NORTHWEST BENIN SITES AND SOCIALLY DETERMINED ARTIFACT DISTRIBUTION

By

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ABSTRACT

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The mode of evolution of the ancient kingdom of Benin southwestern Nigeria, is of research interest in the way oral historical data has been related, for example, to archaeological evidence. Carbon 14 dates and related evidence from the city center indicate that the kingdom was established at about 700 years ago. Specific determinants such as the territoriality associated with the unique pattern of earthworks have been offered as explanation for this origin.

New evidence provided by this research is in the form of artifact (especially pottery) distribution on the northwest of the Benin City center. The general variability of pottery design attributes has been found to be explained by the mobility of women in post-marriage residence and the characteristic non-sororal polygyny. Values placed on residence and marriage to several wives are vividly illustrated in Benin architecture, and elaboration of these values in mythology and office regalia could account for the distinctive kingship and caste systems. This deduction is

not inconsistent with the evidence of Benin-Ife relationship since Benin shares several cultural features with the Yoruba states.

Dedicated to

Dr. Aku Omokhodion

ACKNOWLEDGEMENTS

I wish to say this, that it would be hard for me to capture in words the gratitude I feel towards my Department (Anthropology) at Michigan State University, under the leadership of Dr. B. Gallin, for the ready assistance I got throughout my graduate program. I wish I had something to give back in return.

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Thanks also go to Dr. Fred Anozie who used his money to travel all the way from Nsukka to act as my local field supervisor in the Benin project. At various points of my fieldwork in Benin, several assistants were very helpful and I thank them all.

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CHAPTER I

INTRODUCTION

Some historians have often challenged archaeologists in Nigeria to demonstrate historical relevance in archaeological analysis. In some instance, out-right pessimism has been expressed about the significance of archaeological classification and typology for historical reconstruction in West Africa. The aim of this study is to demonstrate that on the contrary, there are new approaches to archeaological analysis which can be used as means to "decode" aspects of past social organisation in ways that would potentially be of great interest to historians and others. In this dissertation, this historical point is initially addressed through a brief survey of Afigbo's paper (1977:81-98), titled "Facts and myths in Nigerian Historiography". The point is made through a consideration of three historiographical traditions in Nigeria. The three traditions are a) Precolonial, b) Colonial and c) Nationalist historiographies.

1.1 Background to Historical Reconstruction in Nigeria.

1.11 Precolonial Historiography.

Afigbo (1977) has suggested that precolonial historiographical tradition in Nigeria can be discussed by reference to the Forest peoples on one hand, and the Grassland peoples on the other. Forest historiography is of two types. The first consists of "myths and legends" in the

folk tradition of the people, in which origin is attributed to the actions of the supernatural, animals and inanimate objects. This can be observed for example, amongst the Igbo, Yoruba and the Bini, whose legends recall the role of nature and supreme deities in different acts of creation of their lineages and clans. Each group, explains its own creation to include the creation of the entire world - "an amazing combination of the narrowest egocentrism and localism with an all embracing universalism" (Afigbo 1977:84)

Afigbo sees this historiographical technique as partly "irrational", but that, it is often complemented by a second type of traditional historiography, which includes "accounts of actual heroes and heroines". (Afigbo 1977:85) This second type of accounts, comes in the form of ritual incantations, praise and festive songs, poems, proverbs, chants, folktales and so forth. While, the myths and legends deal with the remote past of the supernatural, the second type deals with the recent past of real human acts and deeds.

Amongst the Grassland peoples, on the other hand, Islamic influence from about the 7th century, introduced with it, Arabic literacy, including the "Mecca-centric" tradition of historiography. In this approach, various groups claim they "migrated" from , for example, Yemen, Iraq, Egypt or Mecca, perhaps as a result of the prestige to be gained by the association. Even Forest peoples such as the Efik, Igbo, Bini and Yoruba, have at one time or the other traced their

ancestry to these locations. Like the myths and legends, the factor of the supernatural is very dominant in Islamic historiography. For example, the rise of Islam corresponds to the rise or origin of communities and peoples. In fact, this Islamic rise of people and history, went into decay after the first four caliphs (Roberts 1980:321-326), and individuals within the community of Dar-al-Islam should work back their histories and societies for the restoration of the golden age. Arabic literacy helped to reinforce this ideology. Afigbo sees irrationality in Islamic historiography, in that real human factors and genius in different local settings are ignored or undermined.

1.12 Colonial Historiography.

Colonial historiography in Nigeria, marked a watershed. For the first time, an integrated account was needed for the purpose of administration. Colonial historiography however introduced its myth, -- the "myth of race". Different Nigerian peoples were seen to be at different levels of history or civilization based on their racial type. This was a "man-centred" historiography, and its racial principle was just as "irrational" as the supernatural myths of precolonial times. It was believed that different races passed through cultural stages, from primitive to complex, advanced or civilized society. Evidence for this was observable in the political ability or "cultural virility" of the light-skin, Hamitic peoples of the northern savanna,

compared to the "naked savages" especially prevalent in the forest region (Perham 1937:3). This view was reinforced by the presence of centralized political administration amongst the Islamic peoples of the Sudan. Peoples of the Forest who similarly had centralized political organizations, such as the Yoruba, Benin, Idah, Nri and the "organizers of the long juju (Ibini Ukpabi) oracle of Arochukwu" were regarded as being ruled by descendants of "small bands of the Hamites", which penetrated into the forest. Non-centralized peoples, such as the Igbo, Ibibio, and the Benue Plateau peoples, came on the lower end of the racial ladder. Colonial administration applied this principle in the Indirect Rule system, where the centralized peoples were governed through their traditonal rulers, while the non-centralized peoples were administered through locally stationed colonial officers.

1.13 Nationalist Historiography.

Post-colonial or "nationalist historiography" presents different facets, and partly reflects the previous colonial definitions of the racial principle. Post-colonial historiography again, introduced its own myths and subjectivity which manifested as ethnic nationalism, in which newly Western educated elites strived to write down the histories of their ethnic groups in such a way as to create the impression of a long standing histories of occupation of their localities. Ethnic historiographers also wanted to

show the hegemonic dominance of their groups over others. They also saw the "beauty" or relevance of their traditions or institutions in modern society. In terms of methodology, they relied more on "oral tradition", which includes the myths and legends, folktales and so forth of the precolonial period. (Alagoa 1972). In more recent times some have applied the evidence of Archaeology. (e.g. Onwuejeogwu 1981).

The point, however, has remained as to the objectivity of historiographical method. The archaeological and anthropological perspectives can be shown to offer more valid approaches for an objective presentation of history not because methodological and theoretical problems do not exist, but because it is possible to work with competitive and potentially valid assumptions or hypotheses.

1.2 An Anthropological Perspective.

In this section the point is that, archaeological and ethnographic methodologies have been important anthropological approaches to historiography in West Africa. To illustrate this point, some key cultural motifs during the Early and Later Iron Ages in West Africa, are briefly surveyed.

An important point made by Shaw (1976:159), in a tribute essay in honour of Basil Davidson, stated that African Archaeology had progressed from a consideration of

"What Happened" to the establishment of "How it Happened". The issue here was that an outline, or a framework or chronology had been established for cultural study on the continent.

In the case of West Africa however, although far little is known of its Early and Middle Stone Ages, when compared with the rest of the continent, there is good evidence that the subregion was populated at least not later than 10,000 years ago, (McIntosh and McIntosh 1981), by Late Stone Age peoples. From this point on, progressive development transformed the peoples from hunter/gatherers to societies and cultures who practised agriculture and animal husbandry from about 7000 years B.P. Early iron using peoples such as the Nok culture (from about the 8th century B.C.) had settled villages. Through the development of long-distance trading networks, towns centers for the control of trade items and resources developed earlier within the transitional savanna zones.

In Nigeria, the Nok culture complex is a good example of a tradition that was continuous from the Later Stone Age to the Early Iron Age. Nok has been known for its terra cotta art styles and it is dated from about the 8th century B.C. to A.D. 200 (Shaw 1981). Nok culture has been recognized over a wide area of the Middle Belt of Nigeria and it's cultural influence in art styles and pottery are known from the Later Iron Age societies of Ife and Benin.

Another Early Iron Age motif culture complex, comes from

the Mauretania-Senegal area of West Africa. This is the construction of funerary megaliths and tumuli. The tumulus is a burial mound, and one for which there is an Arab written record was constructed in A.D. 1067 for the king of the empire of Ghana (McIntosh and McIntosh 1981:612). Megaliths on the other hand are single stone structures erected at burial sites and evidence of such structures indicate a fairly complex caste society. Some archaeological sites associated with these structures include Tegdaoust and Koumbi Saleh, reputed to have been the capital city of ancient Ghana. The site of Tegdaoust in Mauretania has a rich cultural deposit (and may date) from about A.D. 810 to 1800 associated with brick and stone architecture, local and imported ceramics and stone and metal artifacts suggesting trading links, agriculture, smithing, hunting and tailoring (Es'Andah 1976:4, Hill 1978:604-605).

In later West African societies, Arab and European influences, are particularly important in the development of trading relationship. Some of these relationships can be specifically described as follows: In the context of Arab and Islamic influence from about A.D. 700, West African agricultural productive techniques became mixed with trading or mercantile activities. The long distance trading networks across the Sahara involved the exchange of salt, cloth, and beads for West African gold, ivory, and slaves. Well-known trading centers of this period, include Timbucktu, Gao, and

Jenne Jeno in modern Mali; Sokoto, Katsina and Kano in northern Nigeria and perhaps as far south as the forest states of Benin in Nigeria; and Begho in modern Ghana (see Figure 1; Davidson 1974:62; Calvocoressi and David 1979:2). West African currencies included gold, brass, salt and cowrie shells (Cowrie shells were used up to colonial period, and were traded from the Maldive Islands of Sri-Lanka and the coast of East Africa.) (Johnson 1970:17-49, 1970:331-353). Accompanying this mercantile influence was the use of horses, spears and swords, but the plow, the wheel, and the shaduf (an Egyptian device used along the Nile for drawing water) although penetrated into the Sahara, did not reach West Africa. Agricultural production techniques, therefore, remained simple with the use of the hoe and the slash and burn method. The land use system was also simple; vassalages and the landed fiefs were either absent or very unlike those of feudal Europe. During European contact, the mercantile economy was intensified first by the trans-Atlantic slave trade and later by trade in palm (oil and so forth) produce. European contact brought with it the use of the gun which partly reinforced the powers of coastal or forest kingdoms.

Jack Goody's (1971) ethnographic studies have classified the recent West African societies into types namely: Acephalous societies, mass dynasties of the savanna, and forest kingdoms. The acephalous systems consisted of segmentary groups whose important cultural equipment included

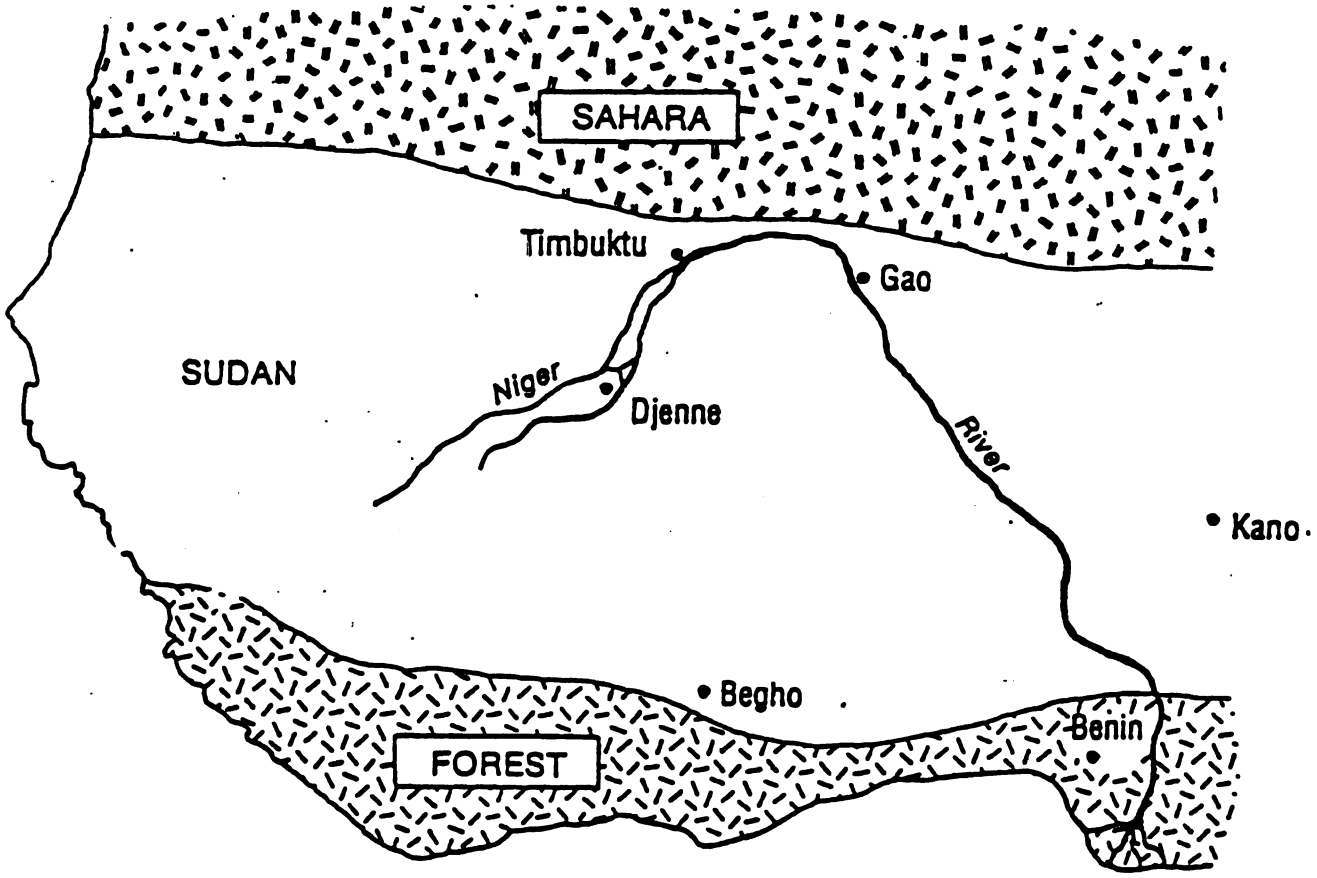


FIGURE 1: Map of West Africa. (McIntosh, 1974, 1976)

the bow and arrow for hunting as well as the iron for agriculture. The societies lacked centralized government and are sometimes also described as egalitarian. They were present in both the savanna and forest, often living side by side with centralized polities. Such groups include the LoDagaa, Kpembe and Bole of Modern Ghana, and the Segou and Kaarta of Mali. The "mass dynasties" on the other hand, were organized around control over trade routes in the Sudan zone. The states depended on a mobile cavalry forces which were sometimes used to raid the ill-equiped infantries of the acephalous peoples. Leadership within this group appear to have rotated within an elite class of Islamic lords. In some states, such as was in the Mossi (Bourkina Fasso), there was control over the production or smithing of spears and swords or other items, symbolic of state power. The centralized kingdoms of the forest, were distinct in that they initially based their powers on mythological sanctions, but they became despotic during the slave trade, from access to guns which they used to raid the hinterland for slaves. Such kingdoms included Dahomey, Benin and Opobo (Dike 1956).

1.3 Purpose of this study.

It would appear from the brief overview above, that specific cultural determinants are responsible for the growth of society. Such determinants include change in the technoeconomy, militarism, trade and religion. Can some or all of these determinants account for the evolution of the

ancient kingdom of Benin, (south-western Nigeria)? What criteria are to be applied to address this problem objectively? In Chapter II, this question is brought more to focus through a critical survey of Benin research and related studies. In Chapter III, this study focuses on the archaeological methodology.

CHAPTER II

BENIN RESEARCH AND RELATED STUDIES

In Chapter II, information about Benin is sifted from various study foci that could throw light on the uniqueness of the people, their environment, society and culture. The purpose of this is to provide an understanding of the setting of the archaeological research, review the literature, and to provide interpretive information which will be drawn on in later chapters. Information has been drawn from ecology, society, art, architecture and archaeology.

Benin City is located within the high rain forest zone of West Africa. It has two clearly marked rainy and dry seasons which partly regulate the hoe agricultural economy, with root crops as the main-stay. The people speak a language that belongs to the (Kwa subgroup) Niger-Congo branch of the Niger-Kordofanian family (Greenberg 1970). The society is organised in two ways, - a village social organization, on one hand, where age is the criterion of authority, and a town or state social organization, where authority is hereditary and based on the "rule of primogeniture" (inheritance of first son). The sex principle cuts across the two, for only males can participate in the two modes of social organization.

Historically, the art and architecture more vividly help to illustrate this Benin patriarchy. Previously, Benin

archaeology has been addressed mainly to the city center, or to the symbols of the state system. It has also provided a more reliable chronological framework for the tradition. As will be shown, it is possible to provide further evidence for this mode of social organization outside the city center and to demonstrate that this was part of a universal phenomenon.

2.1 Ecology.

The unique ecological conditions in the Benin area must have played a significant role in the development of the ancient Benin society as it continues to be important in the area. For example, agriculture is still heavily dependent on seasonal rainfall farming and, traditional builders relied on the red Benin soil for house construction, clay image building and pottery making. (This has however been changed significantly since the introduction of concrete during the colonial period). The red Benin sand or Benin Formation, as it is geologically called, underlies Benin City itself, and a considerable area around it (Figure 2). The Formation is sedimentary, and is of Miocene/Pleistocene in age. It is composed of yellow and white sands with iron stained gritty beds (Freeth 1975:225-228). The Benin Formation probably derived from a northern sandstone deposit, which is of Paleocene to Lower Eocene in age. The oldest sediment in the area, is the crystalline basement complex, whose age ranges from Precambrian to the Lower Paleozoic (Ogunkule et

al 1980:1-3). North of Benin City, and in many parts of Nigeria, this basement complex outcrops as many folding inselbergs. The Benin Formation is overlain on the southern coastline by recent beach and alluvium deposits which also include decaying organic swamp materials. Since some materials such as chert and flint, which are alien to the Benin Formation may occasionally occur around Benin City, it may be possible that such stones could come from the sandstone deposit or the basement complex to the north, and reports from the south eastern part of Nigeria indicate, that there are ancient brass or bronze alloy deposits on this sandstone, suggesting it was exploited traditionally for metallic art at some point (Chikwendu and Umeji 1979:155-161).

Geophysically, Benin City land is less than 1.000 feet above sea level, a low-lying plain which is an extension of the coastal plain. The Benin low land rises northwards to the Ishan Plateau, which is the source of most of the rivers and streams of the area. Except for the hills of the Cameroon-Adamawa ranges, on the south eastern edge of Nigeria, there are no major physical barriers to population movement in the country and the larger rivers must have in the past provided communication routes especially under forest conditions (Figure 3). Nigerian vegetation follows annual seasonal patterns of rainfall. Benin City is located within the tropical rainforest, with annual rainfall between

1,524 and 2,032 mm (Figure 4). The double maxima rainfall regime, in July and September here, or generally in the south-west of Nigeria, makes it possible to raise two crops of maize and vegetables annually (Udo 1980:11). Between November and March, there may be a marked period of dry season. There is a steady gradient of drier conditions towards the north, and wetter and more humid situation in the coastal swamps. The mangrove and the fresh water swamps of the coastal region, are inhabited largely by such tree species as Rhizophora racemosa, with aerial breathing roots, and the raphia palm, which the people exploit for locally brewed gin. In the rainforest, the natural tree cover consists of giant canopy trees such as iroko (Chlorophora excelsa) and obeche (Triplochiton scleroxylon), which have been exploit for the timber industry. Excessive ancient farming in this area and tree felling now results (in some parts), in a plagioclimax of palm bush (Jones 1956). Evidence for ancient tree felling in West Africa, has recently been related to the beginnings of agriculture in this region which has been dated to 2,800 B.P. (Sowunmi 1985:129). About 100 kilometers north of Benin City, the rainforest gradually gives rise to the savanna, but the practise of bush burning in the region has been influencing the enchroachment of the "derived savanna" ,further south, by the elimination of tender and susceptible plant species,

resulting in the spread of typical savanna fire-resistant trees.

The land use pattern here is still very traditional. Except in government reserves and plantations, such as the nearby Nigerian Institute for Oil Palm Research (NIFOR), 20 kilometers north-west of Benin City, individuals and family groups own and raise gardens and farmlands to plant seasonal crops and cash crops, or to protect semi-cultivated species such as the oil palm, kola nut and timber. The peasant farmers do not use any particular water or soil controlling techniques but rely on the traditional method of bush fallow and/or shifting cultivation for such arable crops as yam, cassave, and cocoyam. Other crops may include rice, maize and beans. Except for the indigenous guinea yam, most of the other crops are introduced from outside especially since European contact. Introduced cash crops here include cocoa, rubber and coffee, which are also largely in the hands of peasant farmers. Along the rivers and coast, fishing, hunting; and collecting are known. Coastal fishers often exchange their sea and river foods for farm produce from the hinterlands.

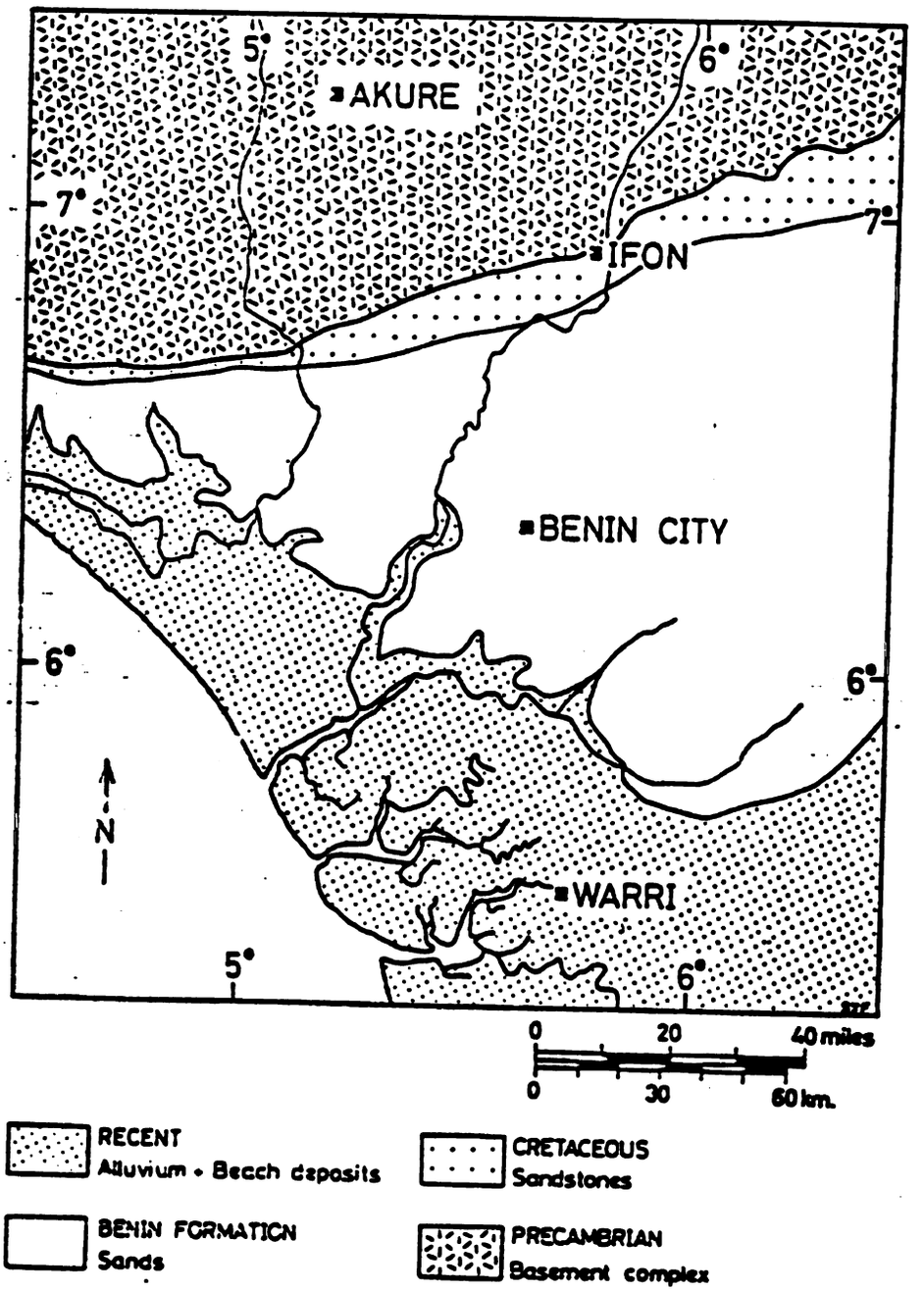


FIGURE 2: Geological Map of Benin (Freeth, 1975:227)

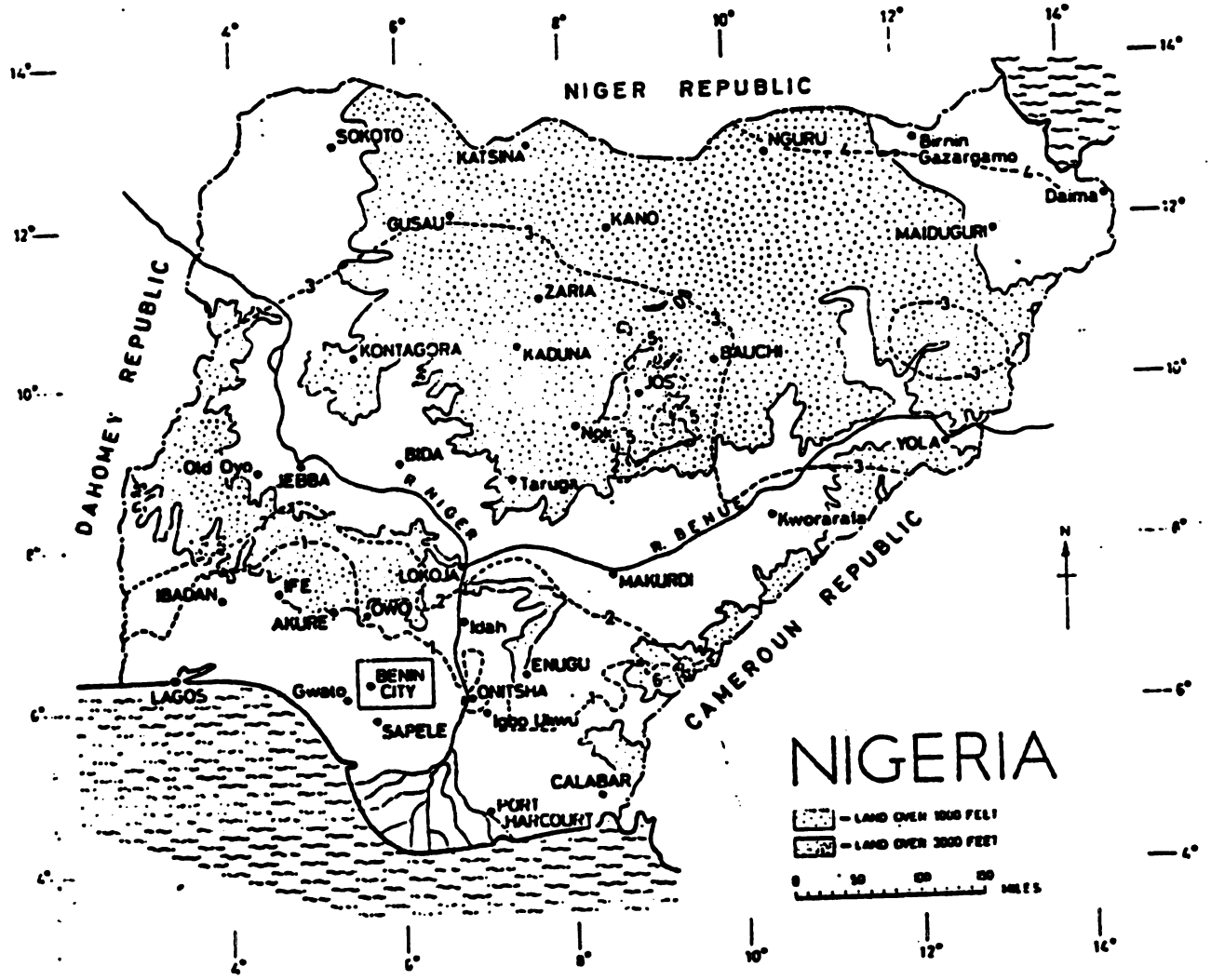


FIGURE 3: Map of Nigeria -- Geography and Archaeological Sites (Shaw, 1969)

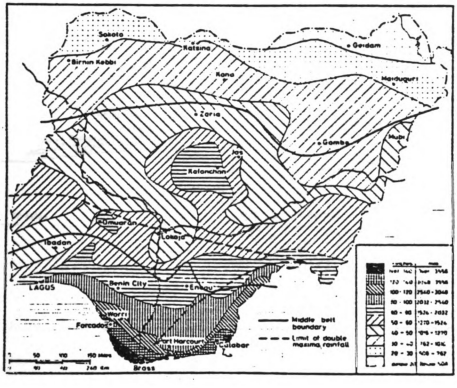


FIGURE 4: Rainfall Map of Nigeria (Udo, 1980)

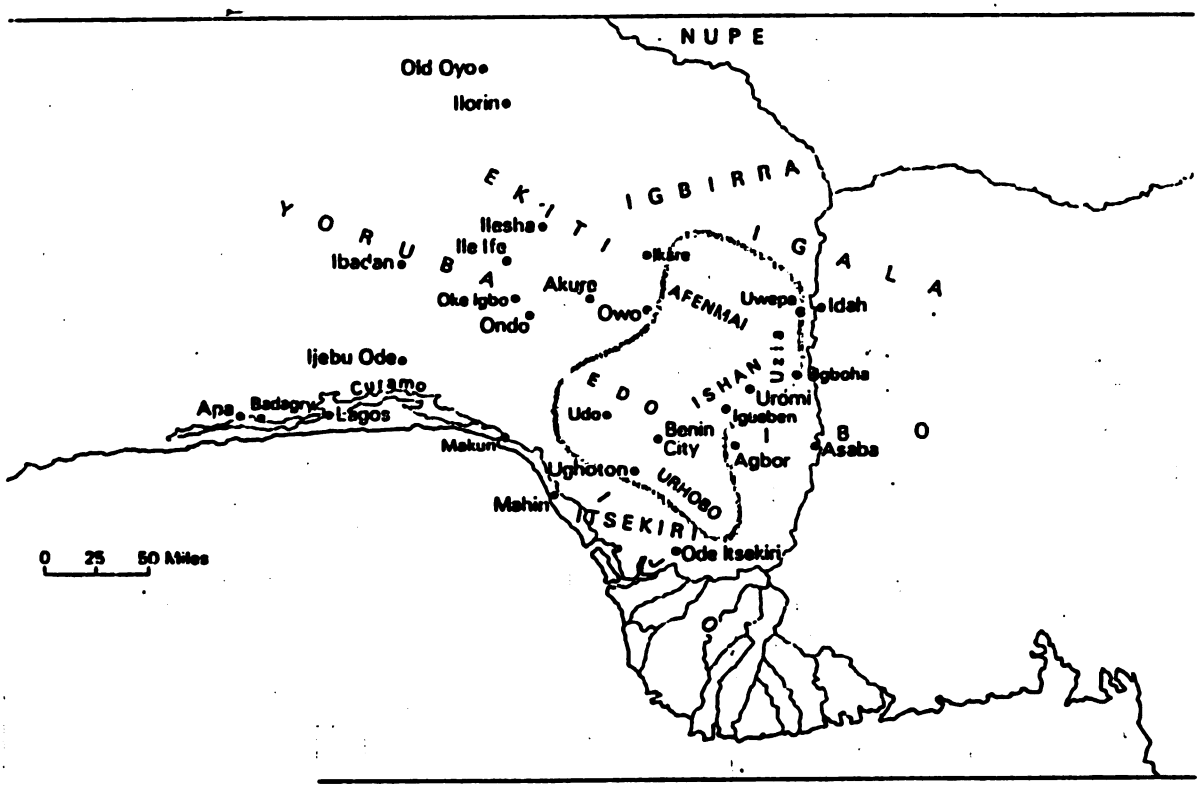


FIGURE 5: Edo-Speaking Peoples (Ryder, 1969)

FIGURE 6: 1st and 2nd Benin Walls and Historical/ Archaeological Sites (Connah, 1975a)

Site Label:

a. Oba's Palace (modern)

b. Ogiamwens Palace

c. Ugbekun Palace

d. Ogiso Ere Palace

e. Usama Palace

f. Edaiken Palace

g. Museum Archaeological site

h. Clerks Quarter's Archaeological Site

i-j. Inner Wall Archaeological Sites

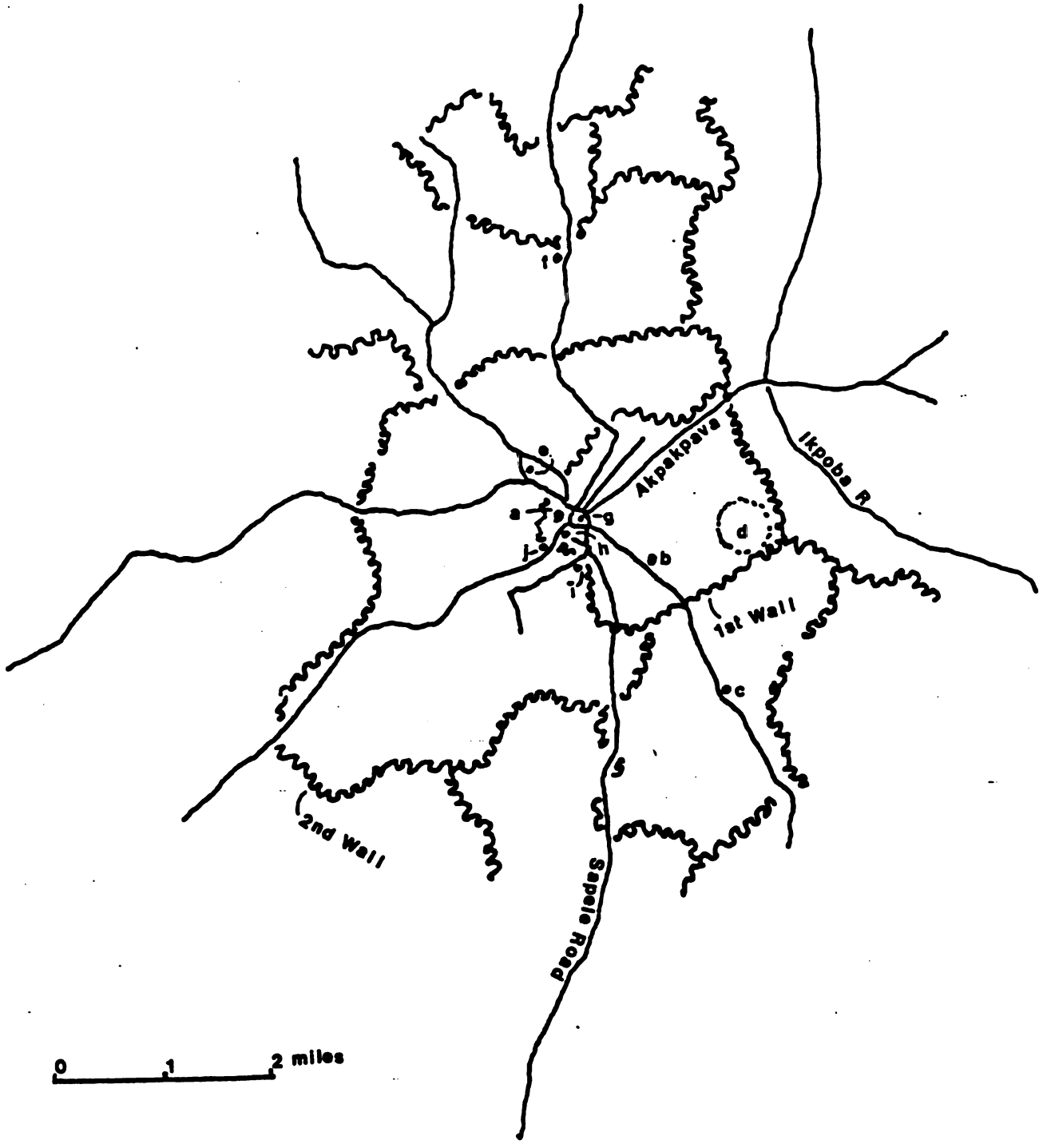

Akpakpava
Ikpoba R.
1st Wall
2nd Wall
Sapele Road
a
b
c
d
e
f
g
h
i
0
1
2 miles

FIGURE 7: Benin Area (Bradbury, 1957)

Village Label:

a. Use

b. Utekon

c. Uwan

d. Evboneka

e. Ekiadolor

f. Iwu

g. Urhonigbe

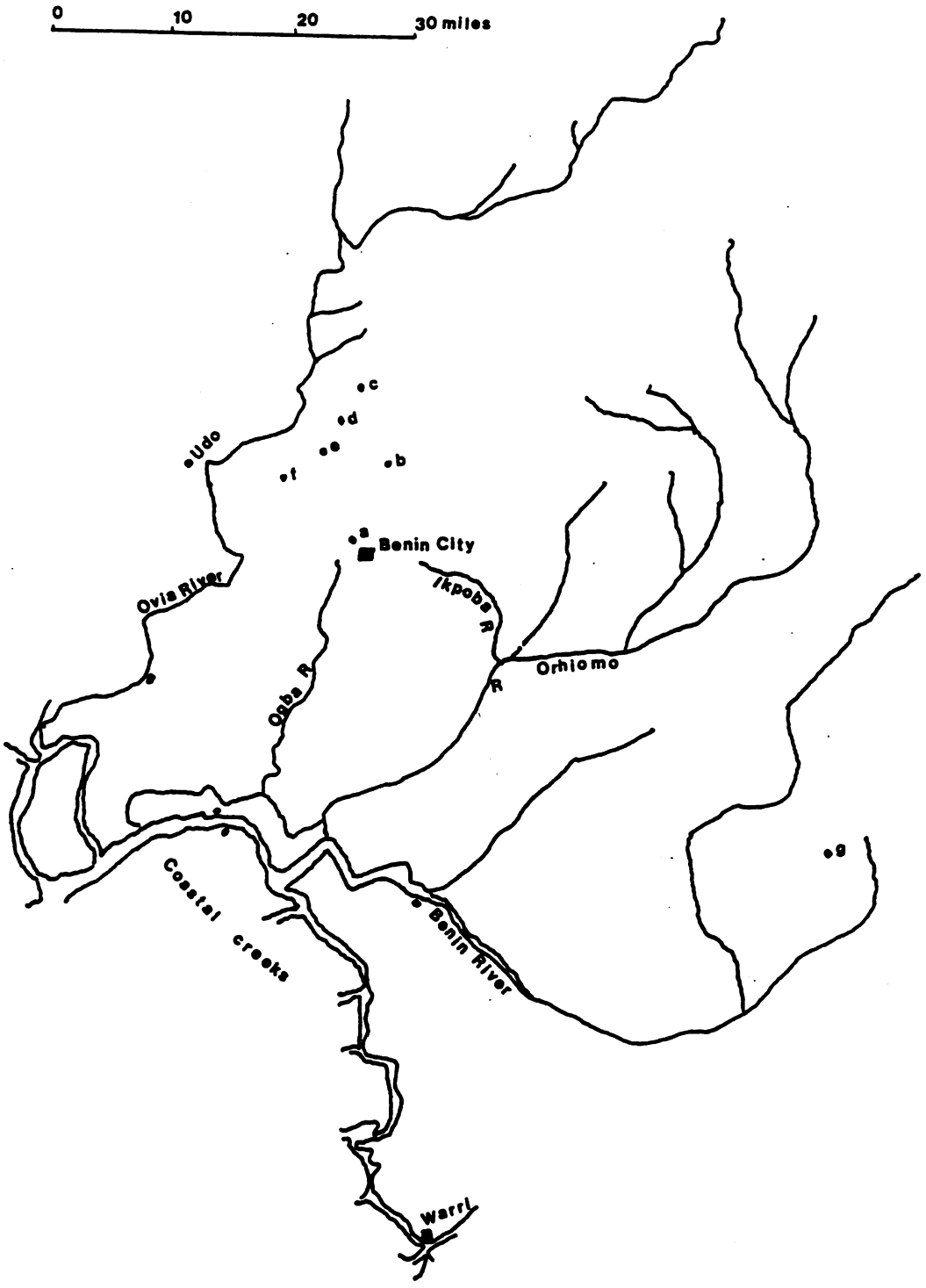

0
10
20
30 miles
Udo
c
d
e
f
b
a
Benin City
Ovia River
Ikpoba R
Orhiomo
R
Ogba R
Coastal creeks
Benin River
g
Warri

FIGURE 8: Escorting an Important Person (Benin Art)

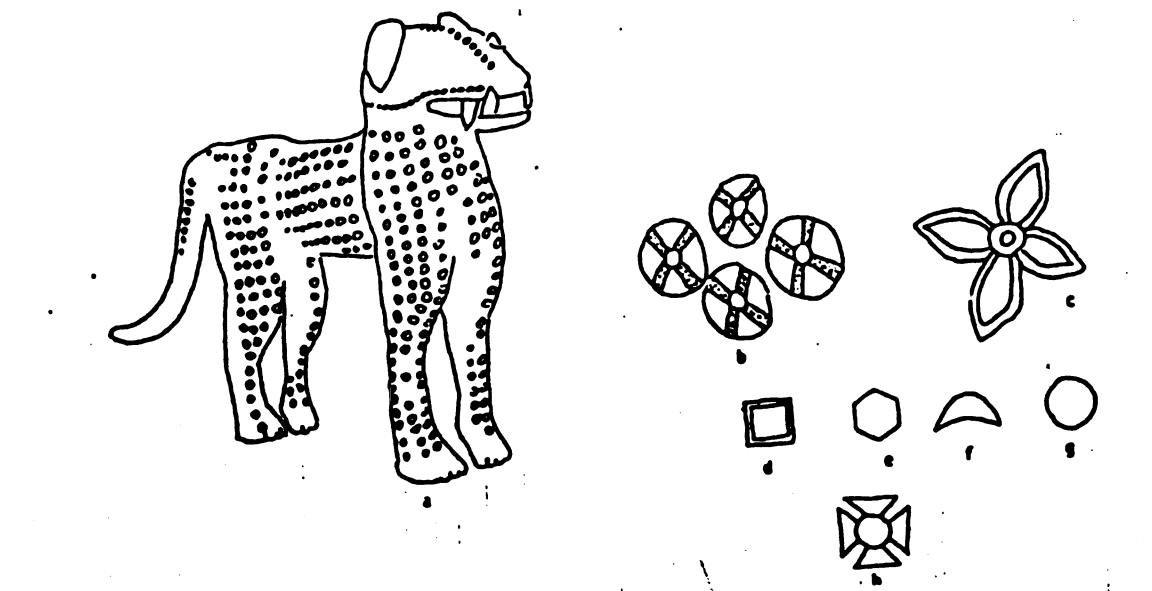


FIGURE 9: Motifs in Benin Art

a. Leopard

b. Crossroad

c. Leaf

d-g Geometric Shapes

h - Maltese Cross

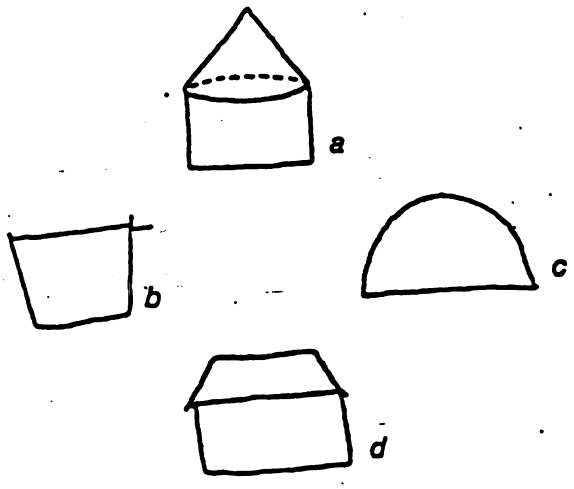


FIGURE 10: West African House Types

a. Round House

b. Rectangular Terraced Roof

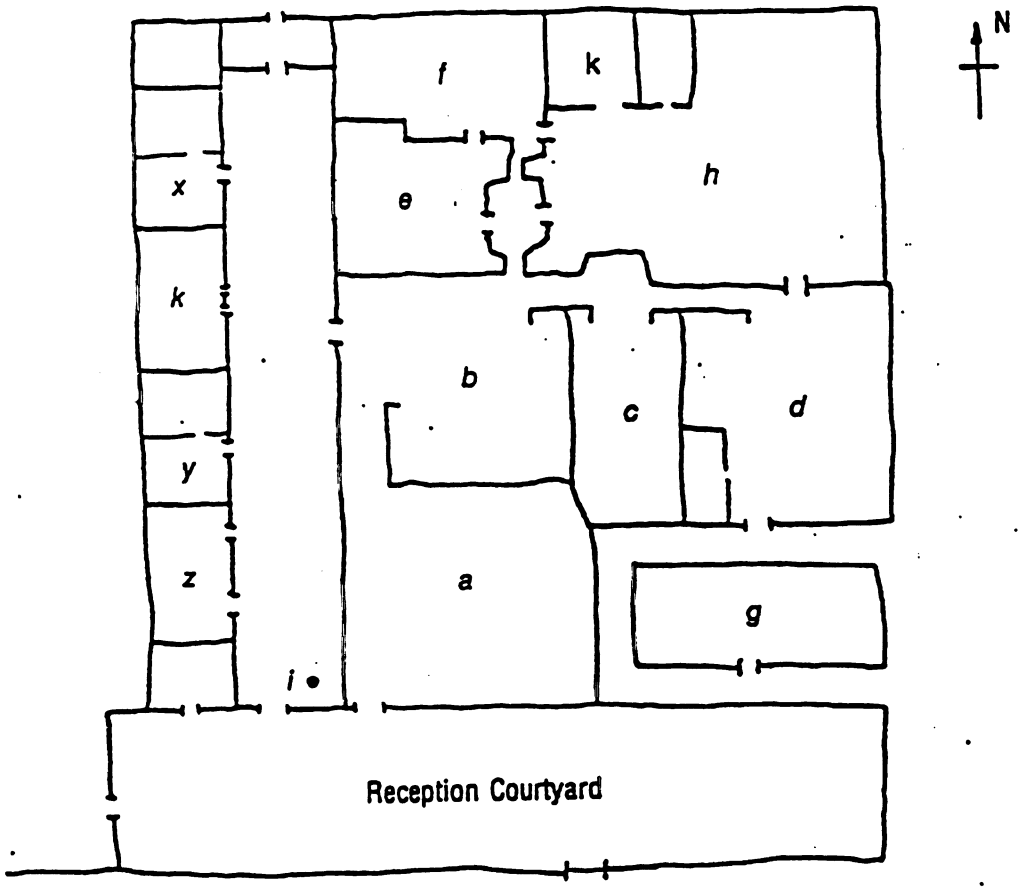
c. Hausa Dome

d. Rectangular Prismatic Roof

FIGURE 11: Plan of Ogiamwen's Palace. Benin City.

Ogwa	h. unbuilt courtyard a,b,c,d. built courtyard - ugha - room e,f,g. enclosed rooms - ugha
Erie	x,y,z. Erie quarters or rooms i. Ikhinmin tree
k.	kitchen

NOTE: Measurements were plotted as if the rooms form perfect squares. Some of the wall lines had to be reconciled to make them fit. The plan is however a fair representation.


N
f
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h
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x
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b
c
d
y
z
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g
i
Reception Courtyard
0 1 2 . 3 m.

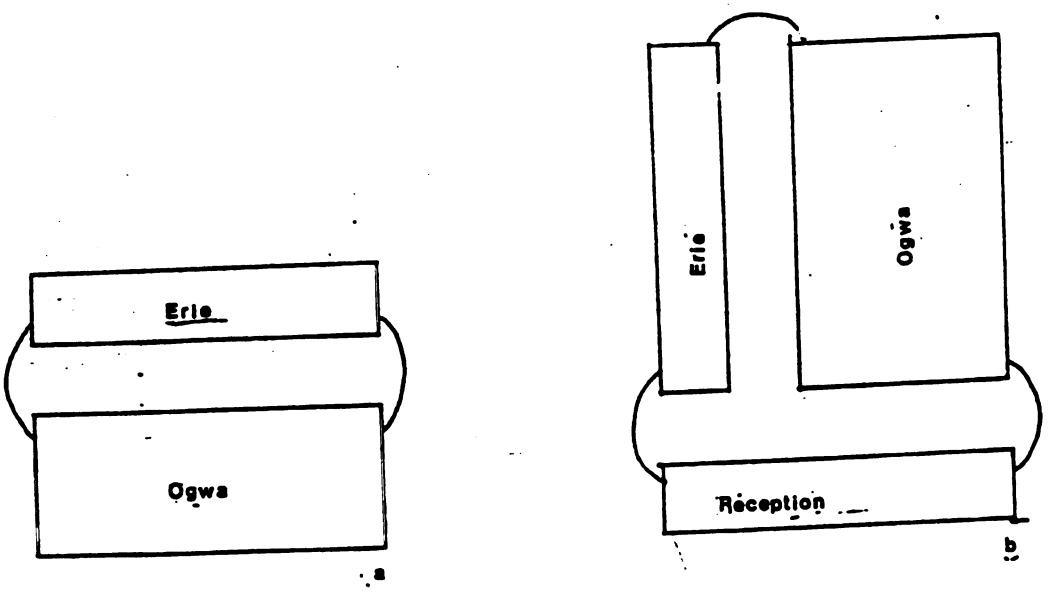


FIGURE 12: Benin House Types

a. Commoner

b. Chief

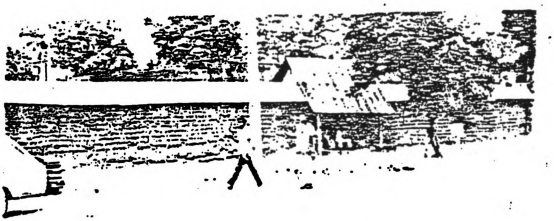


FIGURE 13: Ogiamwen's Palace (photo)

NOTE: Notice the Horizontal Grooves or Flutes on the wall. Only Chiefly Elites can treat their wall surface in this fashion.

2.2 Benin Society.

The people who live in Benin City today and their neighbours to the north and south (who speak closely related dialects or languages) were first described by Thomas (1910a) as Edo-speaking (Figure 5). Edo language belongs to the (Kwa subgroup) Niger-Congo branch of the Niger-Kordofanian family (Greenberg 1970). Sometimes, linguists classify the language into the following (Bradbury 1957:14):

I Edo proper and the Ishan and northern Edo dialects.

II The Urhobo and Isoko dialects to the south.

Traditionally, the people of Edo proper who live mostly in Benin City and around it, refer to themselves and the language they speak as "Edo". They also call the Benin City center as "Edo". In more recent times, the Edo proper has been called Bini, perhaps to distinguish it from other "Edo" dialects.

The origin of the people is obscure in myths and legends. Popular Bini myths speak of founding father to have come from the sky, being the youngest son of Osanobua (the Bini high God or supreme diety). This youngest son also became the first ruler of the Bini people or Edo world, and him and rulers that followed him became known as Ogiso (ruler of or from the sky). The traditional Bini historian, Jacob Egharevba, puts this Ogiso dynasty as before A.D. 1170. At at about this time, a practise of maladministration led to crisis and revolt and the people unable to find a suitable

ruler, sent to the ruler of Ile-Ife, to the west, in the Yoruba country, to help provide a ruler (Egharevba 1968:1-8). Oranmiyan, was the ruler that was sent from Ife, but it is his son by a Bini woman, called Eweka I, that is generally regarded as being the first Oba of Benin (as the rulers came be called.) It is thought that this second period in Bini history, lasted until 1897, when the then oba Ovonranmwen was deposed by a British punitive force and exiled to Calabar (on the south-east corner of Nigeria.). The third period or the most recent, falls into the colonial period and after. Evidence from archaeology more or less corresponds to this chronology.

Individuals are grouped politically in Edo society at various levels from family to village or town political units. The nuclear family consisting of a man, his wife or wives and their children (who may own a house or be located in rooms in the house of a man's father or senior brother), constitute the smallest socio-political unit. There are also "joint family" and extended family groups, usually consisting of a man and his married brother and sons with their wives and children (Bradbury 1957:27-28). Members of the family groups co-operate with each other in economic pursuits as farming, house construction etc. The head of the localised patrilineage settles disputes and punishes misbehaviour, and as he is often a member of the senior age grade in the

village council, he represents the family and he is responsible for their actions. The support for the authority of the family head, lies in his position relative to the deceased patrilineal ancestors. The "rule of primogeniture" (inheritance of first son) in Benin (Bradbury 1964, 1973), makes this matter a complicated affair, for it is the eldest son who sets up an altar at which to worship and communicate with the deceased father; and his warefare, and that of his siblings, wives, brothers and agnatic descendants is thought to be dependent upon the goodwill of the deceased father and his lineal ancestors who punish wrong doing with sickness, death and other catastrophes. The eldest or senior son thus has access to powerful supernatural sanctions for his authority, but this authority is not complete so long as there are surviving dead fathers junior brothers, who do not have their own altars but have to be represented in that of their senior nephew. The intense conflict that may arise from this vis-a-vis, property and residence, tends to weaken lineage affiliation amongst the Edo people, and descent is rarely traced beyond the extended family group, unless there is the prestige to be gained by belonging to an important title holder. On the other hand, the people have a more "unitary" village social organisation, in which although the "clan" may become dispersed, members of the village see themselves as one and co-operate as such in economic and cultural pursuits (Bradbury 1957:30-31).

The pan-village three-tier age grade system cuts across kin groups and makes age rather than lineage affiliation, the criterion of authority. The age grade system consists of Iroghae, consisting of boys in their teens who perform communal task of clearing and cleaning; the Ighele, entered by adult men who perform the heavier skilled communal tasks, as an executive arm of the political organisation; and the Edion, who are exempted from communal labour because of age and who form the village council for political and judicial purposes. There are two kinds of village headman namely: hereditary and non-hereditary. The non-hereditary head of the Edion grade is called Odionwere, found in all villages and age is the principle factor of appointment. Not all villages on the other hand, have an hereditary headman or Onogie, who may rule over a number of villages which thus constitute a chiefdom. The "Odionwere concerns himself with age-grade organisation and the internal affairs of the village while the Onogie is the community's representative vis-a-vis other villages and the central authority of the kingdom" (Bradbury 1957:33).

This central authority in Benin City center is generally regarded to be co-terminous with the arrival of the Obaship from Ife, although this is a matter of debate (Obayemi 1976, Ryder 1975). Benin City itself with it's traditional urban character, (a city with a network of defensive or territorial moats, whose cummulative length has

been put at about 105 kilometers (Connah 1963, 1967); ancient art works, and a divine kingship which has survived to present (Nevadomsky 1984a. 1984b; Nevadomsky and Inneh 1983), symbolises a unique indigenous state . The influence of the kingdom in the past was felt by people of different linguistic groups, such as the Yoruba to the west, Igbo people to the east, and the Igala to the north. The king was addressed as the Oba. Since it was traditional that the Oba may not leave the city until death, he depended upon representative titled chiefs (enigie), some of whom are found in the city center or in outside villages. Some of these enigie, claim descent from chiefs who ruled before the introduction of Obaship, or before the village or chiefdom in question was incorporated into the Benin kingdom. The majority however, trace their descent to junior sons of the past Oba who were made enigie on the ascension of their eldest brother - a practise which still persists (Bradbury 1957:33).

The plan of the ancient city center was such as to have the Oba's palace (Eguae) at a focal point, and clustered around which were the service wards or Idunmun, in which were skilled guilds of workers - drummers, blacksmiths, builder etc. (Figure 6). The traditional chiefly castes are divided into the seven king-makers (Usama n'hiron); the palace chiefs (Egbaevbo n'ogbe), who reside in the palace; and the town chiefs (Eghaevbo n'ore). These three castes are

further divided into complicated system of hereditary and non-hereditary titles.

The palace inhabitants are also further divided into associations or otu, whose membership may cut across age. There are three palace associations (otu-eguae), namely, Iwebo, who are in charge of the Oba's wardrobe and state regalia; Iweguae, who provide the Oba's personal and domestic servants, and Ibiwe, who are the caretakers of the erie or harem. Titled castes and associations of men are symbols of the state or kingdom. The age grade is a village social organisation. Throughout the Edo speaking area, the age grade is present, and except amongst the northern people, an hereditary titled chiefship may become super-imposed.

One cultural feature of all of these, is that the Edo society is markedly male-dominant and this is expressed variously, such as for example in the great deal of respect and obesiance which is required of younger members, women and untitled people. No one, for example, may address an older person, and for that matter, a titled chief or the Oba, by his name (an example of name taboo). The Oba takes a new name on ascension. In fact, it was a taboo to say that the Oba dies, sleeps, eats, washes. All these were only expressed through metaphors. Secondly, the rule of primogeniture, apart from being exclusive to men, also reinforces the birth principle and the patriarchal nature of

the family head. Ryder (1969:4) reports that in the earlier Ogiso political system, before A.D. 1170, some of the rulers were women. What this could mean in terms of the shift in the political system is hard to say. The rule of primogeniture with particular regard to property, appears to create incessant friction and weakens collateral relationship. A family head commonly refers to dependants as my "servants" or "little ones"

The religious system of the people is closely linked to the divine kingship, since the Oba himself, is related to the supreme diety. There are lesser dieties, such as hero-dieties, spirits of the departed, personal spirits, etc. The Olokun, is a popular cult among the people, and in Bini mythology, Olokun is the senior son of Osanobua, but now the god of the sea, whose source is identified with the Ethiope or Benin river. In the Urhonigbe village (Figure 7), where this river is believed to rise, there is a large temple which houses life size clay figures of Olokun (Bradbury 1957:52-53). Olokun is represented as an Oba with his retinue of wives, and he may be consulted in cases of barrenness, sickness and the desire for wealth.

Bradbury (1973:182-209), has explained that cult beliefs (and the festivals addressed to them), amongst the Edo people, partly dramatise the separation of the sexes, and the rationale behind it. Cult beliefs also help to articulate within a ritual setting, the male age-grade system by

demanding pledges or vows, as well as goods and services to the secular order; and the bond that arises from this, help to set one village membership apart from another. Some motifs of this can be illustrated in the Ovia mythology of the people. The Ovia myth is connected to a very beautiful Bini girl, (named Ovia), who later married the king of Oyo (in the Yoruba speaking area to the west). She became a favourite of the king, for apart from her beauty, "Ovia had always worn a single white cloth trimmed with the scarlet material called ododo" (Bradbury 1973:187). This was to the envy of the other wives who tricked the king into displeasure with Ovia. The plot went like this: The senior wife of the king of Oyo, summoned all the wives to go to the bush and collect snails, but unknown to Ovia, she had cunningly told the other wives to take bags along with them in which to put the snails. When they got to the bush, they collected the snails, but Ovia not having any bags to put hers, put them on her beautiful white dress which became stained. When the wives got to the palace, the other wives showed off the mess to the king and explained to him that Ovia had a disease which made her to menstruate continuously. The king believed the story and Ovia in her sorrow, melted away in her tears, and became the Ovia river which is on the west side of Benin City today (Figure 7). In the ritual drama, which is called ugie festival by the people, women are barred because of their treachery towards Ovia. During the period of ugie,

the men go into seclusion in the Ovia groves located in the bushes, (where they assume the spirits of patrilineal ancestors), for three months, but from time to time come out, masked, to perform the ugie dances which are later talked about and boasted about, by the people. Sometimes, the women would sing and pray that their hushands may dance well or even excel others, including the patrilineal spirits, for not dancing well, could bring shame and despair. At the last day of the festival, the erinbhin (which the masked dancers are called) are "killed" by the women who touch or embrace them (for the first time since the period of seclusion started), to bring them back again to the secular domain. Cults of this nature still exist in Benin City today, although membership may have expanded to include trading or "professional" groups.

In Benin art and architecture, some visible and more permanent symbols can also help to further illustrate some historical and cultural elements in Benin society.

2.3 Benin Art.

The origin of Benin art is a matter for debate, but both oral history and archaeological evidence appear to agree that by at least the 13th century, Benin City was inhabited by people associated with solid "bronze" working or smithing (Connah 1975 :247-253; Egharevba 1968:11). This early smithing technique, which produced such materials as the solid manillas, that have been subjected to spectroscopic

analysis (Shaw 1975:232), eventually evolved by about the 15th century into the hollow lost wax cast technique. Benin memorial heads were produced by this method. Even the early "bronze" heads were comparatively thinner than the later ones as Portuguese influence after the 15th century may have led to more copper supply which is an important component of bronze or brass alloy (Eyo 1977:140).

Another uniqueness of Benin, is the range of corpus of the art objects.(1). Benin art forms include memorial heads, altars, plaques in metal; ivory gongs, coral beads, ebony staffs etc. These forms and the features they contain provide varied cultural information , but the general purpose was to depict the court life and political history. The art has been described as "court art' because legend has it that Benin artists were commissioned by the Oba to specially produce the objects for commemorative use in the palace; as badges of title; in ritual settings and as objects that are of diplomatic use, when it was necessary to reinforce alliances between Benin and external states or chiefdoms.

The political art of Benin includes plaques which often show the attendance of chiefs and servants at the Oba's palace, sometimes the hands of the chief are held by his attendants. In Benin City today, the Oba or chief, going or coming from a ritual or social function, similarly have their hands held in the fashion of tradition. (see Figure 8). Motifs in Benin art include nature objects such as water leaf

(ebe-ame) or the leaf called owen iba ede ku (Figure 9c), which means "the sun never misses a day" (Ben-Amos 1980:28). Others include symmetric pieces such as the leopard (Figure 9a), or geometric features, including triangles, circles, lunates, polygons, rectangles, and trapezoids (Figures 9d-h). Other art forms are of historical and mythological importance. For example, horses did not appear in Benin plaques until the 17th and 18th centuries, suggesting that horses must have got to Benin as a result of Portuguese introduction after the 15th century. The Maltese cross (Figure 9h), was in use in Benin art before the time of the first Portuguese expedition to Benin, in the latter half of the 15th century. It's use in Benin art is of interest especially in ellucidating the relationship between Ife and Benin (Ryder 1965:25-26). A form known as aghadaghada or "crossroad" (Figure 9b), recurs in Benin and Ife mythology. Shrines devoted to the trickster god (Eshu or Esu) were usually placed at crossroads and door entrances (Fraser 1974:1; Thomas 1910a:32). In present day Benin, sacrifices are still performed at crossroads, and some indigenous christian churches commonly perform "spiritual work" at road juctions.

One of the closest relatives of Benin art is Ife, (Figure 3), and tradition puts it that it was Oba Oguola (about 1280) who introduced brass-casting to Benin by

requesting the Oni of Ife to send someone to teach his people the art of brass casting (Egharevba 1968:11). Direct derivation of Benin art has been questioned by some authors (e.g. Ryder 1965, Eyo 1977), on several grounds. For example, although the art of Ife is somewhat older (Classical Ife art is between 12th and 14th centuries), than Benin, the fact that Ife art is not particularly associated with the kingship argues against this political relationship. Ife art is distinctively naturalistic as against the more "conventional" or political art of Benin. Ninety percent of Benin art is in metal while terracotta manifest more in Ife. The extinction of Ife art at about the 15th century, raises doubts about the continuity of the ancient art with present Ife. On the other hand, Benin art is continuous to present day. This is not to say that there are no relationships. In fact, it is now thought that given the broad relationship in techniques, forms and motifs, the ancient art of southern Nigeria, is related to a common, more ancient and more northern center. A northern center which has been described as the "Beny confederacy", of which the Nupe nation is a survivor, has been suggested as the watershed for the other later art traditions of Igbo Ukwu, Ife, Owo, Benin and Idah. (see Figure 3 and 5; also see Ryder 1965). Igbo Ukwu, which is dated to the 9th century is older in this complex (Eyo 1977, Shaw 1969:193-196). The significance of this, is still hard to judge, but archaeological information in general

indicates that Igbo Ukwu cultural materials are significantly different from those of Benin and Ife, and that a relationship via Igbo Ukwu, for example, could not fit the data.

2.4 Benin in West African Architecture. (2)

Although architectural study in West Africa, is problematic because of rapid mud wall decay, (McIntosh 1974), it's comparative study is probably more sensitive to symbolic and historical information. Comparatively, West African peoples share a common tradition of reliance on locally available raw materials in their housing programs, although form may reflect both ecological and symbolic conditions. (Fletcher 1977:47-160; Prussin 1971, 1976; McIntosh 1974; Haberland 1981; Vlach 1976). In West Africa, mud architectural techniques were largely of three types, namely, wattle and daub, terra pice, and tomb.

Wattle and daub is a rapid technique, involving the erection of a framework of poles and twigs, which are laced with ropes in the manner of basketry. Wet mud is then later pounded onto this framework (McIntosh 1974:161-162). This method was in use in West Africa, especially under conditions of low plasticity of clay, such as the riverine deltas of south eastern Nigeria. Benin sand for example, is very plastic and readily sticks when wet.

The terra pice is a more prevalent technique. The

process involve the digging up of plastic clay usually within the vicinity of the building site. This is then puddled with water and used to pile up successive courses of mud wall of approximately 60cm in height, and 26cm in thickness (McIntosh 1974:159). Each pile is allowed about two weeks to dry before another course is added. In most cases, four such courses are needed to the top, but in some hierarchical societies such as Benin, a chief could have five or six, while the Oba could have as many as he wanted (Goodwin 1957:67).

The tomb technique, commonly used in the Western Sudan, reflects Arab and Islamic influence from about the 8th century A.D. Tomb consists of dried mud bricks made with wooden molds, and then later laid as walls with wet-mud mortar (Prussin 1971:132). The Arab influence with regards to architecture is significant in the Western Sudan and Central Sudan. In the Western Sudan, the Madinka or Manding speaking people helped to propagate Arab and Islamic concepts of dried mud masonry as is reflected in the mosques or zawiya. In the Central Sudan, the Hausa played a similar role. Hausa architecture features a distinctive dome, unlike the rectangular or square houses with decked roofs of the Manding. Centers in the Sudan where this kind of architecture can be recognized include Kano in northern Nigeria, Begho in modern Ghana, Timbuktu, Gao, and Djenne in Mali (Figure 1).

West African architectural forms provide a clue to the evolutionary pattern. Although it has been suggested that one may not talk of architectue in West Africa, until linguistic concepts were able to distinguish a "home" as an idea from a "house" as a physical manifestation (Prussin 1971:130-136), one may add that West African architecture was both a home and a house in an adaptive sense. The specialised post-Islamic mosque or zawiya, however, has it's unique symbolic quality. From archaeological evidence therefore, it would appear that early architectural forms in West Africa, were round. There is evidence for the possible construction of round huts on stone bases, from the Nok culture, dated from 925 ± 70 B.C. to A.D. 200 ± 50 (Angela Fagg 1972:75). These early round houses (McIntosh 1976) were probably adapted like the present Fulani round huts of temporary structures of twigs and grass. Round mud houses (Figure 10a), are widespread especially in the grassland zones of West Africa today. It has been suggested that Islamic influence must have helped to transform this round concept into the "directional" or rectangular form (Figure 10b, 10d). Roundness is thought to be related to autochthonous beliefs of emergence from a hole (Prussin 1976:10-11; Posnansky 1984:149), but that Islamic directionality or orientation to Mecca, helped to create a linear format in West architecture. There is a similar situation to this in southern Africa, although, Islamic

influence may not have been directly responsible for it. Centrality and directionality symbols are known in the so-called "Bantu cattle culture" (Kuper 1980, Huffman 1982:140-142), were the village is organised around a central cattle byre. This central cattle byre also expresses male authority as it may be regarded as the political and judicial meeting point of the men. On the other hand, there is a left and right arrangement of houses according to seniority including a front-secular/back-sacred orientation of the building. The symbolic order in the use of space may prove to be a unique approach in West African architecture.

However, the rectangular form of West African architecture, is of two types, namely, the terrace type (Figure 10b), found mostly among the Madinka peoples of Western Sudan, and the one with a prismatic roof (Figure 10d), common amongst the Bini, Igbo and other forest peoples of West Africa. This rectangular form with prismatic roof, of the forest region, could have been directly influenced by the savanna type, but had to be adapted to condition of intense rainfall, where a lighter roof which ensures immediated run-off is needed. The Hausa vault or dome (Figure 10c), is round but it represents a variant of Islamic architecture which was popularized in the Central Sudan by the Hausa people.

The point in all these is that the symbolic order in West African architecture goes beyond a simple directional

orientation. Islamic laws as enshrined in the Malekite rules, with respect to spatial provisions, for example, placed emphasis on visual privacy and formalised male/female distancing (Prussin 1976:10). This often meant the provision of separate house units for each adult occupant. Each household member may thus be formally excluded from house units they do not normally occupy within the same compound. The separation of male/female dwelling in West African housing can be vividly illustrated by the spatial character of Benin architecture which is probably not a direct result of Islamic influence.

It was Goodwin (1957), who first provided insights into Benin architecture. Benin houses were constructed as clay courses, as was mentioned earlier, and this was then roofed with thatch of broad leaves. On structural and ecological grounds, the architecture could be seen as an adaptation to the intense hot and humid condition. The heavy roof of thatch was supported by series of walls which form around the rooms and courtyards. Traditional Benin houses lacked wall windows, so that the opening of the roof into the courtyards served to admit light into the living floors. Water was drained from the courtyards through sunken impluvium. Adjacent to the living spaces were series of "mud beds" or raised clay platforms with some serving as tables or altars. The horizontal grooves or flutes was a symbolic surface wall treatment of the Oba and chiefs (see Figure 13)

One such structure, that is still surviving presently, is the Ogiamwen's palace (Figure 6b), built before the 1897 punitive Expedition to Benin City. The palace is now a national monument under the protection of the Nigerian Federal Department of Antiquities. The spatial structure of this palace can be divided into two major locales, namely, Ogwa and Erie (Figure 11). The Ogwa is the male quarters while the Erie is the harem or female quarters. The chief and his unmarried sons normally lived in the ogwa, and each erie room may be occupied by one woman and her unmarried daughters. Male dominance is symbolically expressed here by the disparity between the areas of ogwa and erie, but the key point is that the ogwa also expresses the exclusivity of the male. The female may be forbidden from coming near particular locations of the ogwa and at some times, she may be totally barred from the ogwa. This is largely because each Bini room is also a "chapel" (Goodwin 1957:69), and there is usually a space regarded as "holy" to which contact by the female may lead to "pollution". This sacred character of the ogwa is unique, and clearly has political implications, and is also related to mythological beliefs already discussed.

In terms of direction, the ogwa and erie in this palace, manifest on the left and right, depending on the direction one is facing. In other Bini house plans, particularly those of the commoner, the ogwa and erie commonly express on a

front/back axis (Figure 12a), but in all, there is a certain element of ogwa-sacred/erie-secular, since erie is theoretically not forbidden to both men and women. Secondly, it may be that the commoner form is more ancient and that the elite type (Figure 12b) became super-imposed during the evolution of the chiefship or kingship in Benin.

The Oba or king's palace (Figure 6a) was larger than those of the chiefs. The Oba's palace was said to consist of 201 rooms, a number which may be mythical. In front of the Oba's palace, is located a market, Eki-Oba a symbolic feature of the political nature of the ancient economy. Such a plan also suggest relationship between Benin and the Yoruba palaces or Afin, which also have markets in front of them. (Ojo 1966:35).

Benin archaeology has in the past been addressed to such palace sites, some of which are historically known. Some of these historical sites are therefore initially discussed below.

2.5 Historical Sites. (3) (Goodwin 1957, Egharevba 1968 , see Figure 6).

2.51 Pre-13th century sites:

Pre-13th century Benin is considered the first period of Benin history. It witnessed the initial organisation of a political system under the Ogiso, at the close of which a weakness set in, requiring solutions which were dramatic. For this period, there are two most important foci in Benin

history. These are the Ugbekun and the Ihumwum-Idunmwum palace sites.

Ugbegun Palace

Ugbekun is regarded as the first palace site of the rulers of the Benin empire. It is today about five kilometers from the Ring Road, along Sapkoba Road, on which spot has been erected a sign by the National Antiquites Commission declaring the site a National Monument. This site of the first palace was built about A.D 904 by Igodomigodo, one of the early Ogisos of Benin.

Ogiso's palace.

Legend says that the palace was transferred from Ugbekun to Ihumwun-Idunmwun, 36 years after it had been founded at Ugbekun, indicating a brief period at the Ugbekun site. This transfer was done by Ogiso Ere. Ihumwun-Idumwun is today the area in the 2nd East Circular Road between the Old Western Boy's High School site and the Electrical Power station down to the slopes of Ikpoba river. Since this is a wide expanse of land, historical sources appear to be in disagreement as to the actual focus of this palace, and archaeological investigations within this area have failed to yield accurate information (Goodwin 1957). However, the palace is thought to have remained within this locality until about A.D. 1170.

2.52 13th century and after:

At about A.D. 1170, the Benin Ogiso organisation

witnessed a series of upheavals as a result of misrule or mal-administration, culminating in the imposition or adoption of the obaship political institution by the Bini people through their relationship with Ife, the spiritual center of the Yoruba nation. The person generally regarded as the first Oba of Benin is Eweka I, who ascended the throne about A.D. 1200. This is also regarded as the beginning of the 2nd dynasty of the Benin empire, which lasted until 1897, when Oba Ovonranmwen, the 35th Oba on that line, was deposed and exiled to Calabar, by a British punitive force, attempting to impose control over the southern area of what is now Nigeria. During this period, the Oba's palace appear to have been moved essentially to two sites - these are the Usama site and the area more or less around the present Oba's palace. Two other permanent palaces have in addition come into focus, these are the Edaiken and the Ogiamwen palaces.

2.53 Usama palace.

Usama is the palace site of the first Oba of Benin, Eweka I, who constructed the palace at the time of his coronation about 1200. The other Obas, Uwakhuahen (about A.D. 1240) and Ehenmihen (about 1242) are known to have lived here, but Oba Ewedo (about 1255) moved the palace from this point to another site at Ogboka, on the location of the present Felix Idubor's cultural center, along the Sakpoba Road. The Usama site is at the beginning of Siluko Road on the Ekenwan Road junction, opposite the Mobil Petrol

station. It is surrounded on all four sides by roads, with Usama street on it's western end. It remains unbuilt on, and it has now been demarcated apparently to discourage land speculators.

2.54 Oba's palace.

The site of the Oba's palace was occupying a much larger land area, than what is the case at the present. Although the palace, built by Oba Ewedo mentioned earlier, had a focal point at the present Idubor Art center, the palace consisted of ten ogbagba or streets, and each street was named after a particular Oba. This is an indication that the palace was originally quite extensive, including the present Ring Road, part of Mission and Forestry Roads, Akpakpava and Sapele roads, as well as it's present site. Evidence suggest that the contraction of the palace over time could have been due to the recurrent fire outbreaks in the city and palace, causing extensive damages and requiring rebuilding at different points in the general area of the site. Around 1816, for example, Oba Ogbebo, who had usurped the throne, burned down the palace and hung himself, following a crises which ensued in which he was vanquished. The palace was rebuilt by Oba Osemwende, but was destroyed again by fire immediately after the British punitive expedition of 1897. Part of the palace was rebuilt by Oba Eweka II. Fire again razed the palace in 1922, after which the palace was roofed

with corrugated iron sheets, instead of Ekhuere and ebe-okankan thatch leaves which when dry, burn fiercely. The present palace plan is actually a creation of Oba Eweka II (1914-1933).

2.55 Ogiamwen's palace (see Figure 13)

The Ogiamwen's palace is located on the northern side of Sakpoba road, between the 1st and 2nd East Circular roads. This palace, which has been taken over by the National Antiquities Commission, as a national monument, is unique for a number of reasons. The first is that it is the only building of comparable status which has survived the great fire and destruction sequel to the punitive expedition of 1897. Secondly, it typifies the distinctive Benin architecture. Some members of the late Chief Ogiamwen's families are still living in the quarters so that the palace offers a real opportunity for the understanding of some palace practices, which otherwise would be unavailable to the uninitiated. Legend has it that the Ogiamwen political institution is a survivor of the early Ogiso system, before the introduction of Obaship from Ife.

2.56 Edaiken's palace.

The Ediaken title was created by Oba Ewuare the Great (about 1440), to commemorate the death of Iken, the ruler of Uselu, who was killed in active service against the Owo people. This title was given to the first son of the Oba,

and the practise has survived to this day. It is largely a bush site and there are a few large trees and some Ikhinmin trees which are used to mark points or areas of traditional importance. The land, which is about 300 meters by 300 meters in area, is probably also used mainly during the installation of the Edaiken. There is a building within the site.

2.6 Benin Archaeology.

Pioneer archaeological studies in Benin were first undertaken by Goodwin (1957), who, following oral traditions, identified some of the palace sites mentioned above. This was followed by series of surface surveys and excavations at the Ugbekun site, Ogiso Ere site, Usama site, Museum and Clerk's Quarter's sites (the Museum and the Clerk,s Quarter's sites fall within the most recent location of the Oba's palace (see Figure 6). Goodwin's excavated artifacts included a slab of cast reptilian bronze head, plaque fragments, rolled brass plates, bronze or brass rivets beads and a number of pottery. The overall stratigraphic significance of these materials at the time was lacking. Goodwin however, complained at the time that the Benin area was a difficult place for excavation partly as a result of the wetness and plasticity of the soil. The artificially high water table (as a result of the "prodigal local use of water") (Goodwin 1957:72), in addition to the known Benin architecture of steps altars and sumps also helped to cloud

stratigraphic analysis. Archaeologist Connah, on the other hand, performed extensive excavations between 1961 and 1964, within the palace locations identified by Goodwin earlier. Connah's excavated sites can be described as follows (see Figure 6):

2.61:Benin Museum site:

The site is located at the city center within the pre-1897 palace area. The site had a number of pits and within one of the pits, came two isolated human skulls, thought to be the remains of human sacrifice, buried face down. Other objects include pottery, a few beads (?glass) and tobacco pipes of African and European manufacture. There is also a living floor with the potsherd pavement technique, a technique known in Ife and Old Oyo sites, indicative of a relationship (Connah 1963:468). Connah reports that there is "no local tradition nor historical reference to the previous existence of such pavements in Benin" (Connah 1963:468).

2.62:Clerks Quarter's site:

This site is also within the pre-1897 palace. The site turned out to offer the deepest stratigraphy with about five occupation phases. The stratigraphy runs through a well shaft that was 58 feet deep. At the early period, the site is associated with a mass burial of 35 individuals, located at the bottom of the shaft. The bones had been in a solid

mass, having been adversely affected by weathering or erosive action. The fact that parts of the bones such as the skull, mandible and limbs were missing, also suggested human sacrifice. This site is rich in pottery, and iron; and bronze and glass objects are mainly located in the "Late Phase" of occupation. A date in layer 14 from the Early Phase is 1490 ± 90, while other dates from the mass burial are 1310 ± 90 and 1180 ± 105.

2.63 City Wall sites:

At the Reservation Road and Ogba Road intersections, on the Innermost Wall, thought to have been built by Oba Ewuare, in about 1440 to 1470 (Egharevba 1968), Connah cut trenches across the wall at the Reservation Road and below the ditch bottom at the Ogba Road site. The Ogba Road bottom of the wall gave a date of 1340 ± 105. The wall had been constructed over earlier occupation deposits in which are located pot fragments and charcoal.

2.64: Usama Site

In search of pre-16th century information, Connah selected a site thought to have been the palace location of the first four Obas or kings of Benin. This is the Usama site mentioned earlier. The site consisted of pits producing pottery, a miniature iron or ada (ceremonial sword), and a solitary bead, and some charcoal, animal bones and burnt oil-palm kernels. Pit 5 on the site has a date of 1500 ± 105

(Connah 1975 :182)

On the basis of radiocarbon dates, datable European imports, bronze art tradition and pottey types, it is clearer that Benin area was populated by at least the 13th century A.D., by which time, there is evidence for solid brass working and smithing (Connah 1975 :251). The 14th to the 16th centuries may be called the golden age, represented by city walls, hollow "bronze" casts, and potsherd pavements. By the 17th and 18th centuries, European influence is indicated by the presence of imported smoking pipes, and perhaps leaded bronze. In 1897, the colonial period sets in, as the Oba is barnished to Calabar by a British punitive force.

The Benin City walls, unlike the free-standing walls of other northern towns like Bida, Kano, and Zaria, are described as "dump rampart" in that materials forming the walls were dug from the ditch or moat and then heaped on it's inner side (Connah 1967), forming a bank. This walling type is considered as an adaptation to the wet forest environment and are similar to the walls of Ife and Old Oyo (Soper and Darling 1980:61-81). Two of the major walls of Benin city, form concentric rings around the city center, enclosing the Oba's palace on it's southern side (Figure 6). Legend has it that the Innermost or 1st concentric wall was built by Oba Ewuare between 1450-1500, while the 2nd concentric wall and 3rd walls were built by Oba Oguola about 1280 to 1295

(Egharevba 1968). The first wall is considered to have been a defensive structure, while the second and third walls are considered to be territorial or to have been used for demarcation between chiefdoms or as agricultural boundaries. In a chain and compass survey of these walls, Connah (1967:606, 1975 :105) estimates that the inner wall is about 17 meters high and 9 kilometers in circumference, while the 2nd wall is about 8 meters high and about three times the Innermost wall in circumference. The cumulative length of all Benin City walls is about 105 kilometers.

Walls have also been recognized outside Benin City center, and the studies of Darling now indicate that there is a wide geographical distribution of the walls or Iya as the Bini people call them (Darling 1976:148, 1984), and the walls may have been associated initially with competitive and more or less equivalent chiefdoms. One of such walls is the Uwan Wall which is located outside the city center about 20 kilometers to the northwest of Benin (Rees 1975:237-242). The wall was found to be associated with pottery, charcoal and oil palm seed shells, suggestive of ancient settlement (Jones 1956). The wall itself appears similar in it's general characteristics to the 2nd concentric wall in the city center, and has a height of between 1 and 6 meters, with circumference of about 26 kilometers (Figure 14). This research is centered on this Uwan wall area, in an effort to provide fresh clues as to the relationship between ancient

Benin City and it's outskirts.

The Benin system should however, be seen as the outcome of a long process of cultural development, particularly from the West African Late Stone Age ceramic tradition. Archaeological evidence for this is reviewed below.

2.7 A summary of West African ceramics. Historical perspective and the place of Benin materials.

Early pottery traditions in West Africa developed within the context of a microlithic stone tool technology. Earlier than 10,000 years B.P., not much is known about the Early and Middle Stone Age traditions as compared with the rest of the continent. Later than this date however, there is evidence that Late Stone Age people, using microlithic tools were well established in West Africa. They did not live in the extreme forest conditions, but rather in the forest-savanna ecotone environments. At the the Iwo Eleru site, near Akure in Nigeria, and only about 50 kilometers into the rain forest, there is the first evidence of pre-pottery microlithic tradition dated to between 5000 and 11,000 years B.P. (Shaw 1969:191, 1984). Evidence from several other sites (e.g. Old Oyo, Rop Rock shelter, both in Nigeria, Rim in Bourkina Faso, Bosumpra in Ghana, Yengema Cave in south central Sierra Leone, Kamabai and Yagala both also from Siera Leone), shows that between the time when the tradition first appeared at Iwo Eleru and the beginning of the last millennium B.C.,

microlithic traditions of hunter/gatherer peoples had become more wide spread in West Africa (Fagg 1972, Rosenfield 1972, Coon 1968, Andah 1978, Atherton 1972, Eyo 1972)

Then, a new cultural innovation appeared. This was the use of pottery which was in some cases associated with food domestication. It's point of origin or introduction into west Africa is a matter of debate, but earlier than the time pottery first appeared in West Africa proper, there is evidence that pottery was being used in the sahara (Camps 1977). Two such known saharan traditions are called the Neolithic of Capsian Tradition and the Saharo-Sudanic Neolithic. These traditions coincided with a dry climatic phase which may have stimulated new settlements and subsistence adjustments such as response to the need for permanent water sources.

The Neolithic of Capsian Tradition originated from the highlands of the Maghreb on the northwest sahara. It is characterised by a Late Stone Age assemblage (geometrics, mixed with bifacially flaked arrow-heads, polished stone axes etc) in association with pottery, some of which are of ovoid in shape with conical or "appendicular" bases, decorated with a simple comb motif and incised rims (Camps, 1977:7). The tradition also has ostrich eggshells. sometimes with decorative engravings. The dates of the Neolithic of Capsian tradition are between 6th and 4th millennium B.C.

South of the Maghreb, evidence from sites of Dhar Tichitt in south central Mauritania suggests that influences from the north-west sahara were moving south. Tichitt has eight cultural phases (Munson 1971). The lithic assemblage includes, end scrapers, small stemmed projectiles, highly polished axes, and milling stones. Tichitt pottery is decorated with dentate stamping (comb), fabric marking and diagonal cord impression. Early Tichitt food sources included fish, crocodile, and aquatic molluscs which were later replaced by large animals. The Chebka phase or phase 6, marks the beginning of cultivation as indicated by the abundance of pennisetum impressions on pottery. The date for this period is about 1000 B.C.

The Saharo-Sudanic Neolithic Tradition on the other hand, was widespread in the central and southern sahara, and fairly contemporary with the Neolithic of Capsian Tradition. Unlike the Neolithic of Capsian Tradition, ostrich eggshells in this tradition are rare and never decorated. Also, true geometrics are rare or absent (Camps 1977:8).

Characteristically, the pottery is decorated with wavy-line and dotted wavy-line. There are also grindstones or milling stones. In some sites, bone harpoons indicate fishing; in some other sites, there is evidence for zebra, hippopotamus, wild pigs, mudfish and crocodiles as well as domesticated cattle (Camps 1977:8). It would appear then that the central saharan cultures directly changed from a

hunting and fishing subsistence to that of pastoralism at about 8000 years B.P. (McIntosh and McIntosh 1981:606).

In West Africa proper, it appears that elements from these two saharan neolithic traditions become represented. At the northermost bend of the Niger, in Mali, the sites of Karkarichinkat produced grindstone axes, projectile points, and harpoons. Pottery includes simple jars decorated with wavy-line, rocker impression (with comb) and fibre rouletting (Smith 1974, 1984). Fibre rouletting is new and could have been introduced from some southern sources such as Iwo Eleru, where pottery appears earlier in about 5000 years B.P. Karkarichinkat also has clay figurines of cattle, including domesticated Bos and goat bones. Karkarichinkat is dated to between third and second millennium B.C.

At the Iwo Eleru site, there is a ceramic phase in the post 5000 years B.P. period, associated with trapezoids (stone tools) made of chalcedony similar to the "sickle flint" (Shaw 1984:153), and is perhaps evidence of grass or cereal harvesting. Iwo Eleru ceramics are continuous with present day Yoruba ware.

In modern Ghana, there are ceramic sites at Kintampo, Ntereso and Begho. The Kintampo Neolithic is preceded by an initial Punpun phase in which pottery is present although scarce, and is decorated with twisted rouletting. Kintampo is associated with artifacts such as chisels, lip plugs, bone harpoons and arrow heads. Pottery is decorated with comb-

stamping and rocker impression (Rahtz and Flight 1974:15). The associated "terra cotta cigars" are thought to have been used as potting tools (Posnansky 1984:147), but it may be that they were also used in cult rituals. There is evidence for dwarf cattle and dwarf goats in the form of clay figurines. Ghanaian neolithic sites cluster in the middle and later half of the second millennium B.C.. Some of the Kintampo materials are located close to major Iron Age sites which are continuous with historic societies. Such sites include Begho, a medieval town founded about A.D. 1000 and whose legend speaks of founding ancestors having emerged "from a hole in the ground within a grassy plain" (Posnansky 1984:149).

Neolithic sites are known from western West Africa and such sites are collectively described as "Guinea Neolithic" (Atherton 1972:39). Many of the sites have elements akin to other West African evidence.

The West African ceramic Late Stone Age tradition can be seen as a major break-through in this region. Apart from the unique invention of pottery which has become an important research focus, the period also marked the introduction of plant cultivation and animal domestication and perhaps a settled way of life.

2.71 Iron Age

During this period, there is concrete evidence that West African peoples were now inhabiting settled villages often associated with symbolic art. Pottery continue to be used and earlier influences can be observed . Perhaps the Benin evidence illustrates that the people were in some circumstance quite territorial, suggesting caste or social differentiations.

As has been mentioned in Chapter I, the Nok culture complex marks the earliest evidence for iron using peoples in this region. Apart from it's famous terra cotta figurines, Nok materials include stone grinding tools, stone beads, stone lip plugs, hooks, bracelets, pieces of knives, arrowheads, spearheads and pottery decorated with carved wooden dot roulette and incision. The people would have lived in non-centralized villages practicing some form of agriculture and collecting. Contemporary villages would have been linked together by the distinctive art tradition which has been recognized over an expanse of 900 kilometers, east to west. The art itself is made in the technique of pottery and earlier similar practices are known from Daima (near Lake Chad) (Connah 1981), Karkarichinkat, and Ghana, but these earlier art styles were in animal form. In Nok, we have the first evidence of clay figures in human form south of the sahara. Influences of Nok art have been recognized in the art traditions of Igbo Ukwu, Ife and Benin.

2.8 Benin in West African trade and state formation.

It has been suggested in chapter I that Islamic influence in the post-700 A.D. lead to increased long distance trading contacts and the growth of social wealth and distinctions in West Africa. This does not mean that trans-saharan contacts and trade were not known before Arab influence. In addition, evidence in general suggest that though production, transportation and trading of economic items and resources did in some cases leave visible expression of social differentiation and the growth of controlling centers, this must be viewed in the context of the contemporary belief systems (such as the Islamic ideology of the savanna theocracies and the role of art symbols in the forest kingdoms).

One item of early long-distance trade that must have been essential, but rare, to human communities in West Africa and "therefore a breaker of the barriers of self-sufficiency", (Alexander 1983:1) is salt. Salt (Sodium Chloride) was needed at four levels of consumption, namely, a) as a diatetic necessity - human beings need at least 2 grams of salt in a day to avoid sodium deficiency, and although this could be obtained from meat, blood, milk and wine, largely vegetarian (or cereal) communities would have needed a supplement. b) as luxuries - certain religious or social functions may require particular kinds of salt either as condiment or for offerings. c) industrial necessity -

trade in meat, fish or hides and skins may also require quantities of salt. Salt was sometimes considered as a preservative. d) as currency - a secondary use of salt was more indirect, such as an easily stored wealth, often used to pay tribute or as a general currency (Alexander 1983:1-2). Archaeologically, it is often difficult to identify evidence for salt directly because of the problem of preservation, but it is thought that the absence of the camel before A.D. 400 makes it unlikely that the desert sources of salt could have been available to the West African savanna and the forest zones. Salt in these zones at this period could have been produced by boiling salt-water on the coast or by solar evaporation of salty earth in the lake Chad, for example. The introduction of the camel however made it possible probably for the first time to trade salt (from the rich rock salt deposits of northern Mali (Taghaza, Taoudeni, Erebeb) and southern Algeria (Amadror), to West African savanna and forest communities. (Alexander 1983:5). This salt trade with the sahara appear to continue up to the 19th century at the time of which mechanised production of salt in Europe brought cheap salt to the West African coast.

Other long-distance trade items in West Africa include metallic goods (iron, copper, gold), sea shells, and glass. Copper alloys used in metallic art in Igbo Ukwu, Ife and Benin probably originated from such early sources as the copper mines of Ajoujt in Mauretania (mined about 1000 B.C.)

(Posnansky 1973:150). Other possible sources for forest copper include such sahelian towns as Darfur, Takkeda and Sous (Eyo 1977:88). West African gold, ivory and skins were in fact items of trade in the Greek and Roman towns of north Africa. Evidence that the sahara was being crossed around this time enroute trading centers on both sides of the desert include the distribution pattern of engraved and painted pictures of horses and chariots.

It would appear that on the sahelian foot-steps or forest-desert transition zones, effects of trading contacts between north Africa and West Africa were being expressed in the growth of centers of resource control and management along the trade routes. Such evidence include the rich funerary megaliths and tumuli in the Senegambia area. Megaliths are single stone structures and tumuli are burial mounds. Wealth and social class are suggested by the rich grave goods (which include gold and carnelian beads, iron weapons, ornaments of gold and copper etc). It has also been suggested that some of the tumuli sites such as Kumbi Saleh and Tegdaoust in Mauretania may have been associated with the capital of ancient Ghana (Posnansky 1973:152, McIntosh and McIntosh 1981:611). Eight century dates from some of the sites suggest that the structures pre-date Arab influences which are not felt in the archaeological context until about the 10th century. Report of an Arab record of the social distinction at about this time reads as

follows:

> But in this case the idea that burial treatment reflects status is supported by an Arab chronicle written in A.D 1067 which describes the construction of a large tumulus for the African king of the empire of Ghana. According to this account, the dead king's body, his ornaments weapons, food, drink, and slaves (still living), were placed in a wooden chamber with a domed roof. The chamber was then closed and earth heaped upon it until it resembled a hill (McIntosh and McIntosh 1981:612)

Sea shells from the Indian Ocean have been traded into West Africa in the last 1000 years. The most popular of these shells - Cypraea moneta - obtained from the Maldive Islands of Sri-Lanka were probably first introduced into West Africa from about the 10th to the 13th centuries by the Arabs, who exchanged these for West African ivory, slaves and gold (Johnson 1970:18-37). This trade appear to continue up to the arrival of the Portuguese in the 16th century who joined in by importing large quantities of cowries to the coastal trade system. Their ready acceptance in Benin and the Forcados River indicate that the cowries that were already in use there were similar to the ones introduced by the Portuguese. Another form of these cowries is the Cypraea annulus, which are larger and more cumbersome to transport, and hence of inferior quality as a currency. Cypraea annulus were traded from the East African coast and Zanzibar. However, on the basis of cowrie type, route of introduction and method of counting, Johnson (1970a, 1970b) has indicated that cowrie was an important item of trade,

ritual and social wealth and used alongside metallic currency (e.g. gold) in West Africa.

Now to return to the ancient kingdom of Ghana, although its kingship was a "pagan" institution, there is evidence that the succeeding empires or states (such as Mali and Soughay) were a result of Islamic conquest. Islamic conquest in West Africa continued up to the last century and some of the method by which this was done can be illustrated as follows: Traditionally, the ethnic nations of Senegambia were governed by monarchs who depended for their power on access to guns and horses which they obtained in exchanged for slaves. The monarchs were supported by an army of slaves such as the tyeddo which often raided peasant muslim agriculturalists and nomadic herders. As the slave trade declined after 1800, trading in "legitimate" commerse or agricultural products (such as peanut oil, hides and wax) now made the peasant able to purchase guns and other European products. This, thus titled the balance of power in favour or the muslim peasantry. From amongst the muslim clerics, powerful leaders emerged to overthrow the traditional monarchs and introduce Islamic principles of morals and government (Gamble 1957, Klein 1972:423-433). The same basic principle of access to resources can also explain the establishment of the Masina state (Mali) (Johnson 1976:481-495), and Sokoto (Last 1976). The point however is that a

commitment to Islamic ideals remained a critical factor - need to enthrone sharia law, Islamic symbolism etc, with the economic and technological facilities acting as means to an end.

In the Yoruba states as well as Benin, the role of early trade is poorly understood and there is little or no direct evidence of major or intensive extraction of energy from the hoe agricultural economy. Formation of the kingdom is attributed to the arrival and/or spread of politico-ritual elites (god-kings) over the area (Obayemi 1976, Egharevba 1968:6-7). Kingship and the title systems were often expressed in the art symbols. The Yoruba bead-embroidered crowns with veil and bird decorations is said to have been initiated by Oduduwa, the father of the Yoruba nation (Thompson 1972:227). It may even be that this veil motif in Ife art could have been an adaptation of Islamic symbolism in the forest. Also, naturalism in Ife art has been suggested as an indicate of divine kingship worship.

> The religious content is so clear that we might reasonably characterize the art of Ife as hieratic rather than aristocratic, especially since the majority of Ife leaders had priestly function (Willet 1972:224)

Also, notice that political offices may originate by the proliferation and elaboration of the regalia systems, such as is present in the Ọzọ title art forms amongst the Ibo people (Cole 1972:88). In Benin, the role of art as a politico-

ritual medium has been discussed earlier. Others (e.g. Ryder 1969, Darling 1984) have however raised the question of military conquest as a possible determinant for the evolution of Benin. How this may have been related to resource appropriation (especially prior to European influence) is hard to say. Benin kingship predate European influence.

The coastal states (e.g Dahomey and Opobo), including Oyo, to the north of Dahomey appear to emerge as dominant centers in the attempt to control mainly European trade items (such as horse, salt, cowries, glass, textiles, guns etc) (Argyle 1966, Dike 1956). Ikime (1969) has documented the growth of a merchant class on the Niger delta particularly in the 19th century following the decline in slave trade and the need to exchange forest resources such as palm oil, ivory etc for such European goods as glass beads, cowries, manillas, tobacco, caps, alcohol, and textile. The picture is that merchant "chiefs" such as Nana Olomu arose as a result of their personal abilities to organise trading deals and attract privileges by creating alliances not only with European traders on the coast, but also with local chiefs and agents in the inland. But these merchant "chiefs", such as Nana, also appear to belong to some dominant lineages or related by blood to the Olu or king.

One universal feature of indigenous trade and market in West Africa is the sex principle which appear to define the range of trade items and method. Amongst the Akan peoples of

southern modern Ghana, for example, women control the trade in local foodstuffs and crafts (Daaku 1971:177). Only men could participate in the long distance trade networks as is revealed by the trade diaspora mechanism of the Hausa cow distributors. (Cohen 1971:266-281). The mode of organisation of the Hausa trade diaspora in Ibadan (Nigeria) require that individuals (butchers) who wished to get access to the cow meat, become converted to Islam, which form part of the communication network of this trading system.

2.9 Summary.

Benin research and related studies have been surveyed through the unique social organization, religion, art, architecture, archaeology and trade. Archaeologically, a series of ancient or historical sites have been excavated. Results from these excavations based mainly on radiocarbon dates, European imports, bronze or brass art tradition and pottery types indicated that Benin palaces were established by at least the 13th century. Some of the non-local goods suggest the importance of trade in this early development. Also, the series of defensive earthworks have suggested that territoriality or military defense could have been a determinant in the evolution of Benin as a dominant center.

These are some of the points or problems critically examined in this research. This research has been addressed mainly to the Northwest, about 20 kilometers from the Benin

City center with the aim of obtaining new archaeological or cultural information. The choice of the northwest was partly based on the previous report of the Uwan Wall in this location which is similar to some of the walls of the city center. (Maliphant et al 1976, Figure 14). The potential for finding settlements around or related to this wall was therefore likely. There was also the added chance of obtaining single or unit component sites which could be compared spatially as against the more historical or chronological approach adopted at the city center. In chapter III, the methodological models are spelt out as five stated assumptions.

CHAPTER III

METHODOLOGY

In Chapter III, a method for the research and excavation program on the northwest of Benin is developed by suggesting a set of operating assumptions between artifacts and the social system. Subsequently, a descriptive report on the actual field work undertaken on the northwest between December of 1985 and April of 1986 is presented. An excavation report on the second phase of fieldwork is presented in Chapter IV. The second phase excavation was carried out in November of 1986 to provide additional information on certain aspects of the first excavation results.

3.1 Assumptions

Fieldwork undertaken on the northwest of Benin followed the studies of Maliphant et al (1976) and others (e.g Rees 1975) with the primary goal of obtaining cultural materials associated with the Uwan Wall. (see Figure 14). Such materials hopefully could be compared with the city center in a manner that certain questions related to the origin and nature of Benin tradition could be addressed.

Against the anticipated data, questions about the Benin cultural system were assessed on the basis of five assumptions as follows.

Assumption 1: Associations between artifact types or design attributes on artifacts can reflect temporal or historical significance.

This assumption follows several studies (e.g. Huffman 1970, 1982), which have related artifact types to historical or chronologically distinct episodes. Emphasis is both on typology and obtaining carbon 14 dates which aids chronological correlation. Assumption 1 makes it possible to provide new information on dating and to offer suggestions about the cultural sequence of the northwest sites as well as to clarify the chronological relationship between the northwest and the city center.

Assumption 2: Distinct ethnic or population groups are expressed in archaeological contexts as lack of association between artifact types.

Closely related to the problem of chronological significance, is the question of the relationship between artifacts and culturally distinct groups of people. The expression of group diversity in archaeological artifacts has for example, been an important focus of study (e.g. Huffman 1970, 1982, Robertson and Collett 1983, Hall 1983, 1984a, 1984b), in the prehistory of East and southern Africa, especially in connection with the problem of Bantu population migration. The question this poses with respect to the northwest of Benin is whether a continuity or discontinuity in artifact tradition can be related to distinct groups or population, and hence to some patterns of early settlement.

Assumption 3: There is a relationship between artifact variability or variability of design attributes on artifacts and the settlement and residence type.

Assumption 3 is an attempt to seek for artifact variability on the northwest and to relate this to modes of social organisation. It goes beyond the question of cultural distinctiveness, to the question of whether artifact variability could be, for example, due to particular modes of post marital residence. Deetz (1965) similarly observed that variability in pottery design attributes can be explained by the changes in post-marriage residence amongst the Arikara American Indians.

Assumption 4: The relative occurrence of artifact type (or categories), between sites, can indicate a kind of exchange configuration which includes class and privileged access, between sites or centers.

The occurrence of non-local, exotic or valued objects, could indicate a hierarchical relationship between sites or centers. This principle has been applied with some success to Woodland, Mississippian and other American sites (Struever and Houart 1972, Caldwell 1964, Brown 1971, Goldstein 1980, Upham et al 1981). Recent studies (e.g. Lightfoot et al 1982) have also suggested that leadership at potentially strategic centers would have been stimulated by the need to maximise privileged positions. In the case of Benin northwest, apart from the distribution pattern of the earthworks; the frequency of non-local goods, or occurrence

of particularly valued vessel forms, could also indicate a hierarchical relationship between the northwest sites, and between the northwest and the city center.

Assumption 5: Artifact densities can suggest differential population sizes and social complexity.

The problem of the intensity of site use is a recurrent issue in Archaeology. Although, an absolute index that can suggest population size may be difficult to obtain directly, the recent study by Shapiro (1984) attempts to compare site population on the basis of artifact frequency or density. An ability to suggest population differential between sites on the northwest, at least, could be relatable to Assumption 4. That is, a high population would probably reflect a more complex settlement.

The problem of function, or activity mode, has not been stated as an assumption here, though it can be inferred indirectly from for example, the type density. A specific relationship of type to function would depend on a good set of data, and this is unlikely to be properly addressed here because of the limited scope of the study.

3.2. Fieldwork on the Northwest 1

The northwest Benin sites, are located on top of the Benin Sands as the parent material. The topography is generally flat (between 200 and 500 feet above sea level), although there are some irregular and gentle slopes present both on the high grounds and lower grounds. The Okhuo river to the north of the NIFOR station which flows southwest, is the major drainage valley in the area, and there are minor streams towards the southeast (Figure 14). Average annual rainfall is 1,900mm. Soils in the highlands are generally heavier than those of the slope bottoms due to vertical eluviation or percolation of clay components and the downslope wash of the sandy particles. This results in a low sand to clay on the high ground, while the reverse is the case on the low ground. Correspondingly, plant nutrients and soil acidity are higher on the uplands than below (Ogunkunle et al 1980:8-40).

The lack of physical barriers and the flatness of the surface with a good supply of river and flood water could have encouraged settlement over the area in the past. In more recent times, the area has been extensively farmed with both permanent (rubber, oil palm, citrus, plantain) and arable crops (yam, cocoyam, maize, cassava).

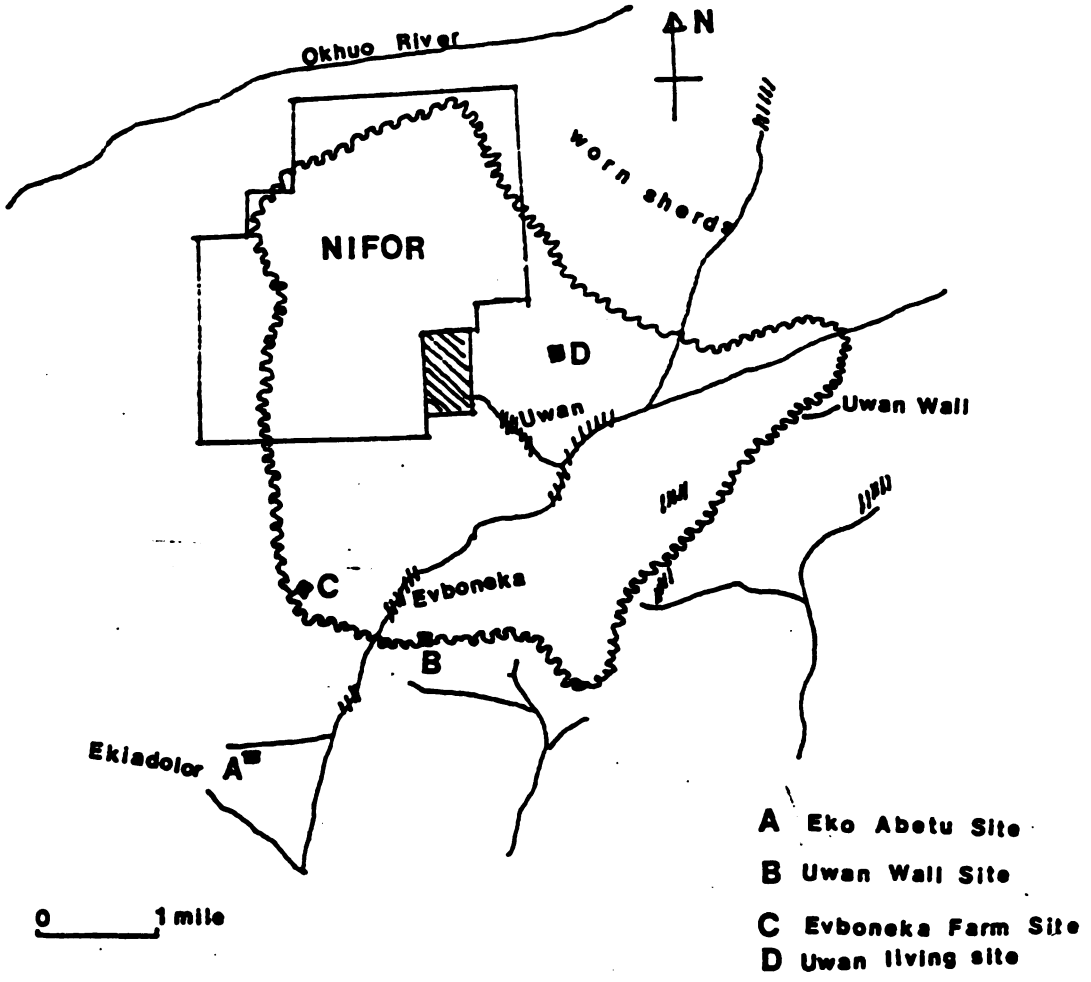


FIGURE 14: Uwan Wall and Northwest Sites (Maliphant et al., 1976)

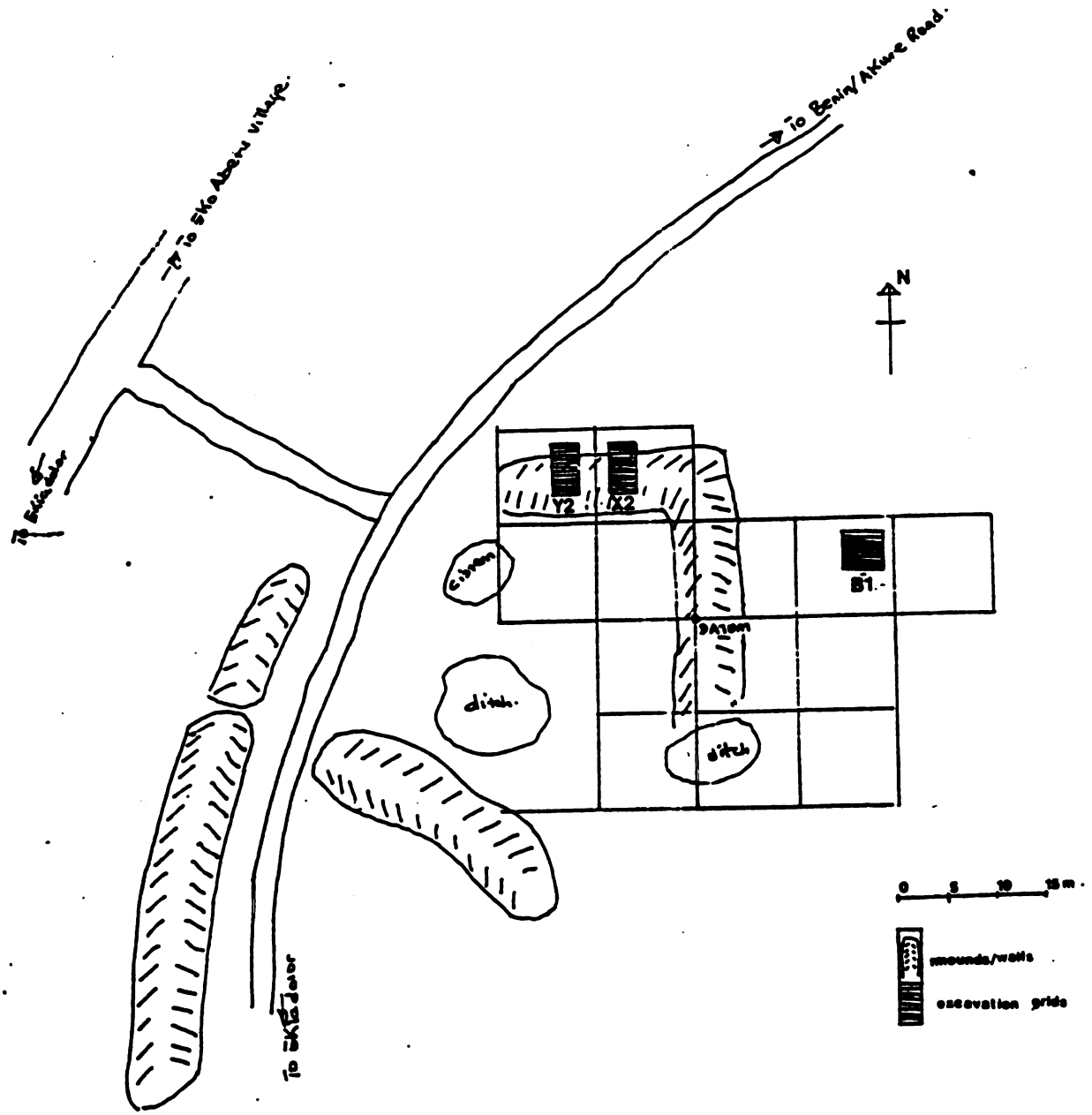


FIGURE 15: Eko Abetu Site

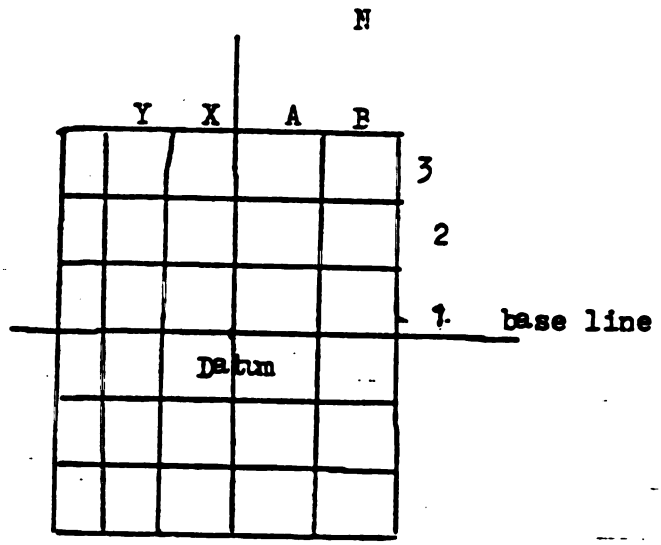


FIGURE 16: Grid Plan for Eko Abetu Site

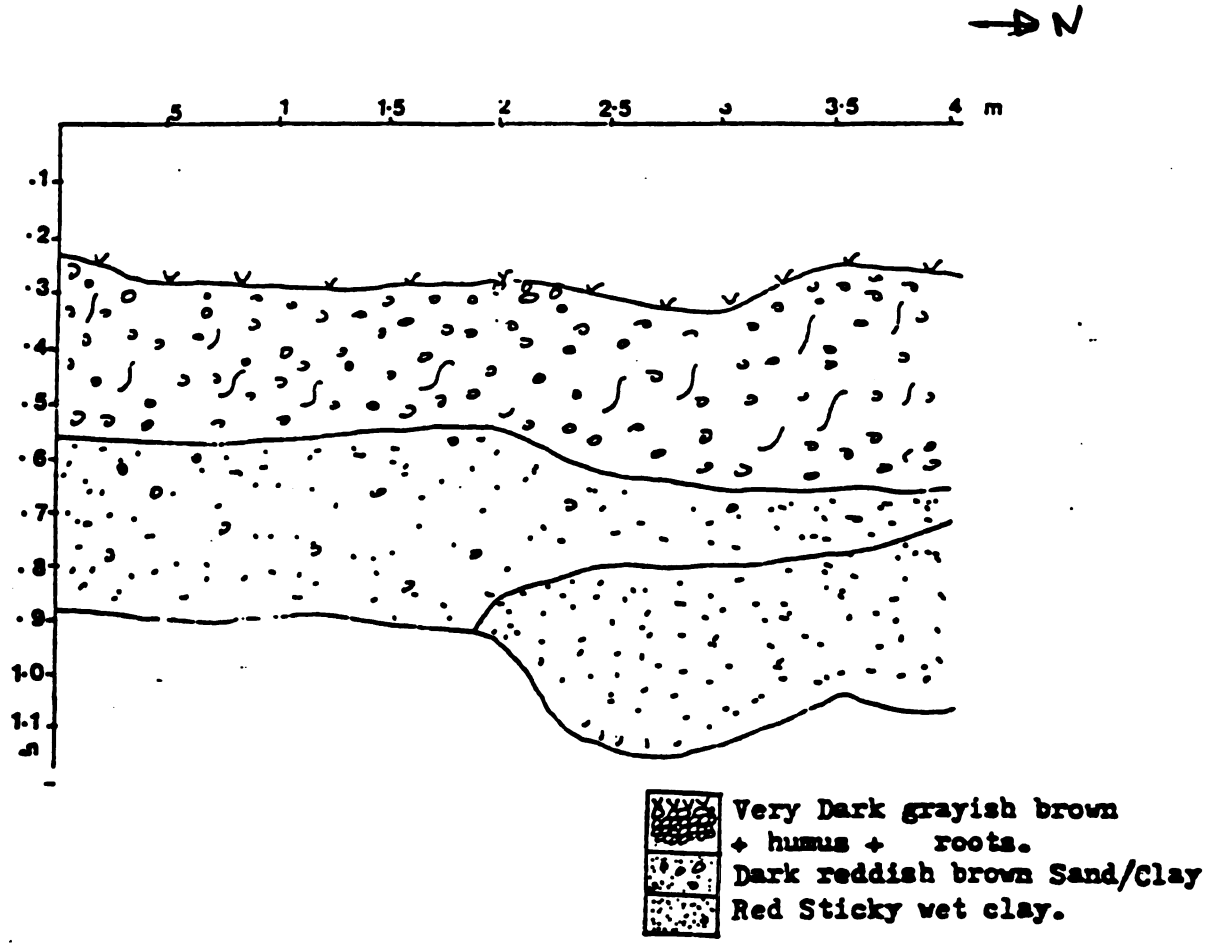


FIGURE 17: B1 Trench Profile, West Face, Eko Abetu

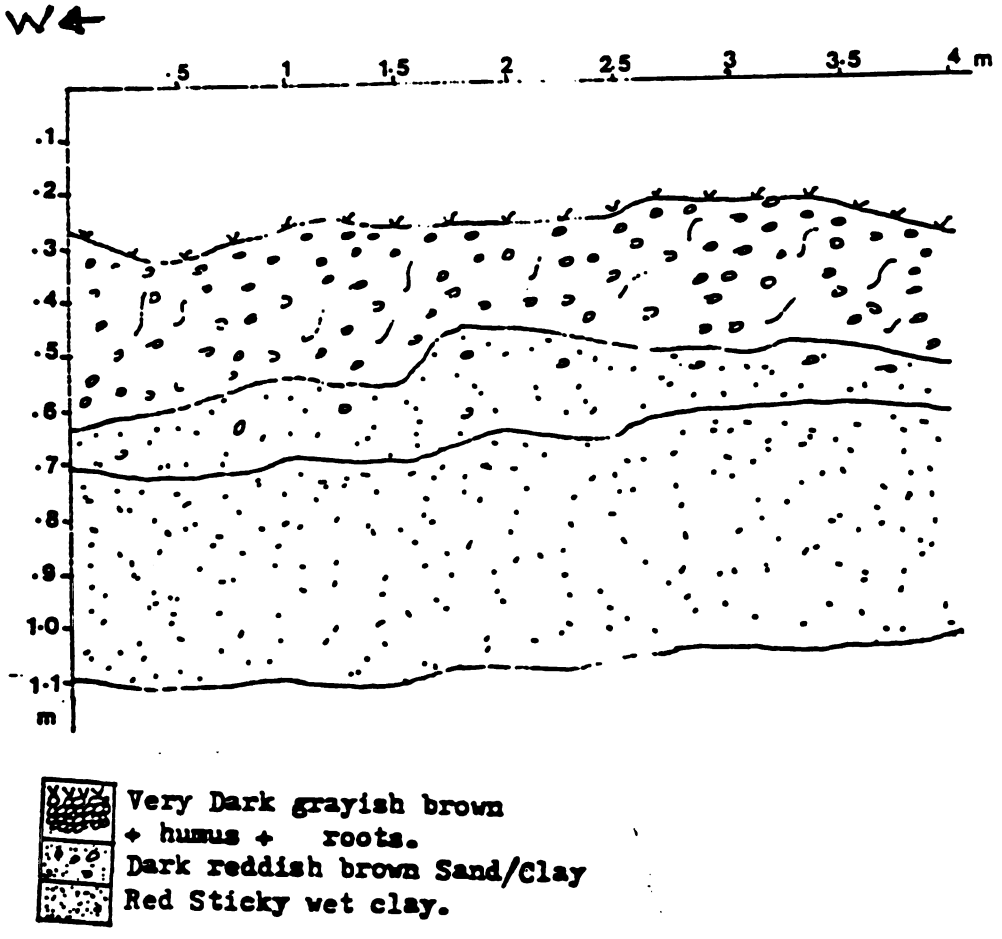
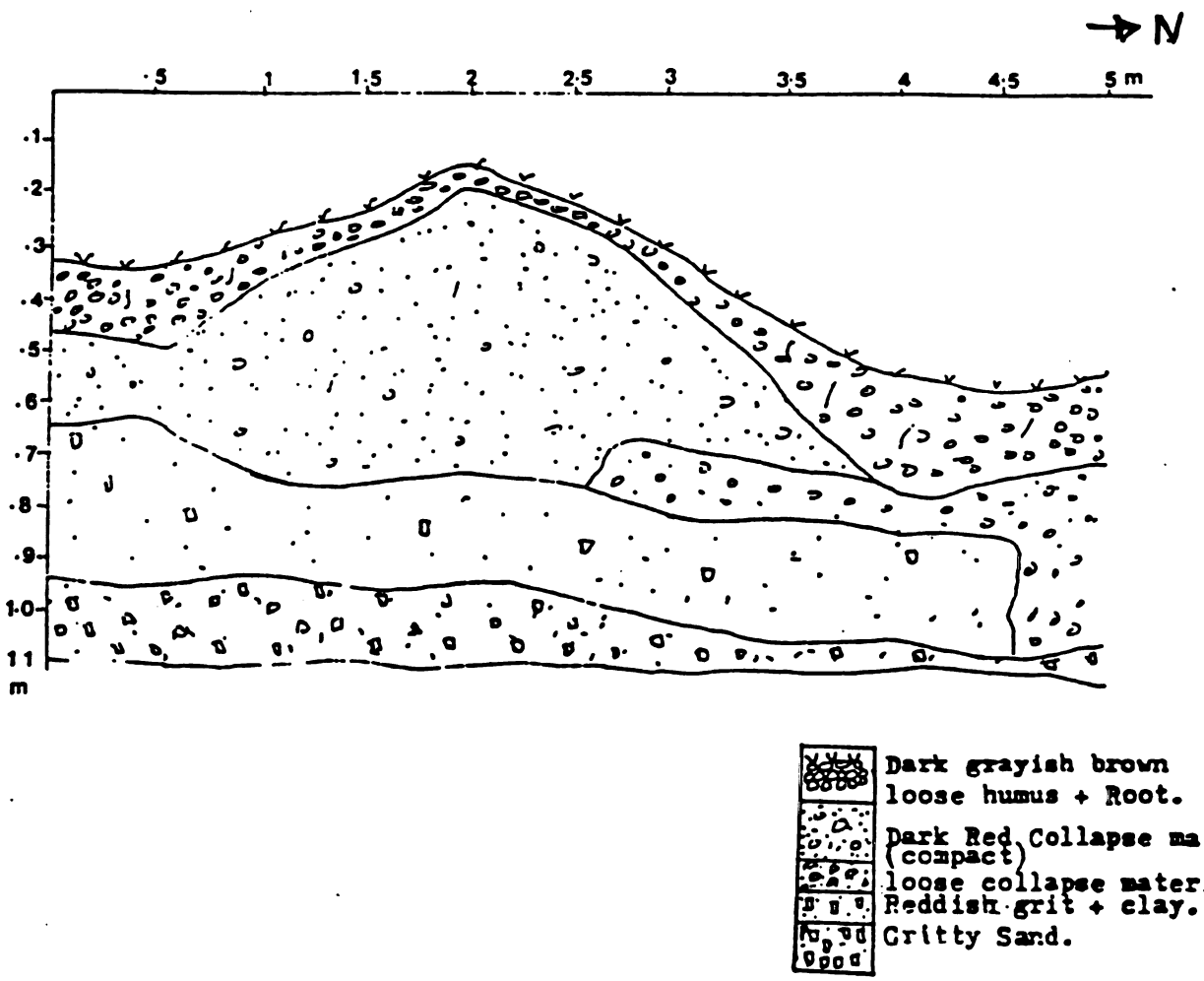
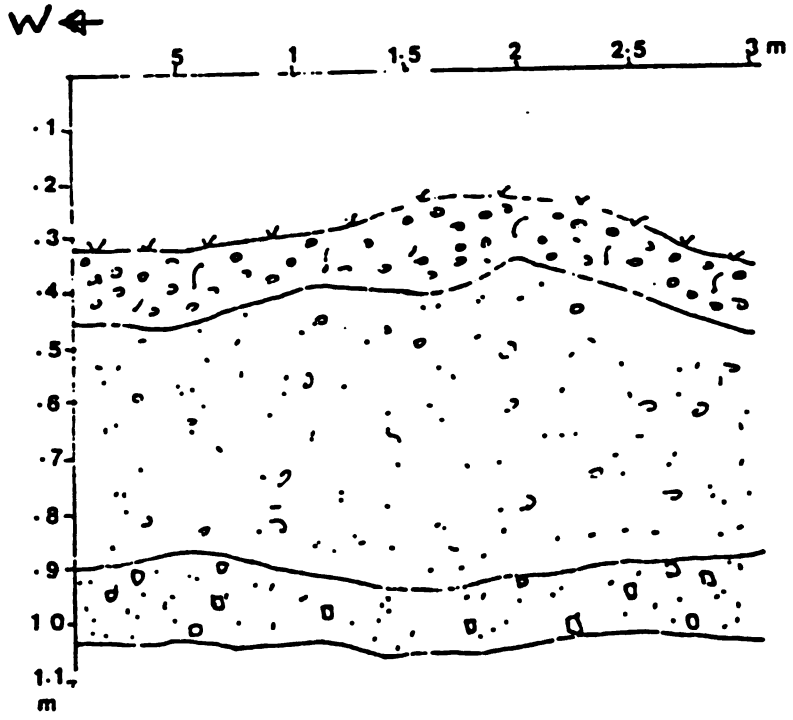


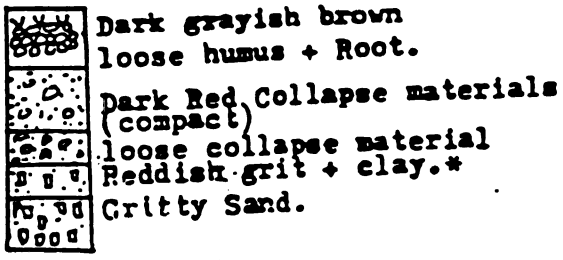
FIGURE 18: B1 Trench Profile, North Face, Eko Abetu



* Layer bearing gun flints

FIGURE 19: X2 Trench Profile, West Face, Eko Abetu





* Layer bearing gun flints

FIGURE 20: X2 Trench Profile, South Face, Eko Abetu

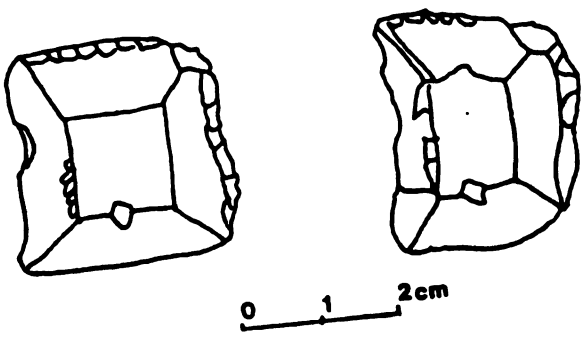


FIGURE 21: Gun flints, Level 4, X2, Eko Abetu

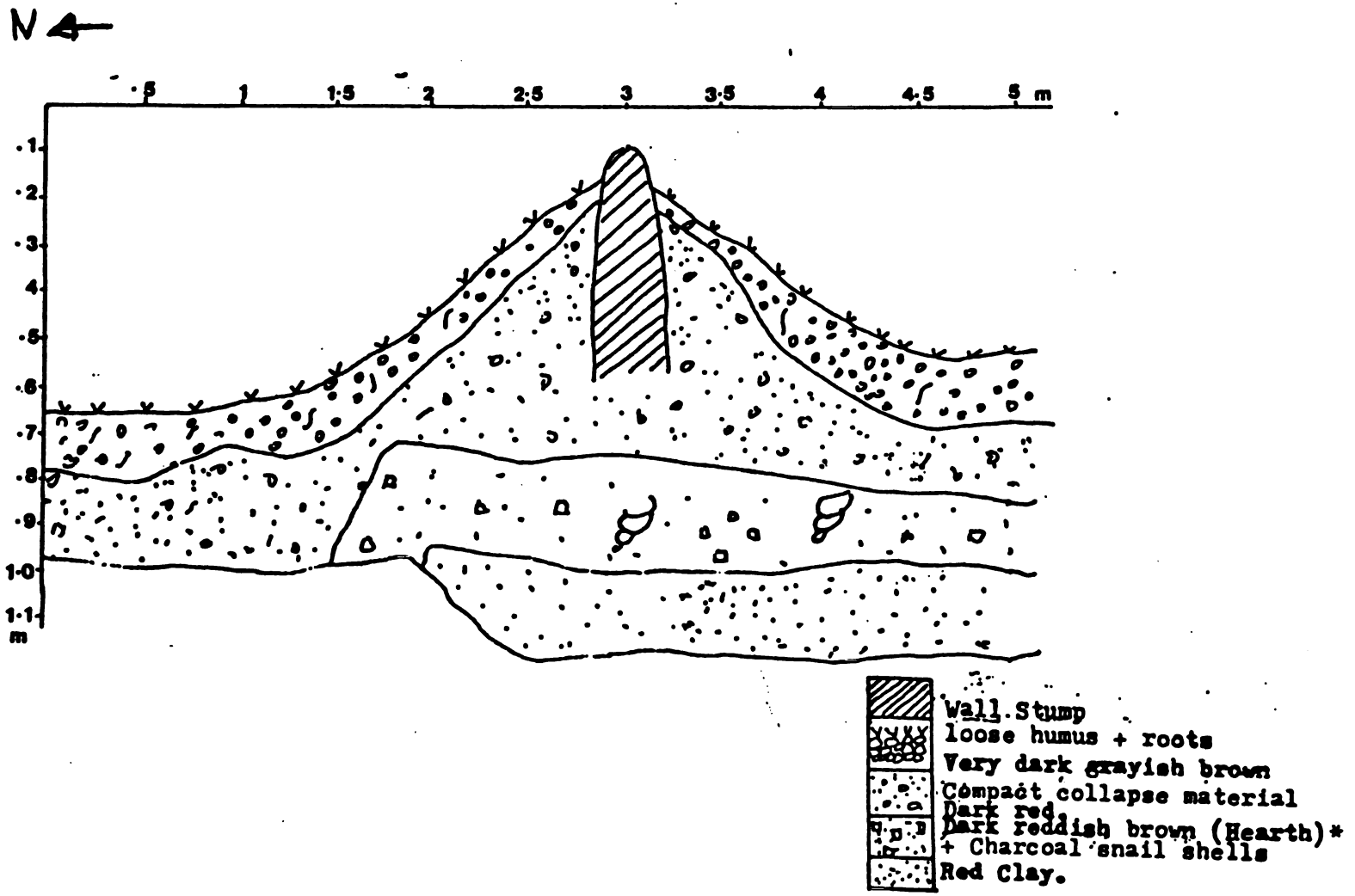


FIGURE 22: Y2 Trench Profile, East Face, Eko Abetu

* Layer bearing the EA/Y2/4 charcoal specimen with a date of A.D. 1432 ± 100

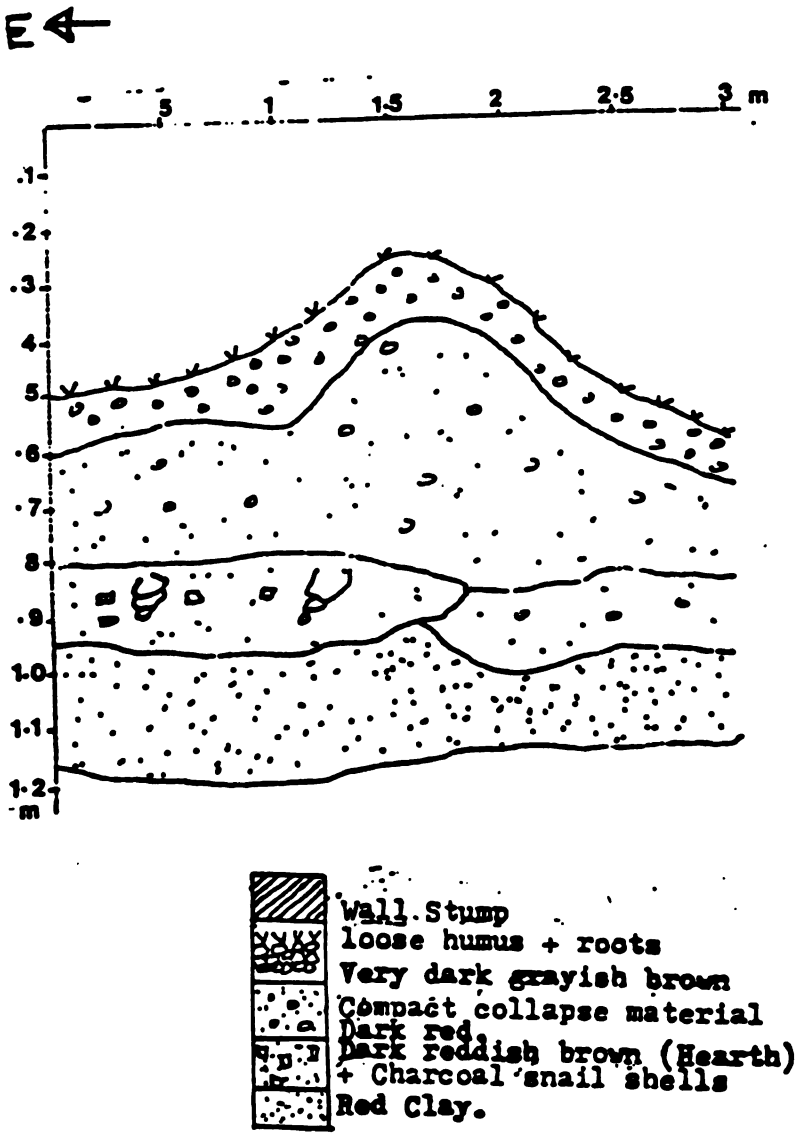


FIGURE 23: Y2 Trench Profile, South Face, Eko Abetu

FIGURE 24: Uwan Wall site

TT: Test Trench

UWT: Uwan Wall Trench

Datun height (100 meters) arbitrary

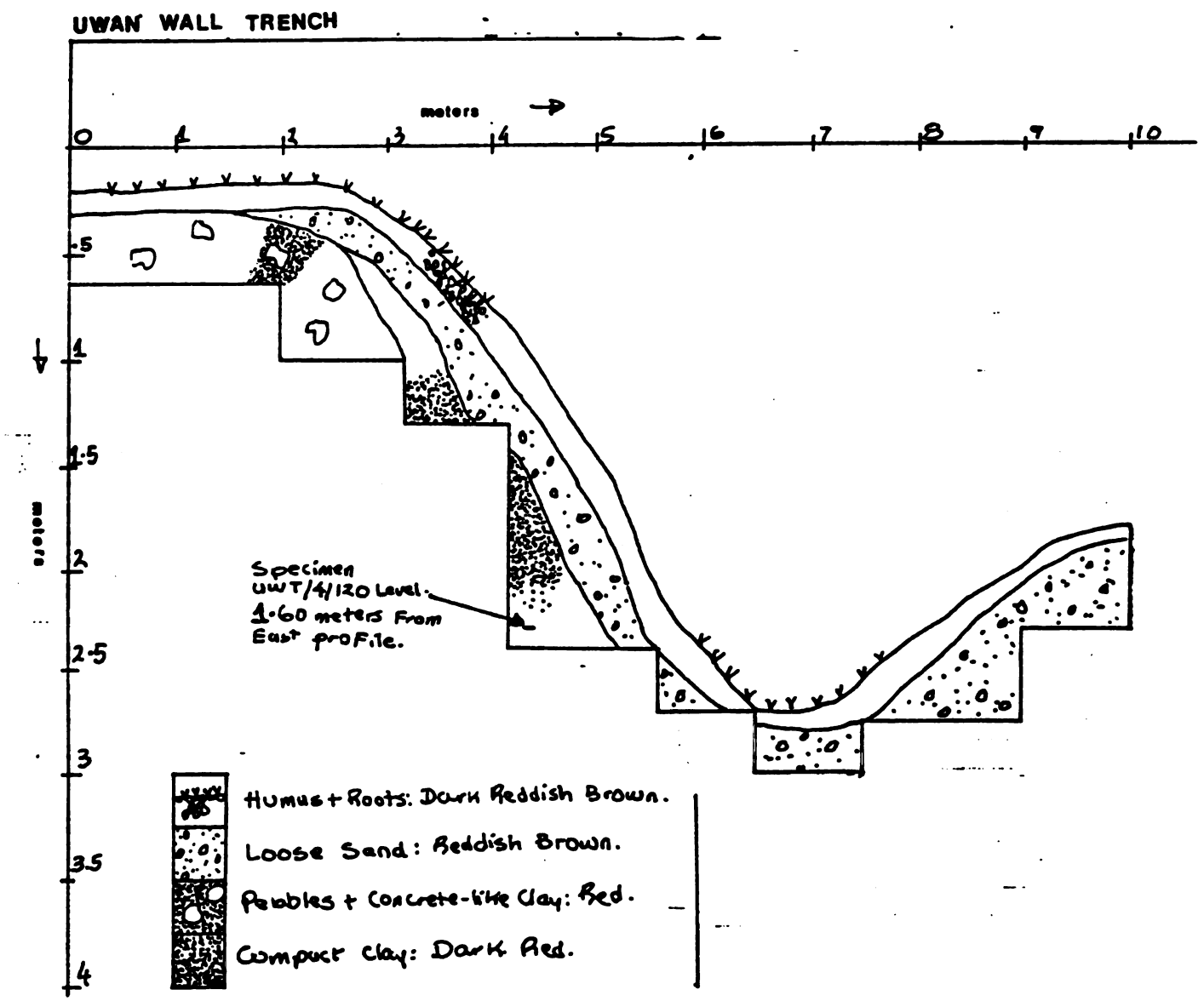


FIGURE 25: Uwan Wall Trench, East Profile

Ancient settlement sites are closely associated with existing villages. These sites appear to have been abandoned, by the local people, in the early part of this century due to resettlements along newly constructed highways. When reconnaissance surveys were first carried out in the area in 1982, several recently abandoned sites were identified. The sites are presently located in secondary forest plagioclimax of herbs and palm bush. Some of the locations were occupied with recent farm or garden plots, and, unable to sieve through the forest mat, we took advantage of farm clearings to make collections. In some area, where some of the cultural plants are protected, several tree crops could be observed. Also, the characteristic Bini ritual plant called Ikhinmin (4), can be seen. A shrub plant, which is evergreen, the people regard ikhinmin as "the oldest tree in the world" (Nevadomsky and Inneh 1983:52). It was planted to establish a new settlement and almost each compound in recent settlements has one or more planted ikhinmin. Ancestral and earth sacrifices and other rituals, such as purification rites and oath taking particularly by women, were often addressed to the foot of this tree. When old settlements were abandoned, the plants were often protected on the spot. Apart from plants, the northwest sites also commonly had wall embarkments, ditches, cisterns, as well as pottery, cowries and other cultural objects. Not all of these can be observed in all the sites.

Perhaps, the very ancient sites can only be recognized by relatively few sherds which are characteristically worn. On the basis of these observations, the northwest sites were initially segregated as follows:

1. Sites with worn sherds: These appear to be mostly located north and northwest of the Uwan wall and the NIFOR station. No collapsing house walls or ditch system were observed. (Figure 14).

2. Sites which appear to be contemporary with the Uwan wall. These sites are located mostly within the Uwan wall. They show a high frequency of pottey on the surface, with charcoal and often a humus mound or hill. A reassessment of this in the 1985/86 field-work, indicates that these type of sites are similar to the type 3 sites, and that the chronological relationship of these sites with the Uwan wall needs to be objectively based on absolute dates, before firm conlusion can be reached.

3. These sites (commonly on the south of Uwan Wall) also have a high frequency of pottery, charcoal shells, including humus mounds, series of ditches and walling features. Sometimes, the walls are semi-circular or linear, and they are commonly discontinuous.

The excavation programs (5) were based on a number of considerations, including the available funds, facilities,

(e.g. equipment, laboratory,) personnel, and available time, on the basis, of which, one living site (Eko Abetu) and the transect through Uwan wall (Uwan Wall site), were excavated. Test trenches were dug on a third site - Evboneka Farm site. This was the first phase of the field work on the northwest. The second phase fieldwork was under-taken in November of 1986 as has been mentioned.

3.3 Eko Abetu Site (Figure 15).

This site is situated on a hill crest, about one kilometer north-east of the present Ekiadolor village. Informants claimed that this was the old settlement of Eko Abetu, a village now about two kilometers towards the east. The settlement appeared to have been abandoned in the 1920s, when the people moved to the old Benin/Akure highway, constructed by the colonial administration. This site appear to be on one of the highest points (400 - 500 feet above sea level) in the area of flat to gentle slope topography. Cultural features in the form of coconut palms, mounds, walls and ditches are clearly visible within the site, although the site may not be readily visible as a result of bush cover, from along the Eko Abetu/Ekiadolor road. The site which is located within a citrus farm, was first located on the 17 August 1982, during which, some pottery and other material collections were made on the surface. It is difficult to be certain of the extent of the site, but on the basis of the series of walls or mounds, it seems to fall within about

15000 square meters. Some of the mounds or walling features consist of collapsed materials from house or domestic walls. In some other areas, the mounds appear big enough to resemble the territorial or defensive walling banks.

Within the site, these features created a contrast between a west side of walls and ditches and an east side of slope and level ground. The east side appear relatively undisturbed. A 10/10 meter grid system was therefore layed out to sample areas of high ground (or mound) and location on the low ground. Numbers were assigned to the site grid as in figure 16 (Joukowsky 1980:130, Fladmark 1978:84). The excavation grids were established in such a way as to cut through one of these walls (see Figure 14, trenches X2 and Y2), as well as digging a trench on the relatively undisturbed slope (trench B1). X2 and Y2 trenches each consisted of a 5/3 meter, while B1 was 4/4.

3.31: Trench B1.

This is the trench on the east side of the datum, and on the gentle slope that appear relatively undisturbed (see Figure 15). The 4/4 meter trench was positioned to avoid the orange trees and as much as possible their roots. Digging was done in 20 cm. arbitrary spits through 4 levels.(6). A fifth level was dug to half, on the north end of the trench. No features were noticed on this trench, and three distinct layers can be recognized on the profiles (Figure 17,18). The

uppermost layer consists of very dark grayish brown humus materials and roots. The materials are generally loose. This is the most recent occupation layer. Layer 2, is of dark reddish material, and fairly more compact sand and clay, but, fewer roots. This layer is also cultural. The third layer is very wet and sticky and perhaps has more clay components. This layer is largely sterile and corresponds to the Benin Sands. Only level 1 appears to yield bottle glass, a European product (see Table 1).

3.32: Trench X2.

X2 and Y2 trenches were established close to each other to cut across one of the low mounds which (by the presence of a wall stump on Y2), appeared to represent collapse housing features (Figure 15). The trench was dug as in B1, through about four levels. This trench presented features which would have been harder to read, if Y2 had not been dug. The upper humus layer is represented (see Figure 19 and 20), and this is followed by very hard compact dark collapse materials. This is in turn followed below by very coarse or gritty sands. It was significant that the dark reddish brown (hearth) layer, clearly noticeable in Y2, (see Figure 22, 23). was absent in X2 in spite of the closeness of the trenches. The deposit here, therefore, suggest disturbance, since also pedological studies of northwest deposits (Ogunkunle et al 1980:31), indicate a significant increase of

clay component to a reduction of coarse sands, below 52 cm. depth. Cultural artifacts from X2, (see Table 2) include European or bottle glass, from levels 1 and 3, and then 2 distictive gun flints (see Plate 1, Figure 21) from level 4. At first, these stone artifacts were thought to be belong to prehistoric period, or the West African Late Stone Age, but experts in historic artifacts (Jim Robertson, Dean Anderson. and Professor Cleland) of the Department of Anthropology, Michigan State University, confirm that these were gun flints and therefore European products.

3.33: Trench Y2.

The Y2 trench, appeared to contain more interesting features. A wall stump had been present on the mound surface and this was traced into level 2, where it appeared to have been established on hard concrete-like foundation. (see Figure 22). But the surrounding materials are part of the wall collapse, on top of which is the humus mantle. Below this compact collapse house features is a dark reddish brown, hearth layer which includes several snail shells and charcoal. A carbon 14 date of A.D. 1432 $\pm$ 100. has been obtained from this component, which appears to be securely sealed below the last building occupation. (specimen sample number: EA/Y2/4). Below the hearth layer, is a red clay layer which appears to corresponds to the Benin Sands. European items are absent from this trench and apart from the

pottery, there are 3 fragments of locally made smoking pipes (Figure 35f), and a round polished stone in level 4)

3.4: Uwan Wall Site.

The Uwan Wall site was located following the works of Maliphant et al (1976), whose mapping indicated similarity between this wall and the 2nd and 3rd walls of Benin City in terms of magnitude, or height. The height of the Uwan wall is between 1 and 6 meters. The height of the wall was probably never quite even and also erosion and weathering activities could have progressively altered it's height. Informants indicate that this wall acted as demarcation between the chiefdoms of Uwan within the wall and Iyowa to the south of it. At the wall, excavation strategy was to cut a transect across the wall essentially to obtain dating materials to provide chronological information between the relationship of the wall and living sites within and outside of the wall. The wall was encountered at the Evboneka village, on it's southwest (Figure 14), from where it was traced towards the east. A point was established within a rubber plantation in an area which was fairly open and where the wall was not too high (see Plate 2, 3). A grid system was layed out from a datum and a 10/2 meter excavation grid was layed on the Uwan wall as the Uwan Wall Trench (UWT. Figure 24). Two test trenches (TT) were also established on both north and south of the UWT. The site slopes markedly,

and the slope becomes very steep towards the south, in the direction of the new Benin/Akure highway.

Excavation on the wall was done in steps (Figure 25). On the sloping face of the wall, the deposit is quite disturbed and drifting. The deposit appears sterile, with only occasional (small fragments of) charcoal turning up. (Connah 1975 :85). A few charcoal specimens have been obtained for dating (from layers which appear more stable and not too close to the surface.) The test trenches also turned out to he sterile, apart from a few pottery fragments and some charcoal.

3.5: Evboneka Farm Site.

Far less time was spent on this site than would have been necessary due to time constraints and the limited nature of funding. The site was located for the first time on 4 April, 1986, through informants who said the old Evboneka village site was located towards the west. The site turned out to be situated within recent maize and cassava farms, and also close to the Uwan wall on it's inner side (Figure 14). Only 4 pottery sherds were located on the surface in spite of much searching. For two days, two trenches, one 5/3 and the other 2/2 meters, were tested. The 5/3 trench turned up 22 sherds and a few stones through a depth of 40 cm. The sherd consisted of 2 rims and 20 very small body fragments.

3.6 Summary

In summary, one habitation site outside the Uwan Wall and a transect across the Uwan wall have been excavated. A third site within the Uwan wall was tested. Cultural features and artifacts have been recovered. It would appear from a general point of view and based on the excavation alone, that at least 2 occupation deposits or phases are represented on the Eko Abetu site. There could be more, but such a decision would have to be based on further analysis of the artifacts.

TABLE 1: Trench B1, Tool Inventory, Eko Abetu Site

Level	Rim Sherds	Dec. Body Sherds	Plain Body Sherds	Sherd Total	Weight of Rim Sherds	Weight of Body Sherds	Metal	Bone	Shell	Stone	Misc.
1	51	79	95	225	3230	2280					glass (bottle) Charcoal
2	50	139	369	558	1270	4420	1(Iron)			10 quarts	Plant seed akhue
3	17	41	69	127	600	925				3 quarts	
4	2		4	6		50					

TABLE 2: Trench X2, Tool Inventory, Eko Abetu

Level	Rim Sherds	Dec. Body Sherds	Plain Body Sherds	Sherd Total	Weight of Rim Sherds (g)	Weight of Body Sherds (g)	Metal	Bone	Shell	Stone	Misc.
1	16	72	88	176	310	1590					glass-4 brick-5 Charcoal-3
2	11	34	56	101	190	650		2	1	Stones-3 quarts.	
3	13	58	72	143	420	1280	1(Iron)		1(Snail)		4-Glass Charcoal - 10 Stone/Brick
4	8	23	22	53	270	400	1(Iron)		1 (Cowrie)	2 scrapers 1 chert Stones	

TABLE 3: Trench Y2, Tool Inventory, Eko Abetu

Level	Rim Sherds	Dec. Body Sherds	Plain Body Sherds	Sherd Total	Weight of Rim Sherds (g)	Weight of Body Sherds (g)	Metal	Bone	Shell	Stone	Misc.
1	4	47	59	110	?	1000					Charcoal
2	44	222	158	424	1520	5980	2 (Iron)	1	5(Snail)	5 stones quartz.	5 bricks Charcoal 6
3	14	65	61	140	520	1660		2	6((Snail)	5 Stones quartz.	Charcoal 3 smoking pipe fragments
4		11	9	20		250			4(Snail)	1 Polished Stone	

CHAPTER IV

FIELDWORK ON THE NORTHWEST 2

The second phase excavation on the Benin northwest was carried out in November of 1986. In spite of efforts, only the Eko Abetu site yielded any good analytic materials from the first phase of excavation on the northwest. There were therefore no comparative artifacts from a different site.

The excavation program of November 1986 on the northwest was designed essentially:

1. to look for and excavate a living site that could offer a relatively abundant pottery sample.

2. to compare the new materials with those of Eko Abetu and to see if a spatial relationship exist between the sites.

3. to collect more dating samples.

4.1 Uwan Living Site (Figure 26).

This site was first located on 30 August 1982, and it was excavated between November 22 and 29, 1986. The site is located off the Benin/Akure road, opposite the present Uwan/Ogbogiobo villages (Figure 14-D). In November of 1986, the old farm plots where we made collections in 1982, had been over-grown with weeds (7). We therefore entered a cocoa plantation within the general area of the site to look for a more open space which was convenient for laying the

excavation grids. Uwan village is mentioned by Egharevba (1968:3) as one of the oldest Benin villages to have been founded in the 1st period (before 1170) of the Benin history, but Chief Ogiezughanmen, the owner of the cocoa plantation explained that Uwan and Ogbogiobo villages which are now almost merged together, were founded at about the same time during the reign of Oba Ewuare (about 1440). The founders were members of the Benin royal family. Ogbogiobo village has remained more or less on the same spot, but the Uwan village had moved closer to it's sister Ogbogiobo when the motor high-way was constucted in the early part of the century. Chief Ogiezughanmen explained that the presently abandoned Uwan settlement was very extensive, but not as big as the present village. The size of the ancient settlement is difficult to determine on the ground because of the dense vegetation, but judging by the mounds and sherd scatter, on the plantation and the farm plots, one could estimate that the village must have been about 250,000 square meters in area. The site map (Figure 26) illustrates that like other northwest sites, mounds and ditches are present and the areas are often associated with farm plots based on shifting cultivation.

The Uwan Living site is located on high ground about 500 feet above sea level. (The lowest ground areas here are about 200 feet above sea level. Such areas are close to river channels). The site is about 2 kilometers northwest of

the present Uwan/Ogbogiobo villages. The excavation grids were established as shown on the site map (Figure 26). A 2 by 7 meter trench (410) was established inside the cocoa plantation, and a 4/4 meter (420) trench was established just outside the plantation, open enough to avoid the cassava crops recently under cultivation. The owner of the site showed us some iron slag from ground surface close to trench 420. As usual, excavations were done in 20 cm spits. The materials were not seived but efforts were made by probing with a trowel to reduce the chance of losing some cultural materials. (6).

4.11 Trench 410:

This trench was established on a low mound top. On its south end, the deposit is quite disturbed with evidence of two or more pits. These pits were traced to level 3. On the whole, the materials are loose with coarse sand and humic materials (dark grey on top, turning to red below). In levels 2 and 4, on the northern end, the deposit is more consolidated or compact. Isolated bricks occur now and then and levels 1 to 3 revealed an adequate sample of pottery. (see Figure 27, 28, Table 4 . also see Plate 4).

4.12 Trench 420:

This trench contrasted with 410 in that the deposit is hard. It is on a lower ground and could have been affected by erosion and other weathering factors leading to lateritic

concretion. This reddish laterite was present throughout the deposit appearing to mask the layers. In level 4, and on the south east end, there is a lens of charcoal/hearth material. Even though the level itself is largely sterile, this lens contains numerous pottery sherds. The trench in general also yielded a good pottery sample (Figure 29, 30, Table 5).

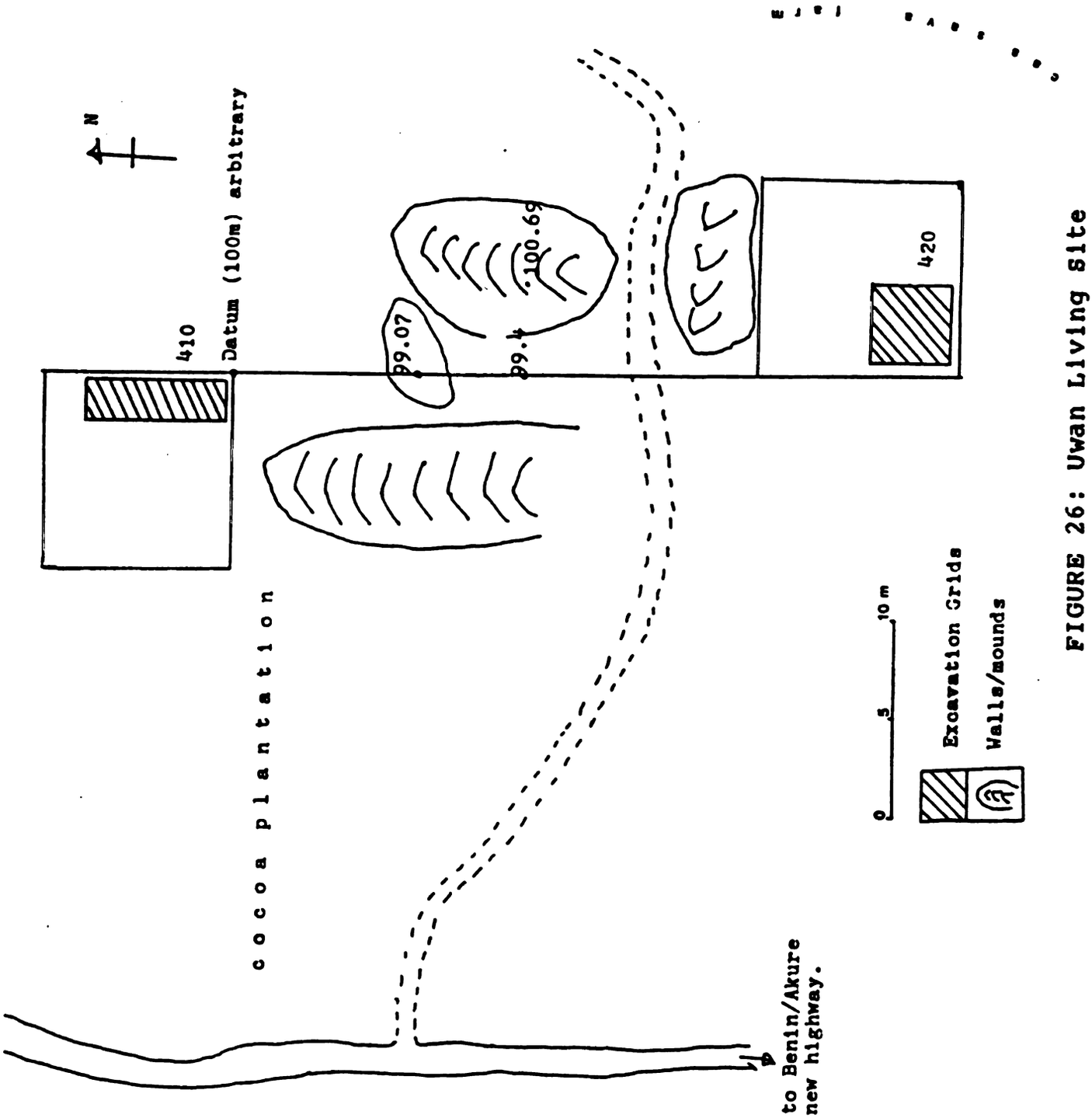


FIGURE 26: Uwan Living site

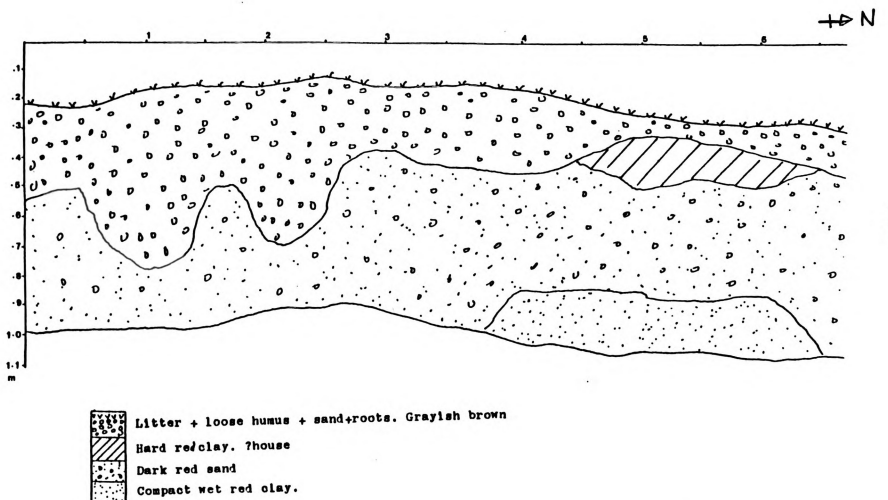


FIGURE 27: Trench 410 Profile, West Face, Uwan Site

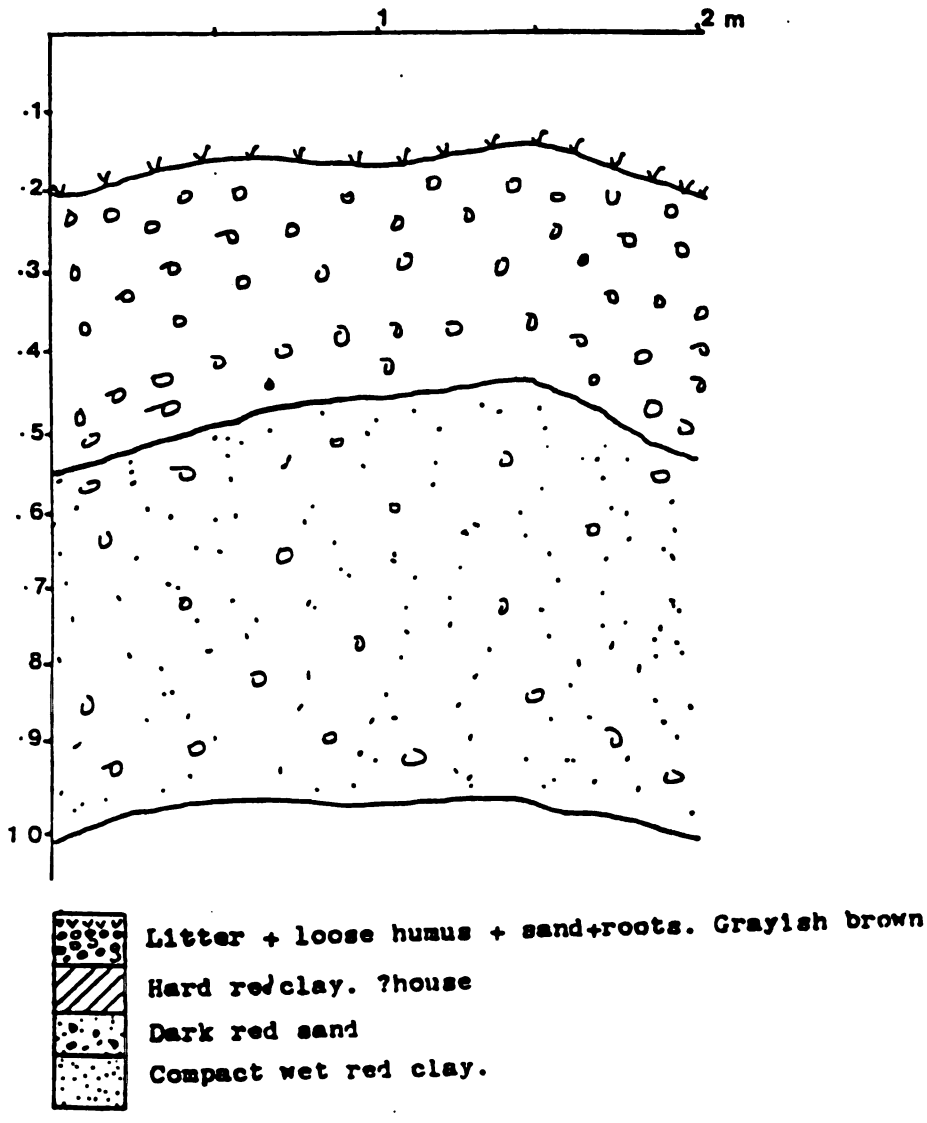


FIGURE 28: Trench 410 Profile, South Face, Uwan Site

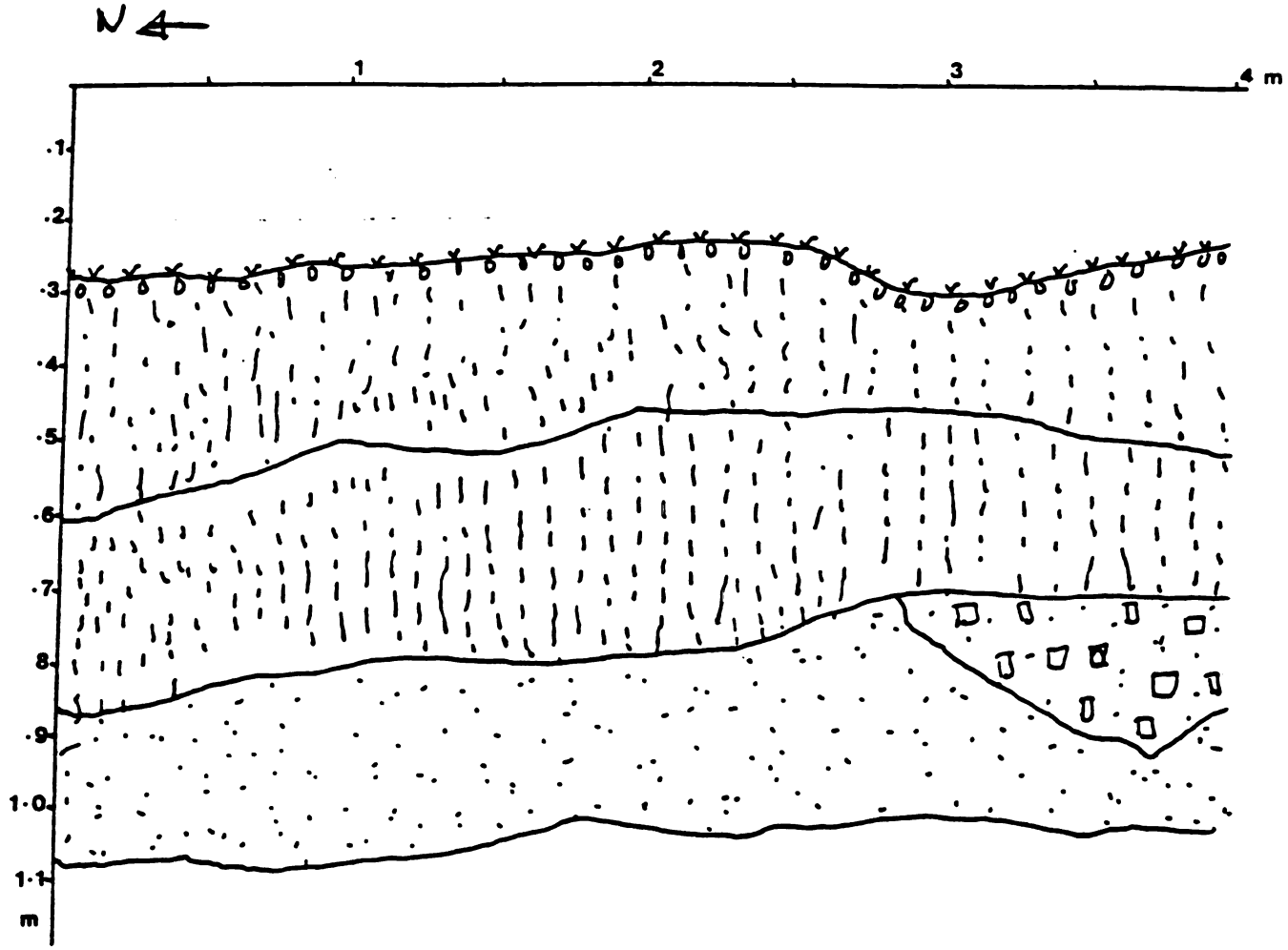


FIGURE 29: Trench 420 Profile, East Face, Uwan Site

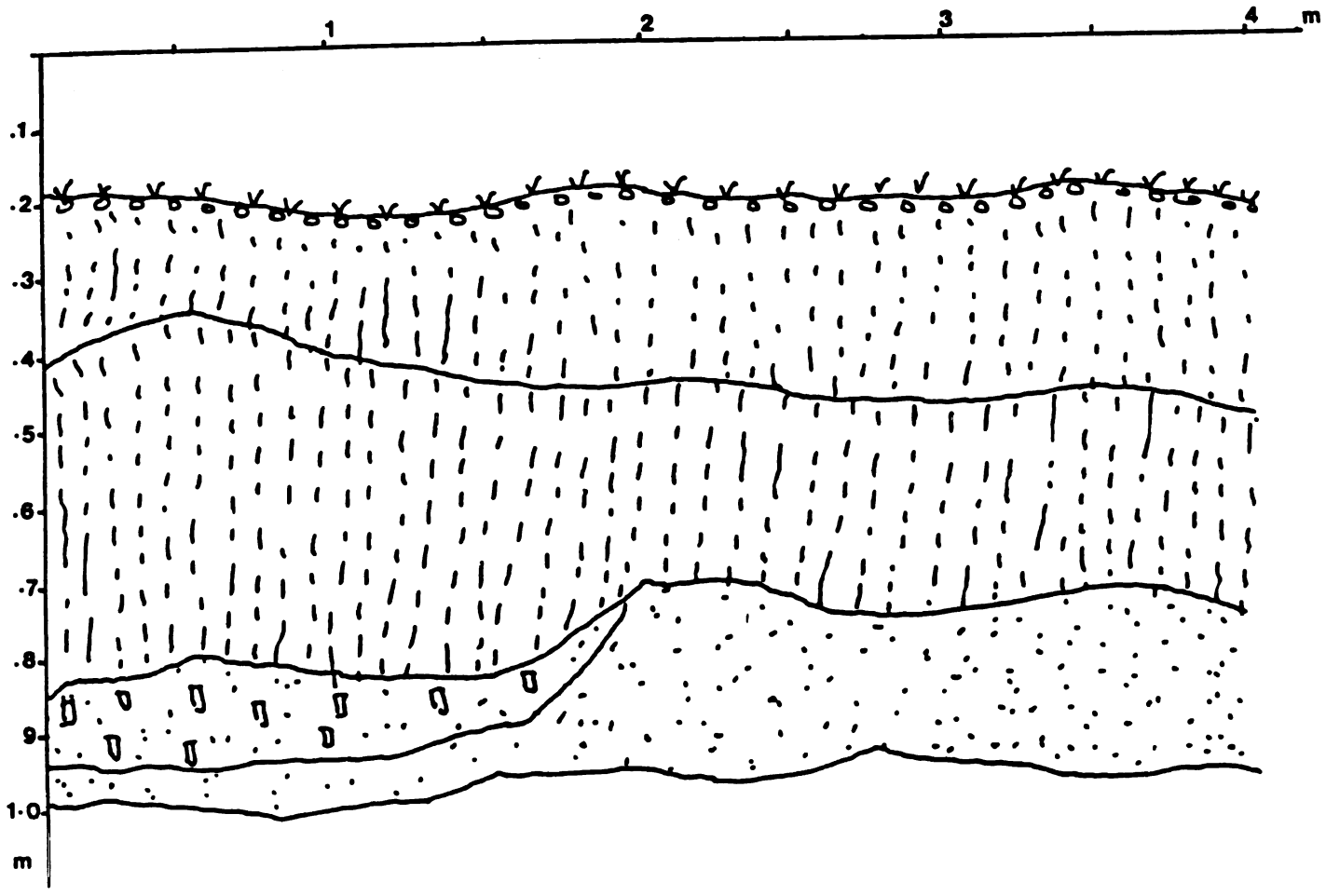


FIGURE 30: Trench 420 Profile, South Face, Uwan Site

TABLE 4: Trench 410, Tool Inventory, Uwan Site

Level	Plain Body	Rims	Bone	Stone	Miscellaneous
411	509	197	2	8	
412	290	81	2	4	1 Bottle Glass Iron slag
413	191	109	1	1	1 Bottle Glass
414	46	13	1	2	
	1036	400	6	15	

TABLE 5: Trench 420, Tool Inventory, Uwan Site

Level	Plain Body Sherds	Rim Sherds	Bone	Stone	Micellaneous
421	360	130		3	2 Iron
				4	1 Slag
422	397	119		1	
				1	
423	179	78			
424	77	66			
TOTAL	1013	393		9	

CHAPTER V

CLASSIFICATION AND ANALYSIS 1

Temporal Significance of North-West Pottery

In this chapters V and VI, various statistical analytic methods are applied to the pottery arising from the Eko Abetu and Uwan Living sites (8). Although, the analytic approaches have been segregated into two chapters, one exploring temporal significance and the other spatial significance, this is done for practical purposes. The idea is to discover variability or the lack of it. In Chapter VII, artifact variability is related to specific behavior modes, based on the assumptions proposed in Chapter III.

5.1 Northwest Benin Pottery.

Traditionally, Benin pottery was hand made, as was the general process in West Africa. (Thomas 1910b, Nicholson 1929, Tremearne 1910:103, David and Henning 1972). There were two most important pottery villages near Benin namely, Use, (now within Benin urban), and Utekon to the north of Benin City, and east of the northwest sites (Bradbury 1957, Willet and Connah 1969. see Figure 7). The potters obtained very finely grained clay from Ekiadolor or Iwu villages towards the west or near the Ovia river. The grayish clay imposed very finely grained fabric on Benin pots. The clay was processed by mixing with water. A new pot was built from

this. The potters started with a mould, usually an old pot or calabash and by turning this around with one hand and moulding with the other, the desired form was obtained. This was allowed to set or dry for a while before the shoulder, rim and ledge or carination might be added. The potter later smoothened or burnished the pot surface with a snail or coconut shell to reinforce the rigidity and imperviousness of the pot. Various decorative motifs (e.g. roulette, comb, and groove) may then be applied, before the pots were subjected to intense firing usually in a burn-fire of logs. Pottery materials collected from the Benin northwest reflect some of these patterns.

From the northwest of Benin, 2083 pottery sherds from the trenches (B1, X2 and Y2) on the Eko Abetu site were sorted and analysed. The sherds were coded according to the trench and levels as follows:

Trench B1 (110) level 1 - 111
2 - 112
3 - 113

Trench X2 (120) level 1 - 121
2 - 122
3 - 123
4 - 124

Trench Y2 (130) level 1 - 131

2 - 132

3 - 133

4 - 134

Two major levels of analysis were applied, namely, quantitative and qualitative analysis.

5.2 Quantitative Analysis.

The quantitative method relies on the ability to define an attribute list which reflects morphological and stylistic variables, within an assemblage (Krieger 1944, Rouse 1960, Gifford 1960, Deetz 1965, Brashler 1978), and to be able to transform frequencies of occurrence with a mathematical procedure. There is much debate about the quantitative approach, regarding applicability and context, but the studies of Read (1982:72-73) provide confidence that an attribute definition is a qualitative operation but once defined, it may be manipulated quantitatively. That is, that criteria are really dependent on the problem at hand, and should be formally defined.

The northwest pottery sherds were treated as analytic units from which both metric and nominal variables were extracted. Analysis has been addressed separately to the rim and decorated body sherds.

5.21: Rim Sherds

By an inspection of the rim sherds and on the basis of previous knowledge, the following nominal variables were defined for rim analysis.

Rim Attribute List

Flat lip

Round lip

Grooved lip

Smoothened interior

Smoothened exterior

Everted rim

Hatched decoration

Carinated interior

Carinated exterior

Grooved decoration

Incised

Stab and drag

slashed decoration

Comb stamping

Carved wooden roulette

Twisted cord roulette

Punctation

Wavy-line

Perforation

More than one variable can occur on a particular sherd and each variable is scored presence/absence. Secondly, no distinction is made at this level between pot and bowl, since this may be subjective, but commonly, everted rims come from pots although the inward slanting rim of a shouldered bowl (see Figure 42F) can be confused for a pot, using this criterion. Thirdly, it is the technique of application of a variable that is considered more important here than the tool of application. For example, punctate decoration could have been done with different kinds of tools and it would be nearly impossible to determine the particular kind of tool involved. However, carved wooden roulette (because of the sometimes angular or regular nature of the lines) and the twisted cord roulette (because of it's bead pattern), cannot be missed in an assemblage. Stab and drag appears as a particularly variable form. On the rim ledge, stab and drag appears to be applied with a pointed blunt object. On the body of some sherds, it is sometimes applied with a comb. No case was encountered where two kinds of stab and drag appeared on the same sherd however, and such would have introduced a problem. But there were cases where the variable called "slashed" occurred with stab and drag particularly along the raised ridges of the rim. The slashed decoration appears to be a successive horizontal movement of the hand, as if trimming the raised ridges.

Some of these decorative motifs have been illustrated in the photographs (see Plates 5 - 9). The Plate labels are as follows:

Plate: 5 - 111 body sherds
6 - 121 rim sherds
7 - 132 rim sherds
8 - 132 body sherds
9 - 133 rim sherds

Some key or essential attributes have been marked on the photographs as follows:

a : carved wood roulette
b : punctation
c : slashed
d : grooved
e : wavy-line
f : twisted cord

One point of note is the variation that exist even within the units, The carved wood for example, may consist of vertical lines associated with polygonal patterns, zigzag or diagonal lines. The stab and drag pattern does not come out clearly in the photograph, but is commonly located on the lower ridges that run on top of the in-curving rims of some bowls. On the higher ridge as in in Plate 6c, is the "slashed" pattern. (also see Figure 32 for schematic illustration of the decorative patterns)

TABLE 6: Rim Nominal Scores, Trench B1, Eko Abetu

Level	FLAT LIP	ROUND LIP	GROOVED LIP	SMOOTHED INTERIOR	SMOOTHED EXTERIOR	THICKENED RIM	NOTCHED DEC.		CARINATED EXTERIOR	GROOVED DEC.	INCISED		STAB AND DRAG	DASH DEC.	COMB STAMPING	CARVED ROULETTES	TWISTED CORD ROULETTES	SHELL IMPRESSION		PERFORATION	Sherd Sample *
1	4	3	23	37	9	4	4		28	26	1		10	16			4	25		2	40
2		18	10	28	17	12			12	10	4		9	1	1			3			28
3	1	5		6	3	1	1		1	3			2					1			7

* One sherd may have more than one motif

TABLE 7: Rim Nominal Scores, Trench X2, Eko Abetu

LEVEL	FLAT LIP	ROUND LIP	GROOVED LIP	SMOOTHED INTERIOR	SMOOTHED EXTERIOR	EVERTED RIM	HATCHED DEC.	CARINATED INTERIOR	CARINATED EXTERIOR	GROOVED DEC.	INCISED	STAB AND DRAG	SLASHED DEC.	COMB STAMPING	CARVED ROULETTE	TWISTED CORD ROULETTE	STYLUS PUNCTATION	WAVY LINES	PERFORATION	SHERD SAMPLE *
1		6		7	6	6				1	1			1				1		7
2	1	4	3	9	8	7			1	2				1						9
3	1	3	3	8	5	6		1	1	3	2		1	1						9
4	2	1	4	7	5	5			2	3	1						1			7
Total																				

* One sherd may have more than one motif

TABLE 8: Rim Nominal Scores, Trench Y2, Eko Abetu

Level	FLAT LIP	ROUND LIP	GROOVAL LIP	SMOOTHED INTERIOR	SMOOTHED EXTERIOR	EVERTED RIM	NOTCHED DEC.	CARINATED INTERIOR	CARINATED EXTERIOR	GROOVED DEC.	INCISED	SLAB AND DRAG	LASHED DEC.	COMB STAMPING	CARVED ROULETTE	TWISTED CORD ROULETTE	STAYLUS PUNCTATION	WAY LINES	Sherd Sample*
1																			
2	3	6	13	24	12	12	1		7	13	1		5		3	3	7	1	25
3		1	8	10	9	4			1	4	1		1						10

* One sherd may have more than one motif.

TABLE 9: Jaccard Coefficient for Rim Variables, Eko Abetu

	B11	B12	B13	X21	X22	X23	X24	Y22	Y23
B11									
B12	.95								
B13	.79	.88							
X21	.48	.76	.84						
X22	.73	.89	.86	.87					
X23	.77	.97	.83	.84	.94				
X24	.85	.91	.87	.84	.86	.94			
Y22	.94	.93	.80	.69	.85	.83	.90		
Y23	.78	.92	.73	.85	.94	.97	.94	.87	

TABLE 10: T-Test Sample Means for Lip Thickness, Eko Abetu

Level	n	$\sum x$	$\bar{x}$ $(\frac{\sum x}{n})$	$\sum(x-\bar{x})^2$
B11	42	300	7.14	149.03
B12	39	292	7.49	89.74
B13	14	107	7.64	43.12
X21	13	99	7.62	45.02
X22	10	78	7.80	32.51
X23	12	102	8.50	49.00
Y22	28	192	6.86	55.44
Y23	13	99	7.62	26.74

TABLE 11: T-Test Sccores for Lip Thickness, Eko Abetu

Level/Level	S^2	df	T - Observed	T - Critical	Decision (Ho) (.01) = 0.01
B11/B12	3.02	79	0.90	1.67	Accepted
B11/B13	3.56	54	0.88	1.67	Accepted
B11/X21	3.66	53	0.79	1.67	Accepted
B11/X22	3.63	50	0.99	1.67	Accepted
B11/X23	3.80	52	2.15	1.67	Rejected
B11/Y22	3.30	68	1.40	1.67	Accepted
B11/Y23	3.31	53	0.84	1.67	Accepted
B12/B13	2.61	51	0.29	1.67	Accepted
B12/X21	2.70	50	0.25	1.67	Accepted
B12/X22	2.60	47	0.54	1.68	Accepted
B12/X23	2.83	49	1.80	1.68	Rejected
B12/Y22	2.23	65	1.70	1.67	Rejected
B12/Y23	2.32	50	0.27	1.67	Accepted
B13/X21	3.52	25	0.03	1.70	Accepted
B13/X22	3.44	22	0.20	1.71	Accepted
B13/X23	3.84	24	1.12	1.71	Accepted
B13/Y22	2.46	40	1.5	1.68	Accepted
B13/Y23	2.79	25	0.03	1.70	Accepted
X21/X22	3.69	21	0.22	1.72	Accepted
X21/X23	4.09	23	1.09	1.71	Accepted
X21/Y22	2.58	39	1.41	1.68	Accepted
X21/Y23	2.99	24	0.00	1.71	Accepted
X22/X23	4.09	20	0.81	1.72	Accepted
X22/Y22	2.44	36	1.65	1.68	Accepted
X22/Y23	2.81	21	0.25	1.72	Accepted
Y23/Y22	2.75	38	1.54	1.68	Accepted
Y23/Y23	3.29	23	1.22	1.71	Accepted
Y22/Y23	2.10	39	1.59	1.68	Accepted

TABLE 12: Body Decorated Scores, Trench B1, Eko Abetu

LEVEL	Grooved	Incised	Wavy-Line Incised	Carved Wooden Roulette	Twisted Cord Roulette	Stab/Drag	Stylus Punctation		SHERD SAMPLE*
1	6	2	-	22	32	-	19		79
2	22	2	-	7	85	4	19		139
3	5	2	-	1	7	2	24		41
4									

* One sherd may have more than one motif.

TABLE 13: Body Decorated Scores, Trench X2, Eko Abetu

LEVEL	Grooved	Incised	Carved Wooden Roulette	Twisted Cord Roulette	Comb Sampling		Stab/drag			Stylus Punctation	SHERD SAMPLE *
1	8	1	11	38	-	-	1	-	-	14	72
2	9	2	5	13	-	-	2	-	-	4	34
3	8	2	17	17	-	-	-	-	-	15	58
4	6	2	1	11						5	23

* One sherd may have more than one motif.

TABLE 14: Body Decorated Scores, Trench Y2, Eko Abetu

LEVEL	Grooved	Incised	Wavy-Line Incised	Carved Wooden Roulette	Twisted Cord Roulette	Walking Comb	Stab/Drag	Stylus Punctation	SHERD SAMPLE *
1	5	2	-	9	20	-	-	12	47
2	6	2	-	46	115	-	-	62	222
3	5	-	-	20	28			12	65
4	1	1	-	1	2	-	-	6	11

* One sherd may have more than one motif

TABLE 15: Chi-Square Determinations for Body Decorated Scores, Eko Abetu

df		Grooved			Incised			C. Wood Roulette			Twisted Cord Roulette			Stab/Drag			Punctation			Total	χ^2 Observed
		Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$		
5 Rejected	B11	6	10.3	1.79	2	1.4	0.25	22	10.6	12.26	32	43.0	2.81	-	2.3	2.3	19	13.9	1.87	81	37.41
	B12	22	13.9	4.72	2	2.5	0.10	7	18.3	6.97	85	73.9	1.66	4	2.5	0.9	19	14.0	1.78	139	
	Total	28			4			29			117			4			38			220	
5 Rejected	B11	6	7.3	.23	2	2.6	.13	22	15.2	3.0	32	25.8	1.48	0	1.3	1.3	19	28.5	3.1	81	22.95
	B13	5	3.6	.54	2	1.3	.37	1	.3	1.6	7	13.1	2.84	2	.6	3.26	24	14.4	6.4	41	
	Total	11			4			23			39			2			43			122	
5 Accepted	B11	6	7.3	.23	2	1.5	.16	22	17.3	1.27	32	36.8	.62	-	.5	.5	19	17.3	.16	81	5.66
	X21	8	6.6	.29	1	1.4	.11	11	15.6	1.35	38	33.1	.72	1	.47	.59	14	15.6	6.16	73	
	Total	14			3			33			70			1			33			154	
5 Rejected	B11	6	10.4	1.86	2	2.7	.18	22	18.8	.54	32	31.4	.01	0	1.3	1.3	19	16.0	.56	81	15.08
	X22	9	4.5	4.5	2	1.2	.53	5	8.1	1.18	13	13.5	.01	2	.60	3.2	4	6.9	1.21	35	
	Total	15			4			27			45			2			23			116	
4 Accepted	B11	6	8.1	.54	2	2.3	.03	22	22.5	.01	32	28.3	.48	-			19	19.6	.01	81	2.58
	X23	8	5.9	.74	2	1.6	.10	17	16.4	.02	17	20.6	.62				15	4.3	.03	59	
	Total	14			4			39			49						34			140	
4 Rejected	B11	6	9.1	1.05	2	3.0	.33	22	17.5	1.15	32	32.8	0.01				19	18.3	.02	81	11.27
	X24	6	2.8	3.65	2	.9	1.34	1	5.4	3.58	11	10.1	0.08				5	5.6	.06	25	
	Total	12			4			23			43						24			106	
4 Accepted	B11	6	6.9	.11	2	2.5	.10	22	19.4	.34	32	32.6	.01				19	19.4	.00	81	1.64
	Y21	5	4.0	.25	2	1.4	.25	9	11.5	.54	20	19.3	.02				12	11.5	.02	48	
	Total	11			4			31			52						31			129	
4 Accepted	B11	6	3.1	2.7	2	1.0	.5	22	17.6	1.1	32	38.1	.97				19	21.0	.19	81	7.4
	Y22	6	8.8	.89	2	2.9	.27	46	50.3	.36	115	108.8	.35				62	59.9	.07	231	
	Total	12			4			68			147						81			312	
4 Accepted	B11	6	6.1	.13	2	1.10	.73	22	23.3	.07	32	33.2	.04				19	17.1	.21	81	
	Y23	5	4.8	.00		.8	.8	20	18.6	.10	28	26.7	.06				12	13.8	.23	65	
	Total	11			2			42			60						31			146	2.37
4 Accepted	B11	6	6.1	.00	2	2.6	.13	22	20.2	.16	32	29.9	.14				19	22.0	.40	81	
	Y24	1	.8	.05	1	.3	1.63	1	2.75	1.11	2	4.0	1.0				6	2.9	3.3	11	7.92
	Total	7			3			23			34						25			92	

TABLE 15 (cont'd)

df	Pottery Hull		Grooved Fo	Grooved Fe	Grooved (Fo-Fe)²/Fe	Incised Fo	Incised Fe	Incised (Fo-Fe)²/Fe	Corded Roulette Fo	Corded Roulette Fe	Corded Roulette (Fo-Fe)²/Fe	Twisted Cord Roulette Fo	Twisted Cord Roulette Fe	Twisted Cord Roulette (Fo-Fe)²/Fe	Stab/Drag Fo	Stab/Drag Fe	Stab/Drag (Fo-Fe)²/Fe	Punctation Fo	Punctation Fe	Punctation (Fo-Fe)²/Fe	Total	X^2 Observed
		B12	22	20.8	.06	2	3.0	.33	7	6.1	.13	85	71.0	2.76	4	4.6	.07	19	33.2	6.0	139	
5	Rejected	B13	5	6.15	.21	2	.9	1.34	1	1.8	.35	7	20.9	9.2	2	1.3	.37	24	9.7	21.0	41	29.86
		Total	27			4			8			92			6			43			180	
		B12	22	19.6	.29	2	1.9	.00	7	8.5	.26	85	80.6	.24	4	3.2	.2	19	21.6	.01	139	
5	Accepted	X21	8	10.3	.51	1	1.0	.00	11	6.1	3.93	38	42.3	.43	1	1.7	.28	14	11.3	.23	73	6.41
		Total	30			3			18			123			5			33			212	
		B12	22	24.7	.29	2	3.1	.39	7	9.5	.65	85	78.2	.59	4	4.7	.10	19	18.3	.02	139	
5	Accepted	X22	9	6.2	1.26	2	.80	1.8	5	2.4	2.81	13	19.7	2.27	2	1.2	.53	4	4.6	.07	35	10.78
		Total	31			4			12			98			6			23			174	
		B12	22	21.0	.04	2	2.8	.22	7	16.8	5.7	85	71.6	2.5	4	2.8	.51	19	23.8	.96	139	
5	Rejected	X23	8	8.9	.09	2	1.1	.73	17	8.0	10.12	17	30.3	5.8				15	10.1	2.37	59	29.04
		Total	30			4			24			102			4			34			198	
		B12	22	23.7	.12	2	3.3	.51	7	6.7	.01	85	81.3	.16	4	3.3	.14	19	20.3	.08	139	
5	Accepted	X24	6	4.2	.77	2	.6	2.56	1	1.2	.03	11	14.6	.08		.6	.6	5	3.6	.54	25	6.4
		Total	28			4			8			96			4			24			164	
		B12	22	20.0	.2	2	2.9	.27	7	11.8	1.95	85	78.0	.62	4	2.9	.41	19	23.0	.69	139	
5	Rejected	Y21	5	6.9	.52	2	1.0	1.0	9	4.1	5.85	20	26.9	1.76		1.0	1.0	12	7.9	2.12	48	16.37
		Total	27			4			16			105			4			31			187	
		B12	22	10.5	12.5	2	1.5	.16	7	19.9	8.3	85	75.1	1.30	4	1.5	4.1	19	30.4	4.2	139	
5	Rejected	Y22	6	17.4	7.4	2	2.4	.06	46	33.0	5.1	115	124.8	.76		2.4	2.4	62	50.5	2.6	231	46.48
		Total	28			4			53			200			4			81			370	
		B12	22	18.3	.74	2	1.3	.37	7	18.3	6.97	85	76.9	.05	4	2.7	.62	19	21.1	.20	139	
5	Rejected	Y23	5	8.6	1.50				20	8.6	15.11	28	36.0	1.77		1.2	1.2	12	9.8	.49	65	28.62
		Total	27			2			27			113			4			31			204	
		B12	22	21.3	.03	2	2.78	.18	7	7.4	.02	85	80.6	.24	4	3.7	.02	19	23.1	.72	139	
5	Rejected	T Y24	1	1.6	.22	1	.2	3.2	1	.58	.5	2	6.38	2.9		.2	.2	6	1.8	9.8	11	17.83
		Total	23			3			8			87			4			25			150	

TABLE 15 (cont'd)

df No Null		Grooved			Incised			C. Wood Roulette			Twisted Cord Roulette			Stab/Drag			Punctation			Total	X^2 Observed
		Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{Fo-Fe^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$		
5 Rejected	B13	5	4.6	.03	2	1.0	1.0	1	4.3	2.5	7	16.1	5.1	2	1.0	1.0	24	13.6	7.9	41	
	X21	8	8.3	.01	1	1.9	.47	11	7.6	1.5	38	28.8	2.9	1	1.9	.47	14	24.3	4.3	73	27.18
	Total	13			3			12			45			3			38			114	
5 Rejected	B13	5	7.5	.83	2	2.1	.00	1	3.2	1.5	7	10.7	1.27	2	2.1	.00	24	15.1	5.24	41	
	X22	9	6.4	1.0	2	1.8	.07	5	2.7	1.95	13	9.2	1.56	2	1.8	.07	4	12.8	6.05	35	19.54
	Total	14			4			6			20			4			28			76	
5 Rejected	B13	5	5.3	.01	2	1.6	.10	1	7.3	5.4	7	9.84	.82	2	.8	3.6	24	15.9	4.1	41	
	X23	8	7.6	.05	2	2.3	.03	17	10.6	3.8	17	14.1	.59				15	23.0	2.7	59	21.2
	Total	13			4			16			24			2			39			100	
5 Accepted	B13	5	6.8	.47	2	2.4	.06	1	1.2	.03	7	11.1	1.5	2	1.2	.53	24	18.0	2.0	41	
	X24	6	4.1	.88	2	1.5	.16	1	.7	.12	11	6.8	2.5				5	10.9	3.1	25	11.35
	Total	11			4			2			18			2			29			66	
5 Rejected	B13	5	4.6	.03	2	1.8	.02	1	4.6	2.81	7	12.4	2.35	2	.9	1.34	24	16.5	3.4	41	
	Y21	5	5.3	.01	2	2.1	.00	9	5.3	2.58	20	14.5	2.08				12	19.4	2.82	48	17.44
	Total	10			4			10			27			2			36			89	
5 Rejected	B13	5	1.6	7.2	2	.6	3.2	1	7.0	5.1	7	18.3	6.9	2	.3	9.6	24	12.9	10.2	41	
	Y22	6	9.3	1.1	2	3.3	.51	46	39.9	.93	115	103.6	1.25		1.6	1.6	62	73.0	1.65	231	47.0
	Total	11			4			47			122			2			86			272	
5 Rejected	B13	5	3.8	.37	2	.7	2.4	1	8.1	6.2	7	13.5	3.1	2	.7	2.4	24	13.9	7.3	41	
	Y23	5	6.1	.19		1.2	1.2	20	12.9	4.0	28	21.4	2.0		1.2	1.2	12	22.0	4.5	65	32.46
	Total	10			2			21			35			2			36			106	
5 Accepted	B13	5	4.7	.01	2	2.3	.03	1	1.5	.16	7	7.0	.00	2	1.5	.16	24	23.0	.00	41	
	Y24	1	1.2	.03	1	.6	.26	1	.4	.9	2	1.9	.00		.4	.4	6	6.3	.01	11	1.56
	Total	6			3			2			9			2			30			52	
5 Accepted	X21	6	11.4	1.0	1	2.0	0.5	11	10.8	.00	38	34.4	.37	1	2.0	0.5	14	12.1	.29	73	
	X22	9	5.5	2.2	2	.9	1.3	5	5.1	.00	13	16.5	.74	2	.9	1.3	4	5.8	.55	35	8.75
	Total	17			3			16			51			3			18			108	

TABLE 15 (cont'd)

df	Ho Null		Grooved			Incised			C. Wood Roulette			Twisted Cord Roulette			Stab/Drag			Punctation			Total	χ^2 Observed
			Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$		
5	Accepted	X21	8	8.8	.07	1	1.6	.72	11	15.4	1.25	38	30.4	1.9	1	.5	.5	14	16.0	.25	73	
		X23	8	7.1	.11	2	1.3	.37	17	12.5	1.62	17	24.5	2.29	0	.4	.4	15	12.9	.34	59	8.82
		Total	16			3			28			55			1			29			132	
5	Accepted	X21	8	10.1	.55	1	2.2	.65	11	8.9	.68	38	36.5	.06	1	.7	.12	14	14.1	.00	73	
		X24	6	3.5	1.78	2	.7	2.4	1	3.0	1.33	11	12.5	.18	0	.2	.2	5	4.8	.00	25	7.8
		Total	14			3			12			49			1			19			98	
5	Accepted	X21	8	7.8	.00	1	1.8	.33	11	12.0	.08	38	34.9	.08	1	.6	.26	14	15.6	.16	73	
		Y21	5	5.1	.00	2	1.1	.73	9	7.9	.08	20	23.0	.39		.3	.3	12	10.3	.28	48	2.69
		Total	13			3			20			58			1			26			121	
5	Rejected	X21	8	3.3	6.69	1	.7	.12	11	13.6	.49	38	36.7	.04	1	.2	3.2	14	18.2	.96	73	
		Y22	6	10.6	1.99	2	2.2	.01	46	43.3	.16	115	116.	.00	0	.7	.7	62	57.7	.32	231	13.98
		Total	14			3			57			153			1			76			304	
5	Accepted	X21	8	6.8	.21	1	.5	.5	11	16.3	1.72	38	34.9	.27	1	.5	.5	14	13.7	.00	73	
		Y23	5	6.1	.19		.4	.4	20	14.6	1.99	28	31.0	.29		.4	.4	12	12.2	.00	65	6.47
		Total	13			1			31			66			1			26			138	
5	Rejected	X21	8	7.8	.00	1	1.7	.28	11	10.4	.03	38	34.7	.31	1	.8	.05	14	17.3	.62	73	
		Y24	1	1.1	.00	1	.2	3.2	1	1.5	.16	2	5.2	1.96	0	.13	.13	6	2.6	4.44	11	11.18
		Total	9			2			12			40			1			20			84	
5	Accepted	X22	9	6.3	1.15	2	1.4	.25	5	8.1	1.18	13	11.1	.32	2	.7	2.4	4	7.0	1.28	35	
		X23	8	10.6	.63	2	2.5	.1	17	13.8	.74	17	18.8	.17	0	1.2	1.2	15	11.9	.80	59	10.22
		Total	17			4			22			30			2			19			94	
5	Accepted	X22	9	8.7	.01	2	2.3	.03	5	3.5	.64	13	14	.07	2	1.1	.73	4	5.25	.29	35	
		X24	6	6.2	.00	2	1.6	.10	1	2.5	.90	11	10	.10		.8	.80	5	3.75	.41	25	5.07
		Total	15			4			6			24			2			9			60	
5	Accepted	X22	9	5.9	1.62	2	1.62	.10	5	5.9	.13	13	13.9	.05	2	.8	.05	4	6.7	1.08	35	
		Y21	5	8.0	1.12	2	2.3	.03	9	8.0	.12	20	19.0	.05	0	.5	.5	12	9.2	.85	48	5.7
		Total	14			4			14			33			2			16			83	
5	Rejected	X22	9	1.9	26.5	2	.5	4.5	5	6.7	.43	18	16.8	.85	2	.2	16.2	4	8.6	2.46	35	
		Y22	6	13.0	3.7	2	3.4	.5	46	44.2	.07	115	111.1	.13	0	1.7	1.7	62	57.3	.38	231	55.72
		Total	15			4			51			128			2			66			266	

TABLE 15 (cont'd)

df			Grooved			Incised			C. Wood Roulette			Twisted cord Roulette			Stab/Drag			Punctation			Total	χ^2 Observed
			Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$		
5	Rejected	X22	9	4.9	3.43	2	.7	2.41	5	8.75	1.60	13	14.35	.12	2	.7	2.41	4	5.6	.46	35	13.42
		Y23	5	9.1	1.84	0	.2	.2	20	16.25	.85	28	26.6	.07	0	1.3	1.3	12	10.4	.24	65	
		Total	14			2			25			41			2			16			100	
5	Accepted	X22	9	7.6	.25	2	2.2	.01	5	4.5	.05	13	11.4	.22	2	1.5	.16	4	7.6	1.70	35	10.34
		Y24	1	2.3	.73	1	.7	.12	1	1.4	.11	2	3.5	.64	0	.4	.4	6	2.3	5.95	11	
		Total	10			3			6			15			2			10			46	
5	Accepted	X23	8	5.8	.33	2	2.8	.28	17	12.6	1.53	17	19.6	.34				15	14.0	.07	59	8.64
		X24	6	4.1	.88	2	1.1	.73	1	5.3	3.48	11	8.3	.87				5	5.9	.13	25	
		Total	14			4			18			28						20			84	
4	Accepted	X23	8	7.1	.11	2	2.2	.01	17	14.3	.50	17	20.4	.56				15	14.9	.00	59	2.66
		Y21	5	5.8	.11	2	1.7	.05	9	11.6	.58	20	16.5	.74				12	12.1	.00	48	
		Total	13			4			26			37						27			107	
4	Rejected	X23	8	2.8	9.65	2	.8	1.6	17	12.8	1.37	17	26.8	3.58				15	15.6	.02	59	20.41
		Y22	6	11.1	2.24	2	3.1	.39	46	50.1	.33	115	105.1	.93				62	61.3	.00	231	
		Total	14			4			63			132						77			290	
4	Accepted	X23	8	6.1	.59	2	.9	1.34	17	17.6	.02	17	21.4	.90				15	12.8	.37	59	5.88
		Y23	5	6.8	.47	0	1.0	1.0	20	19.3	.02	28	23.5	.86				12	14.1	.31	65	
		Total	13			2			37			45						27			124	
4	Accepted	X23	8	7.5	.03	2	2.5	0.1	17	15.1	.23	17	16.0	.06				15	17.7	.15	59	5.2
		Y24	1	1.4	.11	1	.4	.9	1	2.8	1.15	2	2.9	.27				6	3.3	2.20	11	
		Total	9			3			18			19						21			70	
4	Accepted	X24	6	3.7	1.42	2	1.3	.37	1	3.4	1.69	11	10.6	.01				5	5.8	.11	25	5.43
		Y21	5	7.2	.67	2	2.6	.13	9	6.5	.96	20	20.3	.00				12	11.1	.07	48	
		Total	11			4			10			31						17			73	
4	Rejected	X24	6	1.1	21.8	2	.3	9.6	1	4.5	2.7	11	12.3	.13				5	6.5	.34	25	38.02
		Y22	6	10.8	2.1	2	3.6	.98	46	42.4	.30	115	113.6	.01				62	60.0	.06	231	
		Total	12			4			47			126						67			256	
4	Rejected	X24	6	3.0	3.0	2	.5	4.5	1	5.6	3.07	11	10.8	.00				5	4.7	.01	25	15.53
		Y23	5	7.9	1.06	0	1.4	1.4	20	15.1	1.59	28	28.1	.00				12	12.2	.00	65	
		Total	11			2			21			39						17			90	
4	Accepted	X24	6	4.8	.30	2	2.0	.00	1	1.3	.06	11	9.0	.44				5	7.6	.89	25	5.62
		Y24	1	2.1	.57	1	.9	.01	1	.6	.26	2	3.9	.92				6	3.3	2.20	11	
		Total	7			3			2			13						11			36	

TABLE 15 (cont'd)

df		Grooved			Incised			C. Wood Roulette			Twisted Cord Roulette			Stab/Drag			Punctation,			Total	X^2 Observed
		Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$	Fo	Fe	$\frac{(Fo-Fe)^2}{Fe}$		
4 Rejected	Y21	5	1.8	5.68	2	.6	3.26	9	9.4	.01	20	23.2	.44				12	12.7	.03	48	
	Y22	6	9.1	1.05	2	3.3	.51	46	45.5	.00	115	111.7	.09				62	61.2	.01	231	11.08
	Total	11			4			55			135						74			279	
4 Accepted	Y21	5	4.2	.15	2	.8	1.8	9	12.3	.88	20	20.3	.00				12	10.1	.35	48	
	Y23	5	5.7	.08	0	1.15	1.15	20	16.6	.69	28	27.6	.00				12	13.8	.23	65	5.33
	Total	10			2			29			48						24			113	
4 Accepted	Y21	5	4.6	.00	3	2.4	2.4	9	8.1	.10	20	17.8	.27				12	14.6	.46	48	
	Y24	1	1.1	.00	1	.5	.5	1	1.8	.35	2	4.1	1.07				6	3.3	2.20	11	7.35
	Total	6			3			10			22						18			59	
4 Accepted	Y22	6	8.5	.73	2	1.5	.16	46	51.5	.58	115	111.5	.10				62	57.7	.32	231	
	Y23	5	2.4	2.81	1	.4	.4	20	14.4	2.22	28	31.4	.36				12	16.2	1.0	65	8.68
	Total	11			2			66			143						74			296	
4 Rejected	Y22	6	6.6	.05	2	2.8	.22	46	44.8	.03	115	111.6	.10				62	64.9	.12	231	
	Y24	1	.3	1.63	1	.1	8.1	1	2.1	.57	3	5.3	2.0				6	3.0	3.0	11	15.82
	Total	7			3			47			117						68			242	
4 Rejected	Y23	5	5.1	.00	0	.8	.8	20	17.9	.24	28	25.6	.22				12	15.3	.71	65	
	Y24	1	.8	.05	1	.1	8.1	1	3.0	1.33	2	4.3	1.23				6	2.6	4.44	11	17.12
	Total	6			1			21			30						18			76	

TABLE 16: Diagnostic Vessel Count, Eko Abetu

	Type A (Pot)	Type B (Pot)	Type C (bowl)	Type D (bowl)	Type E (bowl)	Type F (bowl)	Type G (bowl)	Type H (bowl)	Vessel Count	Pot/Bowl ratio
B11	2		4	7	7	3	1		23	.09
B12	12			4	4		1	1	22	1.20
B13	2				3		2		7	.40
X21	4				1				5	.80
X22	6				1				7	.85
X23	7			1				2	10	2.33
Y22	8	1	4	1	4	1			19	.90
Y23	? 1			1	2		1		5	.25
									T. 98	

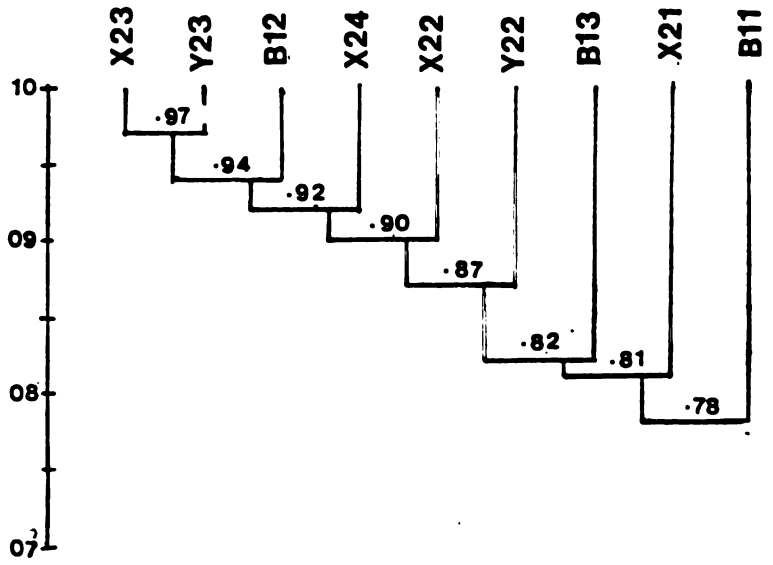


FIGURE 31: Dendrogram Cluster for Jaccard Coefficient on Rim Nominal Variables, Eko Abetu

FIGURE 32: Schematic Representation of Decorative Techniques

Key:

1. Grooved

2. Slashed

3. Stab/Drag

4. Punctate

5. Wavy-line

6. Carved roulette
   a. Diagonal lines
   b. Zigzag
   c. Diagonal lines/zigzap
   d. Basket work/vertical lines
   e. Vertical lines/V-shaped

7. Frond impressed

8. Twisted cord roulette

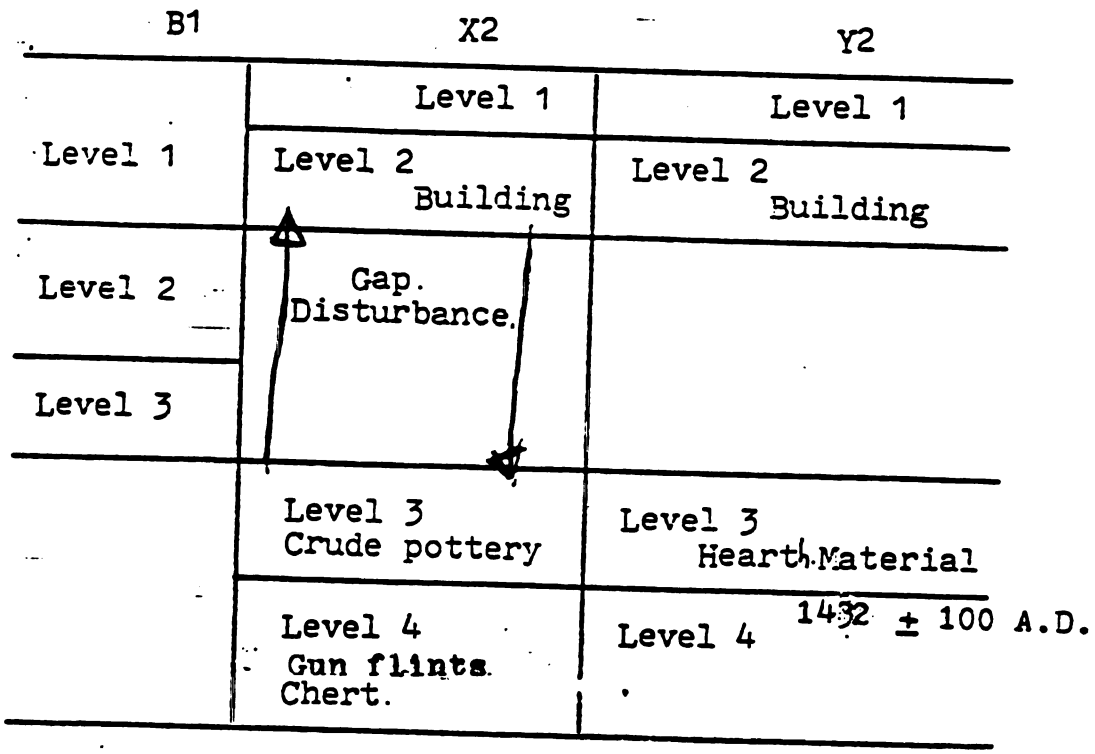


FIGURE 33: Correlated Stratigraphy, Eko Abetu

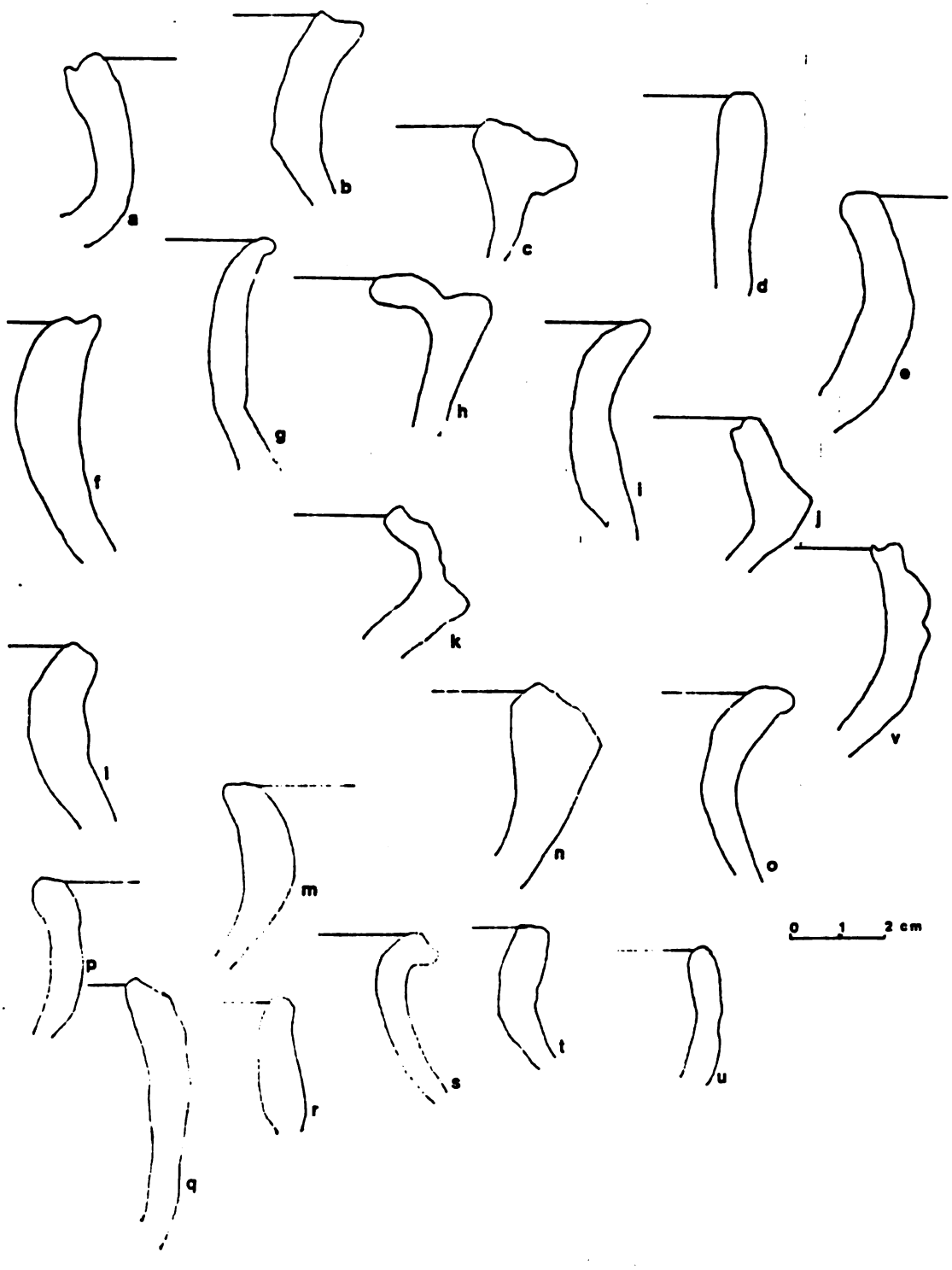


FIGURE 35: Level 112 Rim Cross Sections, Eko Abetu

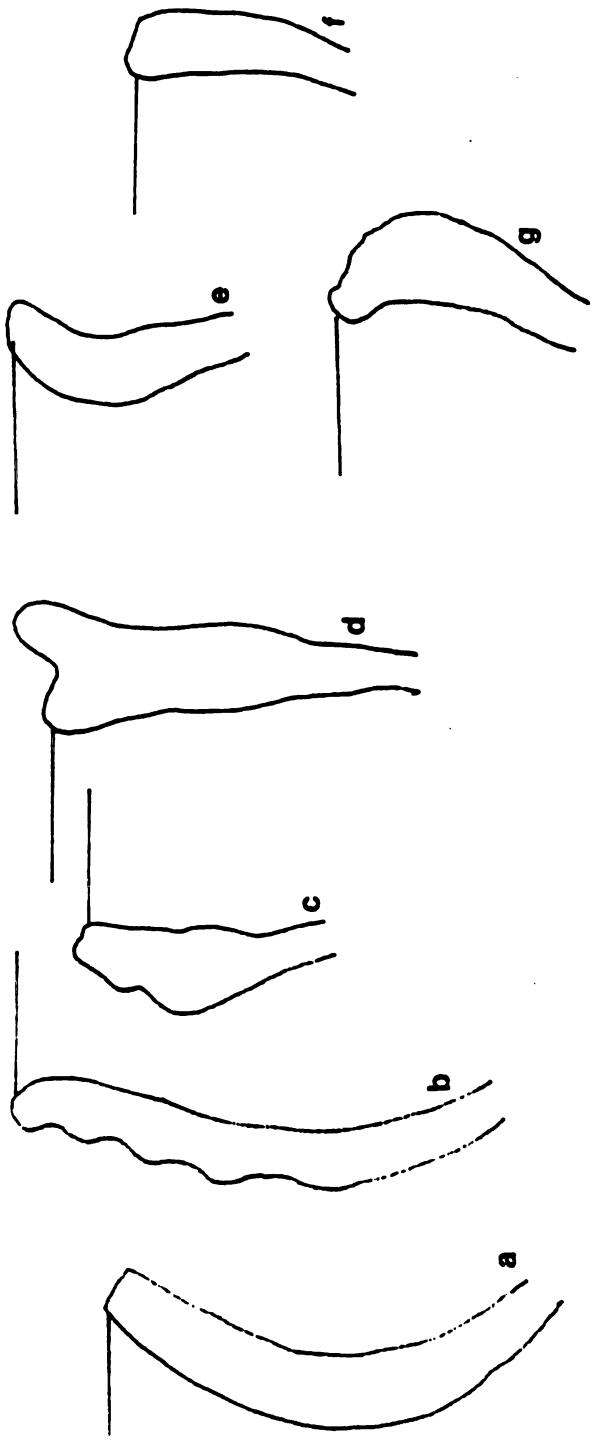


FIGURE 36: Level 113 Rim Cross Sections, Eko Abetu

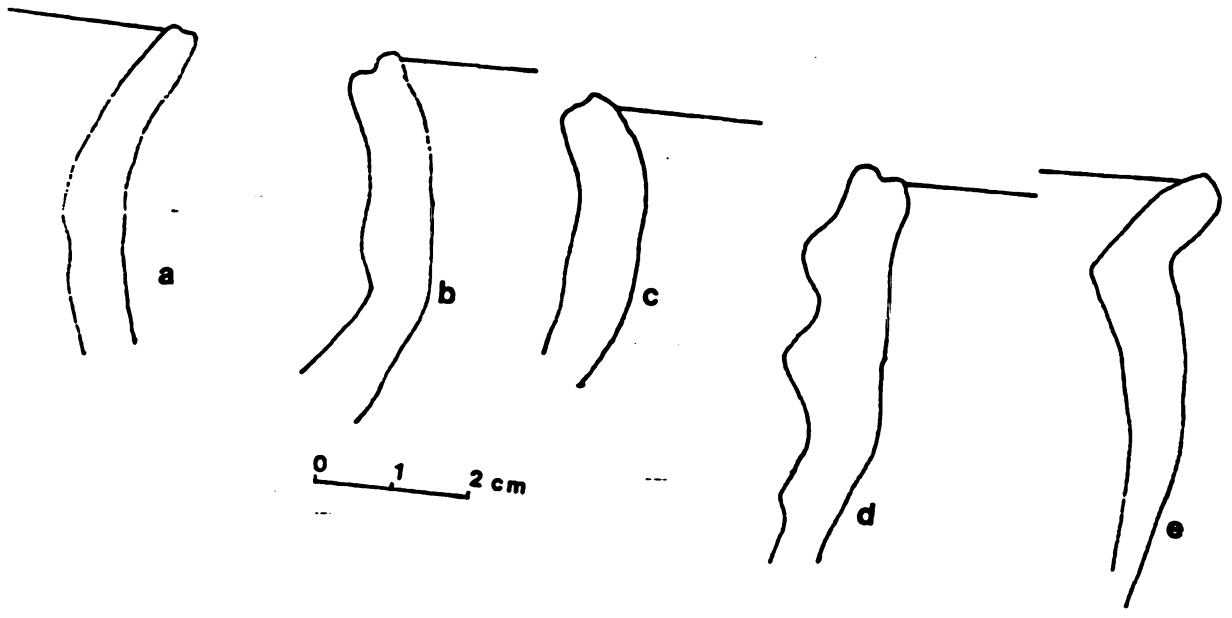


FIGURE 37: Level 121 Rim Cross Sections, Eko Abetu

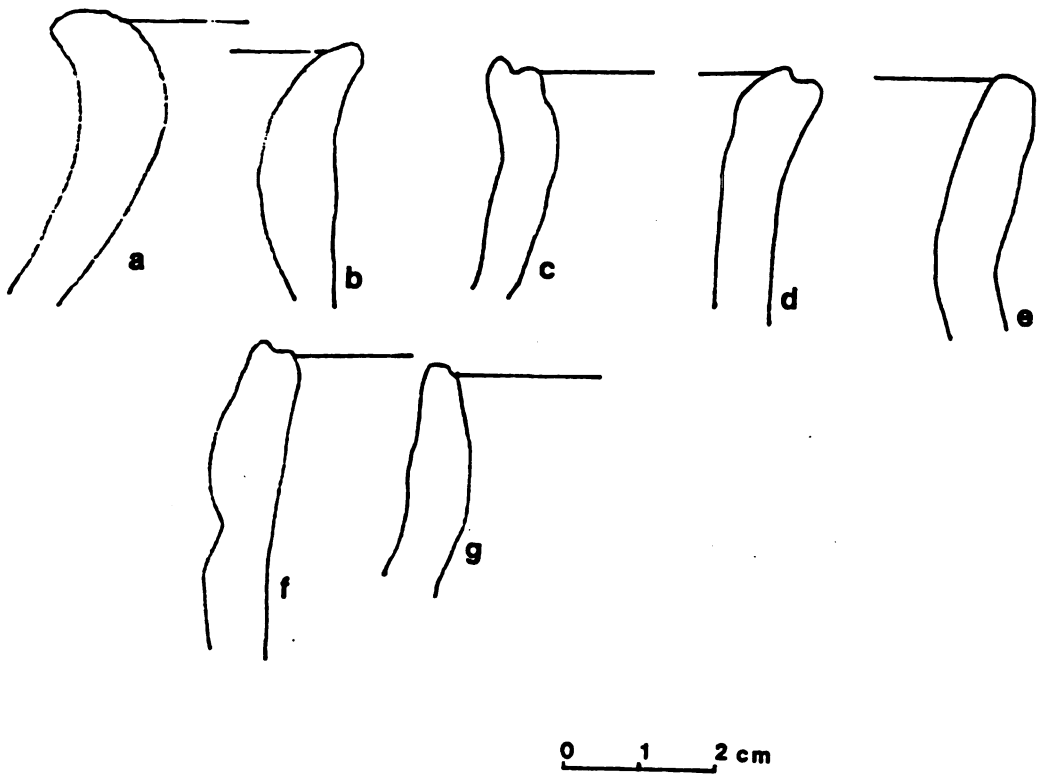


FIGURE 38: Level 122 Rim Cross Sections, Eko Abetu

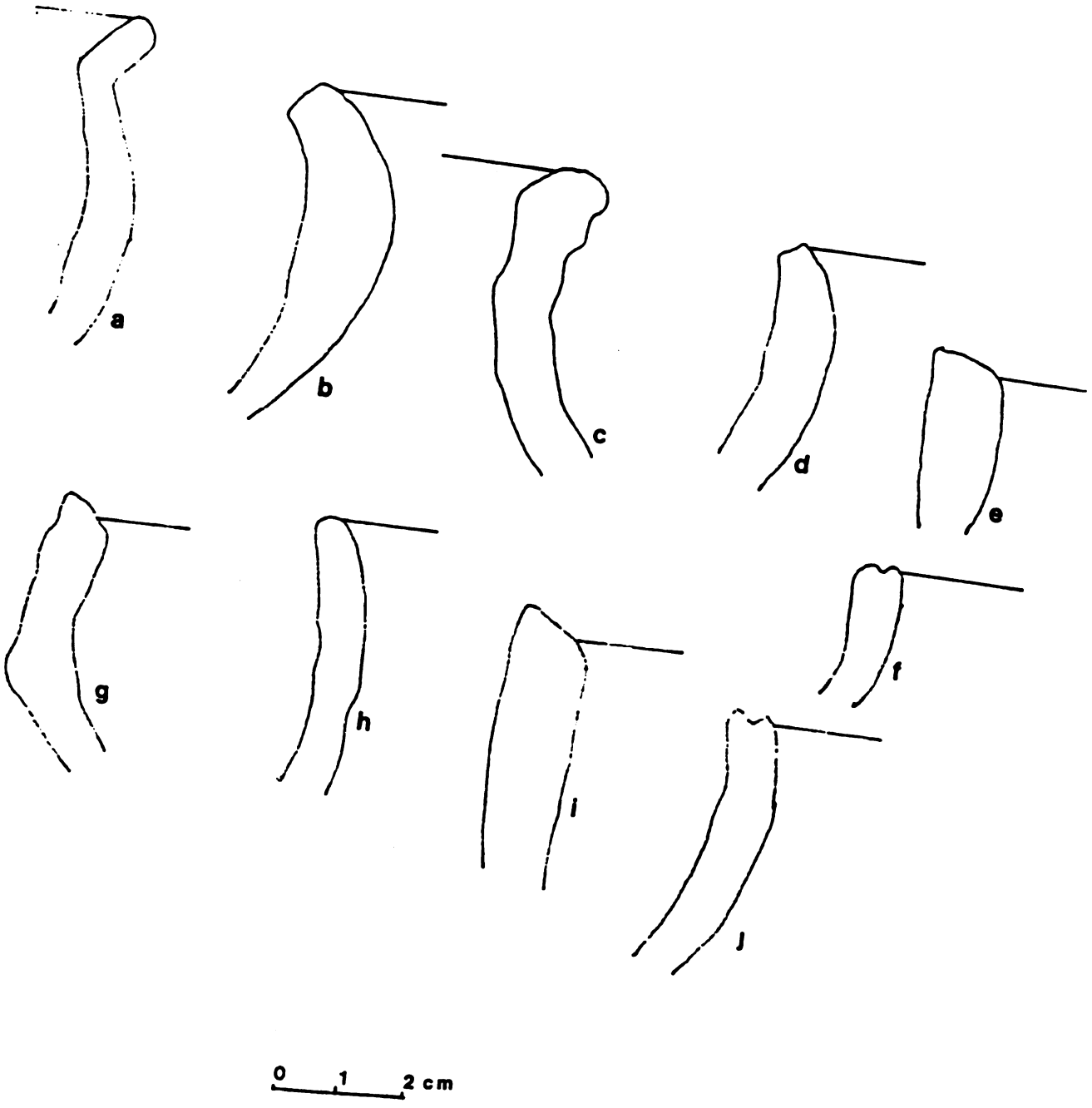


FIGURE 39: Level 123 Rim Cross Sections, Eko Abetu

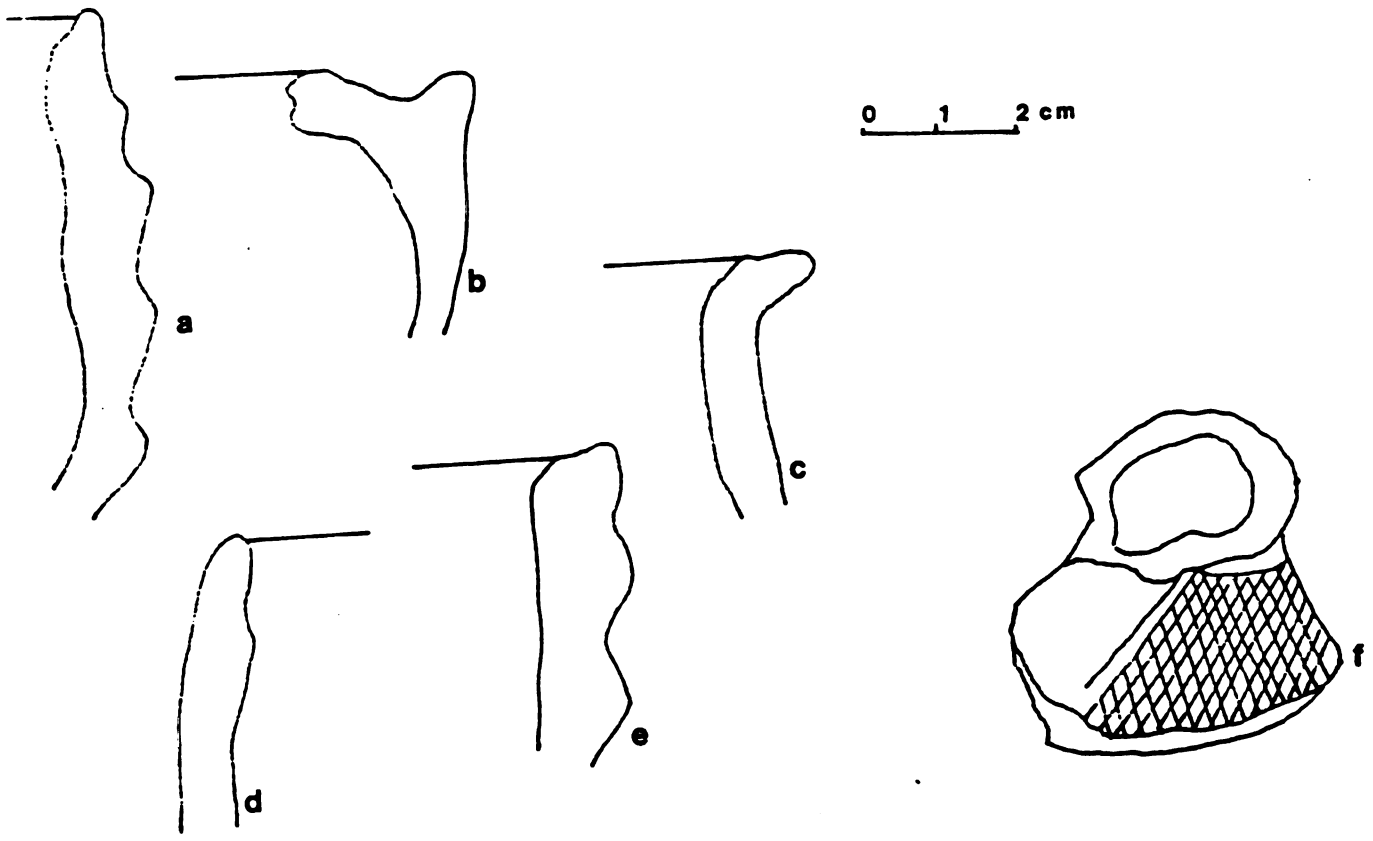


FIGURE 40: Level 133 Rim Cross Sections, Eko Abetu

FIGURE 42: Pottery Types, Eko Abetu

Type Label:

A. Water Pot

B. Narrow Neck Pot

C. Ledge Bowl

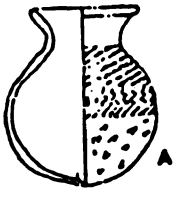
D. Inturned Rim Bowl

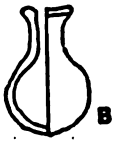
E. Hemispherical Bowl

F. Shouldered Bowl

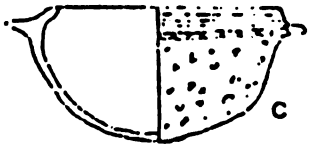
G. Globular Bowl

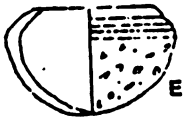
H. Flat Rimmed Heavy Bowl

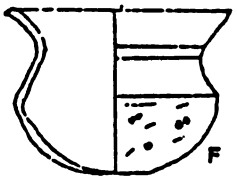

A

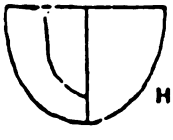

B

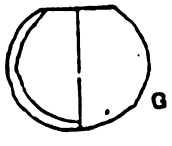

D


C


E


F


H


G

Scores for rim attributes are presented in Table (6-8) and for comparison between excavation units, this nominal data was transformed applying Jaccard's coefficient.(9) Jaccard, which is given by the following convention, from a 2 by 2 contingency table

$$Sj = \frac{a}{a + b + c}$$

expresses a similarity between paired components based on a comparable pair of attribute scores. "a" represents co-joint presences, and it is expressed as a proportion of the sum of all presences, ignoring co-joint absences. Jaccard's coefficient lies between 0 and 1, (Doran and Hodson 1975:140-142), where the lower end of the scale expresses maximum dissimilarity, while 1 indicates maximum similarity. Jaccard matrix is presented in Table 9 and this is clustered by the average linkage method(10) (see Figure 31). The cluster shows a clear distinction between the lower levels and the upper levels of the trenches (which appear to cluster on opposite poles), confirming the basic nature of the excavation deposits. Beyond this, very few other inferences could be drawn at this point.

The T-test, a powerful test for interval scale variables approaches normal distribution for large samples and corrects for the bias in the deviation of small samples.(11) The Null hypothesis for the paired comparison of sample means is set to determine (a) Ho: that differences

between means, due to chance and (b) Hi: that differences between sample means are not due to chance, or that there is significant patterning in the materials under observation.

The t-test formula for the estimation of mean differences is given by:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

where $\bar{x}$ represents sample mean

μ population mean

S^2 "pooled estimate" of variance between means.

n number of values in a sample.

$$S = \frac{(x_1 - \bar{x}_1) + (x_2 - \bar{x}_2)}{n_1 + n_2 + 2}$$

where:

$n_1 + n_2 + 2$ = degrees of freedom (df)

In the t-test formula above, the Ho Null assumption has it that population means are equal or that $\mu = \mu$, such that the formula becomes

$$\frac{(\bar{x}_1 - \bar{x}_2) - 0}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

The alternative hypothesis (Hi) is that $\mu \neq \mu$

T-test determinations which are presented in tables 10 and 11, show significant patterning between the pairs of 111/123, 112/123, 112/132, when alpha level is set at 0.01 (two-tailed).

Although, no distinction was made between pot and bowl rims in the t-test determinations, there seems to be a general tendency for earlier or older materials to be thicker and more crudely made. Age therefore, could partly account for these differences. This should not also preclude acitivity variations of a spatial character, that may have required the discrimination between one kind of pot and another. In some of the levels, as would be presented later, there is sometimes a marked differential frequency between pot and bowl vessels.

5.22 Decorated Body Sherds.

For the analysis of the decorated body sherds, a separate attribute list was segmented from the one already used for rims, as follows:

Attribute list for Decorated Body Sherds.

Grooved

Incised

Wavy-line

Carved wooden roulette

Twisted cord roulette

Stab/drag

Punctation.

This attribute list was decided upon for convenience and the fact that though a great deal of variation may occur within such groups as stab and drag, and punctation, these

variations could not be objectively isolated. The issue of the stab and drag has been mentioned in connection with rim attributes, and as would be seen in table for attribute frequencies of decorated body sherds (Table 12 - 14), stab and drag decoration is minimal on the body of pots. Punctation on the other hand is widely applied to the body of pots, and bowls, particularly towards the basal portions. The impression sometimes appear circular, lunates, oval, dotted etc. (Plate 5 - 9). What is common in all however, is that even though they may appear singly, or in groups, they appear to have been done with a single tool as distinct from punctates done with a comb for example. There was no particular case however, where there was doubt as to whether the punctate was done with a single tool or a comb. Comb appears to be absent. If such a case had existed, it would have probably been more convenient to group them together since the idea of punctation is the same. But when a comb is used for stab and drag, the idea is different. The point does not contradict the difference between grooved/incised and carved wooden roulette/twisted cord roulette for example.

Carved wooden roulette and twisted cord roulette can be conceptually separated. As was indicated by informants in 1982, at the Use pottery village near Benin, women potters cannot make the carved wood themselves. It requires special skill akin to stone tool making, to be able to carve the patterns on the wooden object (12). Only men

have this skill and this is an example of a point at which male contribution to the pottery process can be recognized on the pot. Women could make the twisted cord by themselves, since women were often better at plaiting fibres together. Yet, within these decorative techniques, there is a great deal of variation, depending on the kind of fibre and the particular inclination of the wood carver for example (see Plates 5-9).

The point of convenience as made above, is related to the method that was to be adopted for the transformation of the nominal scores arising from these attributes. The X^2 statistic was decided upon. It is simple and convenient, but become "cumbersome as the number of variables increases" (Doran and Hodson 1975:55). Like the t-test, the chi-square provide a method by which relationships or the lack of it between variables can be judged with some degree of confidence, following the works of Spaulding (1953). And like the t-test, the chi-square has been applied to the components from the excavation levels which are treated as units. As a non-parametric determination, the chi-square statistic does not assume like the t-test statistic, a normal population distribution to which the sample mean may fit.(13)

The chi-square statistic is given by the following convention:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

or, the sum of observed frequency (O), minus the Expected frequency (E), squared, divided by the Expected (E). Comparing each level with every other level, at the Eko Abetu site, a total of 55 chi-squares were computed as is shown in table 15, with chi-square critical set at 0.05. Degres of Freedom (df), is given by (row - 1)(column - 1). The result turns out to be very interesting and can be summarized as follows:

1. Trench B1 levels show marked disagreement between each other, partly suggesting a well stratified sequence. One can therefore say with some degree of confidence that the B1 levels are chronologically ordered and that this may relate to distinct historical formations. This agrees with the excavation information.

2. Across the X2 levels, there is no significant difference between the components. The near-by trench Y2 however, does show some significant disagreement between 131/132, 132/134 133/134. These two trenches as was revealed above are located within an area where building processes may have led to the disturbance of the deposits. This is probably what is reflected in the chi-square determinations. The

identification of the floor levels in trench Y2 and the fact that these appear to securely seal a rubbish or hearth provenence within level 3 below, appear to indicate that disturbance across the levels was only partial in Y2. X2, therefore appears to have been more disturbed. The markedly large sample of level 132 could also partly explain the differences involving 132. Between trenches X2 and Y2, differences between the levels are at best sporadic related in general to disturbance, a more stratified sequence in Y2 and the large level 132 sample.

3. Levels 112 and 113 do not appear to go with each other and with every other level in the site except with a few exceptions, namely: 112/121, 112/122, 112/124 and 113/124. Given the disturbance in X2, one could yet say with confidence that the two lower levels of trench B1 are markedly different from the upper level of B1 and the upper and lower levels of X2 and Y2.

4. Level 111 does show agreement (with some exceptions) with X2 and Y2 levels. This could mean that the last occupation (building phase of Y2 and X2 or the upper levels) is contemporary, or at least more closely related to 111 and that relationship between 111 and the lower levels of X2 and Y2 could have been indirect through disturbance or other sample characteristics.

5. These correlations, therefore suggest at least three occupation phases for Eko Abetu. An earlier phase represented by the lower levels (3 and 4) of X2 and Y2. The fact that levels 112 and 113 (together), do not agree with this early occupation, and the later and more recent levels, suggests a historical displacement of activities from X2 and Y2 to B1 location, during the deposition of 113 and 112. This ordered sequence has been graphically represented as in figure 33.

Some questions would however be raised as to the way in which this result would be affected had the bowl and pot rims been treated separately. The materials have therefore been sorted in a qualitative way addressed to a formal analysis.

5.3 Qualitative Analysis.

It was necessary to produce a general outline of the pottery forms and types from the northwest which can be used for comparative purposes. Cross sections of the diagnostic rim sherds have therefore been illustrated in figures 34 to 41. The pottery forms have been group into 8 types as follows : (see Figure 42).

Type A: Represented generally by everted rim sherds (Figure 34f; 35e, i, m, o; 36a, c; 38a, b, e; 39b, c, j; 41a, c, k, m, o, p). Variation in this form relates to size (height, volume etc) and the nature of the everted rim. Sometimes, the evertion may be very slight or the rim itself may be

slight or very angular and a tendency to an expanded or more voluminous body (Figure 39a) (Connah 1975 :122-124). This type, reconstructed in figure 42A is commonly decorated with twisted cord roulette followed by carved wooden roulette, below which may be various forms of punctation. The lip may have grooving. From personal knowledge, this type was used as a water pot for storage until recently.

Type B: Only one sherd of this type occurred in the sample, (Figure 41i), and cannot be mistaken because of it's long and narrow neck. The form probably looked like figure 42B and may have served as a handy flask for taking water to the farm. No decoration is present on the lone rim.

Type C: This is a ledge bowl. It is for general purpose, with a ledge, carination or ridge around it's greatest circumference. The height of the ledge may be much varied, associated with grooved patterns, stab/drag and slashed decorations (Figures 34q, r, u, w; 41f, h, e). see Figure 42C, The rims are uncurving or constricted.

Type D: The type resembles type C and it is also general purpose bowl. It may contrast with type C because of a low ridge which may be very reduced or absent. The pot generally looks smoother or more refined (Figures 34a, g, h, l, m, o; 35c, h, j, k; 40b; 41b) Figure 42D,

Type E: This is a popular grooved bowl, and may be very large or deep for storage or general purposes. This may also be called a hemispherical bowl. (Figure 34l, n, t, w, x; 35q, v, d; 40a; 41l, q, r). see Figure 42E.

Type F: This is a shouldered bowl for cooking soup. Connah (1975 :117-118) reports that this type also used to be placed in the bottom of house walls as foundation deposits. The bowls are also commonly used in shrines. The bowl features a sharp or angular shoulder, from where the rim leans inwards (Figure 42F). Unless care is taken, the rim may be confused for a necked pot (Figure 34b, c; 41d).

Type G: A globular little bowl, with a generally smooth curvature and slightly constricted mouth. This was a secure dish for picking seeds and grains by the women and also used for washing the hands or even for serving food (Figure 34p; 35u; 36f, g; 41f) (also see Figure 42G). No decoration was observed.

Type H: This is a coarse flat rimmed heavy bowl, which is probably very ancient. Connah (1975 :117), reports three possible uses for it: For washing hands; as a lamp container on the shrine of the god of medicine; and as container for wax by brass casters. (Figure 35n; 39e, i) (also see Figure 42H). No decoration was observed.

The vessel count from these types have been scored in table 16. The following points emerge from the frequencies of the types in the levels:

1. The thick walled type H vessels appear in level 3 of X2 and level 2 of B1, which may indicate more archaic occupation of these levels. In the Benin City center, this vessel has also been recognized as an archaic form (Connah 1975 :117, 196. Form F6).

2. Type A water pot is almost absent in 111. Pot/bowl ratio for this level is .09. On the other hand, the frequency of pot/bowl in 123 is comparatively high (2.33), and less so in 112, where pot/bowl ratio is 1.20. The remaining levels show a generally lower pot/bowl ratio. The ratio of .09 in level 111 is markedly low. The sample could be a problem in general, but since the use of these pots are sometimes differentiated, activity differences may be suggested. However, in association with stratigraphic information, statistical results, and design attributes on pottery, presented above, there is a clear distinction between the upper and lower levels of trenches X2 and Y2, and the way they relate to levels in trench B1.

5.4 Dating.

The following date was recieved from BETA ANALYTIC INC. Coral Gambles, Florida, USA (14).

Lab Number	Sample Number	Carbon-14 Age Years B.P. ± 100	A.D.
Beta-17078	EA/Y2/4 1/20/86	470 ± 100 B.P.	1480 ± 100

The calibrated figure for this date with 95 per cent confidence is A.D. 1432 (range 1280 - 1650) (Stuiver and Becker 1986:863-910).

Specimen EA/Y2/4 consists of charcoal from the Hearth material on top of level 4 of trench Y2, Eko Abetu site. The above date was supplied with the following information:

> the charcoal was pretreated by first picking out any rootlets, and then given our series of acid-alkali-acid soakings to eliminate carbonates and humic acid. The following benzene synthesis and counting of the radio-carbon activity with a liquid scintillation spectrometer proceeded normally.

Although one should not put too much weight on a single date, it however reinforces the correlation results of the excavation levels which suggest 3 phases of occupation of the Eko Abetu site. A date of 500 years ago could mean that a 100 year time period could represent a phase of occupation, and this is probably consistent with the cycle of birth and decay of mud wall villages in the forest region of West Africa. Also, the date is quite comparable to dates from occupation sites in the Benin City center (see chapter II).

5.5 Summary.

1. The Eko Abetu pottery has been analysed from both the quantitative and qualitative designs.

2. The correlation of T-test comparisons of rim thicknesses between excavation levels; cluster of Jaccard matrix, chi-square determinations, carbon 14 date, stratigraphy, and pottery typology has allowed this study to suggest three occupation phases for the Eko Abetu site - an early occupation of crude pottery; a distinct upper levels of most recent occupation, associated with house construction; and in between which, is a middle phase occupation, with materials which do not appear to go either with the lower or upper phase.

CHAPTER VI

CLASSIFICATION AND ANALYSIS 2

Spatial significance of Northwest Pottery.

In this chapter, analysis is addressed largely to the pottery recovered from the second phase of excavation from the Benin northwest.(8) At the Uwan site, a total of 2842 sherds were recovered from two trenches. As was done in Chapter V, for the Eko Abetu pottery, the Uwan materials have been analysed both quantitatively and qualitatively. As will be shown, the major result of the analysis reveals that there is a high degree of variability in the northwest Benin pottery. This variability has both temporal and spatial significance.

6.1 Qualitative Analysis

Qualitative analysis was initially addressed to the isolation of pot forms, and types from the Uwan excavation. What was immediately apparent even from the excavation, was that the mateials were quite different from the Eko Abetu types. In particular, pottery from the trench 420 was distinctively crude or coarse, lacking the surface finish or smoothening of the Eko Abetu forms. At first, it was suspected that the crude appearance was due to the lateritic weathering of the deposit, but the form and decoration analysis showed clearly that other factors could have been responsible.

Cross secions of the diagnostic forms have been illustrated in figures 43 to 50, These forms have been grouped into types (see Table 17). There are distinctively three new types but some types are shared with the Eko Abetu site (see Table 14 and Figure 42). The new types include the coarse pot (I), flared rim bowl (J), and the short neck bowl (K) (also see Figure 51). These forms or types and some decorative attributes they contain have been further illustrated in the photograph plates as follows:

Plate	10	Level 411 rims
	11	412 rims
	12	413 rims
	13	414 rims
	14	421 rims
	15	422 rims
	16	423 rims
	17	424 rims
	18	411 body
	19	421 body
	20	424 body.

Some decorations have been labelled on the plates as follows:

Decoration: a. carved roulette
b. stab/drag
c. frond impressed.

The new types can be described as follows:

Type I: This is a commonly grooved lip, and thick walled coarse pot. It is most prevalent in trench 420. This pot is similar to type A of Eko Abetu, in general form, but is so different in its roughened surface, thick wall and often grooved lip (see Figure 51I).

Type J: This is the flared-rim bowl, characterised by a pronounced rim hanging over a small body (Connah 1975 :118, and 128). (The type is illustrated in Plate 11, Figure 44, 46, 49). Connah reports that this bowl was used for washing the hands or eating or also sometimes used to cover "medicine", when this is set in a hole on the ground within the house compound. This pot form, which has an external ridge below the rim was not encountered in the Eko Abetu site.

Type K: This is the short neck bowl. Type K neck and rim are characteristically slight or reduced, almost in opposite form to the Type J rim. It is illustrated in figure 44K, Plate 12 and figure 51K.

Materials scored into types D and E (see Table 17) were quite varied particularly with respect to rim shape (e.g. the ridges, carination or grooving). E, which is the hemishperical bowl, was however distinguished from D by the larger depth of E. At the Uwan site, both appear to have

rims that are incurving. Many of the type E also have straight rims characteristic of the deep hemispherical bowls in the Eko Abetu site (see Chapter V).

On the whole however, one could see that the pots from the Uwan site show marked differentiation from the Eko Abetu site (about 8 kilometers away). The type frequencies scored in table 17 were further analysed into pot/bowl ratio which reveal as in the Eko Abetu case, (see table 14), that there is a general tendency for bowl forms to be better represented than the pot. Bowls have far more domesitc use than pots in cooking, serving, washing etc. Where pots show a higher frequency such as in level 414 and 422, for example, it must be explained by an alteration in behavior or some kind of localised activity. Pots were commonly used for storage (water, seeds etc) or for "heavy duty" cooking (such as cooking yams or oil palm seeds). Such activities may at times be communal such as during house building or early farming activities or also during festivals. The mode of deposition of refuse can also partly account for higher pot/bowl differentiation.

With respect to decoration, however, there is a general similarity between the Uwan and Eko Abetu sites. The decorations of grooving, incision (often with comb), stab/drag, twisted cord roulette, punctation, are present. This does not preclude proportional differences. Some of these decorations have been ilustrated in Plates 10 to 20,

(also see Figure 32 for schematic representation of decorative techniques). One key difference however, concerns the presence of the decoration that has been described as frond impressed. (15). This decoration sometimes looks like large twisted cord patterns, but apart from it being rather large, when compared with twisted cord, one could notice striations in the impressions. These striations are the negative impressions of palm frond veins (see Plate 18-20 c), This is probably what some other workers have described as coarse string roulette. (Darling 1984:223). This decoration was absent in the Eko Abetu site and it's presence at the Uwan site is a major difference because of its frequency. Some other decorative motifs have been illustrated in the Plates. The stab/drag for example, which did not come out very well in the Eko Abetu photographs can be observed in Plates 10-17 "b" (The "slashed" form of Eko Abetu appears absent here). Also see the carved wooden roulette illustrated (Plate 18a)

TABLE 17: Diagnostic Vessel Count, Uwan Site

Level	A	B	C	D	E	F	G	H	I	G	K	Vessel Count	Pot/Bowl Ratio
411			2	5	8				1	3		19	0.05
412		1	6	6	8				2	4	1	28	0.12
413				5	9	1			4	2	2	23	0.17
414					1				3			4	3.0
421				4	24				7	1		36	0.24
422				9	24				25		1	59	1.04
423				4	27				6	2	1	40	0.17
424				1	14				8	1		24	0.50
										TOTAL		233	

TABLE 18: Rim Nominal Scores, Trench 410, Uwan Site

	Flat 6	Round	Grooves	Everted Rim	Hatched Dec.	Carinated Interior	Larinated Exterior	Grooved Dec.	Incised	Stalo and Drag	Slashed Dec.	Comb Stamping	Curved Roulette	Twisted Cord Roulette	Stylus Punctation	Frond Impressed	Wavy Lines	Performation	TOTAL
1	11	31	5	15	5		21	28	17	7		9	5	9		2	2		167
2	8	13	17	1	1		26	4	10	1	3	5		4	5		2	1	101
3	16	34	9	23	3		36	39	18	7		7	1	8	12	4			217
4	2	4	2	4	1		3	6	1	2				2					27

TABLE 19: Rim Nominal Scores, Trench 420, Uwan Site

	Flat 61	Round Lip	Grooved Lip	Everted Rim	Hatched Dec.	Larinated Interior	Larinated Exterior	Grooved Dec.	Incised	Stalo and Drag	Slashed Dec.	Comb Stamping	Carved Roulette	Twisted Cord Roulette	Stylus Punctation	Frond Impressed	Wavy Lines	Perforation	TOTAL
1	11	53	23	16	2		36	41	17	16		1		15	2				233
2		36	30	30	9		30	53	1	11				1	2	2			205
3	11	32	15	15	7		39	52		9				21	15	2			218
4	9	33	11	19	1		29	36	3	16				2		1			160

TABLE 20: Jaccard Coefficient for Rim Variables, Uwan Site

	411	412	413	414	421	422	423	424	111	112	113
411											
412	.94										
413	.96	.97									
414	.85	.88	.91								
421	.98	.98	.98	.93							
422	.92	.93	.94	.97	.96						
423	.88	.94	.94	.90	.95	.97					
424	.95	.95	.94	.97	.98	.96	.95				
111	.81	.97	.92	.87	.95	.93	.94	.85			
112	.84	.88	.86	.96	.88	.95	.84	.92	.92		
113	.72	.63	.79	.92	.77	.83	.83	.89	.72	.81	

TABLE 21: Body Decorated Scores, Trench 410, Uwan Site

Level.	Grooved Dec.	Incised	Stab/Drag	Carved Roulette	Twisted Cord Roulette	Punctation	Frond Roulette	Wavy line	Total
411	6	15	2	32	89	137	120	2	403
412	6	3		10	19	46	36		120
413		2		6	23	50	32		113
414	3	1			6	17	6		33

TABLE 22: Body Decorated Scores, Trench 420, Uwan Site

Level	Grooved Dec.	Incised	Stab/Drag	Carved Roulette	Twisted Cord Roulette	Punctation	Frond Roulette	Wavy Line	Total
421	5	1	3	8	34	57	93	1	202
422	2	2	2	3	27	110	158		304
423					27	46	44		117
424	2	2		1	4	19	40		68

TABLE 23: Chi-Square Determinations for Body Decorated Scores, Uwan Site

χ^2 Observed	df		Grooved Fo	Grooved Fe	Grooved $\frac{Fo-Fe}{Fe}$	Incised Fo	Incised Fe		Stab/Drag Fo	Stab/Drag Fe		Carved Fo	Carved Fe		Twisted Cord Roulette Fo	Twisted Cord Roulette Fe		Punctation Fo	Punctation Fe		Frond Fo	Frond Fe	Roulette	Wavyline Fo	Wavyline Fe		T
411/412	7		6	9.2	1.1	15	13.8	.1	2	1.5	.16	32	32.3	.00	89	83.2	.4	137	141.0	.11	120	120	.00	2	1.5	.16	403
8.83			6	2.7	4.0	3	4.1	.29		.4	.4	10	9.6	.01	19	24.7	1.3	46	41.9	.40	36	35.7	.00		.4	.4	120
A		A	12			18			2			42			108			183			156			2			523
411/413	7		6	4.6	.42	15	13.2	.24	2	1.5	.16	32	29.6	.19	89	89.4	.02	137	146	.55	120	118.7	.01	2	1.5	.16	403
7.45				1.3	1.3	2	3.7	.78		.43	.43	6	8.3	.63	23	24.5	.09	50	40.9	2.0	32	33.2	.04		.43	.43	113
		A	6			17			2			38			112			187			152			2			516
411/414	7		6	8.3	.63	15	14.7	.00	2	1.8	.02	32	29.5	.21	89	87.8	.01	137	142.3	.19	120	116.4	.11	2	1.8	.02	403
16.07			3	.68	7.9	1	1.2	.33		.15	.15		2.4	2.4	6	7.1	.17	17	11.6	2.5	6	9.5	1.28		.15	.15	33
		R	9			16			2			32			95			154			126			2			436
411/422	7		6	7.3	.17	15	10.6	1.82	2	3.3	.51	32	26.6	1.09	89	81.9	.61	137	129	.49	120	141	3.12	2	1.9	.00	403
24.07		R	5	3.6	.54	1	5.3	3.48	3	1.6	1.22	8	13.3	2.11	34	41.0	1.19	57	64.7	.91	93	71	6.81	1	1.0	.00	202
			11			16			5			40			123			194			213			3			605
411/423	7		6	4.5	.5	15	9.6	3.0	2	2.2	.01	32	19.9	7.3	89	66.12	8.0	137	140	.06	120	158	9.1	2	1.1	.73	403
66-22		R	2	3.4	.57	2	7.3	3.8	2	1.7	.05	3	15.0	9.6	27	49.8	9.8	110	106	.15	158	119	12.7		.85	.85	304
			8			17			4			35			116			247			278			2			707
411/412	7		6	4.6	.42	15	11.6	.99	2	1.55	.13	32	24.8	2.0	89	89.9	.00	137	141	.11	120	93	7.8	2	1.56	.13	403
26.66		R		1.35	1.35		3.3	3.3		.4	.4		7.2	7.2	27	26.1	.03	46	41	.60	44	36.3	1.63		.4	.4	117
			6			15			2			32			116			183			164			2			520
411/424	7		6	6.8	.09	15	14.5	.01	2	1.7	.05	32	28.2	.51	89	79.5	1.1	137	133	.12	120	136	1.88	2	1.7	.05	503
27.6		R	2	1.1	.73	2	2.4	.06		.28	.28	1	4.7	2.9	4	13.4	6.5	19	22.5	.54	40	23	12.5		.28	.28	68
			8			17			2			33			93			156			160			2			471
412/413	5		6	3.0	3.0	3	2.5	.1				10	8.2	.39	19	21.6	.31	46	49	.01	36	35	.02				120
7.87				2.9	2.9	2	2.4	.06				6	7.7	.37	23	20.3	.35	50	46	.34	32	32.9	.02				113
		A	6			5						16			42			96			68						233

TABLE 23 (cont'd)

χ^2 Observed	df		Grooved Fo	Grooved Fe	Grooved $\frac{Fo-Fe}{Fe}$	Incised Fo	Incised Fe		Stab/Drag Fo	Stab/Drag Fe		Carved Fo	Carved Fe		Twisted Cord Roulette Fo	Twisted Cord Roulette Fe		Punctation Fo	Punctation Fe		Frond Fo	Frond Fe		Wavy Line Fo	Wavy Line Fe		T	Observed χ^2
412/414			6	7.0	.14	3	3.1	.00				10	7.8	.62	19	19.6	.01	46	49	.18	36	32.9	.29				120	
5.95			3	1.9	.63	1	.86	.02					2.1	2.1	6	5.3	.09	17	13.5	.9	6	9.0	1.0				33	
	A	5	9			4						10			25			63			42						153	
412/421		7	6	4.0	1.0	3	1.4	1.82		1.1	1.1	10	10.6	.03	19	19.7	.02	46	38.3	1.5	36	48	3.0		.37	.37	120	
15.23			5	6.9	.32	1	2.5	.9	3	1.8	.8	8	11.2	.91	34	33.3	.01	57	64.6	.89	93	80	2.1	1	.6	.26	202	
	R		11			4			3			18			53			103			129			1			322	
421/422		6	6	2.2	6.3	3	1.4	1.8		.5	.5	10	3.6	11.3	19	13	2.7	46	44	.09	36	54	6.0				120	
39.84			2	5.7	2.4	2	3.5	.6	2	1.4	.25	3	9.3	4.2	27	32.9	1.0	110	111	.00	158	139	2.5				304	
	R		8			5			2			13			46			156			194						424	
412/423		5	6	3.0	3	3	1.5	1.5				10	5.0	5		23	.69	46	46	.00	36	40	.4				120	21.51
				2.9	2.9		1.4	1.4					4.9	4.9	27	22	1.1	46	45	.08	44	39	.6				117	
	R		6			3						10			46			92			80						237	
412/424		5	6	5.1	.15	3	3.1	.03				10	7.0	1.2	19	14.6	1.3	46	41	.6	36	48	3				120	17.6
			2	2.8	.2	2	1.8	.02				1	3.9	2.1	4	8.3	2.2	19	23	.6	40	27	6.2				68	
	R		8			5						11			23			65			76						188	
413/414		5		2.3	2.3	2	2.3	.03				6	4.6	.42	23	22	.04	50	51	.01	32	29	.31				113	5.75
	A		3	.67	.16	1	.67	.16					1.3	1.3	6	6.5	.03	17	15	.26	6	8.5	.73				33	
			3			3						6			29			67			38						146	
413/421		7		1.7	1.7	2	1.0	1.0		1.0	1.0	6	5.0	.2	23	20	.45	50	38	3.7	32	44	3.2		.35	.35	113	
	R		5	3.2	1.0	1	1.9	.42	3	1.9	.63	8	8.9	.09	34	36	.11	57	68	1.7	98	80	2.1	1	.6	.25	202	17.91
			5			3			3			14			57			107			125			1			315	
413/422				.5	.5	2	1.0	1.0		.5	.5	6	2.4	5.4	23	13	7.6	50	43	1.1	32	51	7.0				113	
			2	1.4	.25	2	2.9	.27	2	1.4	.25	3	6.5	1.8	27	36	2.25	110	116	.31	158	138	2.8				304	31.03
	R		2			4			2			9			50			160			190						417	

TABLE 23 (cont'd)

Observed X^2	df	Grooved Fo	Grooved Fe	Grooved $\frac{Fo-Fe}{Fe}$	Incised Fo	Incised Fe	Incised	Stab/Drag Fo	Stab/Drag Fe	Stab/Drag	Carved Fo	Carved Fe	Carved	Twisted Cord Roulette Fo	Twisted Cord Roulette Fe	Twisted Cord Roulette	Punctation Fo	Punctation Fe	Punctation	Frond Fo	Frond Fe	Frond	Wavy Line Fo	Wavy Line Fe	Wavy Line	T	Observed X^2
413/423	4				2	.9	1.3				6	2.9	3.3	23	24	.04	50	47	.19	32	37	.67				113	
						1.0	1.0					3.0	3.0	27	25	.16	46	48	.08	44	38	.94				117	10.66
	R				2						6			50			96			76						230	
413/424	5		1.2	1.2	2	2.4	.96				6	4.3	.67	23	16	3.0	50	43	1.1	32	44	3.2				113	23.13
		2	.75	.66	2	1.5	.16				1	2.6	.98	4	10	3.6	19	25	1.4	40	27	6.2				68	
	R	2			4						7			27			69			72						181	
414/421	7	3	1.1	3.28	1	.2	3.2		.4	.4		1.1	1.1	6	5.6	.02	17	10.3	4.3	6	13.9	4.5		.1	.1	33	
		5	6.8	.47	1	1.7	.28	3	2.5	.1	8	6.8	.21	34	34.3	.00	57	63.6	.68	93	85	.75	1	.8	.05	202	19.44
	R	8			2			3			8			40			74			99			1			235	
414/422	6	3	.48	13.23	1	.29	1.73		.19	.19		.29	.29	6	3.2	2.25	17	12.4	1.7	6	16.0	6.25				33	
		2	4.5	1.38	2	2.7	.18	2	1.8	.02	3	2.7	.03	27	29.7	.26	110	114	.14	158	147	.82				304	28.47
	R	5			3			2			3			33			127			164						337	
414/423	4	3	.66	8.2	1	.22	2.76							6	7.26	.2	17	13.8	.74	6	11	2.27				33	
			2.34	2.34		.78	.78							27	25.7	.06	46	49	.18	44	39	.64				117	18.17
	R	3			1									33			63			50						150	
414/424	5	3	1.6	1.2	1	.98	.00					.32	.32	6	3.2	2.65	17	11.7	2.4	6	15.0	5.4				33	
		2	3.3	.51	2	2.0	.00				1	.67	.16	4	6.7	1.0	19	24.2	1.1	40	30.9	2.67				68	17.21
	R	5			3						1			10			36			46						101	
421/422	7	5	2.7	1.9	1	1.1	.00	3	1.6	1.2	8	4.3	3.1	34	24	4.1	57	66	1.2	93	100	.49	1	.3	1.6	202	
9.07		2	4.2	1.1	2	1.8	.00	2	3.0	.33	3	6.6	1.9	27	36	2.25	110	100	1.0	158	150	.42		.6	.6	304	
	R	7			3			5			11			61			167			251			1			506	
421/423	7	5	3.1	1.1	1	.6	.26	3	1.8	.8	8	5.0	1.8	34	38	.42	57	65	.98	93	86	.56	1	.6	.26	202	
16.64			1.3	1.8		.36	.38		1.1	1.1		2.9	2.9	27	22	1.1	46	37	2.1	44	50	.72		.36	.36	117	
	R	5			1			3			8			61			103			137			1			319	

TABLE 23 (cont'd)

Observed χ^2	df	Grooved Fo	Grooved Fe	Grooved $\frac{(fo-fe)^2}{fe}$	Incised Fo	Incised Fe	Incised	Stab/Drag Fo	Stab/Drag Fe	Stab/Drag	Carved Fo	Carved Fe	Carved	Twisted Cord Roulette Fo	Twisted Cord Roulette Fe	Twisted Cord Roulette	Punctation Fo	Punctation Fe	Punctation	Frond Fo	Frond Fe	Frond	Wavy Line Fo	Wavy Line Fe	Wavy Line	T
421/424	7	5	5.2	.00	1	2.2	.65	3	2.2	.29	8	6.7	.25	34	28	1.2	57	56	.01	93	99	.36	1	.74	.12	202
11.08		2	1.7	.05	2	.75	2.0		.75	.75	1	2.2	.65	4	9.5	3.1	19	19	.00	40	33	1.4		.25	.25	68
A		7			3			3			9			38			76			133			1			270
422/423	6	2	1.4	.25	2	1.4	.25	2	1.4	.25	3	2.1	.38	27	38.9	3.64	110	112	.03	158	145	1.16				304
20.61			.55	.55		.55	.55		.55	.55		.83	.83	27	15	9.6	46	43	.20	44	56	2.3				117
		2			2			2			3			54			156			202						421
422/424	6	2	3.6	.68	2	3.2	.68	2	1.6	.1	3	3.2	.01	27	25	.16	110	105	.23	158	161	.05				304
8.11		2	.73	2.2	2	.73	2.2		.36	.36	1	.73	.09	4	5.6	.45	19	23.5	.86	40	36	.44				68
A		4			4			2			4			31			129			198						372
423/424	5		1.26	1.26		1.26	1.26					.63	.63	27	19.6	2.79	46	41	.60	44	53	1.52				117
22.5		2	.73	2.2	2	.73	2.2				1	.36	1.1	4	11.3	4.7	19	23	.69	40	30	3.3				68
R		2			2						1			31			65			84						185

TABLE 24: Weight of Sherd Analysis, Trench B1, Eko Abetu

Level	Total Sherd	Weight (g)	Weight/Sherd	Weight/CC. x 10-4
1	225	5510	24.4	17.2
2	558	5690	10.1	17.7
3	127	1525	12.0	4.7
4	6	50	8.3	.10

TABLE 25: Weight of Sherd Analysis, Trench X2, Eko Abetu

Level	Total Sherd	Weight (g)	Weight/Sherd	Weight/cc x 10^{-4}
1	176	1900	10.7	6.3
2	101	840	8.3	2.8
3	143	1700	11.8	5.6
4	53	670	12.6	2.2

TABLE 26: Weight of Sherd Analysis, Trench Y2, Eko Abetu

Level	Total Sherds	Weight (g)	Weight/Sherd	Weight/cc. x 10^{-4}
1	110	1000	9.0	3.3
2	424	7500	17.6	25.0
3	140	2180	15.5	7.2
4	20	250	12.5	.80

TABLE 27: Weight of Sherd Analysis, Trench 410, Uwan

Level	Total Sherd	Weight	Weigth/Sherd	Weight/CC x 10^{-4}
1	706	7998	11.3	28.5
2	371	4738	12.7	16.9
3	300	3410	11.3	12.1
4	59	1050	17.7	3.7

TABLE 28: Weight of Sherd Analysis, Trench 420, Uwan

Level	Total Sherd	Weight	Weigth/Sherd	Weight/CC x 10^{-4}
420				
Level				
1	490	7150	14.5	22.3
2	516	9930	19.2	31.0
3	298	6540	21.9	20.4
4	167	4450	26.6	13.9

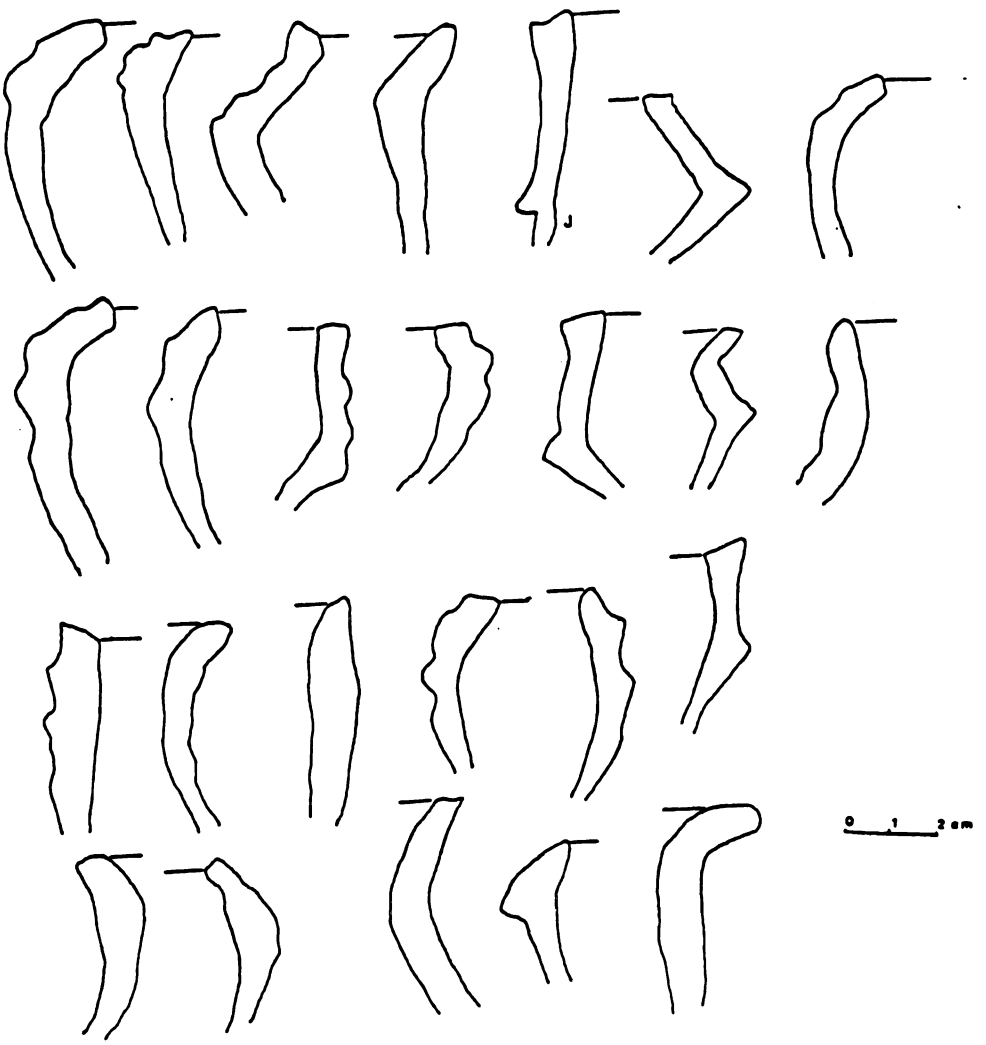


FIGURE 45: Level 413 Rim Cross Sections, Uwan Site

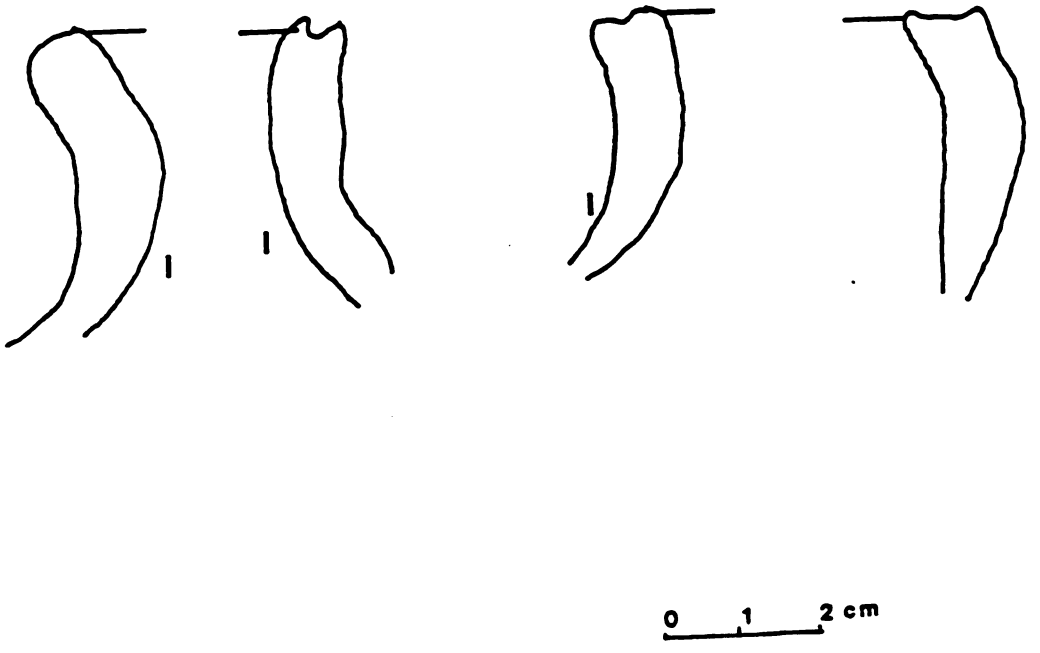


FIGURE 46: Level 414 Rim Cross Sections, Uwan Site

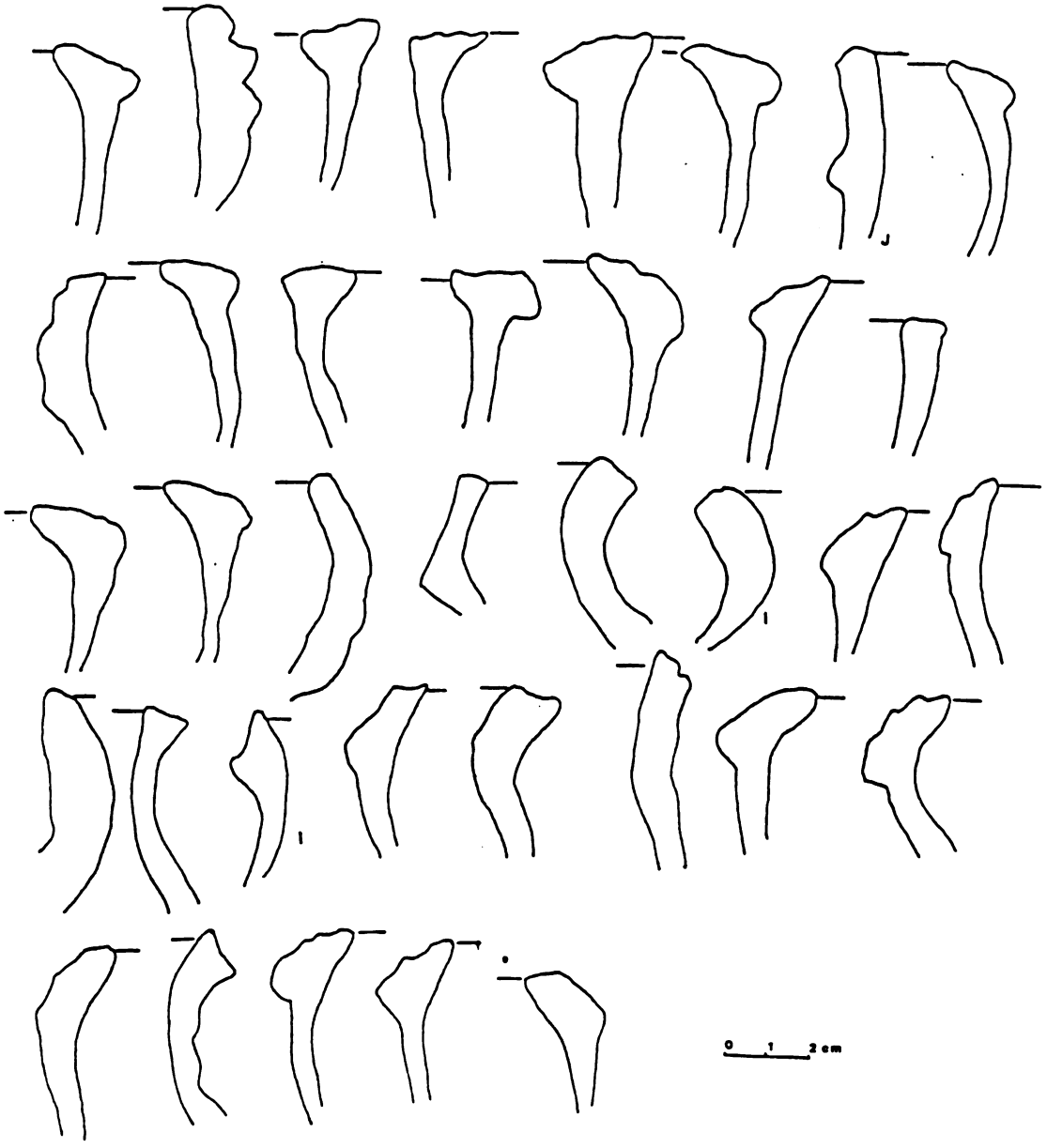


FIGURE 47: Level 421 Rim Cross Sections, Uwan Site

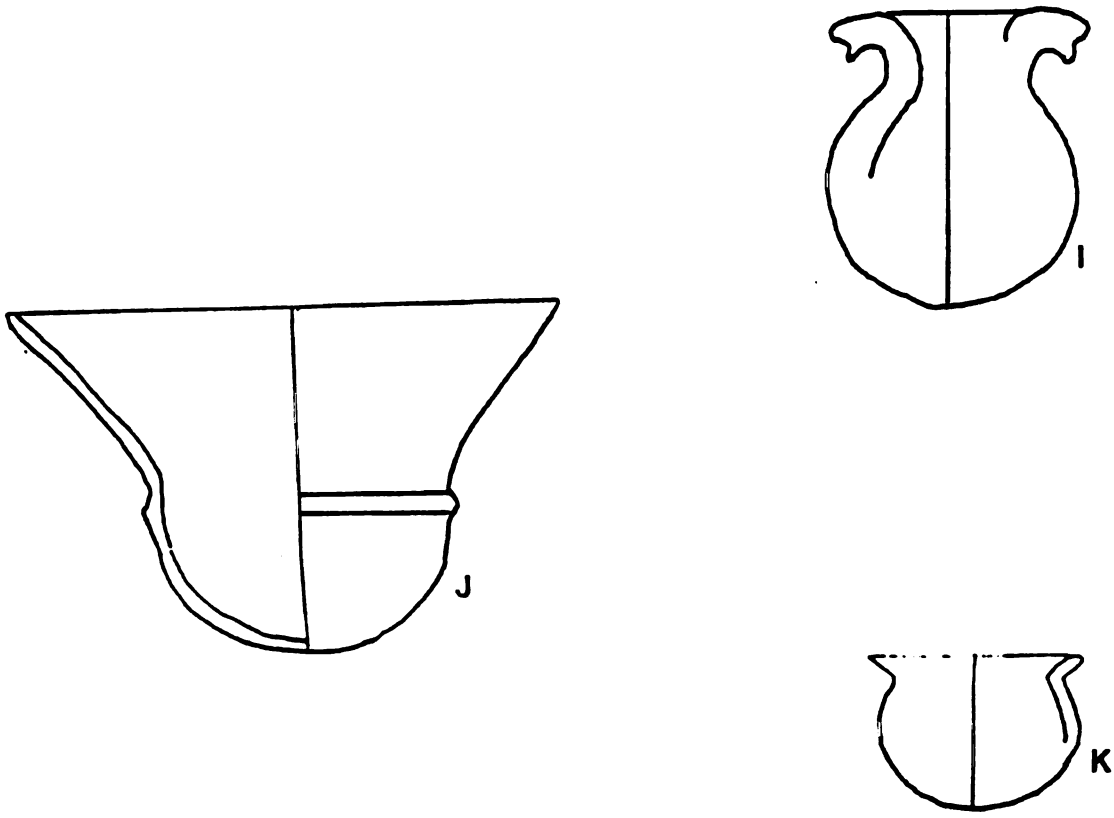


FIGURE 51: New Pottery Types, Uwan Site

Type Label:

I. Grooved Lip Thick-walled Coarse Pot

J. Flared Rim Bowl

K. Short Neck Bowl

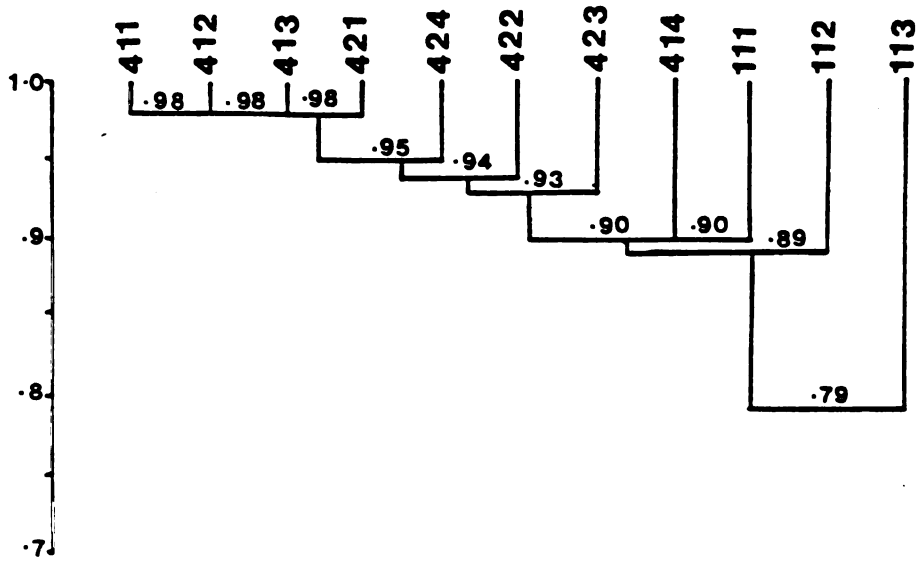


FIGURE 52: Dendrogram Cluster for Jaccard Coefficient, Uwan Site

6.2 Quantitative Analysis:

On the basis of the qualitative attribute dimensions discussed above, and following from the attribute list already generated for the Eko Abetu materials, (see Chapter V), the following rim attributes were used for quantitative purpose for the Uwan site pottery:

Flat lip
Round lip
Grooved lip
Everted rim
Hatched decoration
Carinated exterior
Grooved decoration
Incised
Stab/drag
Slashed
Comb stamping
Carved roulette
Twisted cord roulette
Punctation
Frond impressed
Wavy-lines
Perforation.

Each attribute present on each sherd was scored 1, level by level, and tables 18 and 19 show the frequency of attributes for trenches 410 and 420 respectively . This data

was transformed with the Jaccard coefficient (see Chapter V). As a form of control, materials from the trenches 410 and 420 were compared with one another and with materials from trench B1 of the Eko Abetu site. B1, from Eko Abetu was chosen because it has the best stratified sequence. Jaccard coefficients are scored in table 20 and this result was again clustered by the average cluster method. (see Figure 52), The result is quite remarkable in that materials from each trench essentially cluster separately. In a sense, this reflects what was ordinarily visible (i.e. differentiation).

Apart from the demonstration of this differentiation, it is important to explain why it exists. Is this differentiation due to temporal or spatial factors? Which is the older part of the chain? These are difficult questions to conclusively answer. An absolute date would help matters here but comparing the vessel forms on tables 14 and 17, from the Eko Abetu and Uwan sites respectively, one could say that pottery forms from trench 410 are more similar to those of Eko Abetu. For example, type C bowl with pronounced external ridges or carination is absent from the 420 trench but fairly represented in trench 410 of Uwan and the Eko Abetu site. Even some materials from trench 410 have surface smoothening like the Eko Abetu pottery, but unlike the coarse forms from trench 420. This is suggestive that trench 410 deposit may be younger than 420. (note that the Eko Abetu time sequence is fairly well established).

However, apart from this time dilemma, the differentiation shown by the northwest materials has other cultural or behavioral implications. It could reflect behavior addressed to localised points. This point is reinforced below by the statistical test results on body decoration.

The second qantitative analysis was performed on the data for body decorative scores from the trenches (see Tables 21 and 22). The body decorative attributes are as follows:

Grooved decoration
Incised
stab/drag
Carved roulette
Twisted cord roulette
Punctation
Frond impressed
Wavy-lines.

As with the Eko Abetu materials, the data was transformed with the chi-square statistic, and with alpha set at 0.05 (see Table 23). Out of the chi-square statistics computed for 28 pairs of comparison of the excavated levels, only 7 results show significant similartity. The rest show significant dissimilarity. This result further illustrates the general high level of variability in the northwest of Benin pottery.

Looking at the pottery density on the whole, furthermore, one sees that the sites may have also supported varying degrees of activities in the past. In tables 24 to 28, the pottery sherds are compared with their weights on one hand, and weight of sherd is compared with unit volume of space on the other. Fragmentation could partly account for the weight per sherd, which says very little culturally, but in the case of weight of sherd per unit volume, the results reflect a general tendency for high weight index as one goes up the levels. This higher index could suggest higher intensity of occupation, the growth of local population, or possibly other unknown factors. When put together, these results indicate a changing pattern of population, characteristic of growth, as well as a general mobility of perhaps a segment of the population associated with pottery making. One is however not able to say whether the growth pattern in population may have been dramatic as in migration for example.

CHAPTER VII.

INTERPRETATION

In Chapter VII, the biases in methodology and analysis are initially identified so as to isolate the strengths and weaknesses of the results. In spite of some inevitable problems, the point is made that corroborative evidence from different angles allow the investigator to suggest interpretive models for the results. This is done by relating specific results and other evidence to the five assumptions proposed in Chapter III.

7.1 Bias

The following set of biases can be identified in the methodology and analysis of the northwest artifacts.

7.11 Choice of Site Location

As has been pointed out, the northwest was decided upon for this research on the basis of previous work in the area and the existence of a base map (see Figure 14). Secondly, the choice of particular site location such as Eko Abetu and Uwan Living site was based on the reconnaissance survey of 1982. The surveys were carried out by methods that might be considered as subjective. Regional survey data on archaeological sites do not exist in the area. Sites were identified on the basis of information provided by local informants, walking through farm paths and clearings and

the presence of cultural features and artifacts. This was the most practical approach, but it is informative to indicate that methods can be applied which seek to sample and identify sites objectively, both on a regional basis and for within site decisions. More objective probabilistic methods have been applied to wooded conditions (e.g. Lovis 1976) that are of potential interest to tropical forest environments. Also, surface distribution of artifacts can be objectively related to subsurface materials through the systematic intensive surface collection method (Redman and Watson 1970)

7.12 Archaeological sample and population

This is a recurrent problem in archaeological methodology. That is, how much an archaeological sample represents the archaeological population. It is assumed in this study, that the assemblage samples represent their respective populations. This is not necessarily correct. Depending on the complexity of the cultural environment under consideration, specific sampling strategies (probabilistic in nature) can reduce or eliminate skewness in the bias related to representativeness of archaeological sample. (Also see Lovis 1976).

7.13 Unsieved excavation deposit

This problem has already been partly answered by saying that by the experience of the investigator in working on comparable sites in Nigeria, it was considered appropriate to

probe carefully with a trowel. This method would have been sensitive enough to the mainly expected pottery artifacts. It can also be added that practical considerations of time, money and personnel were in general, constraining factors.

7.14 Arbitrary levels and problem of disturbance.

Arbitrary excavation levels were dug as much as possible following the shape of the ground surface. Mixture of materials between the natural layers was however an expectation, since arbitrary levels may not necessarily follow the natural profile. The role of analysis is partly to identify this kind of bias or correct for it. For example, in the Eko Abetu site, although technically, 11 arbitrary levels were dug in the 3 trenches, the 11 levels were correlated into 3, based on several analytic deductions e.g. the stratigraphy, chi-square results, t-test, Jaccard coefficient, carbon 14 date and vessel typology. Even disturbance by previous artificial processes can be detected in an analysis. Notice for example that the disturbance of pits in the trench 410 of Uwan site, (which were identified in the first 3 excavations levels) is clearly expressed in the chi-square results. Chi-square results for levels 411/412, 411/413 and 412/413, all show significant similarity. If the investigator did not have the independent stratigraphic information, other explanations (e.g. function or persistence) for the significant patterning of the levels

might have been suggested. The point however, is that the arbitrary levels were not treated in isolation.

7.15 Over-representation of attribute units

There can be low or over representation of artifact or attribute units within a sample or an assemblage. An example of over-representation is a condition where a large pot breaks into several small sherds. It's design attributes would then tend to be over-represented (Shapiro 1984:700-701), especially when sherds are the units of analysis as has been done in this study. This bias could be corrected by working with percentages. Then, the mathematical transformations the investigator has carried out on nominal data may not be applicable, but since this problem could be assumed to exist across the levels, it could be ignored, as the investigator has done in this research.

7.16 Vessel count

In establishing the vessel count in an assemblage, this invesigator usually wanted to establish the minimum vessels based on the diagnostic rim sherds. Sherds that were too small were discarded, but there could be a tendency to pay more attention to small sherds in a small sample and ignore similar sherds in a large sample. Attempts were made to avoid this bias in the study.

7.17 Personal bias

Personal bias can occur due to differences in judgement. Also, bias of judgement can occur when certain distinct attributes also appear to exist in a continuum. An example of this is related to the frond roulette decoration, which may merely look like large twisted cord roulettes. In this study, the investigator was fairly confident that frond impressed apart from a coarse or large nature, tend also to have the negative impression of palm frond veins on them. In general, efforts were made to avoid personal bias.

7.2 Interpretive Models

In spite of the difficulties and inevitable bias in this research, results and existing evidence on Benin can be related (to some extent) to the assumptions proposed in Chapter III.

7.21 Assumption 1: Associations between artifact types or design attributes on artifacts can reflect temporal or historical significance.

In relation to this assumptions, stratigraphic evidence alone shows that in both the Eko Abetu and Uwan living sites, two distinct cultural deposits are commonly represented over a depth of about 1 meter. Some of the trenches show a third mantle of humus layer more than others. Except in trenches where disturbance create artificial mixture, such as trench X2 of Eko Abetu and 410 of Uwan, the two cultural deposits clearly relate to distinct historical formations. A 15th

century carbon 14 date from the lower deposit of Eko Abetu, indicates that the lower deposit of Eko Abetu probably dates to the last 500 years.(16) It does not follow that one cultural deposit follows the other without a break or that the deposits or components are necessarily contemoporary, or that other components may not exist on the northwest. In fact, the absence of any absolute date from the Uwan Living site, has made it difficult to stratigraphically relate the Eko Abetu and Uwan sites together. Dating evidence such as the frond impressed/twisted cord roulette, suggested by Darling (1984), is, in the opinion of the invesstigator not secure. Stratigraphic evidence in the Benin area, needs to be provided to prove that the twisted cord (fine) is earlier than the frond impressed.

However, chi-square determinations on body decoration has allowed the investigator to group the Eko Abetu deposits into 3. By the association of the two lower excavation levels (which can be assumed to correspond to the lower cultural deposit) of X2 and Y2 and the non-association of these with both their upper levels and the levels of B1, these lower levels of X2 and Y2 can be said to belong to the early occupation of the site which occurred about 500 years ago. By the lack of association of the lower levels of B1 with its upper levels, and the levels of trenches X2 and Y2, these two levels of trench B1 represent a gap in the

utilisation of the X2 and Y2 location. This was therefore a middle phase occupation of the Eko Abetu site. The recent occupation of the site relate to the building phase of X2 and Y2, and the recent pottery in level 1 of trench B1. A 3-phase occupation of the Eko Abetu site would be consistent with an average of about 100 years life span for each phase. This time span may correspond to the life and decay of mud wall villages in West Africa. The t-test and cluster of Jaccard matrix generally support this correlation (see figure 33). This sequence relates well to the Benin City chronology.

The investigations of Connah (1975, Ryder 1975:243), indicates that Benin palaces were established at about the 13th century. The Benin system of territorial and defensive earthworks are thought to have been constructed by about the 15th century by Oba Ewuare. From about the 17th century, the kingship was transformed from a "warrior" ruler into a "ritual figure rigorously secluded within the palace" as is suggested by the intensive use of the palace during the middle phase occupation of the Clerk's Quarter's site. In 1897, the colonial period sets in as the Oba was barnished to Calabar by a British punitive force.

It would therefore appear that the Eko Abetu was first occupied around the period of Ewuare. It is in fact usual for people on the northwest and north of Benin City to attribute the origin of their settlements to the reign of Oba

Ewuare. (Egharevba 1968). Informants told the investigator that the Uwan and Ogbogiobo (close to Uwan) villages were established by members of the Benin royal family during the period of Ewuare. However, it has been possible in this research to suggest a chronology for the Eko Abetu site on the basis of artifact associations. The Eko Abetu sequence looks like a reasonable chronology for the northwest, going by the Benin City sequence. Oral historical data in general agree that settlements around Benin post-date Benin City itself.

7.22 Assumption 2: Distinct ethnic or population groups are expressed in the archaeological contexts as lack of association between artifact types.

In Iron Age studies in East and southern Africa, stylistic cultural attributes have been used successfully to identify ethnic or linguistic groups and their historical movements. For example, East African Early Iron Age peoples are often distinguished by comb stamped decoration on ceramics as distinct from roulette decoration of the Nilotic peoples of the north (Huffman 1982:132). The point here is whether the cultural phases identified on the northwest can similarly be said to relate to distinct ethnic traditions. Several lines of evidence argue on the contrary, or that there is continuity of the northwest deposits to present local Bini people.

The point has already been made that some of the northwest settlements were established by people from the

city center. Also, although the Eko Abetu and the Uwan living sites can be distinguished by some pottery types (see Figures 42 and 51) and decorative motifs, such as the twisted cord and frond impressed, for example, these attributes are not unique to the northwest. All the pottery types identified on the northwest have been similarly identified at the city center, and roulette and comb stamped decorations are widespread in the Edo speaking area. This is indicative of the continuity and homogeneity of the tradition. Fortunately, historical records which date to the late 15th century, also suggest continuity in the tradition in spite of some conflicting reports (Connah 1967:597-598, Ryder 1965). At least the pottery tradition does not suggest a break or ethnic differentiation.

7.23 Assumption 3: There is a relationship between artifact variability or variability of design attributes on artifacts and the settlement and residence type.

Closely connected to the idea of continuity in the tradition is the need to explain what is responsible for the observed variability in the northwest pottery. In the analysis, pottery variability, based mainly on chi-square determinations and cluster of Jaccard matrix, highlighted two key explanatory variables, namely, temporal and spatial. But the point is that the attribute distinctions both temporally and spatially relate to behavioral differentiations within a continuous tradition.

Although the variability does not specifically identify pottery types, it can suggest site function indirectly, for example. But what kind of function? Bini people identify pot form and it's function as follows: (Connah 1975:115-133, Thomas 1910b, Omokhodion 1986b)

Akhe: This is commonly a necked pot but may also be a globular pot or large forms of type E of Eko Abetu site (see Figure 42). The general purpose is for storage of water or grains. They are also used for heavy duty cooking e.g. cooking yams for a community workforce or for cooking oil palm seeds. The small form of the pot (ovbi-akhe - meaning small pot) is regularly used to cook yams for the immediate family, depending on the size of the family unit.

Uwawa This term generally refers to bowls, used for cooking soup and serving food (see Figures 42C,D,F and 51J, K). Similarly, a small bowl is described as ovbi-uwawa.

Ukpabor The word literally means "for washing the hand". Forms (Figures) 42G and 51K can be used for this purpose. They are usually small bowls.

The point in the above is that pot use amongst the Bini people is quite limited (from narrow options) and persistent. The regular use of a pot is for cooking yams and soup. This is a persistent cultural behavior. Traditionally it was common for families to cook and eat yams three times in a day.(17) Repetitive cultural function cannot confer

variability. Because of the degree of regularity of design elements, recombination (which causes variability in design attributes) is a funtion of the mobility of pot producers and carriers. Specialised purpose use of pots, for example, as in ritual contexts, (ritual function is often culturally mute, and hence difficult to identify) is unlikely to create a distinction in pottery analysis, since the same regular pots are often used for ritual offerings. Models of seasonal activities would be difficult to apply to highly sedentary yam farmers. Temperature, which is a severe seasonal determinant in temperate climate is not a significant variable under tropical conditions. Even if someone wished to relate the limited function to the pottery type, the chi-square calculations were based on body decoration, and decoration may not be expected to express function. Differences in pot form are more expressed on the rim than on body decoration. Also there is no evidence for labor-intensive production of pots in Benin. (Feinman et al 1981, Upham et al 1981). Production of Benin pottery was part-time, unspecialized and a village activity.

A compelling explanation for pottery variability on the northwest therefore, must account for the recombination of persistent design attributes. This would be the case where women who produce and carry the pottery have limited design vocabulary and are mobile in post-marriage residence. This point is consistent with a patrilocally based social system,

and Benin tradition is a typical example. Mobility in post-marriage residence does not imply descent. Patrilineality may only be expressed as an inference of patrilocality, given the context. The conclusion draws confidence from the studies of Deetz (1965) who has similarly related stylistic variability in American Indian Arikara ceramics to the changes in marriage and residence pattern.(18).

Cultural persistence, pottery variability and patrilocality in Benin, fit very well the continuity in tradition already identified. Variability is reinforced by the characteristic non-sororal polygyny. Different pot carriers come to reside in the same location or different women produce different pots in the same location. However, the problem of representativeness of sample, makes this a tentative conclusion.

7.24 Assumption 4: The relative occurrence of artifact type (or categories), between sites, can indicate a kind of exchange configuration which includes class and privileged access between sites or centers.

Relationships between the northwest and the city center on the basis of occurrence of exotic or valued objects are fairly clear. There are few long-distance trade items in the northwest deposits. In level 4 of trench X2, Eko Abetu site, there is a small cowrie (probably of the moneta specie), and two gun flints. European bottle glass is present in the most recent level of trench B1 of Eko Abetu, and levels 1 and 3 of trench 410 of the Uwan living site. The spaces sampled

on the northwest and the city center (Connah 1975) are not directly comparable. Larger trenches have been excavated on the city center, but the occurrence of beads (?glass) in the city center and the absence of it on the northwest is quite significant (see tables 7, 10 of connah 1975). Glass beads (a European import) were valued as ornaments, or often as symbols of rank to present day. In association with other lines of evidence, however, the city center was clearly a controlling center and the northwest like other outskirts settlements must have acted as service communities, providing farm produce to the city center or providing men for the military. Bradbury has illustrated the controlling mechanism adopted by Benin in trading relationship with Europeans.

> No "foreign" traders from the interior were permitted to operate in the Benin kingdom itself, and stringent controls were exercised over the waterside commerce with European and Itsekiri merchants. Heavy dues were demanded from visiting ships, the Oba's monopolies in certain exports strictly enforced, and general trading was allowed when he and his chiefs had completed their business (Bradbury 1973:49).

Although trade control during European contact must have added considerable power to the Obaship, it is unlikely that similar trading relationships prior to European influence could have been significant to account for the evolution of the kingship. Pre-European trade items that have been recognized in Benin include the cowrie, metals, and perhaps pottery. The extent of these early trades is poorly understood.

Other lines of evidence which mark out the city center from the northwest include the earthworks which show more complexity at the city, the elite architecture and art systems.

7.25 Assumption 5: Artifact densities can suggest differential population sizes and social complexity.

Population characteristics are important indices for explaining the degree of complexity of the cultural system. Cultural complexity could mean the growth of rank and control centers; development of new techno-economy; efficient energy extraction or increased per capita (imput) energy out-put (Harris 1977). It is possible, for example, to explain the relationship between population features and the labor cost for the construction of the Benin earthwork.

The population census for 1952 indicates that Bini speaking peoples (Benin Division) numbered 292,000. Out of this figure, 52,000 people lived in the city center, the rest lived in several villages of large size (6,000), medium size (500) and small hamlets of about 20 people. The great majority of villages had the medium size figures of about 500 (Bradbury 1973:51). These figures are important from two angles.

First, it is possible to suggest a significance for the Uwan wall on the basis of pottery densities and therefore the

associated population within and outside the wall. Looking at per c.c. pottery weights for the Eko Abetu and Uwan living site levels (Table 24-28), one could say that pottery density at Uwan is about twice that of Eko Abetu. Pottery density could reflect population or intensity of site use or pottery quality (e.g. coarse or fine). If one assumes a 2:1 population ratio, this would be comparable to the present conditions of the villages. Uwan is larger than Eko Abetu and they both fall within the medium size villages of Bradbury. A population ratio of 2:1 is not significant to suggest any difference in social complexity, and medium size villages, even in their present form could have been unable to organise for labor for the construction of the Uwan Wall. This point raises doubt about the relationship of the Uwan Wall with the northwest settlements identified so far.

The second point also relates to the population of the city center and the construction of the defensive earthworks. Bradbury estimates that the population of the city center in 1897, must have been half it's 52,000 figure in 1952. The implication of this is that at the time the innermost or 1st concentric wall was constructed about 500 years ago, the population of the city could have been less than 10,000 or about the size of the existing large villages from the 1952 census. For the construction of the innermost wall, (which is about 9 kilometers in circumference and 17 meters high in recent condition) Daniels estimates (Connah 1967:606-608)

that it would have taken about 5000 men 97 days, working for 10 hours a day, to merely dig the ditch. The estimate does not include labor taken to heap the earth up into a high bank. The estimate probably assumes that agricultural hoes were used for the digging purpose.. Now, this work force estimate is difficult to apply to the population data and no evidence of organised labor-intensive slave service is known. Connah indicates (1967:608) that he could not say whether the labor force needed, could have been of "slaves or other origin". In addition, "tradition has nothing to say directly about these earthworks" (Ryder 1975:243). The construction of the earthworks of such magnitude, since these would have been major cultural achievements, ought to be well represented in mythology and the political art. The traditional names for the earthworks (Iya in Bini and Iyala in Ishan) refer in general to a valley of two hills, sandwiching a ditch or depression. There is therefore a problem about the continuity of the earthworks (if they are artificial) with present population.. The point cast doubts on the military significance of the earthworks (Darling 1983, 1984).

7.3 Historical Implication

In explaining the evolution of the ancient kingdom of Benin, there is no need in my opinion, to rely on insecure interpretations of military conquest or control of trade resources, when evidence from mythology (oral tradition) and social organisation are very strong pointers. This research has illustrated evidence for birth and sex principles in marriage, inheritance, architecture, and religion. Some of the evidence are surviving features of the people.

The appointment of knowledgeable leaders to act as governors over people who may be unrelated to the original point of origin of the political institution is a common feature in political history. Colonial experience in Africa is a living evidence for this. It is therefore easy to rely on the evidence for Benin-Ife relationship and recognize features of Yoruba influences in Benin. Kingship mythology and regalia in Benin and the Yoruba states are similar. The term Oba is a Yoruba word. In Benin City today, there is a rivalry between this introduced obaship and descendants of the original rulers of the people, of which the Ogiamwen institution is a survivor. The Orunmila divination equipment, which is widely used amongst the Edo-speaking peoples today is clearly a Yoruba introduction. In Ifa mythology, Orunmila, otherwise known as Ifa, was one of the 401 divinities sent to the earth by Olodumare, the Yoruba

High God. Orunmila was the one charged with the power of divination because of his great wisdom (Abimbola 1977:35). The ancient architecture and town plan of Benin is almost a copy of Yoruba designs. (Ojo 1966)

But the more important or novel evidence from this research is the application of archaeological methods and techniques to identify the patrilocal mode of social organisation. This was based on the measure of variability which is an expression of pot production and carriage. Although the result is tentative (subject to confirmation), it is quite consistent with the characteristic sex symbolism, in which value is also placed on the taking of several wives (non-sororal polygyny). This, in fact may be one of the most important symbols in the evolution of the Benin kingship. When for example, Oba Ovonranmwen was deposed and exiled in 1897, he was found to have had about 80 wives (Egharevba 1968:58). Historically therefore, Benin tradition is a patriarch institution, like many such traditions in Nigeria today.

Apart from the nature of Benin-Ife relationship, evolution of a patriarch institution is a quite possible by a mere imposition, locally, of a divinity (e.g. a chiefship over previously segmentary tribal groups) who can convince others that the oracles have decreed his leadership. Very little research has been done in the Edo-speaking area on the great influence oraclular belief has on decisions and

action, and therefore its role in cultural change. The investigator has been told several times in divination clinics to begin to wear beads on his hands because he is a chief. There are examples in Nigeria today of very powerful religious patriarchs who are more like kings, and who explain their great power and influence to relationship with the divine. Influence, prestige, control of resources (including women), and even military suzerainty are usually the external expressions of this kind of underlying ideology.

7.3 Discussion

It is necessary to comment further on the question of Benin-Ife relationship, since this has been used as a supporting arguement for the military determinism in the evolution of the kingdom. In this regard, the recent observation made by Darling (1984), regarding correlates between linguistic evidence and the distribution pattern of pottery and the earthworks, is a significant point. From linguistic evidence, it is thought that the origin of Benin is related to the split in the proto-Niger-Congo language, thought to have been spoken around the confluence of the Niger-Benue, some 3-6,000 years ago. (Darling 1984:63). From this split, ancestors of todays "southern Edo" (Urhobo/Isoko) (see Figure 5) must have migrated into their present locations in the swampy deltas about 2-3,000 years ago. Waves of migrations into the Edo speaking area followed this

and the territoriality associated with the movements resulted in linguistic differentiations presently noticed and the building of iya or earthworks. The Bini and Ishan earthworks are therefore related to such migrants who penetrated into this area between 1 and 3 thousand years before present. Benin City emerged as a dominant center thereafter. Surface distribution of design elements on pottery such as the coarse string roulette, and the nodular carved wooden roulette appear to support the migration view. Secondly, archaeological evidence for iron using, immediately north of Benin and at Abakaliki to the east which generally date to the 7th and 9th centuries A.D. argues for a similar early period for Benin. (see Anozie 1976, for similarly early dates from the deltas). If this were so, then the association of Benin with Ife whose dates are largely post A.D. 800 would then be tenuous.

This doubt about the historical relationship between Benin and Ife has also been expressed by Ryder (1965). Ryder had noticed that early Portuguese records on Benin did not mention Ife. In fact, Ife did not become current in Benin historiography until the last century. And that indications from historical records, and art tradition, suggest that Benin must have been related to the "Beni confederacy" (Ryder 1965:32), located around the confluence of the Niger and Benue rivers. That is, that the Portuguese were probably confusing "Beni" (thought to have been an ancient state on

the Niger/Benue confluence), with the present Benin City. The Maltese cross for example, (which was mentioned by the Portuguese visitor to Benin in the latter half of the 15th century). and the ritual associated with it, is not known in Ife art, which further argues against the Benin-Ife relationship.

> Only one clear parallel to the Benin use of the Maltese cross has so far come to light in adjacent areas of Nigeria. This occurs in the standing bronze figure at Tada, a village a little to the south of the Niger and no more than ten miles from Jengi, said to have been the capital of the Gwagbaji- Beni (Ryder 1965:33).

It is the opinion of Shaw (1973:237) however, that on technical and stylistic grounds, this particular standing bronze figure at Tada, and in fact the so-called Tsoede bronzes along the Niger, belong to Ife art. Also, the investigator has in this research, raised the problem of the continuity of the Benin earthworks with present populations, which casts doubts on their cultural significance. This does not nevertheless remove the doubts that have been raised concerning the relationships between Benin and Ife, but the point remains that no real good historical or archaeological evidence exist that seriously negates the Benin-Ife relationship. On the contrary, archaeological evidence support close ancient ties. Forms and decorative styles on pottery between present day Benin and Ife are quite similar. They share a common potsherd pavement flooring technique; the art and architecture are very close. In addition, the dates

of Ife are earlier than those of Benin, but even if earlier dates for Benin are established, this may yet not remove the close typological similarity between the cultural systems. Looking at typology for example, Igbo Ukwu is nearer to Benin, than Benin is to Ife. The dates of Igbo Ukwu are in the 9th century and Igbo Ukwu cultural materials are significantly different from those of Benin and Ife. For example, although Igbo Ukwu pottery is "so highly decorated, roulettes have not been used at all" (Shaw 1977:85, 1970). This is not the case in Benin and Ife where rouletting constitute perhaps over 60 per cent of design elements. Also, metallic art of Igbo Ukwu consist of pure copper and heavily leaded bronze (high tin), while the Benin alloys are of brass (high zinc content), and Ife has almost pure copper and leaded brass, showing that the Benin materials are closer to Ife. However, a northern influence for these cultural traditions is not in doubt and this has generally been accepted, and in fact it is the opinion of Shaw (1973) that only a long distance network of trade to the north and the sahara could have ensured the provisions and introduction of the alloy for metallic art and the lost wax or <u>cire perdue</u> method of casting. However, debates about the typological and chronological distinctions between Benin and Ife have previously left unexplained the unique similarities between them.

CHAPTER VIII

SUMMARY AND CONCLUSION

This research has been concerned about the problem of the origin of the ancient kingdom of Benin, through the study of artifact distribution on the northwest of the Benin City center. The study was put into perspective through a review of Benin research and related studies.

The unique rainforest ecological conditions of Benin, was considered. The ecology partly influence the hoe agricultural economy, architecture and settlement. The people speak a language that belongs to the Kwa subgroup of the Niger-Congo. The patrilineage society is organised on two levels, namely, a village age-grade social organisation in which age is the criterion of authority, and the town or state social organisation in which authority is based on the rule of primogeniture (inheritance of first son). This unique social organisation is also based on sex because only men can participate in the two modes of social system. The society placed value on non-sororal polygyny (taking of wives from different locations), including the isolation of male and female in Benin architecture and in cult organisation. These values are based on mythological or religious belief systems.

Ancient trading or diplomatic relationships involving Benin is reflected in the metallic art, ornaments (e.g. glass beads) and other items such as cowries. The importance of

trade in the evolution of Benin was considered. Also, recent studies (e.g Connah 1975, Darling 1984), on the distribution pattern of the Benin earthworks and its military implication have been critically assessed.

This study adopted an approach in which new archaeological sites have been identified and excavated on the northwest of Benin City. The sites yielded mostly pottery materials which have been analysed . Inspite of methodological problems, this research has been able to suggest the following substantive conclusions:

8.1 A 3-phase occupation of the Eko Abetu site, which dates from about 500 years ago has been suggested, based on deductions and correlations of stratigraphy, chi-square results on body decoration, cluster of Jaccard coefficient, t-test, pottery typology and the single calibrated date of 1432 $\pm$ 100, from the lower levels of trench Y2. The result is consistent with oral historical data which indicate that some of the northwest settlements were established during the reign of Oba Ewuare about 500 years ago.

8.2 The research has also suggested a continuity of the northwest cultural deposits with present local population by the persistence of pottery forms. This conclusion isolates the possibility of a cultural break.

8.3 The variability discovered in the chi-square determinations on body decoration has been related to the recombination of persistent design attributes. Recombination of persistent design attributes on body decoration is only explained by the known patrilocal mobility of women in post-marriage residence. Other possible causes of variability such as function, seasonal activity and labor-intensive production have been isolated. It is stated that variability is reinforced by the characteristic non-sororal polygyny (different carriers of pot come to reside in the same location, or different women produce different pots in the same location). It is stated that this sex symbolism in which value is placed on the taking of several wives may be an underlying principle in the evolution of the Benin kingship. Political offices can originate by the elaboration of symbols which articulate their values. It is recognized that the deduction based on pottery variability is tentative because of the problem of representativeness of sample.

8.4 Population characteristics have been related to the pottery density on the northwest. There is no evidence that these northwest settlements were more complex than what the 1952 census population census suggests. It is therefore suggested that medium size villages with populations of about 500 would have been unable to organise for labor for the construction of the Uwan wall. This point raised doubts

about the continuity of the Uwan wall with the northwest sites identified so far. The same point has been made concerning the city center. Apart from the fact that the methods by which the Benin City earthworks were constructed have not been identified, it is significant that the construction of earthworks of such magnitude (which would have been major cultural achievements) are not represented in mythology or the political art. The point therefore cast doubts on the continuity of the earthworks with present populations and hence their military implications. On the other hand, ancient diplomatic relationship between Benin and Ife is considered to be a likely explanation for the origin of the obaship. Several cultural features which are shared between Benin and the Yoruba states make this a compelling explanation.

Methodologically, this research has been able to suggest three occupation deposits on the northwest of Benin City. The occupations could be found isolated in some sites, and there may be more components. Conclusion in this regard is also tentative subject to confirmation from other studies.

In the pottery analysis, the Jaccard coefficient and chi-square determinations were found to be very convenient and also helpful in arriving at quick decisions as to the kind of relationship or association between assemblages. The value of objective methods such as these can not be overstated. It would be of interest if statistical

analytical techniques such as has been presented are frequently applied in West African Archaeololgy. It could stimulate students. The t-test determinations were not so successful and appear as suspect. It is not clear from this research whether a metric approach is appropriate, but one problem was that the lip thickness was difficult to read because of the curvature of some rims. Also it was a frustrating task to read the color of sherds on a Munsell.

Further excavations are called for, to provide more evidence from the northwest. It would also be necessary to work on the south and north of Benin City, outside the Bini speaking area to provide clues as to relationship between Benin City with other Edo-speaking neighbors.

FOOTNOTES

1. Material illustrated here, under "Benin Art" has been published under the title "Features of Benin Art". Omokhodion, 1986.

2. Information here is based on previous original study and construction by the author. The report has been accepted for publication by AMAN. Journal of society, culture and environment. Vol. 5 no. 1.

3. In 1982, a new town planning program for Benin requested me to prepare a report on the historical sites for the city. The report was titled "Sites and Buildings of Historical Importance". The materials are unpublished government documents, but information here is from the report.

4. The technical name for Ikhinmin is Newbouldia laevis.

5. It was important for me to obtain a formal approval for the excavation from the Federal Department of Antiquities. I obtained this at the middle of December of 1985, from Mrs. A.K Fatunsin of the National Museum, Ibadan. Part of the condition under which this approval was to be obtained was that an archaeologist from one of the universities should agree to be my local field supervisor. This led me to travel to Nsukka on the 2nd of December to ask Dr. Fred Anozie of the Department of Archaeology, University of Nigeria, if he could act in that capacity for me. He kindly agreed. On 1, February, 1986, Dr Anozie was able to take time off his pressing duties at Nsukka to visit me on the sites.

6. 20 cm spits (arbitrary levels) were considered appropriate for the excavation on the northwest, on the basis of previous experience on some Nigerian sites. Secondly, seiving of the deposits was not carried out since careful probing with a trowel would be sensitive enough to the mainly expected pottery artifacts.

7. Old farm plots in this area are easily taken over by a nuisance weed which is locally called Awolowo (named after a political leader). The technical name of this weed is Eupatoria oderata

8. Apart from pottery, no other significant cultural materials have been recovered from the northwest. Bone materials, for example, have been scanty and very fragmentary.

9. Jaccard coefficient was decided upon for it's convenience in the transformaion of non-weighted nominal data.

10. Average linkage has the advantage of a rapid organizing principle, where new clusters are simply joined to existing cluster, by computing the average similarity of all relevant units (Hodson 1970:307). This cluster method also avoids the problem of chaining. The method was designed to cluster the excavation levels and not the attribute set as such.

11. T-test determination is to determine association (patterning) or the lack of it, between excavation units on the basis of lip thickness.

12. Some carved wooden roulettes have been illustrated in Plates 5-9. The interesting point that would be obvious is that a great deal of error can arise if one wished to isolate the differential patterns typologically. For example, Darling (1984:267) typologically associated his "simple grid pattern" (CR1) with early Edo settlements. One point is that carved roulette patterns are rarely single. They are often multiple. In Plate 7-8, carved roulette is illustrated as either zigzag with vertical lines or vertical lines with basket work pattern. (Note Darling (p.225) illustrates "basket work pattern" as carved roulette 2 (CR2). Now, a nodular pattern could appear with a grid pattern etc, but in a sherd that is broken, an erroneous significance of a motif could be suggested (more so when attribute sample is low and unstratified). The typological and chronological relevance of the patterns are therefore basically suspect. I would prefer to go with David and Vidal (1977:44), and see carved roulettes as essentially illustrating the use of iron.

13. Probability chi-square computation is fairly easy and straightforward to understand. Like the t-test, it was to search for patterning between excavation levels on the basis nominal pottery attributes. Note, that the patterning sought in these organizing principles is of a polythetic nature. That is, groupings are based on a sufficiency of conditions. (see Clarke 1968:37-38)

14. This dating sample has been kindly submitted on my behalf by Dr. Larry Robbins, Department of Anthropology, Michigan State University.

15. This motif has been described as coarse string roulette by others (e.g. Darling 1984:223, 266-267). It is illustrated in Plate 18, 19, 20. Specifically, the following is the way Darling has described it's chronological importance, "Although CSR1 (coarse string roulette) is present on most of the sites which on other evidence appear to be early, both the early vessel forms (SQE 24/MSC 27) and the culture sequence chronology of the computer analysis

suggest that it occurred later than the bulk of the finer string roulettes. The change from the finer string roulettes (possibly made from savanna grasses to the coarse string roulettes (made from oil-palm leaf fibres) may have merely been the adoption of the new material from a different environment" (Darling 1984:266-267). A date from trench 420 of the Uwan sites would have been helpful in contributing further to this point about whether the frond roulette is earlier or later than the twisted cord roulette on the northwest. The point that can however be made here is that apart from the fact that the forest environment presents an array of rope fibres which can be plaited into fine or coarse roulettes, the frond roulette is better represented at the Uwan site, while the twisted cord roulette (fine string roulette) is more prevalent at Eko Abetu. Secondly, in my isolation of twisted cord from frond roulette, I was able to establish that the frond roulettes are characterised by not only a large (coarse) impression, but also the presence of negative impression of palm frond leaves, (These impressions are visible on Plate 20). If I was not able to do this, I might have grouped them under twisted cord. The following is the way Darling (1984:223) addresses the similar problem: "As no examples of twisted rather than plaited roulette were identified (Soper:1977; Pers comm 1979; 9-12), this group was categorized into degrees of coarseness for analysis". That is his plaited string roulettes were grouped into a continuum of sizes even without any objective measurement. The argument here is not that this could not be done, but that what is done, is influenced by the problem and techniques at hand.

16. The gun flints (which date to the post 17th century), in level 4 of trench X2 has been considered intrusive from the upper levels due to disturbance of this trench. Disturbance in X2 has been illustrated by the stratigraphy and the significant association of its excavation levels based on chi-square results (see table 15).

17. Yam is often processed as pounded yam (<u>funfun</u>) and this is normally eaten with vegetable soup, such that the pot and bowl forms would tend to associate functionally.

18. Other workers (e.g. Hodder 1979) have drawn attention to the role of competitive exclusion (related to resource control) as a determinant of artifact variability especially across inter-tribal boundaries. Within-tribe variation can occur as result of symbolic constraints such as censureship or public opinion insisting on conformity (Hodder 1977:269). These interpretations in my opinion assume that the artifact traits in question are produced and used locally. In the case of Benin pottery, the importance of transportation or

carriage (Nicklin 1971:47) has been established, since Benin pots were produced in two pottery villages - Use and Utekon - (see Chapter V), from where they were most likely transported to other villages. There is no evidence for pottery production locally in the Eko Abetu and Uwan villages. Apart from this point, it should be recognized that the variability established in this research does not portray mutual exclusivity but a differential in the combination of traits. Patrilineal institutions however do maintain territorial village boundaries expressed in settlement and farmlands and perhaps in specific ancestral worship. But there is no direct relationship between these dimensions and pottery production and dispersal. Also exchange modes are really secondary factors.

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APPENDIX A -- PLATES

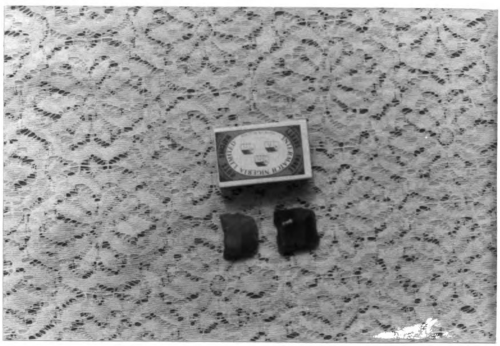

Plate 1: Gun Flints. Level 124 Eko Abetu.

Plate 2: Uwan Wall. Figure in photo walks down slope along the ditch. Main embarkment of the wall on his right hand side

Plate 3: Uwan Wall. Figure in photo stands on top of main embarkment.

Plate 4: Excavation in progress on trench 410. Uwan site.

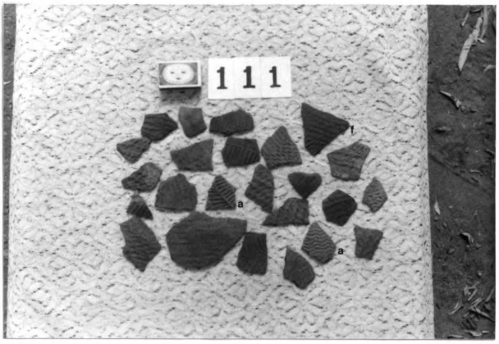

Plate 5: Level 111 body sherds. Eko Abetu. Note the two carved roulette motifs in this Plate may belong to a single pattern on one vessel, but when found isolated someone could type them differently.

Decoration label: *
a: carved wood
b: punctation
c: slashed
d: grooved
e: wavy-line
f: twisted cord.

* Note not all the motifs are illustrated at the same time in each Plate.

Plate 6: Level 121 rim sherds. Eko Abetu.

Decoration label.
a: carved wood
b: punctation
c: slashed
d. grooved
e: wavy-line
f: twisted cord.

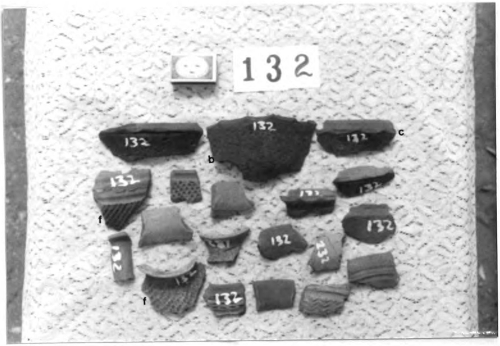

Plate 7: Level 132 rim sherds. Eko Abetu.

Decoration label
a: carved wood
b: punctation
c: slashed
d: grooved
e: wavy line
f: twisted cord

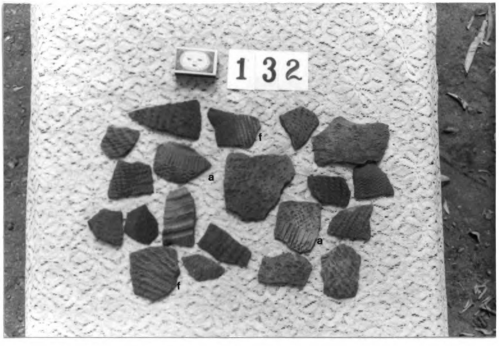

Plate 8: Level 132 body sherds. Eko Abetu.

a: carved wood
b: punctation
c: slashed
d: grooved
e: wavy-line
f: twisted cord

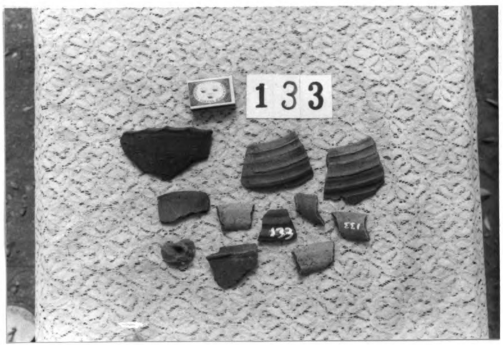

Plate q: Level 133 rim sherds. Eko Abetu.

Decoration label.
a: carved wood
b: punctation
c: slashed
d: grooved
e: wavy-line
f: twisted cord.

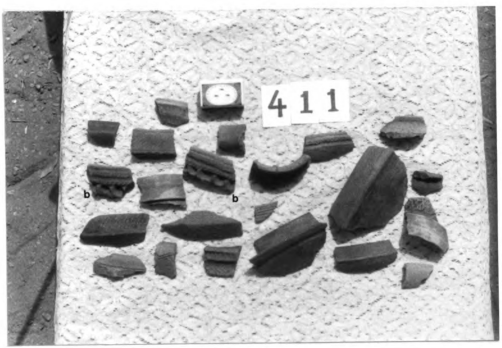

Plate 10: Level 411 rim sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved-rim pot
J: flared rim bowl
K: short-neck bowl

Plate 11: Level 412 rim sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved-rim bowl
J: flared rim bowl
K: short neck bowl.

Plate 12: Level 413 rim sherds. Uwan site

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl

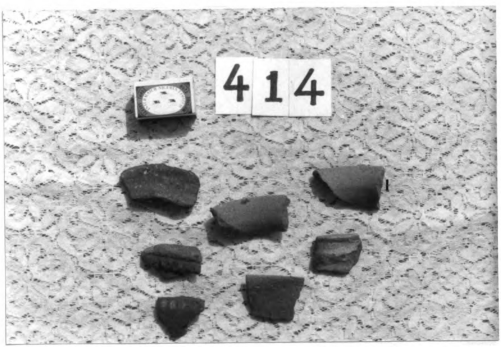

Plate 13: Level 414 rim sherds. Uwan site

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim pot
K: short neck pot

Plate 14: Level 421 rim sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck pot

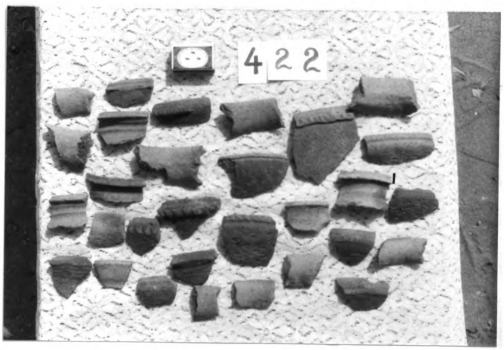

Plate 15: Level 422 rim sherds. Uwan site

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl.

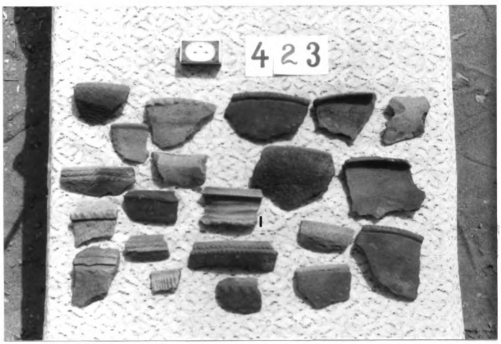

Plate 16: Level 423 rim sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl

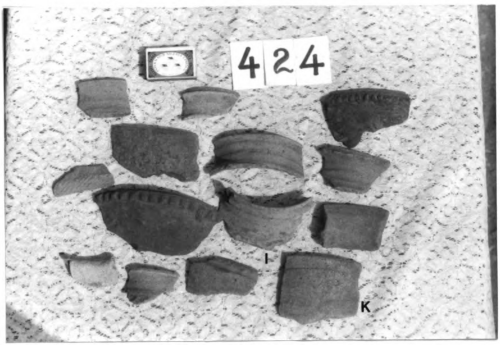

Plate 17: Level 424 rim sherds. Uwan site

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl

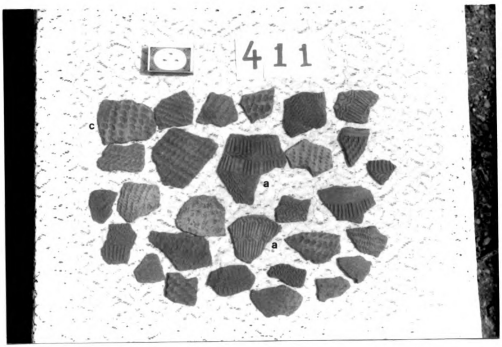

Plate 18: Level 411 body sherds. Uwan site

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl

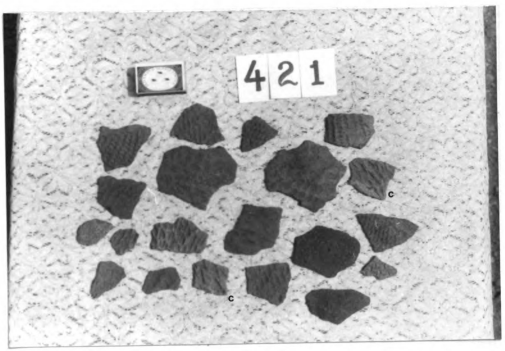

Plate 19: Level 421 body sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl.

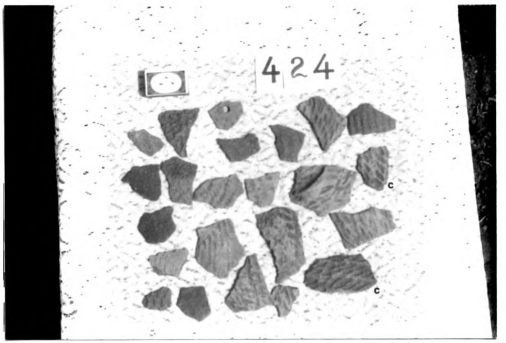

Plate 20: Level 424 body sherds. Uwan site.

Decoration label
a: carved wood
b: stab/drag
c: frond roulette

Form label
I: grooved rim pot
J: flared rim bowl
K: short neck bowl.