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## The later prehistory of the Eastern Sudan: a preliminary view

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The work reported here is an update of that reported in 1984 (Fattovich *et al.* 1984), and results from the combined efforts of two separate archaeological projects, the Joint University of Khartoum/Southern Methodist University Butana Archaeological Project and the Italian Archaeological Mission to Sudan (Kassala), of the Institute Universitario Orientale, Naples. Each had as its goals the elucidation of the history of the eastern Sudan, with specific emphasis upon the interrelationships between environmental change, economic adaptations, and settlement systems. In spite of these similarities in orientation, each group had different foci of interests. The Italian Mission was particularly interested in the later ranges of prehistory and with possible connections between the eastern Sudan and Pre-Axumite developments (Fattovich 1982). On the other hand, the Butana Archaeological Project was most interested in an earlier time frame, particularly focusing on the degree of interaction between the Nile Valley and the eastern Sudan during the Neolithic (Marks *et al.* 1980; 1982). In spite of these different interests, the first few field seasons demonstrated that both groups were working within the same culture area and that cooperation would produce more knowledge than would competition.

By the end of the 1982 field season, it had become clear that, combined, our separate data, derived extensive surveys, test excavations, and preliminary laboratory analyses, pointed to a clear but quite unexpected conclusion: there was a large area of the eastern Sudan in which developed a distinct ceramic tradition, named the Atbai Tradition, which arose during the 5th millennium B.C. and lasted until the 1st millennium A.D. Also, it now appears clear that, although some specific traits can be found in other ceramic traditions, the Atbai Tradition was not significantly influenced by either Nilotic or Ethiopian developments. Moreover, by the middle of the 3rd millennium B.C. it appears that the ceramics of the Atbai Tradition were to be found within the central Nile Valley to the west, and in the Red Sea Hills to the east, covering an area of over 100,000 sq kilometers.

The methodology employed by both projects involved the survey of geographically distinct regions within the eastern Sahel of the Sudan. The Butana Archaeological

Project, in two field seasons, carried out systematic survey and test excavations in two areas: the westernmost area was just fifty km southeast of the Nile Valley, including the deeply stratified midden and cave complex of Shaqadud (Marks, this volume). The second area, 320 km to the southeast, centered around the Atbara River at Khashm et Girba and extended eastward toward the Gash Delta, encompassing an area of about 2,000 sq km of which about 400 sq km have so far been systematically surveyed and sampled (Marks *et al.* 1982).

The Italian Mission, over four field seasons, carried out systematic survey and testing in a 1000 sq km area north and south of Kassala (Fattovich and Piperno 1981; 1982). Brief reconnaissance surveys and testing were also undertaken at the edges

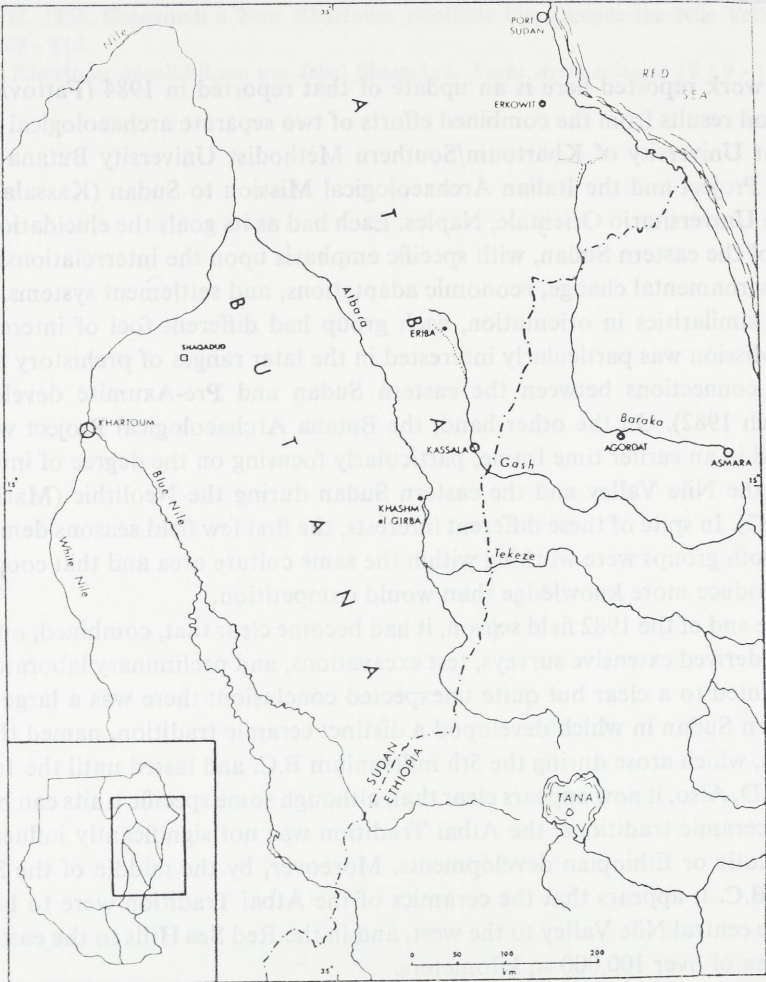


FIG. 1. Map of the Eastern Sudan

of the northern Gash Delta, some 140 km north of Kassala, in the delta proper, as well as in a large area to the west of the delta (Constantini *et al.* 1984).

The area east of the Nile Valley in the central Sudan was basically unknown archaeologically, except for the important Meroitic ceremonial sites in the Western Butana, such as Naga, Basa, and Musawwarat es Sufra. However, reconnaissance surveys had been carried out prior to our present studies; from Crowfoot (1928) through Hintze's Butana Survey (Hintze 1960) to the survey of the Atbara by Shiner and Chmielewski in 1966 (Shiner 1971). These pioneering works indicated that the eastern Sudan held much potential and both of our projects owe a debt to them.

The study area east of the Nile and west of the Ethiopian border is flat, dry grassland with a scattering of acacia trees, cut from south to north by two main drainage systems: the Atbara River which separates the Butana proper from the Atbai; and, the Gash River which cuts through the Atbai at the junction between the grasslands and tree savanna of Western Eritrea (Fig. 1).

Using only the data recovered by the two projects in the Southern Atbai, a preliminary culture-historic sequence has been constructed (Fattovich *et al.* 1984). In this core area of some 2000 sq km over 240 ceramic bearing sites have been located and sampled, while test excavations have been carried out at 17. Although tons of artifacts are all still under study, the broad outline of the Atbai Tradition is clear.

The Atbai Tradition is defined mainly by a time transgressive complex of technological and stylistic components used in the production of ceramics. Most characteristic is the use of combing not only as a means of vessel wall thinning but also as a decorative technique. Other elements are less pervasive but there are numerous types and styles of decorative motifs which are simply unknown in other areas, including interior pattern burnishing, thin bands of parallel, vertical rouletted or impressed lines below rims, and restricted orifice jars with slipped and burnished rims above unslipped, rough, incised bodies. On the basis of ceramic studies, in conjunction with radiocarbon dates, the Atbai Tradition has been divided into a number of temporal phases and geographic groups (Fig. 2). There may well be additional groups discovered for each as field work expands into the marginally known areas covered by the Atbai Tradition. What we now have is merely a small portion of the details of regional development in the eastern Sahel. Emphasis here is placed on the core area.

The occupation of the Atbara River Valley begins well before the appearance of the Atbai Tradition. Within the Holocene, there is evidence for pre-ceramic hunters and fishermen in the Valley beginning at *ca* 8,000 B.C. and continuing until some time during the middle of the 6th millennium B.C. However, the lithic assemblages of these differ markedly from that associated with the earliest ceramic bearing sites and it is likely, therefore, that there was a development break between the pre-ceramic and ceramic occupations.

The earliest ceramic sites in the Atbai represent two different regional groups: one, near Khashm el-Girba, dating to  $6,215 \pm 75$  B.P. (SMU 1139), has pottery related

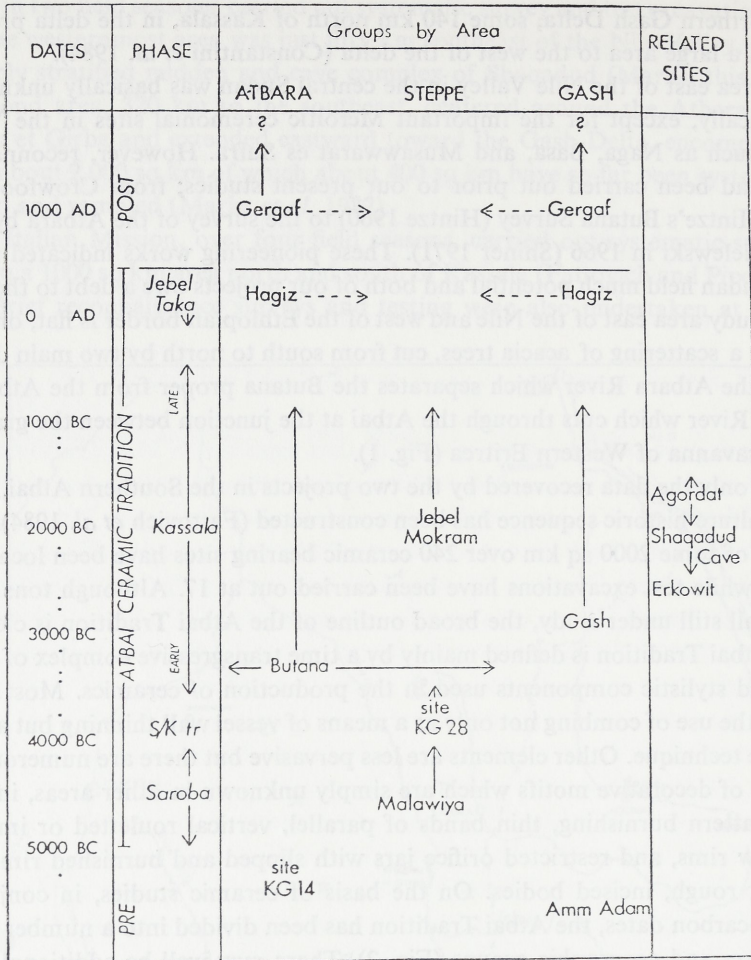


FIG. 2. Radiocarbon dates for the later prehistory of the Eastern Sudan

to the general Khartoum Horizon Style (Hays 1976). However, sites of the Amm Adam group, 140 km north of Kassala, have pottery which is distinct from the Khartoum Style but shares a very distinctive knobbed ware with the group near Khashm el-Girba. It is possible that the Atbai Tradition arose from these groups, since the knobbed ware is found in small amounts in the earliest phase of the Atbai Tradition.

Both groups seem to have had similar adaptations; exploiting both riverine and savanna edge animal resources, from molluscs to large bovinds. However, grinding stones are common on the Atbara but absent in the Gash. Systematic survey of over 1000 sq km of the steppe between the Atbara and the Gash failed to reveal a single site of either group.

The earliest phase of the Atbai Tradition, the Saroba, is represented by 10 sites found only on the steppe between the Atbara and the Gash delta. Dated to the middle 5th millennium B.C. ( $5,644 \pm 70$  B.P., SMU 1181, and  $5,632 \pm$  B.P., SMU 1285) sites are characterized by an abundance of *Pila* shell, indicating seasonally swampy terrain. The ceramics are mainly a sand-tempered, unburnished, and buff-colored with impressed decorations. These fall broadly within the Khartoum Horizon Style, but lack many of the decorative motifs of Early Khartoum. The most common motif is a zigzag formed by a toothed-comb.

Adaptation was strongly oriented to the hunting of small steppe bovids, warthog, and lizard, although larger mammals were also taken. No macrobotanical material has been recovered, but grinding stones are common. Chipped stone is poor but lip plugs appear. Sites tend to be small, with an average of 5,000 sq m and with limited depth (ca 10 cm to 20 cm).

The transitional Saroba/Kassala Phase occurs only at one site located on the steppe which is also associated with concentrations of *Pila*. A radio-carbon date places it at  $5,168 \pm 67$  B.P. (SMU 1193). The transitional nature of this phase is seen in increased site size (20,000 sq m), the presence of both typical Saroba impressed sherds and typical combed sherds, along with hard, burnished, vertically rippled sherds which are unique to this transitional phase. Economic adaptation, however, appears no different from that of the Saroba Phase.

The succeeding Kassala Phase is both the most complex and the longest. Based on eight C-14 dates, ranging from  $4,727 \pm 154$  B.P. (SMU 1201) to  $2,755 \pm 107$  B.P. (SMU 1187), it spans about 2,600 years, from the middle of the 4th millennium B.C. to the beginning of the 1st millennium B.C. The first half of the Kassala Phase is represented by nine sites of the Butana Group and three sites of the Bash Group. The former are located between the western bank of the Atbara River and a point midway between the Atbara and Kassala, while the latter parallel the Gash River, with one near Kassala and two others at the northwestern end of the Gash Delta near Eriba. The distinction between the groups lies in proportional variations of the always common combed sherds and in the presence of some decorative patterns and surface treatments which are limited to one or the other group. In both groups, however, there appear polished axes and maceheads, the latter on imported rocks, as well as other ground and pecked stone, including elongated lip plugs.

The Kassala Phase is characterized by very large sites both along the major drainages and the steppe between them. Site size varies but most are between 8 and 12 hectares and have over 2 m of *in situ* deposits. Test excavations in the two largest (Mahal Teglinos of the Gash Group and KG23 of Butana Group) seem to indicate that at both, large village development was in place prior to the introduction of domestic cattle and small livestock. In fact, at both sites, after introduction, domestic animals played only a minor role for quite some time. Most fauna are small bovids of the type heavily exploited since the Saroba Phase, but the riverside sites indicate a reintroduction of some fishing and the exploitation of riverine animals.

The Kassala Phase can be traced as far north as Erkowit in the Red Sea Hills (Callow and Wahida 1981) and east to the Baraka Valley at Agordat (Arkell 1954). In addition, the cave at Shaqadud contains ceramics strongly linked to the Gash Group (Fattovich *et al.* 1984). This also would seem to apply to small concentrations of ceramics collected in the Nile Valley near the Third Cataract and referred to as Group II by Geus (1976). Thus, by the 3rd millennium B.C., there is evidence for the presence of Atbai Tradition ceramic assemblages from almost the Red Sea into the Nile Valley.

By the end of the Kassala Phase in the 1st millennium B.C., there is a marked decrease in site size, with most sites at less than 5 hectares. Also, faunal remains indicate a heavy dominance of domestic forms and the number and variety of fine ceramics drop dramatically. However, the basic ceramic patterns remain intact, as do the polished and ground stone components.

Contemporaneous with the last half of the Kassala Phase, during the 2nd millennium B.C., is the Jebel Mokram group of over 60 sites located on the steppe. Its ceramics and stone tools differ in detail from those of the Butana and Gash Groups, and it possibly represents seasonal occupations by a group from outside the core area – perhaps Eritrea. The ceramics include thin, combed sherds but the most common pottery is brown, sand tempered, and decorated only on the upper body. Decorations are characterized by deep parallel incised lines associated with burnished rims, as well as by shallow incised crossing lines on unburnished surfaces, both reminiscent of the earlier Butana Group. Although ground stone is not common, flat elongated handstones, polished stone bracelets, and flat mace heads are found. All animal bones are from cattle, and sorghum and millet have been recovered from poorly fired pot sherds.

Finally, there are other groups of assemblages which appear to be relatively recent and lack Atbai Tradition elements, the most common of which has ceramics related to the Fung.

Although the data base from the core area is good, our knowledge of the geographically peripheral zones is less secure. The isolated sites of Shaqadud, Erkowit, and Agordat provide indications but, as yet, no sure answers. In the case of Shaqadud, however, excavations in the midden dating to the 5th and 6th millennium B.C. show that the western Butana was then part of the general Nilotic ceramic tradition (Marks *et al.* 1985). Only by the middle of the 3rd millennium B.C. did the Atbai Tradition replace it. The lack of stratified deposits at Erkowit (Callow and Wahida 1981) and the absence of excavations at Agordat (Arkell 1954) prevent any realistic view of local developments. However, it is expected that the area covered by the Atbai Tradition will vary through time in response both to its own internal dynamics and to developments around its borders.

These border areas are those least known today but there is some indication of contacts with other areas even within the core area. The Pre-Saroba and Saroba

Phases belong, in a general sense, to the trans-Sahel ceramic horizon, represented in the Sudan by the Khartoum Horizon Style.

The knobbed ware of the 6th millennium B.C. Pre-Saroba Phase sites apparently lasts for some time in the north, finally reaching the Nile Valley at Kerma during the 3rd millennium B.C.

During the middle to late Kassala Phase, there are some indications of extra-regional contacts. In the core area, these are very limited. However, extra-regional contact was more intense in the northern and eastern parts of the Atbai Tradition, at Agordat and Erkowit. In the latter, considerable amount of obsidian indicates contact to the south. At Agordat, axes, palettes, and ear-spools are clearly reminiscent New Kingdom Egyptian forms — forms which never reach the Southern Atbai. Thus, by the 2nd millennium B.C. there was considerable contact between the eastern area of the Atbai Tradition and both Ethiopia and Egypt.

Only at the end of the Atbai Tradition in the Jebel Taka Phase do we find some actual sherds of pre-Axumite pottery, as well as some of Meroitic type in the Southern Atbai. Given the oft stated political conflict between Meroe and Axum over the eastern Butana and Southern Atbai, it is striking how little concrete evidence there is for the presence of material remains of either kingdom.

In spite of these examples which may be indicative of extra-regional contact, it is important to realize just how little it all amounts to in the area which we have studied in detail. Only to the east, in the Baraka Valley of Eritrea do such connections seem potentially significant and then, only during the 2nd millennium B.C. For the greater part of its duration, it appears that the Atbai Tradition was almost wholly autochthonous and that by the 3rd millennium B.C. it had spread so far as to replace the Nilotic Tradition in the Central Nile Valley.

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