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Saggai: a settlement of hunter-fishers north of Khartoum

The Italian Mission for Prehistoric Research in Egypt and the Sudan[1] started working on the Nile in 1966, with surveys in the Fayum depression. Since 1970 the research has been extended to the Sudan, where surveys and excavations on the East bank of the Nile, between Khartoum and the Sixth Cataract[2] were carried on by Prof. S. M. Puglisi.

During the last two seasons field activities have been concentrated in the Saggai area, 40 km north of Khartoum, not far from the river. Among the sites located, one revealed the presence of an extensive settlement, related to the Early Khartoum "Mesolithic" culture (Arkell, 1949).

Hunting and fishing appeared to have been the main subsistence activity, as indicated by the association of bones of wild mammals, fishes and reptiles with specialized bone and lithic weapons. However, the presence of pottery vessels and grinding equipment indicates low mobility and developped techniques of food manipulation: we are dealing here with a "settlement" with a successful, non-agricultural economic system.

The site-mound is large, covering a surface of 200 × 160 m. During the first season (Caneva and Zarattini, 1979) two soundings were made (Fig. 1), reaching virgin soil at a depth of 1.60 m. The levels were extraordinarily rich in findings and appeared to be undisturbed by graves. In the second season (Caneva and Zarattini, 1980) the general interpretation of the site was confirmed but new elements appeared, referable to a later horizon: a very deep grave with goods including ostrich egg-shell beads of Meroitic type and red burnished pottery.

A preliminary study of the faunal remains associated with the Early Khartoum

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[2] Excavations are licensed by the Sudan Antiquities Service, which we would like to thank for its kind cooperation and help during our field work.

assemblage (A. Gautier, pers. comm.) revealed the presence of aquatic molluscs (mainly *Pila ovata*), landsnails, fish (mainly catfish), some reptiles, a few birds, and a varied assemblage of mammals, including rodents, carnivores, warthog, hippopotamus, elephant, gazelle and other bovids. A second assemblage collected from pit-like structures consists mainly of disarticulated dromedary bones as well as some bones of other domesticates and gazelle.

Archaeological materials, probably related to the younger assemblage, were few and not very diagnostic: pottery fragments, black or red-slipped and well burnished, belonging to hemispherical bowls, sometimes with simple bands of impressed decoration.

Findings of the older deposit concern lithic industry, pottery, bone artifacts and ground stone tools typical for an Early Khartoum assemblage. Lithic implements consist almost exclusively of quartz microlithic crescents and chopping tools or hammerstones (Fig. 2). Bone implements include combs for pottery decoration, grooved bones and some barbed points with barbs on one side only (Fig. 2). Vessel shapes can not be reconstructed but the sherds suggest that globular forms were predominant. Their surface is unburnished and decorated by comb impressions (Fig. 3). Pounding and grinding tools were found to be numerous: pestles, upper and lower grinding stones, stone rings (Fig. 4).

FIG. 1. Saggai. General view of the sounding

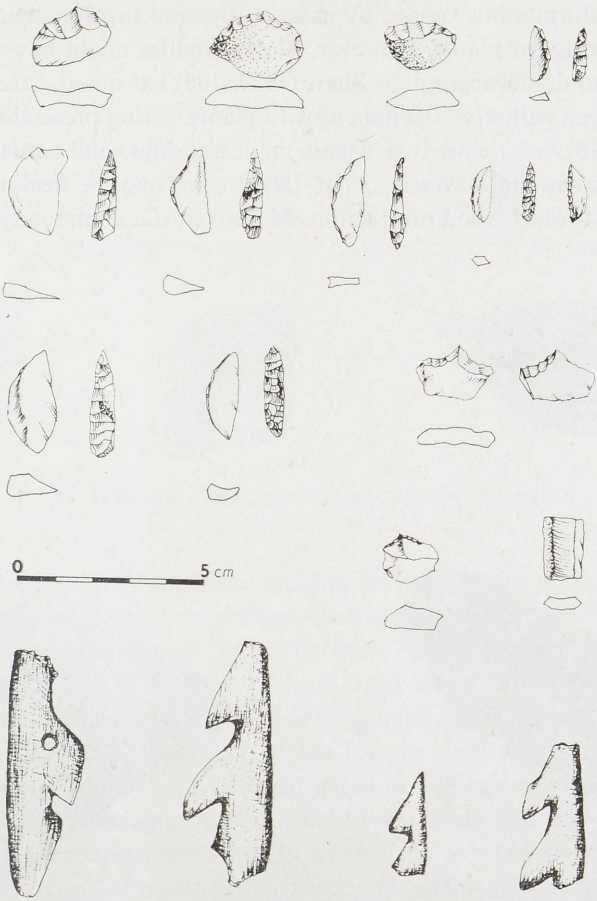

FIG. 2. Saggai. Lithic and bone implements

The emphasis put on grinding equipment suggests a kind of settled way of life and a focus on the processing of vegetable food. In the absence of more specialized tools the presence of pottery and grinding stones is only indirect evidence of grain using and, possibly, root and vegetable cooking; we know, however, that these re-resources may constitute 60% to 80% of the diet of the present day hunters (Woodburn, 1968).

The list of African cultigens is very extensive (Cf. Harlan *et al.*, 1978). As Harlan (1978: 13) has written, "African agriculture is based on a mosaic of crops; traditions and techniques do not reveal a "center", a nuclear area or a single point of origin". It is, therefore, necessary to look for pre-adaptive factors in every area for local domestication processes. It is possible, in the long run, to have an increment in production by protecting and caring for plant life: while domestication is an end-product

of genetic transformations caused by man, cultivation involves merely activities relative to the caring for plants. However, these activities might have had remarkable effects leading to domestication: as Shaw (1977: 106) has noted, "the borderlines are very hazy between gathering the nuts of wild plants, giving protection to a wild tree, allowing trees to seed themselves in man-made clearings, and actual planting" but, through the intentional investment of labour, we may be dealing with the first, significant step towards food production. Moreover, if a community becomes accus-

FIG. 3. Saggai. Vessel sherds decorated by comb impressions

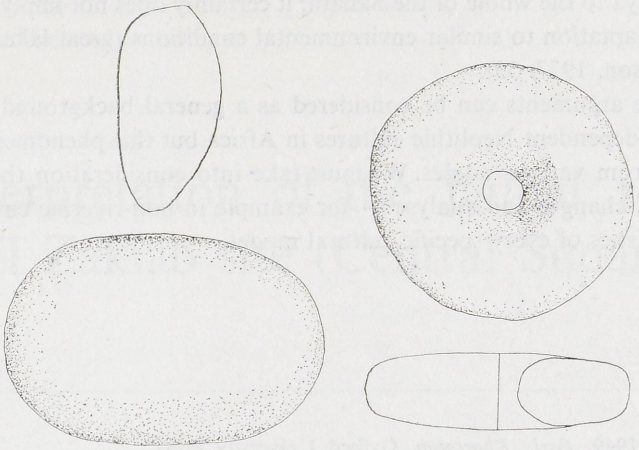

FIG. 4. Saggai. Upper grinding stone and stone ring

tomed to a sedentary way of life, this would be an incentive to make grasses and tubers grow near the camp site, even without their domestication (see "house gardens" of Indian communities) (Harris, 1973a; Lathrap, 1973). In any case, the areas of domestication of certain indigenous African crops seem to be corrrelated with the distribution of the stone-tool-using fishermen groups (Shaw, 1977: 111).

We have in fact archaeological evidence for the development, in "mesolithic" contexts, of a type of permanent settlement based on the exploitation of the environment by non food-producing groups. It would seem likely that causes for sedentarization resulted from changes of climate – not strictly in terms of environmental determinism, but in terms of pressure not directly avoidable within the bounds of the dialectic relations between natural and cultural elements (i.e., territorial limits, population size, potential of natural resources, food production, quantity of work, technological level, social relations, etc.). These elements are normally kept in balance through various measures of control and compensation.

Towards 9,000 B. C. the increasing temperature caused greater evaporation and, therefore, greater precipitation, certainly producing a rapid growth of vegetation (Rognon and Williams, 1977). Concomitant changes of both quantity and type of fauna can have produced a general imbalance provoking different reactions in different groups. Restrictions on hunting then could have favoured the widening of the spectrum of required resources, resulting in changes in technology (including manipulation and storing), and causing a lesser mobility and, therefore, bringing about the sedentarization (Harris, 1973: 19).

The archaeological evidence testifies to the presence of microlithic technology in similar cultural contexts. Evidence for this as well as for the presence of combed and impressed pottery and bone points can be found from the upper Nile and the Rift

Valley in Kenya to the whole of the Sahara; it certainly does not imply migrations of people but adaptation to similar environmental conditions (great lakes of the Holocene) (Phillipson, 1977: 55).

The above arguments can be considered as a general background for the development of independent Neolithic cultures in Africa but this phenomenon should be approached from various angles. We must take into consideration the local causes for functional changes and analyse – for example in non-riverine environments – the characteristics of every specific cultural model.

References

Arkell, A. J. 1949. *Early Khartoum.* Oxford University Press.

Caneva, I. and A. Zarattini. 1979. Late hunter-gatherers of central Sudan. In: *Colloquium on Nubian Studies*, 20 - 22 Sept. 1979, The Hague (in press).

– 1980. In insediamento di cacciatori-raccoglitori nell'alta valle del Nilo. In: *Quaderni della Ricerca Scientifica* C. N. R., Roma (in press).

Harlan, J. R., J. M. J. DeWet and A. Stemler. 1978. Plant domestication and indigenous African agriculture. In: C. A. Reed (ed.). *Origins of Agriculture.* The Hague.

Harris, D. R. 1973a. The prehistory of Tropical Agriculture; an ethnoecological model. In: C. Renfrew (ed.), *The explanation of Cultural Change; Models in Prehistory.* London.

– 1973b. Alternative Pathways Towards Agriculture. In: C. A. Reed (ed.), *Origins of Agriculture.* The Hague.

Lathrap, D. W. 1973. Our Father the Cayman, our Mother the Gourd: Spinden Revised, or a Unitary Model for the Emergence of Agriculture in the New World. In: C. A. Reed (ed.), *Origins of Agriculture.* The Hague.

Phillipson, D. W. 1977. *The Later Prehistory of Eastern and Southern Africa.* London: Heinemann.

Rognon, P. and M. J. Williams. 1977. Late Quaternary Climatic Changes in Australia and North Africa: a Preliminary Interpretation. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 21.

Shaw, Th. 1977. Hunters, Gatherers and First Farmers in West Africa. In: J. V. S. Megaw (ed.) *Hunters, Gatherers and First Farmers beyond Europe.* Leicester.

Woodburn, J. 1968. An Introduction to Hadza Ecology. In: R. B. Lee and I. Devore (eds.), *Man the Hunter.* Chicago.