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House Forms in Northern Volta Basin, Ghana: Evolution, Internal Spatial Organisation and the Social Relationships Depicted

E. Kofi Agorsah
Portland State University, agorsahe@pdx.edu

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House Forms in Northern Volta Basin, Ghana: (Evolution, Internal Spatial Organisation and the Social Relationships Depicted)

by
AGORSAH, E.
Dept. of Archaeology,
Univ. of Legon, Accra,
Ghana.

GENERAL INTRODUCTION

The ability to explain the structural and processual consequences of human activities in terrestrial space has now become an absolutely necessary condition for archaeological reconstruction and generalisations. It is vital not only for speculating about the past but also for discussing and planning mankind's current and future welfare. Although some elements of human behaviour can be attributed to unique factors, recent studies confirm the conviction that principles which govern human spatial behaviour are generally applicable. Spatial archaeology has been one of the main aspects of such recent studies (Plog 1971, Hillier *et al* 1972, Hodder & Orton 1976, Clarke 1977, Agorsah 1983) and constitutes an indication of the importance of this conviction in practical terms. This paper will evolve around the above conviction with emphasis on circularly casual relationships between the dynamic physical development of the house form vis-a-vis the social context. It is generaly assumed that the prehistoric man through the operation of spatial processes to satisfy his needs and desires, has created structural forms and spatial patterns. These are the features that the archaeologist must not only attempt to identify but explain in the light of the context of social relationships. Our refuge will be in an ethnoarchaeological study of a traditional Ghanaian settlement.

The search to be discussed here will consist of the identification of the physical forms that are generated by the social behaviour of a West African traditional society, the Nchumuru of the northern Volta basin of Ghana (Fig. 1). The study demonstrates that the development of traditional house forms among the Nchumuru indicates a pattern which exhibits a type of growth that possesses a dual coherence: firstly, it is physically or structurally as well as socially coherent. The houses exhibit versions of the same

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form which developed on the basis of the social values, and convey a powerful sense of their own adequacy and non-arbitrariness.
arbitrariness.

The study area

The area of this study, the Banda-Wiae traditional area, is located in east-central Ghana along the Daka river, north of the Kete-Krachi administrative district in the northern section of the Volta Region of Ghana (Fig. 1). The people in the area speak Nchumuru (Painter 1967), a dialect of North-Guang, one of the languages of the Kwa branch of the Niger-Congo (Greenberg 1966). The linguistic term "Nchumuru has been used to designate or identify the people as an ethnic group.

The settlement of Wiae is the focus of the case study discussed in this paper. There are two Wiaes: Old and New Wiae. Both settlements belong to the same ethnic or family group. Both are located within the loop of the river Daka which forms the southern and western physical boundaries. Modern Wiae (New Wiae) became a fully fledged settlement about twenty years ago after Old Wiae was destroyed by fire. Cutting New Wiae settlement into northern and southern halves is the only main road from Banda. This road reduces into a foot path which passes through the abandoned Old Wiae site located some 250 metres to the west, and goes down a slope westwards to the bank of the Daka river.

The Wiae settlement has changed in size (area) and structure over the last decade. In 1972 there were 69 houses, most of which were located in the north-western side of the settlement. At that time, very few of the houses consisted of more than single structure of two rooms and only a few had consisted of more than a single structure of two rooms and only a few had separate kitchens and storage barns. In 1981 there were 91 houses distributed over a total area of about 18 hectares (45 acres). Of this number of houses eight were owned by non-Nchumuru immigrant settlers such as the Konkomba. About a quarter of the total area of the village is occupied by a recently built chapel of the Roman Catholic church, and a primary school compound. (Fig. 2). On the southern outskirts of the village south and eastwards from the school compound are located the burial ground, two latrine pits and the community guardian shrine of the Dente. A communally-owned abandoned cattle krall was located on the southern outskirt in 1981 but in 1983 had been moved to the centre of the village.

PART I The Internal Spatial Organisation of House Forms in The Northern Volta Basin of Ghana

The consequences of human behaviour in terrestial space pose a real challenge to archaeologists especially when it comes to explaining the frequency with which human societies encounter different phenomena in space and the way in which various aspects are bonded together. The problem arises mainly from the complex situation resulting from the simultaneous arrangement of like and unlike features and the dynamic interconnections and associations between them. Looking at this challenge in relation to prehistoric societies is even more threatening. It is common practice among social scientists to attribute certain elements of human behaviour to unique factors and thus placing limitation on their analytical mechanisms. In the course of doing ethnoarchaeological studies in this society over the past twelve years, I have come torrecognize that certain principles which govern spatial behaviour are generally applicable, especially when viewed within certain clearly defined social and environmental parameters.

The focus of the second part of this paper is on the internal pattern organisation or the way in which the distribution of features within households is spatially organised relative to itself. The question of "whereness" of features and equipment within the house will be the most emphasised. In this

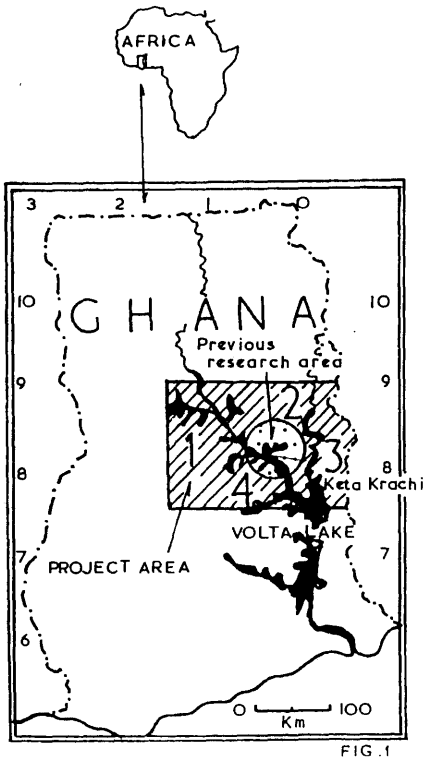


Fig. 1. Ghana showing Volta basin

regard, we examine how the placement of features within various divisions of the typical house can provide leads towards their recognition in the archaeological record. The subject is discussed from the methodological point of view, here characterised by us as the "situational approach". This approach begins with the proposition that human behaviour occurs in a situation that combines the society and its environment into one typical scheme; In the case of the society in question, the Nchumuru, this situation is the house.

In this section I attempt to demonstrate how each part of the Nchumuru life-style contributes to the spatial patterning within their houses as units of their settlement. The geographical focus is the settlement of Wiae in the Banda-Wiae traditional area, north of the twon of Kete-Krachi in the northern section of the Volta basin of Ghana.

The settlement history of the Nchumuru occupation of their present home - the Banda Wiae area, (Fig. 1) has been reconstructed into phases each of which is characterised by the interplay of social and spatial adjustment (Agorsah 1983). Strictly, these are not historical phases, but phases identified on the basis of location of settlement, changes in house forms and placement of structural features within the units of the settlement.

The first phase was marked by the historical break-up of the whole Guang-speaking ethnic group. On their arrival in the Banda area the Nchumuru as part of the major Guang group had also broken up into phraties *(nsuro)*. There is no archaeological evidence so far to suggest that they settled in their *nsuro* groups as indicated by the small size of their early settlements which probably belonged to family groups or clans *(mbuno: kabuno* (singular) which however, found it necessary to identify themseves with the larger *nsuro*, not only for purposes of co-operative defense during the unstable war period, but also for fear of loss of cultural identity. The settlements were small and closely packed. The house structures were circular and contained special entrance huts.

The second "phase" of the Nchumuru settlement in the area was marked by a period of experimentation with the natural resources of the area. Natural calamities such as fire, flood and famine were considered as ritual tragedies imposed by their gods to show disaproval of the settlement locations. The result was a series of movement from location to location until in the face of the threat of Gonja power as well as the expansionist activities of the Asante (Maier 1981), the various *mbuno* began to come together to form single settlements, one of which was the site of Old Wiae. At these settlements the identities of the *mbuno* continue as a mechanism for maintaining the inter-settlement contact and cultural identity, and co-operation.

The third phase is clearly marked at the site of Old Wiae the beginning of which is C14-dated to the mid sixteenth century. At Old Wiae some of

the Nchumuru, having settled down, maintained the tradition of building circular huts. However, feeling more secure as a result of their alliance with the Gonja people and connections with the Krachi (who had the fiercest oracle of the time), the spatial arrangement in their settlements began to change gradually into rectangular forms. This change which is archaeologically manifested at the Old Wiae site, was completed when it was relocated at its modern site. It is within the framework of the arrangement of the rectangular house structures at New Wiae that we examine the internal spatial organisation. The final phase of their settlement history relates to the present and seems to be continuing.

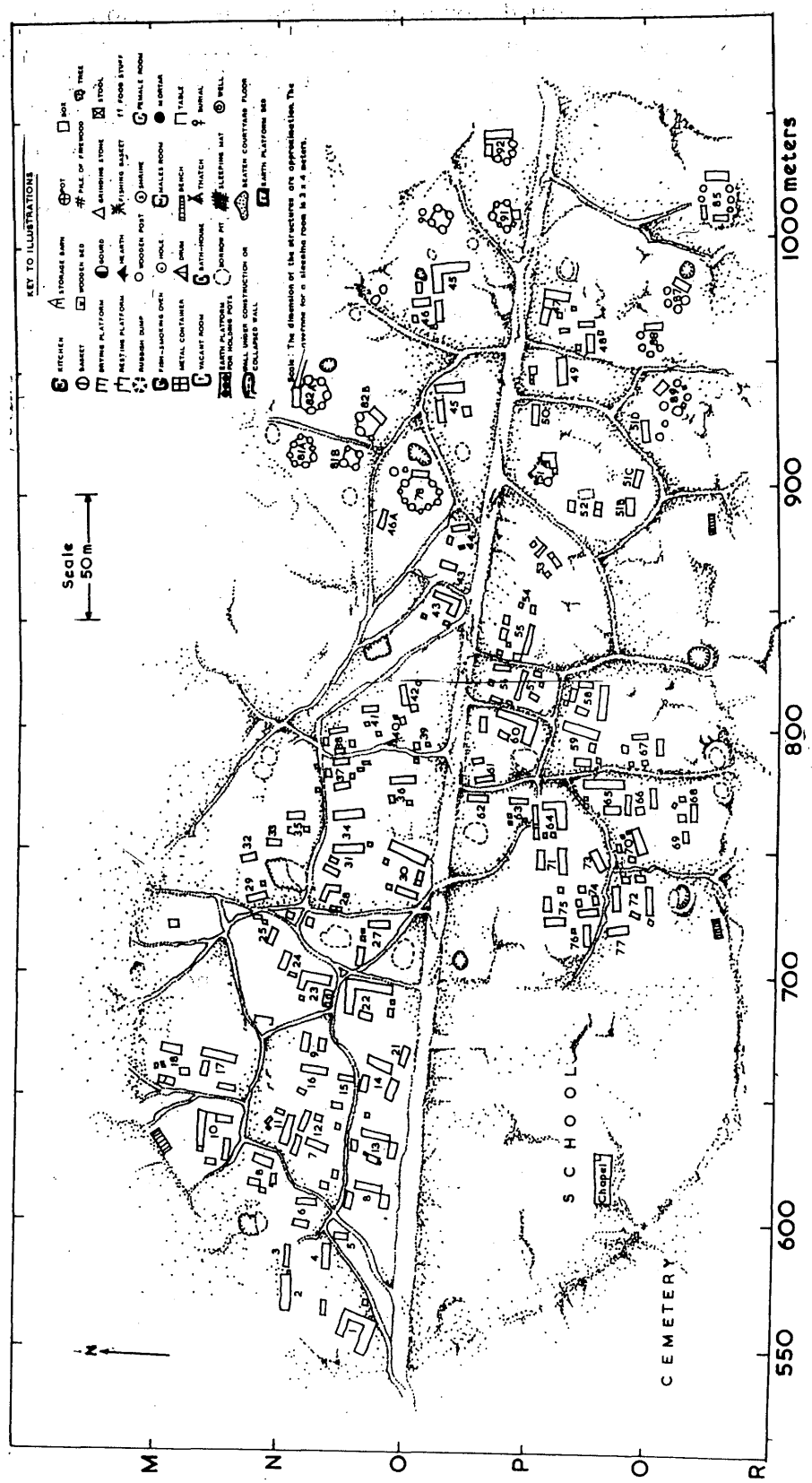
Social Network:

Each Nchumuru village belongs to one of its major family groupings or phratries: Banda, Chachai, Nchenke, Kpentanai and Sunwiae. These groupings are traditionally referred to as *nsuro* (*kasuro*, sing) each of which has one of its constituent villages as the head village. Within each Nchumuru village one finds one or more patri-clans called *mbuno* (*kabuno*, sing) each having a male head, its own ancestral shrine, secrets, properties and inter-village connections. Inheritance is by homogeneous transmission (male to the next oldest male and female to the next oldest female in the *kabuno*). There are five *mbuno* at Wiae, our data base, as follows: Breniase, Dapo-eta Kpenwiae, Ntrapo and Tarieso

Recognition as an Nchumuru in the village is determined by ones relationship with a *kabuno*, membership of which consists not only of the living but also and primarily, the dead ancestors. The ancestral shrine of the *kabuno* is the controlling factor within the *kabuno*, and traditionally should be located in the *kabuno* head's house.

To the Nchumuru the seasons of the year are not thought of in terms of large solar clock or calendar but are seen as a sequence of activities calculated around traditional events such as planting and harvest times and the days are divided into activity span such as the cool of the day and evening. In Nchumuru concept one cannot separate leisure from "other time". The social network of the Nchumuru, sharply summarised here, provides the background for the discussion of internal arrangement of their houses.

In Wiae, the main activity areas of the house are the room, courtyard, kitchen and backyard. Even though the house is divided into the above four typical areas, the activities related to them can hardly be placed in clear-cut compartments. Further, not all the divisions are symbolised by physical or structural features. For example, the courtyard refers to the space enclosed by the walls or other features of the house rather than a structure.



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The Rooms:

Every house in Wiae initially consists of at least two rooms. However, the number of rooms added to the initial structures depend upon the occupational priorities of the owner at the time, the number of people, the season and, above all, the capability of the builder or owner to add more structures. The total number of rooms in a house at any time can be divided by the number of persons in it and multiplied by the size of a room (expressed in square metres) in order to obtain the average space area per person. This is expressed in the equation:

$$S = \frac{(R)s}{P}$$

where R = total number of rooms per house
P = total number of persons per house
S = mean room space per house
s == average size of room space held at a constant of 12 square metres per room.

On the basis of this estimation it was observed that each person (child or adult) had in 1981 (Agorsah 1983a) an average room space of .5 in the range of 1.0 to 0.3.

The only rooms of purely specialised use in Wiae are shrine rooms. In the short term, it is possible to indicate allocation of rooms to inhabitants of a house. However, there is a great deal of movement of people with the arrival and exit of family members. This makes it more difficult to recognise any pattern of long term allocation. Generally, however, rooms in Wiae are meant for shelter in the real sense of the word. They are first of all sleeping rooms and secondly repositories for personal properties, and the rooms are sometimes communally shared.

The distinguishing marks of a woman's room are raised clay platform bed(s) and smaller platforms along the walls of the rooms with pot holes in them for holding pots of all sizes. (Fig. 3) A female adult's room may also have a hearth in one corner, close to the entrance. Such a hearth may be used for heating rooms in cold weather or as alternative cooking places when the kitchen is inaccessible during the rainy season. The practice of erecting a hearth in rooms is becoming less popular, especially with the young. A shrine is never present inside, in front of, or at the entrance of a female's room. Large, tall piles of pots are a characteristic feature of the adult female's room, but as the pots and other similarly unfixed objects are moved around from time to time they cannot be used as a final indication of female or male room. The structural features consist of the hearth, earth-bed and the raised platform for holding piles of pots in which personal

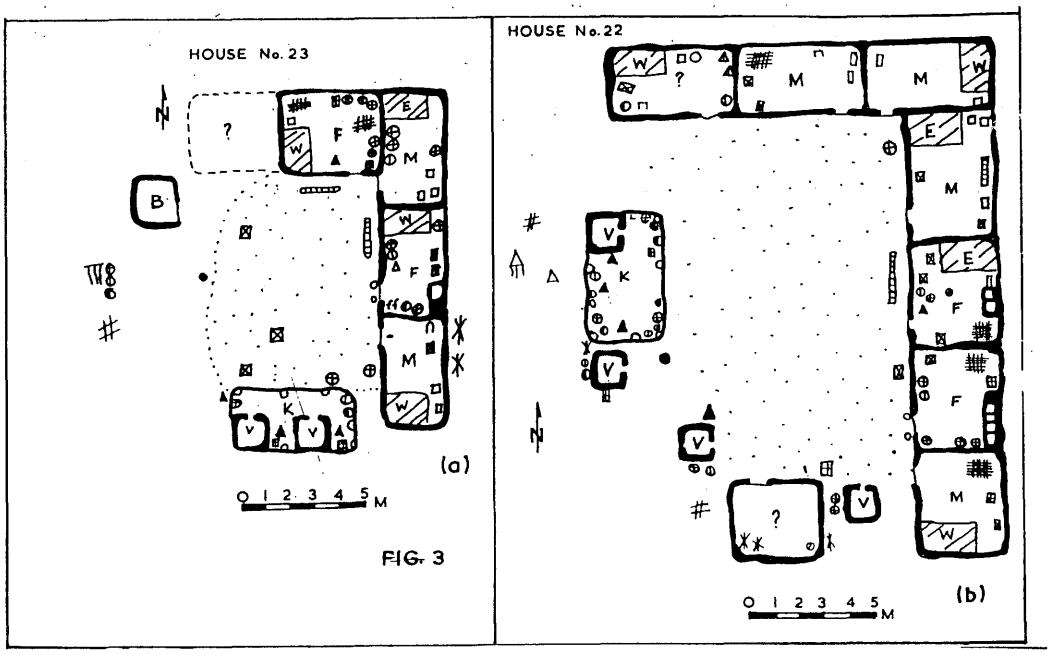

Fig. 3 Location and Distribution of Structural Features and Objects in Houses

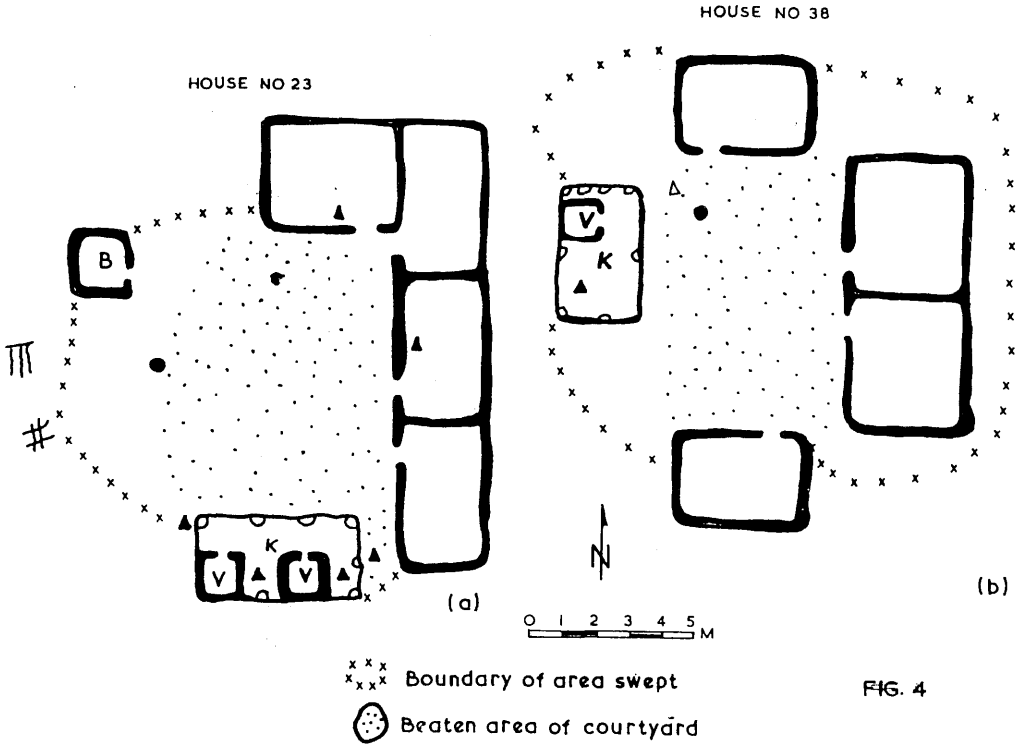

Fig. 4 ____ Demarcating Area of a House

effects are stored.

The floors of many of the rooms are beaten hard and smoothed. A whole range of objects can be found on the floor of the room, mostly along the walls. These include stools, food baskets containing cooking utensils, ceramic pots and bowls, wooden ladles, gourds, stools, empty bottles, sandals, and tables. The cooking utensils, stools and sandals are very frequently moved in and out of the room. The other major objects remain at their positions for fairly long periods of time. Once in a while the baskets are brought out, cleaned and refilled with fresh food supply. The main link between the rooms and their users is the courtyard, discussed in the section which follows.

The Courtyard

The courtyard is the area of the house enclosed by the inner walls of the building and other structural features. Semi-private, it is the centre of the house and the area used for the activities that members of the household share in common, such as cooking, eating, and discussion of family affairs. It provides access between sleeping and bathrooms. It thus consists of the area for the location of hearths, benches, fish-smoking ovens, mortar, large water pots, family shrines and graves. It is also a place for resting in the evenings and on *kepowe* (non-work) days. It is also the area for the manufacture and maintenance of fishing and farming equipment and tools. Furthermore, it is an extension of the bed-room during the nights of the warm and humid season. The courtyard in Wiae does not possess a visual enclosure and has no controlled entrance or privacy. Only the sleeping room is really private and always requires a complete enclosure, good ventilation and subdued light. There is no clear physical boundary between courtyards. However, observations indicate that, through the courtyards the spatial dimensions of the house are making up for what the social is unable to maintain. Fundamentally the physical developments of the activity areas of the Nchumuru house entail more than satisfying the purely functional requirements of the society. In general terms, the development of the individual house provides a history that links the basic unit (the house) and its activity areas to the social context.

The house *(lonno)* to an Nchumuru, in a territorial sense refers to the geographical location and extension of the *kabuno* and its members. It also means an assertion by a family that a geographical space is under its influence and control. The concept which is reflected in the activities connected with the courtyard concerns two rationales: caring and sharing, which are embodied not only in the *kabuno* relationship but also and necessarily, in the phratry *nsuro)* relationships. This has support in the fact that the individual builder provides in his structure, an openness based on the courtyard,

that links it to the houses of other *kabuno* members. The grouping of the houses and the openness of the courtyards into one another reflect the social order. Each house is surrounded by those of his kinsfolk as social norms require. This clearly indicates how the pattern of activities, values and contraints and also the pattern of daily life are fused in the physical form. That the house forms and their related activity areas are versions of the same simple form and convey a powerful sense of physical coherency has been demonstrated (Agorsah 1985). Although the physical requirement of the arrangements of the Nchumuru courtyard and related activities, involve aesthetic considerations such as beating hard on the floor, the main goal is the cultural and practical function.

The relationship of the courtyard to the other parts of Nchumuru houses can be clearly contrasted to that relationship in non-Nchumuru houses (Prussin 1969; Tait 1961). In the latter, the residence unit aggregation results in a group of inter-connected courtyards into which access is obtained through only one main entrance hut. In the case of the Nchumuru (Agorsah 1983a) the house is a more open though private, part of the settlement, the whole of which forms the setting for all their activities. In non-Nchumuru houses such as those of Konkomba settlers in the north-eastern section of modern Wiae, the house (compound?) is the whole setting for life. Therefore, while connectivity is strong between Nchumuru individual courtyards, it is very weak between those of non-Nchumuru. This difference demonstrates the consequences which socio-spatial relationships can have in the placement of structural units and which can be invoked to explain patterning within residential units. The type of connectivity observed in Wiae is a basic characteristic, and a mechanism for maintaining liberal social connection between family groups and between the houses and clan areas of a settlement and its adjoining activity areas.

"Connectivity" is used here to indicate the degree of accessibility between houses. The most enclosed courtyards are considered to have least connectivity, while the most open countyards have greatest connectivity. The connectivity pattern is also emphasised by the network of foot-paths which accommodate the criss-cross movements between relatives in different compounds and give access to the main paths leading out of the settlements to the streams, farms, shrines and the lake-side. The importance of the foot-paths lies in the fact that courtyards and structural features located near each other can have greater connectivity, but this juxtaposition may not necessarily ensure connectivity.

Growth and development of the Courtyard

The definition of the courtyard is linked with the growth of the house. As has been observed in Wiae, the erection of the initial two-room structure

determines which side the courtyard would be. However, the courtyard begins to take shape only when another structure such as the kitchen or drying platform or additional rooms have been erected. The development of the courtyard is characteristic of the growth of the house in Wiae such that even when not fully defined, the courtyard area is somehow recognisable. One way of recognising the courtyard is by monitoring the area of the house swept by the women usually each morning or at any other time.

Measurements taken of the courtyard sizes indicate that there is some degree of close uniformity. It is not possible to classify the shape of the courtyards into any descriptive geometric terms because most of them are open, and even though the builder knows the eventual extent of his courtyard it is not physically apparent until the erection of the structures that enclose it. Fig. 4 provides examples of the courtyard as they are deined by the beaten floor area, swept area and by the position of structural defined by the beaten floor area, swept area and by the position of structural features. The courtyard area immediately in front of the sleeping room is the area initially beaten hard. The expansion of the beaten courtyard floor area is also illustrated by the structural growth of some selected houses (Agorsah 1983a: 118 - 120).

Courtyard activities and associated features

The courtyard experiences not only the highest rate of traffic in the house, but also many and varied activities. It is, as such, one of the most important areas for inter and intra-house information flow and action. Even where a clear definition of a courtyard's physical limits is not possible, activities which constitute courtyard activities, are usually well known. The fact is that not all activities are represented by structural features, and in some cases where they exist they are not fixed.

An important courtyard feature is the hearth. We observed that at least one out of every three hearths in the house is located in the courtyard, usually close to kitchen walls or fish-smoking ovens. It is not uncommon to find a hearth in the middle of a house. Because of its permanency and its heat effects on its location, the hearth is an important feature for recognising food preparation activity in the courtyard. In the absence of a kitchen a hearth is usually fixed at the location where the kitchen is likely to be built, under a drying platform for shade or shelter. However, this is not a hard-fast rule because drying platforms could be erected anywhere in the courtyard, and are often considered temporary structures.

Another feature of the courtyard besides the hearth and drying platform is the mortar. Fixed mortars in the courtyard are mainly for the preparation of a popular food called *kapare* (*fufu* in Ewe and Akan). They are sometimes communally used for pounding grain, in which case they are erected in the

courtyard and are rarely removed even when in disuse. Unlike other objects of the courtyard, mortars are positioned off walls of the house to prevent damage to the walls.

Another courtyard feature of considerable importance is the clan *(kabuno)* shrine. Thus is located in the courtyard on the immediate outside of the wall, and by the entrance of the doorway of the *kabuno* head. Family shrines, specifically for the family of a house, are also located inside the courtyard. A third type of shrine, the twin *(ntaa)* is erected on the outside of the wall near the entrance of the family, not *kabuno,* head's room. However, where there already is a *kabuno* head, it is attached to it. The courtyard is also the location for burials of important family personalities. The burial of the dead in houses is observable also in other Nchumuru settlements in the area such as Akaniew, Banda, Buafri and Grabi. Although there is no specific location for graves in the courtyard, they tend to be located away from the kitchen side of the house. Wiae traditions mention that properly, deceased *kabuno* heads should be buried in the courtyards of their houses. However, today, it is the family that makes the decision.

As part of the development process of the house in Wiae, burrow pits sometimes end up being the part of the house that eventually becomes the courtyard. In such a situation the burrow pit becomes a rubbish dump. It may take several years to fill up. For example one such pit being used as a rubbish dump by a house during my visit in 1972 was only half-way filled in 1981. The restrictions imposed by the rubbish dumps in the courtyard are, that structural features such as mortars and hearths tend to be located around it, and that only certain parts of the courtyard can be beaten hard.

Other features or objects located in the courtyard include wooden benches, water storage pots, grinding stones, gourds, stools, chairs, tables, boxes, piles of firewood and several household equipment and tools. These objects are so much moved around between rooms, courtyard and kitchen, that it is not possible to earmark any specific locations. However, an overall observation indicates that the above-mentioned objects tend to be lined up along the walls.

Clearly, the courtyard is a multi-purpose area which probably explains why it is open with a few permanently fixed features, since this makes it possible to arrange or shift objects around for different activities. Even though the activities carried out in the courtyard and objects associated with them are very important, the availability of alternative locations seem to reduce its crucialness as a unit of the house. Taken individually, the activities that take place in the courtyard such as sleeping, exchange of goods, family discussions, pouring libation at the family, *kabuno* or personal shrines, burial and food preparation or drying food on the beaten floors, have too low frequency of occurrence to require any physical expansion in terms

of structural features. It appears, however, that the courtyard, by virtue of its location and its multi-purpose activitiy area, is important as a connective space area for all other activity areas. Paths flowing through the courtyard indicate the connectivity that it provides between activity areas of the house and between *kabuno* areas of the settlement.

The kitchen

The kitchen *(gyaare)* is one of the most important fixed structural features of the residential unit in Wiae. It may consist of anything from a raised rectangular platform with one or two hearths to a wall enclosure with a thatch roof. The raised platform, about three metres high is often the nucleus or location indicator of a future kitchen. Owing to the lesson of the outbreak of fire which destroyed Old Wiae, the people of modern Wiae have the tendency to locate kitchens a fair distance from the main buildings. After erection of the kitchen, other features are constructed to fill in the gaps and to square up the house into the "L" and "U" shaped patterns that are the geometric characteristics of Wiae houses (Agorsah 1983a). The erection of the kitchen invariably gives the house its initial spatial definition. Later additions to the initial building, such as ovens, fowl pens, storage barns and similar structures are then built at appropriate locations. Finally objects in the kitchen tend to be located clsoe to the walls, either outside or inside of the kitchen (Figs. 3 and 4).

Features associated with Wiae kitchen

A kitchen in Wiae must have at least a hearth, but not all hearths in the house are in the kitchen. More than 50% of the total number of hearths in the house are located outside the kitchen. Many of this number are located in the courtyard and, in two out of three cases, located against or very close to the kitchen walls on the courtyard side.

The kitchen provides shelter for fish-smoking ovens and hearths, as well as household equipment such as pots, bowls, baskets, water containers, hoes and hoe handles, mortars, pestles, brooms, gourds and calabashes. ing stones, clubs, firewood and a host of unfixed household objects. The kitchen, therefore, is one of the units of Wiae residential area which contains the most important features that can be used to explain the occupational and food preparation habits of the people in the settlement. The importance of the kitchen is, however, not only because of its connection with food preparation and storage but also because of the opportunity it offers for easier explanation of the form of the house.

The Backyard:

The backyard is defined as the area of the settlement immediately surrounding the space within which are located the structures of the sleeping room, kitchen and courtyard. Many of the manufacturing and processing activities take place in the backyard. These activities include basketweaving, mending of fishing nets, pottery-making, carving of stools, mortars and pestles, preparation of slaughtered, trapped or hunted game, and storage of firewood and building materials. Storage barns and bathhouses are also located in the backyard. Rubbish dumps and toilet pits are located on the outermost limits of the backyard. Community features such as mortars for communal pounding of grain and resting platforms or benches are also located in the backyard. The cemetery of the village is located out of the village but burials continue to be made in the backyard. In addition to the activities indicated by the features located in the backyard, other activities such as drumming and dancing, meetings and exchange transactions take place in the backyard. Most of these activities vary in frequency of occurence.

Traditionally, the end of the backyard marks the boundaries of the settlement. The area beyond the backyard is the *afuito*, meaning "empty space". The *afuito* is the area beyond the rubbish dumps and latrine pits which physically mark the outskirts of the settlement. *Afuito* is a term also applicable in Nchumuru everyday language to open space. What the traditional description indicates is that the backyard is not really an empty space. Its contents are considered as part of the settlement. That is, it is really not *afuito* but a space that has at the point of mention, not been carved into the residential part of the settlement. The location of some of the most important features such as storage barns, rubbish dumps, and piles of firewood in the backyard indicate its importance and the boundary connections that it provides between the residential area and the farm lands. The discussion so far shows that even though the various divisions of the house have different functions, they are connected by the activities related to the objects that lie in them. The courtyard in this regard significantly is not only multipurpose division of the house but also the area that provide connectivity between the other activity areas as well.

Locational decision-making among the Nchumuru

Relating behavioural variables to material objects in spatial terms is an exercise that eludes many spatial archaeologists. Owing to the static nature of the eventual archaeological record, the understanding of the dynamics of an ongoing cultural system, even if this is arrived at, constitutes one of the best ways of explaining behaviour related to the recent past. Yet adopting an approach that helps to arrive at this understanding is only

a first step. Different spatial processes may produce the same spatial patterns and vice versa. A wide variety of internal spatial patterning in houses may be developed, but these can only be useful when seen in relation to the values of the society and also when those values can be defined in practical and measurable terms.

Throughout Nchumuru settlement history in the Banda-Wiae area, decisions regarding location of features and objects seem to have been taken at three levels: at the *nsuro* (phratry) level (to maintain cohesiveness between members of the *nsuro* in the Nchumuru area as a whole); at the *mbuno* level within a settlement (to maintain relationship between family groups); and at the household level (to maintain family identity). The first two decisions are at the group level while the third one is at the individual level. The individual decision affects the internal patterning in the house and is determined largely by the taste of the builder and his dependants. All the three decision levels not only affect the location and distribution as well as the form and arrangement of houses and objects within the settlement as a whole, but also the location of other structural features within the individual houses.

The principles of locational decision making within the Nchumuru households as considered in my study are not the types familiar in mathematical logic and other similar spatial theories. They cannot be fed into a computer to yield decisions that would be of help to the archaeologist. Their application requires sensitivity and intuition. In view of the vagueness that this type of analysis can generate, it may be questioned whether and in what sense the decisions are rational at all. This question is difficult to answer as there is no universally agreed definition of "rationality". Simply, the decisions are considered as rational because they are derived from principles appearing in the trends of an on-going society, and therefore, represent a type of effectiveness. They are effective in creating a type of internal organisation in the house that produces its own kind of good. In any case I am here concerned with identifying the factors which determine the locational decisions rather than judging the rationality of those decisions.

Available archaeological evidence supports the speculation that the locational decision-making at all three levels is continuous between early Nchumuru settlements and modern ones in the area (Agorsah 1983a). The observed continuity certainly constitutes the various stages of the growth of the spatial behaviour of the Nchumuru in the area. Cultural transformation, indicated by the shift from circular to rectangular houses appears however to have necessitated an adaptive deviation in the location of features within houses. The continuity in location decision-making is also indicated by the importance of the Dente shrine in the Nchumuru village. That the Dente oracle was derived from the Larteh of southern Guang area is a historical fact and supported by traditions from Krachi, Nkonya and Larteh (Akwapim) (Maier 1981, Kumah 1964). The linguistic connections between the Nchum-

uru and the other Guang societies of Ghana is very well attested (Ehret & Posnansky 1982).

Another significant cultural element that indicates connection between the internal organisation of early and present Nchumuru houses consists of large wooden mortars located between house structures. This is also evidenced at the excavated sites of Old Wiae and Oseiaye No. 1 (Agorsah 1983). It is also a characteristic feature in modern Nchumuru villages of Banda, Nanjuro, Nchenke as well as other Guang-speaking villages such as Abujuro, Adamkpa and Monkra in the Kete-Krachi area. Is this a typical feature of the Guang? Anquandah (1982) considers this feature as very characteristic of the Guang of the south and cites the site of Dawu as an example. If this connection is observed to be true for other sites that are Guang-speaking, and there is sufficient evidence to show further connection between such evidence and the social organisational rules of the Nchumuru then one can suggest that the particular location of such large mortars between house structures are typical of the Guang. Their location further extend the courtyard activities and support earlier suggestion that the courtyard serves as an area of connection between the houses.

Nchumuru ritual also seems to play an important role in the internal organisation of the house. In ritual, the actions of the Nchumuru are believed to have consequences reaching far beyond their immediate impact. Their actions are ritual not because they are exotic or bizarre. For example, in their minds the ritual action of guarding the location of the *kabuno* is a way of maintaining good relationship with the spirits of their ancestors but at the same time it manipulates their use of space and thereby manipulates their life. The *kabuno* shrine has a special location in the house. In the period before modern Wiae it used to be located in the centre of house consisting of circular huts. In modern Wiae it is located at the entrance to the room of the *kabuno* head on the left side entering the room. Identification of the *kabuno* shrine is easy by virtue of its location within the house. For example, the *kabuno* shrine's locations made them visually and psychologically accessible to the household and other *kabuno* members. Archaeological evidence obtained from Old Wiae indicates the importance not only of the ancestral *kabuno* shrine but also of the Dente shrine which has been described as the protective god of the village.

In a society in which the builder of the house is the user and at the same time the one who also maintains it, it is clear why social connections should play quite an important role in their spatial behaviour or patterning. Generally in building a house and deciding on its internal organisation, the spatial behaviour of the Nchumuru does not pose merely a technological problem but is dictated principally by the character of the villager's social relationships. Although the spatial behaviour involves aesthetic and geometric

considerations, the main goal is the cultural and practical function. The houses in precolonial Nchumuru society, therefore, constitute pure reflections of life-styles, a situation which is not common among western societies in which the designer of the house is different from the builder, and the user is often neither of the two.

Who in the Nchumuru society decided or decides the internal spatial organisation of the houses or the settlement at large? My previous arguments (Agorsah 1983b) seem to emphasise Nchumuru decision-making as a group rather than an individual factor. This is not to say that a given society's traditions are maintained only on a group level, nor was it meant to imply that every group which existed in the past has been perpetuated. However, one can hardly conceive of a collection of individuals living in geographical proximity without the eventual evolution of some form of group membership. Individuals living in such proximity interact, and out of these interactions a group crystallizes. In fact, among the Nchumuru of Wiae, a person's very sense of identity is shaped by the group of greatest signficance to him--the *kabuno* and the *kasuro*. These groups give the individual his earliest and most complete spatial experience and social identity and a guaranteed connection with his ancestry.

The human spatial behaviour evident in the modern settlement of Wiae (for example the decision regarding the location of structural feature within the house), therefore, is a result of individual decision based on the group norms. There are no explicit restrictions, whatever, about the individual's decisions. However, since he shares an overall space area, as well as some ideals with other people, he behaves in the same manner in which he wants them also to do. Consequently, an informal compromise evolves which, upon repetition over a period of time, crystallizes into accepted values and relationships through which one may be considered as belonging to the group. By identifying the group spatially one can socially identify the individual who then becomes the pivot around which the detailed dynamics of the spatial system can be explained.

My study demonstrates that both the group and individual factors are crucial at specific levels of analysis of observed cultural patterns. Considering the spatial behaviour at all levels in a general sense, the evidence suggests that among the Nchumuru, individuals build their houses for the group - the ***kabuno*** and ultimately the *kasuro*. *The location of the house* identifies the individual as a member of the group; the *house form* and its internal organisation identifies him as an individual. The difficulties of isolating individuals by studying cultural material in an archaeological context have been well discussed (Hill and Gunn 1977; Donnan & Clewlow 1974) and seem to indicate that material in the archaeological context is a result of varying combinations of both group and individual action, which combination varies, with people (place) and the time contexts.

PART II Evolution of House Forms in WIAE

Figure 2 shows that generally, New Wiae house structures are rectangular in shape and possess open countryards. As we try to show in the part of this paper the form of the house in Wiae seems to be determined by the family structure. The development of the house form requires two types of decision, the first of which concerns the location of the individual house. The second concerns the form of the house. Both decisions are recognized as deeply rooted in the clan *(kabuno)* system (Agorsah 1983). In this part we are concerned with the uniformity of the form the house and how the uniformity in the form is generated by the process of the development of the house as a structural feature that accommodates the *Kabuno* system of the society in question.

The construction process of the house in Wiae has been discussed in greater detail elsewhere (Agorsah 1985). A house of two rooms and an open courtyard is the usual starting point. Additions to the house structure and the sequence of additions depend on the trend of the growth of the builder's family, interests and capabilities. The individual decisions or choices may differ, but because they depend on a basic traditional factor the *kabuno,* they provide the Wiae houses with their quality and unspecialised open-ended nature. The manner of growth of the basic domestic group (the family) is similar to that of many Ghanaian groups. The family expands over time with children being born into it and then themselves maturing to the point of setting out on their own, with additional wives being added on, in later years, with addition of a foster child or divorced sister. This group eventually dissolves and the dead achieving ancestorhood, to be reborn later to go through the whole family cycle. The numerical expansion of the family among the Nchumuru has been found to contribute to the determination of the need for additional features to the initial structure. However, strictly, this does not determine the form that the house usually takes. In other words the family expansion can determine what type of structure should be added but not its definite location and form which are determined by the values embedded in the *kabuno* system of the Nchumuru.

Tradition requires that the *kabuno* relationship with the dead be maintained because the extinction of individual members of the family does not constitute the end of the *kabuno,* membership of which essentially includes the dead. Data obtained by us on the development of the individual houses reflects in our view the effect of the continuity in the maintenance of the concept of the *kabuno* on the traditional form of Nchumuru house. Information on the growth of each house especially prior to 1972 was obtained from the individual house owners. Since the people do not make house plans on paper, the reconstructions were based also on plans

recorded during my 1972-81 period of study in the area.

The stages of development of the floor plans of the house structures (see Figs. 2 to 9) are shown by progressive numbering. Each stage shows previous structures plus additions or deletions. It will be noted that often,

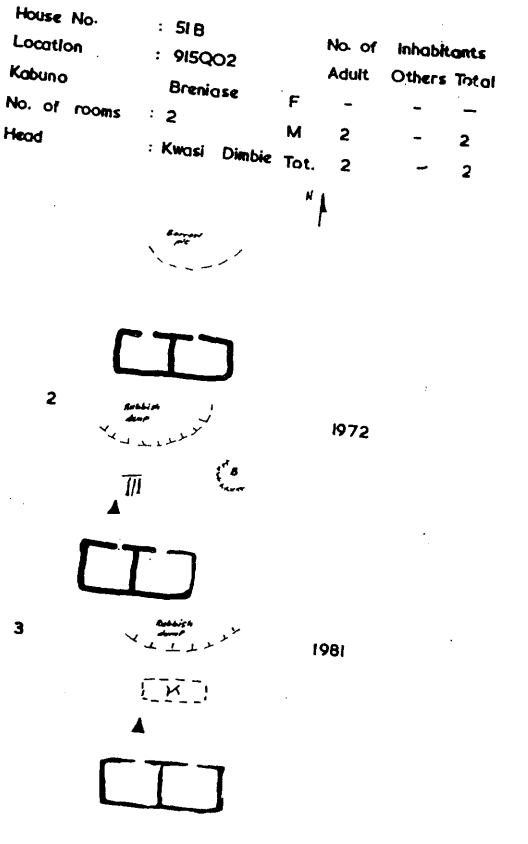

Fig. 4 Development of the House

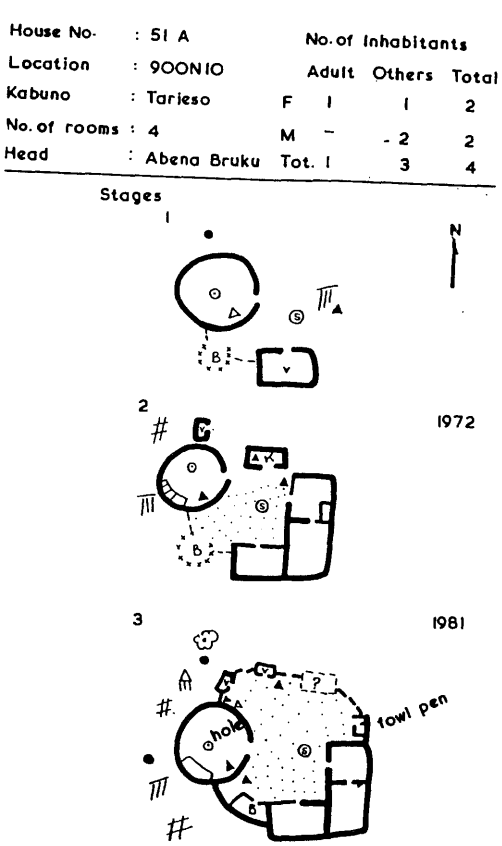

Fig. 5 Development of the House

House No. : 1
Location : 54ON25
Kabuno : Kpenwiae
No. of rooms: 8
Head : Asafoakye Asabese

	No. of Inhabitants		
	Adult	Others	Total
F	2	3	5
M	2	1	3
Tot.	4	4	8

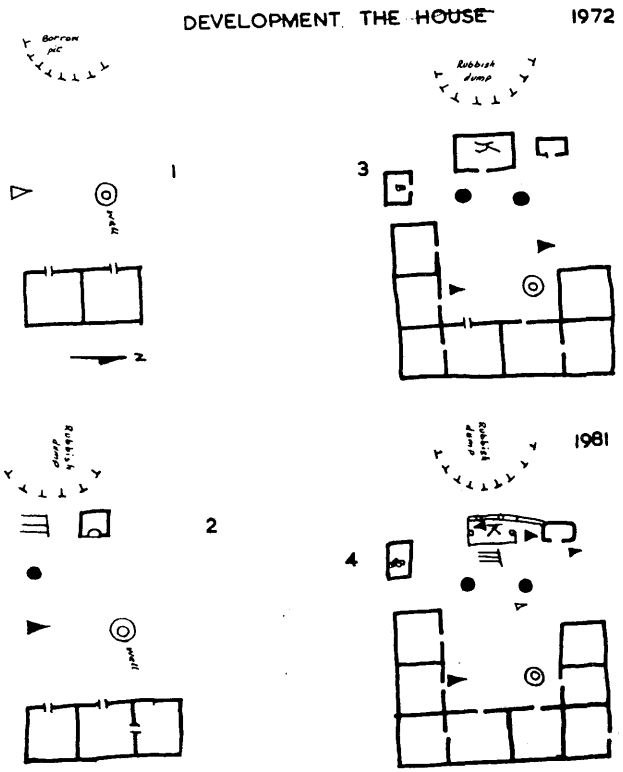

Fig. 6 Development of the House

House No. : 65
Location : 76OR2O
Kabuno : Tarieso
No. of rooms : 7
Head : Kwame Mensa

	No. of Inhabitants		
	Adult	Others	Total
F	5	2	7
M	4	2	6
Tot.	9	4	13

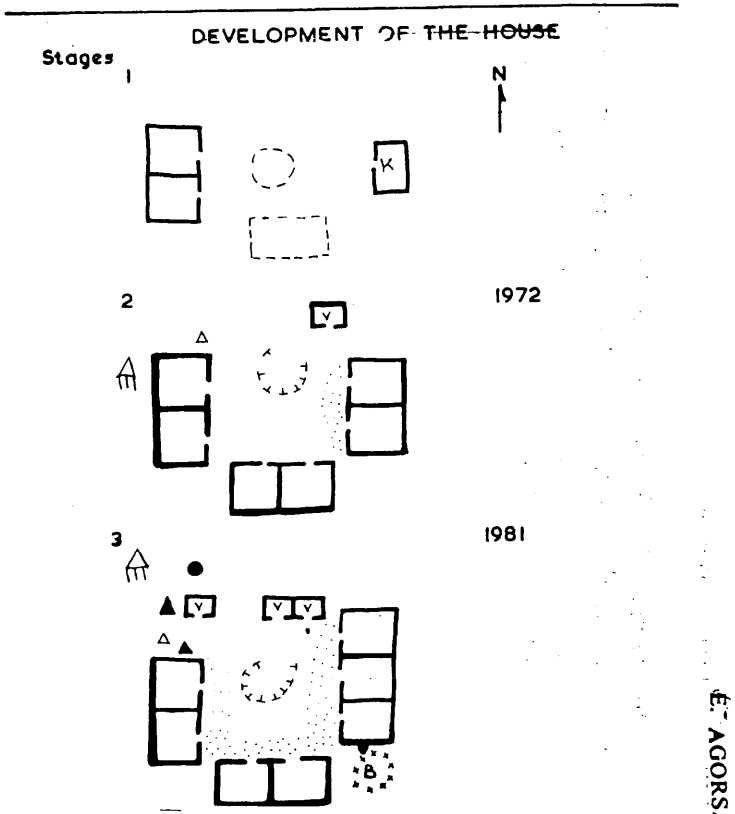

Fig 7 Development of the House

House No. : 12
Location : 625NO5
Kabuno : Breniase
No. of rooms : 6
Head : Kwamena Mensa

	No. of Inhabitants		
	Adult	Others	Total
F	5	5	10
M	5	4	9
Tot.			

House No. : 10
Location : 62OM2O
Kabuno : Tarieso
No. of rooms : 8
Head : Kwasi Kyere

	No. of Inhabitants		
	Adult	Others	Total
F	3	1	4
M	5	4	9
Tot	8	5	13

			No. of Inhabitants		
House No.	: 12		Adult	Others	Total
Location	: 625NO5	F	5	5	10
Kabuno	: Breniase	M	5	4	9
No. of rooms	: 6	Tot.	10	9	19
Head	: Kwamena Mensa				

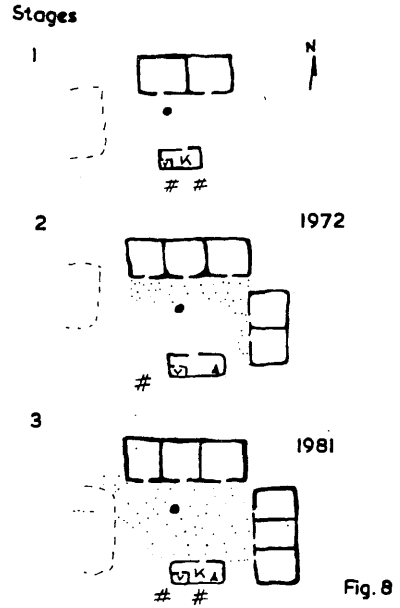

Fig. 8

Fig. 8 Development of the House

			No. of Inhabitants		
House No.	: 10		Adult	Others	Total
Location	: 620M20	F	3	1	4
Kabuno	: Tarieso	M	5	4	9
No. of rooms	: 8	Tot	8	5	13
Head	: Kwasi Kyere				

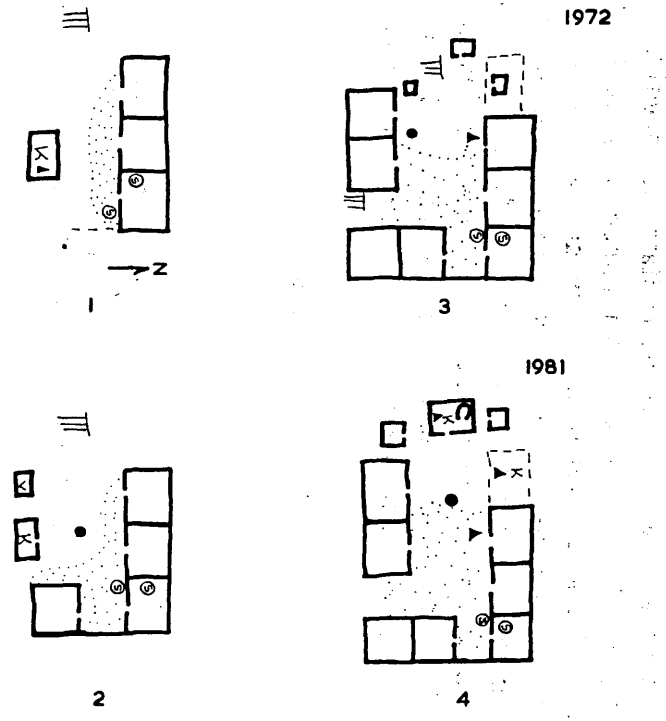

Fig. 9 Development of the House

the addition of a structure may necessitate the deletion of another. The numbers on the illustration refer to numbers assigned to them during my research (1983) and do not refer to any numbers assigned by any governmental agency. Location on the illustration refers to the position of each house within the grid system used in the study. *Kabuno* refers to the clan *(kabuno)* to which the house belongs. There are five *mbuno* in Wiae: Bremiase, Dapoeta, Kpenwiae, Ntrapo and Tarieso. The number of rooms and inhabitants represent the situation as it was in January 1981 (Fig. 2)

Observing Regularities

The physical Context

To the builder and the one who owns the structures illustrated the house provides a meaning as a sequential experience. In dealing with its structure we look at the house as an object seen as a whole in space by a contemplating mind, and as an event in time experienced by man in action. A closer look at the stages of the development shows that each house follows its own pattern. However, it was noticed also that the resultant patterns derive from the location of first two-room house structure, and then a kitchen. A common theme among examples of indigenous residential forms is the "L" configuration of rooms around an out-door living space (Prussin 1969, Swithenbank 1971, Soja 1971, McIntosh 1974, Agorsah 1985). Typically, as in the case of New Wiae houses, one living house contains private space or utility and service spaces. This type of layout provides private but open out-door spaces, sheltered by the building form, to which interior space can be related.

The sheltered parts of the "L" shaped form is expressed well when one takes a look at house 1,8,13,14,22 and 30 in a row (Fig. 2). At points in time during the physical development of the house a void may be introduced into the "L" configuration thus weakening the definition of the shape. The two wings may then be isolated from each other and one eventually appears to slide by and visually dominate the opposite one which, therefore, appears to be an appendage to the other as can be seen with houses 10,17, and 65. In such a situation, if neither wing extends to the corner, the field will become more dynamic in nature and organise itself along the diagonal of the form, and visually appear more open. Because "L" forms of structural arrangement are stable and self-supporting they can stand alone in space and yet appear to be part of the whole settlement. They are also flexible space-defining owing to their open-ended nature, and can thus be used in combination with another or other elements of form to define a rich variety of spaces.

The ultimate form of the house in Wiae is the "U" arrangement. It is this which gives the house at Wiae its true open-end form and completes its physical coherence. An over-all assesment of the growth of the house form at Wiae supports the conclusion that it ultimately ends up in "U" shape and that the open end is the side of the house where the kitchen is located. The "U" shape configuration defines a field of space that has an inward focus as well as an outward orientation. At the rear of such an arrangement, the field becomes extroverted in nature (House I Fig. 2). The open end is the primary aspect of the house form in Wiae because it allows the field to have visual and spatial continuity with the adjoining clan *(kabuno)* houses. Herein begins the link with the social context.

During the development of the house other structural features may be erected alongside the kitchen thus interrupting the continuity with the space of the adjoining house. However, as the house structures are generally rectangular or oblong the open-end can be along its narrow or wide side. Strictly, only very few houses in Wiae possess the "U" shape. Portions of certain houses have collapsed owing to poor or total lack of maintenance, thus introducing openings at the corners or creating secondary zones, and giving them multi-directional and dynamic nature.

Looking back on the sequence of the growth of the individual house in relation to the "L" and "U" shape (Fig. 2-9) some basic observations emerge. Firstly, the location of the kitchen structure opposite the first two-rooms mud wall structure is critical for recognising the form of the Nchumuru houses; secondly, the open-end of the fully developed or developing "U" shape house is the side where the kitchen is located. These observed regularities are not even recognised by the Nchumuru society whose behaviour they represent. As the system in which the society exists is not static, one expects readjustments in these patterns through time and with changing conditions. The importance of the physical coherency of the house form at Wiae and for that matter among the Nchumuru is more comprehensible in the light of the social values and arrangements related to the house form.

As mentioned earlier the Nchumuru builder does not possess drawn architectural plans but the physical forms that one observes in the "L" or "U" shapes seem to represent what can be considered as some kind of physical regularity. Among the Dogon of the Bandiagara escarpment in Mali, one notices that despite apparent lack of planning, the layout of the village and houses is highly organised, and expresses physically a complicated cosmology (Denyer, 1978). The components of the house represent the individual organs of the body. About the compound of the Tallensi in northern Ghana, Prussin writes, "This synthesis of form and function serves to transform the Tallensi compound into an architectural quintessence. Perfect balance is achieved between the spaces enclosed and the walls that

enclose them" (Prussin 1969: 61), thus emphasising the physical coherency. A similar physical definition is distinguishable in the structure of Larabanga houses (Prussin 1969:84-5).

The Social Context

Fundamentally the physical development of the houses seems to entail more than satisfying the purely functional requirements of the societies. In general terms, the development of the individual houses at Wiae provides a history that links this basic unit of the settlement (the house) to the social context.

The house, *(Ionno)* to an Nchumuru, in a territorial sense, refers to the geographical location and extension of the *kabuno* and its members. It also means an assertion by a family that a geographic space is under its influence and control. The concept concerns two rationales: caring and sharing, which are embodied not only in the *kabuno* relationship but also intimately and necessarily, in the phratry *(nsuro)* relationships. However, the intimate link between the individual families and the community does not stifle personal expressions. It is for this reason that the individual owner must build the house, providing it with an openness that links it to the houses of other *kabuno* members. The house forms are normally consciously conceived (designed) and realised (built) in response to an existing set of conditions or values accepted by the people of Wiae as a group. The group factor is, therefore, the main reason for searching for regularity and continuity in the forms that make up the characteristic pattern for a house at Wiae. The grouping of the huts and the openness into one another reflect the social order. Observations indicate that each house is surrounded by those of his kinsfolk *(kabuno)* as social norms require. This is clearly how the pattern of the building process, values, constraints and also the pattern of daily life are fused in the physical form. This creates a situation of a dual coherence in that it is coherently related to its social context as well as its physical form. A superficial examination of the house forms shows that the houses are versions of the same simple form and convey a powerful sense of physical coherency. For example, one can literally transplant houses 1,8,10,13,14,58, and 17 on to each other (Fig. 2). However, because the pattern of growth does not originate from a rigid geometrical concept, the development of the house form in Wiae is flexible, and can readily accept growth and change without affecting its openness. Acceptably, individual house patterns of development are not the same (compare development stages of houses 1 and 10. Fig. 2) but all the houses have an underlying or common factor which is the result of the architectural experiences through which the traditional builders have gone. What happened to the uniformity in form was that the builders continued to design houses of the old types and when

they planned new houses, they designed them in accordance with rules of the old competence deriving new forms from the traditional scale or rule. In order to recognize the basic or underlying factor one needs to search for repetitions of structural forms such as observed for Wiae. The repetitions provide the elaboration of rules or what can be referred to as regularities. In the case of Wiae the basic pattern is the form with an open courtyard, the openness being at the kitchen side, and linked to the house of relatives or *kabuno* members. The maintenance of the basic pattern or the consistencies inherent in the pattern stems from the fact that the owner of each house is the designer, builder and at the same time the user, who has behind him considerable influence from the force of past experience.

The discussion of the development of the individual houses clearly illustrates that most Nchumuru prefer to improve upon the existing structural form rather than begin again somewhere. Because they rely on previous experience when developing their houses, past patterns are strongly reinforced. However, explaining the present on the basis of past patterns, begs the question why these patterns came about in the first place. While among the Nchumuru, past patterns do condition the present, the patterns have been constantly changing as people find it more desirable to meet new requirements. The process of readjustment is discussed elsewhere (Agorsah 1983), and the tentative conclusion drawn is that on the basis of comparison between house forms in modern Wiae and those of Old Wiae, it is apparent that although marked differences exist, the basic attempt to maintain *kabuno* relationship has been carried from Old to New Wiae. The observed continuity of tradition between Old and New Wiae provided by the data from excavations also support the continuity of the dual coherence in Nchumuru house forms. Thus the change from circular to rectangular forms some three hundred years ago according to C14 date did not happen with change in the dual coherence of the forms. From the study as a whole general observation indicates that social patterns or relationships are not as rigid as those obtained in the physical world, but they generate sufficient regularities to be recognised and described. For every physical pattern or form of structural feature of past settlement there was a social context, and explanation of either the physical or the social context should help explain the other.

In a society in which the builder of the environment is the user and the one who maintains it, it is very clear why social connections should play a vital role in spatial behaviour and house form patterning. As has been emphasised elsewhere (Agorsah 1985), to the Nchumuru, the building of the house is not merely a technological problem, but also principally a problem of responding to the character of the villager's social requirements or relationships. Although the physical requirement involves aesthetic and geometric considerations, the main goal is the cultural and practical function, and therefore a pure reflection of their lifestyles. This situation is not the

same in western societies in which the designer is often different from the builder, and the user may be neither of the two. (Friedman 1980). The dual coherence is not basic in such a situation and cannot produce a uniform rule or regularity. Although the dual coherence in Nchumuru house forms may not be unique, the evidence that its study provides emphasises the need to take a closer look at explanation of traditional house forms that fail to consider the absolute significance of social relationships, although this context is not visible. How much of this dual coherence is inherent in other traditional forms among other ethnic groups of the area is a question that has to be studied as a follow up. But such crossculture approach even of a broad sort, must proceed hand in hand with the study of individual societies. Of course, this also means that one must shift at times to a high level of abstraction in order to isolate regularities. The ethnoarchaeologist's immersion in a sociocultural system may lead him to exagerate the uniqueness of particular pattern within that system, be these familial or friendship or other social phenomena. Even after avoiding such an exageration, ultimately the most compelling case for placing ones own research findings within a crosscultural framework stems from the work of many ethnoarchaeologists, particularly those concerned with traditional societies, which emphasise the need for testing hypotheses on the basis of comparative data.

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