THE ARCHITECTURE OF THE
WEST AFRICAN MOSQUE
An Exegesis of the Hausa and Fulani Models

by

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to my children

AZIZAH, ZAINAB & HABIBAH
and to MY WIFE, MUFEEDAH
The Architecture of the West African Mosque:  
An Exegesis of The Hausa and Fulani Models

by
Akel Ismail Kahera

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Science in Architecture Studies

ABSTRACT

This thesis will examine two models of West African architecture -- the  
Mosque at Zaria, Nigeria and the Mosque at Dingueraye, Guinea. It will  
also attempt to illustrate implicit patterns of creative expression, both  
literal and allegorical, in the space-making processes of the Hausa and  
Fulani peoples. In passing, some attention will also be given to the  
cultural and building traditions of the Mande people. The notion of  
space and place in much of sub-Saharan Africa oscillates in a realm  
which is neither absolutely rational nor ethereal. Culture, it could be  
argued, can offer us an opportunity to investigate an analytical  
taxonomy through which we can compare and discover particular  
attributes of space and the phenomenological dimensions of built form.

Culture, as a layered accumulation of historical events, visual  
vocabularies, and architectural expression, is subject at one time or  
another to an ethos which may have had a syncretic origin. Among the  
Hausa and Fulani, the image which exists within the architectural  
paradigm can be described as a language, or code or a method of  
explaining spatial concepts related to concrete space and traditional  
culture. The Hausa and Fulani spatial schemas are concerned with the  
nature of space as a context and metaphor for experience, inner and  
outer, hidden and manifest.

Thesis Supervisor: Ronald B. Lewcock, Ph.D.  
Title: Professor of Architecture
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A.I.K.
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INTRODUCTION
ETHNO-HISTORIC CONTEXT

From the 8th century A.D. Muslim trading centers were set up in ancient Ghana\(^1\) (8th-11th c. A.D.) subsequently influencing all West African empires that evolved, from the Mali Empire (13th to 14th c.), the Songhai Empire (Mid 15th c. A.D.), the Hausa States (11th to 18th c. A.D.) and the Hausa-Fulani, Sokoto Caliphate\(^2\) (early 19th c. A.D.). A cultural syncretism developed as a result of the political and economical structure of these empires, which played host to Muslim literary, philosophical, artistic and architectural tradition in sub-Saharan Africa for over a thousand years. Several notable personalities who greatly influenced the artistic, literary, and philosophical traditions of the region are today remembered by the evidence of their works. Buildings at Gao and Timbucktu were endowed by the legendary Mansa Kankan Musa, the 14th century ruler of Mali most remembered for his hajj (pilgrimage) to Makkah in Arabia (1324-25).\(^3\) Upon his return to Mali, Mansa Musa brought an entourage of scholars from the Muslim world with him, among whom was an Andalusian architect and poet; Ibn Ishaq As-Sahili (d. 1346 in Mali). Ibn Ishaq As-Sahili is reputed to have been innovative in introducing a 'Sudanese' style of architecture in West Africa through the commissions granted to him by Mansa Musa.\(^4\) His buildings which are no longer extant, included at least a palace and a mosque for Mansa Musa at both Gao and Timbucktu. Of equal importance was Muhammad Ibn Muhammad Al Fulani of Katsina (Northern Nigeria) an 18th century scholar, numerologist, astrologer and mathematician.\(^5\) Another more recent figure, known for his leadership role in the Fulani jihad of the early 19th century, is Uthman Ibn Muhammad dan Fodio\(^6\), who was also of Northern Nigeria. Dan Fodio succeeded in setting up the Sokoto Caliphate after gaining control over most of Northern Nigeria. Remnants of the Caliphate structure are still discernable in the region today. There are many others who have made significant contributions to the development of the cultural and political tradition of sub-Saharan Islam.
Fig. 0.1: Map of West Africa (Post-Colonial Period)
Fig. 0.2: West African Empires. 8-17th Century A.D.
West African traditions were readily accepting of other beliefs and as such an Islamic culture flourished affecting all else around it. A synergism in architectural and cultural concepts coupled with the elements of a progressive culture produced a "genesis" or architectural form. Among the most dynamic examples of this is the mosque which has been traditionally a focus of Muslim architecture. The "genesis" therefore found a poignant expression in the architecture of the West African mosque. The elements of "time," "space," "being" and "becoming" implicit in the change from transhumance to a sedentary life, are evidence in a conjoining of the Islamic and West African ideas in their architectural dimensions.

Of particular importance and concern to us in this essay is the influence of Islam on the architecture of the Fulani and Hausa people (Figure 0.3). Among the many groups of people who inhabit the West African savannah, the Fulani and the Hausa were most affected by the ethno-cultural interaction brought on through the impact of the early 19th c. jihad movements.

This thesis will examine two models of synergism in West African architecture, the early 19th c. mosque at Dingueraye, Guinea and the mosque at Zaria, Northern Nigeria. Both buildings were constructed during the early part of the nineteenth century, a period which was witness to several West African jihad movements in the Futa Tora and the Futa Djalon, Guinea and Hausaland, Northern Nigeria. The essay will investigate the ethno-historic and the ethno-cultural elements implicit in the architecture of both buildings -- either connotative or denotative -- imagery and iconology.

We will address the issue of the mosque as an "archetype" and the factors which have influenced its cultural transformation as illustrated in the example of Dingueraye and Zaria. Among the many salient aspects of the architecture of both mosques is the liturgical spatial language and endemic ethno-cultural expression which we have termed "African Space." These features will be elucidated upon in the chapters that follow. What makes the Hausa and Fulani artistic environment essentially significant? The present analysis seeks to evaluate Fulani and Hausa
Fig. 0.3: Map showing the extent of the Fulani-speaking populations. The Hausa-speaking populations are concentrated in Sokoto, Bauchi, Dura, Kano, Zaria, Katsina, and most of Northern Nigeria.
spatial models, and in so doing will attempt to illustrate a theoretical construct implicit in the syncretic nature of built form.

Secondly, in a wider context it will suggest a re-thinking of West African mosque architecture; the elements of style, iconology, and innovation -- whether common or disparate to both the mosque at Dingueraye and Zaria.

Given the syncretic nature of Islam in the sub-Sahara region, it is significant that the cultural and creative genius of the Fulani and the Hausa people would manifest itself in the Mosque at Zaria, and the Mosque at Dingueraye. The setting both at Zaria and Dingueraye is governed by two general features: an ethno-cultural character and secondly an artistic landscape of the sub-Saharan region in general, and the Hausa and Fulani spatial themes in particular -- themes charged with specific cultural and iconographic meanings represented in an aesthetic sense.

Most studies on sub-Saharan Islam have been theological, historical, or socio-political in nature, while studies of the artistic traditions of the region are often isolated from their regional context. There are conceptual difficulties in bringing them altogether, but can one doubt that they are culturally symbiotic?

An authoritative study of the architectural and artistic traditions of the sub-Sahara region must consider both the contribution of Islam and the ethno-historic features inherent in the progressive nature of local culture and building traditions.

THE MOSQUE AS ARCHETYPE

Although the word masjid (Arabic, literally: place of prostration), is fairly common in the Qur'an it does not appear to refer to a prescriptive type of building. The prototypical building used as a place of assembly for worship in Islam is derived from the example of the first masjid (mosque) at Madinah (200 kilometers north of Makkah), built by the prophet Muhammad and his companions after the Hijrah (migration) from Makkah, Arabia (622 A.D.). Some of its architectural features are described by Hassan bin Thabit in a poem written to mourn the death of the Prophet (d. 632-33 A.D.):
In Taybah (Madinah) there are still the traces and luminous abode of the Apostle though elsewhere traces disappear.

The marks of the sacred abode that holds the Minbar which the Guide (to the righteous) use to ascend will never be obliterated.

Plain are the traces and lasting the marks and an abode in which he has a Musalla and a Masjid.

And the Mosque which longs for his presence became desolate with only his Maqam (station) and Maq'ad (seat) remaining as memorials.14

The term *masjid* (mosque) and *musalla* (open or enclosed prayer space or hall) which occur in one of bin Thabit's verses carry a similar meaning to *jami* (lit. gathering), they all refer to a designated place of gathering for the purpose of congregational worship.

The archetypal spatial form which is commonly called "the Hypostyle" congregational *masjid* owes its origin to the Prophets' *masjid* at Madinah which was adopted as a model for succeeding buildings (Fig. 0.4). According to G.I. Besheh (who relies on textual evidence of A. Fikri), the plan of the building at Madinah was a rectangular enclosure with doors pierced in the exterior walls. A portico of three colonnades, each consisting of nine columns was placed along the *qiblah* wall (wall in which the *Mihrab* is placed). The Madinah mosque was initially constructed15 as a walled enclosure measuring 63 cubits (30 m.) from east to west and 70 cubits (35 m.) from north to south. Palm trunks supported a 7 cubit (3.6 m.) high roof of palm leaves and clay. As simple as the Madinah model might have been it nevertheless contained features which can still be found in the architectural vocabulary of succeeding buildings: the *mihrab*, (a later formal development) a niche in the *qiblah* wall indicating the direction of the *Kaabah* at Makkah; the *minbar*, a rostrum originally of three steps upon which the prophet stood to address the faithful, the *minbar* which is located adjacent to the *mihrab*,
Fig. 0.4 The Prophets Mosque at Madinah, Arabia (7th Century A.D.)
continues to be used for similar purposes; the sahan, or courtyard open to the sky sharing a contiguous relationship with the musalla (covered hall), it is sometimes used when overcrowding occurs in the prayer hall, the musalla, is located immediately adjacent to the qiblah wall. Apparently no minaret or elevated tower existed in the time of the prophet, the adhan (call to prayer) was pronounced from the roof of the mosque or any elevated place, that would allow the voice to carry.

The earliest functional development of the hypostyle mosque outside of the Arabian peninsula (Fig. 0.5) occurred in Muslim settlements such as Basrah and Kufa in Iraq and Fustat in Egypt in the 7th. century A.D. Later mosques in north Africa and Iran all belong to the same generic type. The essential characteristic of the hypostyle mosque is a space that is defined by the placement of columns or piers at regular intervals or bays.

While the hypostyle hall is still employed as an organizing element in mosque architecture, a multiplicity of spatial and ethnic variations can also be identified. "The hypostyle mosque also often became the first type of mosque built wherever a new area entered the Dar al Islam, [abode of Islam] .... Most [early] African mosques of any size tend to the hypostyle. It is as though, at those moments and places when the important cultural objective was Islam...the hypostyle mosque was the architectural form through which the presence of the faith could most easily be expressed...But a more profound explanation is that the hypostyle form remained in the collective memory of the Muslims as the form of an early [architecture associated with Madinah]...."16 The cultural variety that exist in the plurality of styles and forms--a departure from the hypostyle form--is a question of adaptability and the creative genius exhibited by the Ummah (the community). "Islam is a civilization (madaniyah) which by its very nature and by its universality embraces a multitude of cultures and styles...It is the plurality of forms and styles that characterizes [Muslim] culture. It is not a culture that may be defined by [an architectural homogeneity or] its material products."17 The only consistent form of identification that remains common to mosque architecture everywhere is the orientation of the building towards the Kaabah at Makkah.
Fig. 0.5: An Early 8th Century Hypostyle Mosque at Kufa, Iraq
As a liturgical requirement all mosques must face the *Kaabah* at Makkah -- it is an axis of prayer, which employs the *mihrab* as its symbol. Thus, the term *masjid* is in essence prescribed by its orientation to the Kaabah, and not by any physical definition *per se*. A pious traditional saying among Muslims further endorses this point: "The whole world is a mosque so wherever you may be at the time of prescribed prayer, it becomes a masjid" -- a place of prostration. By definition then the mosque is at once a prescribed place which an individual Muslim appropriates for worship but at the same time an established place of assembly (*jami*) whose only liturgical requirement is its orientation -- its axis of prayer. Yet through its historical existence specific examples of a building typology have evolved over time in the development of Muslim art and architecture. "Perhaps the characterISTICS of [mosque] architecture may be interpreted more accurately in terms of [its generic] interpretation .... From a purely religious viewpoint, one may even state that [since Muslims acknowledge] Allah [as] the source of all creation, there is no [creative source or] shape without his knowledge and there can be no specific shape that we mortals could define as more 'Islamic' than any other."\(^{18}\)

The hypothesis presented in this essay is concerned with a search for a more meaningful definition and secondly, it is an attempt to present an argument that recognizes the existence of underlying elements which share a symbiotic relationship in the cultural transformation of an archetypal image.
Fig. 0.6: A Simple West-African Musalla defined by a rectilinear edge and a niche (mihrab).
THE MANDE MOSQUE: A Vernacular Hypostyle

The typological features of the West African mosque are both a product of environment and a cultural imperative. Beneath a genre of stylistic features and visual themes lies an ingeniously syncrhetic model. Among the Mande the geometric grid of the hypostyle mosque assumes such a model in the form of a vernacular rendition commonly known as the "Sudanese" type. The Mande, in particular the Dyula... whose trading settlements... [carried] the influence of Islam southward [from the northern savannah] to the forest verges during the late eleventh and early twelfth centuries... [also carried] the basic forms of [the hypostyle] mosque design." Trading centers at Djenne, Mopti, and San (Mali); Bobo Dialasso (Upper Volta); Kong and Kawara (Ivory Coast); and Larabanga (Northern Ghana), all contain attributes of a particular style of rectangular clay building, hypostyle in plan, and uniquely idiomatic in its exterior character (Figs. 0.7 - 0.10). The "formal modifications which take place in the mosque as it travels from north to south, [from Timbuktu to the Ivory Coast and Northern Ghana] pertain to size... scale, structure... construction details... [and] deviations from the [hypostyle plan]." Mud is used consistently in the construction of these buildings, with their exterior walls reinforced with lateral timber members placed at regular intervals -- which also act as scaffolding -- and their roofs reinforced with wood joists. While mud permits great flexibility, it also has several limitations which influence the structural form and character of the building; in addition the facade of these buildings is in constant need of repair. The adaptation of a particular regional style using "mud technology" is therefore influenced by these factors, which in turn, act upon the buildings' aesthetic features. The stability and growth of the Mande trading centers made them capable of sustaining the local community and thus the promotion of architectural variations. "These variations group themselves into five categories: the Timbuctu, Djenne (Mali), Bobo Dioulasso (Upper Volta), Kong and Kawara (Ivory Coast) types (Fig. 0.11)." These types share a corresponding correlation with the structure and symbolism of the sculpture, and artistic traditions of the locale. Although a formal vocabulary -- the minaret, the mihrab, etc. -- are indistinguishable, architectural elements
Fig. 0.7: Map showing the extent of the Mande-speaking populations.
which are grounded in a cultural and emotional involvement in the local building tradition still pervade. Some of these elements are: the pinacles on the roof parapet, the triple minaret on the front facade, the buttressing of exterior walls and vertical exterior rib effect.

Because of the nature of the construction techniques, and the building size, walls which enclose the *musalla* may vary in height (20-25 feet high). The walls are therefore strengthened by buttressing or with engaged ribs or both -- for example, the mosque at Mopti. In most cases these ribs become a series of decorative crenelations of varying size as they terminate at the parapet. The *minarets* are always engaged with the building facade and are heavily reinforced with timber members. The use of domes or vaulted structures are non-existent in West African mosques except in the early 19th c. mosques of the Hausa and a few isolated examples in the Niger which are essentially Hausa influenced. Most mosques have flat roofs with openings for light and air that can be covered in the event of rain.

Courtyards (sahan) are quite small or virtually non-existent, the open space surrounding the mosque acts as a larger extension of the *musalla*. There are cases of courtyards, however, for example at Timbucktu, the Sankore and the Great Mosque, Djinguereber (jami al-Kabeer).

Rene Gardi and others have also made an analogy with the termite mounds and the ancestral pillars which also bear a peculiar similarity to the architectural elements of some Mande mosques. According to P.F. Stevens, the Dyula [Mande] distinguish three types of mosques, "the *seritongo* used by individuals or small groups of Muslims for daily prayers, is frequently no more than an area of ground marked off by stones .... The *misijidi (masjid)* or *missiri or buru* is used ... by Muslims from several households or from a "quarter" for their daily prayers or for Friday prayers if they have no access to a Friday mosque .... The *jamiu, or juma or missiri-jamiu* is ... used for Friday prayers and serves the requirements of the whole "umma" (community) ...."24 In this way the Mande mosque shares a functional definition with the wider community of Islam. While this axiom is valid in respect to the liturgical use of the hypostyle mosque among the Mande, examples
Fig. 0.8: The Mosque at Djenne, Mali-Hypostyle Plan
Fig. 0.9: The Mosque at Djenne, Front and Side Elevations
Fig. 0.10: The Mosque at Mopti Mali - Plan and Elevation
Fig. 0.11  Mande Mosque Types
a. The Mosque at Bobo-Dioulasso, Upper Volta
b. The Mosque at Kawara, Ivory Coast
c. The Mosque at Djenne, Mali
d. The Mosque at Safane, Upper Volta
like the Kawara mosque remain an anomaly (Fig. 0.11.b). Kawara assumes none of the "formal" vocabulary that is common to the mosque at Djenne, San, Kong, Robo Diolasso or Mopti. Kawara is absolutely fluid and sculptural in its massing, rising out of the ground like great "teeth." "The use of the mosques' (Kawara) interior has been abandoned -- it no longer has an architectural function ... and Friday activities take place in a demarked open space adjoining the symbolic structure."25

From this brief discussion of the Mande Mosque, we may therefore assert that a "true" definition of sub-Saharan mosque architecture cannot be limited to an architectural taxonomy of periods or styles, even within a limited regional context, but rather it should acknowledge a more meaningful typology, fully cognizant of underlying elements -- which share a symbiotic relationship in the cultural transformation of the "archetypal" hypostyle image.
Fig. 0.12: The Mosque at Bla, Mali-Plan and Elevation. As seen in this building, the *mihrab* and the *minaret* become one -- a common feature of most Mande mosques. The flight of stairs from the *Sahan* leads to the actual *minaret*. 
Introductory Notes

1. Ghana, literally the name of a king. The trading settlements were apparently located in several areas of the western Sudan between the 8th to the early 13th century, when Mali succeeded Ghana as an empire. Al-Bakri describes one such settlement (between 1067-68 A.D.) as inhabited by Muslims, having twelve mosques one of them a Jami, each had a Muadhin (caller of the Adhan), Imam (appointed officiant), and Fuqahah (jurisconsult). In the course of Ghana's long history the town and kings capital was moved from one place to another with the last capital believed to be at Kumbi Saleh (in the region of present day Mauritania).


3. Mansa Musa spent some time in Cairo on his way to Makkah, he is reputed to have distributed so much gold as gifts, that his generosity resulted in the devaluation of Egyptian gold for almost a year following his departure. See D.T. Niane, Ed., General History of Africa, vol. iv. Heinemann, California, Unesco, 1984.


7. Other significant groups include the Dogon, the Nupe, the Mande et. al. The Mande have been significant in the development of a particular type of mosque architecture which differs considerably from the Fulani and Hausa style, e.g. the
Mosque at Mopti, Mali, the Mosque at Kawara, Ivory Coast.

8. The word *jihad* has been erroneously translated simply as "holy war" by most writers." Its generic meaning is to *strive* for justice, to be *virtuous*, to *defend*, to fight, in accordance with the Qur'anic injunctions -- it applies to both a community of Muslims or an individual. The literal translation of war is "harb," see N.S. Doniach Ed., *The Oxford English-Arabic Dictionary*, Oxford University Press, Oxford, 1972.

9. The Fulani also called, *Fulbe, Peul, Fellata, Fula*, (Bororo'en; bush Fulani, Fulbe Ladde; bush Fulani, Fulbe Na'il; cattle Fulani, Fulbe Mbalu; sheep Fulani, Toroobe: "aristocratic" Fulani, Fulbe Siire; town Fulani). They are scattered throughout West Africa, from Lake Chad to the Atlantic Ocean. They number about 6,000,000 (1970). They are predominantly Muslim, although large groups among them remain animist. The Fulani are principally concentrated in (order of size), Northern Nigeria, Mali, Guinea, Cameroon, Niger. Some of the Fulani continue to pursue a pastoral life although the majority of them have given up nomadic pursuits and have become sedentary. For further discussion see: H.R. Palmer, "The Fulas and their Language." *Journal of the African Society*, vol. XXII, no. XXXVI. January 1923, pp. 121-130, and C. Edward Hopen, "Fulani": Richard v. Weeks Ed. *Muslim Peoples*, Greenwood Press, Connecticut, 1978, pp. 133-139.

10. The Hausa are found mainly in Northern Nigeria and adjacent Southern Niger. They number about 9,000,000 (1961). The Hausa rulers (Habe) were engaged in fighting with the Fulani in the early 19th century *jihad*, led by Uthman dan Fodio a Fulani who was schooled in Sunni Islam. The Hausa-Fulani conflict remains controversial since members of both groups fought on both sides. The Hausa are predominantly Muslim, following the *Maliki* school of law. They engage in crafts, weaving, farming, pottery, smithery, animal husbandry. The Toroobe Fulani live among, and intermarry with the Hausa and for the most part speak the Hausa language, thus the use of the hyphenated ethnic identity, *Hausa-Fulani*. For further discussion of the Hausa see: Jerome H. Barkow, "Hausa" in Richard V. Weeks, *Op.cit.*, pp. 151-162.
12. Aesthetics as an intrinsic cultural paradigm, as opposed to "vogue" or a type of "kitsch".
13. Similar references occur in the *Qur'an*, Chapter 9, verses 8-9 (masjid at-Taqwa; a mosque built on piety) and Chapter 22, verses 40-41.
15. According to Bisheh, practically all the early Muslim sources which deal with the prophets mosque at Madinah, state that when it was built palm trunks were lined up parallel to the qiblah wall, the northern wall. sixteen or seventeen months after his migration, the prophet received revelation (*Qur'an*, Chap. 2, verses 136-147), to change the qiblah from Jerusalem to Makkah. The prophets mosque was altered, a new shaded area of palm tree trunks and a thatched roof was placed along the south wall (the new Qiblah wall facing Makkah) with supports in each colonnade, to the right of the minbar and to the left.
19. The Mande, Manding, Mandingo, or Mandinka, refers to all the people who are linguistically related to the Soninke and Malinke. Under different names there are Mande speakers in Guinea, Upper Volta, Libera, Ivory Coast, Sirre Leon, and other areas of West Africa. Their expansion from a central nucleus (ancient Ghana?) took place from the 12th to the 19th c. A.D.
20. The term, "Sudanese style," is used in reference to all of sub-Sahara Africa, also referred to in the 12th and 13th century chronicles (*Tarikhs*) as Bilad as-Sudan, or the land of Black folk. It is commonly used with reference to West
Africa or Western Sudan. Not to be confused with The Republic of the Sudan (Eastern Sudan).


"The earth becomes the house; the walls are made of clay, the very stuff of the earth. Cracked in myriad ways and weather worn, the mud is held together by finely chopped straw...Birds and wind complete the job. Abandoned, [the] house returns to the earth, and [another] mound is added to [the landscape]."¹ This cyclical movement from earth to house to earth depicts the alteration of a "primordial" space, but it also matches the ephemeral nature of the pastoral and settled Fulani, who have adopted a building type to match both a transhumant and sedentary lifestyle.

For the majority of Fulani who inhabit the sub-Saharan savannah of West Africa, habitat ranges from a transient spatial pattern to more permanent compound for instance the Fulani of Mali and the Fulani of the Futa Djallon.

Exigencies of environment limit the geographical center, around which the Fulani lifestyle unfolds. Apart from fulfilling the need for protection against the elements, the Fulani dwelling relies on a way of social life which includes the concept of the extended family, and, or alliances of work to ensure cohesion. This cohesion makes of the dwelling a veritable self-contained unit of existence, with its own unique identity and implicit order, since the family size and consequently its structure also varies.

The Fulani dwelling is an ensemble of different types of sheltered constructions (Fig. 1.1). Two main types, the round mud hut with its conical straw roof and the less permanent transient armature tent type suggest regional and cultural variations.

Tent or hut both have a well circumscribed domain. At the same time they are in constant evolution and change, contingent on convenience of site, the climatic season, or contact with other differing ways of life. Historical and ethno-cultural factors also intervene; the movement of people, tribal conflicts, economics and so on, further add to the transformation of built form.
Fig. 1.1: Some Fulani Building Types
This layering makes the determination of a building typology by origin more problematic. The mosque of Dingueraye "the place where the cattle graze" falls within this category. In spite of these constraints, one can still attempt to decode patterns of conceptual and physical modes of architectural expression as well as a methodological and analytical taxonomy of Fulani spatial types.

As a liturgical model of West African architecture, the Dingueraye mosque reflects the influence of Islam in a wider context, but as a Fulani building, it is a powerful and revealing primordial space with hidden elements of an ethno-cultural aesthetic phenomenon.

According to C.E. Hopen, "The embracing of Islam [over time] has not led to the breakdown of ethnic boundaries [among the Fulani]...diversity in cultural and social affairs persist." If Hopen is right, and we are inclined to agree with his statement, then it would follow that the Fulani patterns of space-making would continue to play an intermediary role between "man" and his built environment, irrespective of another layer of forms having association with Islam and specifically the mosque. If we pursue this argument further, it may become apparent that the designation of a "primordial space" is applicable in the extrapolation of forms of settlement patterns among the Fulani, although, as we stated earlier problematic in the interpretation of their true meanings.

One possible way to approach this inquiry then, is to seek analogies from Fulani "community" settlement patterns, and then to test its validity, and appropriateness against a model, in our case the model would be the mosque at Dingueraye.

A PRIMORDIAL SPACE: The Fulani Compound

In dealing with the "domestic" pattern of the Fulani compound we are not limited to actual dwellings or physical space only, since "domestic" also takes in other forms associated with the "primary structure": of these patterns i.e., the kraal (wuru), the unit (suudu), the palisade, etc., all of these are allied with patterns of
domestic space both sedentary or transhumant. The Fulani domestic unit is in turn linked to a kinship structure, the family, that is responsive to a continual cycle of change (Figs. 1.2 - 1.3). In addition, the symbolic activities connected with this form of transhumance and sedentary lifestyle may vary so widely that it is not possible to offer a general explanation without running the risk of being redundant. However, some key elements should be noted since they are important to a distinction which draws upon the idea of "primary space," and its connection to the normative aspects of Fulani lifestyle. Among the Fulani various categories of activities and relationships exist, having different spatial implications: people/livestock, sleeping/walking, male/female, food preparation/food consumption. These all have to be catered for and are deeply relevant to accepted Fulani customs.

The Fulani compound is organized in different ways to handle the internal ordering of domestic space for these types of activities and relationships. The sedentary compound as an example "...comprises one or more huts (suudu) of daub, or post and matting construction with conical roofs that are enclosed within a post and matting fence in which there is a single entrance. The huts are generally round although...the rectangular form [can be found]." 5

Internal divisions of the compound into smaller quarters articulated by fences or palisades are used to regulate access and serve as further definition of spaces and activities. Smaller units correspond to the need for personal space, i.e., single women, old women, wives, a bachelor (Fig. 1.4.b). 6 The presence or absence of an entrance hut with an interior and exterior door used as the only means of egress to the compound is also likely, and can overlap as a bachelor's hut. "Guest entrance huts (suudu hobbe), and men's huts (worwordu) are rarer than other types...and may either be round or rectangular.... [E]ntrance huts are of little value for anybody except that [Imaam]...who instructs pupils in the Koran (Qur'an)." 7 The settlement pattern illustrated above is a normative configuration of a rural sedentary Fulani compound in the West African savannah.
Fig. 1.2: A Pastoral Fulani Camp, Mali (near Yelimane)

- Parc: Cattle kraal (wuru)
- H, F, C, J, etc.: Kinship family units (suudu)
Fig. 1.3: A sedentary Fulani (suudu) Compound, Northern Cameroon. The compound was divided following the death of a senior male family member.
Fig. 1.4: The *suudu* in the Futa Djallon

a. A Fulani Woman of the Founta Djallon, Guinea
b. Plan of a Typical Sedentarized Fulani *suudu* at Timbo, Guinea
c. The vegetation of the Futa Djallon, Guinea
d. A *suudu*, Futa Djallon, Guinea
Fig. 1.5: A Transhumant Fulani Family

wuru
Fig. 1.6: Central Pillars

a. Floor plan of the mosque at Dingueraye
b. Central pillar in a Hausa Unit, Upper Volta
c. Central pillar in a Fulani unit, Niger
d. An excavated Fulani compound, Northern Cameroon
In another case the transhumant kraal consists of structures which are relatively impermanent and contain a set of different variables and features.

The transhumant tradition is "...reflected in the ubiquitous fulfillment of the most minimal definition of...spaces...demarked by a [circular] tapade or palisade, sometimes by an acacia hedge, sometimes, depending upon the season by social behavior itself."\(^8\) (Figs. 1.5 - 1.6). The relationship of the enveloped circular domestic space in contrast to a public space circumscribed and defined as a \textit{musalla} is particular pertinent to the hypothesis of this essay. The transformation of this spatial paradigm into a more formal"...Islamic context is best illustrated by the mosque prototype...to the uninitiated visitor [to Dinguerey] there is little to distinguish in the palisade wall of such a "mosque" from the tapade, [since it is so similar to the tapade] that encircles the family \textit{wuro}."\(^9\) In essence, it is in indigenous expression of "space making" in a temporal setting. However transformed into a geometric "fit," it becomes a matter of cultural definition.

The validity of this argument further suggests an understanding of the configuration--of pattern and usage--implicit in the Fulani mosque at Dinguerey and similar models that are common to the immediate region.

\textbf{NUMBERS, PATTERNS, AND IMAGES}

"To understand human ... creation we have to find where in experience [forms, patterns and images are] grasped or locked into place... Things are active -- they do not just exist."\(^{10}\) One of the 18th century Fulani scholars, Muhammad ibn Muhammad al-Fulani\(^{11}\) developed a scientific theory of numbers and their composition, which he called \textit{ilm al-Asrar} (the science of secrets) (Fig. 1.7). \textit{ilm al-Asrar} is a science which deals with a creative use of patterns of numbers, to obtain insight into esoteric knowledge. As a formula it deals with a rational construction of odd and even numbers, but by extension it could well be a scientific rotation about the axis of a square. In his writings, Muhammad Ibn Muhammad admonishes his students to "work in secret and privacy,"\(^{12}\) implying that there is a "hidden order of things" made manifest. If "things are active and
Fig. 1.7: Patterns of Numbers developed by Muhammad Ibn Muhammad al-Fulani in his theory of *ilm al-Asrar* (the science of secrets).
they do not just exist," then "how" are they so? How can we illustrate this by using the Fulani spatial paradigm as a valid construct of this hypothesis?

Many scholars purport the notion that differentiated spaces can in fact manifest more than one meaning from within, very much like the diagram in figure 1.7. It is a series of numbers, but it is also numbers with hidden meanings, and yet still patterns of meanings, since a pattern need not always agree with its meaning or in architectural terms the image need not always agree with the object.

These statements are concerned with axioms, our inquiry deals with pattern and image, apropos to the Fulani spatial ethos. By example we may examine three images which are analogous to our argument.

Image one (Fig. 1.8.a) is a diagram made by al Hajj Umar Tal for the Dingueraye mosque.

Unlike the actual plan of the building this diagram is directionless, which runs exactly counter to the importance of the mihrab -- the directional niche on the qiblah wall of all mosques, musallas and places of prostration. The absence of some form of indication of a horizontal axis, makes the image read like a decorative pattern rather than an architectural diagram. Furthermore, it bears a striking resemblance to the embroidered design of a ... "tilbi -- a robe worn exclusively by older women in Oualata, Timbucktu and Djenne (Fig. 1.8.d)." One can argue that the tunic pattern has a stronger sense of direction that Umar's diagram. The second image is a close parallel to the diagrammatic plan made by Umar. This diagram is intended for use as a conjurant for good luck when filled with texts, it is also a more accurate representation of the Dingueraye mosque plan and figure 1.8.a. In addition, "the concentric circles recall ... the perimeter ambulatory... tapade, or palisade fencing around the [wuuru]. Thus the square is enveloped and hidden within its...concentric circles like the core of a suudu." The third image (Fig. 1.8.c) is quite identical to the regulated square pattern used for numerological ordering of patterns of numbers in Muhammad al-Fulanis' theory, which we discussed earlier. "The strong preoccupation with numerology in the sufi tradition in the Futa Djallon is evident in...[various] kinds of magic squares."
Fig. 1.8: Fullani Patterns

a. Diagram for the mosque at Dinguereyaye made by Al-Hajj Umar Tal

b.&c. A diagram used as a "conjurant" (charm) when filled with texts.

d. A Tilbi - embroiled design on a robe worn by older women in Timbucktu and Djenne, Mali.
But this image could very well be considered a "...close approximation of the framing plan of smaller West African mosques, in which transverse beams rest on a set of four pillars and on the square perimeter walls."\textsuperscript{17}

All of the images considered implicitly convey an architectonic pattern. On one level these images, when read as text, are quite literal and denotative since they convey a message. On another level if they are read as diagrams they define a conceptual space, perhaps as an expression of a conscious association with a message.

We may choose to read them as a geometric template of numbers, or even as a form of structural imagery and Fulani iconography.
Fig. 1.9: The interior ceiling pattern of a Fulani *suudu* in the Futa Djallon, Guinea
THE MOSQUE AT DINGUERAYE

Amidst the fervor of the 19th century jihad movement in the Fouta Djallon, Guinea, a unique idiom and expression of mosque architecture was born (Fig. 1.10). As a style it is quite remote in its physical attributes from the conventional themes played out in North African building types or the syncretic renditions of the Mande savannah mosques, or the building traditions which characterize Hausa architecture. As a product of a period that was influenced by the thinking and ideals of al Hajj Umar Tal, the proponent of the jihad, Dingueraye is a living reminder of a human event. Al Hajj Umar Tal, (his proper name: al Hajj Umar ibn Uthman al-Futi al-Turi al Kidiwi, b. 1794-d. 1864), was well grounded in Quranic teachings from an early age, under the tutelage of his father, a Muslim cleric. Attaching himself to the tariqah at Tijaniyah (Sufi Brotherhood) at a later age, he was responsible for spreading its teachings in the western Sudan. A panorama of events further shaped Umar's thinking. In combination, his interest and affiliation to the Brotherhood, theological teachings, and his quest for further knowledge, took Umar on a sojourn--1814 to the 1840s--from Guinea to the Fouta Djallon, Sokoto, Northern Nigeria, Egypt, Makkah and back to the Fouta Djallon and Dingueraye via Sokoto.

The jihad was linked to Umar's stay at Dingueraye 1849-53 "...it's function was at once spiritual...In this respect [Dingueraye] served one of the principal functions of a ribat, a place from which Dar al-Islam [abode of Islam] might expand..."18 The extent to which Umar's influence can be attributed to the architecture of the Dingueraye mosque is sketchy. His diagram for the mosque, bears a very remote similarity to the actual plan of the building.

It is noteworthy, however, to consider Umar's travels as instructive in his conceptual ideas for a liturgical space, given the universality of the faith. The image that immediately comes to mind when reading Umar's diagram is the Kaaba (lit. the cube). Apart from its universal significance in Islamic belief, it can also effect an architectural model, a priori. The Kaaba (Fig. 1.11) in architectural terms, is capable of evoking a simple aesthetic, since it is not surreal, fantastic or ambitious, it doesn't play with meanings, it represents nothing but itself.
Fig. 1.10: Floor plan of the mosque at Dingueraye.
Fig. 1.11 The Kaaba, Makkah.
Fig. 1.12: Mosques of Guinea

a. The mosque at Dingueraye, Guinea
b. The mosque at Kamale Sibi on the border of Mali and Guinea
c. Ambulatory of the Mosque at Dingueraye
d. The mosque at Sarebodio, Guinea
Fig. 1.13: The mosque at Dingueraye, Plan and Section.
Yet still it is a conscious reference to the past, Muslim prophetic tradition and escatology.

It is quite possible that Umar could have been inspired by the image of the Kaaba during his extended stay at Makkah. But the Dingueraye mosque is not the bold image that the Kaaba evokes. At Dingueraye the cube is hidden beneath the umbrella of the roof, the roof acting as a climatic device and not contingent with the language of the cube (mosque) per se.

The second possible definition is semantic in nature. The Dingueraye mosque may be regarded as historic-typological model, since its architectural language is partially rooted in a spatial language inspired by Fulani themes of the locale, while making use of a historical typology; that of a hypostyle hall with columns placed at regular intervals.

We may also argue that the building has a morphological appearance, its sloping roof being insignificant to the inner pre-ordained system -- which creates a fusion of "imitation and allegory" both evident and ambiguous. It is too tempting to reduce these aspects of the mosque's architecture to symbolic and allegorical meanings without considering the "nature of image" further.

Dingueraye has its roots in the attitudes of a complex world of the transhumant and sedentary Fulani, which we cannot ignore. "The Fulani jihad was the first instance in which nomadic sedentarization and hegemony occurred concurrently....The visual imagery of the tent,...the spatial organization of nomadic space lent itself with the greatest of ease to [a new mode] of spatial orientation [the mosque]." 19

In considering the Fulani-inspired Dingueray mosque, two modes of spatial layering are evident. The first layer is an ambulatory space which circumambulates a cube, the actual mosque. The outer layering, the skin, is very much like the Fulani sedentary hut (Fig. 1.4.d), enclosed by a palisade wall which demarks an edge. In the nomadic tradition this circular space is quite evident. According to local custom at Digueraye this outer layer is changed every seven years, at which time an elaborate ceremony is held for the occasion. 20
Fig. 1.14: Plan of the mosque at Dabola, Guinea
Fig. 1.15: Plan of the mosque at Mamou, Guinea
The second layer of space is "the cube itself [which] has heavy earthen walls and an earthen ceiling supported by ranks of columns." Three openings in the wall of the cube are quite symmetrical except for the one opening on the qiblah wall. These openings are repeated again in the exterior skin of the roof structure approximately adjacent to the ones in the inner cube (Fig. 1.13). A central post supports the exterior roof structure from within the cube, like a great big tree it radiates to its outer roof (Fig. 1.13). "But the central post, the perimeter columns, and the thatched roof dome are structurally separate from the earthen cube within"

In the examination of similar buildings of the region; the mosque at Mamou and the mosque at Dabola, Guinea, the central post is retained (Fig. 1.14 and 1.15). The grid layout used for the post which supports the roof of the cube incorporates the central post. It appears also that posts in the outer ambulatory adjacent to the openings were carved.

Unlike Dingueraye, the mosque at Mamou and Dabola, inner cube have singular openings in the perimeter wall very much like the openings in Umar's sketch. The position of the central post at Dingueraye and Mamou also approximates the central element in Umar's diagram. More interesting is the placement of pottery jars (ablution vessels) at the entrance of the Mosque at Mamou. Are these patterns and the elements they employee and the image they convey simply visual metaphors or are they a concrete rendition of a Fulani spatial construct?

Our remarks and observations have addressed the "nature of image," and "the idea of space as a cultural metaphor" implicit in the architectural themes of Dingueraye. The question of the mosque as a culturally distinct model, a native rendition, both in its temporal and spiritual realm is without parallel.

In conclusion, we would therefore argue that the building is an orderly mix, it bespeaks a sense of imagination and perception and a practical understanding of built form, which further reflects a mode of thinking, equally relevant to those who created it and those who worship in it.
Fig. 1.16: The mosque at Namou, Guinea
Chapter One Notes

2. "The place where the cattle graze," was obtained from a citizen of Dingueraye, Mr. Ibrahim Cherif.
3. There appears to be some discrepancy as to when the mosque was actually built according to Labelle Prussin it was built in 1883, by the family of al Hajj Umar Tal. Mr. Ibrahim Cherif claims that according to local oral tradition, Umar himself dug the holes for the building during his stay at Dingueraye.
6. A bachelor whether son of the house or laborer, will invariably have or share with another a hut (jereeru) built near the circumference of the compound where his friends may visit him without penetrating into the women's quarters (Nicholas, *Loc. Cit.* 1971).
20. According to Ibrahim Cherif a native of Dingueraye.
22. *Ibid*. 
"Before He created woman, says the legend, God made a hut, and He shut man up in it. God brought him out of the hut in order to show him his wife. The [mythical] hut, the image of the cosmos is found in [most] liturgies of initiation throughout Africa: [it gives] a liturgical significance to human habitation, which not only follows the laws of cosmic order, but also the individual and social structure of man."¹

For many scholars, unfortunately, African architecture stops short at the image of the "mythical hut"; whereas it is something quite different. African architecture is among other things a communicative system, a means by which African folk "demonstrate" on earth; and in the process of conceptual space making, create meanings, values and a way of life.

The artistic character of building surfaces, workmanship, and iconology, employed in the Hausa building tradition, is "invested" with a common message that is invariably social. Furthermore, a house is not only a roof and four walls, it is a walled garden, a courtyard, a compound; where friends are received, where people dance and sing and where religious rites are held. Other arts of life spring to life there also, it is there too that one learns to speak, to cook, to venerate family and ancestral ties.

In the first place, the architecture of the Hausa dwelling, the mosque, the palace etc., is consciously thought out. It responds to climate, security, function and the social mannerisms of its inhabitants and users. The choice of materials used in construction is further governed by indigenous means and a building tradition which lends itself again to the prevailing life-style of the immediate community. The Hausa compound like the village and city structure is an ordered hierarchy of spaces which adhere to an implicit cultural paradigm. If we extend our observation to include a study of the underlying social and belief structure (the deep structure), we would recognize "patterns" of spatial ordering, coupled with a set of mythical ideas associated with those who inhabit and use the compound or
Fig. 2.1: The Layout of Hausa Fields
the city alike. This implies above all that the "Hausa schema" of space making is both temporal and ethereal; equally pertinent to the development of this hypotheses.

FIELDS, MYTHS AND MEANINGS

"In [pre-Islamic] traditional Hausa society the layout of fields, houses, granaries and towns are governed by an ancient cosmology which regulates numerous facets of daily life." (Fig. 2.1).\(^2\) Employing a spatial schema, defined by the cardinal points, geometric patterns are fixed where the axes of the points meet as seen in the examples used for setting out a field, sowing crops, defining a compound layout or in the layout or a city. This conceptual space and its constituent geometry is manifested in the axial layout of Zaria (Fig. 2.2). Ultimately, it responds to and is reinforced by a bi-annual procession, from the northern gate of the city around the city walls, to the south westerly gate and from there back to the palace along a north eastern route. The emir of Zaria is followed on horseback and on foot on this route by an entourage consisting of royalty and the residents of Zaria -- on the occasion of two festive Muslim holidays (Eid al-Fitr and Eid al-Adha). Two days later yet another procession follows a north-south axis to the southern gate of the city (main gate).

"[A]t the [center] of the spatial sequence in the city structure is the dendal a vast area in front of the emir's palace adjacent to the mosque.... It is interesting to note that the dendal in Zaria itself lies between the out crop or rock used for traditional dancing and the Friday mosque" (Fig. 2.3).\(^3\) The axial north-west-south-east and south-west-north-east is remarkably similar to the setting out of the Hausa fields, which are always rectilinear (square or rectangle), with an important axis facing north-west-south-east.

The Hausa mythic structure like the ordering of geometry in a field has a concomitant reference to architectural elements associated with the city, for instance its peripheral gates, the door to the house, and windows. One legend has it that the rise and fall of ruling Hausa dynasties are associated with the mythical peculiarities of certain palace gates and city gates.
Fig. 2.2: Axial Layout of Zaria
"[A]t the beginning of the nineteenth century, Isiaku the Fulani cleric who wrested power from the [then ruling] Habe dynasty is said to have gained access through [the eastern] Albarka Gate. ... The gate remained closed to traffic lest another dynastic misfortune befall the [people of Daura]."4

The doorway to the Hausa dwelling has its own peculiar significance also, with meanings both relative to the occupant and the passerby or visitor. "The importance of the door lies in the fact that it marks the difference between the sacred and the profane as well as constituting a point of transition from the outside to the inside."5 The kofa (entrance) of the dwelling and its dokin kofa (threshold) carries with it nocturnal and diurnal associations. "It is particularly preposterous to sit on the threshold at dark, the period of transition between day and night."6 Doorways therefore generally have charms, amulets and pendants as defensive weapons to protect the entrance of the house.

Another feature more common to the Hausa entrance facade is their use of decorative motifs. The older the house, the wealthier the owner, or the more important the occupant in the community, has a reciprocal visual and artistic manifestation; around the door on the entrance facade (Fig. 2.4). While the decoration provides identity to the owner and the building alike it is inherently, "... a logical extension of [an] underlying protective role ascribed to it in [a mythic and social] context."7 According to Isiaku of Kana: "A house like a man has a face. A well decorated portal like a smiling face. It literally says "Hello, come in you are welcome here."8 We can therefore understand why the Hausa master mason and the householder express so much concern over the doorway to the dwelling. A local Hausa proverb encapsulates the importance of the door far better than we can convey it: "Whatever the house procures is by the grace of the door."9

J.C. Moughtin raises yet another aspect of the iconology of building motifs. He suggests an analogy can be made with the hieroglyphic features of pre-dynastic Egypt and Nubia and the decorative features i.e., zankwaye (sing. zanko: parapet, pinnacles), which dominate the corners of hausa buildings: "The roots of Hausa architecture are lost in antiquity, but it is possible that it shares a common ancestry with... early pre-dynastic hieroglyphics depicted [on] houses with
Fig. 2.3: Zaria, as seen from above: The Mosque, the Palace, the *Dendal* and part of the processional route.
Fig. 2.4: House facades

a. Facade of a house at Djenne, Mali
b. Facade of Mauritanian house
c & d. Hausa facades, Zaria
small pinnacles similar to the *zankwaye* that decorate Hausa buildings." (Fig. 2.5).  

A less likely connection is with the pointed buttresses found in the mosque architecture of the Mande in the West African savannah. But the *zankwaye* have yet an additional dimension to its existence.

Hausa builders have evolved over time a nomenclature for types of *zankwaye* which are applied to the parapets of their buildings. It is uncertain whether the names assigned to the *zankwaye* carries more significance than a primary means of identification (Fig. 2.6).

A more practical explanation for the presence of the zankways is provided by a Hausa builder, Haruna Ibrahim the chief builder of Zaria: "...[T]he corners of mud buildings are most vulnerable...to torrential rain. Placing the *zanko* there...reduces this vulnerability by adding weight where it is crucially required."  

It appears that the *zankwaye* were also used for attaching a rope ladder to gain access to the roof of the building and for re-surfacing its facade.

A particularly interesting cognitive attribute of the *zankwaye* is achieved through a means of identification on the contiguous Hausa roofscape: In the past you always gave your son directions (when you sent him about) by making reference to the *zankwaye* of the tallest building closest to his destination. He would never miss his way because the *zankwaye* were always there ... Jutting out into the sky prominently for him to see." The evidence suggest that the *zanko* was formerly a functional element. It has since become a decorative feature as well as symbolic and constituent element in Hausa architecture; as part of a genre of Hausa spatial themes which also includes, ceiling patterns, clothing designs, hats, and a host of several types of novelties both utilitarian and decorative.

A final example of a type of personification is the associative meaning given to the tassel of hair left on the clean shaven head of a new born baby as a sign of beauty--which is referred to as a *zanko*. And the royalty of Kano turbans his head, "...in a fashion that creates two *zankwaye* pointing to the skies...."  

There are inherent suggestions, meanings etc., expressed in the use of geometry in a field, the city, and the mythic artifacts; abundant among Hausa folk they continue to prevail, serving as ethno-cultural elements in a larger context.
Fig. 2.5:  House facade motifs

a. A house in Nubia
b., c., & d. Hausa facades portray a rich variety of motifs and patterns
Fig. 2.6: Types of Hausa Zankwaye (roof pinnacles)
Perhaps as a kind of ethnic identification and language, quite analogous with the built environment. Although transformed at times these elements are nevertheless added as a continuum in architecture, that is in selected aspects of the house, the palace or the mosque.

**FORMS OF DWELLING**

Essential to the discussion of the architecture of the Zaria mosque is an understanding of the architectural vocabulary of the Hausa dwelling: the domestic compound (*gida*), and its enlarged version, the palace (*gidan sarki*). By extension the Zaria mosque, the compound, and the palace share common architectural elements: the room or primary cell and the courtyard, and the exterior wall. These three elements are organized by the Hausa builder to produce interesting variations of the compound.

The traditional Hausa compound is also receptive to communal and social values of its inhabitants. Foremost of these is the need for privacy, secondly the presence of the extended family, and thirdly the occasional non-family guest. These normative values, if considered *a priori* dictate architectural patterns, which are responsive to perennial needs. When an extended family changes structure, the original compound may be subdivided if it is big enough.... Alternately the family group may break up completely and new cells [will] be built on the family land...."14 Although responsive to changes in kinship patterns, economics etc., the compound remains faithful to an implicit spatial paradigm, (within the compound wall) (Fig. 2.9). Hausa compounds despite their variations in size follow a traditional pattern of room arrangements around a courtyard, sometimes multiple court yards, which are then enclosed by the compound wall. For practical reasons or security and privacy the compound wall, like the city wall, acts as a controlling device (thieves and livestock), but its primary function is to act as a visual barrier. This visual barrier is replicated by the use of the entry hall (*zaure*) as a controlling device also.
Fig. 2.7: A Hausa *Gida* (compound)
Fig. 2.8: A Hausa palace compound at Kano, which also has a Kofar Gida and Cikin Gida like a domestic compound. Its proximity to the mosque provides easy access for the emir, who also officiates as the Imam, or leader of the congregation prayer. cf., the Zaria mosque and palace.
Upon entering the compound through the main door (kofa), male visitors are restricted to the zaure. More familiar visitors are ushered to the second entry hall (shigfa) where they are entertained. The shigfa is separated from the zaure by a forecourt (kofar gida). The shigfa takes several forms, more commonly it may be one or more rooms (turaka) with an entry door and secondary doors leading to and from the kofar gida and a more private inner court (cikin gida).

The interior of the residential unit which is contiguous with the cikin gida is restricted to close relatives, women, and boys under the age of puberty. The rooms around the cikin gida contain the women's private sleeping spaces, kitchen, and adjacent quarters for the extended family. Several examples of Hausa compounds can be seen as having a definite north south orientation, but compound types also respond to various degrees of seclusion (purdah) which is practiced by Hausa families. "The 'religious' classification distinguishes auren kulle -- purdah type marriage with complete seclusion of the wife, auren tsare -- partial seclusion of the wife, and auren jahilai -- marriage of the ignorant, with no seclusion of the wife."

It is equally interesting to find examples of compounds with differing orientation of the zaure. Perhaps dictated by neither of the above-mentioned constraints but by an entirely different wet of concerns. This is apparent in the home of the chief builder of Hausaland Babban Gwani--the builder of the Zaria mosque,--whose zaure faces west, and the compound of the Mallawa family of Zaria where the zaure is oriented towards south east (Fig. 2.10 - 2.11). One possible explanation for the varying degrees in the entry hall orientation can be explained by its location on the compound wall respective to public pathways, that connect the important elements of the city (Zaria), i.e., the city gates, the market, the mosque, the palace. These pathways meander through the city forming a complex system of pedestrian routes.
Fig. 2.9: Hausa compounds and kinship patterns.

a.&b. Internal changes in the compound reflects a change in kinship. The use of rectilinear forms have become dominant.

c & d. Two examples of compounds spatial layout.
Fig. 2.10: Compound of the chief builder of Zaria.
Fig. 2.11: Compound of the Mallawa Family, Zaria
When talking about the compound Hausa builder, "...would always prefer to elaborate on various aspects of a given zaure, shigfa or turaka." The distinction between the character and type of decorative features, for example: ceilings of the zaure, shigfa and the turaka is also reflected in the aesthetic attention it is given in the palace in comparison to the compound.

The Hausa palace can be regarded as an enlarged version of the compound since it retains all of the organizing elements except at a larger scale i.e., the zaure, the kofa gida, the cikin gida. "The palace reception area is therefore equivalent to the shigfa of an ideal Hausa compound and with its offset entrances and symmetrical plan remains...essentially an African building." (Fig. 2.12). As a complex of buildings and open spaces partially open to the public and partially restricted, "...its foundation goes back to the first emir (sarki) to establish a form of government in accordance with Islamic law." Consistent with this aim the emir's palace at Zaria is sited adjacent to the Friday mosque and the public square (the denda), as a symbol it signifies power, community solidarity and religious authority under the leadership of the emir. The critical interface between Islam and urban life is thus manifested in this spatial organization, perhaps established by the 19th c. jihad. "Given the inherent interrelationship among the religious, political and economic components of Islam, one can assume that attempts to realize [an] ideal would pervade not only religious behavior, but political and economic behavior as well, and consequently, those structures that housed such activities. First mosques, then reception chambers then palaces...." It is no coincidence then to find that the builder of the Zaria mosque, Babban Gawani, is also the builder of the emir's palace at Zaria. The need to make these structures (palace and mosque) larger and of a permanent nature cannot be dismissed as a prescriptive influence on the building technology and its resultant character. The erection of rectangular and cylindrical clay buildings, spacious, and with audience chambers and council chambers within the palace, suggest an imposing type of construction that can accommodate large spans to compliment its monumental character. "...[V]aulted structures...employing combinations of azarori [beams of split deleb palm], cantilevered at angles form
Fig. 2.12: Plan of the emir's palace, Zaria
the walls and plastered with clay to create arch-like roof supports...enabled builders to span areas up to 7 or 8 m. square with vaulted roofs 8 to 9 m. high.""21

The creation of a richly decorated complex of rooms within the palace, employing geometric motifs based on the combination of the circle and the triangle"...may have meanings to pre-Islamic symbolism...Some of the simple decorations found in the old Hausa buildings ... resemble the 'fertility charms' based on combinations of circle and triangle and known as talhatana, and seem from their careful placing to have had particular significance." (Fig. 2.13)22

A further comparison between the palace decorations in the palace of Kano, Daura and Zaria and the decorations found in the Zaria mosque can be adduced as to deeper meanings. The correspondence between the decorative aspects of the written word so common in traditional Arabic calligraphy may have provided the impetus for such forms of decoration; given the limitation of using mud as a surfacing material. It is easy to exaggerate an influence of this nature as coming from external sources but we cannot ignore the bare syncretism of indigenous Hausa elements fused with another well-established disposition, conventionally prescribed in Islamic art.
Fig. 2.13: Hausa Geometric Motifs

a. Motifs from the palace at Kano

b. 20th century palace motifs

c. Talhatana forms from the palace at Daura (pre-1800's), the Zaria mosque (19th c.) and the Illorin mosque

d. Palace motifs associated with the Hajj (pilgrimage)
"Art never creates ex-nihilo. It's originality lies in the synthesis of pre-existing elements." 23

The mosque at Zaria, was built at the end of a period of puritanical fever (jihad) and during a period of religious reform which witnessed the formation of the Sokoto Caliphate; uniting the Hausa states under the leadership of Uthman dan Fodio. In the post-jihad period "[The] ascetic scholars mainly favored the building of mosques." 24 Uthman dan Fodio is said to have told the Babban Gwani (the great master builder), "I have no use for a palace, build a mosque for the jam'a [the people, the congregation of believers]." 25

When dealing with the aesthetic nature of the Zaria mosque, it is the Babban Gwani (1784?-1852?), who stands foremost as a legendary figure, testimony of skill and creative insight. Among his other works of the period are the palace complex of the emir of Kano, the reception hall of the emir of Bauchi, his own residence at Zaria, the Birnin Gwani mosque south of Zaria, the reception hall of the chief of Kafin Madaki, and perhaps the palace at Zaria. None of these works match the architectural vitality and expression in structural vocabulary of the Zaria mosque (Fig. 2.14). "It is very unlikely that the Babban Gwani actually invented the 'Hausa vault',...but no doubt he made the greatest and boldest use of the vault as exemplified.... It is very likely that Katsina, being at the foremost of Hausa custom and civilization in the 16th and 17th centuries had developed the ['vault'] principles in reinforced mud technology...[however] there is hardly any [extant] pre-jihad structures to support this hypothesis." 26

Professor Labelle Prussin argues that the vault is actually a synthesis of the Fulani tent armature which was developed using Hausa skills in mud construction: "The 'Hausa' vault and the 'Hausa' dome are based on a structural principle completely different from the north African, Roman-derived stone domes.... On the other hand the 'Hausa' Domes incorporate, in nascent form, the same structural principles that govern reinforced concrete design (Figs. 2.15 - 2.16). The bent armature in tension takes the horizontal thrust normally resisted by buttresses and tension rods and interact with the compressive quality of earth.

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Fig. 2.14: Plan of the Mosque at Zaria

1. Shari'ah court
2. Screened area for women
3. Abultion and entry zaure
4. Latrine
5. Mihrab
It was the development of this technology that permitted the transplantation of symbolic imagery of Islam and in turn created a unique Fulani-derived architecture.27

The increase in mud arch construction was particularly innovative in the post-jihad mosque at Zaria and the palaces of the period. The mud reinforced pillars and the reinforced Hausa vaults are no common place construction. Very few pre-jihad buildings exhibit the structural solutions to an architectural problem of mud construction over such large spans. A more obvious solution can be found in the hypostyle mosques of Bauchi, or the Shehu mosque, Sokoto (Fig. 2.17). Instead, given the program to provide a liturgical space en rapport, Babban Gwani in his organizing principle of geometry and structure, derived a discrete plan much more sophisticated and less formal than the hypostyle hall.

The articulation of the six domes which cover the main prayer hall appear to be organized using similar principles as those employed at Bello's palace at Kano but with far more boldness and expression. We may therefore find it difficult to disagree with the idea of an "armature" ceiling but we may wish to consider the possibility that its erection to some extent is perhaps a specialist or even a hereditary craft which became more widespread and mature in the post-jihad period.

In determining the ceiling type for a given building, the importance of the building, followed by the status of the patron, is brought together with the skill of the master mason. In context, a radical departure seems, to have occurred from the simple trabeated type of construction which we find in the Shehu's mosque, the Kazuare mosque and the Bauchi mosque, all built roughly in the same period (1820s) and the much later Zaria mosque 1836 (Fig. 2.18).

It is tempting to suggest that the palatial architecture could have inspired the architecture of the Zaria mosque but the evidence to support such an assumption is quite tenuous.

The post and beam structure used to support short spans is quite commonly used in the earlier mosques, i.e. Bauchi, and Shehu. They share a tradition with the Mande mosques of Mali and northern Ghana.
Fig. 2.15: The formation of the Hausa vault
Fig. 2.16: Types of Hausa arch construction

a. Simple form
b. Room with central pillar
c. Parallel to the wall
d. Through a central point
Fig. 2.17: The Shehu mosque
Sokoto a *pre-jihad* Hypostyle mosque
Fig. 2.18: The Kazuare mosque
3. Entry chamber (zaure)
5. Minbar
6. Mihrab
But the absence of a dominant minaret structure and the use of engaged columns on the exterior of these mosques and the Zaria mosque, is quite indicative of an apparent radical departure, exceedingly different from the Mande tradition. Yet another architectural feature which is not rooted in the Mande tradition, is the existence of a type of zaure at the entrance to the (perimeter wall) courtyard of the Zaria mosque. This zaure houses the ablution chamber, where the faithful perform their prescribed washing prior to entry of the mosque proper. It appears that the dendra which the zaure opens up to, is used on festive occasions and Fridays as an extension of the mosque, since it can accommodate a large amount of worshippers.

The existence of a seventh dome over what was the shari'a (lit. laws) court remains an enigma. Its inner supporting structure is almost a replicate of the round tent armature, with the columns tapering up to the apex of the dome in a similar manner of the tent structure (Fig. 2.19). This suggests that it could have been designed specifically for this room since it was to be used by the emir and other high officials, or it could have been started as a system of construction which was later abandoned, although the former possibility seems to be a more plausible argument. In comparison to the techniques of construction used in the rest of the mosque and the palace it is puzzling and inconsistent with what appears to be an established system of construction (Fig. 2.20).

We have yet to find a valid explanation for this peculiar use of a form in proximity to a rather definite and articulated modular structure which is employed in the mosque proper. Both J.C. Moughtin and A.H. Leary28 are silent on this aspect of the mosque. Professor Labelle Prussin debates this issue at length and considers it to be supportive in the development of her argument on the transformation of the tent armature to the “Hausa” vault. In further discourse of the architectonic elements used in the Zaria mosque, we observe a novel application of double "arches" which spring from the floor of the prayer hall but are regulated by a modular grid. The normal practice being to take the arch down from its apex for some distance, adapting a semi-circular or an elliptical form; it is then terminated at a capital or a springline at some determined height above the floor.
Fig. 2.19: Axonometric drawing of the mosque at Zaria
Fig. 2.20: Ceiling plan of the mosque at Zaria
Fig. 2.21: Elevation and section of the mosque at Zaria
At Zaria the plan dimensions are governed by the modular design resulting from the placement of the "arches" at the point of contact with the floor level. "Strictly speaking the "mud arch" is a curved beam made form a series of cantilevered corbels reinforced with azara [palm balk]: it is not a true arch....The shape of the Hausa arch is decorative: it takes on an approximately semi-circular form with the base of the semi-circle at the level where the first layer of reinforcement cuts the face of the wall." 29

As an important visual feature the pattern of the coffering adds to the mosques' character. The ceiling pattern arrangement, is based on the placement of the azara in contiguous layers each one being tied back to the preceding one; using horizontal azara, in this way the gaps are filled, in so doing it helps to complete the arch (Fig. 2.20).

In addition, the dominant structure of arches are further decorated with a series of richly subdued geometric relief motifs. "...[The] patterns in the [mosques'] interior [are], ...sober and formal: the dignified work of an age of religious reformers, and the very antithesis of the arabesque-like spirals...." 30 Curvilinear lines, circular medallions and deeply incised triangular motifs enrich the building with strange ethereal meanings; prompting differing notions of interpretation. Several attempts have been made to explain the possible origin of these patterns, which are so common among the Hausa, Igbo, Yoruba and even in the Habe (pre-jihad rulers) palaces. Some "Nineteenth century travellers' descriptions of Hausa land indicate that wall decoration may have been of the bold geometric type found in the Zaria mosque." 31 The repertoire and type of these motifs portray a kind of "image mundi" a polemic of its time, however transformed and brought into a state or statement of expression. One possible explanation as to the source of these motifs has been suggested by J.C. Moughtin: "The origin for this patterning is possibly indigenous to this part of Africa and may be the contribution of women. Conquering newcomers [Fulani] in the Sudan [West Africa] have always been in the minority and any changes they instituted are likely to have been significant features of the culture, soon to be absorbed within the social nature and scheme...." 32
Fig. 2.22: Details of the Zaure: Palace at Daura

a. The lizard

b.c.d. The crossing of arches
Fig. 2.23:  

a. b. & d. Details of patterns in the mosque at Zaria

c.  Detail of the Zaure, Daura palace
Implicit in this concept is a tradition of "memory" so essential to ancestrial
ties, and its concomitant aesthetic values that record and celebrate the cultural
and social mores. "[I]n Hausaland the building and decoration of houses is the
work of men, each wife decorates the inside of her own rooms...Prof. Labelle
Prussin sees the tradition [of post-jihad Hausa decoration] as owing its origin to
the work of women: not to the Hausa women but to the traditions of tent hangings
made by the women of the conquering Fulani. She argues that with
sedentarization the...mobile interior furnishings are gradually replaced by earthen
ones."33

Although Hausa "images" and motifs may have evolved form building and
folklore customs, it is not certain to what extent this tradition may have taken root in
the Zaria mosque: its introduction or passing on of this treatment as a decorative
custom.

A final word must be said about the ephemeral quality of light that enters the
mosque. The mosque relies on its exterior apertures for its source of natural light
(Fig. 2.24). Like a shimmering lake the floor resonates with shadows and a myriad
of reflections. Imagine for a moment the single worshipper standing, bowing,
prostrating, his posture casting its own shadow, adding to the sensation of the
"spirit of the place," (genius loci). The mosque at Zaria is a wall facing Makkah, a
punctuation in the landscape, its structure surrounds a static yet ephemeral space,
always changing with light, influencing the mood, the character of its setting, a
time, a place, a moment of reflection, which heightens the sensation of being, and
the remembrance of time.
Fig. 2.24: Interior of the mosque at Zaria
Chapter Two Notes


15. "Woman of the North": the term that is used to placement of the women's quarters in a North-South direction (Prussin: 1976).


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19. Ibid.
A fundamental issue was raised in the introduction of this essay which we would like to pursue further in this concluding chapter. We began with the postulate that the sub-Saharan mosque, which has distant origins as an architectural archetype has been transformed in the Hausa and Fulani cultural context. The examples used to illustrate our argument, share essential associations with local artistic and architectural forms, both connotative and denotative. These forms reveal that in addition to the striking differences in building technology, habitation, historical and cultural setting; Hausa and Fulani spatial models are conceived to fulfill a communicative as well as an aesthetic need.

The deciphering of spatial themes in the composition of both buildings, Dingueraye and Zaria, therefore, lies beyond the basic formula of form and function, they may also be interpreted as a mode of existence between two realms: one significantly ethereal the other rigidly pedagogic.

The analysis of these examples therefore cannot adhere to the strict objective and rational approach so difficult to resist in the language of "western architectural criticism" but rather as an existential question; a layered yet culturally homogeneous entity.

What may make this argument somewhat difficult to comprehend is that the models of architecture and art forms in sub-Saharan Africa find no parallel in Western and European tradition, although it is not uncommon to encounter cases in Europe which have borrowed form African sources. In addition the concept of family, wealth, power, house, compound etc., is essentially different in structure from western models.

The most evident example which can offer us an explanation of the notions of aesthetics, and innovation in building typology is especially expressed in the sub-Saharan mosque. Its aesthetic expression is connected both with an
interpretation of a liturgical typology and secondly as a cultural representation. Two specific characteristics are dominant in this typology and representation of the Dingueraye and Zaria models: the internal spatial concept, deriving its language through a process of adoption and transformation, and secondly the building as an act of equilibrium, between cultural context and function. Equally important in this definition is the literary sense, written words, since they suggest a further level of interpretation, which may also reveal yet another character of reality in both buildings as models:

In one of three vessels
The three vessels where certain evenings come and go
The souls serene and satisfied
The breathing of the ancestors
Ancestors who were once men
Forefathers who once were sages.

Three qualities are noteworthy in this passage from Birago Diop's poem Viatique. They refer to a field, linking in our terms a hidden activity with a tendency of continuous rhythm. Although Diop mentions three vessels he only acknowledges two; the satisfied souls serene and the breathing of ancestors. The character of the third vessel is not revealed. It is probable that in combination, the quality of the soul serene and the breathing of ancestors (a living and collective memory), we can identify a principle of composition clearly embodied and conveyed in the mosque (the third vessel). The mosque is at least a point of reference and gathering, which promotes contemplation; that embraces both architecture; and ancestral links. Simply we may regard it as a concept which describes an object identified with memory both spatial and literal. This would suggest, that we may speak of the Hausa and Fulani mosque as a characterization, of an object or objects and events with deeper meaning. As an example the removal of the roof of the Dingueraye mosque every seven years is no coincidence. It is an occasion which demands public participation from near and far, it is a ceremony as well as a communal event that recalls the events of
"the place where the cattle graze" and the founding of the mosque by al Hajj Umar Tal. A similar activity occurs in the annual renewal of the building facade in the Mande Mosques in Mali, and northern Ghana. This occasion affords the community of souls to become once more satisfied through their participation in an event that is both temporal and spiritual.

Returning to our stated premise at the outset of this chapter, the examples of Dingueraye and Zaria as models of mosque architecture belong to a world of cultural mannerisms, in which architecture as a creative process is given validity, in form and content and is inseparable from an underlying meaning. The archetype being transformed now takes on a repertoire of images and motifs; it becomes an allegory, associated with ancestry, and a history known to most members of the immediate community and which makes it less subject to variations in meaning over time.

We may also wish to consider the contribution of the builder and patron as vital in the expression of ideas associated with the architecture of Dingueraye and Zaria that is, the Babban Gawani or al Hajj Umar Tal. Since they have inspired the buildings with their conscious selection of thematic elements which may have been acquired empirically, or may have been adopted from the immediate locale or elsewhere. Whatever the means of appropriation we still recognize the innovative tendencies in the architectural language--some of which we have previously noted -- as having no similar parallel.

Very few studies exist that have ventured to decode the iconographic elements which we encounter on the walls of the mosque at Zaria and the palace at Kano. While Leary's discussion of the subject is inciteful, it is still not dealt with to the extent to which we may grasp the full understanding, which the iconography itself demands. To understand iconography as an aesthetic inspired solely by emotion but as part of a wider realm of implicit meaning may prove too vague as a tool of interpretation. However, as an alternative way of seeing things, it avoids the shortcomings of the sterile and formal analysis so often employed in architectural history and theory; which conventionally deals with segments of immediate visual themes only.
Zaria and Dingueraye are not of a world of pure forms and simple artistic motifs, both buildings contain a host of allegories and hidden meaning not immediately obvious to the naked eye. From an unfamiliarity with their image, context, and form we may be seriously misled in our criticism, an all too common occurrence which "... [may] prove inadequate to a full understanding of the artistic phenomena in Africa and ... of ethnic art in general." 

In the writing of yet another African poet the idea of aesthetic attachment and memory is more directly expressed in comparison to Diop's use of allegory.

*The round warm hut*
*Proud to the last*
*Of her noble Sons*
*And Daughters.*

This poetic expression is not only a cultural display of sheer sentiment, but a conscious and thoughtful expression of an aesthetic preference attached to the hut and the society to which it belongs. Ultimately it is the hut which retains past connections among relations and events, for instance, birth, death, and marriage. In sum, the broad correlation suggested along these lines of thinking are better understood when seen as part of a larger context, as in pastoral life and sedentary life. But by extension if we use the example of the Dingueraye mosque as a "large outer hut" a correlation immediately takes place which recognizes the building in the "order" of the prevailing society.

Following this line of thinking we can easily change the words of the poem to read:

*The large round hut*
*Proud to be a place*
*of worship and gathering*
*For her pious sons and daughters.*

It would probably carry a similar degree of significance, but as a mosque it does not suffer from the same degree of anonymity that the common hut does. The weight of the architectural expression then of the Dingueraye mosque, operates
on a level of meaning that although sharing a typology associated with the hut is nonetheless quite different. The insertion of a rectilinear form within the envelope of the "large round hut" immediately acknowledges a "new typology" but does not disregard the old. It is interesting to note that the faithful who use the mosque at Dingueraye consider the earthen inner cube as the mosque proper.

At Zaria we are confronted with a quite different language. The presence of the decorative motifs which are so common on the facade of domestic Hausa architecture does not appear on the exterior of the building, instead the internal columns and wall surfaces is used as the arena of expression. Here we are subjected to an inner experience, an experience also concerned with beauty. If we consider for a moment that "meaningful beauty in [muslim] architecture requires both a quantitative dimension of concern, achieved mainly through a process of pragmatic environmental adaption, and a qualitative dimension expressed principally through...aesthetics"⁷, then the constituent vocabulary employed in the Zaria mosque would undoubtedly satisfy this formula. But the problem of the iconography and its interpretation still lingers as an issue seeking answers. If we suggest that the true uniqueness of the iconography is not in the form that it takes but in the message it compels or conveys to the users, perhaps we can argue that it is less readable as architectural decoration but more related to a unique Hausa cultural tradition. The question remains how do we decipher its meanings? One explanation which may be helpful, is the idea that secular art in the Hausa tradition is at one level social and at Zaria what we have is an appropriated use of design motifs which are perhaps social in meaning like the patterns of textiles, fabrics, or utilitarian objects.

In reality there is a somewhat more complicated deeper problem involved with the intellectual reasoning concerning the issue of iconography. Our hypothesis is a simple and abstract construct that requires further thinking.

Our first conclusion is more general than one about mosque architecture itself. It is the need to recognize the relativity of all aspects of inquiry concerning the architecture affiliated with sub-Saharan life.
As places of public gathering both Zaria and Dingueraye are "...places of human agreement [for] prayer. In [their] making,...[they] attest to this sense of agreement, and allows the individual the same freedom from reproach as if he were alone; yet...affirm through architecture, the generosity of the presence of many."\(^8\) We may add that the examples we have considered suggest that concepts that organize a "field" and the modes of expression associated with it dictate, that under limited conditions of materials, purposes and building traditions, cases of ingenuity and innovation can still be possible. This notion holds clear equally for the temporal nature of the form itself as well as for the ideas affiliated with it. But what distinguishes the form as being unique is the context, which gives it human and aesthetic significance. Our attempt in this essay was to explore such significance, testing whether such models as Zaria and Dingueraye are indeed unique in terms of their innovative and cultural importance already discussed.

There are two distinct observations however, in relation to both of these models: one is the extent to which the acts of symbolism function, and cultural attachment discreetly significant to the Hausa and Fulani culture, have been applied in the architecture of the buildings. The second observation, deals with the question of the archetype and its transformation: in both cases the transformation was not cosmetic in nature but had to do more with a valid artistic and meaningful creation which endorses their significance as African models of mosque architecture.

An important acknowledgment is the sense of impermanence associated with the materials used in the architecture of Dingueraye and Zaria. They are indeed from the earth; like the frailty of human life, their life expectancy is short. However this may not be a real concern since, "In the act of prayer the material room is not there, not even the floor is there; really, not even the carpet... Only the act in its attitude is wholly there."\(^9\)
Chapter Three Notes


2. Birago Diop (b. 1906) a noted Senegalese poet. The excerpt from his poem, "Viatique," was translated by John Reed and Clive Wake in UR 2/3 1982, pp. 59-63.

   The original version reads:
   
   \[
   \text{Dans un des trois canaris} \\
   \text{des trois canaris ou reviennent} \\
   \text{certains soirs} \\
   \text{Les ames satisfaites et sereines} \\
   \text{Les souffles des ancetres} \\
   \text{des ancetres qui furent des hommes} \\
   \text{des aieux qui furent des sages.}
   \]

3. Information obtained from a citizen of Dingueraye, Mr. Ibrahim Cherif.


9. Ibid.
CONCLUSION

A gap exists in the available body of scholarly and theoretical writings on mosque architecture in West Africa, on its typology, its cultural and regional context. Most of the literature we have encountered deals with "the masking traditions," "the Fulani jihad," "the brotherhood movements," etc., and a host of topics on archaeological and anthropological studies. Although relevant, these topics contribute peripheral knowledge to our holistic understanding of the West African mosque.

The hypothesis which follows may appear to be tenuous in some respects, since the research is not complete and warrants further inquiry. It has been rewarding to consider several postulates which we have developed. These postulates, it is hoped, will stimulate further discussion and research on the subject of the West African mosque.

Three generically different mosque typologies seem dominant in the region of West Africa, those having associations with, the Mande, the Fulani and the Hausa. Each typology has its own particular attributes and exhibits significance in a wider socio-cultural context.

On one hand, each building type is an entity in itself characterized by a condition of "uniqueness," on the other hand the building type is recognized by some general attributes repeated elsewhere, or identified by its character and use as a specific cultural type.

Of these three typologies we have identified, the Mande mosque, attributed to the movement of the Dyula from the northern savannah to Northern Ghana and the Ivory Coast is the most dominant on the West African landscape, e.g., the mosques at Mopti and Djenne, Mali.

The Mande dispersion with its beginnings in ancient Ghana associated with the early muslim settlements there, warrants further study. Such a study will elucidate a possible link to the architecture of the excavated mosque at Kumbe Saleh (the last capital of ancient Ghana) and the much later mosques at Timbucktu, Mali, built during the time of Mansa Musa and subsequently rebuilt by
his successors, e.g., Djinguere-ber, Sankore, and Sidi Yahya mosques.

Although the Mande are credited with the spread of Islam into Hausaland in the 14th century, it is quite significant that the Mande architectural influence did not take root among the Hausa. Instead, the architecture of the early (pre-jihad) Hausa mosque, a low built hypostyle building, has been suggested as having a close affinity to North African building types, i.e., M'zab, on the edge of the Algerian Sahara and Kairawan, Tunisia. Not sharing this view, we would suggest that among the Huasa a building tradition employed by the Habe rulers was quite "indigenous" to Hausaland, examples of which can be seen in early Habe palaces. It is this tradition of building that more closely resembles the early Hausa hypostyle mosque.

The radical departure from the hypostyle type of building which occurred following the 19th century jihad, also demonstrates a unique "Hausa model"; apart from its liturgical use it shares very little with the Mande and Fulani models. The Zaria mosque is a principal example of this departure, and it expressed a new "idiom" which also occurred in post-jihad Hausa-Fulani palatial architecture. However, the extent to which the post-jihad period and its pious prescriptions may have shaped the thinking of builder and patron alike deserves further attention. While there may exist a cross-cultural connection between the Fulani tent armature and the Hausa vault, inferences of this nature remain a matter of debate.

The Fulani dispersion throughout most of the West African savannah promoted contact, the ideas among other ethic groups including the Mande and the Hausa. In spite of that, the Fulani have developed a distinctly different building type, as can be seen in the Mosque at Dingueraye, Mamou and Dabola.

I have suggested that the mosque at Dingueraye is primarily rooted in the Fulani spatial construct. Of the three models, the Fulani model, has shown the least indication of variation in subsequent buildings, and followed in this respect by the Hausa model, while the Mande mosque type has actively evolved. One may ask why this has occurred. The answer demands an extensive discourse. For the sake of brevity we have suggested a possible explanation for this occurrence.
The flourishing economy of the Dyula traders produced a well-established settlement pattern along the Niger River and elsewhere inland. The settlements gave rise to the sophistication of forms and ideas which is associated with sedentary life, and in turn fostered new ones. The Mande typology was not localized and under the control of a master builder, unlike those of Dingueraye and Zaria, this meant that it was subject to idiosyncratic tendencies as it was slowly adopted by Dyula communities along the Niger. The fact that the Mande spread out across the region did not eliminate from any of their communities any element of the characteristic cultural and building traditions. However, a palette of variations of a typology were supplanted on the common characteristics of mosque architecture, e.g., the Kawara and Kong mosques.

The "mythic structure" which prevails in much of West African society has also been a contributing factor to the vocabulary of architectural themes, the most obvious example of this is the change from animistic beliefs to that of monotheism, which is the core of Islam.

While we cannot dismiss the "deep structure associated with mythic beliefs and behavior, and with its concomitant visual language, one must be cautious not to ascribe more than what actually exists. But we can certainly rule out the possibility of a solely deterministic "mind set" when we attempt to decipher the architecture of the mosque among the Hausa and Fulani. The evidence suggests another realm of spatial influence beyond climate and function.

Several different conclusions derive from these observations:

1. One is that sub-Saharan Africa did in fact give birth to a mosque typology, although it has so far received limited scholastic and literary recognition. The latter was probably partially due to the problem of dealing with architecture in sub-Saharan Africa as a whole and particularly a lack of scholastic understanding about the nature of "African Aesthetics" parallel in other ethnic muslim communities away from the Middle Eastern "center," e.g., Indonesia, Malaysia, China.
2. Any logical question of identity demands an unequivocal response. While the sub-Saharan mosque is not identical to the architecture of the "center" (Middle
West), in many respects it is very similar, by virtue of its liturgical relationship.

3. If we accept the premise that the mechanisms which produced Dingueraye and Zaria is syncretic in nature, then it is the plurality of forms, styles, beliefs, etc., fused into a coherent creative process which has been actively engaged in the formation of a typology, defined in the context of behavior and a cultural continuity.

Finally, it might be argued that the architectural criticism which accompanies much of occidental thought, has not benefited from the concerns of vernacular architecture, since the tendency has been towards "vogue" ideas, i.e., Rationalism, Brutalism, Romanticism, Ecclecticism, Modernism, and other isms. This tradition in occidental thought often transforms products and buildings into the opposite of what they are, but under the role of \textit{firmitas, utilitas and venustas}, (firmness, commodity and delight) as long as they remain "vogue" they are welcomed, by the critic and the consumer. We now call it "Post-Modernism."

This tendency has fostered a detached understanding of history, theory and criticism, away from its cultural imperatives, although conveniently, "Primitivism" and the aesthetic thinking derived from it is assumed to be rooted in non-Western culture (primarily Africa). It is interesting to speculate whether the Vitruvian formula, \textit{firmitas, utilitas} and \textit{venustas} would be seen by western critics as applying to sub-Saharan architecture.
Appendix 1: West African Building Types
Appendix II: Regional Maps

a. Nigeria
b. Sokoto Caliphate (early 19th century)
c. Guinea (partial)
d. Location of Key Mande Mosques
Appendix III: Hausa Cities

a. Katsina
b. Bauchi
c. Sokoto Caliphate
d. Zaria
FIGURE CREDITS

INTRODUCTION
George Mitchell 0.1; Labelle Prussin 0.2, 0.3, 0.7, 0.11; G. H. Bisheh 0.4; Author after J.D. Hoag 0.5; L'Architecture D'Aujourd'hui: 167, 1973; 0.6; Fabrizio Ago 0.8, 0.9, 0.10, 0.12.

CHAPTER ONE
Gerard Brasseur 1.1, 1.2, 1.3; Nicholas David 1.3; Louis Tauxier 1.4a, 1.4c; Susan Denyer 1.4d, 1.9; Labelle Prussin 1.4b, 1.8d, 1.12a, 1.12b, 1.12c, 1.12d. Author: after Labelle Prussin 1.6a, 1.8a, 1.8b, 1.8c, 1.13, 1.14, 1.15; 1.10; after D. Taton 1.6c; Fabrio Ago 1.16; L. Abdulmalik 1.11; Reinhardt Guldager 1.6b; Derrick Stenning/James L. Gibbs Jr. 1.5; Claudia Zaslavsky 1.7.

CHAPTER TWO
J.C. Moughtin 2.1, 2.2, 2.3, 2.4, 2.5b, 2.10, 2.8, 2.11, 2.12, 2.14, 2.15, 2.16, 2.17, 2.18, 2.21, 2.22, 2.24, Appendix 111; Fabrizio Ago Appendix 11.a,b,c, 2.19; A.H. Leary/J.C. Moughtin 2.20. L. Prussin Appendix 1, 11d; A.H. Leary 2.13; Enrico Guidoni 2.9a,b, 2.4; Paul Oliver 2.5a,c,d; Author after Saad 2.6; M.G. Smith 2.7/James L. Gibbs Jr.
BIBLIOGRAPHY


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________________________, "The Traditional Settlements of The Hausa People," *Town Planning Review*, vol. 35, no. 1, April 1964, pp. 21-34.


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Stevens, P.F., Aspects of Muslim Architecture in the Dyula Region of the Western Sudan, University of Ghana, Legon, 19768.


