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28. BEAD-DECORATED GLASS ARMLETS OF BONTUKU, WEST AFRICA, by Richard A. Freeman (1989, 14:12-14)

[Ed. note: Extracted from Richard A. Freeman's *Travels and Life in Ashanti and Jaman*, 1898, Archibald Constable, Westminster, pp. 230-233, the following item describes the innovative use of glass beads as decorative elements by the glass-armlet makers of Bontuku on the Guinea Coast of West Africa during the late 19th century. It would be interesting to see if such armlets have or can be identified in ethnological or archaeological collections.]

Mahama Ba-Katchina... is in many respects a somewhat distinguished member of Bontukian society; distinguished by his genial and pleasant manners, by his extensive travels and knowledge of the African world, by his skill in the manufacture of glass armlets (*tagulai*), and lastly, I regret to say, distinguished among his fellow Mahommedans by his too convivial habits.

The means and appliances by which Mahama carries on his curious craft are nearly as simple as those of the tailor whose house we have just visited. The furnace consists of a large water-jar buried in the floor, its mouth opening on the surface; its bottom being perforated, two tubes are led into it, their opposite ends being inserted into two goat-skins, which are worked alternately as bellows by a small boy who squats between them. The fuel is wood, which, in the intervals of rest, smoulders into charcoal, and when roused by the blast of the bellows gives out a clear, white, smokeless glow. The other appliances consist of a few pairs of rude iron tongs, thin iron rods, a heap of broken Dutch gin-bottles, and a narrow wooden tray filled with tiny, many-coloured beads, such as are used at home for ornamenting mats.

The first proceeding is to stir up the dull embers with one of the iron rods, and then the word is given to the small boy, who rejoices in the curious but not uncommon name of Allah, whereupon the bellows are worked vigorously for a few seconds until a bright white light issues from the mouth of the furnace.

Mahama now selects from the heap of broken glass a large fragment of a Dutch gin-bottle, which he holds with tongs in the mouth of the furnace, not bringing it in contact with the glowing embers. Presently the glass reaches a dull red heat, and then its angles become gradually rounded, and it shows evident signs of softening. The workman next seizes the softened mass with a second pair of tongs, and pulls it out into a narrow strip, the two ends of which he joins by pressing them together. The tongs are now discarded, and the softened red-hot ring of glass is played about over the mouth of the furnace on two rods until it has been modelled into the desired shape and size. The next step is the ornamentation of the surface; which is achieved by carrying the ring (still in a red-hot state) on the two rods, and rolling it quickly along the tray of beads, of which numbers adhere to the molten surface. The armlet is then returned, thickly incrusted with beads, to the furnace, where the beads quickly melt down into a uniform, many-coloured mass, completely covering the original white glass. The still soft armlet is now stretched slightly, so that the spots of different colours are drawn out into lines, producing a kind of marbled or agate-like appearance; and with a little more modelling, the article is finished and set aside to cool.

The armlets when completed, have a much neater and more ornamental appearance than might be expected from the rather rude method of their manufacture. The prevailing colour is red, with streaks of blue, white, and other colours– giving them, as I have said, somewhat the character of agate. The shape is very much like that of a quoit; and they are usually worn [by men] in pairs, two on each arm, just above the elbow, the flat surface of the contiguous armlets being in contact. Those made by Mahama were greatly in request amongst the more dandified Wongáras of Bontúku and the surrounding towns, and usually sold for about twenty cowrie-shells each, and one set, which he manufactured from the fragments of a broken green glass lampshade of mine, was sold, I believe, for quite a fabulous sum.

29. BEADS AND THE EMERGENCE OF THE ISLAMIC SLAVE TRADE IN THE SOUTHERN CHAD BASIN (NIGERIA), by Detlef Gronenborn (2001, 38:4-11)

During the course of an extensive research project funded by the German Research Foundation (DFG), archaeological excavations were undertaken in the southern Chad Basin in present-day northwestern Nigeria, close to the Cameroonian border (Gronenborn 1998). This research followed earlier endeavors on the Nigerian side by Connah (1981), Holl (1988), Lebeuf (1981), and others on the Cameroonian and Chadian side of the extensive clay plains south of Lake Chad (Fig. 1).

On this still yearly and widely inundated territory, human settlement is limited to isolated sand dunes, which protrude through extensive clay layers. The latter are the remains of the once much more extensive Lake Chad (e.g., Thiemeyer 1997). After about 6000 cal B.C., the lake began to retreat, and after around 1000 cal B.C. vast territories south of the lake were open for human settlement. At first late Neolithic pastoralists settled on the dry sand "islands," and after a hiatus of several hundred years, Early Iron Age farmers began to build permanent villages. The Early Iron Age is again separated from the Late Iron Age by a short-term hiatus and the Late Iron Age sets in sometime during the 7th-8th centuries (Gronenborn 1998).

The excavations by the German team resulted in a revised ceramic sequence, namely of the Late Iron Age and Historic Periods. The chronological succession of pottery traditions has further been confirmed by a series of ^{14}C-Dates (Gronenborn 2001). With this newly established chronology in mind we turned back to the sequence of the site of Daima, one of the largest settlement mounds in the whole region which was trenched by Connah (1976, 1981) in the 1960s. It became apparent that his earlier chronological interpretation as to the end of settlement had to be modified and that, in fact, his first impression (Connah 1967) was more likely, namely that the site was abandoned sometime during the early 17th century and not during the 13th as he had later concluded from ^{14}C evidence. Already Wesler (1999) had suggested a modification of the stratigraphic interpretation on the basis of a seriation of Connah's pottery types. This interpretation, then, was supported by our work; conclusively the terminal date for Daima had to be lifted up which resulted in the chronological spreading of the whole packet of upper layers (Fig. 2). This rearrangement also affected the interpretation of exchange-connections implied from the appearance of non-local materials such as copper alloys, carnelian, and glass beads. When the stratigraphic position of these materials is plotted (Fig. 3) their limitation to the upper layers of the stratigraphy becomes apparent. While previous analyses of the development of external contacts were based on the assumption that the layers would date between the 10th and 13th centuries (Connah 1981; Holl 1995), the new chronological scheme shifts them to the 14th to 16th centuries. According to the new chronology, only then wide-reaching external contacts are evident in the archaeological record. The sources of the copper alloys are of no concern in this article (for further information *see* Gronenborn 1998), but rather the origin of the glass and carnelian beads found at Daima and other sites in the southern Chad Basin and even more so the question as to why do they appear?

Many of the carnelian beads at Daima are similar to ones found by us in association with a burial that dates between the 14th and 16th centuries (Fig. 3). Specimens are elongated to keg-shaped, dark to bright red in color and often show internal flaws. According to a preliminary visual examination by Timothy Insoll of Manchester University, beads of this kind could come from the Western Sahel or the Central Sahara and are comparable to material from Gao (Insoll and Shaw 1997; geochemical analyses are under way). Delaroziere (1994:68-69) depicts similar shapes from present-day markets in Niger, Nigeria, and Gabon, but considers them to be of red jasper. Hence, the exact attribution will have to await the University of Manchester's analyses. Nevertheless, they are not of a Chad Basin origin.

Another type of bead which was recovered in our excavations is quite different in shape. It is slightly larger and elongated with six facets (Fig. 4). The specimen depicted comes from the upper layers of the site of Ndufu (Gronenborn 1998) which dates between the 14th and 16th centuries, probably towards the end of this time span. Insoll visually examined this material and came to the conclusion, that "it is very similar to Gujerati (Indian) material which was produced for the African export trade" (Insoll, pers. comm.;