



EDITORIAL

As I approach my third year of editing *Nyame Akuma*, I would like to indulge in some reflections on the state of the bulletin, beginning with its content. With the approach of each issue's deadline, I experience a crescendo of anxiety about the shortage of articles, which invariably collapses under a last minute flood of material and is replaced by a growing concern about managing the "bonanza." I suppose that this sort of emotional roller coaster is the common fate of editors, but I cannot resist the temptation to encourage a greater (if not steady) flow of submissions. This is not just a matter of preserving your editor's mental health; a reservoir of contributions would enable me to strive for better geographical and topical balance in any given issue—a balance that a glance at the table of contents of this issue of *Nyame Akuma* (and at least the previous four) will reveal to be conspicuous by its absence. While I am on the subject of balance, let me call attention to two areas, one topical and the other geographical, that have lately been very poorly represented on these pages: paleoanthropology and North Africa, respectively. I strongly urge anyone having news of work in progress in either of these areas to submit reports for publication in *Nyame Akume*.

It will not have escaped the attention of readers that various changes in the style and content of *Nyame Akume* have been introduced during the past couple of years. In fact, some of the new elements were suggested by readers, and several subscribers have been kind enough to comment favorably on the innovations. Such suggestions and comments are, of course, more than welcome. However, I would also like to hear from anyone who sees room for improvement in either the old or the new "habits" of the bulletin.

A few words about the biennial SAFA meetings in Los Angeles (March 1992): Peter Robertshaw, the secretary of the association and co-organizer of the

meetings, has asked me to inform members that the SAFA biennial general business meeting will take place on Saturday, March 28, at 5:00 P.M. in the Lenart Auditorium of the Fowler Museum of Cultural History, UCLA. Anyone wishing to introduce agenda items should submit them to Peter. One item that will arise in the 1994 meetings in this connection, I regret to say, is that I must withdraw my previous offer to host them at Iowa State University.

In closing, let me include the following erratum submitted by Peter Shinnie:

"In Shinnie and Kense, *Archaeology of Gonja, Ghana—Excavations at Daboye* (1989), the following error has been noted. On p. xvi amongst the participants in the 1983 season the name Joanne Lacey should read Joanna Casey. The authors express their apologies to Ms. Casey for this stupid [*sic*] mistake."



ARTICLES

■ GHANA

1991 Asante Research Project

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The Asante Archaeological Project, under the direction of Prof. Peter Shinnie, continued into the fifth year of field research in 1991. From January through April of 1991, a crew of archaeologists consisting of four from the University of Calgary, Brian Vivian, Sherry Morris, Desmond Murphy and Michelle Dancoisne, together with eleven Earthwatch volunteers, local informants, and workers, participated in the continued search for remnants of early settlements within the Asante region. Research for the 1991 field program was jointly funded by the Social Sciences and Humanities Research Council of Canada and the Earthwatch Foundation. The work was carried out with a permit from the Ghana Museums and Monuments Board.

Data from this last year were collected with the intention of placing the site of Asantemanso within a regional context, and furthering our understanding of early Asante settlements. Following on the success of excavations at Asantemanso, emphasis shifted towards exploring surrounding village locations. This change in orientation was made in order to answer the question of whether Asantemanso is a

unique site, or is typical of villages found throughout the surrounding region. Towards this goal, excavations were carried out at the nearby villages of Anyinam and Esiease. Additionally, test excavations were conducted at the ancient town of Adansemanso.

In addition to the strictly archaeological work, Ama Shinnie continued the collection of oral traditions as in previous years. Local informants were identified and interviewed, and their information was recorded on tape. The information thus obtained was very helpful in identifying ancient sites.

Anyinam

Located 1.5 km SE of Kokofu (Fig. 1), Anyinam is a small village of 23 compounds, with a population of approximately 300 people. Originally visited in 1990, this location was selected in large part due to oral traditions that claim the village to be the birth place of Osei Tutu. Settled by the Agona clan, the oral tradition relates that the villagers originated from the Denkyira region.

Extensive surface survey and shovel tests of the area surrounding the village failed to reveal any evidence of substantial occupation, such as large cultural mounds or concentrations of pottery, beyond the limits of the current village. As a consequence, field investigations focused on several large mounds located immediately on the village periphery that appeared to be of recent origin. Excavation of these mounds produced a rich record of materials spanning the last two hundred years. Imported beer and gin bottles, earthenware ceramics, kaolin pipes, and trade beads provide ample evidence of the growth and development of European trade contacts during the late nineteenth century in the region. Locally produced ceramics, tobacco pipes, and several weights for gold indicate that local craft production and trade actively competed with the introduction of mass produced industrial trade items.

The precise dating of site occupation awaits the lab analysis of carbon samples. Estimates of age made by association with

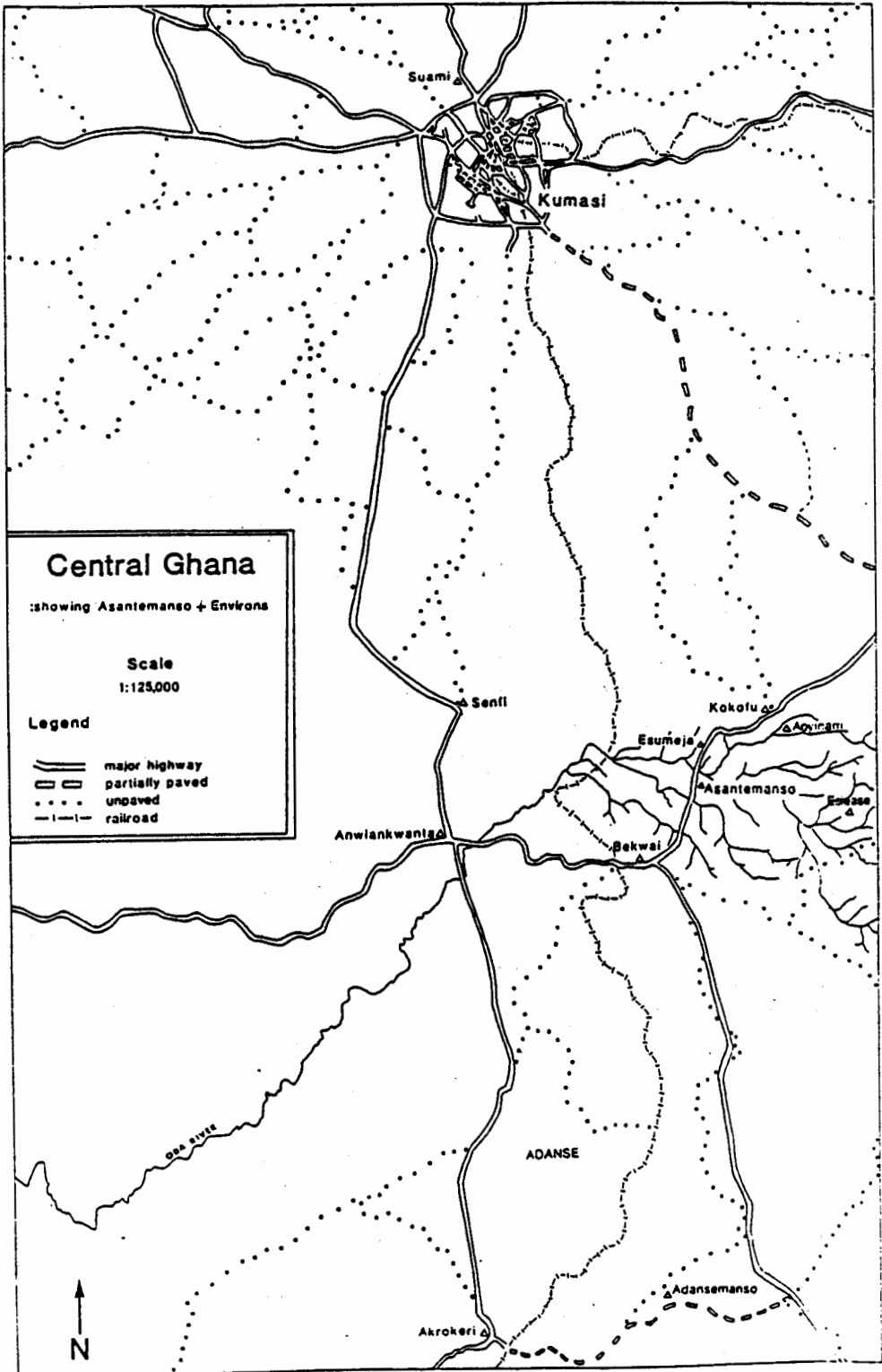


Fig. 1. Central Ghana.

pipes and European trade items indicate current village occupation does not pre-date the mid fifteenth century. Pottery of the "Earthworks" period is commonly observed in the immediately surrounding area. Although "Earthworks" pottery is found associated with early period occupation throughout southern Ghana, at Anyinam there is no evidence of a single unbroken record spanning the entire period from the "Earthworks" period to the present day. Rather it is believed that Anyinam was the site of an earlier occupation that ended well before the current settlement was established.

Esiease

The village of Esiease is 5 km SE of Kokofu, and about 6 km in a straight line from Asantemanso (see Fig. 1). The center of a local pottery making industry, Esiease currently has a population of about five hundred. Claimed to be the home village of Osei Tutu's grandfather, local oral tradition relates how Esiease was founded by Agona clan people who left the Denkyira region at a time of troubles. After spending several years wandering through Asante region, the Asantehene granted the Esiease people the right to reside at the site of the current village.

According to village elders, the current location of the village is the third settlement. Survey of the second settlement area revealed low mounds of collapsed houses, standing walls, and several obvious rubbish tips. This settlement was abandoned within the memory of elder informants, and it is estimated that the village moved to the current location fifty years ago.

Excavations of the second settlement concentrated on midden locations that produced results similar to Anyinam. The discovery of European trade items such as glass, earthenware ceramics, beads, and kaolin pipes were commonplace. The continued presence of European trade goods in virtually all excavated levels indicates the occupation of settlement two is not older than two hundred years.

The putative location of the first settlement is extensively covered with bush,

broken only by small farming plots. Inspection of this region revealed little apart from several scatters of pottery on the surface. A series of shovel tests (50 cm x 50 cm) and 1 m x 1 m excavation proved the existence of a small, early occupation. While no imported materials were found, excavations did produce several pipes of local origin which are identical to Ozanne's (1962) type 2b. According to Ozanne's chronology, this type dates to between 1655 and 1690.

Noteworthy in all the excavations around Esiease is the paucity of "Earthworks" pottery. Similarly, no "Earthworks" wares were observed in any road cuts, pathways, or other erosional surfaces. In conjunction with the archaeological data, the near total absence of "Earthworks" ware would appear to support the relatively recent settlement date recounted in the oral tradition. Proper dating of the settlement awaits the analysis of carbon samples.

Adansemanso

South of Asantemanso, the site of Adansemanso was discovered in Adanse District (Fig. 1), 1 km west of Old Edubiase. Adansemanso is listed along with Asantemanso as one of the five original towns of the Akan people. According to local oral tradition, Adansemanso was the traditional capital of the ancient Kingdom of Adanse (which literally translates as "where houses are built") and is considered the centre of the universe by local inhabitants. Tradition holds that the site was abandoned when local people moved to the nearby sites of Ahinsan and Dompoase during conflicts with the Denkyira. Presently the site is covered in bush and farmers' fields.

Survey of the surface, facilitated by the extensive farming activity, found scatters of ceramics spread over 1 square kilometer and long narrow linear mounds, in some cases extending 100 m in length. Subsequent testing suggests that these mounds were probably collapsed houses.

Excavations also led to the discovery of an ambiguous structure that appears to be an iron-smelting furnace. Although there

remains some question as to its exact function, it is of interest to note that the structure is identical to an iron-smelting furnace (Wild 1931) reported from a site 8 km SW of Adansemanso. Quantities of slag and other iron artifacts from across the site indicates that the production of iron was commonplace at Adansemanso.

Proper dating awaits the analysis of carbon samples collected from the site. Significantly, only a single pipe fragment was found on the site. No artifacts identified as European in origin were found in excavations or observed on the surface. The absence of pipes and European trade items supports claims the site was abandoned before the sixteenth century. The size of the site and the large number of house mounds suggests that Adansemanso was one of the largest towns in central Ghana prior to its abandonment.

Asensie Features

Aside from the excavation of the village sites, the 1991 research also involved the discovery of several *Asensies*. An *Asensie* is a collection of pottery and terra-cotta figurines that are left as a commemorative offering after the death of an important individual. Although *Asensies* are ubiquitous in Akan culture, the existence of such features is poorly documented, and few have ever been excavated. Past studies have focused almost exclusively on the style and distribution of the terra-cotta heads often associated with *Asensies*, to the exclusion of the larger feature. As a consequence many questions remain on the development, structure, and age of *Asensies*, and the ritual beliefs that go along with them.

The excavation and detailed mapping of the *Asensies* discovered in this last season (Anyinam-1, Esiease-2, Adansemanso-1) more than double the number known archaeologically. The four *Asensies* investigated range in age and structure, from original traditional features that are between three and four hundred years old to one dating to the last fifty years. In addition, the discovery of 39 near-complete and fragmented terra-cotta heads greatly contributes to the current information

available for stylistic and distributional studies.

Summary

The 1991 archaeological research on the origins of the Asante has succeeded in enriching human knowledge of cultural settlement within the Asante region of Ghana. In the course of five seasons, the project has provided evidence of the oldest known continuously occupied settlement in Asante region, the development of trade and craft specialization, and the growth of ritual beliefs.

In placing Asantemanso within a regional context, we now know that early occupation is not prevalent throughout the surrounding district. As the oral tradition suggests, Asantemanso is an exception, as it is the only village tested that has an occupation sequence spanning the last thousand years. The occupation of other villages in the area appear to be limited to four to five hundred years at most. Even at Adansemanso there is little evidence of early occupation, and the site was abandoned before influences from the historic period became common.

The abundance of nineteenth-century finds aids in understanding the development of Asante in the face of growing European influence. Pipes found at Asantemanso, Anyinam and Esiease indicate that there was a flourishing centre of local pipe manufacture that competed with European imports until the early 1900s. The increased frequency of gin and beer bottles, earthenware ceramics, and beads through the late nineteenth and early twentieth century is indicative of the local populations' becoming increasingly tied into the colonial economy. By the nineteenth century the village of Asantemanso was being eclipsed by nearby population centres. As in the case of Anyinam, perhaps this is due to other villages' having a stronger claim to the recent Asante historical past. However, Asantemanso also managed to remain historically important because of strong oral tradition related to its origin.

It is of interest to find how closely the archaeological findings parallel the oral

traditions. Oral traditions list Asantemanso and Adansemanso amongst the five original Akan towns, and archaeological results have found these two sites to be the two oldest. Similarly, archaeological finds place the occupation of Esiease in the late seventeenth century, while oral tradition claims Esiease to have been settled after leaving Denkyira during the time of troubles at that date.

This last field season culminated with the archaeological staff hosting an exhibition of artefacts found during the 1991 season at the Kyekyeku Hotel in Kokofu. Residents of Kokofu, Anyinam, and Esiease delighted in the opportunity to see and learn about the many objects that could be found by digging in the ground.

Future Research

In summary, finds from this last season have greatly contributed to understanding the development of Asante through the historic period, and to the greater understanding of Akan culture over the last thousand years.

The amicable relationships with local residents and enthusiastic support of the Asantehene ensure a positive future for on-going research in the Asante region. Many questions on Asante history and culture remain to be answered. Work is being planned to explore the early occupation of Kumasi and continue excavations at the site of Adansemanso.

■ **KENYA**

Report on a "Stone Pillar" Site Northeast of Jarigole Burial Mound, East Turkana

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This paper reports the discovery of a possible new stone pillar site (Bjjj 4) by the author near the eastern shores of Lake Turkana, Kenya. The site is located in North Horr Location, Marsabit District, and lies just beyond the southern boundary of Sibiloi National Park. It is approximately 2 km northeast of Jarigole waterhole and 0.5 km off the road to Allia Bay rangers' camp. The site lies 34° NE of Jarigole Stone Pillar Site/Burial Mound at a distance of approximately 600 m. The part of the site that contains the highest artefact density measures about 7.6 x 9.1 m while the maximum area of artefact distribution covers 14 x 16 m.

Stone Pillars

The site exhibits upright columns of basalt which are thought to be stone pillars. Though they are small compared to the pillars found in Jarigole (personal observation) and Namoritunga (Lynch and Robbins 1978), there is little doubt about the sites' potential in understanding recent culture history in the Lake Turkana basin.

To the north of the site are two standing stones with a maximum height of 18 cm and 6 cm. These are presumed to be double pillars for they are only 4 cm apart. They have a maximum width of 13 cm and 7 cm, while the thickness is 10 cm and 15 cm, respectively. To the south, approximately 3.5 m from the north double pillars, are two other stones standing 3 cm apart. They are also presumed to be double pillars and measure to a height of 12 cm and 9 cm. They

have a maximum width of 11 cm and 17 cm, and a maximum thickness of 17 cm and 13 cm, respectively. About 2.3 cm northeast of the north double pillars is a single pillar, with a maximum height of 11 cm, a maximum thickness of 8 cm, and a maximum width of 7 cm. Opposite this single pillar, 65 cm to the southeast, is another single pillar, with a height of 9 cm, a maximum thickness of 16 cm, and a maximum width of 14 cm. On the western side of the site is another single pillar with a maximum height of 11 cm, a maximum width of 15 cm, and maximum thickness of 18 cm. The number of possible pillars at the site might be more than seven. However, until excavations are carried out, it is hard to ascertain whether some of the stone blocks embedded in the surface are a result of human activities. There are at least five possible basalt pillars lying on the surface that are presumed to have been knocked out of the ground by people or animals.

Pottery

The surface is littered with potsherds that exhibit a reddish brown to light orange colour. Three sherds have a coating of calcium carbonate inclusions. The pottery exhibits decoration similar to the Nderit ware of Central Kenya (Bower et al 1977) and also resembles the pottery excavated from the nearby Jarigole Stone Pillar Site (Merrick, personal communication).

Possible pothandles and/or figurine parts ($n = 4$) were also found. A figurine measuring to a maximum length of 13 cm lies on the surface. Three sherds were noted to be protruding from the surface and are presumed to be in situ. The biggest undecorated sherd found on the surface has a maximum length of 5 cm and a maximum width of 4 cm. The biggest decorated rim sherd is 5 cm long and 7 cm wide.

Lithics

Preliminary survey indicates that few Late Stone Age tools lie on the surface, although two obsidian flakes were found. Another three basalt flakes and a core scraper reminiscent of Early Stone Age or Middle Stone Age types were also found.

The possible ESA and MSA artifacts are probably not related to the stone pillar occurrence, for similar surface finds occur at the Jarigole Pillar Site, but never in situ (Merrick, personal communication).

Importance of the Site

The stone pillars of northern Kenya have generated much interest since Lynch and Robbins (1978) described them as the first evidence of archaeoastronomical construction in Sub-Saharan Africa. However, this interpretation was subjected to a devastating critique by Soper (1982), and the function of the stone pillar sites remains undetermined.

The GbJj4 site is important partly because of its proximity to the Jarigole site, with which it shares Nderit pottery and sherds representing other types of similar age. Nderit pottery is dated to 4000 b.p. in the Lake Turkana basin (Barthelme 1985) and is associated with domestic stock (Marshall et al. 1985). Thus the GbJj4 site may shed light upon the advent of pastoral economies in the basin.

Acknowledgements

I would like to thank Dr. H. V. Merrick, Director, Koobi Fora Field School, Drs. Chris Koch and C. S. Feibel, and the staff and students of 1991 Koobi Fora Field School for their field support and encouragement. Thanks to Dr. H. W. Mutoro, Dr. Koch, and Mr. Karega-Munene who made critical comments on this paper.

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Plant Remains from a Sirikwa Culture Site at Hyrax Hill, Nakuru, Kenya

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This article reports a preliminary examination of plant remains and the tentative implications that have so far been deduced from them. The plant samples were acquired by archaeological excavations at one of the Hyrax Sirikwa sites within Nakuru Municipality, Kenya. Hyrax Hill has numerous prehistoric sites that represent occupations dating as far back as the Neolithic period. Several of the Neolithic sites have been studied (see Leakey 1945, Onyango-Abuje 1977, Merrick 1983). However, of specific relevance to this report are the Sirikwa culture sites that are found in a group throughout the lower northwestern portion of the hill. There are at least 13 of these Sirikwa occurrences comprising about 13 hollows and 13 mounds.

Generally, Sirikwa sites are characterised by the presence of shallow circular depressions (hollows) about 20 m in diameter with an average depth of about

2.4 m. The hollows are always flanked by low-lying garbage mounds on one side of their entrance. The mounds rise to an average height of about 1 m. Other site characteristics include the occurrence of pot sherds representing Sirikwa/Lanet ware, pottery spouts and handles, crude obsidian implements, bone tools, domestic faunal remains, and structural features in the form of house remains.

Sirikwa culture is believed to have originated shortly after 1000 A.D. and possibly long before (around the seventh century A.D.), and survived up to the eighteenth and nineteenth centuries A.D. It is possible that Sirikwa culture was a development from the Pastoral Neolithic Elmenteitan culture and represented a local transition from the Stone Age to the Iron Age. Several Hyrax Hill Sirikwa sites have been archaeologically studied (e.g., Leakey 1945, Sutton 1987, Kyute 1991b), and it was during the most recent project in 1990 that considerable effort was made to recover floral remains from one of the site's mound deposits. Earlier efforts by Sutton (1987) yielded a few seeds that were poorly carbonised though identifiable to local grass species. Both previous excavations and my own work have yielded large quantities of faunal remains that strongly indicated a pastoral economy, but it is only the 1990 excavations that have led to the recovery of botanical samples sufficient to shed light on possible cultivation or the gathering of wild plants.

The site that was excavated is comprised of both Mound K and Hollow L, and represents the northernmost relic amongst the Sirikwa concentration at Hyrax Hill. The mound covers about 1560 m². Excavations were done largely on the mound part of the site by the author in 1990 by way of exposing six pits (Kyule 1991a). The preferred method of excavation involved the digging of 2 x 2 m pits that were subsequently enlarged owing to the occurrence of structural features, concentrations of artefacts, and faunal remains. Spatially, about 70 m² representing 4.5% of the mound, were excavated in arbitrary levels of 10 cm spits to an average depth of 140 cm below the

ground surface. Amongst the recovered material were some 7,631 animal bones (cattle, sheep, goats, equid, complete dog skeletons, and rodents), 371 obsidian implements, 940.66 g/wt of charcoal, 4 nut shells and 158 pottery sherds. Others include hearths and hearthstones, and structural remains representing hut walls, floors, and collapsed roofs. A total of 108 soil samples were collected from stratigraphic sections in exposed levels and wet screened for the recovery of paleobotanical material.

The recovery procedure involved the sieving of excavated soil through both 5 mm and 1 mm wire meshes on the site. Later, collected soil samples were poured into a bucket and agitated by a mixture of clean tap water that was obtained from the Hyrax Hill site museum and a small proportion of laundry detergent (Omo) added to facilitate the holding up of floated material. By use of a pressure pump, the earth mixed with water was swirled for about 90 seconds. The exercise achieved the floating and holding of light plant remains and other fine materials on the water surface. These were then scooped with a 0.05 mm tea mesh. The residue sank into the bottom of the bucket and was discarded. Scooped material was dried while sandwiched in newspapers that were placed inside closed glass show cases (lent by the site museum) to avoid contamination. Dried samples were then packed in plastic bags and transported to Nairobi (Kenya National Museums Palynology laboratories) for various chemical treatments in preparation for the extraction and mounting of pollen grain samples into slides. These were stained to enhance visibility, identified under the microscope, and then the counting of various types of pollen present in each sample was undertaken. Ten samples representing all levels of the six excavated pits were examined. They yielded a total of 1,394 pollen grains that were enumerated and examined. Grains numbering 268 could not be positively identified to either family, genus, or species. Those identified to any taxonomic level consisted of herbs, trees, shrubs, climbers, legumes, and prostrates.

The relative abundance of the various groups represented can be archaeologically used to reconstruct former vegetation and provide information on ecological adaptation and land use. This will aid in the evaluation of the presence/absence of agriculture, gathering and collecting, and the eventual utilisation of domestic/wild plant resources. Unlike stone and ceramic artifacts and faunal remains, plant remains are among the most fragile of organic materials bearing cultural signatures. Plant remains are rare and their occurrence in the archaeological record is limited. The 1990 Hyrax Hill excavations yielded botanical remains that may have related to food plants, medicinal herbs, and plants used for tool manufacture. The most abundant pollen types were identified to genus and were probably of insignificant subsistence value. Many are grass and shrub types probably representing the then landscape vegetation cover. This was apparently not markedly different from that of today (Hamilton 1982). Tentatively, however, the Hyrax Hill plant evidence is seen as not indicating an agricultural economic base.

Going by other evidence in the form of faunal remains (Kyule 1991b) and to some extent pottery and stone implements (Sutton 1987, Leakey 1945), the pollen evidence can be seen as confirming the absence or very limited role of agriculture in the subsistence patterns of Sirikwa populations. The analysis of faunal remains from the same site has revealed evidence suggesting that pastoralism was the main economic base while hunting and snaring played an insignificant economic role. The pollen evidence, however, adds a new dimension to the picture whereby wild plant resources could have been exploited for various purposes, amongst them being food in the form of fruits, nuts, berries, and tubers. The corresponding absence of indirect agricultural evidence (e.g., in the form of carbonised seeds, grinding stones, mortars, etc.) minimizes further the chances of agricultural activities within Sirikwa cultures. Together with this realization, the attempted pollen analysis provides environmental information about the site and the surrounding areas.

Acknowledgements

The author wishes to thank Mr. Steven Rusina Mathai for the many technical hours that he put in chemical preparation of the samples, extraction and mounting of pollen slides, and microscopic examination and identification of specimens. Invaluable discussions with Dr. Joseph M. Maitima (Head, Museum Palynology Department) and Dr. John E. G. Sutton (Director, British Institute) are highly appreciated. Access to comparative pollen collections, laboratory space and equipment at the National Museums Palynology Department was permitted by the Associate Director for Biological Resources, Prof. Steven Njuguna. I heartily thank Dr. Chris P. Koch for commenting on an earlier draft of this paper.

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Harpoon Evolution on the Spit (GaJi12) at Koobi Fora, Lake Turkana, Kenya

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Several small archaeological occurrences have been eroding from the beach on the south side of Koobi Fora Spit, revealing a stratigraphic succession of occupations during periods when Lake Turkana fell to about its present level. These occurrences demonstrate that harpoons were used extensively during periods of low water and that there is continuous use and stylistic development of harpoon technology well into Iron Age times.

Geologic Structure

The spit at Koobi Fora is composed of interbedded lacustrine and aeolian sediments punctuated by deflation surfaces. Some of these surfaces may collapse up to five meters of sediment and extend over much of the spit, but most represent microcycles of short duration in settings very close to the margin of the lake. LSA, PN, and PIA artifacts occur on many of these surfaces, sometimes as a component of a lag concentrate and sometimes due to occupation of the surface by small groups of people. The basin floor on the south side of the spit is extremely shallow. From 1975 onwards, steady decline of the level of Lake Turkana has been exposing 50 to 100 m of the lake bottom per year. Strong prevailing winds from the south and east have slowly stripped the soft, unprotected sediments

which plants take five to ten years to colonize. This has exposed a series of low-density occupations that are separated both spatially and stratigraphically, the earliest being closest to the spine of the spit, where erosion has proceeded for the longest period, and the most recent emerging just behind the retreating shore line. These occurrences have been documented and collected in conjunction with a mapping exercise undertaken twice annually by the Koobi Fora Field School of Palaeoanthropology.

Archaeological Succession

Period 1. The earliest period is represented by a large, diffuse occurrence that probably represents a palimpsest of very small sites, possibly used for hunting and fishing. The most diagnostic objects are uniserial harpoons and points (Fig. 1, a-c). Though all the same style, these vary in length from 64 to 166 mm, suggesting a range of specific functions. Stone waste and tools, ostrich egg shell, and mammal bone are associated. There are also vast quantities of fish bone, mainly Nile Perch and catfish, but as fish remains are naturally present in all the lacustrine beds, direct association with the archaeological remains is difficult to establish.

Period 2. The second period is represented by a very low density scatter containing a single fragmentary biserial harpoon (Fig. 1, d). It comes from a stratigraphic position just above the position of specimens from Period I and beneath the occurrences of Period 4.

Period 3. Two hundred meters east of the area containing the main series of occurrences, a large area of stone tools and grindstones (upper and lower) was located, already well deflated. No ceramics were observed, but these might not survive long on the surface if they were fiber tempered. At the southern (shoreside) margin of this distribution, where erosion was just beginning to uncover the deposits containing the occurrence, a small biserial harpoon was recovered (Fig. 1, e). The most interesting thing about this harpoon is its shank which is circular in cross-section.

Earlier specimens all have flat-bladed shanks. The only other specimen with a circular shank is an iron harpoon (Fig. 1, g). The Period 3 specimen comes from sediments more recent than those containing Period 2 material, but its exact relationship to Period 4 occurrences can't be determined.

Period 4. The fourth period is represented by a series of small, but fairly dense, occurrences containing Iron Age, fiber-tempered pottery (Fig. 2), occasional flakes and cores, a grindstone, and a wide variety of faunal remains. The main occurrence, which was collected day by day as it eroded, contained Nile Perch, catfish, hippo, cattle, ovicaprid, antelope and crocodile remains. A number of bones, including some from ovicaprids, were found in situ in close association with some of the potsherds (Fig. 2, a-b). Also recovered, but not in situ, was a single crudely made, biserial harpoon (Fig. 1, f) which, unlike the other bone specimens, is relatively unmineralized. This specimen has a flattened shank, but the barbs appear to be whittled rather than ground. It is tempting to believe that this represents the continuation of the bone harpoon tradition into the Iron Age period, perhaps because iron was relatively difficult or expensive to acquire. The ceramics are all fiber tempered. Decorated specimens have bands and panels of grooves and crescentic impressions (Fig. 2). Individual occurrences exhibit different proportions of decorated sherds and, while sample sizes are small, it appears that the frequency of sherds with crescentic impressions may vary substantially from assemblage to assemblage.

Iron Harpoon. An iron harpoon (Fig. 1, g) was recovered on the surface about 20 m northwest of the Iron Age occurrence containing the ceramics and harpoon, and about 10 m east of another Iron Age occurrence. It could be contemporary with these occurrences or date from more recent sediments that overlie these. However, all the overlying beds were lacustrine silts and clayey silts. To come from these, the harpoon would have to have been lost in the lake.

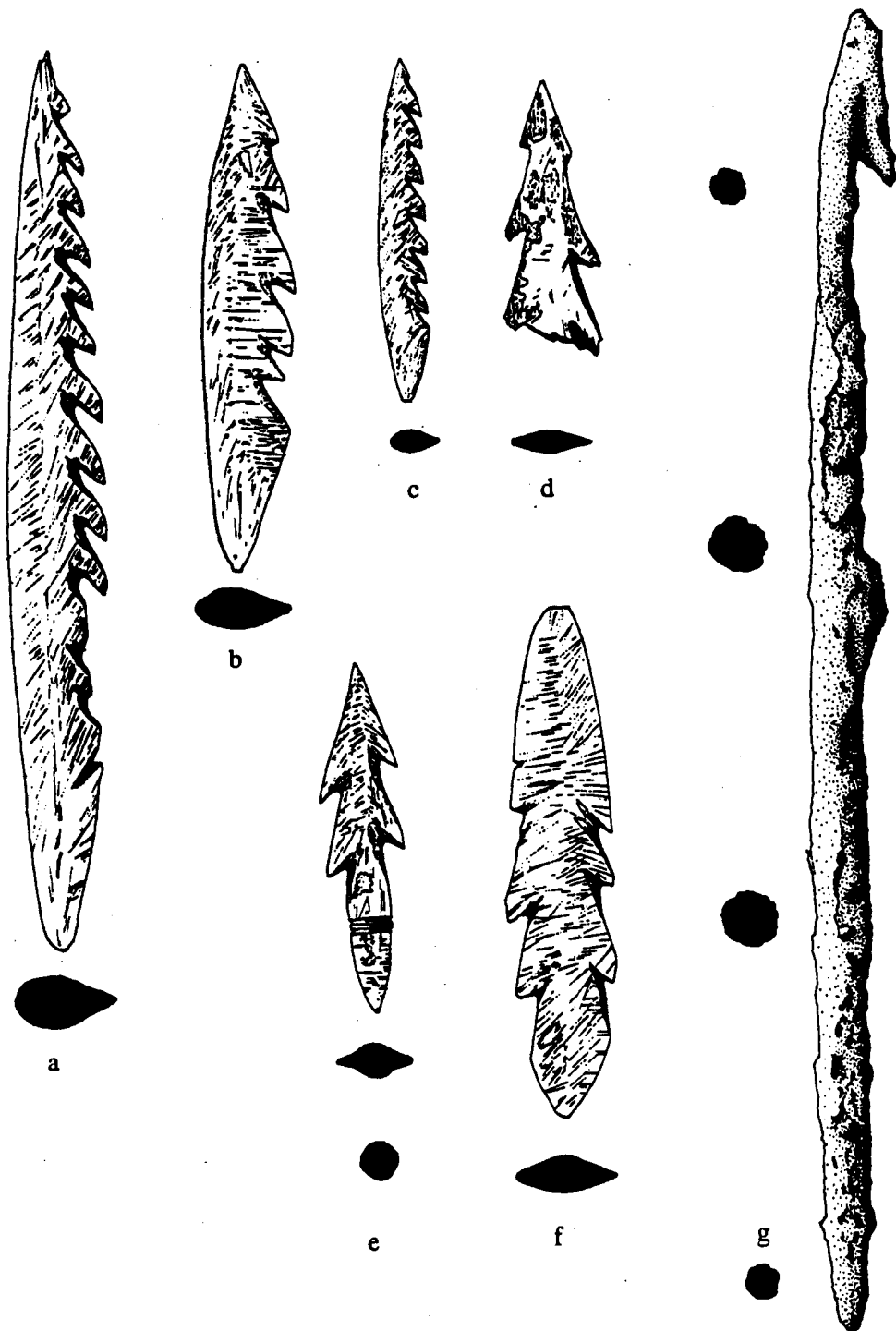


Fig. 1. Harpoons from the spit Koobi Fora (GaJi12).

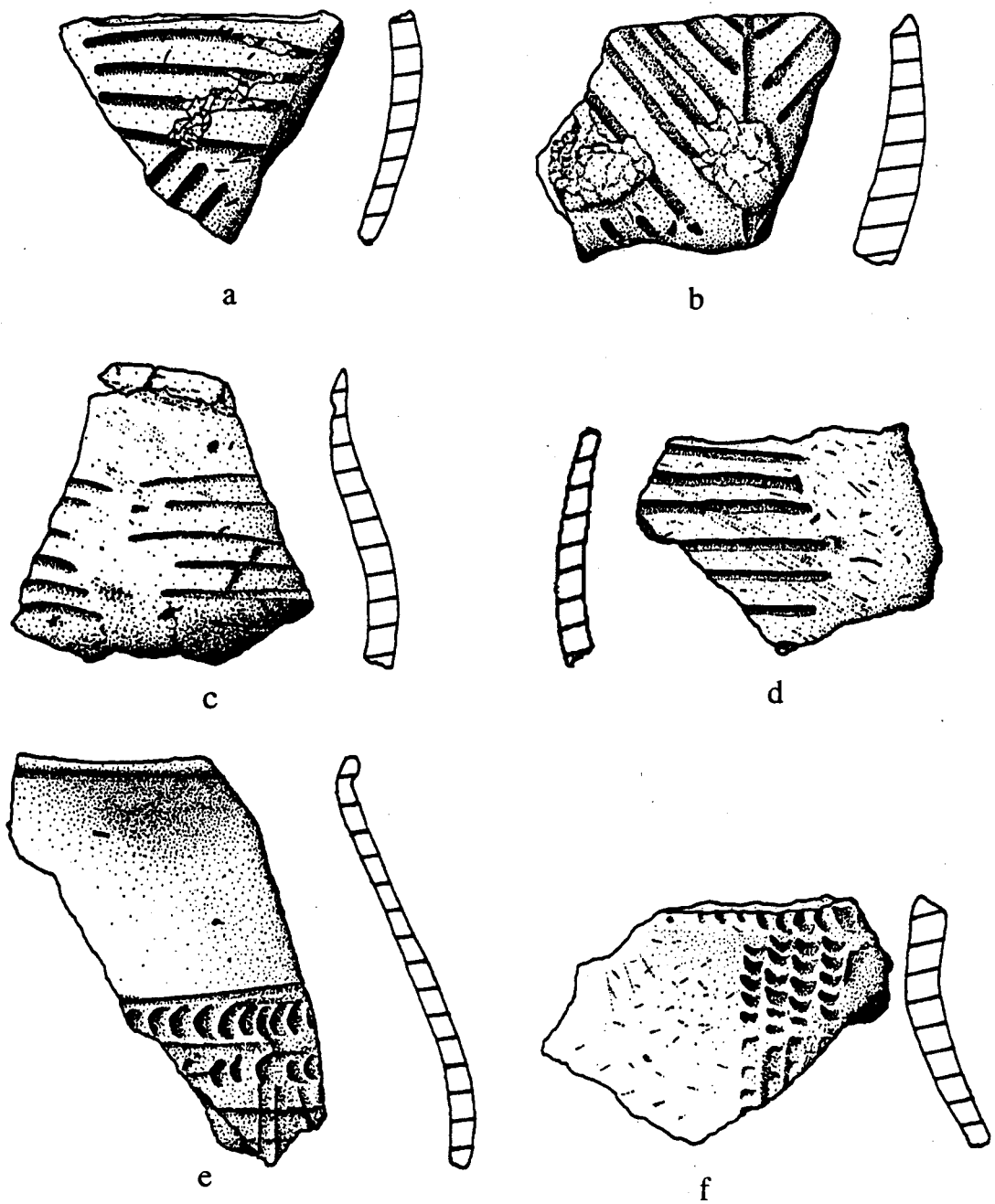


Fig. 2. Fiber-tempered ceramics from GaJi12.

Dating

The succession on Koobi Fora spit remains undated. Mineralization of the bone makes apatite and collagen dating highly problematical, but two of the sherds (Fig. 2, a-b) have sufficient carbonized residue clinging to their exteriors to make accelerator dating feasible.

Significance

The occurrences at Gajil2 establish four important facts. First, Lake Turkana remained an important focus of subsistence activity during periods of low water. Second, harpoon technology and its associated subsistence activities were successfully adapted to low water conditions with only minor changes in the stylistic and functional elements of the harpoons themselves. This may mean that basic subsistence activities were little affected except for frequency, location, and relative contribution to overall subsistence. Third, harpoon technology was in use continuously from the early hunting/fishing period, through the PN, and into PIA times. Fourth, marked variations in harpoon styles from surface occurrences associated with high and intermediate lake stands can be attributed in part to changes in style during periods of low water.

Acknowledgements

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■ **RWANDA**

Excavations at Ryamurari, Northeast Rwanda

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Ryamurari was brought to the attention of archaeologists by the anthropologist J. Friedman. Exploratory investigations conducted by Van Noten followed and yielded material indicating that the site was occupied by pastoralists between the seventeenth and the beginning of the present century (Van Noten 1977-78). The rich archaeological potential of the site revealed by these test excavations prompted further investigations undertaken by this writer between 1980 and 1981 in pursuit of three main goals: (1) to make a complete survey of the site and the earthworks within it; (2) to excavate the earthworks to recover extensive data upon which to reconstruct the material culture, the cultural sequence, the economy, and the organisation of the site; and (3) to assess the historical significance of the data: Do they confirm or invalidate the oral traditions portraying the site as the residence of former rulers of Ndorwa-Mpororo and, ipso facto, according to the interlacustrine states' political traditions (Mworoha 1977: 117), as the capital of the state at that time?

Site Location

The site is located between 1° 15' and 1° 30' latitude south and 30° 30' and 30° 15' longitude east (Fig. 1). It covers approximately 50 hectares of the flat-topped Mukama hill on the left bank of the Kagitumba river between its tributaries Ngoma and Nyakajeje in the Commune Muvumba, Byumba Prefecture, in the Mutara plain region of northeast Rwanda (Fig. 1); the hill is approximately 1500 m above sea level.

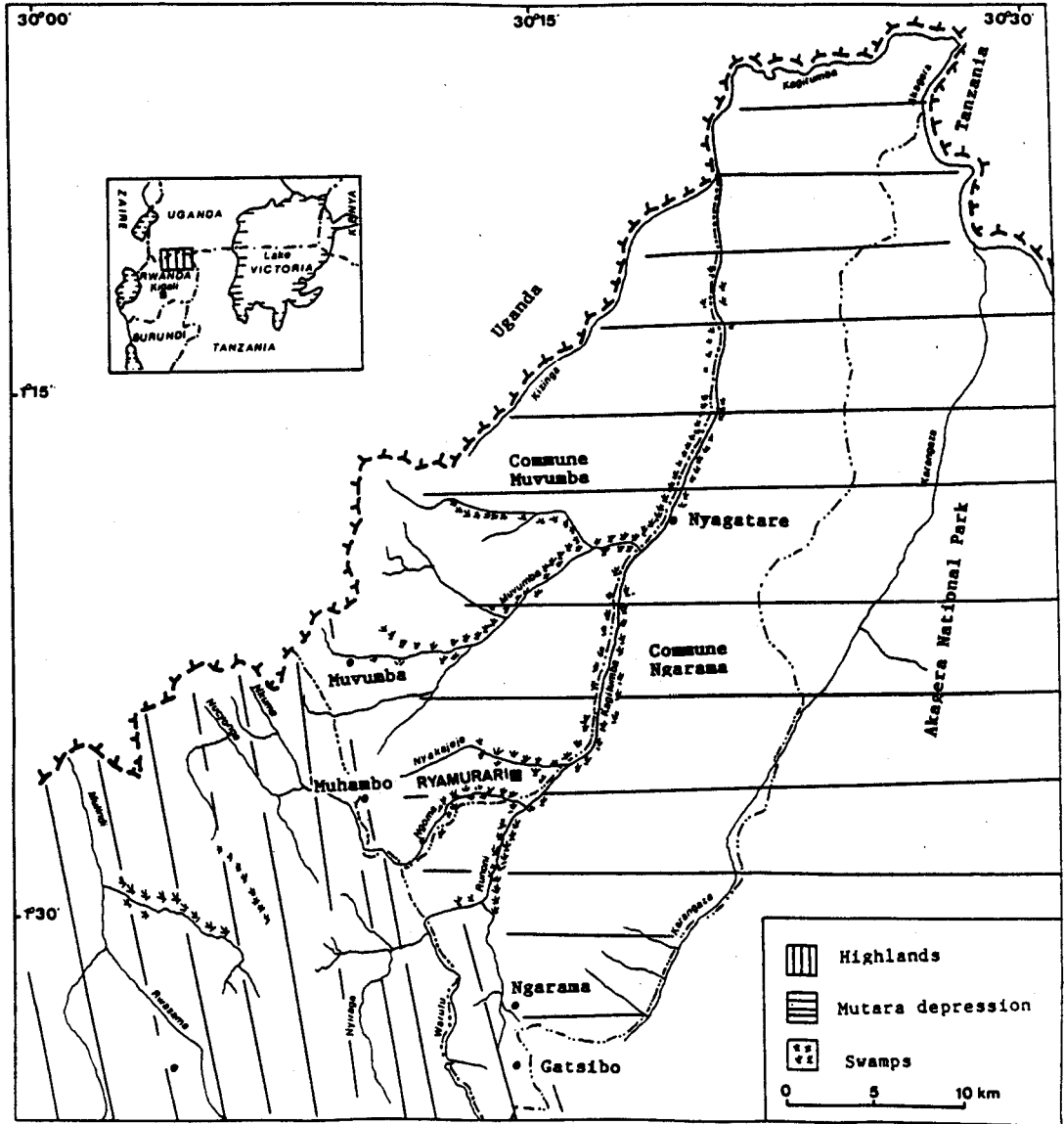


Fig. 1. Location of Ryamurari.

Site Description

The earthworks at Ryamurari consist of more or less oval depressions, banks, and hollows spread over the top of Mukama hill. The earthworks cluster in two distinct complexes: one to the northeast and the other to the southwest of the site. Most depressions are flanked by banks with which, following observations made at present and recently abandoned settlements of the region's cattle keepers, the Hima, they formed residential enclosures (hereafter designated E.); hollows are also surrounded by banks that are made up of the upcast generated in their digging; locally these are known as water cisterns (hereafter designated C.). There are three hollows and 23 enclosures.

The hollows are roughly circular, between 1.00 m and 2.50 m deep, with banks up to 2.70 m high. The diameter between the ridge of the banks varies between 6 m and 8 m, that on the bottom between 4 m and 6 m. Two hollows, C. 2 and C. 3, are close to each other and are located in the southwest complex; the other, C. 1, is in the northeast complex. The banks of each hollow have breaks giving access to the inner side of the structure. One such gap is in the banks of C. 1 and C. 2 and three are in C. 3. A large slab of granite containing several weathering holes of various dimensions covers the bottom of C. 1 and C. 3.

The 23 depressions that, in association with groups of two or three banks, make up enclosures are the most characteristic features of Ryamurari; they have openings formed by breaks between banks. In all, there are fourteen banks, which are more or less crescent-shaped and seldom more than 2.50 m high. The largest enclosure, E. II, is 48 m by 46.96 m across and consists of one low bank and two large ones that are up to 2.50 m high, 35 m and 37 m long, respectively. By its large size alone, the Hima of northern Rwanda interpreted it as "ekykari": the royal enclosure that would normally be in the centre of the settlement surrounded by other enclosures. Though located in the northeast complex of the site, it nevertheless occupies a central position among nearby enclosures: all the enclosures in the

northeast complex are much larger than those in the southwest group.

Excavation

Trenches were dug across the banks of hollows (C. 1, C. 2, and C. 3) and enclosures (E. I, E. II, and E. III) in order to establish the nature of these structures and the relationship between them; other trenches and a series of test pits were dug across enclosure E. II in the inside area close to the banks, near and across the gaps between banks, to find out if there were remains of huts and postholes of gates and fences.

A trench was opened across the banks of each hollow. The greyish earth, mixed with gravel and particles of quartz, quartzite, feldspar, and mica, of which these banks are made, is devoid of occupation debris. This, and the fact that banks are located immediately around hollows, indicates that they consist of rubble thrown out in the digging of hollows that stopped when the granitic mass forming the bottom was reached. Local oral traditions describe the hollows as water cisterns or drinking troughs for cattle. At first sight the proximity of three rivers (Fig. 1) would preclude the need to dig water cisterns on the site. However, during the rainy season access to nearby rivers becomes difficult because of intervening mud and swamps. And, following heavy rains, the large cavities in the granitic mass on the bottom of C. 1 and C. 3 held a substantial amount of rainwater that could be used for both human and animal consumption. At least C. 1 and C. 3 were thus probably dug for use as water cisterns. Current local practices support this suggestion: at about 10 km from the site, the people of Rukomo use the rainwater held in large hollows found in a granitic outcrop called "Rutare rwa Rukomo" instead of drawing water from the nearby Kagitumba River, difficult to reach during the rainy season for reasons previously mentioned.

The excavation of enclosures concentrated on the largest enclosure, E. II. A trench 2 m wide and 14 m long was cut through the enclosure's bank at its highest and widest point. The aim was to expose a

long stratigraphic sequence with sufficient breadth of excavation to include several features and yield a substantial amount of cultural material. The stratigraphy consists of the accumulation of material deposited by occupants of the enclosure and by natural agents. Three occupation phases were identified.

The first phase precedes the erection of banks; pottery is rare; most of the remains consist of decomposed cattle dung, bones, and ashes suggesting a settlement by a predominantly pastoral people. Inclusion of both large and small blocks of granite in the erection of the banks distinguishes the second occupation. That these blocks were intentionally transported by man and not found *in situ* and put to an *ad hoc* use is proven by the freshness of their fractures, suggesting that they were deliberately cut from much larger specimens in order to add height to the accumulations of earth and dung, or to stabilise them.

With the exception of the use of blocks of granite, the erection of the banks around the enclosures is reminiscent of the present Bahima practice of piling earth, dung, and various domestic debris against a thorn bush fence, with huts being built on the inner side of the heap.

Three test pits were dug across the enclosure and one outside it in order to gather more data on the erection of the banks. They confirmed that, as the dishlike shape of the enclosure suggested, the earth for the banks was initially scraped from the area within them. This is indicated by the fact that the soil profile of the area within the banks is comparatively less thick than that of areas outside them. No postholes for dwellings or fences were exposed.

Finds

A substantial amount of material was recovered, which can be divided into seven categories:

Pottery. Ceramic vessels are represented by large quantities of potsherds often decorated with knotted strip and twisted string roulettes typical of the Later Iron Age of the interlacustrine region (Soper 1985). Both the "fine" and "coarse" variants

of this pottery (Shinnie 1960) are present in the assemblage.

The same basic types of pottery are still being made and sold locally by the Batwa living in the hills near Gatsibo south of Ryamurari and by the Bakiga of Muhambo hills to the west of the site. I was told by the users of the pottery that the demand for locally made earthenware is high because the qualities and flavours of whatever produce is stored, cooked, or served in these vessels are preserved better than in their Western-style equivalents. In view of many general similarities between the past and present economic behaviour in the area, it is conceivable that the production of pottery observed at present in the Gatsibo and Muhambo hills together with the trading network based on it, goes back to the Later Iron Age and may account, at least partially, for the presence of roulette-decorated pottery at Ryamurari and, more generally, for its conspicuous distribution in the dry parts of the Mutara plain that lack good clay sources and have no known tradition of pot-making.

Stone Artefacts. Two kinds of grindstones were recovered: (1) *ingasire* (lower grindstones) and (2) *intosho* (upper grindstones). Similar artefacts can be seen in common use in the Ryamurari area for grinding grains and medicinal plants, as well as for sharpening iron implements.

Iron Artefacts. Fragments of iron objects (spear head, knife blade, bracelet, needles) were found in an advanced state of decay. Small lumps of iron slag and tuyere fragments suggest that iron smelting occurred on the site.

Clay Pipes. Fragments of pipe bowls and stem sockets represent sixteen pipes comprising two types: waterpipes and elbow-bend pipes. The first type is found mainly in eastern, central, and southern Africa where it is ethnographically associated with the smoking of cannabis. The second type is ubiquitous throughout Africa, and is historically associated with the spread of tobacco smoking from the New World through European and Arab contacts after c. 1600 (Philips 1983: 304).

Ornaments. This category comprises bone beads, elephant ivory beads, warthog ivory pendant, and glass beads. The glass beads attest to long-distance contacts with the East African coast before the nineteenth century.

Games. These are represented by spheroid pebbles used as ad hoc pieces for playing *igisoro*, the interlacustrine variant of a board game conventionally known in the anthropological literature by the Arabic term *Mankala*. *Igisoro* is considered to be the most intricate and mathematically the most complex variant of this game (Townshend 1979: 110).

Faunal Remains. The faunal assemblage comprises some 5,000 bones. The bulk of identifiable specimens were ascribed to domestic cattle that, on the basis of the morphology of well-preserved skull and horn-core fragments, were attributed to the Ankole breed. The Ankole are long-horned Sanga cattle herded in the interlacustrine region by, amongst other peoples, the Bahima, Banyarwanda, and Barundi. The assemblage also contains a posterior thoracic vertebra with a bifid neural spine—a characteristic feature of *B. indicus* breeds (see discussion in Mason and Maule 1960)—which can be tentatively taken to indicate the expansion of humped cattle in the Ryamurari region from the Eastern Rift Valley areas where the herding of this type of cattle has a long history (Marshall 1989).

Interpretations and Conclusions: Archaeology and Oral Traditions at Ryamurari

The large amount of potsherds and grindstones, and the high proportion of domestic cattle bones indicate a mixed economy based on agriculture and cattle-keeping. The extensive size of the site, together with the complexity and large numbers of earthwork structures within it suggest a large population. In an area where small, scattered settlements devoted exclusively to either farming or herding were typical, such a large agglomeration of herdsmen and cultivators must have stamped Ryamurari as a unique settlement. The distinctiveness of the site is also brought

out by its continuity of settlement throughout three occupation phases in contrast to the area's general pattern of shifting settlement. Thus, all the material evidence pointing to the specific character of the site substantiates the oral traditions which describe it as the royal court (or capital) of former rulers of the kingdom of Ndorwa-Mpororo.

As many archaeologists have demonstrated (Schmidt 1975: 127–29), when the testimony of oral traditions and that of archaeological investigations concur, the historicity of the fact, cultural event, or phenomenon concerned is confirmed. At Ryamurari linkages between oral traditions and archaeological findings occur in many aspects. For example, the three phases of occupation revealed in the largest enclosure (E. II) correlate with the findings of toponymy, which show that in folk tales and ritual incantations (for a critical assessment of these types of oral traditions as historical sources, see Vansina 1973: 144–82) the location of the royal court is known under three different names (Mukama, Mu Bitabo bya Gahaya, and Ryamurari.) Another example is provided by the distribution of earthworks into two complexes differentiated by the number, size, and complexity of their earthworks. This differentiation corroborates local traditions contending that the northeast complex, with several large and complex enclosures, was the royal quarters, whereas the southwest complex, characterised by a small number of enclosures of modest dimensions, constituted the servants' quarters.

Altogether, in form (size of the settlement and continuity of its occupation), in function (as a political centre), in the diversity of its economic basis (agriculture and cattle-keeping) and in the heterogeneity of its population (farmers, herdsmen, craftsmen), Ryamurari qualifies to be categorized as a town (Tshihiluka 1983: 23–24), which in terms of the above basic characteristics of urbanism compared well with precolonial towns of West Africa (see discussion of precolonial towns in Sub-Saharan Africa in Hull 1976 and Connah 1987). Several extensive earthwork sites found in western Uganda (e.g., Kibengo,

Munsa, Bigo, Masaka Hill, Mubende Hill, Ntusi, Bweyore; see comprehensive surveys in Lannin 1953; Morris 1956; Oliver 1959) and mentioned in oral traditions as capitals of former states share these features. Thus, there is evidence indicating that an indigenous urban pattern emerged in the interior of East Africa without the stimulation of the Indian Ocean trade organised from the coastal city-states (Kilwa, Mombasa, Zanzibar), or that of the expansion of European colonisation, as is often stated in the historiography of the region.

Acknowledgements

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■ SOUTH AFRICA

Living off the Fat of the Land: Resource Exploitation at Kasteelberg, Southwestern Cape, South Africa

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Analysis of the faunal remains from Kasteelberg (Smith 1987, Klein and Cruz-Urbe 1989) (Fig. 1) shows that this site was occupied by prehistoric herders. Although the numbers of domestic sheep are high, at the Kasteelberg "B" (KBB) site they are not as great as those of seals. The percentages of seals from the top levels of KBB, dated to c 900 BP, are 69%; from the lower units so far analyzed (c. 1300 BP), they comprise 58%. At the upper site of KBA (c. 1800 BP) they are somewhat less, 38%.

What this indicates is that the herders were focussing a considerable amount of their energy on the retrieval of seals. Meat was not the only important resource to be obtained. Fat was equally, if not more important for historic herders, who rubbed it on the body mixed with ochre. The value of this to the Khoi as a symbol of wealth and well-being can be inferred from the following description of the Cochoqua chief, Dedasoa, in the Company's Dagboek recording for October 30, 1658:

Like all the Hottentots he was dressed in skins and so besmeared that the fat ran down his body, which was the highest mark of distinction (Thom 1952).

A clue to this activity at Kasteelberg comes from the large number of grinding grooves in the granite bedrock, as well as portable grooved stones found in excavation. Those excavated, like their upper grindstone counterparts, were all ochre-stained, and throughout the sequence

small iron oxide pebbles were recovered. The ochre and fat mixture was probably also rubbed onto the skin karosses of the herders to keep them supple.

Gas chromatographic analysis of residues on ceramics from KBB indicated that marine mammal fat was being cooked in the pots, and one of the fatty acids even suggested that the brains of these animals were put in too (Patrick et al. 1985).

Seals were not the only source of fat available at the coast. Whales would have produced even larger quantities. Elsewhere I have looked at the problem of underrepresentation of whales on coastal sites, even where we know there were people living in whalebone structures (Smith and Kinahan 1984).

Close to Kasteelberg is a cetacean "trap" where many whales and dolphins have stranded in the last fifty years. Current thinking and research has offered a number of different mechanisms for live stranding of whales and dolphins (Warsig, 1989). One of those is that they use the earth's magnetic field to navigate (Weisburd 1984, Kirschvink et al. 1986). Live stranding of these animals apparently occurs where magnetic minima cross the coastline near offshore islands (Klinowska 1986, 1987), in some way interfering with the animals' ability to stay on course. These are exactly the conditions that pertain at St. Helena Bay, within 12 km of Kasteelberg (Fig. 1). While anomalies in the Earth's magnetic field might vary over the long term, there is little doubt that the present conditions would have closely approximated those to be found over the last 2,000 years, especially as the magnetic structure is probably tied up with phyllite shales of the Malmesbury formation where they abut the Vredenburg granites. Thus whales from irregular mass strandings would have been available for use by the occupants of Kasteelberg, especially if, as we think, the possible season of occupation of the site was spring (August to October), which would have coincided with the period when the animals pass along the coast. The question is, how do you process and preserve a washup of large quantities of meat?

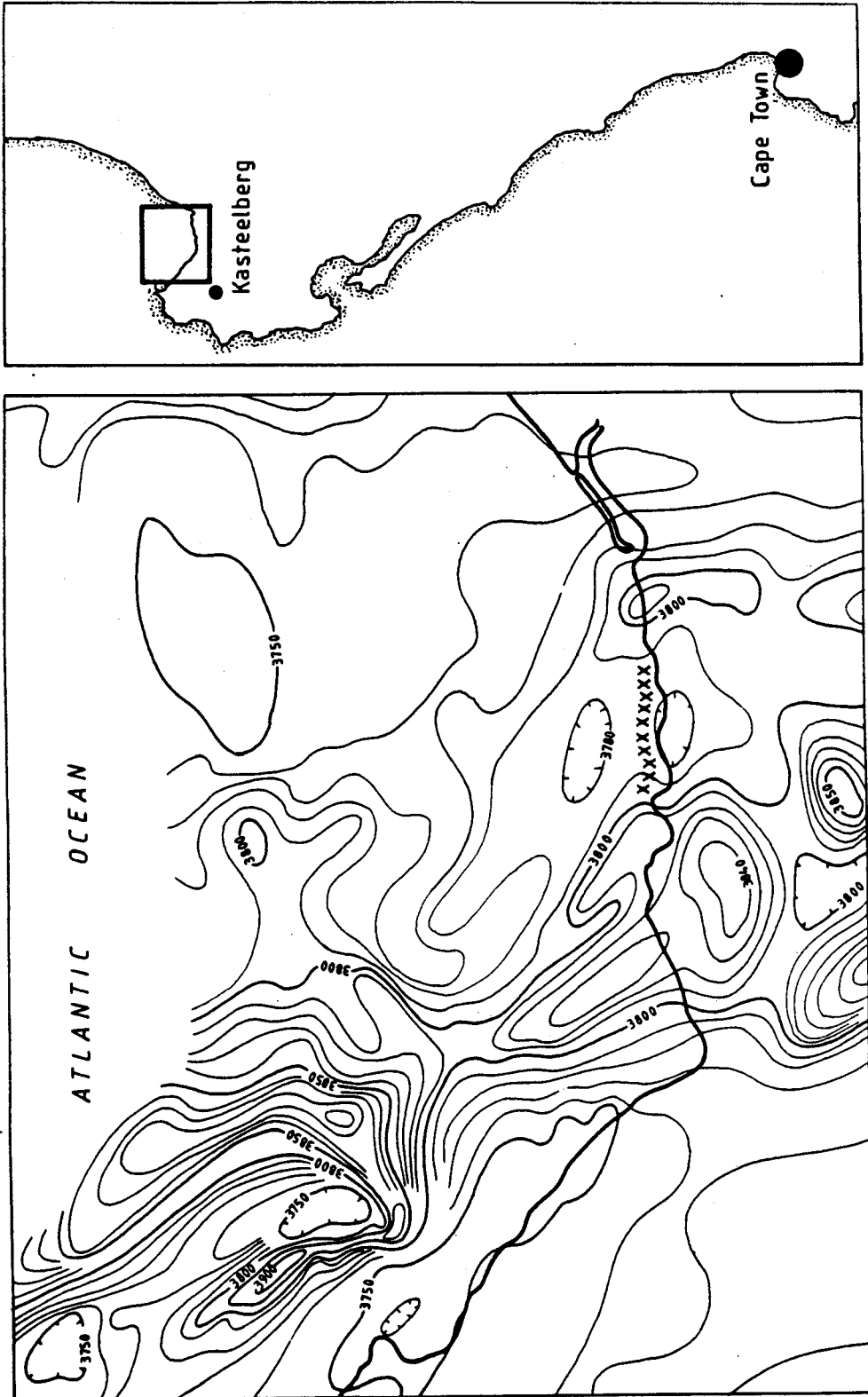


Fig. 1. Mass strandings of whales along shore of St. Helena Bay (X = stranding site).

There are references in the early historical record of Khoikhoi to cutting up whale meat and burying it in the sand (Thom 1954, Raven-Hart 1970). We decided to find out how effective this method might be. With the help of the Marine Mammal division of Sea Fisheries we obtained access to freshly killed seal carcasses and buried chunks of the meat in the sand of the west coast of Cape Point Reserve. We put samples at different levels of the beach and went back at regular intervals of up to 35 days to see how the meat was faring, and to have samples analysed by the Fishing Industry Research Institute. Our preliminary results of this analysis have shown that autosterility takes place in about 3 weeks (i.e., dropping bacterial counts), but shortly after this enzymatic breakdown occurs, and the structure of the meat turns to mush (Smith et al. in press). At no time do the toxic levels rise to where they would kill a human, mainly because the levels of *Clostridium botulinum* are very low, or nonexistent in South African soils (Knock 1952). The biggest problem to overcome is the smell. There is no doubt that this is culturally conditioned. Comments by early European visitors to the Cape make it clear that the Khoikhoi were not at all repelled by odours which kept Europeans away. As John Jourdain wrote in 1608:

And having brought our boates laden with these seales, we cutt the fatt from them for oyle, and the rest was throwne a good distannce from the tents because of noysomnes; upon which fish the Saldanians fed very hartilie on, after it had lyen in a heap 15 daies, that noe Christian could abide to come within a myle of itt. Notwithstanding the loathsomnes of the smell, these people would eate of it as if it had been better meate, and would not take of that which laye upon the topp, which were the sweetest, but would search under for those which were most rotten, and laye it on the coales without any ceremonyes of washings; and being a little scorched with the fire, would eat it with a good stomache (Raven-Hart 1969).

Another means of preserving meat is, of course, to dry it (Budack 1977), but this means it has to be cut in relatively thin strips for it to dry properly, a very labour-

intensive activity. Only a limited quantity of any large animal could be preserved, even if the foragers moved into the carcass and ate their way out of it.

Assuming these techniques solved some of the Khoi's storage problems, they could then extend their activities within the fat-collecting territory, or minimize the amount of time needed to be at the beach procuring marine mammals. This would give them the opportunity to be involved in other social activities.

What evidence is there for such activities? Richard Klein, in his analysis of the faunal remains, remarked on the unusually high number of mongoose bones represented. We are fortunate to have some early notes on the Khoi from Namqualand by Col. Robt. Gordon, who in 1779 described a number of ritual slaughters of stock. One of these is "women's slaughter." When a woman kills an animal she must wear a piece of mongoose skin on her head (Smith and Pfeiffer in press).

Another clue to ritual activity came from the discovery of a small lamb skeleton found in a shallow pit in the excavations of KBB. These bones were covered in ochre, while all the other bones in the immediate vicinity were not ochre-stained. It would seem that the lamb would have to have been wrapped in something, like a skin, to prevent the ochre being taken up by the other bones before the lamb's flesh had disappeared.

Ochre was, therefore, in all probability being used for more than purely decorative purposes. It is difficult to estimate the quantities of ochre that had been processed at the site. We thought we could get some idea by seeing how long it would take to create a groove in a hard rock. To this end Margaret Jacobson (1990) asked her Himba friends in Kaokoland to use one grindstone, and keep track of the amount of ochre being ground. This has only partially been successful, since these people move around and the stone keeps getting mislaid and found again. However, at the 40 women/hour usage point there was no visible dent in the rock. This means the Kasteelberg grooves must represent a very long period of usage indeed.

These are some of the clues indicating Kasteelberg was an important focal point for social activities. We can also speculate that the fact the site was re-occupied intensively over a period of several centuries suggests that the place itself had some kind of importance beyond its economic advantages of being near the coast, and being able to live off the fat of the land.

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■ SUDAN

The University of Geneva Archaeological Mission to Kerma: Preliminary Report Following the 1990–91 Campaign

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Excavations at Kerma were carried out by the Swiss Archaeological Mission to the Sudan between 8 December 1990 and 1 February 1991. Unfortunately, serious illness overtook several members of the Mission and after 25 December the number of workman had to be reduced from 100 to 25. The workman were led by the *rais* of Tabo, Gad Abdallah and Saleh Melieh. The problems caused by illness also necessitated the abandonment of the work planned on the eastern necropolis.

Rescue excavations in the modern town were important in giving us new insights into the final stages of the Kerma culture. Remains of a vast residential building, perhaps a palace, were discovered. This should be compared with other monuments built after the conquest of the area by the Pharaohs of the eighteenth Dynasty. Conservation of the architectural remains will allow visitors to see these very impressive ruins of the final Kerma period.

Our excavation programme concentrated on the northwest quarter of the ancient town, where well-preserved houses gave us information not only on the architecture of this area but also on aspects of daily life.

The *Beit El Shetan* (Devil's House) Monument

Our attention was first drawn to the building known to the local inhabitants as the "Devil's House" nearly seventeen years

ago, when it had just been destroyed by a fire and we noticed very substantial stone foundations in the ruins. Since the initial fire, others had broken out and the owners had decided to clean up the site, which had become a rubbish dump, thus giving us the chance to undertake a systematic excavation.

The structures uncovered belonged to a building with very thick walls (1.90 m); reconstructed, the central part must have measured at least 26 m long by 10 m wide. There were three large rooms (5 m x 7 m), above which must have been another floor. In the central room, a shallow well was surrounded by a low wall. Against the main structure, on the southwest, were narrow, elongated storerooms that no doubt belonged to an earlier phase. Several fragments of seal impressions testified to the importance of the objects that had been kept here, and also to the particular role played by the inhabitants of the building.

Large beads of faïence, vitrified quartz and cornelian found in the construction levels of the building were almost certainly the remains of a votive deposit. The whole complex seems to have been the centre of a residence of which the part belonging to the outbuildings had disappeared. Postholes and granaries, containing sherds of ancient and middle Kerma date, showed that the stone building had replaced an earlier structure.

The Ancient Town

A study was made of twelve houses in the northwestern quarter of the ancient town. While all were dated to the middle Kerma period they had very diverse plans. There were single room houses, houses with two adjacent rooms and one example that had three rooms forming a rectangular block. The traditional plan was of a central courtyard dividing the two main parts of the building. House 100 had this plan, but its exterior courtyard had a curious triangular form. The wide enclosure wall, which had been rebuilt several times, followed first an irregular and sinuous path, then became more rectilinear. Its western end terminated in an unusual apsidal building that opened into the courtyard. The building's entrance

was ornamented with two flanking pillars, beside which were the postholes of a more flimsy closure. The roof had been supported by a central post. The floor of the apse had originally been carefully covered with a wash of red ochre. The floor contained traces of stakes, whose function could not be ascertained.

After careful study of this building, we interpreted it as a place for meetings and cult activities. Even today, family members will meet each evening in a building (*el messiid*) set slightly apart from their house, in order to discuss their problems and to pray.

The Meroitic Cemetery of the Ancient Town

Remains of mud brick pyramids were discovered for the first time at Kerma. The three that were found had square foundations with sides of, respectively, 3 m, 4.5 m and 9 m. Access to the funerary chambers was by means of a descending passage leading to a door in a large wall. The burial chambers were fairly large and vaulted. Several holes made by tomb robbers were found at the corners of the pyramids and explained the almost complete absence of finds. The only remains were fragments of jars found in the fill, which gave a date to the tombs of between the end of the first century B.C. and the first century A.D.

It must be stressed that the robbing of the Meroitic tombs varies greatly in extent from one tomb to another. It seems likely that these three tombs had once contained a rich assemblage of grave goods, since even the human remains had been removed.

■ **TANZANIA**

Paleoanthropological Exploration in the Manonga Valley, Northern Tanzania

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The Wembere-Manonga Paleontological Expedition (WMPE) initiated a paleoanthropological field program in the Manonga Valley of northern Tanzania during the summer of 1990. The geographical location of the research area is depicted in Figures 1 and 2. The aim of the expedition was to explore the potential of the area for future paleontological and archeological research relating to the earliest stages of human evolution. This paper provides a preliminary account of the paleontological and geological investigations that were conducted in the Manonga Valley during August of 1990.

Fossil sites in the Manonga Valley were first discovered at the site of Tinde by Grace and Stockley during the late 1920s (Grace and Stockley 1930). The fossiliferous deposits at the site were referred to in initial reports as the Tinde Bone Beds (Stockley 1929, Grace and Stockley 1930). Hopwood (1931) published a brief note describing the early collections of fossil mammals from the Manonga Valley, and based on his study of a jaw fragment of a primitive elephantid, Hopwood estimated that the site was equivalent in age to that of the Kaise Formation in Uganda (i.e., Pliocene in age). A similar fossil assemblage to that found at Tinde was later reported from the locality of Kiloleli, just to the north of Tinde (Williams and Eades 1938, Quennell et al. 1956), but no details of the fauna were provided. In 1959, Kleindienst and Haldemann carried out a brief geological survey at Tinde and Kiloleli, during which time they collected additional

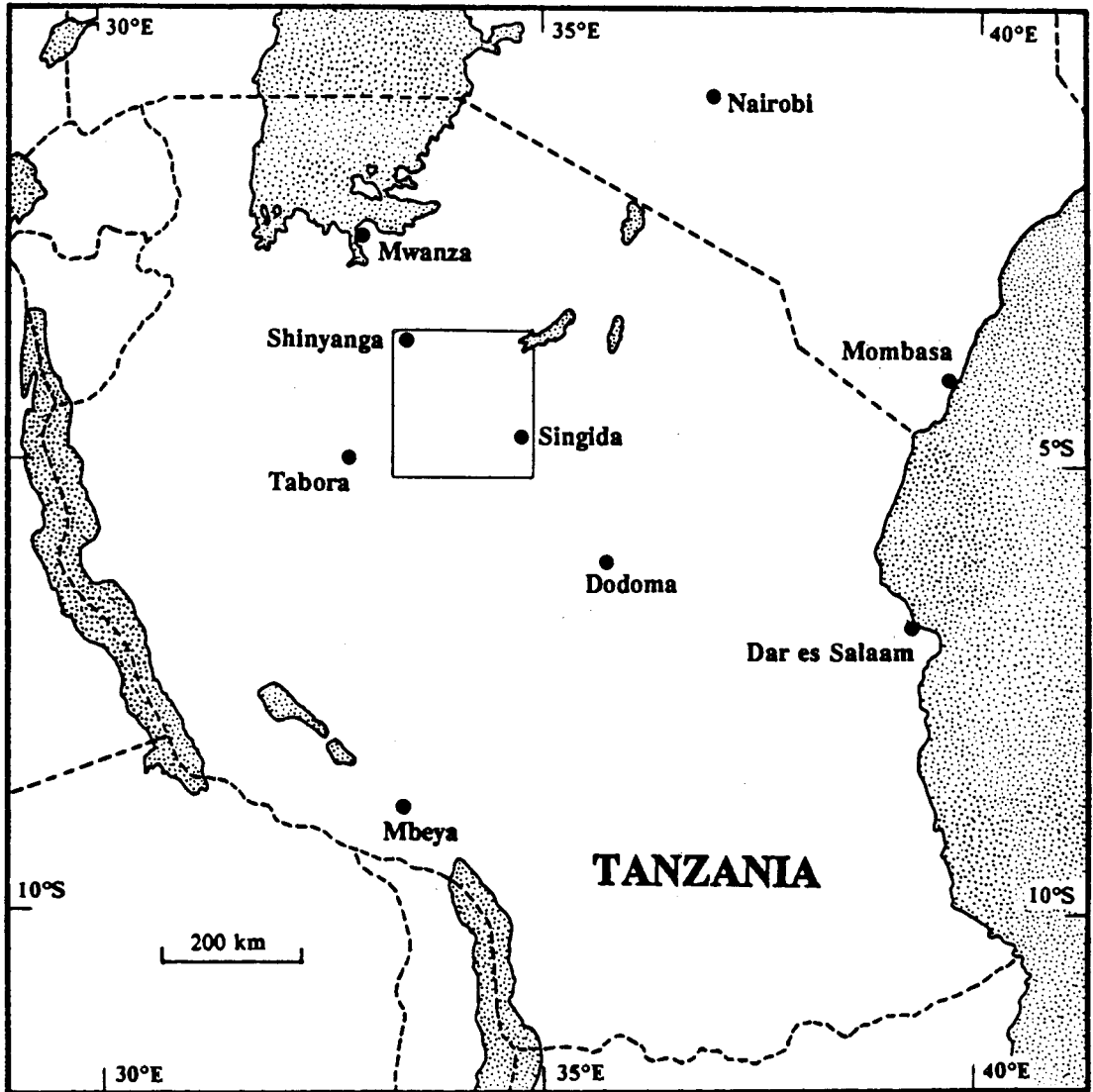


Fig. 1. Map of Tanzania showing the location of the research area (see Fig. 2 for detail of inset).

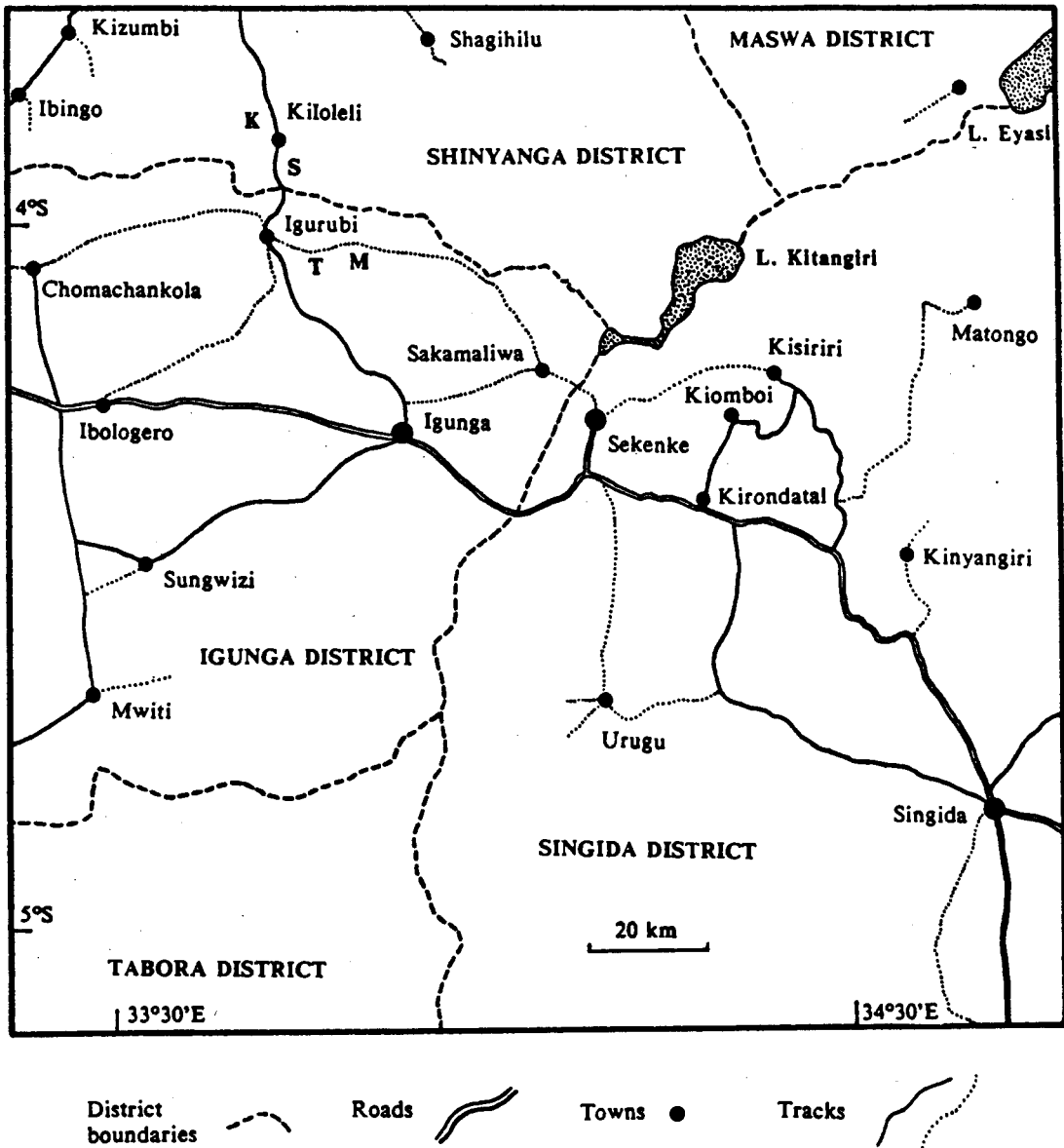


Fig. 2. Detailed map of the research area in northern Tanzania. Fossil sites: K, Kiloleli; M, Mwambiti; S, Shoshamagai; T, Tinde.

fossils. They also recovered fossils to the east of Tinde, at a locality called Nyawa. More recently, in 1976 Philip Leakey and Mark Monahan visited Tinde and made a small paleontological collection (Mary Leakey, personal communication).

The main objective of the 1990 exploratory expedition was to investigate the potential of the fossil localities in the region for further paleontological and paleoanthropological research. The expedition was able to relocate the previously recorded sites of Tinde and Kiloleli (probably corresponding to WMPE locality Kiloleli 2). In addition, three further sites were discovered in the Kiloleli area (Kiloleli 1, 3, and 4), as well as several sites at Shoshamagai (Shoshamagai 1 and 2) and Mwambiti (Mwambiti 1 and 2). Many of the localities proved to be richly fossiliferous, especially those at Tinde and Kiloleli, and the expedition succeeded in recovering thousands of fossil vertebrates, including over 800 taxonomically identifiable mammals. The estimated late Miocene to late Pliocene age of the sites (c 6–3 Ma), in conjunction with their close geographical proximity to other major hominid-bearing localities, makes the Manonga Valley a region of great potential importance for the study of human origins.

The Geological Context

During the Tertiary, the Precambrian basement covering most of the area west of Singida was subject to peneplanation. This resulted in the accumulation in shallow depressions of extensive deposits of terrestrial sands and gravels (Eades and Reeve 1938, Williams and Eades 1938). The erosional cycle continued to mature throughout the Tertiary, eventually resulting in a terrain of relatively uniform topography. The major elevated features were low, rounded, and isolated monadnocks that were formed from the more resistant Precambrian outcrops (Williams 1939).

By the close of the Miocene, crustal instability, associated with the initiation of regional rifting, led to the warping of the basement complex. This produced a

shallow, but extensive lake basin in the Manonga depression (Stockley 1929, Williams and Eades 1938). The Precambrian hillocks of the Tertiary peneplain remained sufficiently elevated to form a complex of small, low-lying islands on the lake. During the late Miocene and Pliocene, fine calcareous lake sediments were deposited towards the center of the basin, while coarser sandy and pebbly facies were produced along the gently graded shoreline (Eades 1936, Williams and Eades 1938, Williams 1939). These Mio-Pliocene lake deposits preserve the fossilized remains of vertebrates and invertebrates that lived around the lake shore during the Neogene.

During the Pleistocene, the Lake Eyasi graben and the Wembere graben to the east of the Manonga depression were initiated by continued tectonic activity of the Gregory Rift. As a consequence, Lake Manonga drained towards the northeast into the deeper Eyasi trough (Williams and Eades 1938, Williams, 1939).

Since the Pleistocene, erosion of the underlying Neogene sediments has been active. A broad, shallow valley about 10–20 km wide, and bordered by low cliffs up to 20 m in height, has been cut in an east-west direction through the Manonga depression. The valley has a low topography, ranging in elevation from 1000 m to 1200 m. The presence of a number of low hills, formed by persistent remnants of the Precambrian basement, has created a slightly undulating surface to the general area. Formation of the valley was initiated by the action of the ephemeral Manonga River, but its continued retreat is due to active erosion at the free faces of the cliffs by heavy seasonal rainfall. These actively eroding cliff faces provide the main exposures of the Neogene lake sediments in the Manonga Valley today, and they are associated with the most productive fossil localities.

Paleontological Sites in the Manonga Valley

During 1990, about 15 km² of the Manonga Valley was prospected. Based on evidence from aerial photographs and from a preliminary reconnaissance of the area,

this probably represents less than 1% of the estimated total potentially productive exposures of the Manonga Lake beds. Nevertheless, WMPE recovered vertebrate fossils from ten different localities at Tinde, Killeli, Shoshamagai and Mwambiti.

Tinde

The site of Tinde, first described by Stockley (1929) and Grace and Stockley (1930), is located in Igunga District, Tabora Region, 7 km southeast of the village of Igurubi (Fig. 2). It is situated in the center of the Manonga depression, about 10 km south of the Manonga River. The site consists of two low bluffs (less than 10 m high) separated by a narrow gap, 110 m wide. Owing to the spatial separation of the fossil-producing beds at Tinde, it was considered convenient to divide the former site into two distinct fossil localities, Tinde East and Tinde West, situated on the eastern and western sides of the gap respectively.

The fossils were found eroding out of a light gray calcareous clay impregnated with a honeycomb-like calcite matrix, as well as the light gray to almost white clay layers immediately above and below the calcite layer.

The fauna from Tinde, which is not particularly diverse, includes bovids, hippopotamids, suids, giraffids, elephantids and carnivores. The most common mammals at the site are *Kobus* sp. and *Hexaprotodon* cf. *harvardi*. In addition to mammals, fish and turtles are extremely abundant, and the remains of crocodiles are quite common. The faunal evidence indicates that Tinde is older than Olduvai Bed I, and is probably slightly older than the Omo Shungura Formation and Laetoli. The sites are therefore broadly comparable in age to Langebaanweg, Lothagam, Lukeino, Chemeron, Kanapoi, Kanam East, the lower Kaiso Formation, the Omo Mursi Formation and the Sagantole Formation of the Middle Awash. The presence of *Hexaprotodon harvardi*, *Nyanzachoerus* cf. *kanamensis*, *Mammuthus subplanifrons* and a primitive species of *Kobus* suggests that the site is early Pliocene in age, probably about 4–5 mya.

The preponderance of aquatic and hydrophilic vertebrates in the fauna confirms the geological evidence of a lake-fringe setting. The fossil site appears to be situated on a slightly elevated portion of the lake floor, in close proximity to a low island chain in the center of the lake. It probably represents the remains of a spit of land that graded into a shallow lake shelf, which may have provided an attractive locus for the congregation of aquatic and lake margin animals. Preliminary taphonomic evidence indicates that the animals died in the lake, or were introduced into the lake as whole carcasses. Disarticulation may have occurred as the organism decomposed, or as a result of random spreading of the individual bones subsequent to decomposition. Damage due to transportation of the bones appears to have been minimal, and none of the bones shows any signs of carnivore or crocodile activity.

Kiloleli

An important cluster of sites was recognized along a line of low bluffs situated just west of the main Igurubi-Shinyanga road (Fig. 2). The sites have been subdivided geographically into four separate fossil localities. Kiloleli 1 is located just north of the village of Kiloleli, while Kiloleli 2, 3, and 4 are located south of the village. The sites are located in Shinyanga District (Shinyanga Region), about 4 km north of the Manonga River, and about 10 km NNW of Tinde. Williams and Eades (1938) made reference to a fossil site in the vicinity of Kiloleli, but its precise location was not given. From the evidence available, however, it seems likely that their site is equivalent to Kiloleli 2.

The exposures at Kiloleli consist of low slopes and cliffs, less than 10 m high. Careful examination of the surface exposures has revealed that three separate fossil layers are represented at Kiloleli. The main fossil layer is a densely-packed and poorly sorted conglomerate that becomes increasingly coarse as it passes south from Kiloleli 1 to Kiloleli 4. The nature of the sediments indicates that the depositional environment was located in close proximity to a shoreline, presumably of a small island

towards the center of the lake, perhaps represented today by the Precambrian base of Shoshamagai Hill.

Preliminary analysis of the fossils from Kiloleli indicate that the faunas from the different horizons are closely similar in their general composition, and that they all can be considered as penecontemporaneous. The most common mammals from Kiloleli are an elephantid, a hippopotamid and several species of bovids. Other mammals include suids and equids. In addition, the remains of turtles and fish are ubiquitous, and crocodiles are relatively common. The faunal resemblance between Kiloleli and Tinde, with the presence of *Mammuthus subplanifrons*, *Hexaprotodon harvardi*, *Nyanzachoerus* cf. *kanamensis* and *Kobus* sp. at both sites confirms their broad contemporaneity. However, the occurrence of *Hipparion* with prominent ectostylids on the lower molars at Kiloleli, and the fact that the main fossiliferous horizon is located slightly higher in the stratigraphic sequence, suggests that Kiloleli may be slightly younger than Tinde, possibly late Pliocene in age. In addition to the inferred temporal distinction between the two sites, there may also be an important facies difference. The greater abundance of elephantids in relation to hippopotamids, and the presence of equids at Kiloleli, support the geological evidence that the depositional environment may have been in closer proximity to an emergent land surface than was the case at Tinde.

Shoshamagai

Two fossil sites were located close to Shoshamagai Hill, about 2 km south of Kiloleli Village (Fig. 2). Shoshamagai 1 is located west of the main Igurubi-Shinyanga road, while Shoshamagai 2 is located on the east side of the road. A long line of well-exposed cliffs extends eastwards beyond Shoshamagai 2, and although there was insufficient time to prospect this area in 1990, it is likely that additional fossil localities will be found in the region in the future.

Shoshamagai Hill is formed by an outcrop of the Precambrian basement and

probably represents the remnant of a small island that existed in Lake Manonga during the Neogene. The two sites consist of low, undulating surfaces at the base of the southern slope of Shoshamagai Hill. The superficial sediments consist of a thick layer of olive- or gray-colored clay covered with coarse, angular nodules of banded ironstone and other detritus derived from the basement rocks. The two sites are poorly fossiliferous in comparison to Kiloleli and Tinde, and the material is much more fragmentary. Fossils from Shoshamagai 1 consist mainly of proboscidean remains, while only a single fossil, a tooth fragment of an equid, was recovered from Shoshamagai 2. The fauna is too poorly represented for adequate comparison, but, based on stratigraphic correlation, it is likely that Shoshamagai is equivalent in age to Kiloleli.

Mwambiti

Two new fossil localities, Mwambiti 1 and Mwambiti 2, were discovered 15 km east of Igurubi along the Igurubi-Sakamaliwa road, about 3 km east of Mwambiti Village (Fig. 2). The two sites are situated on the northwestern and eastern slopes of Mwambiti point, respectively. Mwambiti is a more elevated portion of the long line of cliffs that extend eastwards as a lateral extension of the Tinde bluffs. Mwambiti 1 has yielded the remains of a hippopotamid, an elephantid, an equid, and a bovid, as well as abundant remains of turtles and fish. Most of these specimens were recovered from the surface debris, so their precise provenience is unknown. However, it is likely that the majority of the fossils were derived from a fossil-bearing horizon that is probably the lateral equivalent of the bone bed at Tinde. In addition, a second fossiliferous layer was identified at Mwambiti 1. This bed represents the lowest of the fossil horizons so far identified in the Manonga sequence, and is possibly as old as late Miocene in age.

Conclusion

The Manonga Valley, which has been almost completely unexplored previously,

has tremendous potential for future paleontological, paleoanthropological, and archeological research. The estimated late Miocene to late Pliocene age of the sites, in conjunction with their close geographical proximity to major hominid-bearing localities, such as Laetoli and Olduvai Gorge, makes the Manonga Valley a region of evident importance for the study of human origins. Hominid fossils from East Africa dated between 6 and 4 million years are scanty, isolated occurrences that provide only a sketchy impression of the anatomy and paleobiology of the earliest hominids. Sizeable samples of undoubted early hominids occur only at localities dated at less than 4 mya (e.g., Laetoli in Tanzania and Hadar in Ethiopia). Clearly the Manonga Valley, with its productive fossil sites that appear to predate Laetoli, has the potential to yield new fossil and archeological evidence that could be very important in more fully documenting the anatomy, paleobiology, and ecological context of the earliest stages in human evolution.

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Preliminary Report on Archaeological Reconnaissance along the Ruhuhu River Basin, Southern Tanzania

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An archaeological site survey and test excavation were conducted along the lower Ruhuhu river basin (Fig. 1), southern Tanzania, in the summer of 1990. Our objective was to determine the archaeological potential of the region and establish the local culture history and the socioeconomic relationships of the prehistoric inhabitants of this area with their near and distant neighbors.

The Physical and Social Environment

The Ruhuhu River drains into the northeastern part of Lake Nyasa in southern Tanzania (Fig. 1). The lake is some 570 km long, averages 50 km in width and lies 473 m above the sea. The lake has one outlet in the southern tip, the Shire river, but it is fed by a dozen rivers of which Ruhuhu is the biggest. The Ruhuhu river is approximately 200 km long and, in its lower course, is about 100–150 m wide. Most of its course is in the upper stage where it winds around spurs through the Livingstone mountains. Only 20 km of its lower course flows relatively gently. Our research universe was confined to this latter area, about 200 square km that is 20 km inland from the river mouth by 5 km on both sides of the river.

The river is rich in fish, the main source of protein in the area. The land itself, however, is relatively dry and receives 700–800 mm of rain annually. This occurs between December and April, while the rest of the year is dry.

Ecologically, the area is divided into six zones (related with the site distribution pattern; see Tables 1 and 2).

(1) **Swampy area:** located around the river mouth, a large part covered with swamps and dense overgrowth of grass and reeds.

(2) **Floodplain:** about 20 km long and varies in width between 10 m and 1000 m; it is intensively cultivated, mainly with cassava and banana.

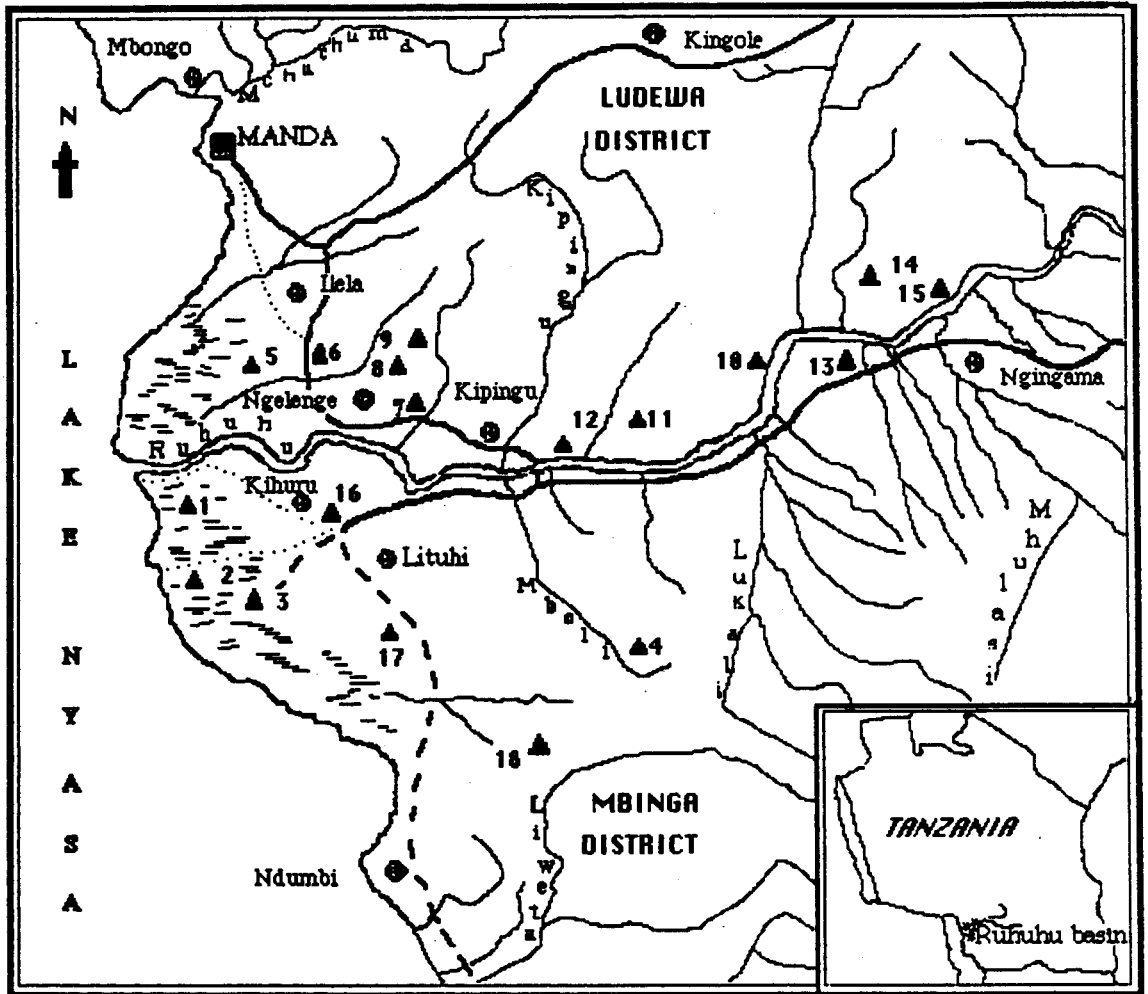
(3) **Plain (grassland):** located adjacent to the flood plain and ranges in breadth from a few meters to over 3000 m; used primarily for residence and seasonal crops, including maize, millet, sorghum, sesame, and a variety of peas and beans.

(4) **Mavangalala (flat and bare land):** extends about 1 km east of the swampy zone, and it is characterized by seasonal swamps and large barren patches dotted with clusters of thorn-bushes and tufts of palmetto-type grass called *malala*.

(5) **Escarpments:** located 5 km east of the lake shore on both sides of the river; forms terraces in some places that are used for residence and farming.

(6) **Plateau:** rises to about 300 m above the lake level (700–800 m above mean sea level); characterized by a *miombo* type of vegetation and patchy settlements (confined to areas where drinking water is available throughout the year). The rest is used occasionally for seasonal cultivation of finger millet.

The lower Ruhuhu basin encompasses seven villages: Kihuru, Lituhi, and Ngingama in Mbinga district; and Ilela, Ngelenge, Kipingu, and Kingole in Ludewa district. The inhabitants of both sides of the basin are Manda, a Bantu speaking people. Although the origins of the Manda are not clearly known, their language, Kimanda, bears some affinity with the neighboring languages of Kingoni, Kipangwa, and Kikisi. It seems probable that Manda-speaking



KEY

■	Town	—	Permanent roads
●	Village	- - -	Occasional roads
▲	Site	Footpaths
~	Swamps		



Fig. 1. Archeological sites in the Lower Ruhuhu River Basin.

people are ethnically a mixture of the three neighboring groups. Aside from fishing, the Manda people keep cattle, goats, pigs and fowls. Their staple food is cassava, supplemented with rice and maize.

Site Survey

The survey was aimed at locating sites, some of which could be test-excavated later in order to learn about the local prehistory. The whole area was divided into 800 blocks measuring 500 m x 500 m each (following grid squares in a topographical map). Initially we were determined to cover 10% of the area, or 80 blocks, selected through a simple, unstratified random sampling method. Blocks that fell into inaccessible areas (e.g., in the lake or swamps) were replaced by other randomly picked blocks.

The survey was conducted by walking over the area along parallel transects, and noting the types, quantities, and distribution patterns of all archaeological materials. Only diagnostic artifacts (e.g., decorated pottery, rim sherds, beads, bones, some stone artifacts, and slags) were collected; the rest were recorded in notebooks or on site maps, or were photographed. We examined river banks for artifacts and stratigraphy in all the blocks that fell along the river course. Sites found by chance or reported by informants were also investigated but the data have been analyzed separately (Mapunda in preparation). Surface walkovers were occasionally supplemented by auger-testing and shovel tests.

Three weeks were spent on survey during which time 56 blocks (7% of the research universe) were surveyed and 31 shovel tests were dug. We found a total of 18 sites (Table 1) that were labelled according to the *Standardized Site Enumeration System for the Continent of Africa—S.A.S.E.S.* (Nelson 1971). Our survey universe is within area code Iijc. The sites were serially numbered as we found them from 1 through 18.

Of the 18 sites, eight are located on the southern side (Mbinga district) and ten on the northern side (Ludewa district) of the river. Four sites were found by chance and 14 by probability sampling. Those found by chance include site Iijc-18, found outside the

research universe, and sites Iijc-13, 16, and 17, found outside the sampled blocks. All of the sites can be divided into three temporal groups: (1) recent historic sites that belong to the nineteenth and/or twentieth centuries, including Iijc-1, 2, 3, and 14; (2) Iron Age sites, including Iijc-4, 6, 8, 10, 11, 12, 13, 15, 17, and 18, that have evidence for ironworking such as concentrations of slags but no stone artifacts; and (3) "Later Stone Age" sites with occurrences of microlithic artifacts, Iijc-5, 7, 9, and 16. Table 2 shows the spatial and temporal distribution of the sites.

Test Excavations

We selected four sites for test excavation, two in Mbinga district (sites 2 and 4) and two in Ludewa district (sites 12 and 15). Site Iijc-2 is located on the plain, close to the lake; site Iijc-4 is on the plateau, and sites Iijc-12 and Iijc-15 are along the plain, adjacent to the flood plain. Limited in time, we spent only twelve days on test excavations.

Description of Excavated Sites

Site Iijc-2: We decided to excavate this site in order to determine the cultural context of charcoal found between 100–120 cm below surface in a shovel test pit (TP #10). A 1 x 1 m excavation unit located one meter north of TP #10 revealed five alternating layers of clay and beach sand from the surface to 120 cm below surface. Only a few small pieces of pottery were found in the upper 30 cm of clay. The middle (60–80 cm below surface) and the lower (100–120 cm below surface) clay layers contained charcoal and blackened spots of 1–5 cm in width. The charcoal was too loose and soaked to be collected and was probably the remains of a brush fire.

We further tested the area with four auger drives, 10 m in each cardinal direction around the unit. Each revealed a stratigraphy similar to that in the excavation pit. A fifth auger test dug 300 m west of the unit, at the center of a house mound, did not recover any cultural material.

Site Iijc-4: We were motivated to further investigate this site by a rich scatter of slag, daub, and tuyere fragments on the

Table 1: Some Information about Surveyed Sites

Site IjC-	Block #	Sur. #	Long.	Lat.	Alt. (masl) ¹	Size ² (m)	Eco-Zone	Site Type
1	111	3	34°35'35"	10°32'20"	475-480	400NS 300EW	swampy	habitation
2	117	6	34°35'30"	10°34'00"	475-480	400NS 200EW	swampy	habitation
3	156	9	34°36'05"	10°33'45"	475	20NS 40EW	swampy	habitation
4	442	16	34°40'05"	10°34'30"	740-760	50EW 40NS	plateau	iron working
5	103	30	34°35'30"	10°30'05"	475-480	200EW 200NS	mavangalala	stonetool making/hunting
6	183	33	34°36'40"	10°30'05"	600-620	10EW 15NS	escarpment	iron-working
7	306	34	34°38'20"	10°30'55"	620-640	10EW 10NS	escarpment	stonetool making/hunting
8	306	34	34°38'25"	10°30'50"	640-660	20EW 30NS	escarpment	iron working
9	378	36	34°39'00"	10°30'05"	720-740	100EW 50NS	escarpment	stonetool making/hunting
10	577	41	34°41'55"	10°30'25"	500-520	10EW 15NS	plains	stonetool making/hunting
11	452	48/9	34°39'55"	10°31'50"	480-500	8EW 10NS	plains	iron working
12	412	49	34°39'35"	10°31'50"	480-500	130EW 40NS	plains	iron working & burial
13	632	Chance	34°42'40"	10°30'40"	480-500	100EW 80NS	plains	iron working
14	654	52	34°42'55"	10°29'50"	480-500	80EW 100NS	plains	potash source
15	733&751	55	34°44'05"	10°30'10"	480-500	300EW 50NS	plains	habitation
16	246&250	Chance	34°37'25"	10°32'30"	500-520	30EW 30NS	hillock	stonetool making/hunting
17	246	Chance	34°37'20"	10°33'30"	475-480	20EW 20NS	mavangalala	iron-working
18	—	Chance	34°39'20"	10°36'00"	680-700	50EW 50NS	plateau	iron-working

¹Meters above mean sea level. (The lake is 473 masl).

² The sizes of all sites except those we excavated i.e., IjC-2, 4, 12, and 15, should be regarded as estimates.

Table 2: Ecology, Chronology and Site Distribution in the Lower Ruhuhu River Basin

Eco-Zones	Recent	Iron Age	"LSA"	Total
Flood Plain	—	—	—	—
Swampy	3	—	—	3
Mavangalala	—	1	1	2
Plains	1	4	1	6
Escarpment	—	2	3	5
Plateau	—	2	—	2
Total	4	9	5	18

surface and a relatively large amount of slag (3.7 kg) recovered in a 50 x 50 x 60 cm shovel pit (TP #19).

We opened a 2 x 1 m excavation unit 10 m west of TP #19. The unit was exceptionally rich in cultural materials (Table 3), including 197 kg of slag, 94 kg of daub, 7 kg of tuyere, and 2 kg of pottery fragments. The materials, however, were concentrated in the southern half of the excavation pit and occurred in an orderly pattern. Some pieces of tuyere were aligned in a linear pattern, suggesting that they originally formed one tuyere. There were about nine such alignments, each with a big lump of slag at one end. Two rocks (40 x 12 x 6 cm on average) stood vertically on the western side of the artifact concentration, each next to a tuyere alignment. Their location and vertical position, along with the slag and daub concentrations, suggest that the rocks were purposefully placed at the edge of an iron-smelting furnace to support the tuyeres. The unit also yielded 2.2 kg of potsherds, of which 82% came from two pots, one complete and the other partial. The complete pot is small (12 cm rim diameter) and has cross-hatching decorations on the exterior side of the rim. Both the size and the association suggest that this pot was manufactured and used for special function, possibly as a medicine pot (and the half-pot as lid) during smelting.

Charcoal was abundant and was concentrated in the southern half of the pit. We collected samples from levels B (10–20 cm) through D (30–40 cm) for dating.

Two samples have been dated (see Tables 5a, 5b).

Site Iijc 12: We decided to excavate this site for two reasons: (1) the site contained a mixture of slag and ferrous concretions which we thought could help us determine the source of local iron ore in the Ruhuhu river basin; and (2) we wanted to establish the cultural context of human remains found in the wall of a shallow gully during the survey.

A 2 x 1 m pit was opened in the area where the ferrous concretions were concentrated. After excavating the first four levels (0–40 cm), we decided to continue to 80 cm in only half of the pit because the soil was hard and the yield was low. The first four levels yielded 87 small pieces (0.113 kg) of pottery, 0.049 kg of corroded ferrous concretions, eight fragments (0.007 kg) of animal bone (one charred), four quartzite flakes and nine pieces (0.009 kg) of daub. No cultural materials were recovered below 40 cm, but "corroded" blocks of ferrous concretions, weighing 12.679 kg, were recovered. The association of slag and ferrous concretions seems to be a surface phenomenon.

We did not excavate the human remains given the hardness of the soil and limited time. Instead, we collected all the bones that had fallen from the gully wall and covered the place with rocks to protect it from further destruction.

Table 3. Materials Excavated in Site Iijc-4: Weight (kg) and Number of Pieces

Level (cm)	Slag wgt	Daub wgt	Feature Pottery		Other Pottery		Tuyere	
			#	wgt	#	wgt	#	wgt
A 0-10	11.94	0.98	—	—	16	0.10	79	0.54
B 10-20	63.63	9.85	—	—	36	0.14	264	1.85
C 20-30	109.32	15.47	117	0.72	9	0.08	563	4.00
D 30-40	11.46	65.94	146	1.14	3	0.04	63	0.54
E 40-50	0.46	2.09	—	—	—	—	6	0.04
Total	196.81	94.33	263	1.86	64	0.36	975	6.97

Site Iijc-15: This site borders the bluff of the Ruhuhu river to the south. During survey, we found daub and potsherds sticking out between 40–100 cm below surface from the bluff. The depth indicated that the site was of significant antiquity and attracted us for further investigation.

We opened two 1 x 1 m excavation units: unit 1 at .3 m north of the bluff and unit 2 at 10 m north. Both units had similar stratigraphy and cultural contents, reflecting what was found in the nearby bluff wall. Daub was the most prevalent material (Table 4). We also recovered many potsherds, mostly undecorated and highly fragmented. The site was relatively rich in animal bones, although most were highly fragmented and not diagnostic. The few that could be identified at a general level were from large and small bovids, probably cattle, sheep, goat, or wild species.

Two periods of occupation were evident in both units, one between 0 and 40 cm and the other between 90 and 110 cm below surface. Charcoal was common especially in the lower occupation level, although in small fragments. A few samples from levels G (60–70 cm) through L (110–120 cm) were collected from both excavation units for radiocarbon dating. One sample has been dated (see Tables 5a, 5b).

radiocarbon dating (Tables 5 a, 5b). The dates range between the eighth and tenth centuries A.D.

Given these dates, it would be interesting to know their significance in relation to the prehistory of Eastern Africa. Unfortunately, we cannot address this question at this time because the analysis of the data we collected is not complete and our data is insufficient. More fieldwork is needed to satisfactorily deal with this issue. Nevertheless, we can say that the dates suggest possible future avenues of inquiry. For example, we found a few potsherds from sites Iijc-4 and 15 that bear some morphological and decorative affinities with the Tana type of pottery. This is a widely distributed pottery type in Eastern Africa, especially along the coast, with dates between the later part of the first millennium and the early part of the second millennium A.D. Since our dates fall within the same time range, it is possible that the material remains we found are representative of a culture that spread over a large region of Eastern Africa. What remains to be determined is whether this possible cultural "homogeneity" means trade relations, population migrations, technological diffusion, or a combination of these.

The Chronology of the Iron Industry

Three charcoal samples from two excavated sites have been processed for

Discussion

The field study reveals that the Ruhuhu river basin is archaeologically and histor-

Table 4. Materials Excavated in Site IjC-15: Weight (kg) and Number of Pieces

Level (cm)	Unit	Daub		Pottery		Bone		Other	
		#	wgt	#	wgt	#	wgt	#	wgt
A-D	1	22	0.09	84	0.33	—	—	1 rub.	0.01
0-40	2	14	0.58	23	0.11	8	0.03	—	—
E-G	1	4	0.01	10	0.04	—	—	—	—
40-70	2	31	0.07	1	0.01	—	—	—	—
H-L	1	463	6.70	126	0.71	19	0.11	2 lit.	0.03
70-120	2	152	2.05	67	0.31	5	0.02	—	—
Total	1	489	6.80	220	1.08	19	0.11	3	0.04
Total	2	197	2.70	91	0.43	11	0.05		

Key

Other Materials: Rub. = rubber material; lit. = microlithic flakes.

Table 5a. Radiocarbon Dates Given in a Range of One Sigma

Sample #	Provenance	BP (uncalibrated)	BP (calibrated)	AD (calibrated)	Average
Beta 41839/ ETH-7558	IjC-4, 20-30 cm	1235 ± 55	1265-1069	665-881	779
Beta-41840	IjC-4, 30-40 cm	1090 ± 110	1139-930	811-1020	968
Beta-41841	IjC-15, 100-110 cm	1180 ± 90	1235-981	715-969	880

Table 5b. Radiocarbon Dates Given in a Range of Two Sigma

Sample #	Provenance	BP (uncalibrated)	BP (calibrated)	AD (calibrated)	Average
Beta 41839/ ETH-7558	IjC-4, 20-30 cm	1235 ± 55	1290-1050	660-900	779
Beta-41840	IjC-4, 30-40 cm	1090 ± 110	1270-780	680-1170	968
Beta-41841	IjC-15, 100-110 cm	1180 ± 90	1290-930	660-1020	880

ically significant. Future studies in this area have the potential to address several important theoretical and methodological problems that have long troubled archaeologists and historians of eastern Africa. For example, several researchers (e.g., Robinson 1969, Soper 1971, and Phillipson 1985) assert that there is a cultural and technological connection between northeastern Tanzania/southeastern Kenya to the north and southern Malawi to the south. The presence of a Kwale-related pottery in Malawi is cited as evidence of this relationship. But this assertion lacks an archaeological link in the region between the zone of northern Kwale ware and southern Malawi. Rigorous research in the region east of Lake Nyasa can help to provide evidence for supporting or challenging this assertion.

Second, Huffman (1990) hypothesizes that the southern African Bantu culture with eastern-Bantu elements might have originated in the southern part of Tanzania or northern Mozambique. Identification of Iron Age wares from the eastern shore of the lake in Tanzania (e.g. the Ruhuhu basin) can provide information bearing on this hypothesis.

Another important issue that is relevant to this region is the extent and impact of trade in ceramics and other goods in the region. This can be investigated by comparing findings in the Ruhuhu basin with those from other areas around the lake. Several hints are provided by oral traditions from both the eastern and the western sides of the lake. In the east, the Kisi are said to have crossed the lake in dugout canoes to buy cassava in the nineteenth century. Kalinga's (1985) study on oral traditions among the Balowoka of north-central Malawi affirms the presence of trade migrants from Manda who settled in north-central Malawi in the eighteenth century. In addition to trade relations in the Lake Nyasa region, it will be interesting to search for trade links with the Indian Ocean littoral. Although our limited excavations did not yield evidence of long-distance trade with the coast, such as cowrie shells or ancient porcelain, it does not necessarily mean that no such commercial relationship existed.

What we have accomplished so far is a beginning; much remains to be done. Future projects should involve survey in the blocks that we did not manage to complete and visits to the areas where informants reported archaeological materials, including old pots hidden in caves, slag, and tuyeres. Several sites also need to be revisited: Iijc-2 to study the history of the lake fluctuations; Iijc-4 to collect additional materials for a more complete reconstruction of iron technology; Iijc-15 to obtain data related to settlement and subsistence; Iijc-10 for archaeological evidence related to riparian adaptations; and Iijc-12 to establish the cultural context of the human remains.

Conclusion

Based on the radiocarbon dates, some artifacts, and faunal remains (especially from sites Iijc-4 and 15), we know that the lower Ruhuhu river basin was settled by iron producing people by the second half of the first millennium A.D. Those people probably kept cattle, sheep and/or goat, lived in wattle and daub houses (which imply permanent settlement), and explored a wide range of eco-niches. We cannot, however, tell whether the iron-producing society replaced or co-existed (at least for sometime) with a local microlithic-producing society, since none of the Late Stone Age sites has been excavated or dated. Another interesting observation is that the lower Ruhuhu basin seems to lack archaeological evidence for cultures that preceded the "Later Stone Age." This may mean that the environment was not attractive to the earlier peoples or our reconnaissance methods did not favor earlier sites. But we believe that the former is true because we examined several gullies and bluffs; all revealed younger (LSA and IA) sites only.

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■ **UGANDA**

Recent Archaeological Surveys in Western Uganda

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Archaeological surveys were conducted in western Uganda (Fig. 1) from January to March 1991. The fieldwork was the first to be undertaken under the aegis of a research project entitled "The Development of Complex Societies in Western Uganda." This project is an outgrowth of the Interlacustrine Research Project of the British Institute in Eastern Africa, whose progress reports have appeared in previous issues of *Nyame Akuma* (Sutton 1987; Robertshaw 1988; Reid 1990; Connah 1989, 1990). The purpose of the present project is an attempt to understand the process of state formation in the Bunyoro-Kitara region. The methodology involves a shift in focus from previous research efforts in the region, which tended to concentrate upon the excavation of large sites, often with earthworks, such as Bigo, Ntusi, and Munsa. Instead, the goal is to view these well-known sites within a regional framework established through archaeological surveys. Thus, we hope eventually to reconstruct demographic, political and economic histories for the later Iron Age based on regional settlement patterns. Changes in settlement pattern will be dated using a combination of ceramic seriation and absolute dating methods. Our efforts at seriation will no doubt benefit from the results of the analyses of the ceramics recovered from the deeply stratified site of Kibiro recently reexcavated by Connah and his associates (Connah 1990, 1991). Survey data will eventually be supplemented by the results of excavations at a variety of sites, both large and small. The archaeological results which will accrue over the next several years will be interpreted in the light of recent historical

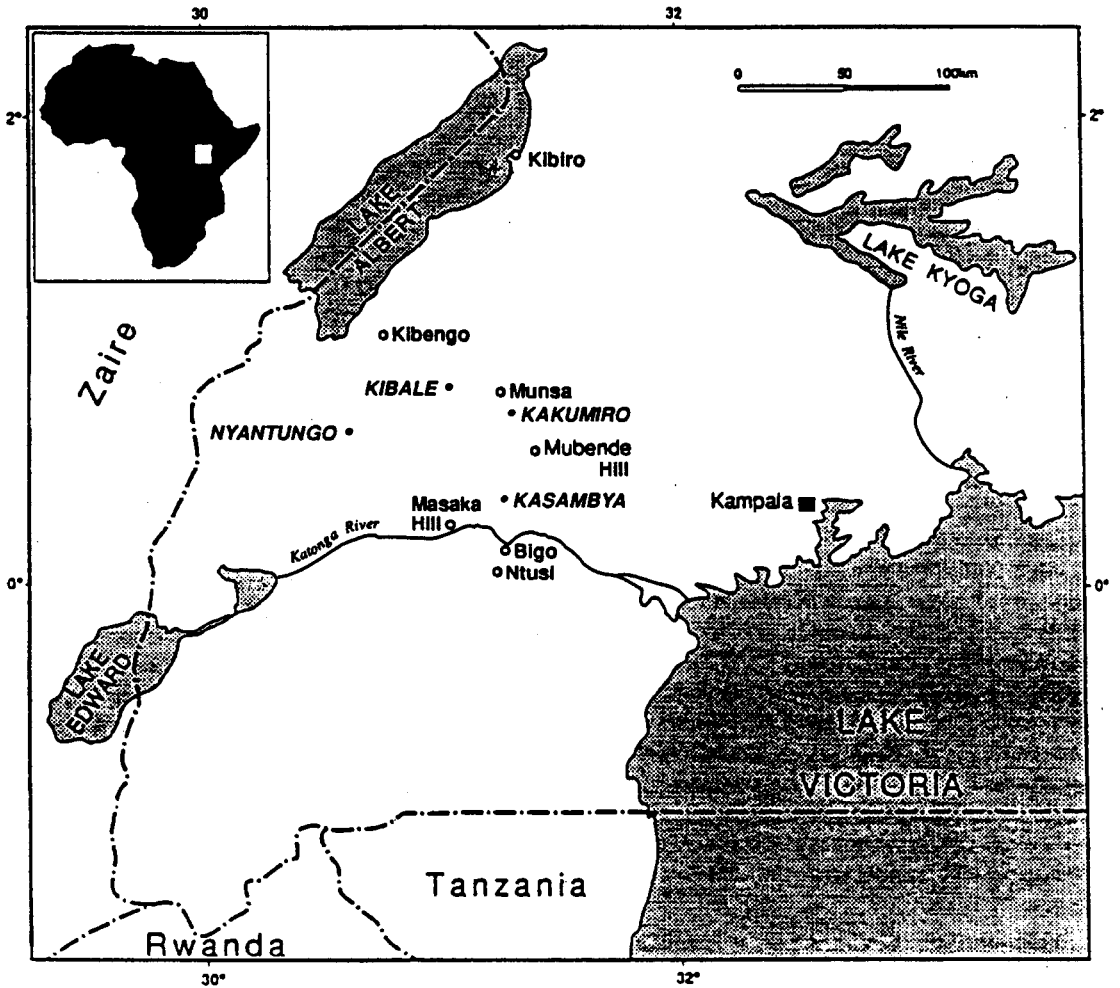


Fig. 1. Map of Western Uganda.

and linguistic research, notably by Tantala (1989) and Schoenbrun (1990), respectively, on these same issues.

Until Reid's (1990) pioneering surveys in the vicinity of Ntusi, nobody had attempted to discover sites in western Uganda using any form of sampling strategy. Almost all known sites had been recorded either as a result of information provided by local inhabitants or by chance discovery. Thus, a major concern of the present project was whether survey methods such as those used by Reid could be applied in other areas of Bunyoro-Kitara, particularly those less arid and more densely settled than the Bwera grasslands in which Ntusi and Bigo are located. Therefore, the goals of the first phase of fieldwork were modest in scope, entailing efforts (1) to locate Iron Age archaeological sites, (2) to experiment with different survey and sampling strategies as a pilot study for a possible large-scale survey of the Bunyoro-Kitara region, and (3) to gather information on the pottery found on the sites discovered during the surveys without the need for removing potsherds from the sites. We also tried to locate sites for which oral histories were available, for example sites said to have been occupied by Bacwezi leaders. A subsidiary purpose was to gather information from both oral testimonies and archaeological discoveries that would shed light on the scale and organization of iron production and distribution, in an attempt to evaluate the hypothesis that control of the iron industry was an important path to power during the period of state formation.

We decided to search for sites in four different areas. These areas were chosen on the basis of several factors: (1) their proximity to known, excavated sites; (2) the presence of a network of roads allowing relatively easy access to an extensive region; (3) differing vegetation communities, although we avoided areas dominated by forest, in which there was little human settlement and very little ground visibility; (4) recorded clan traditions indicating that Mwenge county had been an important area for iron-working; (5) other logistical constraints, for example the presence of a

large army base, which prevented a visit to the important shrine-site of Masaka Hill.

From our first camp at Kakumiro, we began by attempting to survey transects at 1 km intervals north and/or south of the road heading east from Kakumiro. Where it was clear that transects would lead us into areas where there was little or no ground visibility, we abandoned survey of these transects. We also realized that it was very difficult to follow a compass bearing when surveying because of the presence of substantial barriers of vegetation. It became clear that in most areas we would only be able to find sites where the vegetation had been cleared. Therefore, it seemed foolish to stick rigidly to following transects while passing close to open fields. We also abandoned the idea of surveys at 1 km intervals along the roads, since many of the starting points chosen by this technique were in areas that were obviously unsuitable for survey. The choice of areas to be surveyed then became a more ad hoc procedure.

Attempting to visit all the fields within a particular area proved to be a more feasible and productive research strategy. In selecting areas we were guided mostly by (a) the extent and density of cleared fields, (b) ease of access, including distance from camp, and (c) sometimes by prior knowledge of the existence of sites in an area, for example rockshelters had been reported in various rock outcrops by Lanning (1962). On the basis of these criteria, we rejected the idea of choosing survey areas by any random number procedure, though such procedures and surveys may be required in future seasons in order to test hypotheses of settlement pattern histories. Later in the fieldwork we were influenced by our own survey experience, indicating certain topographic situations and soils were most likely to contain archaeological sites. However, to avoid charges of extreme sampling bias, we also attempted to conduct surveys of fields located in all topographic locations (for example, ridge top, upper slopes, lower slopes, valley floors) and on different soils. In the absence of any recent aerial photography, it was not possible to quantify

the total area of cleared fields within each area that we surveyed.

In many areas that we visited in the course of our surveys, we informally asked local people about the existence and whereabouts of historically important sites. Often such questions elicited little or no information, but occasionally we were directed to sites or areas where there proved to be considerable archaeological material. These informal interviews also gave us a notion of the historical landscape of various areas, particularly that around Kakumiro, as perceived by local residents. In Mwenge County we directed our questions more specifically to the location of sites with evidence of large-scale iron-working. These enquiries resulted in the location of several sites where iron ore had been mined from vertical pits.

Results

From our first base at Kakumiro, we located 66 archaeological sites. With the exception of one rockshelter, these were all open-air Later Iron Age sites, at which we undertook analyses of potsherds. Site 58/1/2 (known as Kasunga) is of especial interest, since it is an important shrine (or was until the 1930s); it is claimed by local people that it was the place where Nyinamwiru had her palace and where her son, Ndahura, the founder of the Cwezi dynasty, was born. One of the people we interviewed was the grandson of the man who was reputed to have been the last spirit-medium active at the shrine. Our evidence confirms the historical importance attached to this area by Tantala (1989) in her discussion of the manuscript history of Kitara written by Henry Ziriyahamu.

We located 22 sites from our second camp at the Karuguza county headquarters at Kibale. All of these were open-air Later Iron Age sites. One site (58/1/12) is at the foot of a hill which is partly encircled by a prehistoric trench. This trench is the earthworks site recorded by Lanning (1953) as Kalisisi; it should be rendered correctly as Kisalizi (a correction that Lanning also made in a later issue of the *Uganda Journal*).

In the vicinity of Kasambya in Mubende District we found 29 sites, all of which were open-air, Later Iron Age sites with the exception of site 68/1/11, a rockshelter at Muinaina. This site serves as a shrine to a spirit (*musambwa*), who is not one of the Bacwezi.

We spent less time on archaeological survey in the region around Nyantungo in Mwenge County than we did in other regions, owing to adverse weather and road conditions and to our efforts to interview elderly people who were knowledgeable about ironworking. Nevertheless we located 13 sites in this area. In addition we recorded and, in some cases, visited several localities where there were pits, sometimes several metres deep, resulting from the mining of iron ore in the precolonial or possibly early colonial period (see also Lanning 1958).

Discussion

Several interesting patterns are apparent in the data which we acquired from these archaeological surveys. No numerical or statistical analyses of these data have yet been undertaken, so the patterns described below are provisional. They will certainly be supplemented by the results of analyses to be carried out in the near future.

There is considerable variation in the size and location of sites relative to soils and major topographic features. At the risk of oversimplification, it seems that large sites with dense scatters of potsherds are generally located on dark brown to blackish soils, whereas smaller sites are on lighter brown or reddish soils. In some, but probably not all, instances, the darker soils may in part result from the decay of organic debris, possibly including dung from domestic animals, on these large sites. The larger sites are usually located on ridges or immediately below ridge tops, often in close proximity to outcrops of rock that could have served a defensive function for the inhabitants of the sites. By contrast, smaller sites with less dense concentrations of sherds are often located on the lower slopes of hills. These latter site locations appear to be favoured nowadays for the location of homesteads. The large sites are

characterized by pottery with vessel forms, lip profiles, and decorative motifs and layouts that are recognizably different from those of the smaller sites of the present and more recent past. Generalizing from these observations, we suggest that there has been a shift in settlement patterns from large, apparently concentrated villages located on ridge tops and/or close to rock outcrops, to dispersed homesteads situated on the lower slopes of hills, the pattern that is still extant. We do not yet know the date of this shift, but many of the smaller sites may date to within the last hundred years. However, the presence of iron slag on many of these smaller sites indicates that they are likely to be earlier than about 1930, after which iron smelting was abandoned.

Analyses of the survey data in coming months should clarify the settlement pattern history. One crucial aspect of analysis will be the dating of the sites. Ceramic seriation will be used as the primary means of relative dating, while proposed absolute dates will be derived from comparisons between pottery from sites found during the surveys and pottery from sites excavated previously and dated by radiocarbon. However, it is likely that excavation of some of the newly located sites will be needed to confirm dating hypotheses, particularly as it cannot be assumed that each site represents only a single episode of occupation.

All the sites that we discovered during the surveys can be assigned to the Later Iron Age; in other words, they appear to date to later than about A.D. 1000. Indeed, after brief examination of eleventh- to thirteenth-century sherds from Ntusi stored in the Uganda Museum, we suspect that all the sites are more recent than about A.D. 1300. There is scant evidence for earlier occupation of particular sites or of the Bunyoro-Kitara region as a whole. Some sites contained scatters of quartz flaking debris, the distribution of which was often not co-terminous with that of the Later Iron Age pottery; thus, there is some evidence of probable Later Stone Age settlement. We discovered only a handful of sherds that had attributes characteristic of Early Iron Age pottery. Therefore, it seems that we can infer that there was little agricultural settlement

of the Bunyoro-Kitara region during the Early Iron Age, the period from late in the first millennium B.C. to about A.D. 1000.

Consideration of the preliminary results of the archaeological surveys in the context of the broader goals of the research project allows us to outline a tentative scenario of the political and settlement history of Bunyoro-Kitara from about A.D. 1000 onwards. This scenario is both tentative and, at this juncture of the research project, highly speculative. It invokes a particular set of interpretations of the historical traditions of the Bacwezi and Babito, with which many historians may disagree. With the archaeological data at hand, alternative scenarios, perhaps equally plausible, might be proposed. The scenario is as follows: Sometime after A.D. 1000 there was a marked increase in the size of the human population of the region. Further research is required before we will be able to evaluate the causes of this increase, whether it was from immigration or internal causes such as economic changes leading to more reliable food supplies and reduced mortality rates. As population increased, people settled in nucleated villages. Gradually, as population and the size and number of villages increased further, competition may have arisen between villages over control of certain resources, perhaps cattle or prime arable land or mineral resources. Competition led to hostilities that hastened the construction of fortified settlements with earthworks, for example at Munsa, Kibengo, and elsewhere, perhaps in approximately the fifteenth or early sixteenth century. The construction of these earthworks within the context of assumed intervillage rivalries could suggest a political system characterised by competing small-scale polities (chiefdoms rather than states). Warfare, perhaps linked with famine and the spread of disease epidemics, eventually led to the collapse of the political system, the abandonment of fortified and other large settlements, and a decrease in the human population, events that might tentatively be dated to the late sixteenth or early seventeenth century. The settlement pattern was thus altered to one of dispersed homesteads closely akin to that of the

present day. Into the political vacuum created by the collapse of the competing peer polities may have stepped the Babito dynasty, who were able to unite the region into basically a single state administered by a bureaucracy capable of resolving conflicts over access to scarce resources. The process of unity and of recognition of Babito authority may have been facilitated by the new rulers invoking ties with Bacwezi deities to obtain symbolic, religious sanction for their exercise of power.

The outline of political and demographic history sketched in the previous paragraph is very speculative. Alternative reconstructions could be proposed. However, the version of events suggested above should serve more than adequately well to bring into focus the priorities for further analyses of the archaeological data obtained in the 1991 field season. The results of these analyses and the discussions that they will inspire will almost inexorably dictate in turn the priorities and goals of the next field season.

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FORUM

Nature and Aims of the Centro Studi Archeologia Africana

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The Centro Studi Archeologia Africana was constituted in 1986 to promote knowledge of Africa starting from its archeological evidence. This nonprofit organization has identified two branches of research around which it has articulated its own initiatives:

African archeology, with particular attention to Saharan archeology history of Black Africa

With these aims to guide it, the Centro Studi Archeologia is dedicated to the following kinds of activities:

- research missions on the ground
- exhibitions
- publications
- lectures
- conferences and symposia
- establishment of a specialized photographic file
- establishment of a collection of ancient African prints
- loan of material to exhibitions by third parties

In five years of effort, the Centro has gained a solid scientific reputation for its various activities. Some highlights of the Centro's undertakings are indicated below.

Conferences and Symposia

The Centro organized an international conference on art and environment of the prehistoric Sahara entitled "L'arte e L'ambiente del Sahara Preistorico: Dati e Interpretazioni." The conference was held

in late October, 1990, and involved the collaboration of the Civic Museum of National History in Milan and the Lombardy Region and of the Provincial Administration. More than 200 persons were in attendance representing 18 countries.

Specialized Photographic File

The Centro established and continues enlarging a specialized photographic file, using material collected in the course of its own expeditions as well as pictures donated by others. The collection includes about 10,000 negatives, slides, and prints. The collection is available to students and researchers who ask to examine it.

Specialized Library

The library contains about 700 books and about 1,000 periodicals. These are available to interested persons.

Collection of Ancient Prints

The collection includes about 350 ancient prints from the sixteenth to the nineteenth centuries and is being continuously enlarged.

Exhibition Initiatives of Third Parties

Included among the exhibitions supported by material on loan from Centro Studi Archeologia Africana were the following:

July 15 to October 29, 1989, Florence: "The great sculpture of Black Africa."

November to December 1989, Milan: "Styles of power. Ancient rock sculptures from Sierra Leone and from Guinea."

In addition to the above activities the Centro sponsored five ground research missions, five exhibitions, and more than fifty lectures and conferences between 1986 and 1990, during which period it also produced seven monographs.

Problèmes et Méthodes de la Recherche Archéologique en Pays Forestiers: La Province du Sud Cameroun et Ses Environs

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La province du sud Cameroun est située entre le deuxième et le quatrième degré de latitude nord, puis entre le neuvième et le quinzième degré de longitude est. Région équatoriale, c'est le domaine de la forêt dense humide, avec des sols généralement ferrallitiques et des précipitations abondantes. Ces données écologiques peuvent expliquer en partie pourquoi cette région n'a pas bénéficié jusque là d'un programme de recherches archéologiques, contrairement aux provinces du nord-ouest, du centre, de l'extrême-nord et du nord Cameroun. Ainsi à partir des cinq missions que nous avons effectuées sur le terrain entre Juin 1989 et Août 1990, nous tentons ici une formalisation des problèmes et des difficultés propres à la recherche archéologique en forêt. Compte tenu de ces difficultés, il convient d'énoncer quelques méthodes de travail et quelques indices archéologiques utilisables pour l'identification des sites forestiers. Ces indices ont déjà permis malgré les difficultés de mettre à jour après des prospections, un certain nombre de vestiges, de structures et de sites dans la province du sud Cameroun et ses environs.

Difficultés et Méthodes de Recherches Archéologiques en Pays de Forêt

Les Difficultés de Recherches

Les recherches archéologiques dans la province du sud font face à des problèmes particuliers qu'il convient de relever. En effet au niveau théorique, cette localité n'a aucune recherche antérieure qui peut servir

de point de départ ou de base de réflexion pour une stratégie globale de la recherche. De plus au niveau pratique aucune fouille n'a encore été pratiquée qui puisse permettre d'envisager et de circonscrire les problèmes éventuels de fouille dans un environnement forestier.

Le repérage et l'identification des sites sont rendus difficiles à cause de la densité du couvert végétal. En effet les anciens habitats précoloniaux ont été dans la plupart des cas détruits ou recouverts par plusieurs hectares de plantations de cacaoyers. De plus ces grandes plantations, pendant leur mise en place détruisent certains sites importants, lors de la mise en sol des plants. En plus la matière organique couvre régulièrement le sol favorisant la formation d'une couche d'humus assez épaisse de plusieurs centimètres. Ce processus qui se répète plusieurs fois dans le temps enfouit progressivement les vestiges qui au départ étaient visibles en surface. Autres éléments les plants de cacao ont une faible moyenne de 2m. Ils constituent après les arbres forestiers le deuxième écran, ce qui réduit considérablement la luminosité et l'éclairage du soleil. Il se pose donc sur le terrain un problème de luminosité ce qui empêche de détecter et de repérer facilement les petites structures, ou les tessons et scories en général dispersés à la surface du sol. Ce double écran végétal rend difficile la couverture photographique des sites au niveau local et aérien.

La couverture aérienne peut repérer des structures et les sites recouverts par l'humus, les cacaoyers et les grands arbres sont difficiles à apparaître sur un film aérien. Ceci fait appel peut-être à des équipements plus perfectionnés lors des opérations de photographies aériennes.

Au niveau d'un site repéré qui est fouillé, il est difficile pour le chercheur d'avoir tous les angles photographiques du site à cause du manque de lumière, les rayons de soleil étant freiné par le feuillage. Ceci prive l'archéologue de plusieurs niveaux d'information pendant la fouille et l'étendue spatiale du site. Cette difficulté peut se résoudre par le choix d'un dispositif perfectionné, d'où les moyens plus importants d'une part; d'autre part, par le

choix rigoureux de la période de couverture photographique du site. Ce qui pose aussi le problème adéquation entre le temps, l'avancement de la fouille, la pertinence des informations à fixer et la qualité de l'appareil.

Les zones de champs agricoles, malgré la pratique des cultures sur brûlis, ne constituent pas des espaces faciles pour l'identification des sites, simplement parce que la forêt primaire une fois détruite, fait place à une forêt secondaire dense qui va recouvrir ces anciens sites, ou les anciennes structures repérées par les paysans. A tel point que même si les populations ont conscience des sites et des structures, il est difficile pour elles d'indiquer exactement les endroits où se trouvent les vestiges. Donc pour l'archéologue tout reste à faire, l'information orale étant ici stérile.

D'autres difficultés sont liées au climat. La région ayant un climat équatorial caractérisé par de longues pluies, il est stratégique pour le chercheur de choisir la saison sèche afin d'effectuer les travaux. Mais cette saison pose les problèmes de fouille dans la mesure où le sol est généralement dur. La saison pluvieuse elle pose les problèmes de transports car les routes sont en latérite, il devient difficile d'atteindre les points de recherche d'une part, d'autre part il est difficile de fouiller sous la pluie parce que, déjà la terre exhumée va retomber dans la fouille, et le site se transformera en boue.

Province à réseau routier important par rapport à d'autres provinces du pays, l'aménagement des routes a permis la destruction de plusieurs sites avec un déplacement des vestiges. C'est ainsi que le site de Kumu dans l'arrondissement de Zoétélé a été mis en position secondaire après le passage d'un bulldozer. Malgré la présence en surface de nombreuses scories et de morceaux de tuyères, cette situation pose le problème de l'exploitation et de la validité des sites de cette nature. Compte tenu de ces difficultés et problèmes, il revient à l'archéologue d'élaborer de nouvelles méthodes de travail.

Méthodes de Recherches en Pays Forestiers

L'identification et l'exploitation des sites n'étant pas faciles en forêt, loin de renoncer, il convient pour le chercheur de trouver une nouvelle approche de cet espace naturel. Plusieurs catégories de sources méritent une exploitation différente et adaptée au nouveau contexte.

Ainsi les sources orales peuvent aider à repérer les sites à condition de baser les enquêtes sur les anciennes chefferies établies dès 1918 par l'administration Française. Ces chefferies ont l'avantage d'avoir conservé une lignée de succession malgré les mutations, les traditions et les souvenirs ont été conservés dans la plupart des cas et enfin la conscience du passé est forte de façon que les informateurs ont des données qui remontent facilement au début du dix-neuvième siècle. Aussi ces anciennes chefferies ont-elles été témoins des trois Âges que les sociétés Beti ont traversé à savoir la période précoloniale, la période allemande et la période Française. Il n'est pas étonnant de trouver dans ces chefferies les descendants directs des acteurs, où les acteurs des périodes antérieures. Ils peuvent ainsi nous indiquer avec précision, les anciens villages, les différentes étapes et sites de leur migration avant la stabilisation en 1918. Les différentes structures et vestiges témoins des époques anciennes peuvent par conséquent être repérés.

L'exploitation de ces vestiges peut aussi être facilitée par les informations ethnographiques livrées par les anciens.

La lecture cartographique est ici capitale. Car les Toponymes (noms des lieux) renvoient à des activités qui ont eu lieu dans le village.

Ainsi les noms des villages assez réguliers dans cette province tels que: "Ngoulemekon, Ngoulmakon," renvoie à un front de guerre, "Nkolbikiet, Nkoetye," correspondent à une zone d'exploitation de fer et des noms comme "Melan" un espace de pratique des activités initiatiques ou de sociétés secrètes. La localisation sur le terrain du village peut permettre après interrogations des anciens de repérer des sites archéologiques intéressants.

Reste les indices archéologiques. Ils sont de plusieurs ordres: on distingue les grands travaux de construction. En effet le sud forestier connaît depuis 1984 une série de grandes constructions: on peut citer la route Edéa-Kribi, M'balmayo-Ebolowa, la Boucle du Dja, l'aéroport de Nsimalen, l'adduction d'eau Mbalmayo-Yaoundé. La prospection de ces grands chautiers peut permettre de repérer les sites comme l'a fait Elouga Martin dans le Nord de cette province, dans le département de la LEKIE. La construction de la route EMANA Monatélé lui a permis d'identifier plusieurs fosses d'où : NKAN, AVOH, NKOLKOSSE, etc.

La prospection des routes départementales et d'arrondissement est aussi utile. Le tracé des routes impose le creusement des points élevés, ce qui laisse apparaître sur les talus et les parois des routes, des structures, et des vestiges visibles. Les sites des grands travaux permettent déjà des le départ d'avoir une idée sur la stratigraphie et la profondeur possible du site, et facilite l'élaboration d'un profil topographique.

Les indices sur l'environnement végétal, sont ici importants. Le couvert végétal étant le plus grand obstacle à la découverte des sites, il s'agit de faire une autre lecture de la végétation. Ainsi on peut localiser les sites par l'observation de plantes domestiques et anthropiques. En effet les anciens dépotoires sont des endroits fertiles, il y pousse des plantes comestibles en même temps qu'un espace anciennement habité se caractérise par la présence des plantes domestiques très utiles pour la vie des hommes forestiers tels que: le kolatier, l'avocatier, le safoutier, le palmier à huile par exemple. Soit l'homme pour sa survie a contrôlé ces espèces en maîtrisant leur production dans son cadre de vie immédiat, soit alors l'homme s'est installé près des plantes et des ressources vitales pour d'abord contrôler leur utilisation et ensuite maximiser le profit tiré de ces plantes comestibles. Telles sont les hypothèses qu'on peut émettre au sujet de la présence des plantes domestiques dans un espace ayant été habité. Plusieurs autres catégories de plantes existent qui peuvent servir de repère à des anciens sites d'habitat. Mais des recherches et des enquêtes d'ethnobotaniques sont à faire, pour avoir

un tableau complet des différentes plantes "d'habitat."

La disposition de certains arbres un peu particulière, peut indiquer la marque de l'homme. Ainsi la disposition d'un ensemble d'arbres en cercle ou demi-cercle peut indiquer un tombeau. Ce cas se retrouve par exemple dans le site d'Elik Kono dans la LEKIE où les anciens tombeaux se caractérisent par près de 12 arbres disposés en cercle par intervalles réguliers avec une monticule de terre au centre. Des enquêtes doivent être effectuées sur les types d'arbres que les anciens du sud ont choisi pour cette utilisation et leurs propriétés particulières. L'orientation des arbres aussi est indicatrice. Ainsi un arbre qui avec le plan du sol forme un angle obtus ou aigu a été planté par l'homme soit pour soutenir une plante utile ou une structure quelconque.

La disposition des plantes dans la forêt décrivant un plan de figure géométrique rectangulaire ou carré peut indiquer des poteaux des anciens habitats qui ont repoussé après des siècles. Ce cas a été aussi mis en évidence dans le site d'Elig Kono dans la LEKIE.

L'observation dans l'environnement des traces de feu peut aussi servir comme soutien de prospection. En effet les billes de bois brûlées soit pour faire des champs, soit pour installer des habitats provisoires, indiqueraient une ancienne zone d'exploitation par l'homme. Mais le site proprement dit peut alors à partir de là être envisagé dans un rayon d'un kilomètre. Les anciennes pistes laissent aussi des traces dans le paysage. Elles se caractérisent par des hautes herbes qui se ferment sur elles-mêmes en laissant d'un trait, une ligne à terre qui constitue l'ancienne piste.

Cette piste peut conduire à des anciens villages, à des habitats secondaires, à des points de déjection ou des dépotoirs. Les anciens habitats effectifs eux, laissent d'autres types de traces caractéristiques de ces régions pluvieuses. En fait il laisse un sol surélevé, en inversion de relief. La surface est plane, ce sol ne forme pas une butte comme dans les pays de savane ou de sahel. Le sol surélevé est plus ancien, et le sol naturel assez récent. La hauteur de cette surface peut atteindre 50 cm elle dépend de

la nature de la roche, de l'inclinaison, de la pente du sol, de la régularité des pluies et de l'intensité du ruissellement des eaux et enfin de la nature des dépôts archéologiques. Cette surface donne en général le module de l'habitat et ses dimensions. Ce sol anthropique peut avoir une morphologie simple, ou en escalier. Le mécanisme d'érosion explique cette forme du sol. En fait l'eau érode progressivement le tour de l'habitat entraînant l'abaissement du niveau général du sol extérieur à la case qui n'est pas protégée par un toit. Le sol d'habitat se retrouve donc élevé et le sol naturel en bas, les deux espaces étant quelquefois séparés par des rigoles.

Les autres structures naturelles comme les rochers doivent être prospectés. Car les premiers hommes semblent avoir occupé des refuges nature comme lieu d'habitat. Mais la prospection du rocher impose une lecture de cette structure. La végétation rampante couvre souvent la roche, mais est absente dans les parties anthropiques. Il faut visiter les bords immédiats du rocher car c'est les endroits où se localisent les abris sous-roches et les grottes. Dans ce cadre le rocher de OZOM III dans la LEKIE a livré près de 3 abris sous-roches, alors que le rocher de AKOM ETAM dans le Nyong et So'o a livré deux abris sous-roches. Dans le cas des rochers où les abris sous-roches n'ont pas été découverts sur le flanc immédiat il est utile de prospecter un rayon d'un kilomètre autour du rocher. Cette méthode a permis de découvrir dans l'arrondissement de Zoétélé l'abri sous roche de AKOOVENG.

La stratégie de recherches archéologiques dans la province du sud doit aussi intégrer les données ethnoarchéologiques. Il s'agit d'enquêter sur les restes matériels que possèdent les populations dans les villages et chefferies. On peut distinguer plusieurs catégories de matériel: les armes, les vases, le matériel d'atelier métallurgique et de réduction du minéral de fer. Ces éléments sont des indicateurs pour le repérage des sites pourvu qu'on sache tirer de leur détenteur, toute l'information utile.

D'autre part ces vestiges constituent les témoignages des dernières activités de la phase précoloniale qui nous intéressent en

premier lieu. Leur analyse peut permettre une meilleure interprétation des données archéologiques recueillies dans les fouilles. De plus ces matériaux ethnographiques méritent d'être prélevés avec urgence dans la mesure où certaines activités artisanales pratiquées dans le Cameroun précolonial vont disparaître dans quelques années. Ce qui privera les archéologues d'une base de données matérielles pouvant soutenir les corrélations archéologiques.

C'est dans ce contexte que nous avons effectué des enquêtes ethnoarchéologiques dans la LEKIL et dans l'arrondissement de ZOÉTÉLÉ. Cette enquête a permis d'entrer en possession des objets témoins des activités du siècle dernier. Les enquêtes dans le village d'OZOM III ont livré deux objets: une hâche de 28 cm de longueur, sur 9 cm de largeur. Le profil de l'objet est en S. D'après nos informateurs cet objet servait à l'abattage des arbres. Il fut utilisé par le père de notre informateur né vers 1860. Il précise que cette hâche fut utilisée dans le village d'OZOM III avant l'arrivée des Allemands.

Une autre houe pour l'utilisation féminine a aussi été prélevée. Il s'agit d'un objet de 19 cm de longueur, la largeur de la partie inférieure est de 8 cm, et la partie supérieure dans laquelle le bois était emmanché a 11 cm de longueur. Elle daterait aussi de la période précoloniale. Ce troisième objet est un vase en céramique de 17 cm de diamètre et une hauteur de 16.5 cm. Son profil est en S et possède de petites décorations sur la panse. Ce vase aurait été utilisé dès le début de la colonisation française au Cameroun. Dans l'arrondissement de Zoétélé, nous avons prélevé deux objets: une hâche polie ramassée par OYONO ABESSOLO en 1988 dans une carrière de 2 m de profondeur dans le village d'Otetek. Cet objet a permis de savoir que la localité a dans le passé abrité des hommes dès le néolithique et que la prospection systématique de la forêt peut permettre de repérer des sites préhistoriques qui semblent avoir existé même dans la région forestière. Cette hâche a 6.5 cm de long et 6 cm de large. Le deuxième objet recueilli à Otetek est un marteau indigène appelé "Ngondo." Il a 10 cm de longueur. Il avait été utilisé par le père de notre inform-

ateur MEZAN, qui serait né vers 1844. Il servait à la fabrication des outils en fer.

Ces données ethnoarchéologiques qui remontent au XIXe siècle peuvent permettre d'aborder l'étude des techniques et des technologies anciennes dans le Cameroun méridional précolonial.

Au terme de cette analyse, il apparaît que la recherche archéologique en pays de forêt et notamment dans la province du sud, malgré les difficultés, offre des perspectives intéressantes. En effet région frontalière du Congo, du Gabon, et de la Guinée Equatoriale, elle permet de compléter les recherches du monde Bantou et à ce titre offre des éléments comparatifs intéressants. Aussi ces recherches permettront-elles de compléter les travaux déjà entrepris dans la province du centre forestier par: Elouga (1983, 1985), Essomba (1986, 1988, 1991), De Maret et Mbida (1983), au niveau chronologique, stratigraphique, et de la caractérisation des cultures matérielles. Les recherches ethnoarchéologiques permettront d'identifier les activités en disparition tout en donnant à l'archéologie des données d'analyse. Ces recherches peuvent permettre d'élaborer la première carte archéologique de la province du sud, ce qui complètera la carte archéologique du Cameroun méridional. En définitive ces recherches permettront d'avoir les premiers éléments du Sud Cameroun forestier précolonial. Mais pour y parvenir il faut des moyens humains et financiers. La province du sud et la région forestière ne sera plus comme l'ont pensé certains auteurs, "une région riche, à couvert végétal important, mais sur le plan préhistorique d'une grande pauvreté" (Hugot 1970: 49).

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**East African Coinages:
 New Finds and New Work
 Necessary**

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It has long been known that Kilwa and certain other sultanates of the Swahili coast and islands minted their own coins in copper on occasions in the "mediaeval" period. Though some of the earlier literature on this subject may appear confusing and contentious—see the articles of Walker, Freeman-Grenville and Chittick, and the last's treatment in his two-volume *Kilwa* (B.I.E.A. Memoir 5, 1974)—these coin collections are highly relevant historically for two reasons. At a general level they reflect the economies of the early Swahili towns and sultanates; but more immediately they are a crucial tool for constructing their chronology. Although dates are never inscribed on the copper coins, the names of the rulers usually are (in Arabic), and these

can be cross-checked with those listed in the *Kilwa Chronicle*. At Kilwa some of the buildings and their alterations and the successive archaeological levels have been dated partly by reference to these local coins; and it now appears, in the light of new finds and an improved understanding generally, that this method could be developed substantially for the archaeology of the eleventh to fourteenth centuries.

Chittick was inclined to group the Kilwa coins into two clusters, the first that of Ali b. al-Hasan and his successors the "Shirazi" dynasty, which he assigned to the late twelfth and thirteenth centuries—the second that of the Mahdali ("Abu al-Mawahib") dynasty in the early fourteenth century. While the dating of the latter (together with the building of the Husunis and the Great Mosque extension) remains good, it now appears that Ali b. al-Hasan and his rule at Kilwa (and Mafia too) have to be pushed back a full century earlier than Chittick imagined. Such a revision finally became apparent with Mark Horton's discovery of the Mtambwe Mkuu coin hoard on Pemba (see *Azania* XXI, 1986). This was the contents of a buried purse and included a few gold pieces from the Islamic heartlands, Egypt especially, which date the hoard to the last third of the eleventh century. But the rest of those coins, over two-thousand of them, are of East African style, although struck in silver, not copper. Some bear the very name of Ali b. al-Hasan; and the prevailing view is that he and other Swahili rulers quickly switched from silver, which had to be imported from the north, to copper which was obtainable from their southern trading partners—who were also supplying gold through Kilwa for the international economy.

The Mtambwe hoard is not the first instance of silver coins of this period coming to light on old Swahili sites. There had been a few from early levels at Kilwa and also from Manda (see BIEA Memoir 9); others were being found in Horton's excavations at Shanga (BIEA memoir, forthcoming). Some of these silver pieces, dating from around 1000 A.D. onwards, seem to be from Fatimid mints in the eastern Mediterranean and elsewhere; others appear to be locally

produced. The problem is that they are very small (one cm or so in diameter), thin and delicate ("fish-scale" like), and often so encrusted as to be illegible until slow and expert cleaning and conservation are undertaken. This urgent task is going ahead through the cooperation of the Zanzibar Antiquities and the Kenya Museums (at Fort Jesus), alongside a thorough study of the coins and their inscriptions being undertaken by Mrs Helen Brown of the Ashmolean Museum in Oxford.

Helen Brown has been consulted on East African coins since the 1960s, but till now she has had the opportunity to examine at first-hand only selected specimens submitted for her opinion. In view of the number and variety of new finds, it was arranged in 1990 for her to travel to East Africa and to look through the collections comprehensively (a grant for this purpose being made by the British Academy to supplement the support from the Ashmolean and the British Institute in Eastern Africa). Essential for the conclusion of this exercise is a reexamination of all the copper pieces from Neville Chittick's Kilwa excavations of 1961–65 kept in Dar es Salaam. These come from various parts of the site, the larger number being stratified and associated with building stages and other artefacts. Not all of this work could be completed in the one short visit in 1990. It is hoped therefore to arrange a return visit by Mrs Brown very soon so that these outstanding parts of the collections can be properly compared and a corpus of the old Swahili coinages prepared and published for the reference of archaeologists of this region.

Though Kilwa was not the only East African sultanate to have a mint at times, it seems with Mafia to have been the most prolific. It will be of considerable importance to see whether Helen Brown's reexamination bears out Chittick's hunch of two main periods, that of Ali b. al-Hasan and his successors, now placed c. 1050 to 1100 or so (perhaps to 1150), and secondly that of the great boom under the Mahdali dynasty, approximately 1300–1340. Previous chronologies for the Kilwa coins have tried to fill the intervening period and also to assign certain of the named sultans to the

fifteenth century. In several cases, these late assignments are, as Chittick pointed out, almost certainly the result of attributing coins to the wrong sultan by the same name in the *Kilwa Chronicle*. But can we rule out all claims of minting in the fifteenth century? While there are signs of a marked decline if not collapse at Kilwa about 1350 (Husuni Kubwa abandoned and the Great Mosque falling into disrepair), there are equally clear signs of a definite revival somewhere about 1420 with the complete repair of the extension to the Great Mosque, the construction of the exquisite small domed mosque and of the new palace nearby on what is now the Makutani site, etc. But no revival of coinage then? If this did not occur at Kilwa, some of the coins of Tumbatu and Unguja (Zanzibar island) may have been struck as late as the fifteenth century.

Leaving that question for now, in the second recognised coinage period at Kilwa, that of the first half of fourteenth century, the sultan of whom the most plentiful coins have been found is the celebrated al-Hasan b. Sulaiman. He reigned in the 1320s and 30s—being incidentally the contemporary of the equally celebrated Mansa Musa of Mali, who was also thriving on the international gold trade at that period of exceptionally enhanced demands—and was met by the traveller ibn Battuta in 1331. This al-Hasan's wisdom and virtues are sung not only by ibn Battuta but also in the *Kilwa Chronicle*, while the famous inscription in his magnificent and spacious Palace of Husuni Kubwa records his power and titles. That the gold of Zimbabwe was instrumental to Kilwa's wealth then is hinted by ibn Battuta, and interestingly by one copper coin of this same sultan found at Great Zimbabwe itself.

All this about al-Hasan b. Sulaiman and his time should be known well enough. One further detail—which in retrospect should not surprise us—came to light this last year. At the very time that Helen Brown was examining the Swahili copper and silver coins in the East African museums, a gentleman from southern Arabia approached the British Museum with a request for identification of three mediaeval Islamic gold dinars which are understood to have been formerly in private possession in

Zanzibar. These coins are new to the world of numismatics; their style moreover is very different from that of the East African copper pieces. But there is no doubt about their date and provenance. They bear the unequivocal inscription "struck at Kilwa" (which is never seen on the copper coins which were presumably intended for local market use). They are further inscribed with the name of the sultan, al-Hasan b. Sulaiman, of the dynasty's family, Mahdali, and the praise-title, Abu al-Mawahib, "the Father of Gifts," just as ibn Battuta and the *Kilwa Chronicle* record. The coins also call him, as does the Husuni Kubwa inscription, al-Malik al-Mansur, "the victorious king" (as if to place him among the most wise and most great in Islamic history). Two of the pieces include a date in the margin: unfortunately this cannot be read entirely or with confidence, but it looks to be "72-," which on conversion from AH to AD would place it in the 1320s—which would fit beautifully!

These three gold coins of early fourteenth-century Kilwa have been referred to Helen Brown in the Ashmolean's Coin Room. She describes and illustrates them in a short article in the current volume of *Azania* (XXVI for 1991).



BOOK REVIEWS

Gallay, A., Huysecom, E., Honegger, M., and Mayor, A. 1990. *Hamdallahi—Capitale de l'Empire Poul du Massina, Mali*. Stuttgart: Steiner. 58 pp. illus.

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Dr. Huysecom has already given a summary of the contents of this booklet in his article in *Nyame Akuma* 35 (1991), together with some information on one excavating season carried out subsequent to the publication of this booklet. There is therefore little point in my summarising the contents as had been my original intention.

It remains just to make a few comments of a general nature and to draw the attention of those who may have missed Huysecom's excellent precis to the interest and merits of the work described in this booklet. The work described is a part of a major project to study the ethnoarchaeology and particularly the traditional ceramics of the interior delta of the river Niger under the auspices of the "Mission Ethnoarchéologique Suisse en Afrique de l'Ouest."

The excavation of Hamdallahi—whose Arabic name means "Praise be to God"—is of special interest as being one of the few excavations carried out on a recent site. The dates of the founding and abandonment of the site are known from historical sources (1820 and 1864) so a close dating can be got for any objects and structures found. This has enabled the excavators and particularly Matthieu Honegger, who studied the pottery, to get a clear understanding of the ceramics and to show that much of the

material is of Fulani origin, thus demonstrating that the part of the town excavated was inhabited by Fulani. This was rather to be expected since the purpose of Sékou Hamadou, the founder of the town, was to settle the normally nomadic Fulani and to use them as the shock troops of his Islamic "Empire of Massina."

This booklet covers only a small-scale and short (eighteen-day) excavation and as a result only tentative results could be obtained. Further work is planned and one more season has already taken place.

For details of the aims of the expedition and to what extent they were fulfilled in the first season, the reader should refer to the article in *Nyame Akuma* 35.

As the work continues, information will become available not only on the ceramics and architecture but also on the social and ethnic composition of this unusual town. It seems set to be a classic example of how ethnoarchaeology should be done, though I question whether ethnoarchaeology is really the word for it. It seems to me to be straight archaeology.

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This book is an edited volume of reports on work done in the Loita-Mara area on the border with Tanzania, ranging from history and the environment (Lamprey, Waller), through prehistoric archaeology (Pilgrim Siiriänen, Marshall, Cable, Robertshaw), ethnoarchaeology (Mbae), obsidian sourcing and dating (Merrick, Brown, Connelly, Michels), and

archaeozoology (Marshall). However, it is more than a series of interdisciplinary reports strung together to make up a volume. It is tightly focussed on the area, and an in-depth study of the region's pastoral history that, because of the available sites, is mostly on the Elmenteitan (c. 400 B.C.–600 A.D., but with the ethnoarchaeological and environmental input it continues on up to the present.

Each chapter has its own strengths. I was particularly impressed by Lamprey and Waller's description of the dynamics of Maasai adaptive strategies towards bush encroachment and tsetse infestation, as well as the pressures on the Maasai in the modern world. They are quite emphatic about the avoidance of wildebeest herds to prevent transfer of disease to their domestic herds. This same point, however, was not picked up by Robertshaw in his otherwise fine theoretical chapter at the end, where his interpretation of the high game frequency at Prolonged Drift is suggested as being "poor pastoralists" trying to recoup their herds after a calamity. The avoidance of wild animals by East African herders is exaggerated to the extent that no wild meat will be taken back to a cattle camp. While young *il-murrani* will kill wild animals as a show of bravery, they may only eat part of the kill where the animal died, and perhaps take the skin back, but few of the bones will get to the camp. In contrast, hunters on the periphery of herding society live off wild game, but they get gifts of domestic stock from the herders for performing a number of services. Thus their camps will contain a majority of wild animal bones and some domestic animals (Hussein Isack, personal communication). The relations of production of hunters are very different from that of herders, as Robertshaw notes, and reestablishing a herd is not done by falling back on hunting, but by calling in debts from bond-friends who will supply breeding stock. Those herders who have become hunters totally reject the herding ethos (Ten Raa 1986).

Another chapter in the book which should have wider interest is that of Fiona Marshall's analysis of herd structures from Ngamuriak. This detailed study could be a

model for subsequent studies of prehistoric pastoralist societies. There is a problem that faunal analysts need to resolve, however, and that is the comparability of age structures in domestic stock. Marshall uses Payne's (1973) breakdown of age classes, while Klein and Cruz-Urbe (1989) use a different set, making it very difficult for adequate comparisons.

As in her 1990 article, Marshall uses palaeoenvironmental information of a bimodal annual rainfall system existing by c. 3000 B.P. to support her thesis that a "Maasai-type" specialised pastoralism was in place in East Africa by c. 2000 B.P. Of interest will be her interpretation of flat orbits in cattle crania from *Bos indicus*, which would push the evidence for humped cattle in Africa back by 1,500 years. There is some discrepancy in her view that the hyperplasia seen in cattle teeth is a result of seasonal stress, with her assertion that allowing the majority of sheep to reach maturity means an unstressed situation.

Robertshaw presents compelling arguments for a hierarchical system developing in East Africa at this time, based on control over a desirable commodity: green obsidian from Mt. Eburru in the Central Rift Valley. It is interesting that this same commodity did not seem to get beyond into the Serengeti, and tsetse infestation is suggested as the reason.

I have difficulty with some of the terms used in the book. The word *Neolithic* is fraught with problems, and, although very much a part of the East African literature, has led to some bizarre interpretations in the past. There also seems to be a lack of agreement between some of the authors of which terms to use. Marshall wants to use Narosuran, while Robertshaw prefers Oldishi.

These criticisms notwithstanding, this is an important volume for all of us working in pastoral studies. In many ways it reflects a current concern with Africa's pastoral people who are under various political and economic pressures. It is timely, since the stress is such that little of the "traditional" ways may survive much longer, and it is important that detailed ethnographic and archaeological information be recorded

while questions can be formulated and still answered by active proponents of the lifestyle. One aspect of Mbae's study that needs to be recognised is that the ethnoarchaeology of modern pastoralists in the Loita-Mara area was only done during the dry season. Thus a large part of the study is missing and needs to be completed.

Our concern is with material culture, but the past should not be just an abstract concept for Africa's pastoral people. We need to integrate our information into the present for the use of development and change (cf. Smith 1992).

References

- Klein, R. G., and Cruz-Urbe, K.
 1989 Faunal evidence for prehistoric herder-forager activities at Kasteelberg, western Cape Province, South Africa. *South African Archaeological Bulletin* 44: 82-97.
- Marshall, F.
 1990 Origins of specialized pastoral production in East Africa. *American Anthropologists* 92: 873-94.
- Smith, A. B.
 1992 *Pastoralism in Africa: Origins and Development Ecology*. London: Hurst.
- Ten Raa, E.
 1986 The acquisition of cattle by hunter-gatherers: a traumatic experience in cultural change. *SUGIA* 7: 361-75.



PUBLICATIONS

New Publications

These publications may interest *Nyame Akuma* readers:

1. *Archeo-Nil*, bulletin of the "Société pour l'étude des cultures prépharaoniques de la vallée du Nil," supplemented by occasional newsletters and edited by Béatrix Midant-Reynes. The bulletin is aimed at merging the research interests of prehistorians and egyptologists on issues of general Africanist significance. Thus, for example, bulletin no. 1 (May 1991) is dedicated to masks in North Africa. Inquiries should be sent to the editor at the following address:

c/o Cabinet d'Égyptologie
Collège de France
11, Place Marcelin Berthelot
75005 Paris, France

2. The British Institute in Eastern Africa (John Sutton, Director) has announced the publication of memoirs 10-12. No. 11 (1990), edited by P. Robertshaw, is reviewed in this issue of *Nyame Akuma*. No. 10, *Excavations at Aksum* (S. C. Munro-Hay, 1989) is an account of research at the ancient Ethiopian capital directed in 1972-74 by the late Dr. Neville Chittick; its price is £30 (U.K.). No. 12, *Soba: Archaeological Research at a Medieval Capital on the Blue Nile* (D. A. Welsby and C. M. Daniels, 1991) has a bookseller's price of £40 (U.K.). The BIEA memoirs are distributed internationally by Thames and Hudson and are also stocked by Oxbow Books. They are available to institutional and individual BIEA members at a discount.

Also noteworthy is *Azania XXIV* (1989), a special issue of the journal of the BIEA devoted to the history of African Agricultural technology and field systems. The journal is available for £ 10.50 (U.K.) from the BIEA offices in

the U.K. (1 Kensington Gore, London SW7 2AR) or Kenya (P.O. Box 30710, Nairobi).

3. Volume 20 (1990) of the *West African Journal of Archaeology* (W.A.J.A.) is entitled "Cultural Resource Management: An African Dimension" and contains papers presented at the conference in honor of Professor Thurston Shaw (Ibadan, 1989). W.A.J.A. also has announced new subscription rates, effective with Vol. 20, as follows:

Institutional rate \$44/vol.
Individual rate \$32/vol.
Postage \$4.40/copy

Publication rate is one volume per annum; inquiries should be addressed to:

W.A.J.A.
c/o Dept. of Archaeology and
Anthropology
University of Ibadan
Ibadan, Nigeria



MEETINGS

The Canadian Association of African Studies Conference

May 13-16, 1992
Montréal, Québec

The 1992 Conference of the Canadian Association of African Studies will be held in Montreal, May 13-16, 1992 and co-organized by the Université de Montréal and the Université du Québec à Montréal.

General Theme

Central theme of the conference will be:

Research for whom?
Cooperation for what?
The role of African Studies
in the 1990s

It is the aim of the conference to provide a forum for reflection on the obstacles to the transmission of knowledge and expertise in the area of international cooperation.

In this context, participants at the conference will examine the role, the pertinence and the responsibility for scientific research in the field of international cooperation as it concerns the African continent.

The programme committee plans to set up a series of core panels composed of representatives from both the pure and the social sciences around specific issues: water, education, health, etc. in order to examine the methodological contributions of different disciplines and approaches to the understanding of the success or failure of projects in these areas, and more generally the contribution of scientific research to international cooperation.

The subtheme of the conference will be:

**Bilan et perspectives des
étude africaines en
langue française.**

Panels on the History of Angola

A series of panels on the history of Angola are also being organized for the next annual conference of the Canadian Association of African Studies (1992). They are, tentatively, divided into three regions: (1) themes in the history of northern Angola, including Kong and Cabinda; (2) themes in the history of Luanda and its hinterland; (3) and themes in the history of central/southern Angola. It is planned to publish the proceedings in a coedited volume. Social scientists working on the past of this country are encouraged to participate. For further information, please contact one of the organizers:

Group 1

John K. Thornton
Dept. of History
Millersville University
Millersville, PA
U.S.A. 17551

Group 2

José C. Curto
Dept. of Sociology

University of Alberta
Edmonton, Alberta
Canada T6G 2H4

Group 3

Linda Heywood
Dept. of History
Howard University
Washington, DC
U.S.A. 20059

For further information please contact the coorganizers:

Victor Piché
Dépt. de Démographie
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Université du Québec à Montréal
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Tel.: (514) 987-4574
Fax: (514) 987-4749

African Studies Association

*Fall 1993 Annual Meeting
Boston, MA U.S.A.*

The Tropical Forest History Group of the International Union of Forestry Research Organizations (IUFRO) will sponsor several sessions on environmental history in Africa at the fall 1993 annual meeting of the African Studies Association in Boston, Massachusetts (USA). IUFRO also hopes to organize a smaller, follow-up workshop in Africa. Neither meeting will be confined to the history of forest as such. Proposals for papers should, however, deal with long-term rather than strictly present interactions between human beings and land or other natural resources. Funds may be available to support travel by African scholars to both

meetings. Send c.v.s and brief paper or session proposals by 1 March 1992 to:

Dr. Alice E. Ingerson
IUFRO Africa Conference
Forest History Society
701 Vickers Avenue
Durham, North Carolina 27701 USA
telephone (919) 682-9319
Fax (617) 661-7235

Southern African Association of Archaeology

Biennial Meetings
Cape Town
July 1-4, 1992
The University of Cape Town

Overall Objectives

For our 1992 meetings we have explicitly adopted themes that encourage the participation of African scholars from outside South Africa. It is our hope that we can attract papers from a Pan African community and begin to open up dialogues that transcend the somewhat artificial boundaries of "Southern Africa." We believe that such dialogues will improve our understanding of African colonial and pre-colonial history and lead to a distinctly African perspective on the human past.

Conference Themes

Colonialism, Nationalism, and Archaeological Explanation

Papers in this session should highlight the interface between the African colonial and post-colonial experience and the kinds of archaeological reconstructions offered. Professional reports, museum displays and popular or school texts may be covered. We would also like to direct attention at the practice of archaeology in contemporary African society.

African Places

Papers in this session should focus on the creation of places in the Southern African landscape. Materials covered may range from cave uses and campsites, through stone or pole and daga structures to urban settlements. The intention is to cross the boundaries between archaeology, architecture, history and ethnography.

Material Culture as Text

The focus of this session will be the interpretation of material culture through the application of post-structuralist theoretical approaches. Contributions are encouraged from a wide range of empirical fields, including historical archaeology, rock art research and ethnoarchaeology.

The Origins of Domestic Stock in Southern Africa

The papers in this session should focus on the introduction of domestic stock into Southern Africa and the impact on communities of both agro-pastoralists and hunter gatherers. Papers from beyond Southern Africa are welcome.

The Biology of Southern African Populations

Here the focus is on the biology of ancient and modern populations of Southern Africa. Contributions are encouraged from the fields of morphology and genetic studies, dietary and nutritional studies, as well as chemical or isotope approaches.

The Use and Control of Fire

Papers are invited on the subject of the archaeological traces of the use and control of fire. Included in this would be analyses of burnt materials, excavation of hearths, and the social, cultural and ecological implications of fire control. We hope to include papers which span the record from the earliest uses of fire on to recent times.

Art and Decoration

Papers in this session should focus on the production of decorative or artistic objects by the people of Southern Africa as

revealed by the archaeological, historical, or ethnographic record.

Poster Sessions

Posters are invited either as visual displays of papers given in other sessions or as presentations of work in progress or recently completed.

Deadline for Abstracts

Early March, 1992

Organising Committee

John Parkington, Judy Sealy, Andrew Smith, Martin Hall, Andrew Sillen, Alan Morris.

Department of Archaeology,
University of Cape Town,
Private Bag, Rondebosch, 7700.