

Iron Age beginnings north of the Mandara Mountains, Cameroon and Nigeria

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Introduction

Archaeological research by members of the Project Maya-Wandala took place around the peripheries of the northern Mandara Mountains, in Cameroon and Nigeria, during 1992 and 1993. During this research, we located 123 archaeological sites, with components ranging in age from the Late Stone Age to the twentieth century. The great majority of these components are, however, datable to the Iron Age; and our main focus to date has been on ethnic relations in this area during the late Iron Age and historical periods—that is, over the last thousand years. The primary objective of the Project Maya-Wandala has been the elucidation of the historical relationships between the Islamic states that have dominated this area over the last three centuries and earlier, non-state Iron Age communities.

We are also conscious of the importance of expanding our database on the local Iron Age as a whole. The northern edges of the massif are somewhat peripheral to, and environmentally quite different from, the *firki* clay plains of the Lake Chad Basin, which have been the object of considerable archaeological research, most notably by Graham Connah in Nigeria and Jean-Paul Lebeuf and his collaborators and successors in Cameroon and Chad. One important research topic in the southern Lake Chad Basin must be that of the origins of the regional Iron Age. The area is relatively close to the Jos Plateau in Nigeria and to Agadez and the Termit Massif in Niger, all areas in which Iron Age sites of the first millennium BC have been claimed, and it lies at the southern terminus of an important trans-Saharan trade route running from Tripoli *via* Kowar to Bornu. This route was probably in use by the middle of the first millennium BC (Lange and Berthoud 1977; Law 1967; Lewicki 1988:290-3), and it would seem a likely route for the transmission of iron-working knowledge, if such took place.

Archaeological research has so far yielded little evidence of use of iron during the first millennium BC in the Lake Chad Basin. The time of transition from a lithic-based technology to an iron-based one at the *firki* mound site of Daima may date to the early centuries of the first millennium AD (Connah 1981). Similarly, a small number of iron artefacts was found during excavations at Gajiganna (Breunig *et al.* 1993:41), but their context is undated. At the site of Mdaga (Lebeuf *et al.* 1980) in Chad, a level yielding iron slag is dated to the late first millennium BC, but there seems to be extreme vertical and horizontal variation in artefact types and frequencies throughout this site, and it is probable that questions of stratigraphic continuity have not yet been fully resolved. There

Figure 1 Map of the northern Mandara Mountains and surrounding inselbergs, with the three early Iron Age sites indicated. Stippled area shows the extent of the Mandara massif; dashed line shows the international border between Nigeria (west) and Cameroon (east).

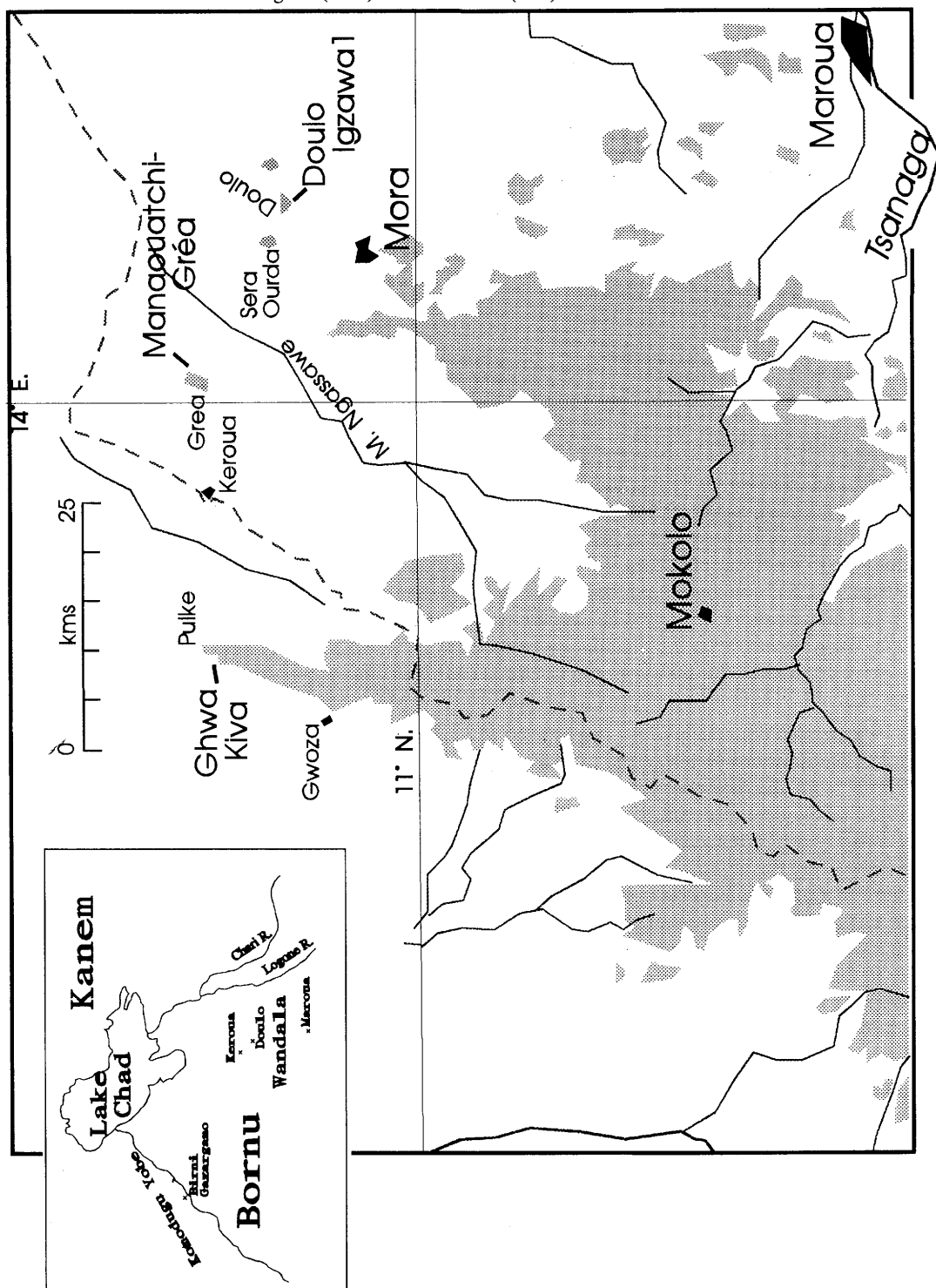


Table 1 Radiocarbon dates from Manaouatchi-Gréa, Doulo Igzawa 1 and Ghwa Kiva

TABLE 1. RADIOCARBON DATES FROM MANAOUATCHI-GRÉA, DOULO IGZAWA 1 AND GHWA KIVA

Site	Unit	Level	Designator	Mat.	Uncalibrated	Calibrated (2-sigma range bracketed)
602	1 SE	2	TO-4418	c	1440 +/- 50 bp	AD 635 (AD 545-670)
602	2 SW	5	Beta-61583	c	modern	modern date
602	2 SW	8	Beta-61584	c	150 +/- 50 bp	AD 1809 (AD 1657-1955)
602	2 N	14	TO-4419	c	1420 +/- 50 bp	AD 645 (AD 550-680)
602	2 SE	24	Beta-61586	c	1700 +/- 90 bp	AD 382 (AD 129-555)
602	2 NE	25	TO-4421	c	2150 +/- 80 bp	185 BC (390 BC-15 AD)
636	1 NW	2	TO-4788	b	2100 +/- 70 bp	105 BC (260 BC - AD 65)
636	1 NW	6	TO-4422	c	2500 +/- 60 bp	760-555 BC (800-400 BC)
744	1 NW	10	Beta-69019	c	1050 +/- 70 bp	AD 1000 (AD 870-1160)
744	1 NC	13	TO-4424	c	1200 +/- 70 bp	AD 875 (AD 670-1000)
744	1 NW	23	Beta-69021	c	1630 +/- 60 bp	AD 420 (AD 320-570)
744	1 SW	24	TO-4791	b	2630 +/- 160 bp	805 BC (1130-390 BC)
744	3 NW	4	TO-4792	b	1690 +/- 90 bp	AD 390 (AD 135-560)
744	3 SE	8	TO-4426	c	2330 +/- 60 bp	395 BC (520-350 BC)

Note: For material, c = charcoal, b = bone collagen.

appears to be a significant amount of material continuity between the terminal Neolithic and earliest Iron Age occupations in many of these cases. Further to the south, work by Marliac (1991) and others has yielded no equivalent early dates for the Iron Age there. This leaves open the question of why iron would have been adopted 400–500 years later in the southern Lake Chad Basin than in areas to the west and to the north.

The northern Mandara peripheries

Survey and excavation by Projet Maya-Wandala field crews in Cameroon during 1992 and in Nigeria during 1993 have changed this picture somewhat. We have located a series of early Iron Age components in sites along the edges of the northern Mandara massif and the inselbergs that dot the plains between the massif and the Bama Ridge (Fig. 1). These components are dated between the middle of the first millennium BC and the fourth century AD. This latter period appears to mark a transition between these early Iron Age components and later Iron Age occupations which are characterized by increased deposition, by the formation of artificial mounds, and by cultural elements to some degree ancestral to those of modern peoples living in the region. I will discuss these components in the sequence in which they were excavated.

Doulo Igzawa 1 (PMW 636)

This site is located at the edge of a small re-entrant along the southern edge of the Doulo inselberg, 10 km north of the Mandara massif. (Doulo is one of the traditional capitals of the Wandala state which dominated the plains north of the Mandara Mountains between the seventeenth and the mid-nineteenth century AD.) The western end of the site has been destroyed by quarrying, but the central and eastern portions survive. The site consists of three low (*ca* 1 m high) mounds, all of which have very high concentrations of potsherds, along with slag, ground stone axes, axe fragments and flakes, visible on their surfaces.

Excavations at Doulo Igzawa 1 during the 1992 field season consisted of one 2 x 2 m unit (Unit 1) and one 1 x 2 m unit (Unit 2), plus shovel tests. Unit 1 was excavated to sterile levels with high proportions of degraded granite at 140 cm below local datum, Unit 2 to similar levels at 110 cm. The matrix was primarily compacted sand throughout, but with some clay below 80 cm. There is no evidence of significant disturbance of the natural stratigraphy within the units that we dug. Two radiocarbon dates have been obtained from this site (Table 1). Unit 1, Level 2 has yielded an AMS bone collagen date from a Bos femur, while an AMS date from Level 6 from the same unit was taken from charcoal. A semicircular piece of iron—probably a bracelet fragment—was recovered from Unit 1, Level 8, from significantly below the level dated to the middle of the first millennium BC. We are submitting additional charcoal and pottery samples from levels 6 and 8 for both AMS and thermoluminescence dating.

Our relatively limited excavation at Doulo Igzawa 1 yielded approximately 50,000 potsherds, including almost 25,000 diagnostic ones; of these, 21,598 sherds came from the 6 m³ excavated in Unit 1. Other artefacts recovered included approximately 100 iron artefacts and pieces of slag, ostrich egg-shell, very rare carnelian beads, and a small amount of lithic material including a dozen ground stone axes and a number of axe fragments. Decoration on the pottery was primarily by various types of twisted-cord roulette, although we also recovered pottery decorated with burnishing, incision, comb-stamping and red slip; these were proportionately more significant toward the bottom of the excavation, being also characteristic of ceramics recovered from Neolithic sites in this area. Iron and slag frequencies do not appear to change significantly between levels 1 and 7; below that they decrease, while lithic frequencies increase.

The only evidence for economic adaptations so far lies in the 20 kg of faunal remains that were recovered. The vast majority of this material is derived from ovicaprids and from a small bovid, possibly a very small shorthorn cow. Levels 1–4 yielded a mixed assemblage of bovid and ovicaprid bone; below that, no bovid bones are found. The preservation of the bone is excellent and analysis of butchering techniques is in progress. Moderate phytolith frequencies have been detected in soil samples from the site (A. Rosen, pers. comm.) and recovery of such material is a priority during the next two field seasons.

Manaouatchi-Gréa (PMW 602)

This is a large, complex Iron Age site situated along the north-eastern edge of Gréa inselberg; ethnohistorical sources identify it as a centre for the 'Sao', a generic name for the populations occupying the southern Lake Chad Basin before the advent of the Kanuri in the fifteenth and sixteenth centuries AD. Gréa was finally taken over by the Wandala, probably sometime in the mid-seventeenth century AD, but the descendants of the 'Sao' managed to retain some measure of independence. Manaouatchi-Gréa is part of a site complex that includes a 3-km-long cobble wall alignment, multiple artificial mounds and other surface features and an inner walled area 220 m in diameter. We excavated two 2 x 2 m units, plus shovel tests, at this site. Unit 1, within the inner

walled area, yielded little cultural material to 1 m depth; but Unit 2, dug through what appeared to be a low mound between the walled area and the inselberg, revealed *ca* 2.5 m of cultural deposits spanning two millennia.

The upper 80 cm of the mound is highly disturbed, apparently by cultivation and by periodic deposition of sacrifices in pots; the area around the mound has a great deal of ritual significance to the present inhabitants of Gréa. Local oral traditions do not clearly indicate the time of abandonment of the central area of Manaouatchi-Gréa, but most put it at some time in the late nineteenth century AD. This might be true, but the available radiocarbon dates and general condition of the surface of the site argue for a longer period of abandonment; it is possible that the area was vacated after the Wandala conquered Gréa, some two centuries earlier.

Below these upper levels, however, the stratigraphic sequence appears more coherent. The material recovered is generally similar to that from Doulo Igzawa 1: very large amounts of pottery (20,456 diagnostic sherds), rarer iron artefacts and slag, with small beads made of clay, shell and local stone. Lithic artefacts are almost entirely absent and include no formal tools. Almost unique in the survey area was the discovery of a series of 22 small clay figurines and fragments, mostly roughly humanoid or bovid in form and resembling specimens discovered at Daima and other plains sites to the north. These were found at all depths down to 240 cm.

For present purposes, the lower part of the stratigraphic sequence is most significant, although the remains of a burnt, circular structure of organic material (probably a small hut of the type still used by Glavda plains-dwellers in the region) were found in Level 14. Levels 23–28 (200–250 cm below local datum) were composed of compact sandy deposits, with less than 20% clays and silts and an increasing concentration of decomposed granite with depth. As at Doulo Igzawa 1, twisted-cord roulette is the most frequent type of ceramic decoration, but burnishing, comb-stamping, incision and red-slipping are proportionately more important in lower levels than anywhere else on the site. Level 24 has yielded a date of *ca* AD 400, along with iron and slag. Level 25 has yielded a date of *ca* 200 BC with similar ceramics such as also occurs in lower levels.

Ghwa Kiva (PMW 744)

This site is located in Nigeria, close to the north-western extremity of the Mandara massif and just east of the road between Pulke and Gwoza. It was first identified by Graham Connah in 1984 and designated Ndufa (B123). By far the most obvious element of the site is a single artificial mound, about 3 m high and 45 m in diameter, approximately 100 m from the massif. Its significance is apparent at first glance, but in fact cultural deposits of varying depth (averaging 0.5 m) extend for a total of 300 m north and south along the edge of the mountains. Analysis of artefacts recovered from Ghwa Kiva is still in progress; work on the fauna has not yet begun.

We excavated three units on the site: Unit 1 was a 3 x 2 m trench on top of the mound, while Units 2 and 3 were 2 x 2 m pits located just to the east and west of the mound respectively. Cultural material was found through the top 260 cm of Unit 1, indicating that almost all the mound's height was artificial, possibly on top of a slight natural rise. Units 2 and 3 were excavated to 70 cm and 110 cm below local datum respectively. Excavation on the main mound at Ghwa Kiva was similar to the mound excavation at Manaouatchi-Gréa. Again, the top 50 cm of Unit 1, on top of the mound, was disturbed by cultivation and by the burial of sacrifices in pots; there was also some disturbance by rodent burrows to a depth of about 100 cm. The matrix was again quite sandy, with an increasing proportion of quartzite pebbles with depth. The lower levels of Unit 1 appeared to be undisturbed; a set of features excavated at about 200 cm below local datum may be the remains of a kitchen.

Sediments in Unit 3 appear to be equivalent to the lower levels, 19–26, in Unit 1. This may imply that the extensive cultural deposits along the edge of the massif are older than the mound, which might have begun to accumulate on top of those deposits in the middle of the first millennium

AD. A series of six AMS radiocarbon dates was obtained from material at Ghwa Kiva (Table 1); they are in stratigraphic sequence and give a range of dates from the early-/mid-first millennium BC to the end of the first millennium AD. Four of these were obtained on charcoal and two on bone collagen. Of the latter, the reading from Level 24 of Unit 1 was obtained from a substantial fragment of *Bos* long bone, while that from Level 4 of Unit 3 was taken from a large ovicaprid scapula fragment.

The excavations at Ghwa Kiva yielded more ceramics than were taken from any other site during the 1992 and 1993 fieldwork—approximately 60,000 sherds in total, of which almost 28,000 were diagnostic. The material recovered was somewhat different from that recovered at Cameroonian sites to the east, twisted-cord roulette decoration being less important, and burnishing, painting and incision relatively more so, than at Manaouatchi-Gréa or Doulo Igzawa 1. This differentiation still holds true in the area today. The lower levels of Units 1 (Levels 21–26) and 3 (Levels 6–9), however, are far more similar to the lower levels at the Cameroonian sites than are the upper levels. Clay and shell beads were extremely rare at Ghwa Kiva, while figurines were completely absent. Eighteen iron artefacts and sixteen substantial pieces of slag were recovered, a large, flat piece of iron and three slag fragments being found in Unit 1, Level 24, which is dated to around the middle of the first millennium BC.

Discussion

The dates from Doulo Igzawa 1, Manaouatchi-Gréa and Ghwa Kiva indicate that this region was occupied by early iron-using populations from the middle of the first millennium BC until the early first millennium AD. Iron tools and slag are found in levels of this time at Doulo Igzawa 1 and Ghwa Kiva, while the associated ceramics exhibit techniques of decoration characteristic of earlier Neolithic occupations (burnishing, fine incision, often with chevrons or cross-hatching, comb-stamping and slipping with red pigments) as well as those of the local later Iron Age (primarily twisted-cord roulette). Lithics are common only at Doulo Igzawa 1, where it is quite probable that the lower levels will prove to be the oldest of any at the three sites.

It is of course possible that some of these dates and/or their artefactual associations are wrong. Small pieces of charcoal can be moved within anthropic sediments, as can pieces of iron or slag. However, the lower levels at these sites do not appear to be extensively disturbed and the dates are all in stratigraphic order; in addition, the three quite substantial pieces of bone that were dated yielded ages consistent with other radiocarbon determinations from neighbouring levels. The iron artefacts recovered from Doulo Igzawa 1 and Ghwa Kiva, from the lowest dated levels or below, are also relatively large and in my opinion are unlikely to have moved significantly within the deposits. Data from all three sites indicate that sediment accumulations were quite slow in the first millennium BC, and it appears that mound formation at Manaouatchi-Gréa and Ghwa Kiva may have begun in the mid-first millennium AD. This is similar to the situation found at Mehé Djiddere (MAP 523) in the early 1980s (David and MacEachern 1988) and other sites in the broader area. The existence of this putative change in accumulation of deposits remains to be confirmed and examined.

The radiocarbon dates from the middle of the first millennium BC are less useful than may appear at first glance. As has been pointed out by McIntosh and McIntosh (1988), the flatness of the radiocarbon calibration curve for this period means that calibrated dates are quite imprecise. Thus, the two-sigma interval for sample TO-4691 (2630 ± 160 bp) from Ghwa Kiva lies between 1130 BC and 390 BC, while that for sample TO-4422 (2500 ± 60 bp) from Doulo Igzawa 1 is only somewhat better, between 800 BC and 400 BC. Nevertheless, the dates obtained from these levels are equiva-

lent to those from Taruga (Calvocoressi and David 1979) and Do Dimi (Grébénart 1983) and, taken in conjunction with other information obtained from Projet Maya-Wandala excavations, seem fairly convincing.

Conclusions

Evidence from radiocarbon dating and artefact analysis, when taken together, indicates that the northern peripheries of the Mandara Mountains were occupied by iron-using communities in the mid-first millennium BC. The material culture of these people exhibits some continuity with that of earlier Neolithic populations in the same area, especially in terms of ceramic decoration, but with the addition of new elements. These include, of course, iron artefacts, along with ceramic decoration characteristic of the later Iron Age and the historic period. We have as yet few data on economic adaptations in the area, although the appearance of small, probably domesticated, bovids in the faunal sample from Doulo Igzawa 1, most likely in the third or fourth centuries BC, is of interest.

We will continue this research during 1995 and 1996 when we hope also to conduct further survey and excavation on sites of this period. This will involve the collection of ceramic samples for thermoluminescence dating, as well as areal excavation and study of these sites within their local landscapes. It will also involve geomorphological and phytolith analyses to be carried out by Dr Arlene Rosen of Ben-Gurion University. This is a preliminary report on work in progress; our conclusions could be changed by further field work, but at this point it seems that the date of the beginning of the regional Iron Age has been pushed back by some centuries.

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