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. I, 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.

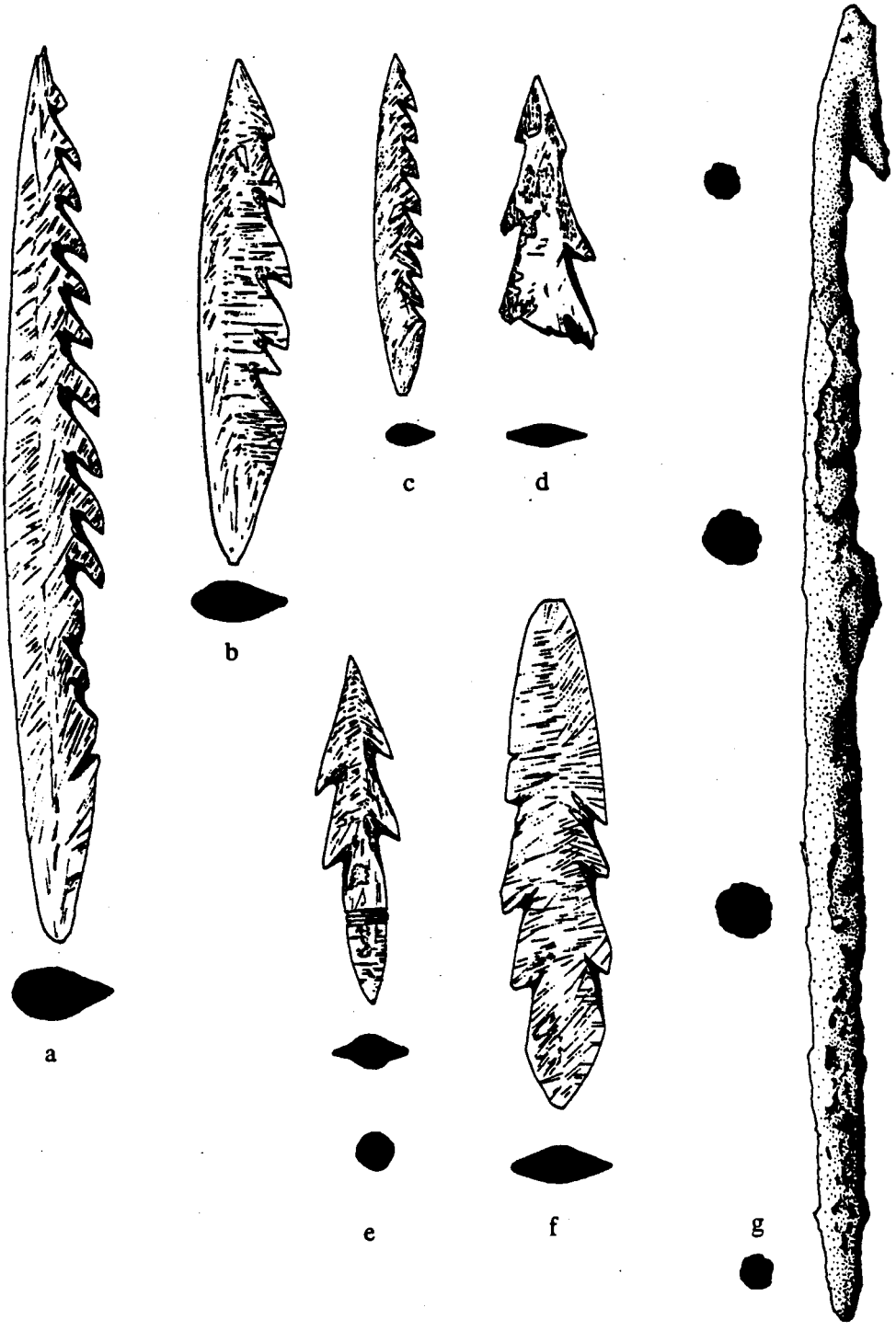

Fig. 1. Harpoons from the spit Koobi Fora (GaJi12).

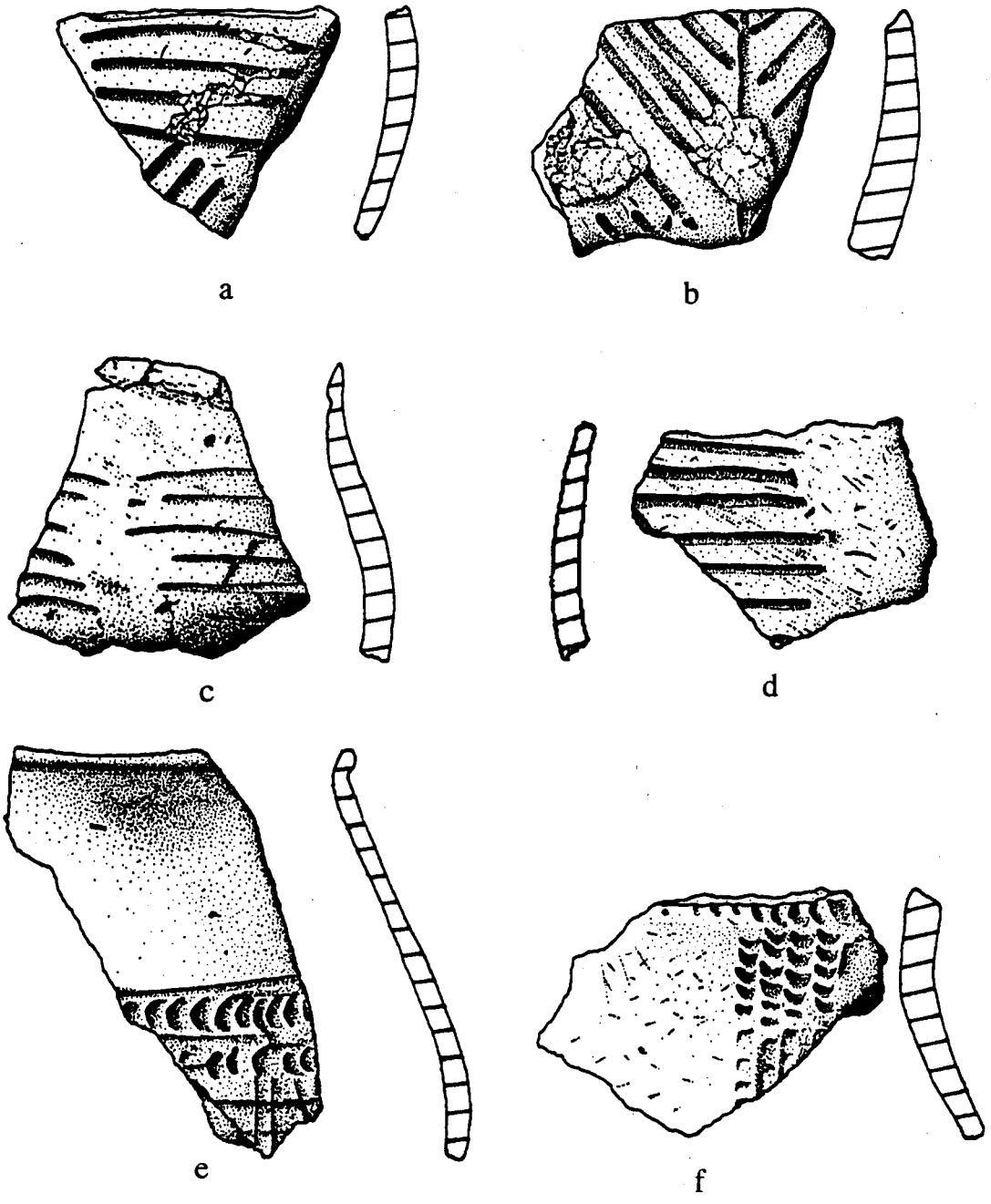

Fig. 2. Fiber-tempered ceramics from GaJi12.

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 GaJi12 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

The work on Koobi Fora spit has been conducted as a component of the Koobi Fora Field School of Palaeoanthropology, which is jointly sponsored by the Kenya National Museums and Harvard University.

■ 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.