Museum of Archaeology and Ethnology

Tamale

A Design Thesis Report
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Graduate Diploma in Architecture

By

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DESIGN PHILOSOPHY

THE RETURN TO AN ANCIENT FUTURE

Back to an ancient future
to the empires our ancestors built
across horizons of the present
into distant lands of the past
to Africa, the genesis of life
the cradle of civilization

Back to an ancient future
a journey through seven oasis where
our masters once drank
from wells of insight
and fountains of wisdom
inspired by breezes from the spirit wind

The return to an ancient future
its been said a thousand times
that it is only through the eyes of the past
that the future can be seen
this is what our ancestors said in one word

S A N K O F A

DAVID DERBAN

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This Project is dedicated to Ma,
my grandmother .

PURPOSE OF THIS THESIS

The world knows what Roman architecture is, but African architecture is classified among primitive forms, but is it? Is there no beauty in the way our fathers lived? It seems we do not have a place in world class architecture or so it has been made to seem.

The times are changing and the world by means of mass technology will turn into a small global village. Modernity will overtake us as we loose our own culture. If that is fate, so be it. Let us however be mindful of the past, that the only way to a great future for Africans is by looking back at what our forefathers did before, improving on them as we go along into the future using them as a guide.

This museum is an ark that preserves and exhibits the culture of the northern region of Ghana. It is to be built in a traditional style with little foreign influence in choice of form.

It is my dream and vision, that whole cities in the future should depict traditional indigenous styles of the Africans.

This is the genesis of that dream.

SCOPE OF THESIS

This thesis covers the range of topics numerated below.

1. Research on museums
2. West African History
3. Culture
4. Conservation principles
5. Climate
6. Structure and materials
7. Philosophy and religion
8. Services
9. African tribal art

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(9) The museum of Archaeology and ethnology Tamale

9.1 The gallery and educational facilities
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9.4 Rain water harvesting

(10) African relief sculpture

10.1 Five pillars of truth
10.2 Accommodation schedule

Conclusion.

DEFINITION OF A MUSEUM

The ICOM definition

A non-profit making permanent institution in the service of society and its development and open to the public which acquires, conserves, researches, communicate and exhibits for the purpose of study, education and enjoyment, material evidence of man and his environment.

FUNCTIONS OF A MUSEUM

1. **COLLECTION**
   Embracing all means of acquisition.

2. **DOCUMENTATION**
   Embracing a need to maintain records.

3. **PRESERVATION**
   Involving all aspects of conservation and security.

4. **EXHIBITION**
   The expectation of the visitors as they see the display of collection of the museum.

5. **INTERPRETATION**
   Involving research, education and publication of knowledge of the collection and exhibits for the understanding of the public.

SIGNIFICANCE OF THE NORTHERN HERITAGE

The Northern region of Ghana possesses a triple heritage: Natural, Historical and Cultural Heritage.

(1) The Natural environment heritage

It consists of the important natural attraction such as the Mole and Bui national parks and reserves.

(2) The Historical Heritage

There are several places of historical significance in the northern region. The Larabanga mosque and its mystery stone, Nalerigu defence wall, the colonial cemetery at Yendi, slave market at Salaga and the Yikpabongo archaeological site.

(3) The Cultural Heritage

The natural friendliness and of hospitality of the people are a basic cultural attraction. The main festivals of the region are the Damba, Bugum and Ramadan festivals. The chiefs, drummers and singers fill these festivals full of pageantry and showmanship.

Traditional chieftancy is well developed in Northern Ghana and are a source of attraction for tourists. Other attractions are textiles, leather production, pottery, ceramics, basketry and musical instruments.

The significance of this triple heritage lies in the fact that they have remained the same for centuries. They are almost indigenous, natural and unaltered. Islam made very little impact on their way of life so one is likely to find natural ways of living coupled with the natural savannah environment.

CHAPTER 1

PURPOSE AND NEED FOR THE SCHEME

1.1 The National Commission on Culture is behind in its provision of a museum for the Northern region. It is believed by the government that development in the northern region will be boosted by tourism. In this light, the key to this development will be a museum that will exhibit the potentials of the region.

It is generally feared that tourism opens an area to the hazards of foreign influence, and inevitable change. It is therefore important to preserve the culture and its treasures so that in future it can serve as a reference to the past.

It is also intended that the building itself be designed to be a monument that makes a statement and a connection to both the past and future - a timeless piece. It is consciously designed using indigenous West African forms. The ancestral pillar is to emphasize this point.

It will therefore serve as an information center for the general public, school children and researchers. Apart from a series of galleries displaying exhibits, with a large storage capacity to ensure variety of exhibitions, the museum contains a 150 capacity auditorium with modern audio visual facilities. It is therefore possible to hold conferences, workshops, lectures and discussions. It also has a research library to make available to researchers and knowledge seekers almost any information on all aspects of life in the northern region.

1.2 **Methodology**

1. Studies on museum spaces
2. Research on culture and traditions
3. Readings on philosophy religion
4. Studies on tribal art and forms.

1.3 CLIENT

Aiding the Ghana government and the National Commission on Culture on this project are
UNESCO and ICOM (International Commission on Museums).

The objectives of ICOM are

(a) To encourage and support the establishment, development and professional management of museums of all kinds.

(b) To advance knowledge and understanding of the nature, functions and role of museums in the service of society and of its development.

(c) To organise co-operation and mutual assistance between museums and between professional museum workers in the different countries.

(d) To be a body that searches for investment and finance for the establishment of museums in potential places.

1.5 JUSTIFICATION FOR LOCATION OF A MUSEUM IN TAMALE

1. The Northern region is historically a centre of cultures.

2. Tamale's central position in this region gives ideal proximity to any part of the region. Tamale is at a convergence of roads

3. Tamale has an airport which in future, will be open to West African transport operations.

4. Being the regional capital, Tamale contains a good number of offices including that of NGOs working on various projects.

5. The Northern region has a number of important archaeological sites.

6. The regional museum would serve as a central tourist information center to

tourists who want a guide to the large region.

7. It would help the Ghana Tourist Board (G.T.B) form a database for a number of tourists who visit the region.

8. It would enhance West African International tourism.

1.6 THE ROLE OF MUSEUMS

Museums ensure the preservation and conservation of the community's cultural and natural heritage. They serve as a cultural law and a centre of expertise, providing opportunities for community involvement and project work.

Museums give support to educational organisations and offer a facility for cultural events and activities. They enhance the quality of peoples lives and can play a key role in developing a sense of identity for the area in which they are located.

ECONOMIC BENEFITS

Museums can help to attract investments to an area through exhibition of the culture and important elements in the peoples daily lives. It helps investors to understand the people and the locality at one time.

Where tourism is part of the local economy, museums and other tourist attractions act as magnets in attracting visitors. They will then spend money within the local area in shops, restaurants, hotels and markets.

Museums have an important economic impact on the community. Through exhibits the youth may be inspired to take up crafts as occupations which will bring economic benefit to individuals and attract tourists and customers to the locality.

CHAPTER TWO

2.1 HISTORY OF MUSEUMS

It is not certain when museums were first established but before the 15th century AD, the roman trophies of conquest and medieval collection of ecclesiastical relics could be considered as the nearest approach to a museum. The kings and nobles patronized the collection of paintings and natural history.

In this age, the objects were restricted to individual family houses so that the wider public was denied access to these collections. By the 18th century, however, museums began to be definitely recognized as important. At the close of the 18th century, they were recognized as institutions with the establishment of specialized museums such as natural science, history and industry by the late 19th century. The foundation of modern museums was laid in the 19th century.

A museum is simply defined by (ICOM) as a non-profit making permanent institution open to the public which acquires, conserves, researches, communicates and exhibits for purposes of study, education and enjoyment.

2.2 Monuments

According to the International Council of Monuments and sites (ICOMOS). The term monuments shall include all real property, having archaeological, architectural, historic or ethnographic interest and may include the furnishings preserved within them.

The monuments of Ghana fall within the ICOMOS definition, for example, the 17th century. Gwollu wall in the Upper Region, the 18th century vernacular building at Abirim in Ashanti and the 15th century St. George Castle at Elmina.

Like museum specimens, monuments vary according to a number of factors. The huge sculptures carved 3000 years ago at Abu simbel in Egypt and the stone henge in Britain for example, could be considered unique as monuments especially because of their size. Monuments have come to form an important part of the environment and cultural heritage. People learn to appreciate their own history.

For this reason, many countries are not only spending large sums of money for their preservation but are also sparring no efforts to prevent people from tampering with them. Laws are being enacted by nations for their protection, and special laboratories are being established for their conservation.

In many countries, monuments are managed together with the museum as done in Egypt and Nigeria where a department of antiquities has been set up for the purpose. Some countries such as Britain manage these two institutions separately.

2.3 History of Ghana museums and monuments board

Serious efforts at establishing a museum in Ghana began in 1929, when one was founded at the then Achimota College. However, it was not until 1950 that a national museum was set up by the colonial government within the department of archaeology of the University College of Gold Coast. About 1953, Achimota School presented its museum collection to the University museum.

In 1945, the United Kingdom Government provided the services of a curator from the British museum to advise the then Gold Coast on how best its collection could be preserved. In 1948, a monuments commission was established. The first task was to arrange for the surveying, restoration and legal protection of the numerous forts and castles, built on the coast by the Europeans in 1482 and the late 18th century. This paved the way for conservation in the Gold Coast.

By 1947, two bodies were in existence, a Museum Commission and a Monument and Notice Commission. These two institutions were merged in 1957 to form the museum and monuments board. This body was established by ordinance No. 20 of 1957. The museum was transferred from the university to Accra to appeal to a wider public.

2.4 Cultural Heritage Management Structure in Ghana

Over the years, the jurisdiction for cultural heritage matters of the Nation has passed from one ministry to another depending on how government sees the meaning of culture in relation to other sectors of life. At one time, it was under the Ministry of Education, Sports and Culture, probably because culture was then considered to carry educational and entertainment values. Culture later came to be associated with tourism and therefore created the Ministry of Culture and Tourism.

Finally, in the second half of 1989, an autonomous body independent of the Ministry, the National Commission on Culture (NCC) was created by the P.N.D.C. government to take charge of all cultural heritage matters.

Culture seemed to be heavily overshadowed by educational matters when it was associated within the terms of the government budget.

The NCC is accountable directly to the government. It has a policy-making body, the members of which are appointed by the government and headed by a Chairman. Currently, there are nine institutions that come under the ministerial purview of NCC as listed in Section 109.1.2 of the draft on the cultural policy of Ghana. The section states: the National Commission on Culture shall be responsible for:

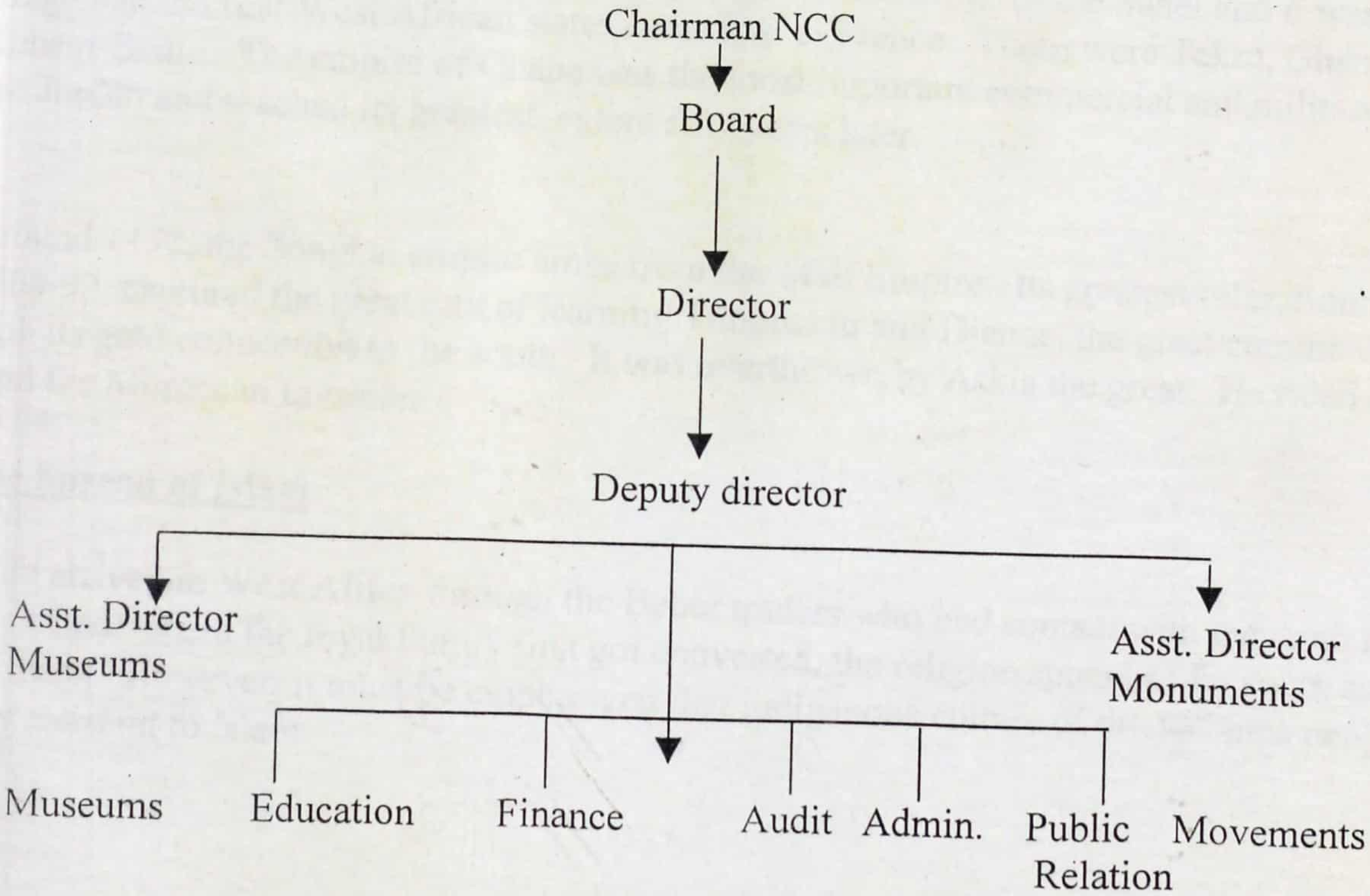
draft on the cultural policy of Ghana. The section states: the National Commission on Culture shall be responsible for:

1. The regional and district centres on culture
2. Ghana museums and monuments board
3. The W.E.B. Dubois Centre
4. National Theatre of Ghana
5. Ghana Dance Ensemble
6. Abibigromma
7. National Symphony Orchestra
8. Bureau of Ghana Languages
9. Copyright Administration

Management Sturcture of G.M.M.B.

The G.M.M.B. as established by law is to have a policy board comprising of not more than 10 members appointed by the Commission. A member of the board shall be approved by the Chairman of the Commission.

The responsibility for running the day to day activities of G.M.M.B. rests on the Director, who is appointed by the board. The scheme of service provides for a Deputy Director to assist the Director. G.M.M.B. comprises of 2 Divisions. The monuments Division and Museums Division and each is to be headed by an Assistant Director. Each division then has a number of ranks of staff in charge of various units in the country.



CHAPTER THREE

3.1 A BRIEF HISTORY OF THE NORTHERN REGION

The history of the Northern Region cannot be separated from the larger sphere of the history of West Africa from 1000-1600 A.D. A series of invasion, migrations and mingling of people led to the present settling of the peoples of the northern region of Ghana.

Between 1000-1300 A.D., there existed a peaceful trade relation between the Savannah/Sahel, the Sahara and the forest regions. Cities in the Sahel like Gao, Ghana and Oalata were willing to exchange their horses and cattle for rock salt and luxury manufactured goods from the North of Africa. The North Africans battered these for millet and cotton from the Savannah whilst the Savannah farmers exchanged their products for gold and kola nuts from the forest regions of the south. Most popular of these trade routes was that of the Dyula traders which run from Djenne (Mali) through Bolo Dioulasso (Burkina Faso) to Wa (Northern Ghana). The significance of this route is central to the theme of design of the museum.

The complex trading pattern grew up along the northern fringe of the Sahel and it was along this fringe that the first West African states came into existence. These were Tekru, Ghana and Kanem-Benin. The empire of Ghana was the most important commercial and military power in the Jordan and reached its greatest extent fifty years later.

Around 1450, the Songhai empire arose from the Mali Empire. Its greatest ruler, Sonni Ali 1664-92, captured the great city of learning Timbucktu and Djenne, the great commercial capital with its gold connection to the south. It was overthrown by Askia the great. He ruled effectively until the Moroccan invasion.

The Spread of Islam

Islam arrived in West Africa through the Beber traders who had contact with the Arab Bedouin. From Gao, where the royal family first got converted, the religion spread as far south as Kumasi in Ghana. However, it must be emphasized that indigenous culture of the Savanna people were very resistant to Islam.

These people made up the seven Mossi states of Yatenga, Ouagadougou, Fude N'gruma, Tenkadugo in present day Burkina Faso, Mamprusi, Dagomba and Gonja in Ghana. They had a self help organisation in defence and fought successfully against the larger empires. The Mamprusi and Dagomba were responsible for the creation of Wa.

By the end of the 16th century, the empire of Songhai began to fall under pressure from the attacking Almoravids, Moors, and Tuaregs that led to the migration of peoples from Songhai and its neighbours towards the forest region.

The Founding of the Gonja state

The Mande, led by the legendary Ndewura Dyakpa took advantage of the confusion caused by the Almoravid and Moor invaders in the Niger bend in 1950 and invaded the Jenne region. He left southward towards Bobo dioulasso, picking up countless refugees from the wars who followed him, acknowledging him as a leader.

From Lawra, he entered the region of Wa and to Bole where he gathered arms to attack most of the neighbouring villages that make up the Gonja state. He founded Larabanga on the ruins of a village called Kahu. After his death, his son, Dyakpa Lanta became his successor.

In other versions, a Mande troop was sent from lower Mande on an operation to investigate the dimunition of flow of gold from the gold field of Begho (Central Ghana).

The Dagomba

The legendary origin of the Dagomba claim decent from Ad, a great grandson of Noah. They were called Adites or Ada-gbon which means Adakin from which the term Dagbon is derived. They form the indigenous inhabitants of the Dagbon traditional area.

The traditional rulers of Dagbon, the Nabili revere Tohadzie, the red hunder as father of the founders. According to tradition, he originated from present day Niger. He was forced to leave that area due to pressure from the invading Tuaregs.

After partial settlement in a few places, his descendants settled in northern Ghana. His great grandson called Na Gbewa settled in Pusiga. His son Na Nyagse and his descendants became rulers of the Dagomba amd Mamprussi.

This summary of the history of the northern region shows the origin and founding of the two most dominant tribes. This has modeled their social and political life today.

3.2 Archaeology in the Northern Region

The Northern Region of Ghana has the majority of the country's unexpected archaeological sites. Recent excavations have gone to support and emphasize the authenticity of historical facts of the region.

Before 1960, little archaeological research had been done in the region. The pioneer of archaeology in Ghana was Oliver Davies who traveled extensively in the region, making surface collection and notes on possible sites for later excavation. They first excavated Ntereso, where Neolithic Kintampo Culture materials and early iron age occupation were found. In 1961, Stinne excavated the historically attested site of Yendi Dabari, the capital of the Dagomba in the 16th and 17th century AD. In both places material found were associated with history.

Official excavation projects started in the 1960s with the Volta River Basin project; an operation to rescue sites in the lake basin flood zone before the dam was constructed. Sites included Daboya, Ntereso, Buipe and Bui. Materials are from 1000BC - AD 1750. Findings from Chukolu have been noted to be akin to stone age findings and include:

Biconically perforated stones
Stone axes
Grinding stones
Pottery
Smoking pipes
Beads
Iron works
Imported gin bottles
Sprindle works
and large occupation mounds and structural features representing some ruins. During the erection of the dam, 738 villages and several archaeo sites were lost.

Case Study - New Buipe

The new Buipe site was the most extensive Gonja land excavation so far carried out between 1965 and 1967 by R.N. York. Here three mounds varying from 20-40 feet in height and covering

an area about 260 yards by 100 yards were found. Nine periods of occupation were identified , separated by long periods of time.

Phase 1, - 3 burials and cigars were found. The radio carbon dating suggest occupation in the 9th Century BC.

Phase 2 - This period is dated by radiocarbon within the 7-9th Century AD.

Phase 3 - These periods are dated by radiocarbon to the 15-18 th Century bracket.

The Pottery from phase 2 and 3 showed an evolution of style in ceramic traditions. From these it was obvious that the comb-impressed iron roulette wheel was used more frequently and that different kinds of painted decoration and dye-stamping predominated the later periods.

Architectural evidence was little but significant in phases 2 and 3. It was quite evident that rectangular mud walled structures were in use which had flat roofs drained by clay pipes and that some may have possessed more than 1 story.

Thirteen iron fragments including brass were found in phase 3 but no evidence of their manufacture. This suggests early trade and imports from other regions.

Cowries and imported trade-beads were found in the 5th periods of phase 3 as were locally made miniature carving in bone and ivory of a high technical and aesthetic standard.

A type of clay bracelets of roughly triangular sections of which seventy seven specimens were found in phase 2. Clay spindle whorls suggests the activity of weaving in phase 3.

Comparison of archaeological record with the evidence from oral tradition and with Arabic manuscripts relating to this area appears to suggest that the events of phase 3 at new Buipe coincide with the presence of the Gonja Kingdom the Mande invaders of the early 16th Century.

Case Study - Ntereso

Excavations were made by Dr. O. Davies in 1962.

Three phases of the uniform culture were certainly identified. The excavator suggested the possibility of one or two earlier phases. In the first and second phases, the villages were buried, two house plans represented by past-holes were preserved. The occupants are thought to have been Saharan immigrants bringing with them artifacts typical of Saharan Neolithic cultural assemblages and bilateral harpoons, bifacial hollow-based arrow heads, fish hooks and ornamental pottery. Miniature ground stone axes and stone brackets were also found.

Iron objects found in the 3rd phase were not attributed to any earlier phases. Four radiocarbon dates are available for the site. Of these, one is about 17th Century BC, two are 13-14th Century BC and 1st Century AD. This has implications on evidence for the history of iron working in West Africa.

In various areas, such as Daboya, Mannuma and other sites in Western Gonja, a number of burial sites have been excavated. Pathological post mortems performed on these skeletons reveal interesting evidence that give us an insight into the lives of the people of the past.

Dental pathology gives an insight into diet and dental formulae. Examinations give a result of dental caries in most skeletons. This suggests that the people were mainly meat consumers being hunters or cattle rearers. However, lack of caries and smooth tooth crown suggest more carbohydrate diets such as yam, millet, guinea corn. These were evident in excavations of later ages or phases.

Ancient terracotta beads from Komaland

Komaland is located in northern Ghana to the northern border of the region. Yikpabongo village is the place of origin of the terracotta beads collection to be featured as a special exhibit in the proposed museum for the northern region.

In the past twenty years, villagers in the region found them on the ground but knew nothing about their origin. They were first recognised for their historical value by the scholar who then appreciated their unique aesthetic value. In August 1984, the Ghana museums and monuments board issued a license to permit excavation in Komaland. In March and April 1985, the Koma research project excavation started. It was directed by Dr. James Anquandah, head of the Department of Archaeology, University of Ghana, Legon, Accra.

The preliminary report on the excavation subsequently published postulates that a number of aspects of the ancient culture are clearly unique and outstanding. Above all, the remarkable terracotta provides evidence of the trans-sahara caravan trade linking Egypt and North Africa with Gao, Mossiland, Kamaland and the Volta confluence area.

The summary of findings shows over 500 such terracotta specimens were found. They seemed to be the work of skilled traditional craftsmen with aesthetic sensitivity. The art certainly has a symbolic element in it. Many human figures appeared to wear hats or had cowrie shells attached. The tendency to depict double figure with elaborate regular or ornamental decoration, side by side, back to back etc. suggests social solidarity.

The date of manufacture was established at the Max Plank Institute in Germany by the thermoluminescence method, the laboratory gave the date of AD 1579.

CHAPTER 4

CASE STUDY

GHANA NATIONAL MUSEUM - ACCRA

The Ghana National Museum was completed in 1957 designed by Architects Fry and Drew. Most of the contents of the museum were transferred from the University of Ghana Legon after which it was officially opened on 5th March, 1957 by her Royal Highness the Duchess of Kent as part of Independence celebrations.

The specimens transferred to this museum comprised:

a) all the collections from Achimota museum in 1954
b) the collections made by the museum from 1951

The Achimota collection consisted of some 5 thousand objects of Ghanaian origin including useful archaeological material which had been scientifically excavated in the country as well as a valuable collection of Akan metal-work and many ethnographic specimen; and a wide range of objects from other parts of Africa and overseas.

Since the national museum was transferred from the University in 1957, it has been growing speedily. Ethnographic specimens have kept flowing in and although curatoral duties have been extremely heavy at the initial stages, it has been possible for the staff to carry our archaeological excavations and surveys and to collect more ethnographic specimen.

The character of the contents of the museum is largely historic but the scope is very wide. Apart from objects from Ghana which form the largest percentage of the contents, other cultures have also been represented, especially those which have influenced Ghana in one way or another.

This is the section dealing with history, some European countries like Portugal, Holland, Britain which have had contact with Ghana in the past are represented. Some amount of space has also been alloted to objects from East and South Africa.

Since it was obviously impossible to acquire enough original specimens from all the places mentioned, photographs have been obtained to supplement such originals.

Ethnographic exhibits cover a wide range representing nearly all aspects of human culture. Economic, social and religious factors are equally involved and indeed well illustrated by specimen from Ghana and other African countries.

Collection include:

Stone work
Bead work
Wooden objects
Leather and Skin
Musical instruments
Jewelery
maps and pictures
Pottery
material objects
Bone, grass straw, cloth
Ivory and bone work
Chieftaincy regalia.
symbols
Paintings

The national museum is a relatively small museum with an exhibition floor space of 1200m2 and storage area of 226 m sq

The design is distinctive in its environment. It is located in a quiet office zone of Accra and is easily recognized by its large aluminium dome. Its orientation and design of fenestration positions ensure that no direct sunlight falls on the exhibits. It is also designed to make use of natural lighting, through high level windows and narrow splits.

Demerits of the national museum is largely due to lack of funds to maintain standards. The circulation is undefined for the exhibition since the shape of the space is irregular lending itself to multiple directions.

The museum has only one entrance, thus enforcing security but it supposes that even the staff or visitors to the administration must pass through the exhibits and galleries. For visitors and staff, the total number of sanitary facilities are inadequate and poorly maintained.

The lack of dust protection in the windows of the gallery exposes the artifacts and showcases to the dust, thus requiring frequent cleaning .The preparation room is inadequate as its function has doubled as both documents and chemical storage . Generally, the facility is poorly furnished.

Generally, the layout has changed over the years and as a result, some of the facilities have become neglected and underutilized.

CASE STUDY 2

MUSEE NATIONAL DU MALI

The history of Mali's national museum, like most of today's national museums in countries that were formally colonized by France, has close links with the colonial era. It was part of the institute of the French West African establishment in Dakar in 1936 Institute Francais d'Afrique Noire (IFAN).

IFAN's main objective was development through research into the indigenous cultures of the colonized territories. IFAN was under the direction of a Polish archaeologist named Szumowzki.

Most of the collection of this museum were from excavations led by Szumowzki and his team in 1957. Out of the survey of 2512 collections, 2350 were archaeological objects and 162 ethnographical objects.

At independence, IFAN became known as the National Museum of Mali. This museum was to play an important role in the strengthening of national unity and to promote the research into an authentic culture.

Under the prevailing difficulties, that is the absence of skilled personnel and the deplorable financial situation, the institution did not develop. As a result, the museum began to deteriorate. It is estimated that out of 15,000 artifacts in 1964, the Museum had only about 1500 in 1975. The pieces were scattered between the National museum, a villa in Korofina and the school of Engineering.

In the face of this degradation, an organization was set up to define the policies needed to govern the national museum.

In 1977, during the visit of the president Giscard d'Estaing of France, Mali was given a subvention for the construction of a new National museum.

Designed by Architect Jean Loup Pivin, construction started in 1980. It was built of banco and much influenced by traditional forms of architecture.

The exhibition halls with their curved lines portray the architecture of the South and on the other hand the administration and technical blocks portray architecture of the North.

The collection of the museum is estimated at about 6000 pieces. A study of the collections reveals an important ethnical disparity. Moreover, emphasis seems to have been put on the art

ritual characteristics at the expense and exclusion of technical knowledge. The majority of the art collection presented are those of the Dogon and the Senoufo.Most of the collections are masks and statues.

Another characteristic of this collection is that the documentation is poor. Most often, only the ethnical origin is mentioned, with a brief indication of origin.

In recent times, the National museum has developed a collection strategy that provides much information about the object. The collection is no more only concerned with the object as a piece of art but its daily use. It is in this new strategy or approach that the museum acquired important collection of textiles, ceramics and musical instruments.

The museum also encourages promotion of modern plastic works and it frequently organizes exhibition for foreign artists.

The National museum of Mali cooperates with UNESCO in enforcing Laws of Antiquity. Mali is famous for its terracotta figurines which come from various archaeo sites in the country. They have suffered looting and illegal excavation for sale to foreigners.

CHAPTER 5

5.1 PRINCIPLES OF CONSERVATION IN MUSEUMS

There are two types of conservation in museums. They are

1) Preventive conservation
2) Remedial conservation

Preventive conservation is about ensuring that the museum's collections are stored, displayed, handled and maintained in ways which do not allow deterioration.

Remedial conservation is about repairing damage or decay to collections using reversible techniques. This is the museum's responsibility. Remedial conservation can be expensive but efficient. Preventive conservation go hand in hand in ensuring the long term well being and safe guarding of collections.

Different types of collections need different forms of care, what is appropriate in each case, for example, for the storage of metallic objects is not necessarily appropriate for textiles or photographic collections.

Museum staff and conservators should be aware of the effects of different materials used in storage and display and the special requirements in terms of light and humidity levels.

A few common sense precautions include:

1. Ensuring that the relative humidity and temperature in storage and display areas are kept stable and at appropriate level for items.

2. Ensuring that light levels are appropriate for items on display.

3. Items should not be stored on top of one another.

4. Regular checks against pest infestation should be a routine.

5. No smoking in the vicinity of the collections.

5.2 Temperature and Humidity

Temperature and Humidity are key agents of deterioration in museum collections; low level of relative humidity (RH) implies dry weather and a capability to take more water by the atmosphere. RH is measured with a hygrometer.

Stable relative humidity is critical for museum objects - changes in relative humidity create dimensional changes in organic objects, for example, wood, leather, textiles, ivory, bone, paper etc. These changes cause expansion and constriction of materials. Organic materials can be attacked by moulds/fungi if conditions are humid. High levels of RH, which encourages corrosion, can adversely affect metallic objects.
Museums should aim at having a constant RH all year round in storage and display areas. It should be about 50 - 55% for a mixed collection. The Museum should be aware however that items which have been obtained from another place with a different climate may be irreparable or damaged if it does not take care.

Temperature

Temperature is measured with a thermometer, changing temperature can slow or speed up biological and chemical processes that lead to deterioration.
Museum collections do not require high temperature. 18 - 20 degrees celcius is the optimum range. For storage 15 degrees celcius would be ideal. The museum must beware of the illumination and heat levels introduced by the spotlights.

Preventive measures

It would be ideal for museum storage to have a humidistat and thermostat. These being connected to the air-conditioner may control humidity and temperature automatically as it will automatically switch on when levels are too high.

A much cheaper way to prevent humidification is the use of dehumidification agents in showcases. A very common agent is Silica Gel. Application of fungicide lotions in weathers of high humidity is advisable.

5.3

Lighting

Light is one of the greatest threats to long term care of collections. It is a form of energy and can cause fading and deterioration. Almost all materials are affected by light except metal and ceramic to a less extent. While light can never be eliminated it can be reduced by:

1. Reducing the amount of time object is illuminated
2. Reducing illumination
3. Eliminating ultra violet radiation (UV)

The intensity of light is measured by a light meter in lux units. Generally, levels of illumination range from 50 - 200 lux. These are the categories of items and their illumination limits.

Above 200 lux	metal, stone, glass, ceramic
150 lux	Oil painting, undyed leather, laquer, wood horn, ivory
50 lux	Costume, textile, water color, paints and most ethnographic items

It should be borne in mind that daylight is not controllable so that the use of daylight in museums should be carefully designed.

Simple and cheap methods of reducing light levels in museums

1. Moving items on display away from window cases
2. Reducing the wattage and number of bulbs
3. Fitting dimmer or cut out switches to room or case light
4. Siting display cases out of strong day light zones.

The ultra-violet component of light is particularly damaging and must be eliminated using UV absorbent filters. Daylight and fluorescent lamps emit high levels of UV radiation but tungsten incandescent lamps do not need UV filters.

Level of ultra violet radiation of over 75 microwatts per lumen must be screened buy UV absorbent film or glass by these ways:

1. Acrylic sheets
2. UV varnish applied to window or display case
3. Plastic filter sleeves for fluorescent lamps tubes

Radiant heat from lights can have adverse effect on sensitive materials and can create cracking and splitting.

5.4 INSECT/PEST ATTACK

Rodents can not only damage museum items especially where these are made of organic material or are natural history specimens but also packaging materials and electrical wiring circuits. Storage areas should be checked regularly for signs of rodent presence.Insects are more complicated in that they are very difficult to kill or eliminate especially in public areas.

All organic material especially wood entering the museum should be inspected first. The normal life cycle of insects passes through egg, larva and adult stages. It is often the larva which damages items. Signs of attack vary. Expert advice has to be sought on a control programme since fumigation consists of the use of chemicals to kill eggs or larvae. Health and safety measures must be closely observed.

CHAPTER 6

6.1 EXHIBITIONS

The primary function of every museum is to exhibit. These exhibitions must be in context with the vision and objective of the museum. A museum of archaeology or ethnology or anthropology or even natural history or art must have its exhibitions designed in such a way so as not to distract the objective of the museum.

There are three types of exhibitions in museums. These are:

1. Permanent exhibitions
2. Temporary exhibitions
3. Visiting exhibitions

Permanent exhibitions

These are the everyday exhibits of the museum, they stand for the type of museum. Here, the items are displayed in permanent conditions such as display showcases which serve as its storage place.

Characteristics of every permanent exhibition are display show cases; they allow a view of the objects without touching. The size and type of display cases vary. They also protect the objects from dust and if it had an alarm protection from intrusion. Where special glass is used, it could protect the objects from harmful gases or adverse intense climate.

The permanent exhibition must have a concept and form. These decisions will be made on what to exhibit. What will be exhibited must be a product of that area or an object of cultural heritage and significance. It must represent the values of the society allowing visitors to exercise their spirits over their own heritage and arousing curiousity to know and learn more.

Temporary exhibition

These are exhibitions that are not permanent but are organised to give the museum some variety. They are organised according to various topics designed.

First, the significance and purpose of the exhibition has to be established. Themes and concepts have to be well understood so that what is to be exhibited can be studied and prepared. They are often held in open or wide spaces which can be manipulated. Next, the method of exhibition has to be agreed upon. From here the layout of the temporary exhibition can be planned, its flow patterns and foot traffic patterns can be arranged according to focus of exhibition, bearing in mind that temporary exhibitions sometimes attract more patronage than permanent ones already seen.

Visiting Exhibitions

This also attracts a wide range of visitors since it is almost always a foreign exhibition. It arouses the curiousity of visitors who may want to learn about new cultures or topics.

Most useful visiting exhibitions are those of science which go around educating school children of either past or modern achievements in technology. They may be held outdoors or indoors depending on the nature of items to be exhibited.

6.2 Functions of a museum

A museum has 5 (five) functions which define its main areas. They are

1. Storage
2. Display
3. Education
4. Research
5. Management

1. The storage is concerned with the collection and storage of the items, it should ideally be about 10 - 15% of the total floor area of the museum.

2. The display is the exhibition of the items and objects. It involves preparation and design of exhibitions. Whether permanent or temporary, display should be about 40 - 50% of total floor area.

3. The educational aspect of the museum has to do with the supplement of audio-visual halls, libraries and workshops where the public can get educated informally about exhibits covering- 4 - 5% of floor area.

4. Research plays its functions as part of a museum dealing with conservation and preservations needs of collections. Here, appropriate means of conservation are used to restore or prevent decay of items. This calls for a well-equipped laboratory.

5. The management of museums consists of the museum manager and employees. It has directors, curators, accountants, technicians and a number of non-permanent employees on contract.

A museum has two basic zones under which the functional areas of the museum fall. They are the visitor's zone which consists of the display and education, while the staff zone consists of the storage, management and research aspects.

Functional Relationships

Basically, a visitor on entering the museum will enter a lobby where there is an information desk. The lobby must be connected directly to exhibition halls, library, audio-visual hall and lounge or restaurant.

Artifacts or items of a collection enter through an uncrating area where they are left to acclimatize. After a period, they must be tested in the laboratory for insects, moulds, fungus etc. which cause deterioration. It will then be prepared for storage after it has been registered and catalogued. If it has to be exhibited, it is taken from the storage and prepared in the preparation room. The preparation room must have a direct link to the galleries of exhibition halls.

6.3 Circulation in Museums

There are two basic circulation patters in museums

1. Random
2. Sequential

Random circulation allows the visitor to explore the museum. This could be exciting depending on the exhibits to be shown. Its disadvantage is that, the visitor may miss some parts of the exhibits or may be simply tired.

The sequential is appropriate where there is a story line or a process that must be followed from the start to finish. It is preferred because it allows the visitor the opportunity to see all exhibits.

Disabled Access

Where the display route involve changes of levels by steps, or other difficulties for the wheel chair user, lifts or ramps should be provided. Disabled toilet facilities should be provided fitted with handrails.

The exhibition can be displayed in showcases, free standing, on walls or on panels. Adequate spaces should be provided for people to view the exhibits and also to pass between groups of viewers. If objects are placed too near corners, congestion tends to occur. Where there is a no designed sequence, there may be queuing for more popular items. Space must be allowed for this. Space for circulation can be calculated on how many persons can see one exhibit at once.

6.4 Security

Security in museums is of utmost importance. Security systems are expensive but worth having. Museums hold valuables that can be the target of criminals.

Architecturally, a museum must not have multiple entries and exits which cannot be monitored either by human force or camera. A strong room is of importance in the design of every museum. It should be within the building and not have its walls showing externally.

Alarms Systems

1. **Intruder Alarm System**

This consists of infra-red sensors and detector hooked up to a control panel and which operates by picking up any unprogrammed movements within their areas of coverage. Door and window contacts can also be added to this system to provide greater protection.

2. **Close Circuit Television**

It involves the mounting of cameras at vantage points throughout the premises. These are linked to monitors at a control security point and monitored constantly.

3. **Show Case Alarm System**

This involves the use of the contact break alarm. The alarm will go off as soon as the glass breaks or the case is opened and the circuit is broken.

CHAPTER 7

7.1 LOCATION AND SITE

The location of the proposed museum is in Tamale, capital of the Northern region, for reasons mentioned in Chapter 5.

The site is located in the ministerial area of Tamale, sharing boundary with the Town and Country Planning Department as well as the CEPS offices, behind the Regional House of Chiefs. It covers an area of 1125 m sq is fairly flat but undulating in some portions.

Present site conditions

The site is one of the largest undeveloped sites of the ministerial area. It still has its natural vegetation of mango trees and tall dry grasses. This site is ideal for the grazing of cows and portions of it, used by drug peddlars at night on non working days. Besides this, it has become the garbage dump for the Ministries.

This neglected site has uncovered service ditches along its periphery. These ditches serve as places for defecating at night by nearby residents or drug peddlars.

The surrounding architecture of the ministerial area is diverse. The Catholic Church with a steep sloping pitch roof, the regional house of chiefs with a hidden rood behind a tall parapet and the High Court which seems to be the most distinct building around.

The rest of the buildings are the ministerial blocks of offices scattered around the area.

7.2 Concept and Philosophy

The philosophy of this project is a phrase - The Return to an Ancient Future. It is explained thus. For us Africans, there are truths we ought to know about our race. It is a fact that the black race back in ancient Egypt have held the mantle of knowledge before. This manifested itself in the magnificent places in Egypt which now is the bases of culture and tourism, the country's highest income earner. Back then, they were able to achieve great feats of construction that leaves today's people still baffled, with the application of this knowledge.

Today, we have forgotten all about that ancient greatness, a heritage which is ours by geographical right. This knowledge migrated with the sudanic people to West Africa. But, with the advent of the colonial powers, they were all forgotten and are thought of as not important.

However, it is important to look and understand the past before we make it into the future as a nation and a people. So many secrets of our greatness lie in the past. If we are going into the future to create something not new but unique , we have to search into our selves, know what we

have hold onto its remains and go into the future. This I call the return to an ancient future. One word sums it up "Sankofa".

Concept

The concept for the design follows the design philosophy. It is the ancestral pillar.

This is an earth cone or group of cones found at the entrance of most homesteads in the Savanah Sahel peoples. It is supposed to be the representations of their ancestors and therefore a sort of shrine. Libation is poured to it each day.

A study of the origin of West African architectural form will bring us to a realization that there is a great relation and resemblance between the Sudanic mosques of West Africa and the ancestral pillars.

To ascertain this fact, the comparison can be drawn between the masks of the Dogon tribe in Mali and that of the Jenne-type mosques. This offers an even more striking resemblance. It is important that the lesson from this be learnt by architects who are concerned about the loss of the African component in contemporary architecture. It emphasizes that a knowledge of tribal art and its translation into structures is the key to African architecture. In this case, foreign architecture is not fully imposed on us, but tribal art which is part of our culture is wholly and powerfully manifested in the building. The coming of Islam and the mosque gave them the opportunity to monumentalize their ancestors.

7.3 CHOICE OF FORM

1. The conical ancestral pillar form is a feature that will run through the design. It will feature as the gallery spaces.

2. The calabash, which is a common object for drinking, pouring libation and fetching water will feature as a dome in the design.

3. The forms will exhibit the features of a natural homestead or village while possessing Islamic qualities.

The design aims at a combination of forms that will be uniquely West African in origin. Its Islamic qualities will help the people of the area to relate to the music in a religious way while it still satisfies the general indigenous populations. The mosque represents the majority of the monuments of the north. It would therefore be a most appropriate reminder of the monuments for the people.

7.4 Climatic Performance

Tamale lat. 09'25 long. 0.051W has an average highest range of temperature from 40 - 45 degrees celsius while its lowest is 22 - 24 degrees celsius.

Humidity ranges from 40 - 60% with an annual rainfall figure of 12-50 mm. The planning of buildings in hot dry climates are of compact nature. Orientation is towards the north-south direction. Dwellings are around courtyards which aid natural shading of walls and internal cooling.

Particularly of interest to Museums are thick walls, smaller openings to the outside to prevent ingress of solar radiation, glare and hot dry dusty winds which promote deterioration of artifacts. There should be larger openings in the inside of the courtyards.

7.5 Structure and material

The Earth brick (Tek Block), is the best choice of building material for this project considering its climatic and environmental circumstance.

Reading from the psychometric chart shows that for the proper and most effective storage of artifacts, the temperature has to be between 22 degrees celsius to 29 degrees celsius minimum and maximum.

The performance of the adobe brick house in the hot dry climate shows that with a wide climate range of temperature from 15 degrees celsius in the early morning to as much as 35 degrees celsius after midday, the adobe house maintains a cool range of 23 to 25 degrees celsius for 24 hours.

This can be explained by the excellent time lag property of the material which is about seven hours after 2 p.m. (The warmest hour) for 300mm thickness. By this time, the outdoor temperature would have dropped and the radiation of heat from the surface walls would be taking place thus making it impossible for the heat to reach the inside surface.

CHAPTER 8

GEOMETRY

This chapter concerns the aspects of architecture that have been lost to African architecture over time. This thesis attempts to bring them back to life by application of these in the design of the museum in Tamale. These aspects represent the physical and metaphysical functions of architecture.

8.1 The first is the use of Esoteric Sciences in architecture. Modern man has throughout the world marvelled at the architecture of great civilizations of antiquity, Ancient Egypt, Hellenistic cultures and the Graeco-Roman world. There has been the longing to recover what had been lost, the secrets that were used in the design and construction of these edifices of complex structures. The knowledge or wisdom of these civilizations has found its way into secret societies and masonic lodges where they are not available to the outsider.

Research has brought us a part of that knowledge which concerns architecture. Architecture implies something much more than mere buildings. It signifies the art or science of designing and constructing edifices that have qualities on a higher plane other than that aesthetic or utilitarian.

Ruskin's suggestion that architecture is that edifice that contributes to mental health, power and pleasure of the viewer, qualities that make the architecture an experience to be held. The architect is therefore the master builder, a skilled professor of the art or science of building who prepares designs and complex structures, arranges them on a comprehensive plan and can be referred to as the Creator, creating order out of chaos.

The part of Esoteric sciences that concerns architecture is Geometry. It is the science which investigates the properties and relationships of magnitude in space, as lines, as surfaces and as solids. In ancient texts Geometry was seen as a practical art for measuring and planning and was integrally associated with architecture. It was a necessary means of measuring ground, and establishing areas and sub-divisions.

In the ancient world Geometry was known to possess hidden qualities that contributed to the power and function of the building. It was the introductory source of all knowledge. It was the kernel of all advancement.

Builders of stone monuments, great churches in the middle ages enjoyed a certain status as the creators of the house of God and were thought to have the power and knowledge to create the Divine in building.

The origins of geometry go back to the ancient days of the pre-flood era. The Hebrew Apocrypha indicates Geometry to have been discerned by Jabal, the master-mason in charge of building Enoch, the first city of Cain.

Flavius, Jesephus, Jewish antiquities claim that Abraham taught Geometry to the Egyptians. Later versions claim that Euclid was the father of Geometry.

Records and history have proved that the use of esoteric sciences in building heightened in ancient Egypt. There it was the center of dispersal to the whole world. It was used in the construction of temples and pyramids. This knowledge taught by the priests of Egypt was passed on to the philosophers of Greece who at one time or another were known to have traveled to Egypt to study. The 3:4:5 ratio was used by the ancient Egyptians in the construction of the king's chamber in the great pyramid. But credit is given to a man named Pythagoras 3000 years later. It is interesting to note and study the connections of Free masonry with ancient Egypt.

It was after the first crusade in the 11th century that the crusaders who fought in Palestine against the moslems noticed the great buildings and grand mosques. Some studied them and that was how the knowledge was passed on through to Europe. Free masonry reached Europe through the dispersion of the secret societies after the fall of ancient Egypt.

So far, we have not studied the connections of these secrets with West Africa. A lot more studies have gone into Byzantine, Roman or Gothic architecture as an extension to the theory of Egyptian architecture, but the missing truth that should concern us is that between Egypt and West Africa. The question is that does ancient Egypt play a part in West African heritage? The answer is Yes but its full answer is beyond the scope of this thesis.

Islam adopted the use of Geometry and its esoteric role in the building of its mosques. It was through the spread of Islam that the divine secrets reached West Africa. However, there is evidence in the similarity of languages and words of ancient Egypt and the Akan and Yoruba tribes that there was certainly prehistoric contact as far back as 2000BC. For example, the ancient Egyptian word for Spirit is Kla. This is the same word for Spirit or soul in Ga tribe of Ghana. Kra is the Akan version.

The basic geometric principles of esoteric science used in the design of the museum:

1. The identification of the Spirit center of the site. This is an old West African custom almost forgotten today where people bury valuables such as jewels or a bible or biblical verses in the foundation during construction. This is believed to give the building special powers such as protection from thieves or ill luck in domestic houses.

The museum will have buried in its center a bible verse - Jeremiah 6:16 which quotes "**Stand at the crossroads and look, ask for the ancient paths, for the way which is good and walk in it**".

The verse speaks the whole purpose of the building. A call to the ancient ways of our ancestors is to self examine ourselves as a people, to know our potential. It is believed that it will enforce the purpose of the design philosophy so that visitors will unconsciously be affected by the verse, as part of the esoteric function of the museum.

The spirit center is found by the method of diagonals.

2. The Cardinal sign

The origin of this symbol goes back to ancient times. The original meaning is "existence" or "source of life", focus and direction. Today, it simply means the cardinal points of North, South, East and West. In the design, the symbol is connected to the Spirit Center.

3. The method of triangulation

Triangulation is one of the most practical uses of geometry. In ancient times, it was used to find positions on the high seas using the stars. It was used to map out areas. Even in modern times, it is used in modern survey and astronomical satellite work. This system has been used in the design to map out and locate the centers of the circular galleries. The triangle means protection. This is exhibited in the shape of amulets in ancient Egypt and protection charms in West Africa. The sacred symbol is common in the Islamic world. In Arabic countries, it is common on most public buildings. To emphasise the point, it appears at the entrance of the Sudanic mosques.

8.2 PROVERBS

The second aspect is that of the proverbs of the northern West Africa. The design of the museum will feature a gallery dedicated to the proverbs of the northern part of West Africa. The proverbs are special part of the conservations of our heritage because unlike proverbs from other lands, they speak of the environment and give a strong indication and reminder as to how life was before and still is.

It is feared that the importance of these proverbs will be lost in the future of modern educational methods of teaching children.

Let us examine a few:

1. A man who pays respect to the great name, paves the way for his own greatness.
2. A child who learns to wash his hands well, could eat with kings.
3. A man is judged by his own worth and not that of his father

The three proverbs obviously indicate status of family member and the moral aspect of paying respect to elders. The last emphasizes the importance of being an independent self made man.

4. When the mother cow is chewing grass, the young ones watch its mouth.

5. A child cannot pay for its mother's milk.

6. A child on its mother's back does not know the way is long.

These next three speak of maternal relations and responsibilities. The first speaks of setting good examples for the younger and the second speaks of eternal gratitude to be paid to mothers. The last one shows trust in direction and indicates walking long distances while caring heavy loads.

7. When men learn to shoot without missing, birds learn to fly without perching on a twig. This shows hunting as a primary occupation. It also tells of a bird as a witty animal, and life of the unexpected. It also gives a picture of the vegetation in the environment.

8. God keeps the flies away from the tailless cow. This proverb speaks of the role of God in life as a defender of the helpless. Cattle rearing is important in the life of the northern region.

9. The crocodile and the chicken are not sisters but they both lay eggs. The crocodile is a representation of the ancestors, chicken is an offering while the egg signifies regeneration. The proverb itself speaks of tolerance and warns of divisions and factions.

8.3 Mural painting traditions in Northern Ghana

The 3rd aspect of northern heritage that must be presented is the mural painting tradition of some of the tribes.In the advent of modern living, modern cement work housing will be the norm. This poses a danger for these traditions as the walls will need to be painted and without concern for these symbols. In time, it will be forgotten.Today, the women are already forgetting the art and the original meaning of the symbols. New designs are being created in ignorance. This tradition is important to the role of women in the society since they are the painters. The painting on a woman hut shows her dignity, pride and intelligence. This aspect must not be lost.The museum aims to preserve these symbols on its walls. This will preserve the true meanings of symbols and also indicate their origins. It is surprising to note their ancient Egyptian origins. This goes to buttress the point of ancient Egyptian connections with West Africa.

CHAPTER 9

THE MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY, TAMALE

The Museum consists of three major parts: the galleries and educational facilities, the Conservation and storage area on the ground floor, and the administration on the upper floor.

9.1 The gallery and educational facilities

As a visitor to the galleries enters the entrance lobby, he encounters a mosaic mural above an indoor water fountain representing the northern region as the main catchment area of rain for the Volta lake. The mosaic mural is a mystical art piece named - the return to an ancient future, after the architect's philosophy. On the right is the reception and lounge. To the left of the entrance lobby is the information centre which offers any information concerning direction, location, culture, tourism statistics and other such information by way of publications, magazines and books. The gallaries are designed to simulate the traditional interiors. Exhibits are arranged as follows: on the plates overleaf.

Visitors have a directional route in which they enter galleries which emphasize focus on objects of a topic. The winding nature of the route offers interest in what to see next.

Midway through the galleries is the gallery of pottery. The doors open out into the interior courtyard where visitors can read and learn about the traditional motifs on the external walls. Re-entry can be gained through the pottery gallery to continue the directional route or through the door entering the community gallery.

A spiral staircase takes you up to the first floor which is the archaeological gallery where exhibits are preserved and displayed in showcases. A door opens to outside patio where visitors can have a closer view of the five pillars of truth. These pillars have a message which can be explained to visitors by a guide or with the aid of brochures.

The spiral staircase continues up to the dome of wisdom.

9.2 The conservation and storage area

This area consists mainly of a conservation laboratory, a preparation room, storage area and offices. Artifacts arrive at the uncrating area where they are uncrated and its case and packing material sent to the workshop. After a period of aclimatization, they sent into the conservation laboratory where they will be checked for agents of deterioration and treated in the equipment room if necessary. They will then be catalogued and sent into storage. There is a general storage and two special ones for ceramics and one for fabrics.

The preparation for storage also includes a photographic documentation of the artifacts. The large preparation room with its inbuilt shelves is well equipped to prepare artifacts for exhibitions.

A staircase takes one up to the first floor- the administration section which manages the museum. It consists of a secondary reception and a meeting room, a Director's office, accountants, assistant director, registry and enquiries.

SERVICES

The environmental conditions in Tamale require that services are well planned to counteract environmental changes and to prepare against adverse conditions.

9.3 Air conditioning

The left pillar holds a large refrigeration plant that supplies chilled water through supply pipes to fan coil units in the various rooms and galleries.

This has the advantage that internal conditions can be altered. This will involve reduction of humidity and reduction of temperature should any of these conditions rise above threshold level since they are agents of deterioration. It has the added advantage in cutting down dust conditions.

The chilled water pipe feeds two air handling units, one supplies cool air through ducts into the auditorium. The supply diffusers have been arranged such that they offset the heat generated by the lights.

The second air handling unit is specially suited for the needs of storage. It automatically switches on when the thermometer reading rises above a set level in the store. It is set to control humidity and temperature to stabilize conditions in the store rooms.

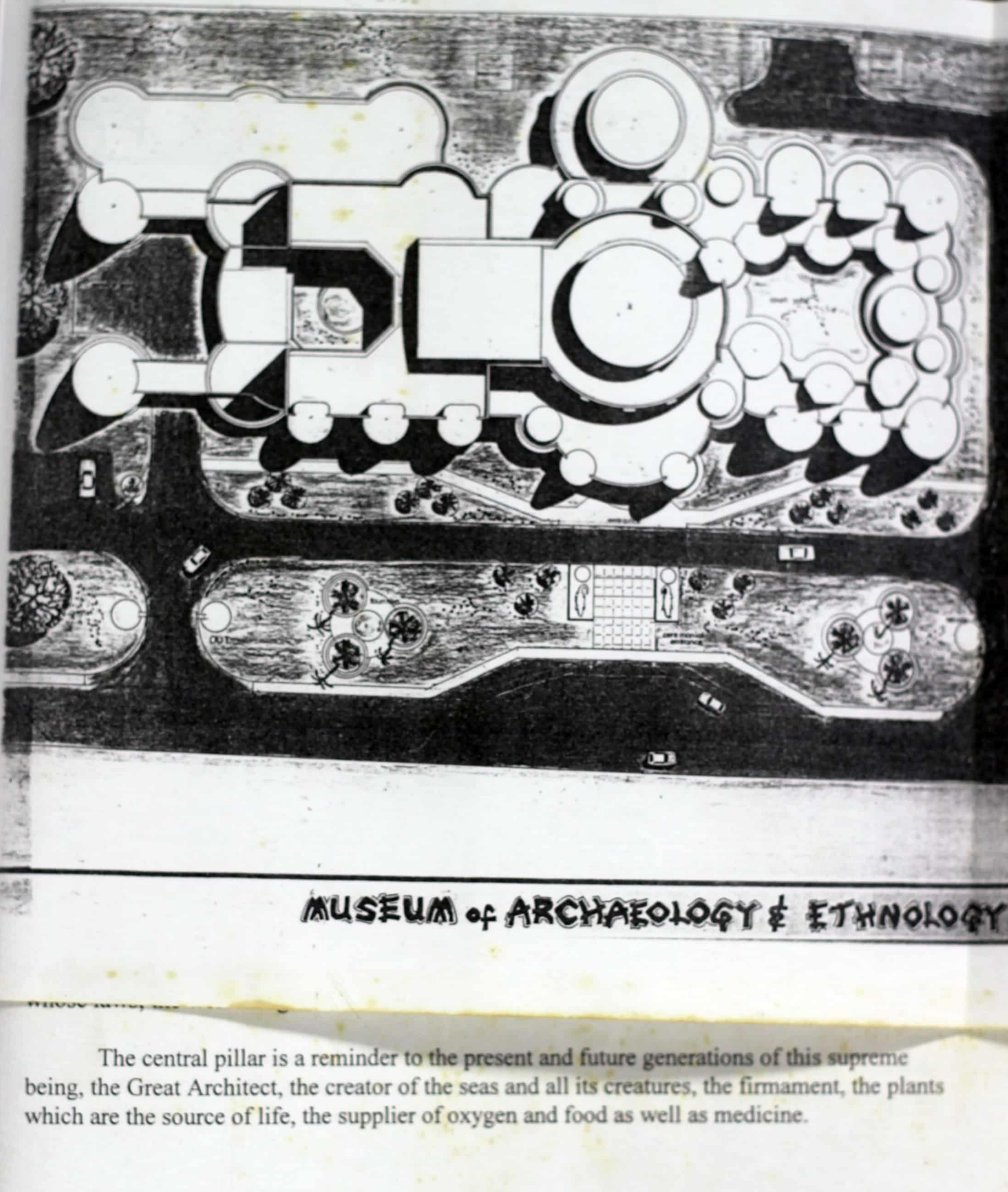
9.4 Rain Water Harvesting

The museum forms and structure lend themselves to the ease of rain water harvesting. Rainfall is low in these dry regions but when it does, it can be a thunder storm. It would be an advantage if the museum had the facility to store this water that drips off the museum.

The design has integrated the idea of rainwater harvest into the scheme. The open area around the whole facility has a gutter in it that flows into reservoirs at vantage points. The system consists of roof gutters from roof slopes, and rain pipes that enter the open gutter.

The water stored can be used to water the gardens, or flush toilets or for cleaning. This system will make sure the vegetation around the museum is well maintained all year round.

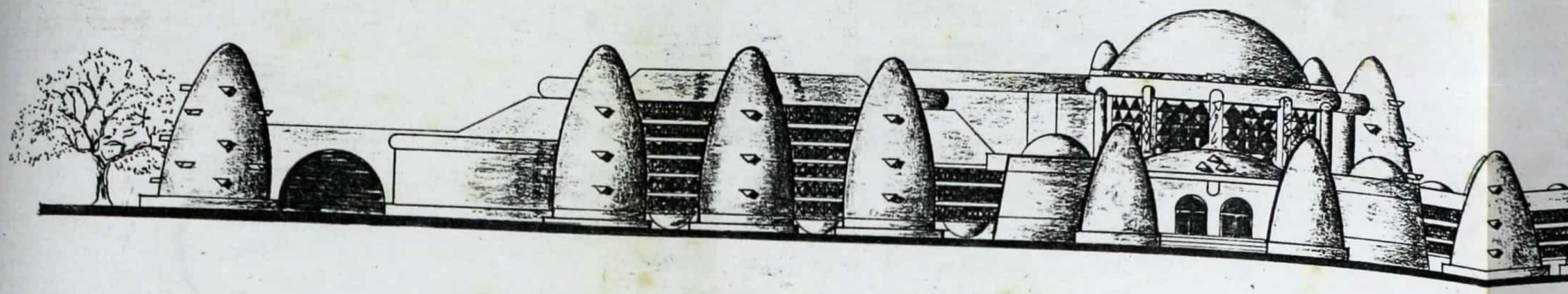
LAYOUT



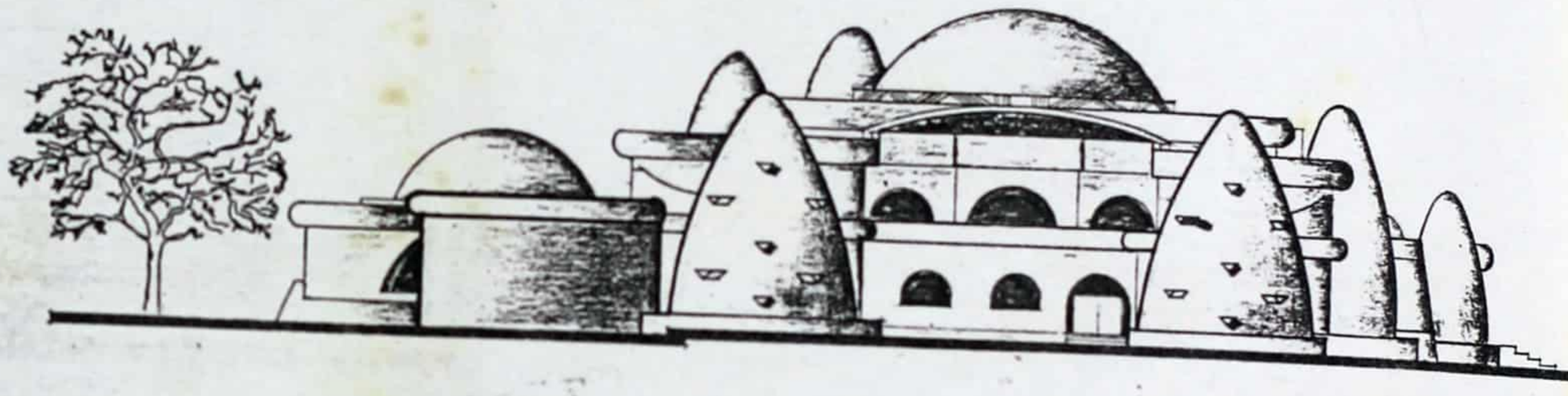
MUSEUM of ARCHAEOLOGY & ETHNOLOGY

The central pillar is a reminder to the present and future generations of this supreme being, the Great Architect, the creator of the seas and all its creatures, the firmament, the plants which are the source of life, the supplier of oxygen and food as well as medicine.

Elevation



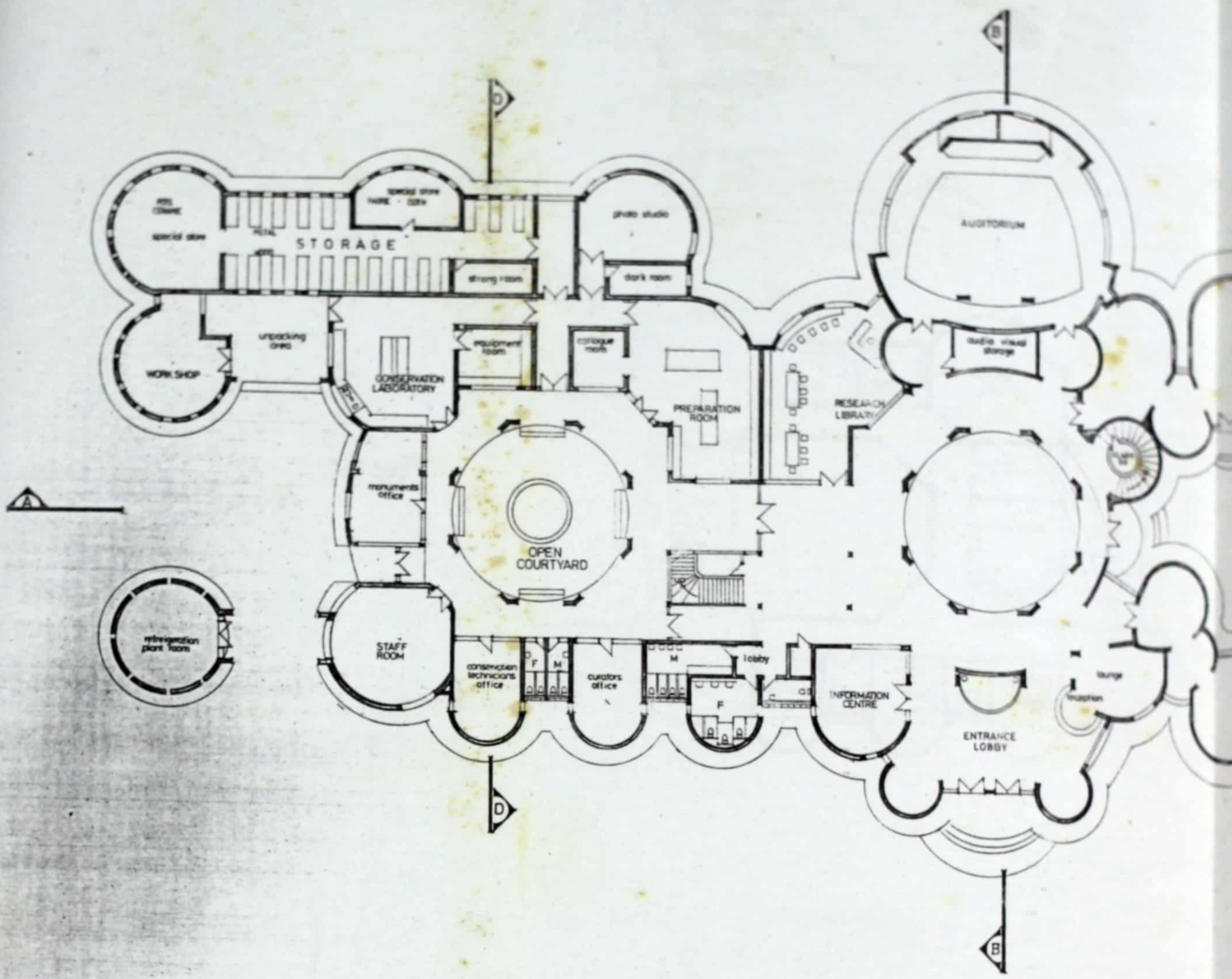
FRONT ELEVATION



LEFT SIDE ELEVATION

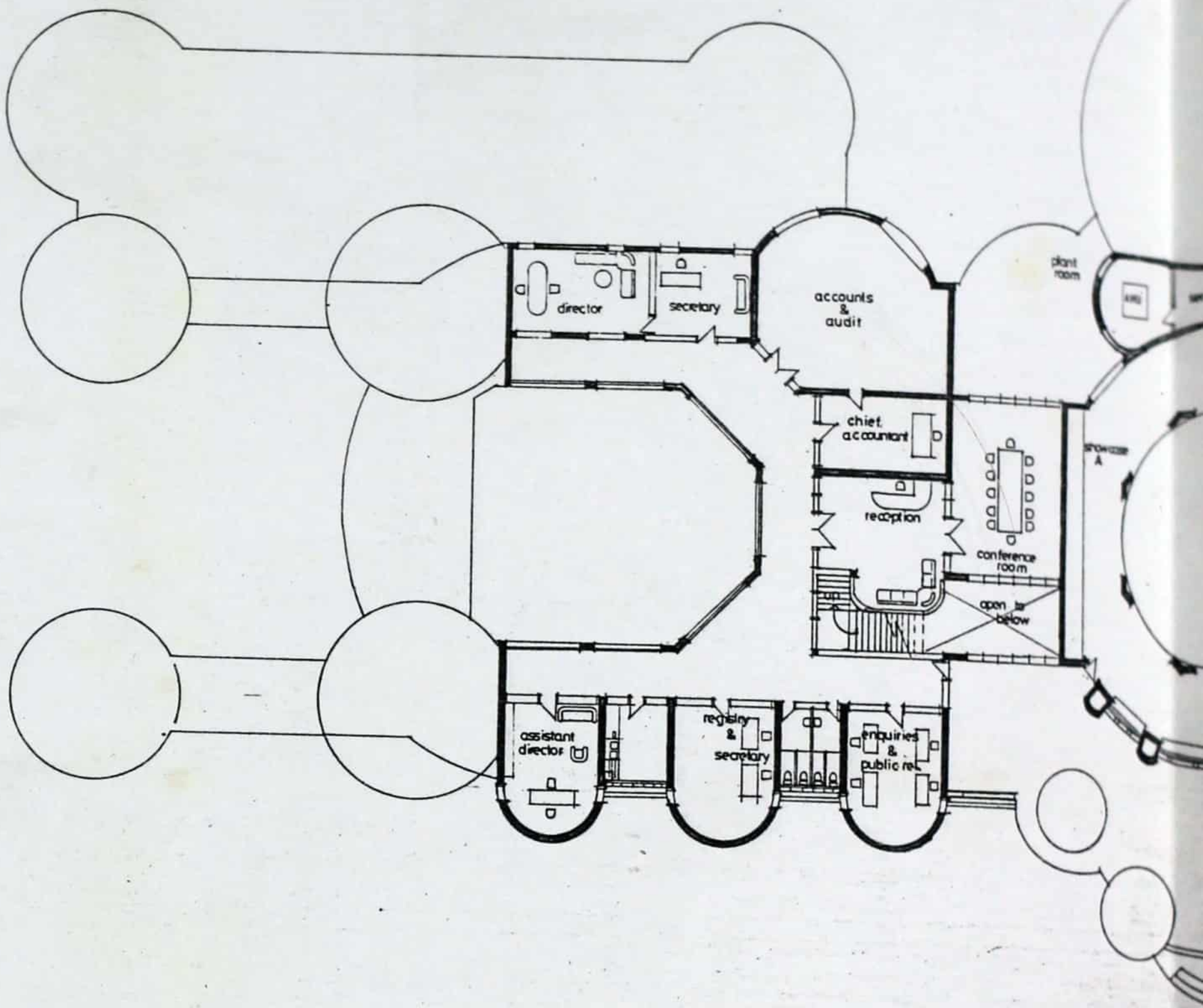
MUSEUM of ARCHAEOLOGY & ETHNOL

GROUND FLOOR PLAN



MUSEUM of ARCHAEOLOGY & ETHNO

FIRST FLOOR PLAN



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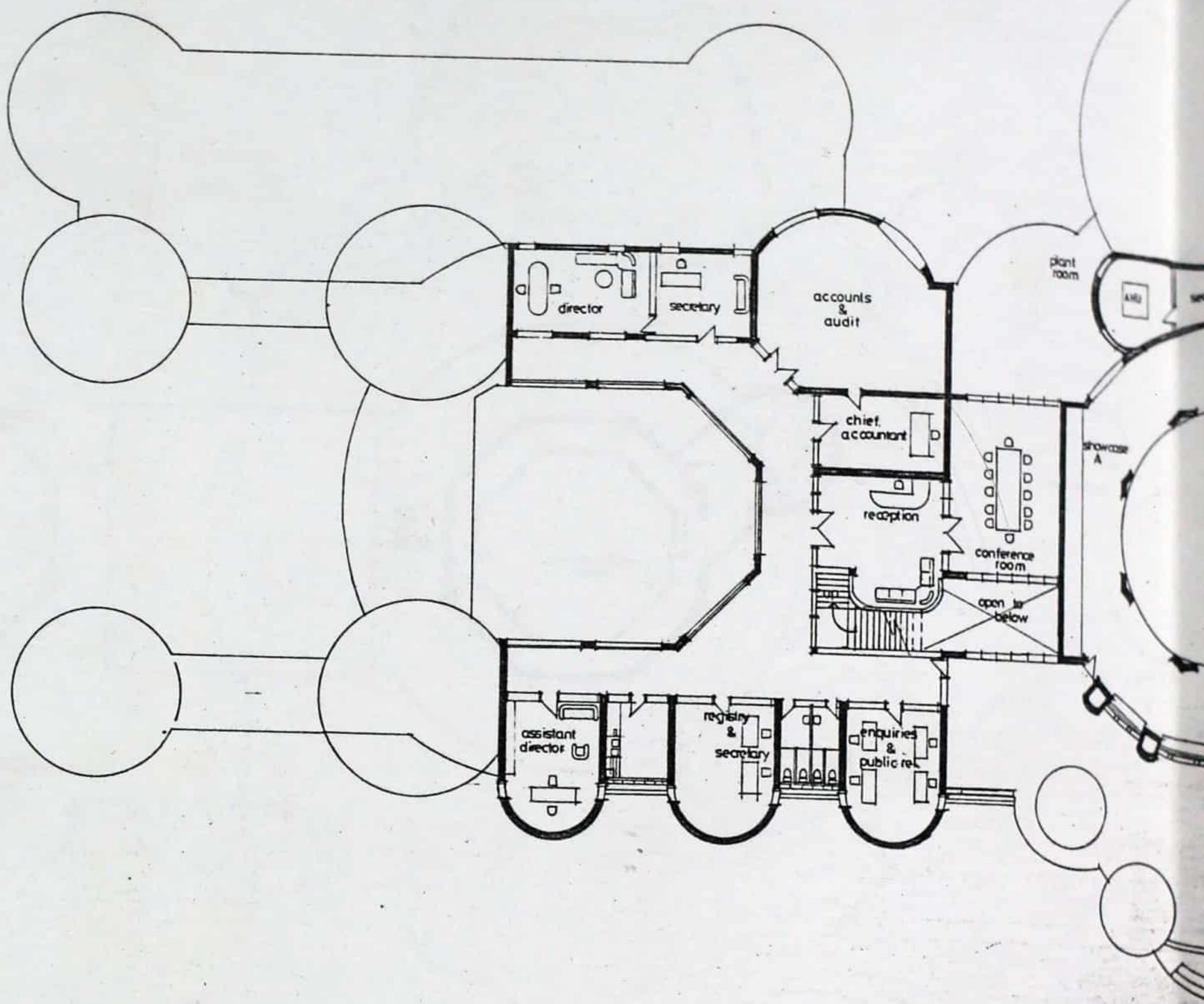
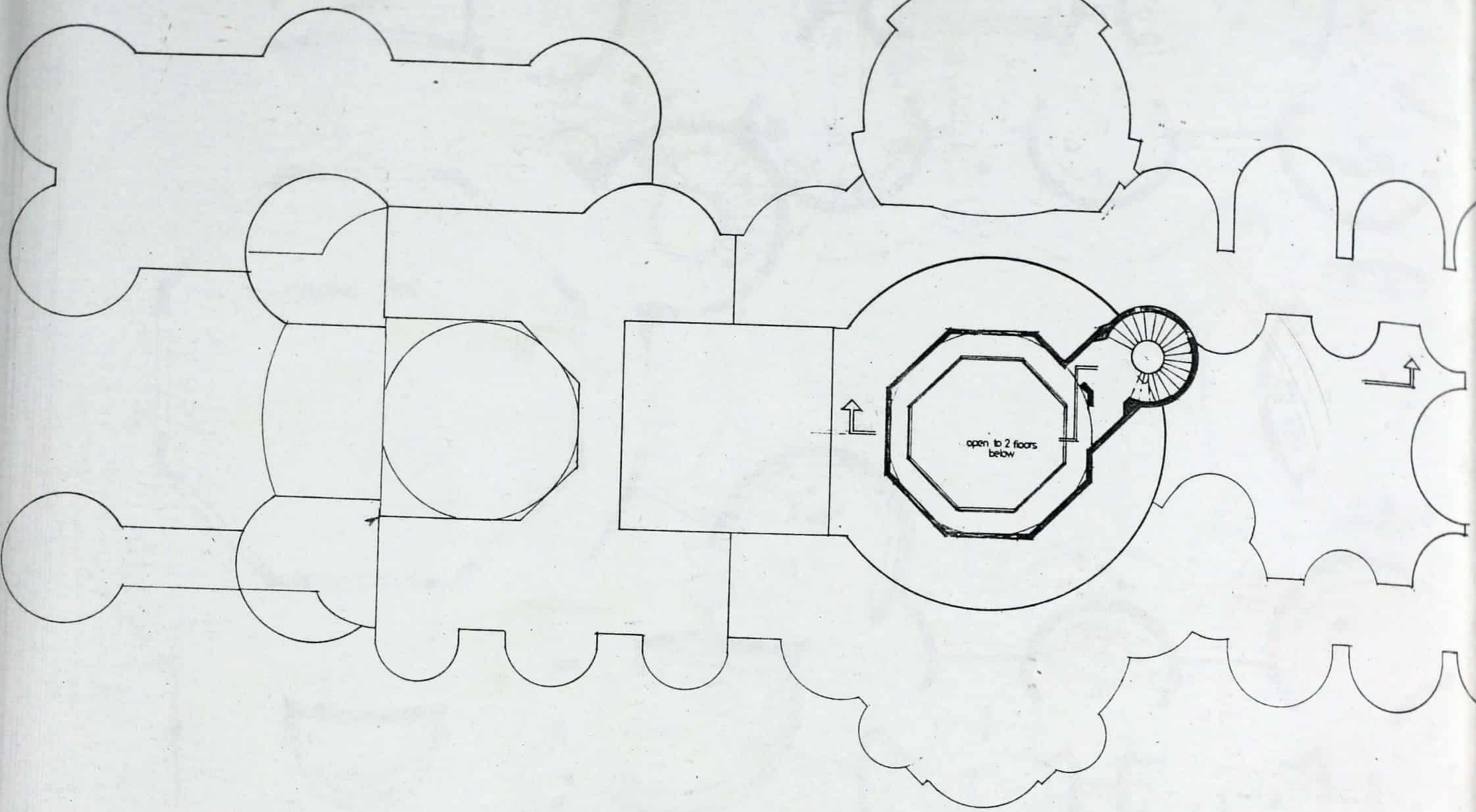
FIRST FLOOR PLAN

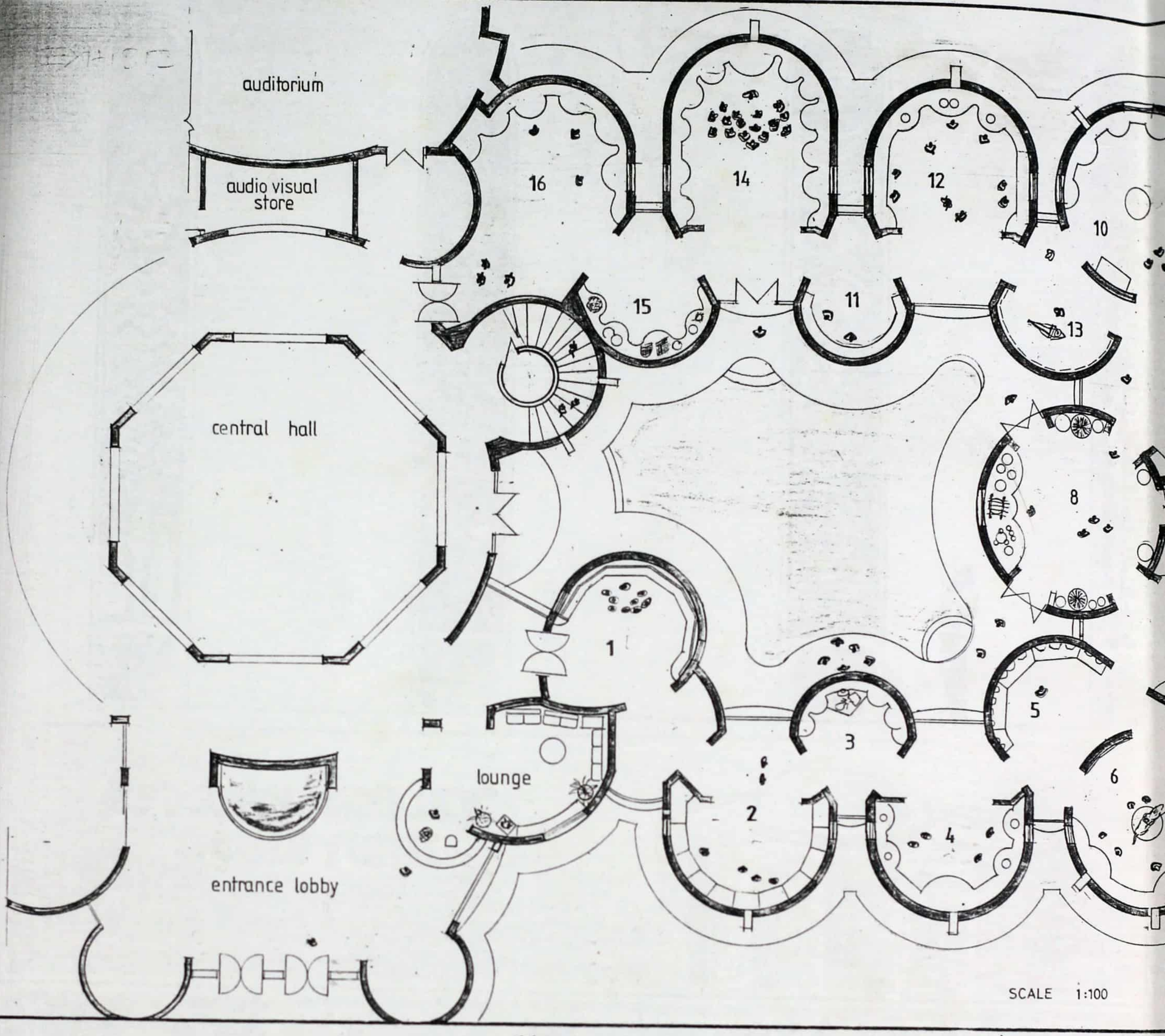


DOME OF WISDOM



MUSEUM of ARCHAEOLOGY & ETHNOLOGY TAMALE

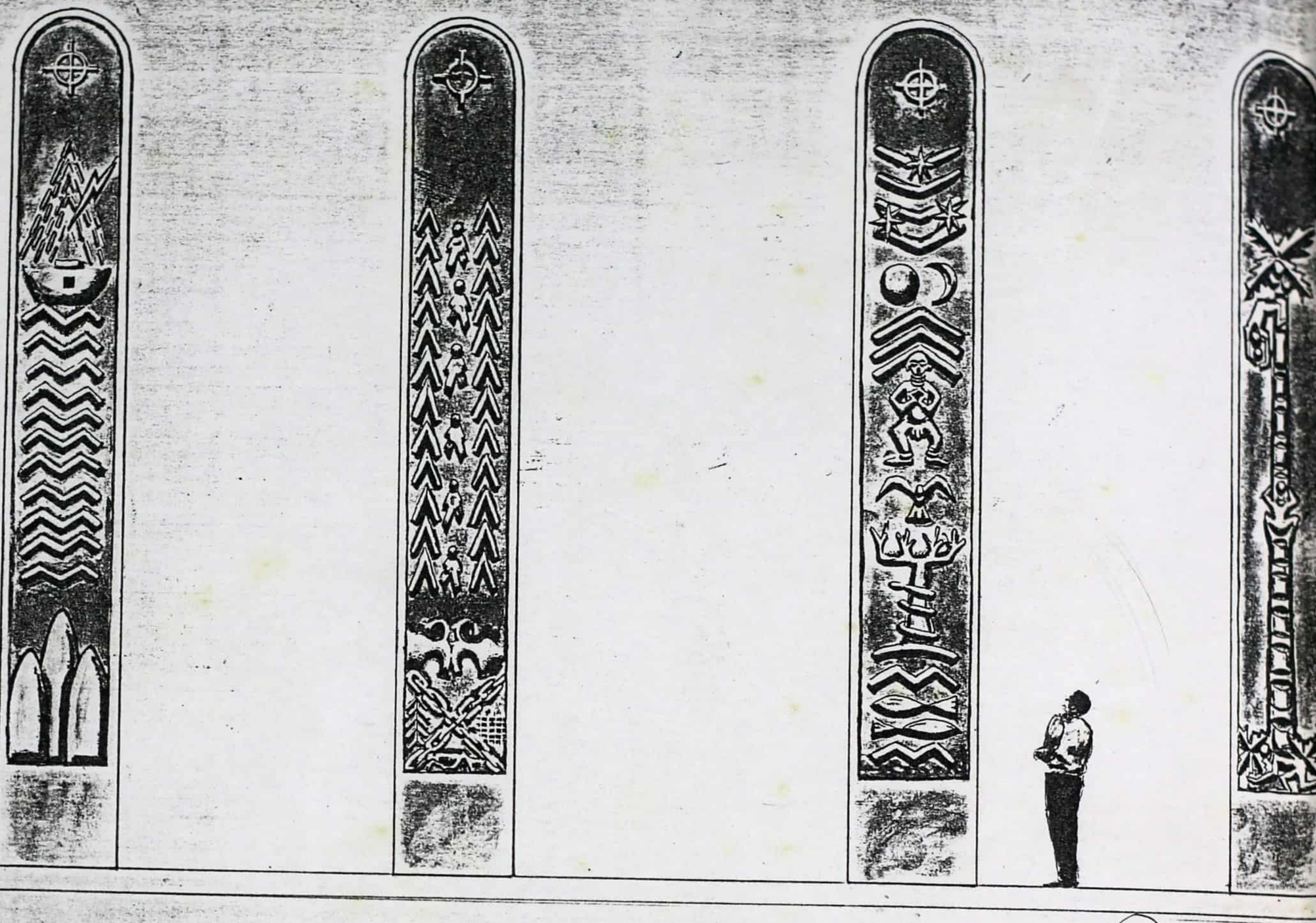
GALLERIES



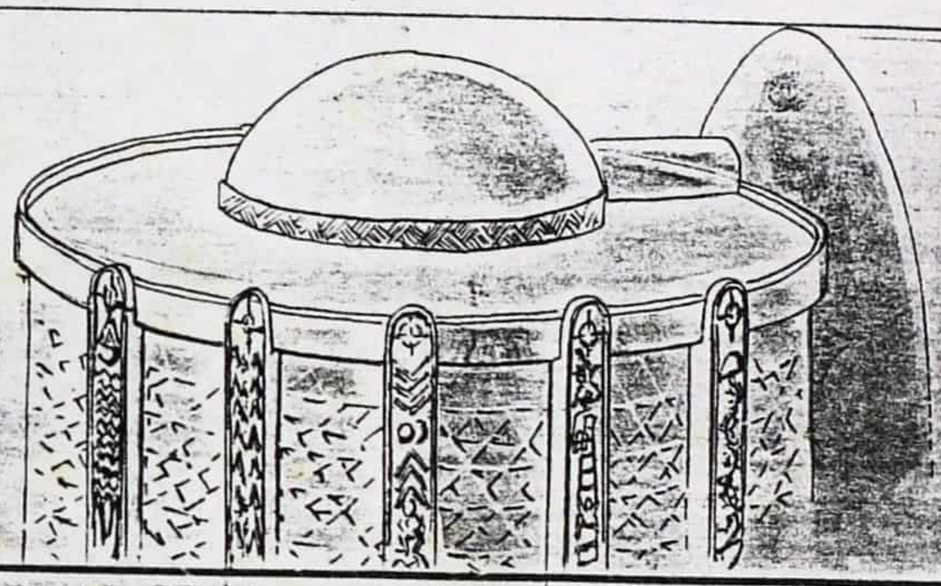
SCALE 1:100

MUSEUM of ARCHAEOLOGY & ETHNOLO

5 PILLARS OF TRUTH



AFRICAN RELIEF SCULPTURE



MUSEUM of ARCHAEOLOGY & ETHNOLOGY

CHAPTER 10

AFRICAN RELIEF SCULPTURE

10.1 The five pillars of truth

This is the revival of a means of communication of a message by architectural design.

African designs have a rich heritage in its history. Relief sculpture and murals started as far back as over 3000 BC in Babylon and Egypt. Architects teamed up with artisans to create and communicate messages, preserve historical and heroic stories of victories and defeats. The murals as long as they lasted reflected their religion, administration, social life and military power.

Past excavations of the ruins of Babylon and other cities reveal extensive use of relief sculpture for such purpose. It beautified the city and gave a message to future generations. This was then a part of the role of the ancient architects whose signatures were the monuments they created and the relief sculptures on them. A good example is the obelisks in Luxor Egypt with its heiroglyphic relief work.

Today this art is almost dead in African architecture. The modern buildings and high rises and sky scrapers in our cities today create large blank faces which make the skyline. Today's African architect has no vision of imparting or sharing a message with future generations and inhabitants of the city. Today's public buildings do not tell us any thing about the past or future. It seems as if we are just following a global plan or a prototype of what a modern city should look like.

The design of this museum includes a revival of this ancient art to give African architecture a unique character - Architecture that has to be perceived and read.

The message of the five pillars embodies the purpose of the museum. It is a message for all Africans. The interpretation of this message will lead to the basic cardinal truth of life which governed the life of our ancestors. It is both a moral and spiritual message that agrees with the basic beliefs and dogmas of almost all world religions.

In the ancient days before the division of man into races and tribes, there was the belief in one supreme being who created all things, whose work is the order of the universe and through whose laws; the well being of man is governed.

The central pillar is a reminder to the present and future generations of this supreme being, the Great Architect, the creator of the seas and all its creatures, the firmament, the plants which are the source of life, the supplier of oxygen and food as well as medicine.

This is symbolized by the snake coiled around the tree, a symbol of ancient Egyptian origin meaning health. Today it is the symbol of the medical profession. The supreme being designed a lower being called man, the most complex of all his physical works - the naked man as a symbol of the origin and final state of man. Before he acquires any material wealth he had nothing and at death he has nothing. No matter what he acquired in life, the life of man is the epitome of the philosophy of irony.

Above the man is what he can never fully understand, but knows that it influences life- the cosmos, the sun, moon and stars. All these are the work of the great architect, the ultimate force, the highest power, the source. This is symbolized by the cardinal sign at the top of the pillar.

This is the message of the central pillar which coincides with the spiritual center of the site and building.

To the left of the central pillar are two other pillars that represent instructions for the development of Africa. They are the pillars of blessings, which has the messages when obeyed will lead Africans to true freedom and emancipation.

The first to the far left is the pillar that speaks of the biblical story of Noah and the flood. Noah's ark is the first museum built on the divine instructions of the great architect to preserve his work from one age to another. This can be interpreted as the preservation of a culture in a coming age.

The message is that it is only when instructions from the almighty Great Architect are obeyed that a culture can truly be preserved. That society can never create an ark or draw up policies to protect its traditions and culture unless it draws on divine instruction.

The second pillar is that which speaks of the biblical story of exodus. The movement of the Jewish people through the red sea in escaping from their Egyptian slave masters. The parting of the water represents an impossibility or an obstacle to freedom from slavery. The lesson is similar to the first. The obstacles to true emancipation can be overcome only by drawing inspiration and power from the divine.

The symbols at the bottom of the pillar are the chains which are a symbol of bondage, the patched land which represents dryness or drought, the locust which represents pestilences, disease and death and the dry corn stalk which represents hunger. So far Africa has been a slave to these circumstances. The pillar shows us a way to freedom.

To the right of the central pillar are two pillars. Their message shows us what to avoid. In Africa today, part of the problem is attitudinal and this has resulted in a decline in moral and social quality of life.

The first one shows a parable of two farmers. The wiser one would tend his palm plant patiently till they grew to bear fruits of life. The foolish farmer would not; he chose to climb a tree already grown, all he wanted was a fruit, fast results without work. The fruits of an endeavour of greed when eaten brings about a fall from grace. This is similar to the biblical story of Adam and Eve. The lesson has largely been ignored by human kind.

Africans are looking for a time of glory but we must know that it is hard work which requires patience and fortitude. We have set our eyes on the prosperous life of western nations and keeping those standards are forcing us towards the consumption of foreign goods. Hence we are falling from self reliance. This pillar can address issues of greed, corruption and mismanagement in governments.

The last pillar corrects an erroneous perception of man in quest for God. Africans must learn that all enlightenment comes directly from the Great Architect. Most religions have at one time believed that God was inaccessible so they would depend on intermediaries who had contact with the spiritual world.

This is symbolized in the man and woman who kneel, suffer to make a living and offer it to the lizard who has the ability to climb impossible slopes up to Almighty to present the request of the men to Him. This mytholigical representation asserts the falsity of this belief. The Great Architect endows men directly and it is possible for man to receive inspiration directly from divine source.

Africans have been led to think that divine inspiration and ability is not due us because so far we have depended on instructions, dictates and conditions of wealthier nations.

The message of the pillar calls on Africans to draw divine inspiration for our development directly from the source.

Conclusion

This thesis is an anthology of lessons from a distant past which has been ignored by the contemporary African society but the message goes to black architects of this age.

2) The architect is the co-creator who should ensure the harmony between the divine design of the environment, its adaptation to man's present need. To do this he must understand to an extent divine design for he cannot understand all.

2) The Architect is the world's foremost professional. He is meant to be a leader not only of building professions but a leader of nations. The architect's original role was to direct the total affairs of the world. His skill was not only meant for the drawing board but in a vision and a realization of a better future.

The design of this museum is a part of the slow beginning of the coming African renaissance, the coming age which will place Africa as a world power in every aspect of life. African architects must unite their efforts towards a better Africa.

10.2

ACCOMMODATION SCHEDULE

Entrance Lobby	180m sq
Reception/Lounge	35m sq
Information Center	67.5m sq
Central Hall	176.8m sq
Research Library	131.5m sq
Auditorium	346m sq
Audio-visual storage	21m sq
Males Toilets	17.5m sq
Females Toilets	33m sq
Disabled Toilets	8m sq

Reception	56m sq
Conference Room	70m sq
Chief Accountant	30m sq
Director	40m sq
Secretary	24.7m sq
Account and Audit	110m sq
Assistant Director	38.5m sq
Kitchenette	14m sq
Enquiries	38.5m sq
Registries and Secretary	38.5m sq

Curators Office	51m sq
Conversation Office	51m sq
Staff Room	78.5m sq
Monuments Office	57m sq
Preparation Room	145m sq
Store	18m sq
Equipment Room	27m sq
Laboratory	110m sq
Photographic Unit	78.5m sq
Storage	208m sq
Workshop	63.6m sq
Plant Room	63.6m sq

DISPLAY	**1783m sq**
STORAGE	**844m sq**
EDUCATION	**498.5m sq**
MANAGEMENT	**456m sq**
RESEARCH	**300m sq**

TOTAL ETHNOGRAPHIC
GALLERY AREA
1189M SQ

TOTAL ACHAEOLOGICAL
GALLERY AREA

354.4M SQ

DOME GALLERY
63.6M SQ

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