land.

Sowa Pan and its margins possess additional beds of clay, baobab groves and, of course, salt. Wild animal conflict is historically low relative to other parts of the Makgadikgadi, although so is wildlife biomass overall (Brooks & Maude 2010). As already noted by Reid and Segobye (2000b) and Field (1977), the area offers a strong 'balance of resources' and a high carrying capacity for human and livestock populations.

Late first millennium occupation of this area of Botswana has been known since the 1980s. Archaeological sites in the south Sowa area were first documented by James Denbow (1985) for the British Petroleum Soda Ash archaeological impact assessment survey. Further site location surveys were conducted by avocational crews in the early and mid-1990s (Campbell & Main 1991; Main 2008). These surveys led to the documentation and registration of up to 50 archaeological sites along the south and south-eastern margins of Sowa Pan. Based on ceramic identifications by Professor Tom Huffman (as cited in Main 2008), it was determined that occupation of south Sowa likely reached as far back as the mid to late first millennium AD and that additional occupations likewise occurred around the middle of the second millennium, prior to the arrival of Tswana, Kalanga and other historically documented communities now present in the area. An early settlement date (ninth to tenth c. AD) was confirmed by Reid and Segobye (2000a, b) through radiocarbon samples for Mosu I, a site located about 5.5 km west of Mosu village. Materials recovered through excavation at Mosu I – including glass trade beads, carved ivory bangles, livestock and Zhizo ceramics – indicate that not only was this settlement a contingent of the EIA way of life, but also that it participated in the exchange network that connected much of southern Africa to the Indian Ocean coast at the time. Further excavations at Kaitshàa, a stonewalled escarpment site contemporary to Mosu I, located 15 km north-east of Mosu village, provided similar information during the 1990s and again in 2010 when Denbow returned to find a large cache of glass trade beads as well as copper jewellery (Denbow *et al*. 2015). These finds indicated that the south Sowa area, while geographically peripheral to the Iron Age settlement system of southern Africa overall (as discussed by Reid & Segobye 2000b), nonetheless maintained important economic connections for the duration of the community's existence.

The glass beads

Inclusion of glass trade beads among EIA assemblages is a well-documented phenomenon across a number of regions of southern Africa, including coastal trading depots such as Chibuene (Sinclair 1982; Sinclair *et al*. 2012; Wood *et al*. 2012); the regionally organised settlement systems of the Shashe-Limpopo Basin and eastern Botswana (Robertshaw *et al*. 2010); and the village of Nqoma to the west in the Tsodilo Hills (Denbow 1999; Wilmsen & Denbow 2010). The regions where the glass itself was produced can be determined through comparative compositional studies of glass objects from sub-Saharan Africa, the Middle East and South Asia.

Within southern Africa, numerous studies on the morphology and chemical content of beads have resulted in a chronological series that is unique to the subcontinent. As Wood (2011) discusses, over the centuries glass beads form distinct groups in terms of both chemical composition and attributes such as colour, shape, diameter and opacity. These differences reflect shifting patterns of trade between African communities and glass and bead producers, as well as various Indian Ocean merchants who carried on the trade (Robertshaw *et al*. 2010). The glass bead series also demonstrates a robust correlation with the existing chronological sequence in southern Africa. Identification of beads with a particular series therefore provides an independent diagnostic element for southern African sites. For a detailed explanation of each bead series and its morphological characteristics, see Robertshaw *et al*. (2010), Wood (2011) and Wood *et al*. (2012).

In recent years a number of compositional analyses have been conducted on glass beads from southern African contexts, relying for the most part on laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) to determine their elemental compositions (for example, see Dussubieux *et al*. 2009; Robertshaw *et al*. 2010; Wood *et al*. 2012; Denbow *et al*. 2015). These studies have provided independent confirmation of the morphological seriation developed by Wood. For further information about LA-ICP-MS and its applications to archaeological glass, see Gratuze *et al*. (2001), Dussubieux *et al*. (2009) and Gratuze (2013a, b).

A number of ancient glass compositional types that have been identified by researchers appear frequently in southern African bead assemblages, especially ones linked to glass production in the Iraq/Iran region and South Asia (for full descriptions of their typology, see Robertshaw *et al*. 2010; Wood *et al*. 2012). In addition to the information the beads can provide about trade connections between southern African communities and the rest of the ancient world, they have the potential to inform understanding of social organisation and economic influence within southern African political spheres. As a non-utilitarian exchange good, the beads are interpreted as a luxury good and status item (Denbow 2002; Robertshaw *et al*. 2010; Wood 2011). Their presence at EIA sites, and the mechanisms by which they were redistributed between communities, is therefore of considerable interest as they provide insight into the political and economic dynamics of the time.

Methods

The morphological classification of the Thabadimasego and site 16-A1-12 beads was conducted by Marilee Wood, using the procedures described in Wood (2011). A total of 49 beads and one amorphous glass fragment were examined; 45 of the 50 specimens were recovered from Thabadimasego units and stratified test pits, while five beads were recovered from the test unit on site 16-A1-12. All beads were given a unique

identifying number based on method of manufacture, shape, end treatment, diameter, length, glass diaphaneity and colour, including Munsell number and glass type. Additional information such as glass quality and condition were also noted.

In May 2014, the glass specimens from both site 12 and Thabadimasego were subjected to LA-ICP-MS. The analyses were carried out at the Field Museum of Natural History in Chicago, with a Analytik Jena Inductively Coupled Plasma-Mass Spectrometer (ICP-MS) connected to a New Wave UP213 laser for direct introduction of solid samples. The measured compositions consisted of 12 oxides and 44 trace elements commonly found in archaeological glass. Two different series of standards were used to measure major, minor and trace elements. The first series of external standards are standard reference materials (SRM) manufactured by the National Institute of Standards and Technology (NIST): SRM 610 and SRM 612. Both of these standards are soda-lime-silica glass doped with trace elements in the range of 500 ppm (SRM 610) and 50 ppm (SRM 612). Certified values are available for a very limited number of elements. Concentrations from Pearce *et al*. (1997) are used for the other elements. The second series of standards were manufactured by Corning. Glass B and D match compositions of ancient glass (Brill 1999: 544). The isotope Si29 was used for internal standardisation due to its relative abundance. In order to obtain absolute concentrations for the analysed elements, the concentration of the internal standard has to be known. Concentrations for major elements including silica are calculated assuming that the sum of their concentrations in weight percent in glass is equal to 100 % (Gratuze 1999).

For each glass sample, the average of four measurements corrected from the blank was considered for the calculation of concentrations. A homogeneous glass composition for the beads was assumed based on the prior studies of southern African assemblages. The detection limits range from 10 ppb to 1 ppm for most of the elements. Accuracy ranges from 5 to 10 % depending on the elements and their concentrations. A more detailed account of the performances of this technique can be found in Dussubieux *et al*. (2009).

As noted, a total of 50 glass samples was processed. Four samples were too corroded to provide useable data. Following completion of the data collection, the reduced compositions for each sample were calculated by normalising the seven major and minor oxides (SiO_2, Na_2O, Al_2O_3, MgO, K_2O, CaO and Fe_2O_3) to 100 %. This process isolates the main components of the glasses, removes most of the compositional effects of additives, such as colourants, and permits examination of the basic glass recipe (Brill 1999).

Results

Wood's morphological analysis, based on glass quality, bead shape and colour, shows that 42 of the beads most likely belong to the Zhizo series. Three of these were too

corroded to allow determination of colour. Thirty-six are light cobalt blue (the most common colour found in this series), one is yellow and two are an unusual bluish-green. The remaining six beads, two a light greyish cobalt blue and four a greyish blue-green, are tentatively assigned to the Chibuene series (figure 7.3). Most of the beads are corroded to varying degrees, a condition that is often found with the Zhizo series due to the composition of the original glass and the conditions in which they were buried. The LA-ICP-MS analysis more or less corroborated Wood's observations. Four samples submitted for LA-ICP-MS (three beads and the lone glass fragment) produced Na_2O signatures well below 10 % (the standard threshold for normal, uncorroded soda-lime-silica glass, per Robertshaw *et al*. 2010: 1902). One further bead was rejected from the sample due to its very low silica content. The remaining 45 were assigned to a known subgroup based on concentrations of major and minor oxides as well as trace elements. All 45 beads were made of plant-ash glass as opposed to mineral-soda glass, based on their concentrations of magnesia (MgO). MgO levels in plant-ash glasses are usually above 1.5 %. Below this level, mineral soda (such as natron) is assumed to have been used as the flux. In the Thabadimasego beads, MgO levels are always above the 1.5 % threshold. The mean concentrations for constituent oxides fall within the ranges described for Zhizo beads by Robertshaw *et al*. (2010), with high magnesia and lime concentrations and a very low concentration of alumina (table 7.1).

In order to sort the Chibuene series from the Zhizo series beads, principal components analysis (PCA) was conducted for the Thabadimasego and site 12 data sets using the list of oxides and elements compiled from other data sets from southern Africa (Robertshaw *et al*. 2010; Wood *et al*. 2012) for comparison, and excluding those known to be colouring and opacifying agents, such as cobalt (table 7.2).

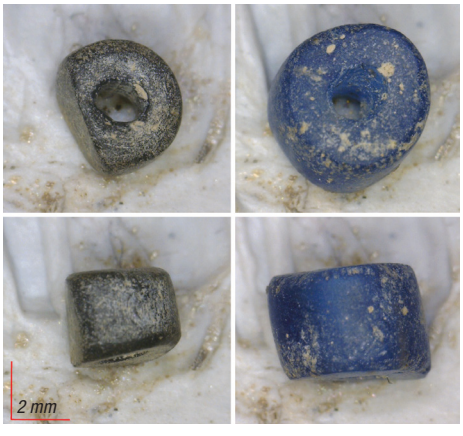

Figure 7.3 Zhizo and Chibuene glass beads. Source: A. Daggett

Table 7.1 Mean values (%) of major and minor oxides for site 12 and Thabadimasego beads as compared to published values for established bead series. Source for bead series values: Robertshaw *et al.* (2010). Source: A. Daggett

Bead Series	**SiO_2**	**Na_2O**	**MgO**	**Al_2O_3**	**K_2O**	**CaO**	**Fe_2O_3**
Zhizo	69.62	13.15	4.31	3.26	3.23	5.5	0.94
K2	64.51	16.22	0.43	11.85	3.34	2.34	1.3
K2 GR	61.05	14.36	0.37	16.63	3.39	2.85	1.35
Indo-Pacific	63.08	14.75	0.59	13	3.46	2.85	2.27
Islamic	63.21	13.71	4.83	6.05	3.91	6.63	1.66
Map Oblate	61.88	13.47	5.8	7.67	3.47	6.66	1.04
Zimbabwe	60.98	15.81	4.33	6.71	3.74	6.94	1.48
Khami	61.4	18.66	1.21	9.81	2.82	3.39	2.7
Thabadimasego & site 12	65.69	14.67	3.46	3.26	4.21	4.68	1.25

Table 7.2 Elements and oxides included in principal components analysis and their PCA values. Source: A. Daggett

Variable	**PC1**	**PC2**
ZrO_2	0.087	−0.495
Cr	−0.182	−0.423
HfO_2	0.134	−0.351
Al_2O_3	0.182	−0.325
NbO_2	0.271	−0.249
Ti	0.185	−0.239
CaO	−0.207	−0.222
V	0.269	−0.144
Y_2O_3	0.305	−0.044
ThO_2	0.23	−0.034
U_3O_8	0.257	0.024
Rb_2O	0.279	0.034
MgO	−0.223	0.053
BaO	0.271	0.061
Cs_2O	0.307	0.091
SrO	0.2	0.142
Li	0.268	0.182
K_2O	0.217	0.187
Na_2O	0.14	0.224

The PCA distinguished two clear groups of beads, which show strong agreement with the parameters for v-Na-1 (Zhizo) and v-Na-3 (Chibuene) beads in both the Robertshaw and Wood data sets. Based on these results, 14 of the 45 glass beads can be placed within the Chibuene (v-Na-3) series as described in Wood *et al.* (2012), while the remaining 31 beads fit within the Zhizo or v-Na-1 series (figures 7.4 & 7.5). Of the 14 Chibuene beads, 12 were from Thabadimasego and two were from the neighbouring site 12. The remaining beads belong to the Zhizo series (table 7.3).

Discussion

The assemblages of both Thabadimasego and 16-A1-12 are distinctly similar, and contain beads from both the Chibuene and Zhizo series. This suggests that the two sites were occupied more or less contemporaneously. Finally, because no beads of any later series are present, it suggests that the sites were abandoned some time before the mid-tenth century. The results from the rest of the assemblages provisionally support this interpretation as well. Charcoal samples submitted to the University of Arizona Accelerator Mass Spectrometry (AMS) Laboratory for site 12 and Thabadimasego produced ninth to tenth century AD dates when calibrated with the SHCal13 curve using OxCal, suggesting an early tenth century date for the site (table 7.4). While

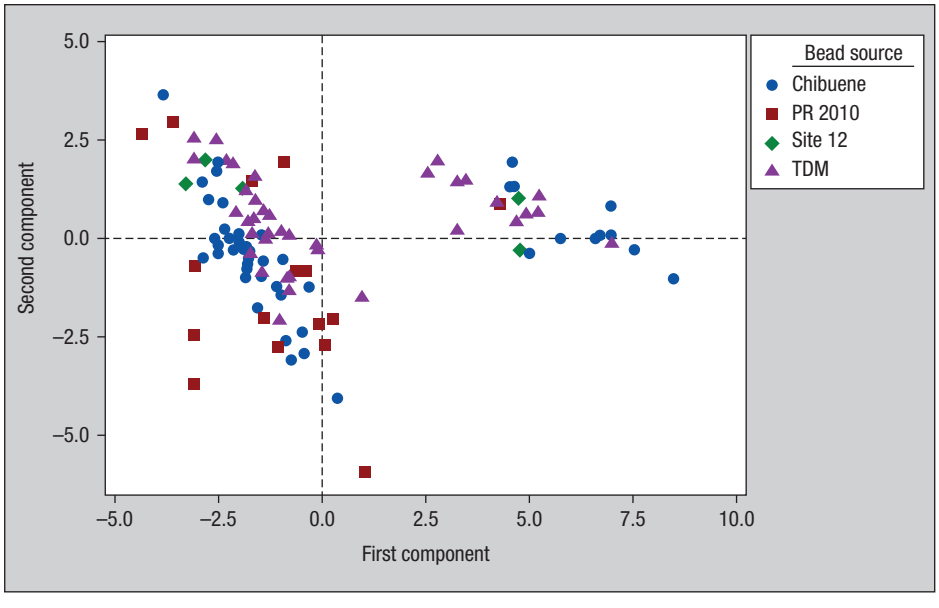

Figure 7.4 PCA score plot. Source: A. Daggett

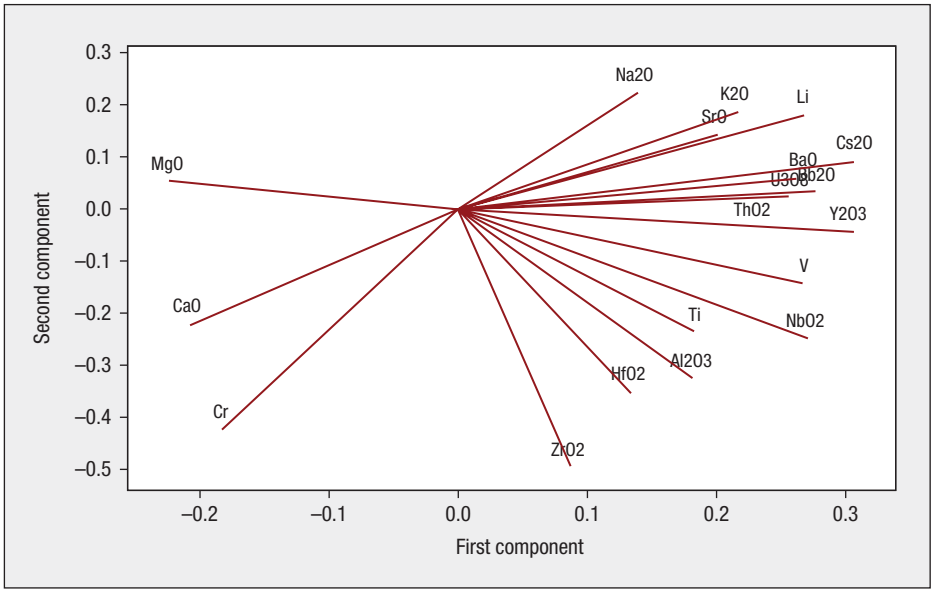

Figure 7.5 PCA loading plot. Source: A. Daggett

identification of the sites' ceramic assemblages is not yet complete, the sample examined thus far contains Zhizo or Taukome components (James Denbow, pers. comm. 2013). The presence of Chibuene series beads at Thabadimasego suggests that an earlier phase of occupation may have occurred at the site than indicated by the radiocarbon dates. While the Zhizo series glass beads are consistent with ninth century c. dates, the Chibuene series beads from the Chibuene site itself come almost exclusively from the earliest occupation levels (Wood *et al*. 2012). Given that only three total charcoal samples were submitted for dating (due to budget constraints), it remains entirely possible that the period of occupation for either site will be shown to extend back further with additional radiocarbon analysis. However, it also remains possible that the Chibuene beads were instead curated over several generations since their initial appearance on the African continent, and that their presence at Thabadimasego is consistent with the rest of the assemblage.

A similar trend suggesting mid to late first millennium occupation was observed at the nearby site of Kaitshàa, as noted by Denbow *et al*. (2015). Excavations there revealed an assemblage of glass beads determined through LA-ICP-MS to include both Chibuene and Zhizo series. The findings at Thabadimasego and site 12 therefore corroborate the concept, developed by Denbow, that a system of occupation within

Table 7.3 Series determinations for glass beads from site 12 and Thabadimasego. Source: A. Daggett

Site #	Zhizo	Chibuene	Undetermined
12	Lot 373	Lot 375B	
	Lot 375A	Lot 377	
	Lot 379		
Thabadimasego	Lot 159	Lot 181	Lot 23
	Lot 162–3	Lot 201	Lot 36
	Lot 163	Lot 232	Lot 146
	Lot 166	Lot 259	Lot 232B
	Lot 172	Lot 281	Lot 224B
	Lot 205	Lot 295	
	Lot 21	Lot 328	
	Lot 222A	Lot 37C1	
	Lot 222B	Lot 37C2	
	Lot 223	Lot 37C3	
	Lot 224A	Lot 37F	
	Lot 227A	Lot 45	
	Lot 227B		
	Lot 227C		
	Lot 227D		
	Lot 229		
	Lot 259B		
	Lot 26		
	Lot 261		
	Lot 27		
	Lot 284		
	Lot 330		
	Lot 346		
	Lot 37A		
	Lot 37B		
	Lot 37D		
	Lot 37G		
	Lot 37H		

Table 7.4 Radiocarbon dates (calibrated) for site 12 and Thabadimasego. Source: University of Arizona AMS Laboratory

Reference No.	Lab No.	Site (Unit-Level)	14C Age BP	calib 1σ	calib 2σ	calib median
AA101290	X25471	Thabadimasego (U3-L2)	1,198	860–970 AD	774–985 AD	897 AD
AA101289	X25470	Thabadimasego (U19-L4)	1,201	864–971 AD	775–985 AD	906 AD
AA101288	X25469	16-A1-12 (U1-L2)	1,126	900–1014 AD	892–1020 AD	967 AD

the south Sowa area stretches back to an early phase of Zhizo culture, and that this area was well connected to exchange networks throughout this time.

This assemblage of beads adds important new evidence of Indian Ocean trade reaching the interior of southern Africa before the end of the first millennium AD. Zhizo and Chibuene series beads are the only types present in the interior prior to the mid-tenth century and the Chibuene series has, until recently, been recognised only at the port site of Chibuene in southern Mozambique and at Nqoma in the Tsodilo Hills well west of Thabadimasego (Wood *et al*. 2012: 67). The presence of such a large number of Zhizo beads, along with Chibuene series beads at the edge of Sowa Pan, suggests that a trade route originating at the port of Chibuene and reaching as far as Nqoma may have passed through the Sowa Pan region.

Zhizo series beads have been recovered from several sites in eastern and northern Botswana, over a wide area in Zimbabwe and from the Shashe-Limpopo Basin of South Africa. By far the largest quantity of Zhizo beads found to date hails from Chibuene on Mozambique's southern coast (Robertshaw *et al*. 2010; Wood *et al* 2012). Along with later bead series, the Zhizo and Chibuene series are seen as prestige goods indicating both economic and political influence. The presently known distribution of Zhizo beads within southern Africa suggests a non-centralised network of exchange, at least for luxury items such as the imported glass beads. That northern Botswana played a substantial role in this network is suggested by what Denbow (1999, 2002) calls evidence of local production of luxury goods, such as salt strainers, worked ivory bangles and shell bead manufacture at Divuyu and Matlapaneng in north-western Botswana. That (presumably) non-luxury items such as ceramic vessels exchanged hands as well has been demonstrated through petrographic analysis of ceramic tempers at various sites in Botswana (Wilmsen *et al*. 2009). The Chibuene series adds a further dimension. Given that this series has thus far been observed only at the Indian Ocean coast and among westerly sites in the subcontinent's interior, early trade routes appear to have bypassed the more southerly regions, such as the Limpopo Basin of southern Africa. Together, the Chibuene and Zhizo bead series' patterns of distribution suggest that

first-millennium luxury trade networks, at least those carrying glass beads, do not fit the pattern of control and redistribution through larger, central polities as is observed in the second millennium for sites like K2 and Mapungubwe (Robertshaw *et al*. 2010: 1898; Denbow *et al*. 2015).

Conclusion

This research demonstrates the continued importance of provenance studies and component analysis for understanding trade, interaction and economic dynamics for the southern African EIA. Areas such as south Sowa, situated on the fringes of known EIA settlement distribution, have been described as peripheral (Reid & Segobye 2000b) in comparison with somewhat later 'cores' of cultural and economic production like Bosutswe and Schroda (Hanisch 1980; Denbow 1984; Huffman 2000; Reid & Segobye 2000b; Calabrese 2007). While smaller sites like Thabadimasego and its contemporaries of the south Sowa area represent but a fraction of the overall system of trade and economic influence within southern Africa, their role within this system should not be overlooked. Their assemblages inform our understanding of the exchange of goods as well as non-tangible resources, such as knowledge systems and cultural signifiers, within the EIA. That regions within southern Africa were interconnected is without doubt; not only do trade goods such as glass beads demonstrate the movement of resources and people between polities, but the distribution of related ceramic facies and other stylistic elements implies the exchange of information and technology (Stein 1998, 1999). What still remains to be determined, however, are the mechanisms and social conventions by which the EIA exchange network operated. A trade system that encompassed an area as large as southern Africa and incorporated multiple linguistic or ethnic groups would necessarily involve more than just the movement of goods; it would also require negotiation of language barriers, social customs and the exchange of information. Stein (1999: 161) discusses three main factors that structure exchange between polities or regions: natural resource distribution (and the ability of a community to exploit these resources in a profitable way), demographic composition of the polities and available technology (productive technology, military technology, transportation technology, and so on). Further research on these and other factors intrinsic to the development of trade, particularly as they vary by region, may bear fruitful insight into the nature not only of the southern African system of exchange but also its underlying social fabric.

Acknowledgements

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8 Blurring Boundaries: Forager–Farmer Interactions in the Middle Limpopo Valley

Tim Forssman

Abstract

Increases in farmer social complexity and the development of state-level society in southern Africa appeared first in the middle Limpopo Valley. The various social, political and economic changes that led to the establishment of the Mapungubwe state were witnessed by an incumbent forager community who practised a hunting and gathering way of life. This paper presents new findings indicating that some foragers shifted their lifeways beginning around AD 1000 when they began occupying farmer homesteads and presumably taking part in food production. At two sites, João Shelter (AD 900–1300) and Kambaku Camp (AD 1480–1650), the different phases of forager assimilation into a farmer system are archaeologically observable. Initially, settlement shifts appear to have been limited and foragers may have occupied João alongside farmers on a temporary basis or only performed certain activities at the site. However, at Kambaku it seems that foragers more fully integrated into the farmer system, maintaining only certain parts of their material culture, such as the production of stone tools. Additionally, Kambaku challenges previous findings made in the area that recorded a disappearance of the Later Stone Age material record around AD 1300. The results presented here demonstrate the varied outcomes from forager–farmer interactions and the gradual shift in forager residential patterns and mobility favouring sedentism in the middle Limpopo Valley.

Résumé

L'augmentation des agriculteurs dans une complexité sociale et le développement de la société au niveau de l'état en Afrique australe est apparue d'abord sur la vallée moyenne du Limpopo. Les divers changements sociaux, politiques et économiques qui ont conduit à la mise en place de l'état de Mapungubwe ont été observés par une communauté titulaire de fourrageurs qui a pratiqué, comme mode de vie, la chasse et de cueillette.

Cet article présente de nouveaux résultats indiquant que certains fourrageurs ont modifié leurs modes de vie autour de l'an 1000 apres JC quand ils ont commencé à occuper les fermes agricoles et sans doute à prendre part à la production alimentaire. Dans deux sites, João Shelter (900–1300 apres JC) et camp Kambaku (1480–1650 apres JC), les différentes phases d'assimilation des fourrageurs dans un système agricole sont archéologiquement observables. Initialement les mouvements migratoires semblent avoir été limités et les fourrageurs peuvent avoir occupé João aux côtés des agriculteurs sur une base temporaire ou seulement effectué certaines activités sur le site. Cependant, à Kambaku il semble que fourrageurs aient été pleinement intégrés dans le système agricole, en maintenant seulement certaines parties de leur culture matérielle, comme la production d'outils de pierre. En outre, Kambaku défit les résultats antérieurs réalisés dans la région qui a enregistré une disparition de l'enregistrement de matières LSA vers l'an 1300 apres JC. Les résultats présentés ici démontrent les issues variées à partir des interactions fourrageurs-agriculteurs et l'évolution progressive des modèles résidentiels des fourrageurs et de la mobilité favorisant la sédentarité sur la vallée moyenne du Limpopo.

Introduction

The final stages of southern Africa's Later Stone Age (LSA) are poorly understood (Hobart 2004). Generally, archaeologists focus on the pre-ceramic levels of the LSA, which are well preserved and have not, like the upper levels in many rock shelters, been disturbed by domesticated animals. Instead, the last 2 000 years are often lumped into broad categories (for example, Lombard *et al.* 2012), homogenising the great degree of diversity recorded in many studies across southern Africa (such as Mazel 1989; Hall 1994; Walker 1994; Van Doornum 2005; Van der Ryst 2006; Forssman 2014a, b). Much of this variability was the result of contact between foragers and farmers and one outcome from these interactions, which is the focus of this paper, was a shift in forager settlement patterns (see Moore 1985; Hall & Smith 2000). It seems odd, then, that archaeologists use their findings from rock shelters to draw conclusions relating to interactions between foragers and farmers, yet at the same time acknowledge a shift in forager campsite choices. To remedy this, open-air, ephemeral and homestead sites, to list a few examples, need to be studied.

In doing so, recent excavations in the middle Limpopo Valley, southern Africa (figure 8.1), provide evidence indicating a shift in forager settlement patterns, including their occupation of sedentary homesteads beginning at least by AD 1000. The timing of these changes corresponds with a decline in the density of LSA artefacts in most rock shelter excavations, eventually leading to the disappearance of the LSA material record c. AD 1300 (Van Doornum 2005: 183). New evidence suggests foragers might not have abandoned the landscape, but assimilated into farmer society, relinquishing parts of their own material culture. The aim of this paper is to present these findings and their diachronic regional implications, which exhibit the various outcomes from forager–farmer interactions.

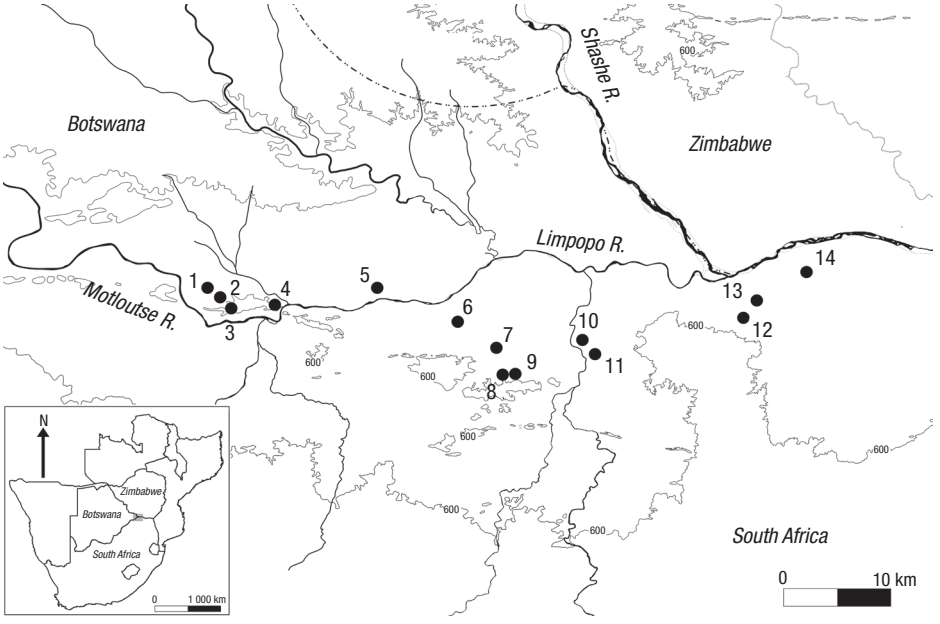

Figure 8.1 The middle Limpopo Valley and important sites: 1, Dzombo Shelter; 2, Mmamagwa; 3, João Shelter; 4, Kambaku Camp; 5, Mafunyane Shelter; 6, Tshisiku Shelter; 7, Balerno Main Shelter; 8, Balerno Shelter 3; 9, Balerno Shelter 2; 10, Little Muck Shelter; 11, Leokwe Hill; 12, Bambandyanalo; 13, Mapungubwe; and 14, Schroda. Source: W. Voorvelt & T. Forssman. Copyright: T. Forssman

Forager settlement change in the last 2 000 years

Southern African foragers responded in many ways to contact with farmers, one being a shift in their mobility and activity patterns. It seems that initially these changes were linked to access to local resources, resulting in foragers using different site types (see Hall 1986, 2000), expanding their resource base (Hall 1994) and performing various activities in farmer homesteads, possibly linked to trade or labour (for example Guenther 1977, 1986; Wadley 1996). At first, contact appears to have been limited and changes in the LSA are usually difficult to identify and are inferred from material remains. Even so, the sudden increase in scrapers recorded throughout southern Africa from the onset of contact (Deacon 1984: 269) can hardly be considered a major shift since the LSA technology remained the same, only the preference for specific tools changed (Deacon 1984: 269; Sadr 2013). However, it is regarded by many as an indication of the beginning of, or immediately predating (such as Wadley 1996), contact with farmers (see for example Walker 1994; Denbow 1999; Hall & Smith 2000; Klatzow 2002; Van Doornum 2005: 44). This is mostly because micro and macro studies have shown

that scrapers were used to prepare hides (Deacon & Deacon 1980), which, along with other activities (Clark & Prince 1978; Bousman 2005), was an integral trade item in forager–farmer exchanges; because of an increasing demand for hides, there was an increase in the number of tools used to prepare them. These are not, however, the only changes.

Increasing numbers of worked bone, ostrich eggshell beads and manufacturing debris, and a broadening of the forager subsistence base, have been recorded in many parts of southern Africa (Hall 1994; Hall & Smith 2000; Sadr 2002; Mitchell 2003). New technologies such as ceramics, glass beads and metal appear in LSA assemblages and subsistence products such as meat, milk and crops were acquired (Wadley 1996; Sadr 1997). Ethnographic accounts suggest the list of trade items might be far more extensive than what is found in the archaeological record (see Sadr 1997: 105). Thus, from the beginning of contact with farmers the composition of LSA assemblages began to change.

It also seems that contact led foragers to shift their settlement patterns. During periods of interaction, exchange or labour, foragers would either live at (Macquarrie 1962: 30) or possibly within one or two kilometres (Guenther 1986: 350) of a homestead. This pattern might have been seasonal, with foragers spending certain times of the year with farmers and at other times reverting back to a 'traditional lifestyle', for example, living once again at rock shelters and employing a hunting and gathering economy (Wadley 1996). Wadley (1996) suggests that this may have been the case in the Magaliesberg, North West province, where she believes scrapers identified at Broederstroom, an Early Iron Age (EIA; AD 350–600) farmer settlement, indicate that foragers periodically visited or temporarily occupied the homestead in order to trade. The findings from Broederstroom are not unique. In KwaZulu-Natal stone tools morphologically consistent with local LSA assemblages were found at Msuluzi Confluence (Maggs 1980) and Nanda (Whitelaw 1993; Whitelaw & Moon 1996), both EIA occupations, suggesting that foragers were interacting with farmers, possibly in their homesteads. This resulted in a declining frequency or density of LSA artefacts in rock shelters (Whitelaw 2009) and in the northern Drakensberg. Mazel (1990) interpreted this as foragers now living in closer vicinity to farmers. Outside of South Africa, in Botswana, Campbell *et al.* (1991) report on an LSA site called Magagarape, which has a close relationship to a nearby farmer settlement in which, like Broederstroom, LSA formal tools were found (also see Walker 1994). While this association has not been fully investigated, it seems entirely possible that foragers were living at or using the site in order to interact with farmers. Denbow (1999) and Reid and Segobye (2000) argue this to be the case at Bosutswe from about AD 700. They suggest foragers moved near to farmer settlements for trade purposes, possibly bringing in exotic goods in return for subsistence items or other resources. Further north at Nqoma (AD 850–1090),

Mosothwane's (2010) carbon isotope analysis of a female's skeletal remains suggests the individual had been living a hunting and gathering existence but came to rely on agriculture. She concluded that the woman was a forager who resided in the farmer settlement and may still have produced stone tools based on their presence at the site. Therefore, during the first millennium AD, shifts in forager campsites and activity areas seem to largely relate to forager–farmer relations.

From the mid-first and into the second millennium AD, forager visits to farmer homesteads increased and their stays lengthened (Hall 1990: 246–247). Accompanying this is the abandonment of the LSA material record. The density of LSA stone tools in the Eastern Cape (Hall 1986), Thukela Basin (Mazel 1989), Thamaga (Sadr 2002) and also in the middle Limpopo Valley (Van Doornum 2005: 183) all decreased considerably, regardless of forager–farmer proximity. However, LSA materials did not disappear altogether, as Hall (2000) shows in the Madikwe region of North West province where he found a cache of stone tools in a Moloko homestead dating to between the fifteenth and eighteenth centuries AD. There are also homesteads in KwaZulu-Natal, which were occupied from the mid-second millennium AD that contain LSA stone tools, such as Clarke's Shelter, Diamond 1 and Mhlwazini (Mazel 1989, 1990). Here, Mazel (1990) believes that foragers at first moved towards the central Thukela Basin in order to interact with incoming farmers but when these groups settled closer to the escarpment, foragers possibly began occupying homesteads and even producing food. As with the beginning of forager–farmer interactions, this period also seems to contain a great degree of variability regarding the outcomes of these relationships. By the twentieth century, however, most of the remaining foragers were incorporated into farmer communities as subjects (Van der Ryst 1998), ritual specialists (Guenther 1977; Schoeman 2009) or through intermarriage (Vierich & Hitchcock 1996; Mitchell 2009), to list a few examples, but some chose to only periodically depend on farmers (Brooks 2002) or to persist with a traditional lifestyle (see Barnard's 1992 review).

At present, shifts in forager settlement patterns in the middle Limpopo Valley have not been fully explored. This is largely because most of the excavated sites are rock shelters, not ideal for assessing shifts in forager campsites. In this respect, the findings from João and Kambaku provide worthwhile contributions to better understanding mobility changes in forager lifeways within the region and the local persistence of the LSA record.

New contributions from eastern Botswana

João Shelter

João consists of two distinguishable zones: a rock shelter and a homestead (figure 8.2). The rock shelter contains dry-packed stonewalling, rock art including grooves and cupules, and various artefacts on the surface but notably LSA stone tools, earthenware

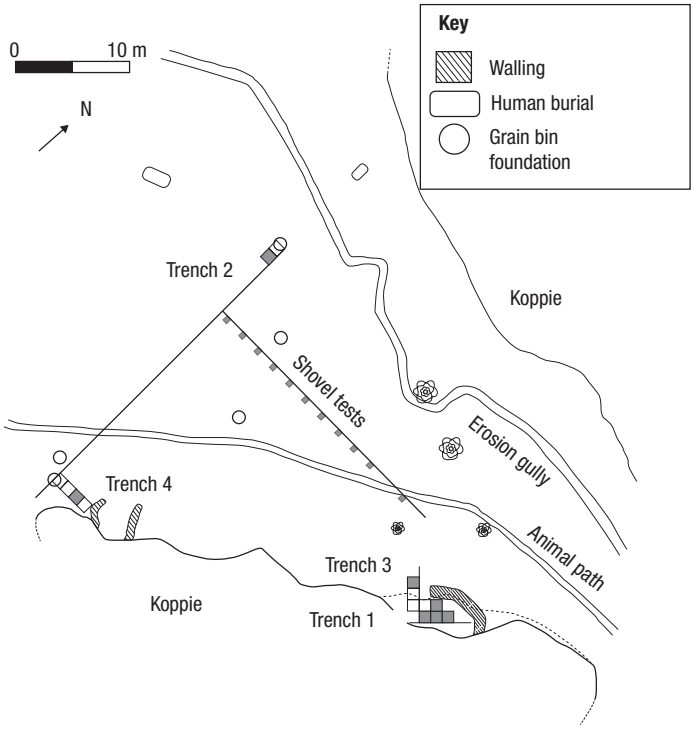

Figure 8.2 A site plan of João Shelter. The shovel tests were excavated to record the extent of the kraal. Source: W. Voorvelt. Copyright: T. Forssman

ceramics and glass beads. In the homestead there are various rock grain bin foundations, packed rock cairns, a midden, stonewalling and a kraal. Four trenches excavated in 30 mm spits within stratigraphic layers were set up with the goal of determining the relationship between the site's two residential zones. Trench 1 was placed inside the rock shelter behind the dry-packed stone wall found along the rock shelter's dripline. Initially three squares were excavated here but it was later decided to excavate a fourth square placed on the northern wall of the trench where the deposit was deeper. The trench consisted of two distinct stratigraphic units: pale brown soil (24–36 cm) and a pebbled stony layer (6–15 cm). Also near the rock shelter but on the outside of the dry-packed stonewalling was trench 3, composed of a shallow grey/brown soil (9 cm). Trenches 2 and 4 were established in the homestead zone near to a grain bin foundation and a midden, respectively, and each contained a single stratigraphic unit: brown soil in trench 2 (30 cm) and midden grey in trench 4 (35 cm). The deposit is deeper in the eastern portion of the site and becomes shallower towards the west where, soon after trench 4, bedrock is exposed.

Chronology

Four charcoal samples were submitted to the Oxford Radiocarbon Accelerator Unit and all dated to within the last 400 years (see Forssman 2014a). A large sample of the glass bead assemblage was identified by Marilee Wood to be within the European period, roughly corresponding with the radiocarbon results. In addition, on the surface and in the upper levels, some European items were found, including fragments of a glass bottle dating to possibly the nineteenth century or later (see Jones & Sullivan 1989), a button, safety pin, bullet casing and a few sherds of modern glass. The extent to which the site was used in the European period is unknown but the Bobirwa people lived in the vicinity of the site until the 1950s, when the Northern Tuli Game Reserve was formed (Hall 2003). However, there is evidence of an earlier occupation and it is this that is of interest to this paper. The ceramic and glass bead assemblages include Toutswe, K2 and TK2 sherds and Zhizo, K2, K2 Indo-Pacific and Mapungubwe beads, indicating an occupation of between AD 900 and 1300 (see Huffman 2007 for dates). Based on these findings and indicated by the dominance of K2-period ceramics and glass beads, the site was likely occupied between AD 1000 and 1200 and then used again during the European period.

Rock shelter

The greatest volume of deposit excavated was from trenches 1 and 3 in the rock shelter, as well as the largest stone tool assemblage and greatest density (number of artefacts divided by volume of deposit) thereof (table 8.1). Crypto-crystalline silicates (CCS) dominate the stone tool assemblage, followed by quartz, with low frequencies of quartzite, agate and dolerite. A large number of chips and cores came from this zone, suggesting that some degree of primary stone tool production was occurring here. Formal tools also mostly came from inside the rock shelter (see figure 8.3) but made up proportionately less of the assemblage than in nearby excavations (2.2 %) such as Balerno Main Shelter (4.4 %; Van Doornum 2005: 231), Tshisiku Shelter (3.4 %; Van Doornum 2005: 211) and Balerno Shelter 2 (2.9 %; Van Doornum 2005: 250). Glass beads are noticeably more frequent than shell and bone beads (organic), which is unusual for forager assemblages, and the ceramic frequency is low despite being close to a homestead (see figure 8.4 for diagnostic finds). Lastly, there is a small faunal assemblage which is also at a low density, discussed separately below. In summary, the assemblage is similar to those identified in northern South Africa (Van Doornum 2005) and elsewhere in eastern Botswana (Forssman 2014a, b) but contains a large glass bead assemblage (figure 8.5), a small faunal assemblage and is adjacent to a homestead occupation.

Table 8.1 Rock shelter (trenches 1 & 3) and homestead (trenches 2 & 4) assemblages; bold indicates maximum in each category, where applicable. Source: T. Forssman

	Trenches 1 & 3	**Trenches 2 & 4**	**Totals**		**Trenches 1 & 3**	**Trenches 2 & 4**	**Totals**
M^3	1.1	0.48		Cores			
Stone tools				No.	**69**	19	88
No.	**5 405**	1 112	6 517	% of total	78.4	21.6	
% of total	82.9	17.1		/m^3	**62.6**	39.6	
/m^3	4 904.2	2 315		Ceramics			
Quartz	1 910	515		No.	111	**1 006**	1117
%	35.3	**46.3**		% of total	9.9	90.1	
Quartzite	536	69		/m^3	100.7	**2 094.3**	
%	9.9	6.2		Organic beads			
CCS	2 350	424		No.	**78**	9	87
%	**43.5**	38.1		% of total	89.7	10.3	
Agate	379	75		/m^3	**70.8**	18.7	
%	7	6.7		Glass beads			
Dolerite	230	29		No.	**132**	18	150
%	4.3	2.6		% of total	88	12	
Chips				/m^3	**119.8**	37.5	
No.	**2 853**	498	3 351	Faunal remains			
% of total chips	85.1	14.9		Grams	321.2	**345.8**	667
% of area tools	52.8	44.8		% of total	48.1	51.9	
/m^3	**2 588.7**	1 036.7		/m^3	291.4	**720**	
Formal tools							
No.	**57**	11	68				
% of total	**1.1**	1					
% exc. chips	**2.2**	1.8					
/m^3	**51.7**	22.9					
Scrapers	24	4					
Backed tools	23	3					
Scrapers/backed tools	1	**1.3**					

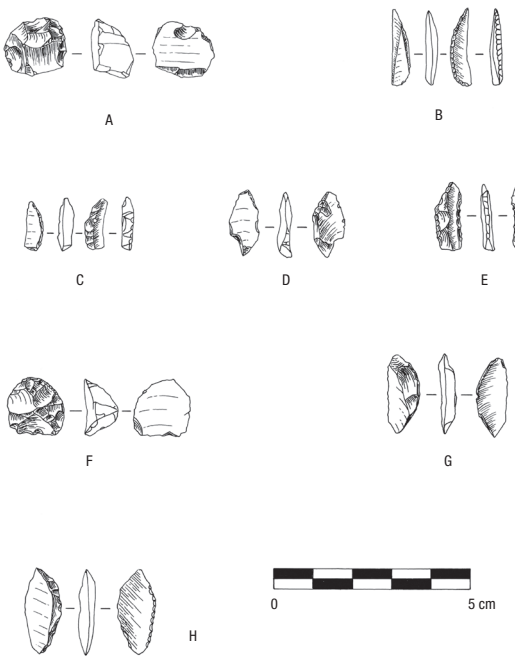

Figure 8.3 Formal tools and cores: A, single platform core; B, segmented backed bladelet; C & D, broken segment; E, broken backed bladelet; F, small side scraper; and G & H, segment. Source: W. Voorvelt. Copyright: T. Forssman

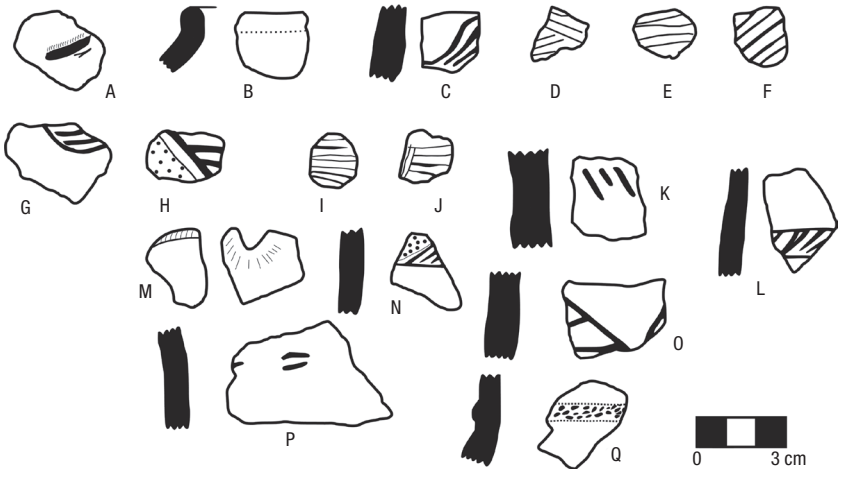

Figure 8.4 Decorated and rimmed ceramics: from the rock shelter: A & F, unknown; and H, Transitional K2; and from the homestead: B & E, unknown; C–E, I–J & M–N, Transitional K2; G, K & O, K2 or Transitional K2; L & P, K2; and Q, Toutswe. Source/Copyright: T. Forssman

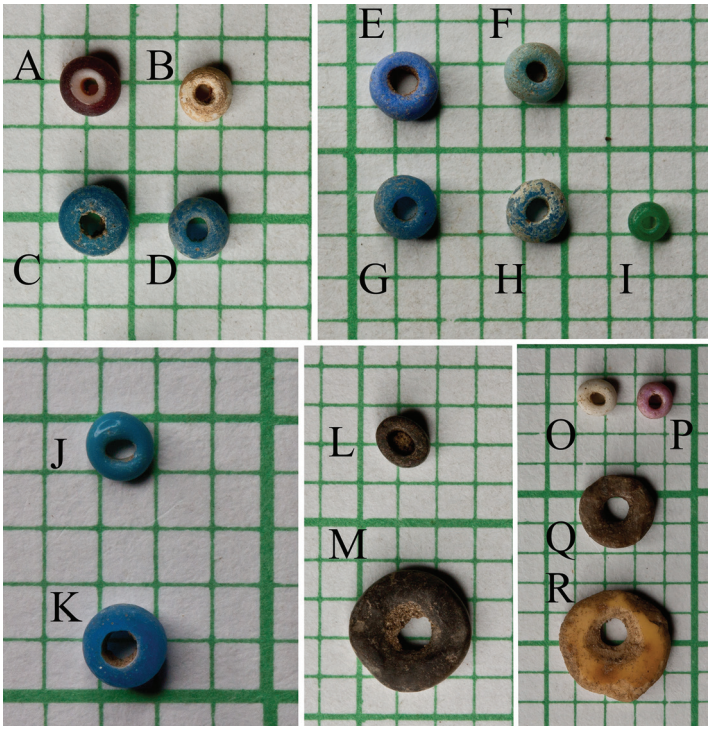

Figure 8.5 Glass bead examples: A, white-heart; B–K, O–P, European period (from 1600); L, Mapungubwe oblate; M, burnt ostrich eggshell; and Q–R, ostrich eggshell. Source/Copyright: T. Forssman

Homestead

The homestead's LSA assemblage is far smaller than the rock shelter's and is dominated by quartz, followed by CCS, agate, quartzite and dolerite. The number of chips is lower than in the rock shelter, comprising less than 45 % of the homestead's assemblage, and combined with a decrease in core frequency and density, could indicate that this zone was not used as intensely for primary tool production. Formal tools are less common than in the rock shelter and appear in a low density but are also dominated by scrapers and backed tools mostly made on CCS. There is a large decrease in the organic and glass bead categories while there is an increase in the ceramic and faunal assemblages, which nevertheless remain relatively low in terms of density.

Fauna

Unfortunately, not many faunal specimens were identifiable (from 667 g). Of the samples that are diagnostic, tortoise is the most common (n = 24) but the only specimens

found are carapace. Medium-sized bovids (n = 21) are also frequent but 18 of those pieces are tooth enamel. Of interest is the lack of domesticates in the assemblage. A single very large bovid tibia was found (see Plug 2000), which could be from a cow (*Bos sp.*) but might equally be from an eland (*Taurotragus oryx*) or buffalo (*Syncerus caffer*). Perhaps this constitutes the most interesting find regarding the faunal record; one would expect there to have been a greater emphasis on domesticates had farmers occupied the outside homestead.

Kambaku Camp

Kambaku is 2.8 km south-east from João and is composed of two areas: a lower homestead and an upper kraal (figure 8.6). Both areas were excavated in order to determine their association as well as the relationship between the farmer settlement of the site and the LSA stone tools found in each of these zones. Trench 1 extended from the homestead's kraal into a small overhang at the back of the site behind stonewalling in what appeared to be a midden deposit. The trench consisted of four squares: A, inside the rock shelter's midden deposit; E and G, in the zone between the rock shelter and the kraal, both composed of a grey/brown stratigraphic unit (26 cm), and T, inside the

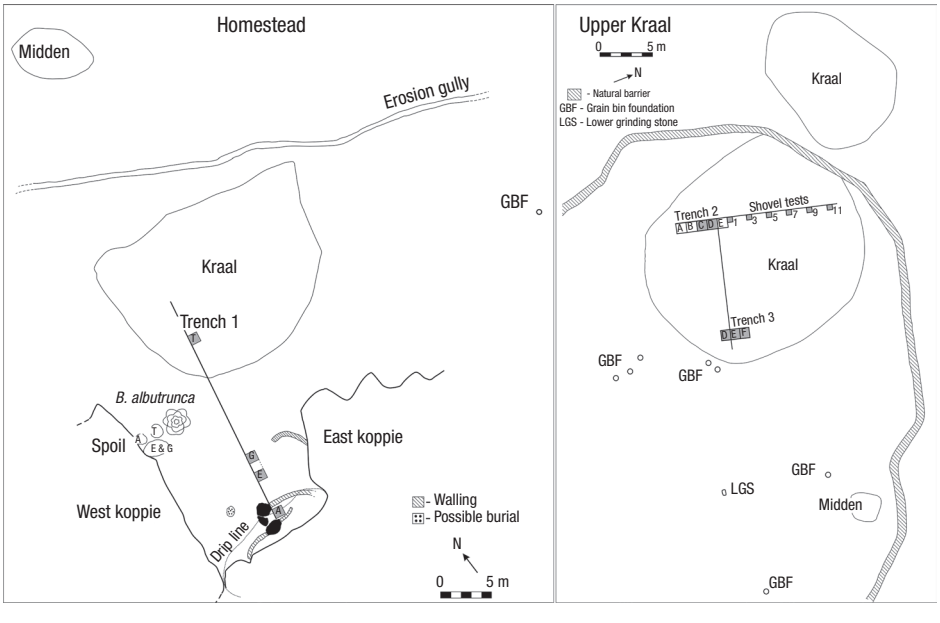

Figure 8.6 Kambaku Camp's homestead (left); note the walling inside the rock shelter (too small an area for occupation and with an uneven surface), and upper kraal (right) with a natural dolerite barrier and smaller, possibly calves' kraal. Source: W. Voorvelt. Copyright: T. Forssman

kraal. It was hoped that in the rock shelter-to-kraal zone features associated with huts would be identified, including flooring, ceramics and beads as well as possibly stone tools. The goal of the excavations in the upper kraal was to recover a large ceramic sample in order to associate the occupation with a ceramic facies and thus relatively date the site. Two squares in trench 2 (±30 cm) were excavated but due to the fact that not many artefacts were recovered, trench 3 (21–36 cm) with three squares was established to increase the sample size. Both trenches were composed of a dung deposit, likely from cattle, and a compacted base about 15 cm in thickness.

Chronology

A single charcoal sample was submitted to Beta Analytic for radiocarbon dating. The sample was taken from trench 1, square A, spit III and calibrates to AD 1480 to 1650 (310±30 BP). Diagnostic ceramic sherds found in trenches 1 and 3 are from the Icon (AD 1300–1450) and Khami (AD 1450–1800s) periods corresponding with the charcoal date. A possible K2 sherd was found at the site but does not by itself provide sufficient evidence to indicate that the site was occupied between AD 1000 and 1200, and could have arrived through the recycling of ceramic pots or sherds or incidentally.

Stone tools

Very few stone tools were recovered from the site (n = 285). Most were found in the upper kraal, trenches 2 and 3, but also in trench 1 located in the homestead (table 8.2). The majority of the stone tools were produced using CCS materials, followed by quartz, quartzite, agate and dolerite. There is a difference in the raw material distribution between the homestead and the upper kraal. In the former, CCS is more frequent than quartz by more than 5 %, whereas in the upper kraal, CCS clearly dominates over quartz, and quartzite is more frequent here than it is in the homestead. The meaning of this cannot be determined due to the assemblage's size. Only five formal tools were recovered from the excavations, representing 1.8 % of the entire assemblage and 2.3 % when chips are excluded. The formal assemblage is composed of two end scrapers

Table 8.2 Distribution of stone tools between the homestead and upper kraal. Source: T. Forssman

Zone	Quartz	%	Quartzite	%	CCS	%	Agate	%	Dolerite	%	Total
Homestead	51	44.3	5	4.3	58	50.4	1	0.9	0	0	115
Upper kraal	52	30.6	22	12.9	92	54.1	3	1.8	1	0.6	170
Total	103	36.1	27	9.5	150	52.6	4	1.4	1	0.4	285

(33.3 %) and a broken backed bladelet, a segment and a miscellaneous retouched piece (16.7 % each; figure 8.7). There is an equal number of scrapers and backed stone tools ($n = 2$ each), and three of the formal tools were found in the homestead, with the two remaining tools coming from the upper kraal. All the tools were produced on CCS materials and are consistent with tool forms found in local rock shelters containing LSA material remains.

Ceramics and beads

An assemblage of 571 ceramic sherds was recovered from Kambaku. Most are undiagnostic (94.4 %), followed by plain rims (4 %), decorated sherds (1.4 %) and a single decorated rim (0.2 %). The majority of the pottery was found in the homestead ($n = 351$; 61.5 %) and is mostly undiagnostic, with a small number of plain rims and decorated pieces. In the upper kraal, 220 ceramic sherds were found (38.5 %), of which 205 are undiagnostic. A greater frequency of rims and decorated pieces was recovered from the upper kraal than in the homestead. Identified ceramics from the homestead include a possible K2 sherd and a Khami rim in square E, while in the upper kraal an Icon and possible Icon sherd were identified in square F. Rims found here are also consistent with Khami sherds containing rolled lips, a diagnostic feature of the facies (figure 8.8; see Huffman 2007 for typology).

One white bead approximately 1.6 x 1.5 mm with an unusually large perforation was found at square A in the homestead midden. It is possibly European in origin

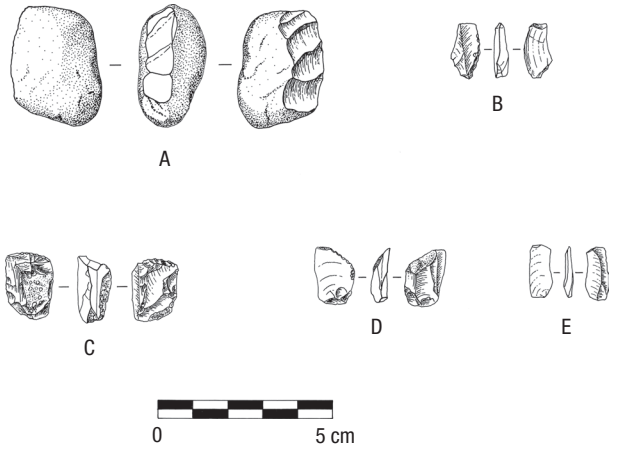

Figure 8.7 Formal tools and cores from Kambaku Camp: A, preliminary flaked core; B, broken backed bladelet; C, bladelet core and small end scraper; D, segment; and E, broken bladelet. Source: W. Voorvelt. Copyright: T. Forssman

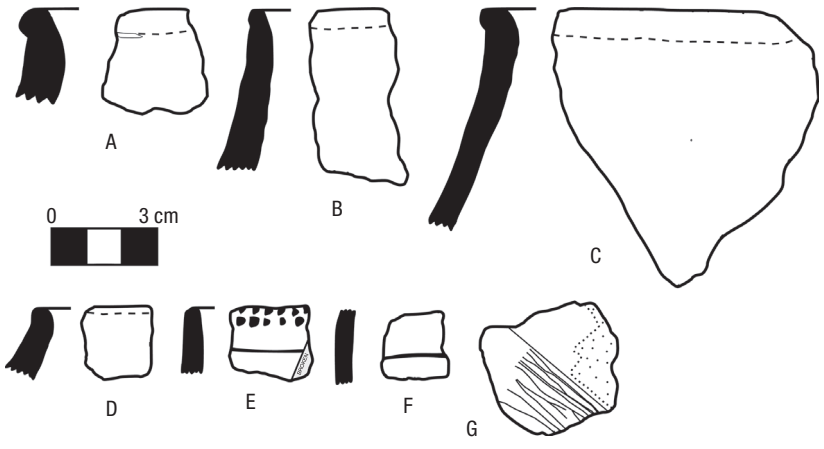

Figure 8.8 Diagnostic ceramics from the upper kraal: A & C–D, possibly Khami; B & G, unknown; E, Icon; F, possibly Icon. In E and F below the black incised line a red slick has been applied. Source/ Copyright: T. Forssman

(Wood, pers. comm. 2012), and, if so, dates to within the last three centuries and within the latter portion of the Khami phase. Also found on the surface was a Dutch bead made in Germany in the nineteenth century and a Bohemian bead that appeared in southern Africa at a similar time but which was used into the beginning of the twentieth century (Wood 2000). The radiocarbon date range, however, does not suggest a European period occupation and either the beads were introduced to the site after the homestead was abandoned or the radiocarbon dates are incorrect. However, the overlap between the radiocarbon dates and the ceramic assemblage suggests this is unlikely.

Fauna

A small faunal assemblage of 346 g was recovered from the excavations with most of the identifiable specimens found in the upper kraal and only four unknown bovid specimens from the homestead. The upper kraal contained a number of medium bovid specimens and an unclassified and large bovid. Other identified specimens included steenbok, tortoise and a small bovid, possible impala, and vervet monkey. Due to the lack of identifiable specimens, little can be said about the subsistence base of those occupying Kambaku.

Discussion

João Shelter: living with farmers?

There are two occupation phases or uses of João: a European period use and, of interest here, an earlier occupation of the homestead and rock shelter between AD 900 and 1300. It appears that the spatial distinction between the rock shelter and

homestead portions of the site is of importance. The obvious distinction in the material remains is the dominance of CCS and quartz in the rock shelter and homestead respectively, and a higher frequency of formal tools in the former with a greater frequency of ceramics in the latter. The clear restriction of the quartz assemblage to the homestead also appears to be concentrated in what would have been the back of the settlement, as in Hall's (2000) findings. In quartz assemblages, the formal tool component is typically low, probably due to the irregular and unpredictable fracturing of the material, hence it being used in informal tool assemblages (Orton 2004: 38, 112). João's homestead, however, contains formal tools, which may have been produced in and brought from the rock shelter. Foragers living in João's homestead may have used these artefacts but relied on farmer tools, hence only needing an expedient quartz-dominated technology. It may be that the rock shelter was reserved for forager activities or that foragers themselves were restricted to this area when performing daily tasks. If so, the link between foragers, rock art and the rock shelter may have been a symbolic one since farmers often viewed foragers and places such as rock shelters as a part of nature and thus dangerous or spiritually charged (Hall & Smith 2000; Ingold 2000; Schoeman 2006a).

Kambaku Camp: living as farmers?

To assess whether foragers lived at Kambaku with farmers, the association between LSA and farmer items must be established. The homestead is typically agriculturalist in plan, with a central kraal surrounded by a midden to the north and south, grain bin foundations, dry-packed stonewalling and what appears to be human burials based on the presence of packed stone. Artefacts found on the surface and in the excavations include ceramic sherds, glass beads and grinding stones. All of these features and artefacts are typically associated with farmers (see Huffman 2007). The next question is whether foragers were sharing Kambaku with farmers during its occupation; the stone tools may have been from a preference for the same place or, as Hall (2000) cautions, introduced to the site through agriculturalist constructions and activities. The tools were primarily restricted to two zones: the midden in trench 1 and the upper kraal. The midden is situated at the edge of the rock shelter near the stonewalling and in the 'back' of the settlement. Farmers would place ash on the midden to ritually 'cool' the deposit (Comaroff 1985), and the deposition of stone tools here could have a ritual purpose. It is also possible that the tools were swept up and discarded in the midden, in which case either the settlement is on top of an earlier LSA occupation or the tools were produced in the homestead and the debris was cleaned afterwards; the latter would explain the appearance of stone tools throughout the midden and not at a single level. Similarly, the kraal contained stone tools throughout the deposit and not only at the base, which would be expected if the kraal was placed on top of an earlier LSA occupation. Therefore, the

presence of stone tools in two culturally formed areas makes it reasonable to conclude that the stone tools are associated with the farmer use of the site.

Thus, it appears that at Kambaku foragers partially assimilated with agriculturalists and continued living on the landscape after AD 1300, indicating an increased reliance on farmers to the point that they could not or did not continue with their own economy. If they did continue living as hunter-gatherers, we would expect to find evidence of this in rock shelters, yet at present there is no conclusive evidence indicating this to have taken place in the middle Limpopo Valley (but see Forssman 2014b). It may be that foragers either left the area, resulting in a smaller local population, or chose to live as those at Kambaku did; alongside farmers and, depending on the degree of integration, as farmers from a technological point of view. In such cases, distinguishing between foragers who have been completely assimilated into a farmer economy and agriculturalists might at times be difficult. Whether these patterns are present across the region cannot be said at this stage but it may be worth pursuing along with the possibility that foragers were alternating between a settled and a mobile lifestyle.

Shifting forager settlement patterns in the middle Limpopo Valley

It should be asked: why would foragers move into a homestead in the first place? Two possible reasons are considered. In the middle Limpopo Valley, unlike anywhere else in Africa, foragers were part of, or at the very least witnessed, state formation between AD 900 and c. 1250. Those working closely with farmers or occupying sites such as João would possibly have gained access to political, social and economic developments. By taking part in elephant hunting (Forssman *et al*. 2014), rain-control rituals (Schoeman 2006b; Brunton *et al*. 2013) or metal working such as at Mafunyane (Forssman 2014a), foragers may have been included in state society, becoming direct beneficiaries. Living as or with farmers afforded foragers various opportunities, including subsistence goods, iron implements, protection from the natural elements as well as marriage (for example, see Wadley 1996) and political assistance (see Denbow 1984; Yellen 1984; Moore 1985).

However, did foragers need to live with farmers in order to access these resources? Prior to their occupation of homesteads, foragers were *already* receiving some of the goods mentioned above and returning them to their rock shelter campsites. The decision to live within homesteads, therefore, does not seem to be one based on resource access alone. Instead, it may have been linked to a diminishing resource base making it difficult to continue with a foraging economy (for example, see Tanaka 1976; Cashdan 1984). Farmers occupied the middle Limpopo Valley in large numbers and by AD 1000 there were probably about 3 500 farmers living in the area, which grew to more than 11 000 during the Mapungubwe period (Huffman 2008; we do not have forager population numbers). The farmer population required plentiful food resources, which meant large-scale cultivation and stock keeping. Both of these practices would have

impacted on the forager food base, possibly leading to a decline in natural resources, forcing foragers to rely increasingly on an agricultural economy and, along with social and political developments associated with state formation, led to a progressively sedentary lifestyle (see Cashdan 1977). It may be that not all foragers underwent such change and some may have held onto their own cultural practices longer than others.

There is, therefore, evidence indicating that in the middle Limpopo Valley forager or Stone Age people began living in agriculturalist homesteads. At first this may have been only for parts of their yearly cycle but by the mid-second millennium AD the only known evidence in the region of an LSA material culture is in a homestead. Are we seeing an intentional adoption of herding and farming practices, as hypothesised in the two cases discussed here, or did foragers do so simply because the opportunity arose? Either way, why were no definitive domestic remains found in either of the sites? Perhaps through additional studies in the region and across southern Africa (such as Sadr 2003; Hobart 2004) we will be able to answer this question and understand why foragers began living in homesteads and possibly began producing food.

Conclusions

Changes in the forager way of life led to, at some sites across southern Africa, a close relationship between foragers and local farmer communities. These changes fundamentally affected the LSA over the last 2 000 years, and in the middle Limpopo Valley this led to the widespread abandonment of rock shelters by AD 1300. Previously it was suggested that this may have been due to foragers migrating and settling in other regions or assimilating with farmers. Based on new evidence, it seems that at least some foragers shifted their settlement pattern and began living in fixed homesteads. We see this shift by AD 1000 at João when foragers occupied certain spaces within the farmer homestead but by the time Kambaku was occupied, probably in the mid-second millennium AD, foragers were entrenched in the farmer economy, producing a limited stone tool assemblage. Identifying this shift in the archaeological record is notoriously difficult but in the examples presented above there is evidence indicating this to have been the case. While it seems that some foragers assimilated into farmer societies, possibly producing food and practising animal husbandry, the extent to which they abandoned their own behaviour, beliefs and practices cannot be determined at this point. Future work may yet identify more sites like João and Kambaku, contributing to our understanding of local assimilation, which would be strengthened by performing a genetic study on Bantu-speaking people from the region. For now, we must rely on the archaeological evidence that shows a close-knit relationship between foragers and farmers, and, as with other parts of southern Africa, this appears to have been a developmental process leading to assimilation rather than a sudden abandonment of the LSA way of life.

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9 Heritage Management and the World Wide Web: South African Challenges

Katie Smuts and Nic Wiltshire

Abstract

This paper will discuss the systemic problems of heritage management in South Africa that have been highlighted by the fractured uptake of the South African Heritage Resources Information System (Sahris), and propose potential solutions to the challenges encountered since the promulgation of the National Heritage Resources Act 25 of 1999. Sahris has three primary functions encompassing, 1) a repository of national heritage sites, 2) a national collections management system, and 3) the integration of heritage management functions such as permit and development applications. This paper will focus predominantly on data and lessons learned from implementing Sahris as a tool for integrated heritage resource management. The first version of Sahris went live to the South African public in August 2012, allowing the South African Heritage Resources Agency (Sahra) to phase out paper-based and emailed submissions for applications in March 2013. Amafa/Heritage KwaZulu-Natal followed suit in April 2013. This has led to an improvement in the efficiency and responsiveness of these authorities and has provided a transparent mechanism for applicants and stakeholders to track heritage-related applications and official responses online. Despite the measurable gains made by Sahra and Amafa, the uptake of Sahris has been variable in other provinces in South Africa. The issues faced by each province will be summarised in this paper based on usage statistics generated on Sahris, interviews with key stakeholders, and experiences learned from rolling out the system nationwide over the last two years. A range of potential solutions to the current challenges will be proposed with the objective of steering and contributing towards better policy formulation and governance in this sphere over the next five years.

Résumé

Cet article traite des problèmes systémiques avec la gestion du patrimoine en Afrique du Sud qui ont été soulignés par l'assimilation fragmentée du système d'information des ressources patrimoniales d'Afrique du Sud (Sahris), et tente de proposer des solutions possibles aux défis rencontrés depuis la promulgation de la

Loi sur les ressources patrimoniales nationales (Loi n°25 de 1999) (NHRA). Sahris a trois fonctions principales englobant un dépôt des sites du patrimoine national, un système de gestion des collections nationales et l'intégration des fonctions de gestion du patrimoine telles que les demandes de permis et le développement. Cet article se concentrera principalement sur les données et les leçons tirées de la mise en œuvre du Sahris comme un outil pour la gestion intégrée des ressources patrimoniales. L'article traite des problèmes systémiques de la gestion du patrimoine en Afrique du Sud, problèmes accentués par le fait que le Système d'informations des ressources patrimoniales d'Afrique du Sud (Sahris) n'a pas suscité un intérêt unanime. Il proposedes solutions potentielles aux défis rencontrés depuis la promulgation de la Loi sur les ressources patrimoniales nationales. Les trois rôles principaux du système sont de servir de dépôt d'archives patrimoniales nationales, de système de gestion des collections nationales et de système d'intégration pour les fonctions de gestion patrimoniale telles que les demandes de permis et les développements. L'article porte essentiellement sur des questions mises au jour par toute une série de caractéristiques liées à la gestion du patrimoine. La première version de Sahris a été lancée sur Internet et ouverte au public sud-africain en août 2012, permettant d'éliminer progressivement les demandes par écrit et par courriel en mars 2013. Amafa/Heritage KwaZulu-Natal a fait de même en avril 2013. Cette situation a permis d'améliorer l'efficacité et la capacité de réaction des autorités et a fourni un mécanisme transparent permettant aux demandeurs et aux parties prenantes de traquer les demandes relatives au patrimoine, ainsi que les réponses officielles en ligne. Malgré les gains mesurables fait par Sahra et Amafa, l'intérêt suscité par Sahris varie d'une province à une autre. Les problèmes rencontrés par chaque province seront résumés dans l'article et se baseront sur des statistiques d'utilisation générées par Sahris, sur des entretiens avec des parties prenantes clés et sur les expériences acquises lorsque le système a été introduit à l'échelle nationale ces deux dernières années. La situation en Afrique du Sud sera également contextualisée avec pour toile de fond la gestion du patrimoine sur le plan international et tentera d'expliquer l'inactivité autour du forum public. L'article proposera une gamme de solutions potentielles aux défis actuels, avec pour objectif le pilotage et la contribution à la formulation et à la gouvernance de meilleures politiques dans ce domaine durant les cinq prochaines années.

Legislation:

Section 33 of the KwaZulu-Natal Heritage Act (KZNHA) providing general protection to structures older than 60 years;

Section 8 of the National Heritage Resources Act (NHRA) defining the responsibilities and competence of heritage resources authorities and local authorities for the identification and management of heritage resources;

Section 14 of the NHRA providing for the establishment and constitution of the Sahra Council;

Section 34 of the NHRA providing general protection to structures older than 60 years;

Section 38 of the NHRA legislating management of heritage resources at possible risk from development.

Introduction

About Sahris

The South African Heritage Resources Information System (Sahris) is a free open source web-based heritage management system built on the Drupal Content Management System and Geoserver (Wiltshire 2013). It was developed by the South African Heritage Resources Agency (Sahra) in the first half of 2012 to provide case management (permitting, impact assessments, surveys, gradings and declarations) and to serve as the national heritage register/inventory of all heritage sites such as cultural landscapes, buildings, archaeological and palaeontological sites and graves, among others. Sahris was further developed in the latter half of 2012 to provide a collections management suite for handling objects in museums.

By July 2014, 11 177 volumes of archival records in Sahra's registry had been scanned and uploaded to Sahris. A total of 25 192 sites and 14 453 objects had been migrated into the system (sahra.org.za 2014). More than 2 600 users have registered accounts on Sahris, and more than 137 000 records have been published. Sahra has run 49 Sahris workshops and trained more than 1 000 people to use the system. In less than two years, the introduction of Sahris has pushed the worldwide ranking of the Sahra website from 3.5 millionth to 750 000th in the world (alexa.com 2014). In October 2013, the world's first palaeo-sensitivity map was released on Sahris in collaboration with the Council for Geoscience (Lavin & Wiltshire 2013).

Despite these measurable gains, acceptance of the system by provincial heritage resources authorities (PHRAs) has been patchy and a number of issues have surfaced which must be overcome in order to fully utilise the advantages offered by Sahris.

Current state of the implementation of Sahris at provincial level

After introducing Sahris internally to the staff of Sahra in Cape Town and Pretoria between May and July 2012, the system was opened to members of the public and the PHRAs in August 2012. The first of several workshops across the country was run in Bloemfontein in October 2012, and by the end of January 2013 all nine provinces had been provided with on-site training and presentations on the system.

In April 2013, the KwaZulu-Natal provincial heritage authority, Amafa, formally adopted Sahris for their permit applications and heritage management functions (Amafa 2013). In April 2014, Amafa's built environment unit *reverted back* to processing applications manually on paper and via email (Amafa 2014). In seven of the remaining eight provinces, the uptake of the system was hindered by various factors that we will go into in more detail in this paper. In one province, the Western Cape, the PHRA, Heritage Western Cape (HWC), has not agreed to use Sahris and is developing its own system instead (Heritage Western Cape 2014).

The challenges

Identifying the main factors affecting the implementation

Despite being used extensively by Sahra and Amafa in KwaZulu-Natal, Sahris has failed to gain much traction in the other provinces in the two years since the system was rolled out nationally. We have therefore attempted to identify the key factors affecting the provinces (in no particular order):

- Staff
- Skills
- IT infrastructure and other communication facilities
- Governance
- Funding.

In addition to the factors affecting the provinces, three additional issues have been identified that are within the ambit of the national heritage authority, Sahra:

- Training and resources provided by Sahra
- Devolution
- Sahra's relationship with the Department of Arts and Culture (DAC) with respect to the provinces.

Table 9.1 presents these barriers as relative scores between the provinces. The weightings given are broad and the breakdown is not a complete reflection of the enormous challenges which must be overcome to run a successful heritage authority in South Africa, nor does it reflect on or criticise the individual abilities of the staff employed at the PHRAs (Ndlovu 2011). Table 9.1 does not define the number of staff required to run a PHRA and it does not claim that the budgets allocated to HWC or Amafa are adequate. Instead, we are trying to emphasise the clear patterns revealed in this table with constructive solutions in mind.

Challenges posed by the devolution process

Before we delve into a review of the devolution process required by the National Heritage Resources Act (NHRA) over the past 14 years, we would first like to state that we avidly support devolution to provincial and local level for all forms of heritage management. The former National Monuments Council (NMC), while successful at declaring thousands of sites, centralised decision making. It is a decidedly ineffective model for South African heritage management as the sheer bulk and complexity of applications has exploded since 1989 after the promulgation of the Environment Conservation Act (No. 73).

In 1999, the NHRA introduced a three-tiered system for heritage management in South Africa in line with 'new public management' policies adopted by other countries that had been consulted for best practice in writing up the NHRA (Dunleavy *et al.* 2006). The NMC, a single national authority with provincial offices, had been

Table 9.1 Barriers as relative scores between the provinces. Source: K. Smuts & N. Wiltshire

PHRA	Staff	Skills	IT Infrastructure	Governance	Funding
Western Cape	10–20				
KwaZulu-Natal	20–30	Admin, Archaeology, Palaeontology, Built Environment, GIS			
Gauteng	5–10	Admin, Built Environment			
Northern Cape	2	Admin, Built Environment			
Eastern Cape	3–5				
Limpopo	3–5	Admin, Built Environment			
Mpumalanga	2	Admin, Built Environment			
North West	3–5	Admin, Built Environment			
Free State	0 (1*)	Admin			

Colour ranges from 0 (worst) to 3 (best). ■ Red = 0; ■ Orange = 1; ■ Yellow = 2; ■ Green = 3
*Heritage Free State's only staff member is an administrative assistant, not a heritage officer.

replaced by Sahra and this new entity was given a mandate to facilitate the devolution process to the remaining eight PHRAs (Amafa was established in 1997 before the promulgation of the NHRA). Each of these PHRAs in turn was to be responsible for devolving powers for managing local heritage sites to the municipalities (Ndlovu 2011). A well-managed heritage register or inventory system was a crucial requirement before this process could be concluded, as the various incumbent heritage authorities across the three tiers would be incapable of exercising jurisdiction over their sites unless they were officially identified and graded.

This principle of localising decision-making power is central to the NHRA, with the aim of integrating heritage management within the overall land-use and planning process. This concentrates the bulk of power and authority at the local level and provides tangible mechanisms for public participation in affairs that directly affect citizens across the country. However, many heritage managers are still drawn to the ideology of monumentalisation, specifically the declaration of sites that have a strong political agenda, rather than the progressive, systematic, ongoing management and conservation of heritage resources in the broadest sense.

In 2003, PHRAs were set up in the various provinces with agreements to fund and staff them through the provincial departments of Arts, Culture, Science and Technology. Prior to this, Sahra had devised a fairly elementary minimum set of requirements for the establishment of the PHRAs (DACST 2000). At the time, the requirements were based on the level of resources allocated to the provincial offices

of the NMC with no projections for growth in capacity required when these PHRAs would devolve powers further to local authorities. Sahra's capacity at its level of the devolution process has been unsatisfactory and the problems this has caused have been passed on to provincial level.

Sahris provides the tools for monitoring the processes, efficiency and compliance levels of all users. This is a vital function if devolution is to succeed, as prior to Sahris, delegating authorities had little or no information at hand to assess what level of accountability could be expected from the tier below them after devolution was complete. Even more concerning is the complete omission of devolution to the local municipality from recently drafted heritage bills in the Northern Cape and Gauteng (DSAC 2013; DSACR 2013).

While HWC and the City of Cape Town Metropolitan Municipality should be applauded for initiating the devolution of powers to local level (Heritage Western Cape 2014), the process has thus far taken more than seven years and is plagued with ambiguity as the grading of identified heritage resources in the area is not yet complete. In so-called 'heritage overlay zones' largely based on previously delineated 'conservation areas', the City of Cape Town has full decision-making powers for applications that do not affect a national or provincial heritage site. This currently limits the heritage authority of the local municipality to well-defined areas and leaves a grey area in managing the grading of local heritage sites identified during Section 38 applications. The example established by these two authorities for the remaining 225 local municipalities across South Africa will be a difficult one to replicate.

To date, Sahra has failed to revise its minimum requirements for PHRAs and although it is supposed to reassess the competence of the PHRAs at least every two years according to Section 8(6)(d) of the NHRA, this has not been done consistently. The inadequacies of the assessment process are highlighted in the case of the PHRA in the Free State, which does not employ any permanent staff or fulfil the basic requirements set out by Sahra for the establishment of a PHRA, but continues to be assessed as 'competent'. No criteria exist between Sahra and the PHRAs for reporting on the annual number of applications processed, the number of sites identified and graded, or for proposed legislative amendments. Furthermore, the composition of Sahra's Council has regularly failed to comply with Section 14(1)(a) of the NHRA, which stipulates that at least one representative of each province occupies a position. Sahra is constitutionally bound to take the interests of the provinces into account, but instead finds itself alienated and unable to effectively monitor and evaluate the provinces.

While these problems are serious, they are not insurmountable. The introduction of Sahris provides an instant monitoring and evaluation tool throughout the three tiers of heritage management in the country, and provides a cost-effective means of solving the technical and administrative challenges hampering service delivery and

accountability. For the system to be effectively implemented as a tool to assist in the process of devolution, a proper endorsement and commitment to Sahris by DAC at national and provincial level is needed. Furthermore, effective decision making is required from Sahra's executive management team in order to address the gaps in their guidelines, policies and regulations related to the devolution process. This will go a long way towards strengthening their role as a guiding institution for heritage management in South Africa.

Unpacking the issues in each province

In theory, the number of staff required to execute certain functions should be directly proportional to the amount of work expected to be completed by them. For instance, at HWC, at the time of writing there were five heritage officers and an assistant director assigned to the processing of built environment applications. During the 2012/2013 financial year, 1 206 applications (averaging 100 per month) were processed in terms of Section 34 of the NHRA; this section relates to the protection of buildings older than 60 years. At Amafa, 520 applications (averaging 43 per month) were processed in terms of the corresponding section under its Act, Section 33 of the KwaZulu-Natal Heritage Act 4 of 2008, by a team of three heritage officers. The average number of applications processed per heritage officer per month is comparable at both these PHRAs, with HWC at 16.7 and Amafa at 14.3.

In the rest of the country, the number of permits or approvals issued per case officer drops off dramatically. In Gauteng, 138 applications were processed during the 2008/2009 financial year by a team of three heritage officers. Their monthly average was 12 cases and 3.8 per case officer. In other provinces the statistics are rarely even published in their annual reports. During the roll-out and training of Sahris in the Northern Cape, we discovered that only four Section 34 applications were dealt with between July and October 2013, an average of one per month between two heritage officers.

Alarming as this may seem, the number of applications submitted to the PHRAs is not substantially more than the number actually processed. This is due to the fact that in Cape Town, Pietermaritzburg and Durban, municipal compliance with the NHRA/KZNHA has been entrenched for a much longer time and there are close relationships between the PHRAs and local municipalities in those areas. It is a more daunting task to achieve levels of compliance anywhere near to those in Cape Town or Durban in outlying areas for even the best-performing provinces (see figure 9.1).

Another large source of applications relates to Section 38 of the NHRA, which legislates heritage resource management and development applications. HWC, Amafa and the Eastern Cape PHRA (ECPHRA) are currently dealing with Section 38 applications in their provinces. As no archaeologists are employed by the PHRAs in the Northern Cape, Free State, Gauteng, North West, Mpumalanga and Limpopo, Sahra's

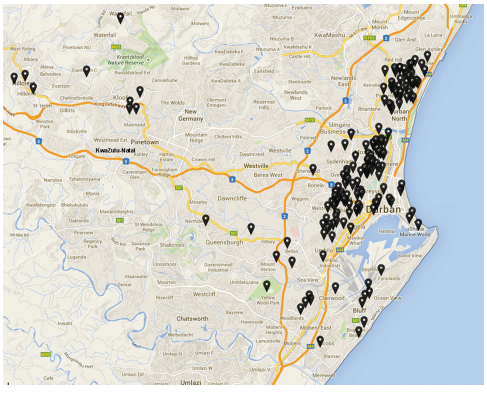

Figure 9.1 Map of permit applications (mainly for building alterations) in KwaZulu-Natal. Source: Google Maps (2014) & Sahris (2014)

Archaeology, Paleontology and Meteorites (APM) unit continues to process the majority of development applications triggering Section 38 of the NHRA.

This arrangement persists 10 years after the creation of most of the PHRAs, and is problematic on both administrative and philosophical grounds. For one, we have found that heritage officers at provincial level seldom, if ever, comment on or participate in co-assessing the built environment, visual and other components of Section 38 developments submitted to Sahra's APM unit. Even the introduction of Sahris two years ago has done little to improve the level of interaction between the underperforming PHRAs and Sahra.

This is unlikely to change until the PHRAs appoint appropriate specialist staff and Sahra completes the full handover of all provincial and local duties to the rest of the provinces. Currently, applicants are able to obtain approval for their developments as long as they receive an official comment from at least one of the two parties. Secondly, a heritage impact assessment has become equivalent to an 'archaeological' and/or 'palaeontological' impact assessment as the assessing authority (Sahra's APM unit) primarily deals with these two aspects. Splitting the assessment of Section 38 applications into different sub-disciplines of heritage was not the intention of the NHRA and only HWC has meaningfully attempted to resolve this by combining disciplines in the form of committees at both staff and council levels.

After Sahris was implemented we were able to quantify the percentage of Section 38 applications receiving heritage input. In Mpumalanga, fewer than 30 % of applications approved by the departments of Mining or Environmental Affairs received any heritage consideration by Sahra or the Mpumalanga Provincial Heritage Resources Authority (MPHRA). Again, this contrasts starkly with HWC or Amafa, who manage

to consider nearly every Section 38 application received in their provinces. The Eastern Cape is currently the only other province employing a full-time archaeologist but the roll-out of full devolution since 2012 has been beset with governance issues between the ECPHRA and their provincial DAC.

In 2013, the ECPHRA had to shut down its offices in King William's Town and relocate to makeshift offices outside the Department of Public Works in East London (Heritage Portal 2013). The ECPHRA is also the only PHRA that has attempted to take on the full ambit of duties with a small staff contingent. The ECPHRA has struggled to access shared resources that would ordinarily be available, such as finance, human resources, security, monitoring and evaluation, IT, vehicles and property management. The ECPHRA is therefore at risk of becoming another failed heritage authority as the working conditions offered are not conducive to retaining the skills that have been acquired.

In the Northern Cape and Gauteng, both provinces recently embarked on the expensive exercise of writing their own legislation. What is clear from both pieces of legislation is that the current funding allocated by the DAC is inadequate. Both provinces have attempted to resolve this by pushing for increased independence from their provincial DAC, but the cost of duplicating the overheads of human resources, auditing, finance and so forth have not been properly considered.

The current sharing arrangement of staff and facilities for the PHRAs by the provincial DACs in the Western Cape, Free State, North West, Mpumalanga, Limpopo and Gauteng has had its drawbacks. In provinces with effective management this arrangement is succeeding in part (Western Cape), but in others it clearly is not. During the training and roll-out of Sahris we found that the availability and speed of the internet was either sporadic (Limpopo) or throttled to less than 10 kbs per second (North West, Gauteng). Mpumalanga had a slow and barely useable internet connection. In each of these provinces our attempts to improve the speeds on behalf of the PHRAs led us to failed dealings with IT departments under the auspices of the State Information Technology Agency. Given that Sahris requires a reasonable ADSL connection to the internet for up to three to five users sharing an office, it has been an extremely frustrating experience implementing a web-based system in offices where internet access is treated as a non-essential service.

Monitoring and evaluation potential

Now that some of the challenges have been identified and described, we would like to draw on various data extracted from Sahris that aptly demonstrate the way the system automates the monitoring and evaluation process. Many of the useable statistics were generated from the applications considered by Amafa, the only PHRA thus far to have

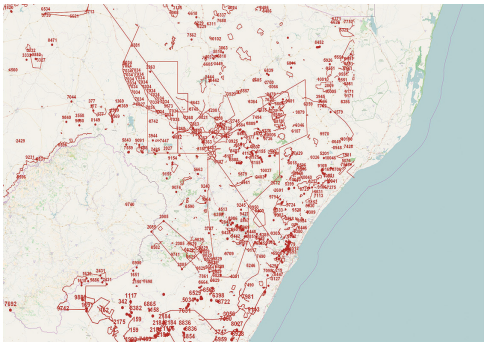

Figure 9.2 Map of development applications (mainly Section 38) in KwaZulu-Natal. Source: Google Maps (2014) & Sahris (2014)

implemented meaningful adoption of Sahris adequately at provincial level, and from Sahra nationally.

The spatial queries available in Sahris are demonstrated in figures 9.1 and 9.2. Figure 9.1 clearly shows how few applications are being submitted outside of Durban, the main city in KwaZulu-Natal. Furthermore, it maps out the lack of compliance with the KZNHA and the NHRA within the boundaries of Durban itself. These maps assist heritage authorities in pinpointing which local authorities require more attention and training and can be drawn up for authorities at lower tiers that are accountable to the authority above them (as in the City of Cape Town Metropolitan Municipality to HWC).

In figure 9.2, the map of developments occurring in KwaZulu-Natal is shown. These maps can be used by planners projecting the impacts of long-term projects over the next 5 to 20 years or by current applicants seeking guidance on the nature and scale of mitigation required to see through their developments.

Importantly, all of this information is in the public domain as soon as the application is submitted to ensure transparency throughout the application process. Figure 9.3 illustrates the number of records created by officials within the various heritage authorities. This information can be dynamically updated on the system at any point and calculated for any date range where historical data exist. This graph shows all records, regardless of type (sites, cases, permits). Over time one would expect the ratio of content authored by the PHRAs to grow, eventually eclipsing that by Sahra officials.

The map in figure 9.4 tracks the number of community or public user visits to Sahris by city. This information can be used by heritage authorities to establish the degree of success or impact of educational campaigns targeting awareness of heritage conservation. It also shows the relative interest in heritage matters in various cities,

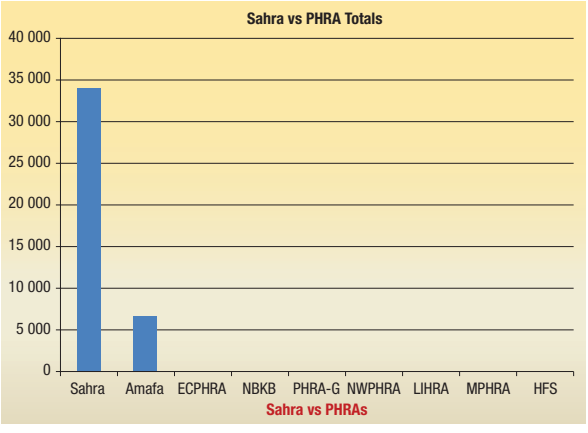

Figure 9.3 Graph of records created by the various heritage authorities: Amafa (KwaZulu-Natal), ECPHRA (Eastern Cape), NBKB (Ngwao-Boswa Ya Kapa Bokone, Northern Cape), PHRA-G (Gauteng), NWPHRA (North West), LIHRA (Limpopo), MPHRA (Mpumalanga), HFS (Free State). Source: Google Maps (2014) & Sahris (2014)

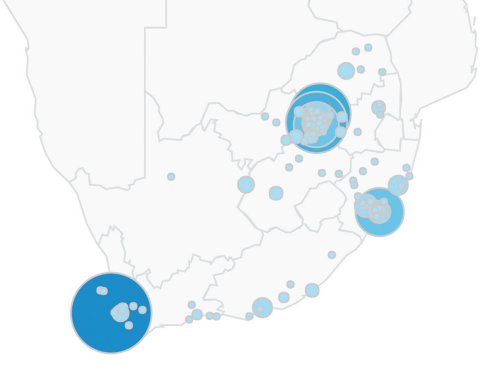

Figure 9.4 Map of visitors to South African Heritage Resources Information System (Sahris), by South African cities. Source: Google Maps (2014) & Sahris (2014)

such as in Johannesburg, even where the data set of applications (figure 9.1) is negligible for PHRAs not fully utilising Sahris.

Figure 9.5 is a cumulative map showing the locations of all sites captured on Sahris. This map can be displayed per province, per municipality, by grading category or even by recording group. The large amount of data migrated from repositories in the Western Cape and KwaZulu-Natal distort the overall distribution of sites around the country.

The five illustrations included in this paper are just a small selection of a much wider range of automated views of the data available in Sahris. They demonstrate the flexibility of the system, the graphical display of spatial and statistical information, the

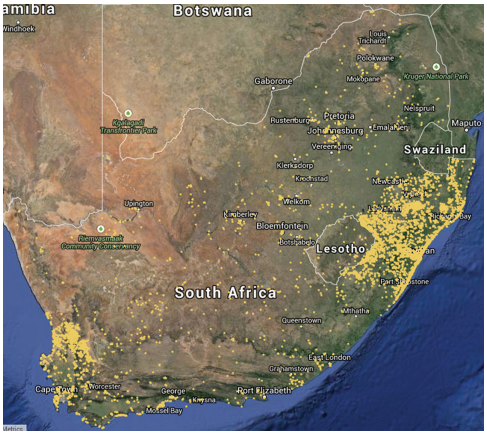

Figure 9.5 Map of all heritage sites captured on Sahris. Source: Google Maps (2014) & Sahris (2014)

ability to filter data by any date range or content type, and the interrogation of audit trails per officer, department or heritage authority.

We argue that devolution is extremely challenging to execute meaningfully unless these kinds of interfaces are available to the receiving authorities taking on powers in terms of the NHRA, and to those authorities that have undertaken the monitoring and evaluation roles at higher levels.

Devolution, which can take many years to accomplish, will need careful monitoring to ensure that the process is being implemented effectively and that expectations of transparency and service delivery are met. Sahris allows anybody to query the efficiency of the devolution process prior to, during and after devolution. As Sahris is provided free of charge to all three tiers of government, it can facilitate these monitoring protocols through its integrated architecture.

Sahris leaves the decision-making power in the hands of the relevant authority at local, provincial or national level while supporting data – both heritage and performance related – on a centralised platform. The reporting function can subsequently be used to rectify the misallocation of funds between the various heritage authorities based on scale, resources and demand logged on Sahris.

Conclusion

In conclusion, we have presented some of the issues faced by PHRAs around the country and how these factors prevent them from operating efficiently. We have further highlighted the challenges of the devolution process and how this affects the proper management of heritage resources as envisaged in the NHRA.

While Sahra has played a role in the shortcomings of the devolution process, through Sahris it has also devised a system that, if utilised to its full potential, can assist significantly and constructively with this process going forward.

Despite the benefits offered by the system, however, take up has been patchy across the provinces, with many of the issues that plague the PHRAs operationally serving to inhibit their adoption of Sahris as well.

Sahra must continue to foster the ongoing development, support and maintenance of Sahris to keep abreast of technological improvements and the requirements of their users. Simultaneously, the organisation urgently needs to work with the PHRAs to improve the IT governance structures at national and provincial level.

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This set of conference proceedings will be a classic, like all the others, and consulted long after its immediate applicability has waned ... It captures the depth and breadth of archaeological research on the African continent and reflects the state of archaeology at a particular point in time.

— Natalie Swanepoel, Department of Anthropology & Archaeology, University of South Africa

Confronting national, linguistic and disciplinary boundaries, contributors to African Archaeology Without Frontiers argue against artificial limits and divisions created through the study of 'ages' that in reality overlap and cannot and should not be understood in isolation. Papers are drawn from the proceedings of the landmark 14th PanAfrican Archaeological Association Congress, held in Johannesburg in 2014, nearly seven decades after the conference planned for 1951 was re-located to Algiers for ideological reasons following the National Party's rise to power in South Africa.

Contributions by keynote speakers Chapurukha Kusimba and Akin Ogundiran encourage African archaeologists to practise an archaeology that collaborates across many related fields of study to enrich our understanding of the past. The nine papers cover a broad geographical sweep by incorporating material derived from ongoing projects throughout the continent including South Africa, Botswana, Cameroon, Togo, Tanzania, Kenya and Nigeria. Thematically, the papers included in the volume address issues of identity and interaction, and the need to balance cultural heritage management and sustainable development derived from a continent racked by social inequalities and crippling poverty.

Edited by three leading archaeologists, the collection covers many aspects of African archaeology, and a range of periods from the earliest hominins to the historical period. It will appeal to specialists and interested amateurs.

Karim Sadr, Amanda Esterhuysen and **Chrissie Sievers** are all based at the School of Geography, Archaeology and Environmental Studies at the University of the Witwatersrand, Johannesburg.

Cover illustration: Researchers' chalk markings outline and sequence metal tool sharpening surfaces and stone axe polishing grooves at an iron bloom crushing site near Bitchabe, Togo, West Africa. © Philip de Barros

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