ESTABLISHING PRINCIPLES AND STANDARDS FOR CULTURAL CENTER DESIGN (A Case Study of Katsina Cultural Center)

BY

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DECLARATION

I, OLADIPO Olusegun, do hereby solemly declare that this dissertation is an authentic and original documentation of my research for the award of the 'Master of Science' degree, and that all references therein have been duely acknowledged.

'89

OLADIPO OLUSEGUN

CERTIFICATION

This project/thesis/dissertation titled "Establishing Principles and Standards for Cultural Center Design" (A Case Study of Katsina Cultural Center) by OLADIPO OLUSEGUN meets the award of the degree of Master of Science in Architecture of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Chairman, Supervisory Committee — Date: 21/12/89

Member, Supervisory Committee — Date: 21/12/89.

Head of Department — Date

Dean, Postgraduate School — Date

DEDICATION

Dedicated to the Creator and my parents for all their support especially my mother, Mrs. C.A. OLADIPO for what she means to me.

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Segun Oladipo
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ABSTRACT

In the design of buildings and environments, architects, planners etc. often resort to the use of standards in terms of space requirements. Though the dissemination of technology dictates the fact that, standards evolved are bound to be used in relation to products of technology, behavioural encironments need to be designed based on their particular sooting. This is due tctjthe fact that cultures differ, and in, Africa and indeed Nigeria' space requirements vary from evolved and this can be attributed to both climate and the mode of dressing. These attributes have become customary, traditional and subsequently cultural and the effect of space on traditional performances relating to the social aspects of culture is the main thrust of this thesis.

The first chapter is an attempt at highlighting the different aspects of culture, while the second is a spatial exposition of traditional performing arts and crafts. A historical review of theatres forms the third chapter and chapter four deals with case studies relating to the subject matter. Chapter five highlights the thesis site with chapter six insisting of related design parameters and the design, brief. The last two chapter consist of

evaluations and evolution of solutions leading to formation, of concepts and finally the design report.

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CHAPTER ONE

INTRODUCTION

1.0 Definitions of Culture

Culture has been variously defined by a host of scholars. Eric O. Ayisi (1980) defines culture as "the sum total of the material and intellectual equipment of people whereby they satisfy their biological and social needs and adapt themselves to their environment."[1] According to R. Piddington (1970) "Culture is that complex whole which involves knowledge, belief, art, law, moral, custom and all other capabilities and habits acquired by man as a member of society".[2] B. Malmowski (1965) sums up his definition of culture as "that which embraces everything which contributes to the survival of man and this comprises not only physical but also sociological factors. The psychological factors comprises all the non-material interests such as religious institutions, ritual observations, etc. Culture comprises the way of behaving; it is the way of which things are done. Implements, artefacts, paintings, figurines for religious observations, and all the intergrative forces such as religion are elements of culture".[3] Similarly James Ngugi (1977) defined culture as "a way of life fashioned by a set of people in their collective endeavour to live and come to terms

with their environment. It is a sum of their arts, their science, their social institution and their system of belief and rituals."[4] In the course of creative struggle and progress through history, a set of people evolve a body of materials and spiritual values which endows the society with unique ethics. Such values are often exptressed through the people's songs, dances, folklore, drawings, sculpture their rites and ceremonies. According to H.G. James (1976) "the culture of a set of people consists of patterns, explicit or implicit of and for behaviour acquired and transmitted by symbols constituting the distinctive achievements of human groups including their embodiments in artefacts"[5]. The essential core of culture consists of traditional ideas and their attached values. The culture system on one hand may be considered as products of action on the other, as conditioning elements for further action. It therefore follows that culture is more than just a heritage, a historical product, it is expression of man's mode of living, something that individuals in each society must undergo as a kind of fate. Culture should be seen as an instrumental agent, as another mode of interaction in our social and economic life.

The definition of culture by B. Malinowski (1965) which highlights elements of culture as songs, dances, figurines and artefacts shall best suit the purpose of this thesis. This definition shall form the boundries in which this thesis is confined.

1.2 Development Through Culture

In recent years, the terms 'Cultural rebirth', 'cultural revival' and 'cultural development' have tended to conjure a deep desire to rediscover and return to the ways of life of Nigerians of various ethnic origins for the sake of being authentic Nigerians. When the implied desire for simplicity is extended to its logical limit, the terms have tended to conjure a desire for Nigerians to rediscover and return to the established ways of life of their ethnic groups, including their traditional occupation, marriage custom modes of dancing, singing, architecture and life styles generally. To others, the terms have tended to connote a sober reflection on the need to rediscover the cultural heritage of the people that make up the Nigerian nation and where possible and desirable to adapt that cultural heritage to the needs of Nigeria as a developing nation in a fast and changing world. This connotation probably stems from the universal belief that all cultures are susceptible to change arising from human interactions,

socio-political events and cultural confrontation and conflicts which could in turn result in the assimilation, adaptation and accomodation of other people's cultures. The end product could be cultural refinement, advancement, development and in certain instances depreciation.

1.3 Changing Cultural Traditions

As A.L. Ciroma (1982) rightly puts it, "contact between communities of different cultural backgrounds has always been perhaps the most active agent of change".[6] The change could be peaceful and gradual or upsetting with long term ramifications depending largely on the nature of the contact and the reaction to it. It has also been observed that changes arising from the contact of cultures are nothing new and that ancient civilizations influenced and left their marks on each other. Egypt left her mark on Greece, Greece on Rome and Rome on Northern Europe. Similarly the contact between European and African culture has brought about many changes within Africa. According to Ciroma, these changes are reflected in the economic growth, the technological revolution and the new political order most African countries are still experimenting with.

While not denying the fact that some parts of the African continent still retain some of the purest examples of traditional culture, there may be little doubt that the African historiography has taken a form dictated by external influence. The invasion of the African continent by explorer-travellers, missionaries and traders marked the opening for its colonisation. It began a trend of events which culminated in the importation of western ideas and the ultimate westernization of most African cultures. Even then some parts of the continent remain untouched and a tropartitite picture described by B. Malinowski (1965) may be accepted to have emerged. Old Africa, imported Europe and a blend of both - the new composite culture. Villages of circular huts built without a single touch of European architecture are still living realities and existing side by side with this are the new urban centers with houses built on the European pattern, sleek mechanical contrievances crawling through the mettaled roads. In other parts of Africa, Europeans have transplanted wholesale elements of European culture. 'In Nairobi' says Malinowski "we enter a world where natives and things African seem to play both the role of mutes and properties respectively. The place is dominated by large European administrative

buildings, banks churches and stores. The white Europeans go about their business and live in a world almost untouched on its surface by Africa".[7]

According to E.A. Adeyemi (1976) "Cultural contact is an inevitable reality and as the trade-in-occurs between giver and the recipient, the traditional order inevitable oucks"[8] and Chinua Achebe's(1958) "Things fall apart" rightly fits the African panorama. There can be little doubt that western culture has become part of the ecological environment of the African existence. In Nigeria, the ecological setting is a blend of western civilization and the Nigerian traditional culture and the picture of most cities vividly depicts this in the changing townscape.

1.3.1 Changing Cultural Traditions - The Hausland

Having examined changing traditional culture in the African and Nigerian context, it is necessary to do the same for the region in question. The Hausa land. The frame of reference in this case should be taken as the states that constitute the northern part of Nigeria.

Islam was first introduced to the western Sudan about 8th and 9th century A.D. and extended into southern savanna and the Guinea Forest. The dissemination of the faith through individual m merchants, small merchantile groups and highly dispersed trading corporations, was marked by slow and steady advances that did not disturb the culture it came to influence. In the manner of its advance, the Jihid or holy war was the least followed and even in the Fulani Emirates subdued by Othman Dan Fodio, traditional life survived and remained vigorous. Although religious zeal accompanied by intolerance did exist and probably still exists, it is was unfrequent and sporadic and muslims were willing to make concessions and to allign themselves with local cultures in order to propagate the faith.

The second reason for the preservation of traditional culture and buildings relates to geographical location. Traditional culture was safely isolated from the coast and from western education which is a potent instrument of change. Thirdly the destructive effect of the humid climate of the southern states on non durable materials quickly saw to the near demise of the traditional architecture but the humid dry northern climate helped in the preservation of buildings.

1.4 Culture Contact and Changing Architecture in the Hausa-land

Two major building types may be said to have evolved in the area round the great bend of the Niger, the hausland and the Chad area. Namely the 'DAKINA', a hut type with mud-walls and thatched roof found in the Chad area and hausaland; and the 'SORO' the all mud structure predominating in the areas. Close to the northern bend of the Niger. Skills in mud walling may have been common to the areas of western Sudan but the roof could have constituted some problems. Leo Africans (1963) described Timbuktu as consisting of thatched houses in the 15th century (it may have been earlier) and by the 1850s, Kano lying to its southern end was described by H. Barth (1857) to constitute a mixture of both thatched houses and the all mud structure. By 1900, the skill had reached its southern limit in Kano and only a few examples of the soro type were found in the mud-structure type must have had origin in North African and Nilotic cultures.

The skill in building huge mud-structures must have been acquired over a long process of architectural development and acculturation. Its culmination found perfect expression in the Zaria Friday mosque.

J.C. Moughton (1972) found similarities between the building forms used by the Egyptians and the older mosque of the Hausaland. Such similarities he said could be explained as a result of long term cultural contacts right across the sahara or the outcome of migrations that took place in the first millenium A.D. It also could be the result of similar structural solutions to identical roofing problems. Whatever be the case, there was evidence that new building techniques were imported to the eastern and western Sudan from North Africa between the 4th and 12th century. Saheli, a visiting scholar from Egypt introduced into Mali in the 14th century, the use of burnt bricks. He designed new mosques at Gao, Timbuktu and built a palace for the emperor. The fashion of building houses in brick became propular among wealthy people in cities of western Sudan.

The Habe ruling class adopted the mud structure building style of North Africa through frequent contact with the North African Arabs during the 17th and 19th century. When the Fulanis conquered the habe rulers, they in turn adopted the architecture of the defeated habe rulers. The art of mud building thus became established among the leading families of the emirate cities of hausland through constant

cultural contact between the Hausaland and North Africa.

1.5 Response

Having established the dynamic nature of culture which pre-supposes that every society should adopt to positive aspects of modernity continually evolving traditions to suit a changing environment, while retaining certain facts of culture which are distinct to a particular society: it is necessary to outline the response generated at different levels.

The United Nations in its concern for the change in traditional cultures declared 1987-1997 THE WORLD CULTURAL DECADE and is geared towards a global awareness of indigenous culture towards meaningful development in all aspects of life.

The Federal Government in its own contribution, launched an August 29, 1988 a CULTURAL POLICY with the following objectives:

(a) The policy shall serve to mobilise and motivate the people by disseminating and propagating ideas which promote national pride, solidarity and consciousness;

(b) The policy shall serve to evolve from our plurality a national culture, the stamp of which will be reflected in African and world Affairs.

(c) The policy shall promote an educational system that motivates and draws largely on our tradition and values, namely; respect for humanity and human dignity of labour, and respect for positive Nigerian moral and religious value;

(d) The policy shall promote creativity in the fields of arts, science and technology, ensure the continuity of traditional skills and sports and their progressive updating to serve modern development needs as our contribution to world growth of culture and ideas.

(e) The policy shall establish a code of behaviour compatible with our tradition of humanism and a disciplined moral society.

(f) The policy shall seek to enhance the efficient management of national resources through the transformation of indigenous technology, design resources and skills.

(4) Organising theatre art displays, film shows and symposia to educate and correct the mentality of our people, the mentality so savegely undermined by colonialism.

(5) Producing objects of cultural significance for sale to the general public as souvenirs and decorations so as to generate revenue.

(6) Establishing a collection, display and repair center for object of significant cultural values so as to ensure continuity in the field of traditional arts.

(7) To create an environment for healthy relaxation and recreation.

(8) To evolve standards for the design of certain functions in the centre.

1.9 Scope

The issue of spatial demand is broad and its effect on culture can not be overemphasized. This thesis aims at providing architectural needs from first principles, as such, the research shall be focused around developing spatial requirements with main emphasis on performing spaces.

1.10 Methodology

The bulk of the spatial requirements for performing arts would be deduced from visual surveys while establishing requirements for crafts would

involve a detail study of the process of making them.

1.11 Conclusions

The role of culture in national development can not be underated and according to Wande Abimbola (1988), Vice Chancellor of Obafemi Awolowo University, Ile-Ife, "it is by keeping her culture alive and relevant could Nigeria hope to repair the damage done to its phyche by the years of colonialism".[11] People and culture are inseparable, for culture is the aggregate of concepts and values which characterises a community.

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CHAPTER TWO

AREA OF STUDY

2.1 Historical Background

Katsina walled city is one of the original seven Hausa towns. The first dynasty was formed by Kumayo, the grandson of Bayajida of Daura in 1100 AD; Kumayo's dynasty ruled at 'Durbi ta kasheyi' - near Mani 25km south of the present town, till the 15th century when it was overthrowned by Koran who killed the reigning head, Sanau, with a short sword which is claimed to be presently preserved in the emir's palace.

The formation of a more centralized political system, the regulation of major focus of economic & activity, the establishment of a heirarchy of 'Sarakuna' (village and ward heads), change in affairs of the palace and the organization of an army marked the beginning of Koreu's era. At this time, Katsina was not a walled city and the building of the town walls is credited to one of Sanau's successors, Ali Murabus, probably in the 16th C. Leo Africanus who visited Katsina at the beginning of that century spoke of a town of grass huts and made no reference to walls, although mentioned a settlement of considerable size with a circumference of 11 to 13 km. There are however remains of other walls in evidence both within the present walls and outside, notably some 3 km south-east of the town, and an enclosed area just

north of Kofar Guga.

In the 16th and 17th centuries, Katsina went t through an unsettled period, situated as it was between the powerful Borno empire to the east, Songhai and Kebbi to the north and west, and Kano to the south. Although the Kingdom survived, conflicts and political upheavels were produced and in 1801, Gozo the ruler was assassinated. This was the time of the islamic movement led by Usman Dan Fodio, and his preaching came as an answer to the feelings of discontent already aroused. Islam had already taken firm root by the end of the 15thC and had become a major bound of social cohesion and the basis of the code of behaviour.

After a confused period during Usman Dan Fodio's Jihad, Umaru Dallaji, a Fulani was appointed Emir though at first the leadership was diffused. It was only some years later, under the rule of Bello (1844-1870) that the Emirate system was consolidated. But during the peace after the Jihad, Katsina flourished and reached its peak of pospertiy and power. It became a city of wide repute and a center for Islamic learning, attracting scholars from far and wide, even those who previously would have gone to Timbuktu.

For many years, the kingdom had been engaged in a system of international relations covering the central Sudan and neighbouring areas and the names of quarters

in the original town indicated this influence. Barth visited Katsina in 1851 and awarded her the palm of hausa land. He wrote that Katsina citizens were reknown for their manners and courtesy, her schools for their learning, her administration and judiciary for their wisdom. He described the walled city with its 8 gates namely Kofar Kaura's K/Guga K/Yandaka, K/Marusa, K/Durbi, K/Sauri, K/Waziri and Sabuwa Kofa, and remarked that if only half the area had been tolerably well inhabited it would certainly have had a population of at least 100,000 but the inhabited quarter within the walls was then concentrated in a small area to the north-west, the rest being farm-land, and he estimated a population of 8,000 people.

In 1903, Luggard entered the town through Kofar Yandaka, and brought the emirate under the overall control of the British. The system of indirect rule established in Northern Nigeria did much to reinforce the powers of the Emirs and provided in many ways greater securi- than in the past. Much of the so-called traditional system that is seen today is a result of British interpretation of the role of emirs and their court officials. Since independence, although they have retained their influence and authority in the domains of law and order and religious leadership, responsibility for development has passed into the hand of local government area councils.

2.2 Katsina Today

Katsina is presently the capital of Katsina state which was created in September 1987 with 19 local governments. Katsina town is unique in the sense that initial development had been confined to the area encircled by the town wall. The walled city is divided into four major districts each consisting of a number of wards (Unwanni). Each district is headed by a 'wakili' and each ward by 'Maiunguwa' (ward head). Formally these local leaders were responsible for collection of taxes and monitoring developments in their areas of jurisdiction but with the abolition of poll taxes, they were assigned to the registration of birth, death, marriages etc. as well as other traditional functions.

The town can be divided into two sections - the old traditional core of the city and the relatively new area built after 1960. With the creation of the state, further developments have been extended to two major areas, the area after Kofar Guga along Jibiya road and the area after Kofar Kaura along Kano road.

2.3 Spatial Exposition of Traditional Performances

The basic aim of this analysis is to investigate the spatial needs of the various forms of traditional performances towards evolving standards for the design of facilities to accomodate these performances.

Coupled with this fact is the need for a thorough understanding of the shape the performances take so as to ascertain the kind of stage and seating arrangements required for effective communication between actors and spectators. Performing arts in Katsina is characterised by dances which will be reviewed under the following categories.

2.3.1 Social Dances

1. "Yan Bori" - (Bori ritual dancers)

General Characteristics

This is a pre-Islamic dance based on the belief in the possesive spirit religion known as 'Bori'. The dance was applied in Bori-ritual to establish contact with super natural forces. Present day Bori performances are strictly for entertainment purposes and naming ceremonies, weddings and other social occasions. The dance is accompanied by music from the "Garaya" (two-stringed plaked flute), "Duta" (gourd rattle), and one or more "kwarya" (calabash(s) beaten with sticks.

Performing Space:

Intially ritual dances were practised at special areas such as the location of tamarind trees but with the loss in spiritual attachment, the dance now takes place in open spaces and can be adapted to suit interiors. The dancers numbering between ten to fifteen people consists of both men and women dressed in Fulani attires and some in stringed leather skirts and amulets, with some of the women carrying calabash



Plate 1 - Bori ritual dancers



Fig 2.1 Female members of ฿Bori performing group

on their heads. The dance steps include linear and circular motion with the highlight involving jumping and and landing on the rump to signify spirit(ual) possession by some of the dancers. A troupe of Bori-dancers (instrument) handlers inclusive) will require an area of about fifty to seventy-five square meters.

II. Wasan Yan Mata" (Female Dance)

General Characteristics

This is a dance popular among the female gender which is normally performed at social occasions. It involves the use of dance movements to tell simple stories based on African folklore. It is usually accompanied by music from a variety of instruments ranging from gangan noma (farmer's drum) to dambalgo (flute).

Performing Space:

The dancers consists of four to ten young girls dressed in wrapper tied above the chest. The dance which is suitable for both open air and interiors consists of linear and circular movements taking up about twenty-five to fourty square meters (instrument handlers inclusive) The audience can view the dance from any angle hence spectators tend to gather around the performers.



Plate 2a Circular form of wasan yan mata



Plate 2_b b Linear form of wasn yan mata.

III. "Wasan Samari" (Male Dance)

General Characteristics

This dance is performed by the male gender at social occasions and at market places on market days. It also consists of dance movements to tell simple stories based on African folklore and in certain cases, the dances are comic which is often evident from the costume sometimes worn which are meant to make people laugh. The music for this kind of performance is produced from a wide assemble of drums and occasional traditional wind instruments thrown in.

Performing Spaces

The dancers numbering between four to ten young men dressed in every day clothes and the dance steps are multi-directional such that spectators can form a ring round the dancers. A troupe requires about twenty five to fourty square meters and the dance is adaptable to both interior and open spaces.

IV. "Wasan Samai da yan mata"(male and female dance)

General Characteristics

This dance is popular among the youth of both genders, as a form of entertainment at social functions and traditional business places. It sometimes takes place at the ward level as a source of entertainment for the immediate community. The dance is accompanied by music from a variety of drums

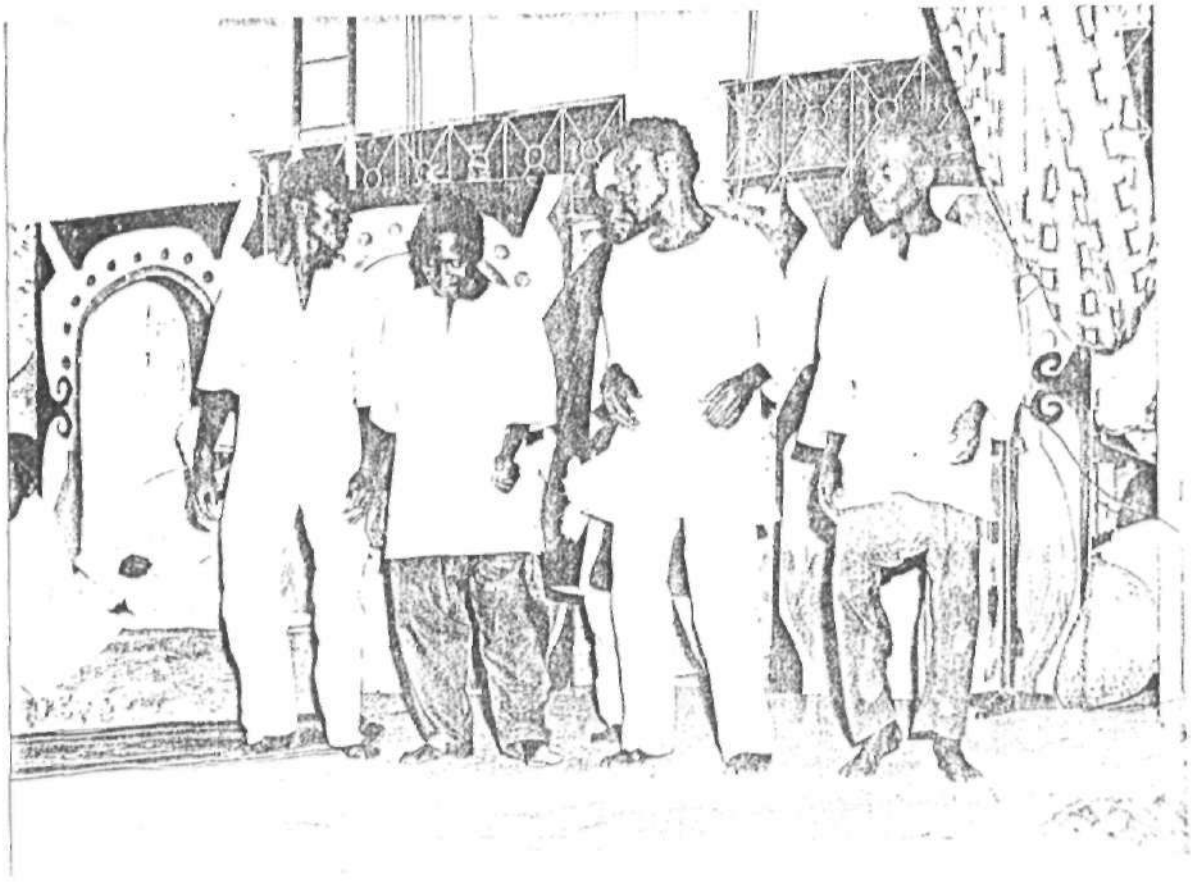


Plate IIIa Wasan samari



Plate IIIb Comic form of wasan samari

and its climax is reflected in the pattern and form of the dance movements by which excerpts of the traditional dances of the women folk in such occasions as marriages etc. These are juxtaposed in a stylized re-organization of patterns and forms in order to communicate not just the joyful mood but the dance also focus on certain symbolic values of movements by the various characters, thus making a meaningful impact of the visual and facial expressions.

Performing Space

The dancers consist of four to seven young girls and an equal number of young men with the girls dressed in wrappers tied over the chest, while the men are dressed in simple shirts and trousers. In certain cases, costumes are used and this is in the form of leather and grass skirts. The dance steps takes both linear and circular forms which allows for any suitable form of seating normally round the dancers. A troupe requires about fourty to sixty square meters inclusive of instrument handlers.

V. 'Tellale' (Maiden) Dancers

General Characteristics

This a dance performed strictly by young girls and the ancient fertility ritual connected with them can be perceived in the symbolic language of dance movements which are communicated to the audience.



Plate IVa Linear form of wasan samari da yan mata



The dance is performed at ward levels and market places. Music is supplied by a variety of drums played by men coupled with traditional wind instruments.

Performing Space

The troupe consists of young girls and an equal number of drummers who line up in a row behind the dancing girls dressed in simple skirts and blouses. The dance movement are predominantly circular with the audience surrounding the dancers on all sides. A troupe of tallabe dancers will take up an area of about sixty to eight square meters. The drummers tend to be an active part of this kind of performance as exhibited by their show of dexterity.

2.3.2 Occupational Dances

In traditional hausa societies, certain clans specialise in certain craft guilds e.g. blacksmith's guild, hunters' guild etc. Similarly developed were the performing art forms based on almost each of the specialized craft guilds. Performance by these specialized craft guilds are usually in the form of dances reflective of the nature of occupation of the patrons. The most popular of these guild dances are

I. Maharba"(Hunters' Occupation Group)

This dance is a popular form of entertainment among the hunters craft guild. The most common form of this dance is seen in sallah ceremonial processions.

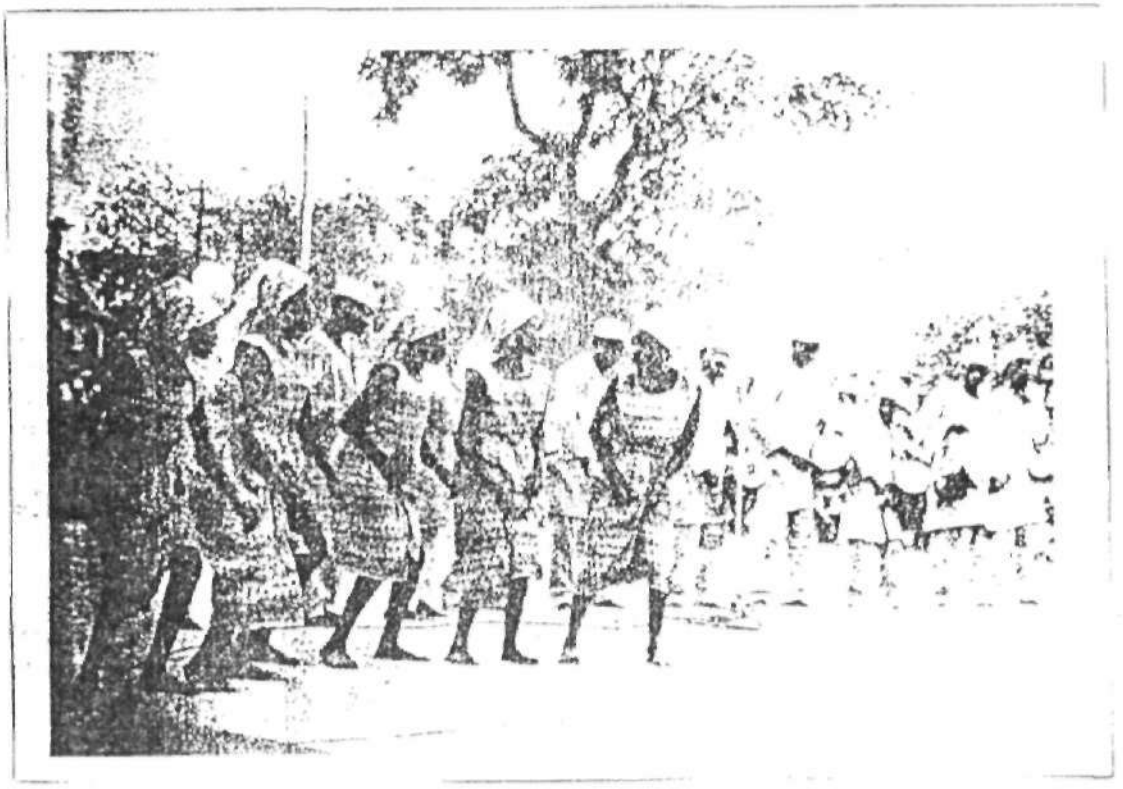


Plate V - Tallabe dancers

Performing Space

The dance movements are influenced to reflect the nature of craft and experience of hunters. The dance takes the form of mime and pantomime movements amidst music dance and gun firing to show the process involved in the hunting of a wild animal. The spatial needs can not be over emphasized as the dance is not organized and would not fit into an enclosure. This dance requires an open atmosphere where it can easily interact with spectators, who face the actors in a semi-circle.

II. "Yan Tauri (Invincible Artists)

General Characteristics

This is another dance common to the hunters occupational guild and is often seen during "sallah" (islamic festival) processions. The dance is accompanied by music from 3-5 drums.

Performing Space

The Yan-Tauri numbering from 1 to 10 consists of mainly men and occasionally women who are often dressed in stringed leather skirts and the performance involves heroic demonstration of prowess of endurance whereby the dancers cut parts of their body with swords and knives to show their invulnerability to sharp edges. This type of dance is most suitable for open air as close interaction is neccessary as the actors tend to dash in between

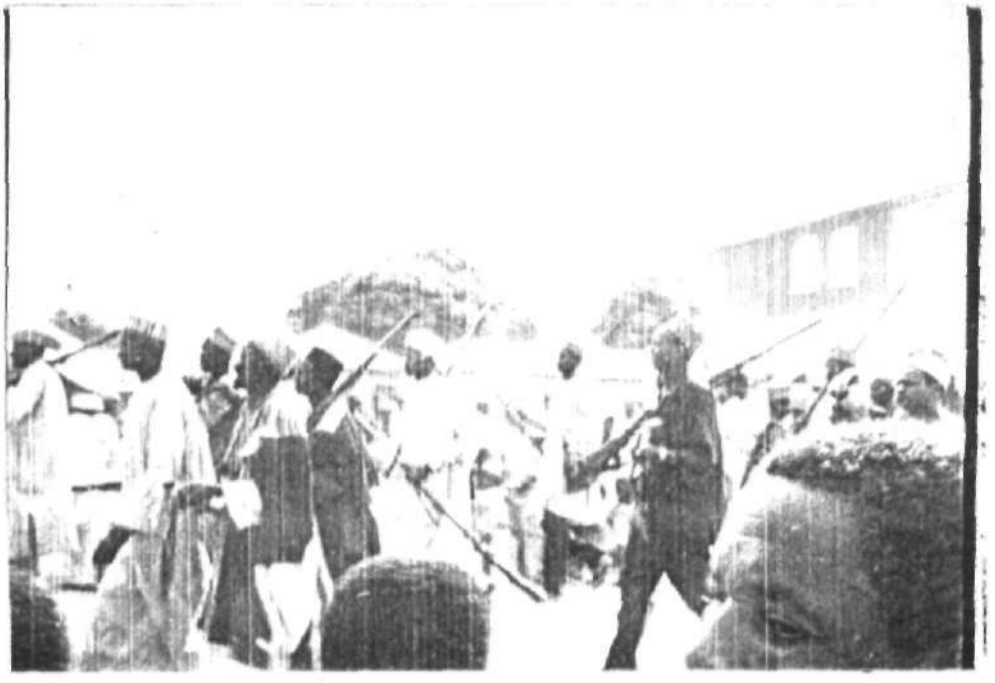


Plate VI Maharba occupation guild during a salla ceremonial/ procession

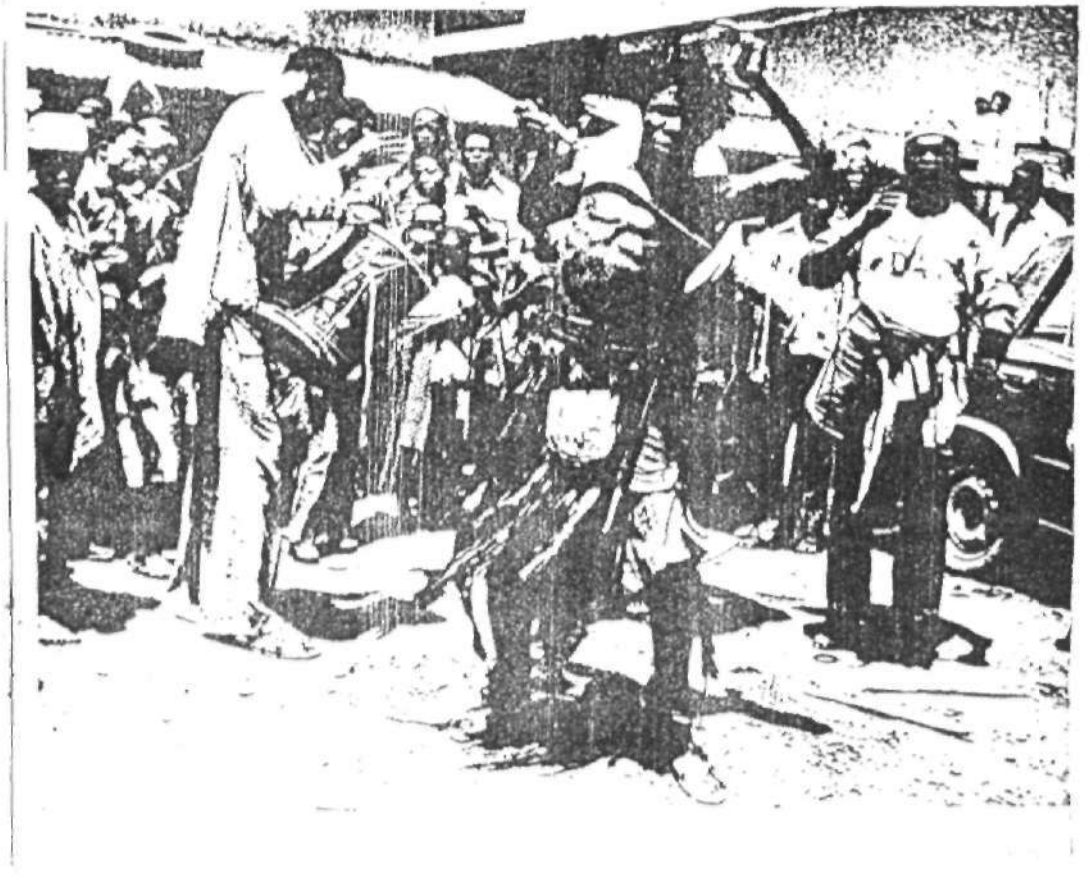


Plate Vii, Yan Tauri

the crowd to scare spectators who surround the dancers or a scattered to watch the performance as is the case during sallah processions.

III. "Yan-Hoto" (Dancing Magician)

General Characteristics

This dance id practised by the farmers' occupational guild and is nowadays seen during sallah festivals at market places, in front of people's houses, hotels. In the past, the dance was performed during the farming season and it was supposed to contain some magical displays but the present day Yan hoto-Performance lays more emphesis on the physical strength of the performer. In fact the performance now is basically a theatrical display of strength and energy especially in relation to farm work and farming techniques. It is display of showmanship in the arts of farming. The dance is accompanied by music produced from 2-3 big gangan drums and the same number of Kasagi drums. The costume of the Yan-hoto is made up of bunle of strips or pieces of cloth with big-snake-like amulets and charms tied around them while the giant hoe they carry is a prominent feature of their costume.

Performing Space

The dancers numbering between 4-7 are known as 'masu rawar hoto', and they dance briskly to the forcefull sound of gangan yan hoto music. The powe



Plate VIII - 'Yan hoto' dancers

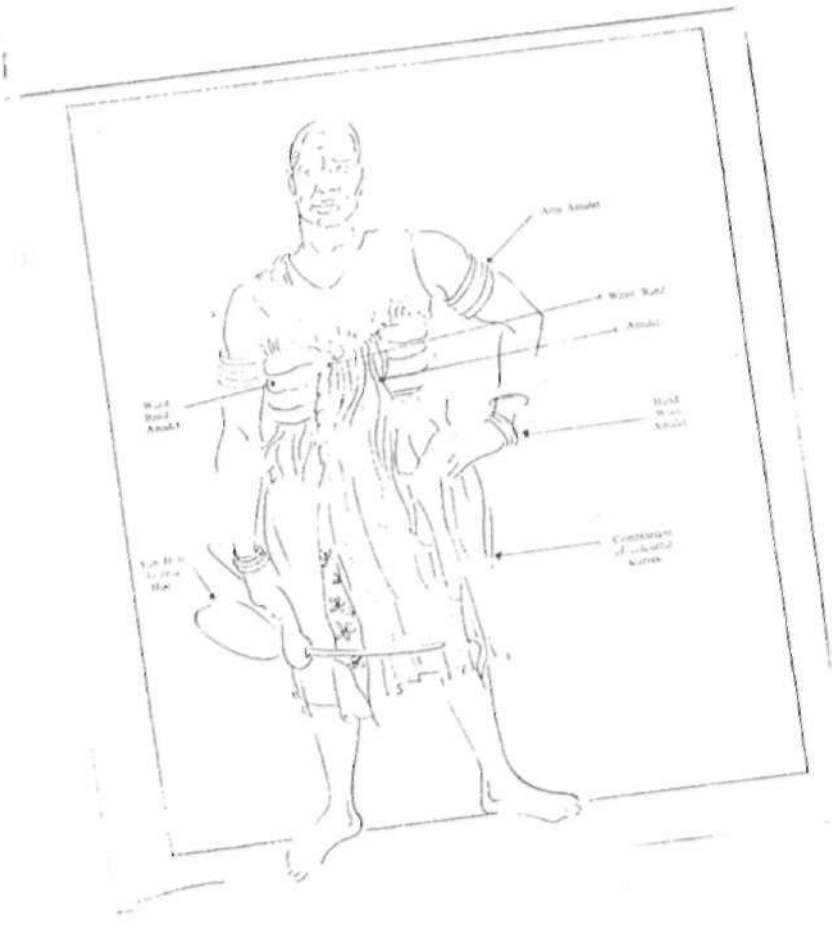


Fig 2.2 Detail customs of 'mai rawan hoto) (hoto dancer)

sound of the music rythms is complemented with equally robust giant step dance movements. The dance involves the throwing of the giant hoe into the sky and jumping up to recapture it.

In another display, the (big hoe) garma is is thrown aside by the lead dancer and then he takes brisk giant steps towards the gangan drummer. The others complement his movements following steadily behind, dancing to the rhythm of the music and at the same time repeating the former display of catching hoes thrown high up in the sky. This kind of performance is most suitable for open air with the spectators forming the boundry within which the performance takes place.

IV "Wasan Manoma" (Farmers' Dance)

General Characteristic

This is a dance populer among the farmer's occupation guild and is mainly performed at one of the patron's weding or naming ceremony. This dance is made up of series of dance forms which are based on the social expression of the various features of the professional actions, movement and techniques of agricultural occupations. The dance is accompanied by music from drums and traditional wind instruments.

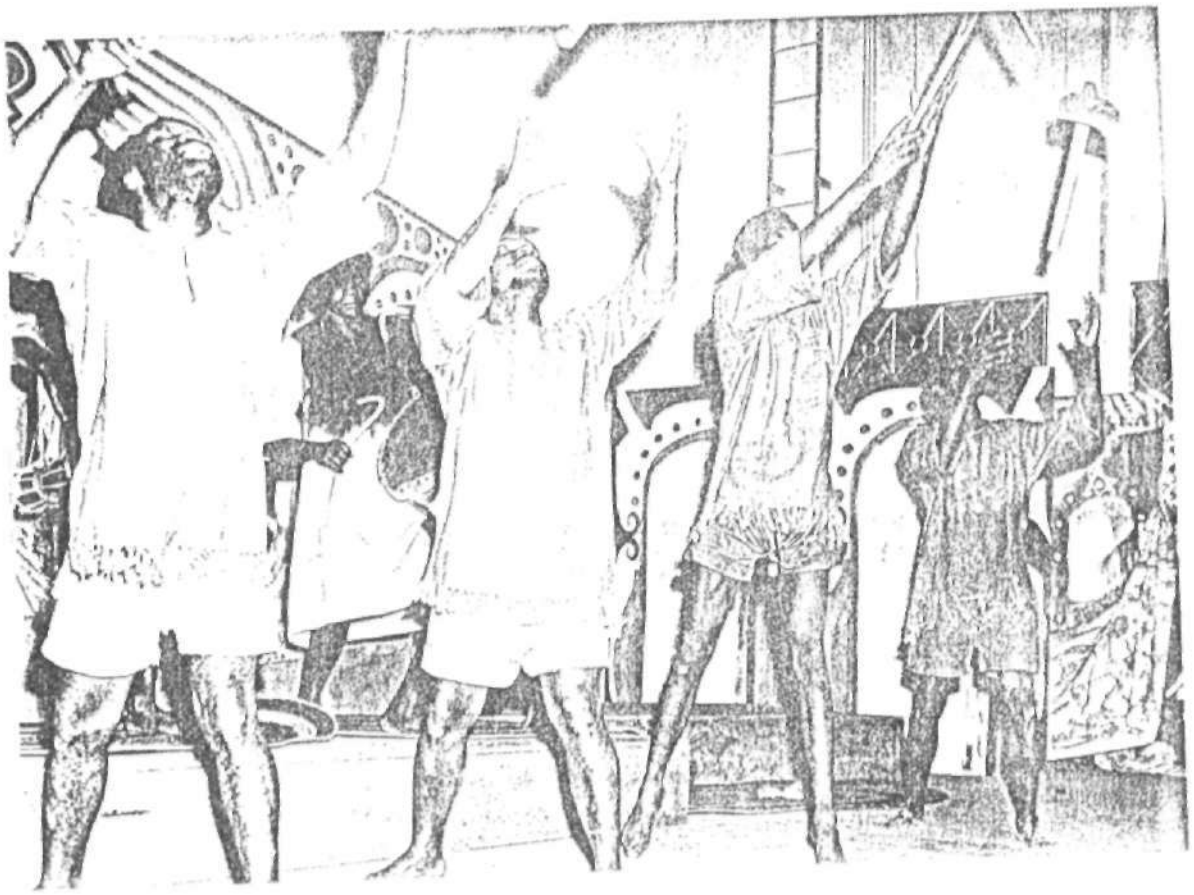


Plate IX Wasan manoma performed by men



Plate IXb Wasan manoma performed by men and women

Performing Space

The dancers consis. of 3-5 men wi.h hoes cladded in shorts and shirts and an equal number of young ladi in wrappers holding calabashes dance to the music in the form of various motifs of agricultural occupations such as ridge making, weeding and planting which are reproduced in stylized movements whereby certain patterns are emphasized in order to register some meaningful impact to the audience. The dance takes both linear and circular forms allowing audience surrounding the dancers to have equal visual appreciation of the whole performance. In certain cases, the dance is styled around a simple plot concerning the farming occupation such as using the scare crow to ward of thieves etc. A dancing troupe of this kind will require about 25-40 m^2.

2.4 'Wasan Kwaikwayo' Traditional Drama

No clear differences exist between traditional dances and drama as the former is also used to explain the concept of enactment which is basic to all dramatic performances. Traditional drama is mostly based on myth, history, legend and fiction, and the spatial requirements would be affected by its informal nature which is an extension of everyday domestic activities. Exact dimensional requirements can not be over-emphasized as this will be dictated by the kind of drama and the actors. In strictly dramatic

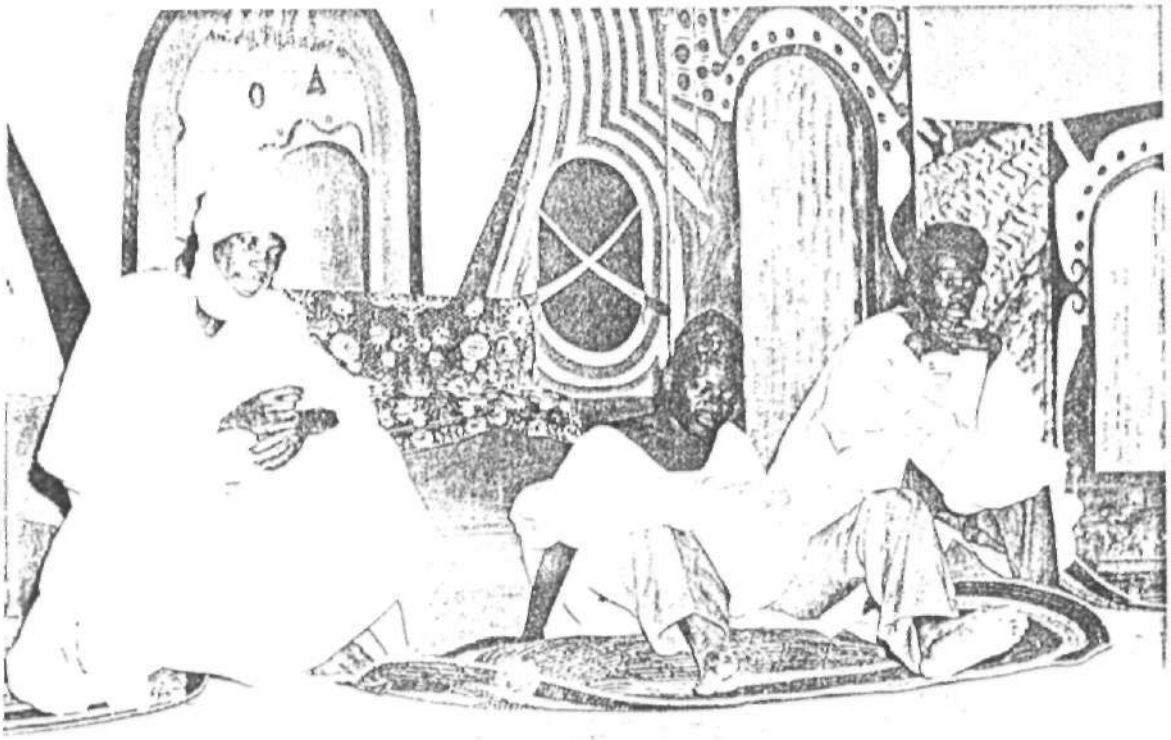


Plate Xa Traditional drama with no dancing scene



Plate Xb Warrior dance in a drama

performances which does not involve any dancing, the semi-circular form of seating is mostly favoured but the fact still remains that, there is need for intimacy between actors and the audience.

2.5 Traditional Festivals

The two most important festivals in Katsina are the "Eid-ul-Kabir" and "Eid-ul-Fitri" and during these two festivals, dances earlier described are performed all over the town especially at the open square in front of the emir's palace. The festival highlights the role of the emirs as the spiritual and religious head of the town and this entails the paying of homage to the emir by his subjects in and around Katsina accompanied by musical groups. The climax of this performance is a mini-durbar which consists of a show of dexterity in horse riding which ends with a salute to the emir (who is seated on his horse at one end of the square). The major roads in the town are also given a view of the performance on the day after the performance in front of the emirs palace and this is in the form of a ceremonial procession which returns back to the emir's palace after reaching the outskirts of the walled city.

2.6 Traditional Sports

This consists of 'Dambe" traditional boxing and "kokowa" (traditing wrestling) which are practised



Plate XIa Ceremonial procession during a calla festival



Plate XIb Musical group in a calla procession

mostly by the butchers' occupational guild. These traditional past-time entertainment are carried out amidst musical drumming, dancing and singing which are considered as required stimulants in the endurance and test of personal stamina required for the games and sport like entertaining events.

Spatial requirements for these events can not be overemphasized as the whole performance is informal with undefined spatial boundries making the events unadoptable to formal interior spaces.

2.7 Spatial Exposition of Traditional Crafts

Craft in Katsina is typical of the Art of the Hausa which is predominantly decorative. They grew out of a continous need for useful commodities such as clothes, utensils and tools, and an appreciation of simple or elaborate well made and well decorated articles of all kinds. It is undoubtable that considerable islamic influence has been at work, the extent of which varies from one product to another. Craft in Katsina is not and doubtless never will be completely distinct from the arts of other islamic West African people and one can no more talk of pure Hausa, Art than of pure English Art. Certain artistic products from Katsina do qualify for the adjective Hausa and evolving spatial requirements for sheltering them would involve a thorough understanding of the

processes of making these products. The most common crafts in Katsina state are:

2.7.1 Cloth Weaving

This craft is predominantly practised in Mani Local Government of Katsina state. The craft uses traditional looms which arrived in the Hausaland from the near east after a circuitous route via North Africa. There are basically two types of loom. The women who prepare and spin the tow cotton work with a simple vertical structure to produce clothes that are half a meter wide and two meters long. The loom which is movable consists of a frame made of bamboo or agara sticks with intermediate vertical and horizontal bracing. The loom measures about one meter high and one meter wide. The women work at the loom while sitting on a low stool and the total area per weaver is estimated at about two square meters.

The men's loom is the horizontal two heddled Sudanesse type sometimes referred to as the band loom. It is used to produce a long narrow piece of cloth about 20-80 cm. The loom consists of two vertical azara sticks stuck in the ground at about one meter apart with a bamboo horizontal member. A prominent feature of the male loom is the long warp threads which are spread out and held down by a portsherd or a stone. Area required for a male weaver is about two to three square meters.



Plate XIIa Female weaver

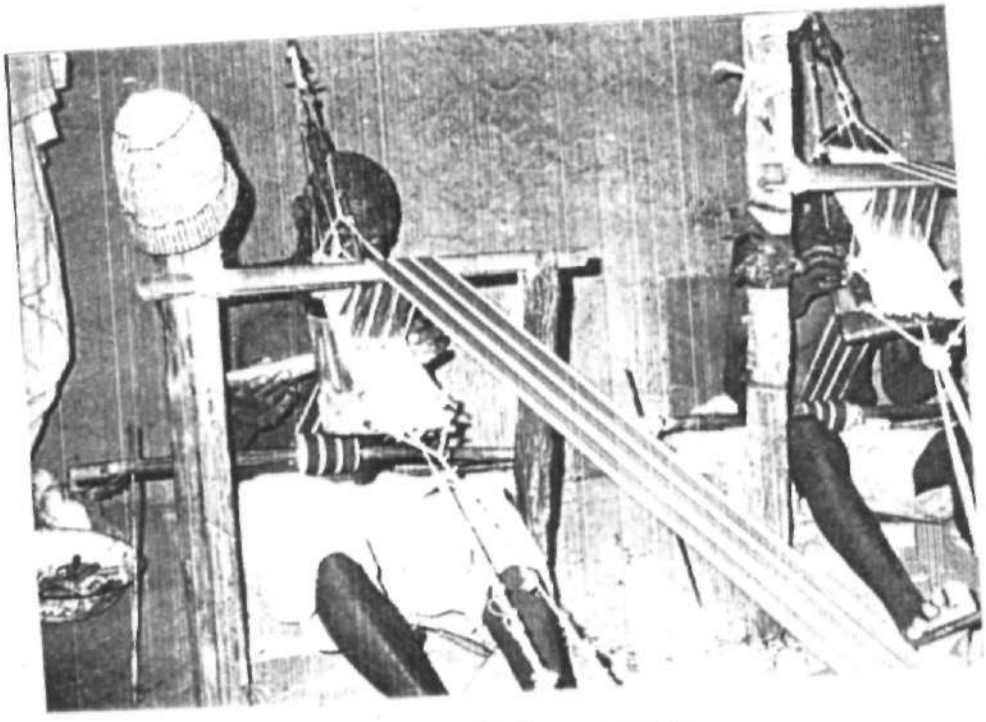


Plate XIIb Male weaver

2.7.2 Basketry and Mat Weaving

This craft is practised in Jibiya district and the products range from mats, baskets, trays, calabash stands, etc. Elephant grass and dum-palm fronds, which are mostly collected during the rainy season, are the chief materials used and they are worked in a damp state. In certain cases, the grass are buried in the ground so that they remain supple. When colours are used, the palm fronds or grass are first boiled in water containing the dye-stuff and then laid out on mats to dry before they are weaven to the desired article. Spatial needs are dictated by work convenience due to the absence of special tools and the size of the products will determine the overall space required for a weaver. An area of about two to three square meters will allow for weaving procedures which are carried out either, squatting or sitting position.

2,7.3 (Metal Work)

Prior to the creation of the state, a ward (Makera) was the home of blacksmiths in Katsina and the basic implements made include swords, wire baskets, bracelets, bowls, axe, and other household equipment. The decorative processes involved includes 'forging' which consists of metal heating and beating, 'cire perdue' in which the metal is melted



Plate XIIIa Female mat weaver



Plate XIII Male mat weavers

and poured into a clay mould, 'chasing' whereby the metal surface is pounded and engraved, and 'Repousse' in which thin sheets are hammered from the back to produce a raised, design. Common to these processes is 'cold smithing' which makes use of a furnace out of old kerosine tins, oil drums discarded metal and leather for the hand pumps. The whole process described would require an area of about fifteen to twenty square meters.

2.7.4 Indigo Dyeing

Though demands for the products have declined considerably, the craft is still practised in the rural areas. The dyers mostly men use circular cement lined pits about 500-1800mm in diameter and several meters deep. The pits are clustered together on sloping ground to avoid water logging. The dyeing process involves dipping the clothes into the pit while standing sitting or squatting and periodic beating of the already damp dyed cloth, laid over a log of wood, with heavy wooden mallets. This is accompanied by sprinkling of powdered indigo on the cloth. The dyeing process will require an area of about two square meters while the spaces around the cluster of pits is used for the beating.



Plate XIVa Blacksmith



Plate XIVb Products of metal work

2.7.5 Leather Work

This craft involves the use of cattle hide, goat, sheep, snake and occasionally fish skin to make articles such as bags, wallets, boxes foot-wear etc. Though modern tanning plants have come into existence, traditional techniques are still used in masanaawa quarters in Katsina town. The most frequently used leather, especially for decorative work is the goat skin which is often dyed to a bright red colour. When it needs to be stiffened, cardboard is used to which the leather can be effectively fixed using porridge as a glue. The traditional tanning process involves soaking the skin in water to which ash and seed pods of egyptian Minosa have been added. They are then placed over old wooden mortars and the outer hairy layer is removed with a scrappter. After further steeping in the tanning solution and clear water, the skin is whitened with milk or coloured with local vegetable or imported dyes. Further ornamentation is done in any of the following ways.

- By applying a stain consisting of water and dye powder.
- By embroiding with thin strips of coloured leather.
- By incising and pounching patterns with metal tools.

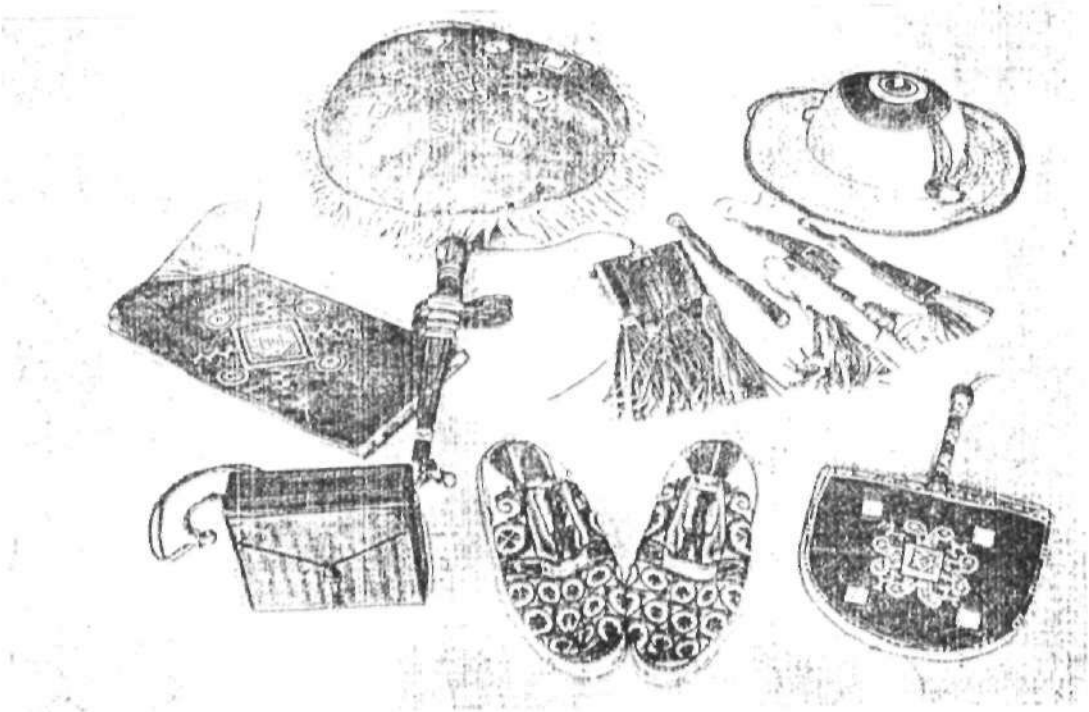


Plate XV Leather work products

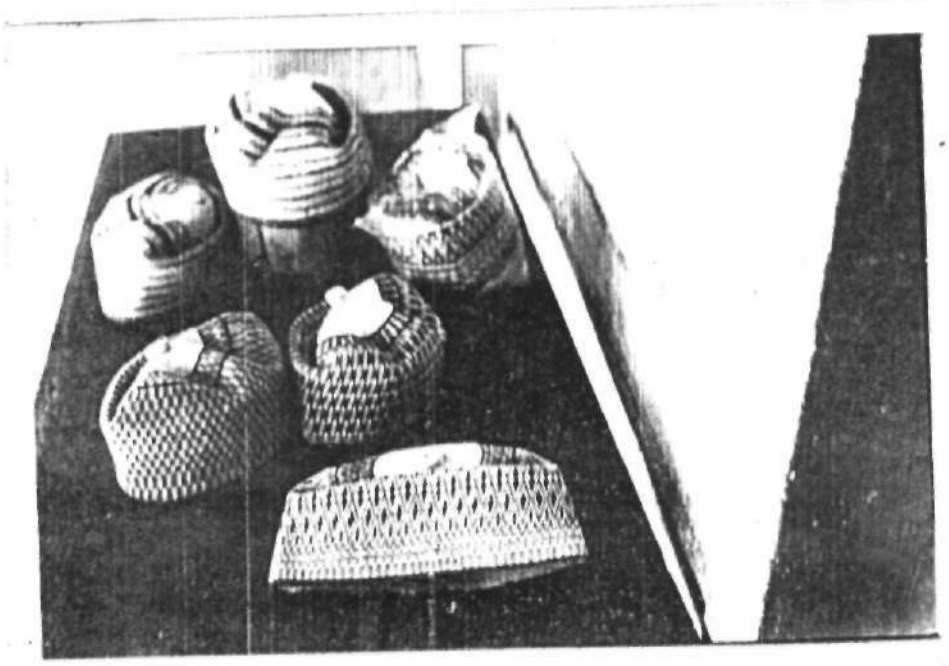


Plate XVI Embroided caps

- By notting, planting and weaving.
- By an 'applique' technique that combines glueing and stitching.
- By a stripping method in which areas of the surface are removed to create contrasts of dyed and undyed leather.

All the processes described above are manual and would require an area of about twenty to twenty five square meters.

2.7.6 Embroidery

A substantial amount of embroidery done in Katsina is on clothing such as gowns, caps etc. and spatial needs are not dictated by any special tools as most of the work is done with needle and thread while sitting in any comfortable posture. An area of one square meter will be appropriate for one person.

2.7.7 Pottery

Ajiwa village is the base for pottery in Katsina state and like other parts of the hausaland, the work is done largely by the men. Pottery in Ajiwa and indeed hausa pottery is made purely for practical purposes, and the articles made include pots, toys, coolers etc and their appearance is more often simple than elaborate. Like their counterparts in the rest of sub-saharan Africa, traditional potters



Plate XVIIa Potter at work



Plate XVIIb Traditional form of glazing

in Ajiwa work without a potter's wheel. Small items are made from lumps of clay turned in the hand while larger articles begin as flat slabs placed over an upturned pot or a shallow calabash. Where a large piece of clay is being turned in the first shaping process, the potter who either sits on the ground or a stool uses his feet to revolve the upturned pot and for a finishing off process such as smoothing of a rim, he stands up and circles it in one quick continous movement. To enhance the beauty of certain products, various designs are incised with sharp tools or are impressed using twigs or nulettes of twisted fibres unlike. For the described process, space required is put between one and two square meteres. Firing or glazing in traditional pottery takes place in an open space, though there are potters who fire inside low wall enclosures inserting fuel, there are no true kilns. holes for / Preparations for a typical firing begin with a layer of grass being placed on the ground. Brushwood is laid on top of this and the pots are then arranged from the center with and where possible, the base of one pot is set into the mouth of the next. Firing space depends on the number of pots to be glazed.

2.7.8 Wood Carving

Jibiya village is also the home of wood carving in Katsina state. The range of articles produced

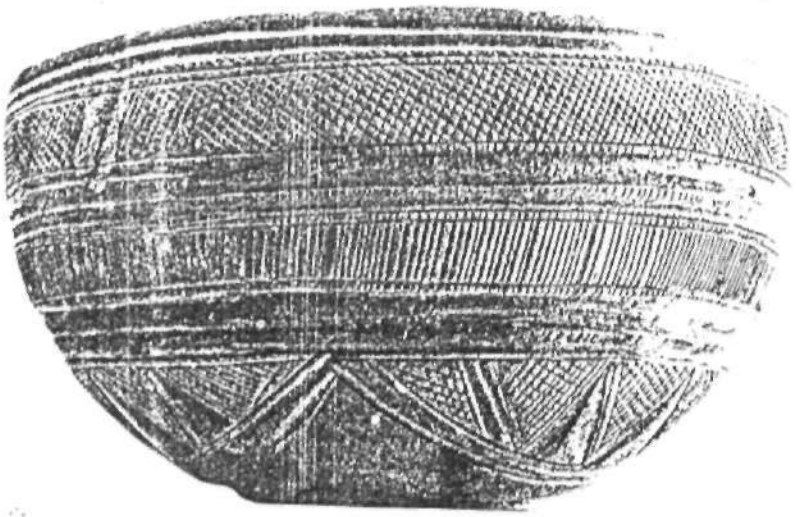


Plate XVIIIa Wooden food bowl

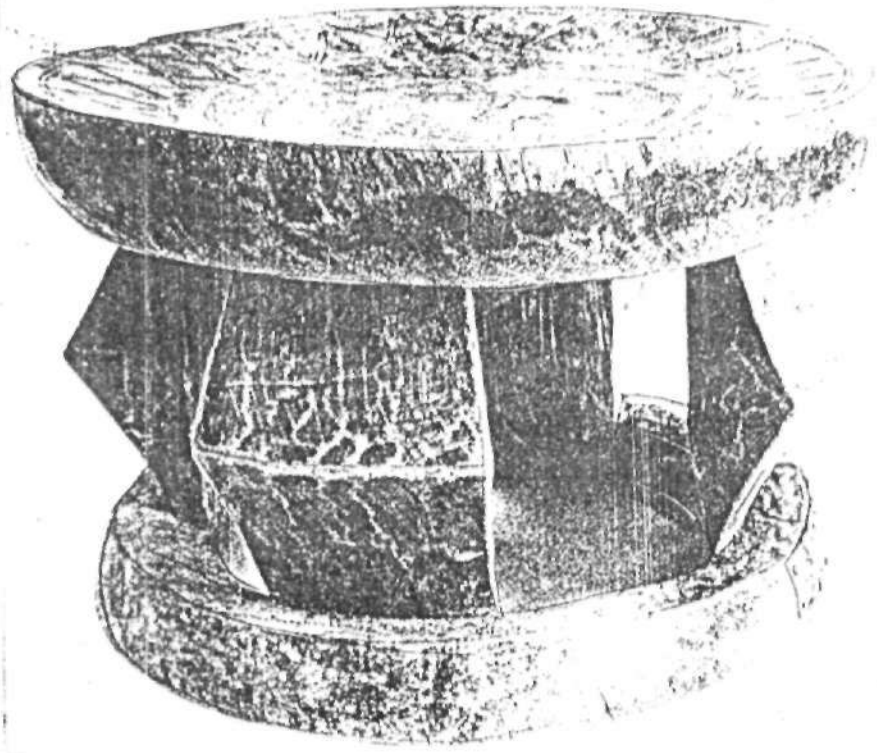


Plate XVIIIb Wooden stool

includes hoes, axe, shuttles, tools, quranic writing boards etc. Spatial requirements are not dictated by any special tool as most of the work is done by little more than an axe but the different kinds of wood which comes in all shapes and sizes before being shaped to the required article, contributes to the space requirement. Further decorations are done to enhance the beauty of these products by the use of hot metal. Three to four square meters will be appropriate for the actual process of carving.

2.7.9 Calabash Carving and Decoration

This craft practised only by men involves firstly the sawning of a fruit of several varieties of creepers into two, and the cleaning out of the insides with and curved knife which serves as the only tool. Decoration on calabashes is done by putting the calabash in between the thighs while the knife is put to work to incise various designs. Space utilised is estimated at one square meter for the carving and decoration process. Another form of decoration is the application of hot metal objects on the calabash.

2.8 Conclusions

From the analysis of traditional performing arts, it can be deduced that all theatrical presentations are carried out in the presence of an audience and



Plate XIXa Calabash decorator at work



Plate XIXb Decorated calabash

this can be viewed as an important feature of the required theatre atmosphere or situation. It has also been noticed that the success of a theatrical presentation is usually assessed from the reaction of the audience. This is evident by the time a performance develpes into full momentum and rises to its crescendo, the audience tend to be caught in the full swing of the dramatic event, chanting the choruses with the main participants, dancing, singing and clapping in response to the rythmic impact of the total elements in the performing art forms. Though most of the mentioned performances are free commercializing them would involve providing the same atmosphere as evident in the open square performance in order to re-orientate the functions of the theatre to its uses as a social act.

Another area of importance in traditional performances is the unadaptability of certain theatrical presentations to organised theatre spaces as their informal nature bear strong attachment to their natural settings.

In traditional crafts, the open space is an extension of the working area and climatic conditions might be responsible for this phenomenon.

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CHAPTER THREE

3.0 HISTORICAL DEVELOPMENT OF THEATRES

3.1 Preamble

Drama is known to have stemmed out of life itself. Even the lower animals are occassionally seen imitating real life actions. The early man tried by the hunting mime to establish a pattern, which he believed would repeat itself in actuality. This art of mimesis was the real basis of drama and the art developed along side the growth of the community which was characterized by strigent and complex social organization. As man changed from a hunting animal into a pastoralist and farmer, the dramatic activities and performances also changed. In place of miming the successful hunt or retelling ehs story of some demi-god's success in the field so as to personalize that success or to inspire emulation amongst the younger generation; instead man now sows in mimesis at first and later with developing pattern and ritual reaping of the harvest. Further more, with the development a closer relationship with the movement of the earth, the stars and the sun, man has sought to establish harmony with these life forces, and the mind tends to reach out to the powers behind the life forces.[1]

Eventually a pattern was developed first with dramatic activity-mimesis, which later became ritual which in turn became lithurgical (active approach of the society to the sources of its life and being) and finally the lithrgy became theatrical performance.

The formation of a 'theatron' (seeing place) started with the artists impression for the need of space. This conscious search gave way for project developments. Part of the requirements of a flourishing theatre is finance built through patronage. This high patronage has lead designers, artists and other experts to develop elaborate materi for interior and exterior finishes.

The history of theatre in the past can be distinguished under three formative influences namely (a) the Greek, (b) the Roman Empire and (c) the influence of the Christian church.

Greek theatrical culture started largely from Athens, where drama was founded on the dionyziac cult, in honour of Dianysus, the god of wine and fertility. As for Christianity it was rooted in the development of God-awareness of the jewish race, in association perhaps, with other human approaches and insights through the ages.

5.2 Greek Theatre

Explanations have only sufficed to reveal the beginning of theatre construction based on some space utilization not on its origin. Archeologists have tried to give explanations based on the primitive culture of man, through religion, ritual, story telling etc. and have established that western theatre emerged in Greece, a rugged hilly country inhabited by a pragmatic people. They found it a simple matter to use a hillside, natural bowl, a ravine between hills, as an obvious solution to the sight-line seating problem.

The first theatres in Athens developed around 550 to 500 B.C. from performances before the temple. In Athens the space between this and the intervening hill slope was the 'orchestra' - the dancing place of the chorus. The temple itself was a background; and the hill slope was the auditorium.

5.3 Features of the Greek Theatre

(a) Theatres were opened to the sky

(b) The seats were carved out of the natural slope of the hill side.

(c) The scene, the building for keeping boxes and properties which formed the background to the stage was placed targential to the ' 'orchestra .

(d) In the 5th century B.C, long porticoes were used for seats, a few made of stone. In the fourth century B.C, however stone seats became common and some of marble were reserved for important personalities.

(e) The 'orchestra' was of earth at the beginning but later became paved

(f) The auditorium was first rectangular, (syracos) and later assumed a semi-circular shape.

(g) Initially, the actor and the chorus were not seperated because of the interchange of these people. Later a small wooden platform was built and linked to the orchestra by a few steps. In the 4th century B.C., a proper stage made of stone and supported by Doric and Ionic columns came into effect.

(h) The paradoi which was an open entrance into the theatre gave way, during the Hellenistic period to a momumental gateway.

3.3 Roman Theatre

The conquering of Greece by the Romans 'allowed for the emulation of the Greek theatre and is not surprising to find that many aspects of the Greek theatre featured prominently in the early days of Roman theatre development, the first of which was built around the 1st century B.C. Unlike Greek theatres built on natural slope, the Roman theatres faced the task of building an artificial

hill of seats which gave rise to splendid architectural achievements.

3.3.1 Features of the Roman Theatre

(a) The idea of the greek hill side was seldom used as the theatres were symbolic buildings often placed at the city center; where a hillside was available, they were hollowed out and built up by means of concrete vaulting supporting tiers of seats under which were the connecting corridors used for retreat in case of sudden showers.

(b) Initially Roman theatres were built of wood, but fire hazards, permanence etc resulted in the use of stone, marble and more permanent materials in later theatres.

(c) Stage background placed greater prominence in Roman than Greek theatres. It consisted of a high wall at the back, shutting out anything beyond, and sometimes a roof covering the stage.

(d) Roman theatres first introduced the use of stage curtains; which were lifted from below to open the stage and dropped to close it.

(e) Within the rectangles formed by the columns or buttresses and the entablanture, were the open arches leading inside and so developed one of the most characteristic Roman architectural features. The so-called Roman arcade that is

a succession of arches with engaged columns or pilasters on piers between them, carrying entablentures which run continously over the arch tops.

(f) The Amphitheatre, unknown to the Greeks, was designed for gladiatoral combats, fights between wild animals and battles between wild beasts and gladiators. Since such spectacles needed no background, it was logical to place the spectators all around. The oval amphitheatre, with its rising tiers of seats may be regarded as a compound of two theatres, stage to stage, thus making an auditorium round elliptical arena. In addition to the outlined purposes, they were also used for naval exhibitions.

3.4 Chinese Theatre

There exists a certain continuity and coherance in the historical development of the Chinese theatre because of their reverence for the past. In the late 5th century A.D, highly stylized dance, dramatic in kind had become established in con fucian centers.

Drama emerged from ritual observances as in Greece. Music an ritual dance were combined with the telling of a story by and the wearing of masks was adopted around the 5th century A.D.

The classical theatre, like the Greek experience was based on earlier temple performances. It employed a stage jutting forward into the audience, with two rear entrances, one to each side, and a canopy. Behind the stage, is the green room crowded with props and equipment.

3.5 Japanese (No) Theatre

This form of theatre was closely associated with the feudal aristocracy which led to the shoqunate rule of the 14th and 15th centuries. It was an art of Caste with more appeal to one class of the community.

The NO stage is a raised platform, with the audience seated on two sides of it. Over the stage is a temple roof which is supported by pillars with special significance. On the right side of the stage, is a balcony for the singers with the back accomodating four musicians and two stage assistants. A passageway narrower than the main stage (about fourty feet in length) leads to a curtained entrance by which performers reach the main stage. There is no scenery in the accepted sense, but a light frame work of wooden posts may support a roof to represent a temple house, or palace. The stage with an area of about eighteen feet square, is of highly polished cypress. The orchestra is simply a tranverse flute,

two hand drums and a larger drum struck with sticks.

3.6 Later European Theatres

The invincibility of the Roman Empire in Europe spread theatre activities to other parts of the world where elegance was amired. Except for the dark ages, around the 9th and 10th century A.D, when there was decay of theatre due to a gradual loss of culture, theatre has continued to develop in Europe.

In Germany, the theatre was simple consisting of a stage erected in a cleared space. By the mid of 17th century, there were three basic forms of theoretical performances.

(a) the court drama - drawing on the revival classical theatre of Italy and the new machinery and scenic devices that had then developed.

(b) A continuing native tradition of strolling companies, now regarded as professional entertain

(c) the new church plays - theological dramas, consciously used by jesuits as an educational medium and instrument of the counter-revolution.

In France, there existed a part of the Roman Empire that never entirely lost its classical culture. There was the new dance inspired by church lithurgy and because it occured in an environment more congenial to theatre, it moved from its initial venue -

PRINCIPAL WESTERN THEATER FORM OUTLINE PLANS & CHRONOLOGY

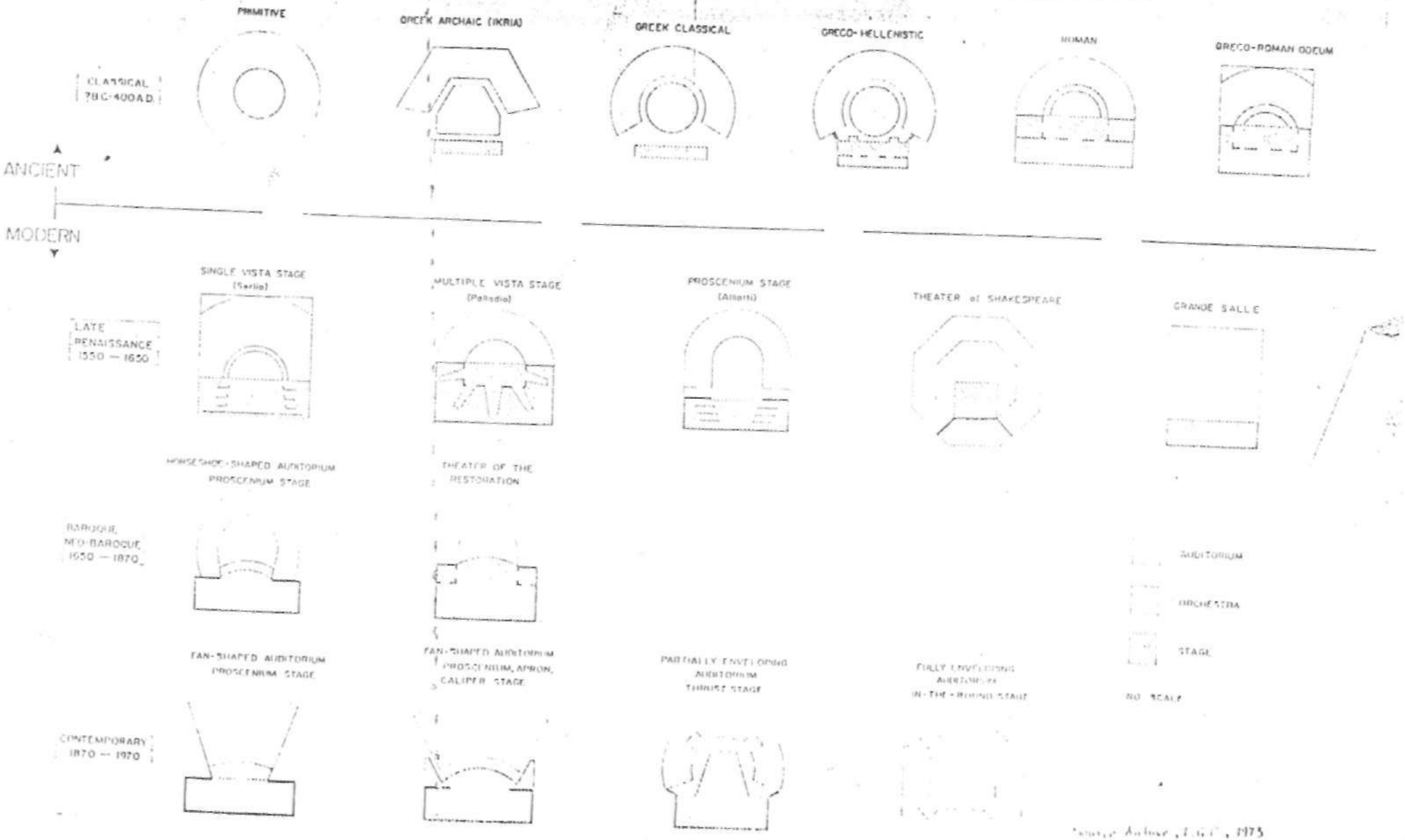


Fig 3.1 Source: Archive I.G.C. 1973

the church building to the open air. Its actual presentation, near to the church possibly on the stone platforms, furnished by the church steps, has analogies with the early shinto drama in the precints of the temple.

In Italy, a closer bond cements the traditions; the old with the new, the classical and the modern theatre. Church theatre developed much as in other countries. Devotional praise which was at first lyrical became narrative, and then involved impersonation. The Italian architects of the 1940s were less concerned with auditorium arrangement and more concerned with elevation and expansion of the use of the stage machinery.

3.7 Origin of Modern Theatre Design in Late Renaissance

Prominent avant garde architects took up the remains of Roman theatre designs and metamorphosed it into a modern concept. Included amongst the architect were sebastino Serlio, Andea Palladio, Vincerzo, Scamozzi etc. They evolved four types of theatre architecture.

(a) Public theatre style originating from the middle ages.

(b) A style more or less generated from early renaissance pre-occupation with terrain and plateau revival.

(c) Theatre desinged for revivals and construction of antique tragedies and their imitations.

(d) Fesival theatres designed for mounting spectacles upon the occasion of a royal alliance of a civic entry.

This early movement of constructivism gave birth to styles in theatre designs. The new concepts adopted technological innovations as styles.

3.8 African Theatre

Before colonization, Africans did not have 'theatres' or 'theation' in the western or oriental sense. Nobody in Africa built structures specially designated "playhouses" which served the purposes of entertainment or dramatic instruction and nothing else. though, there were areas for performances, they were not constructed in strict geometrical dimensions like those of the ancient greeks. In order to ascertain the existence of an African theatre, it is necessary to anatomise the word theatre in its social context.

The theatre is man's expression of his feelings, emotions and experiences, it is a creation by man and as such, forms part of his culture. The subject matter of theatre is man and considering that the theatre finds its subjects mainly in folklore, that is, in aggregate of myths, legends, stories, then it can be deduced that an African theatre existed since

the beginning of the African civilization.

The earliest manifestations of the Negro-African theatre are in religion and comic ceremonies. The African traditional forms of theatre finds its expressions in mythology, history and custom as exemplified by the various forms of festival dramas found in Africa. African theatre is functional in the sense that it serves a purpose within communities and cultues and is much greater than a source of entertainment. The roots of African theatre is in rituals, seasonal ryhthms, religion and the richeness of African traditional theatre stems from this fact .

3.9 Theatre in Nigeria

A pioneering artist in this field of indigenous theatre is Hubert Ogunde looking at his numerous contribution in the cause of projecting Nigeria's and indeed Africa's image to the outside world. Many groups that emerged within the Nigerian scene have shown one form or the other in the display and arrangement of their plays. These plays are in the form of notion drama performed [illegible]ets, squares, palaces, houses etc. during the coronation of a king or victory at war. One of the major characteristics of these plays is the intimacy created between the actors and the audience, since the only physical barrier in the theatre are the audience themselves.

This relationship tries to show the metamorphose nature of African theatre.

The African literary drama is another form of drama with the sole aim of educating and raising the level of the people's awarness of the ruling class through a caricature depiction of the ruling class.

3.10 Characteristics of Nigerian Theatre

1. The feature of Nigerian drama is the blend of music and dances highlighting an occasion in the form of acrobatics gymnastics.
2. The stage (or performing ground) treated in symbolic solemnity than a physical reality.
3. The relationship of the actor and the environment is of great value since they are normally secluded most often, at times during festivals signifying some ritual beliefs.
4. The nature of African theatre with its fluid pattern has no audience visual limitation although crowding does not create a barrier per se, it does enhance the commorative mode of an occasion.
5. Cultural differences within the Nigerian geographical enclave has created different interpretations of theatrical performance, thereby emphasizing these cultural differences. Type of play, length of performance and audience participation are the determinants of these differences.

6. Some drama may be dramatic in themselves but not a drama showing the level of exposition to audience endurance. This form of play could be found in the Fulani sharo dance.

3.11 Types of Nigerian Theatrical Performances

3.11.1 Rituals

This is a dance drama performed during sacred religious and cult observances.

3.11.2 Masquerade

This kind of performance is in the form of a masquerade with a mask to perform and grace the occasion.

3.11.3 Ceremonials

The traditional dances are performed during occasions like marriages, baming ceremonies etc.

3.11.4 War

These kind of performance takes place before or after a battle to signify victory. Mock combats or pantomime rituals are staged to depict enemies in a caricature form.

3.11.5 Acrobatics

A gymnastic kind of dance which highlights on body agility of the performers.

3.11.6 Vocational

Imitation and mockery are the main form of expression in this kind of performance which is significant to certain profession.

3.11.6 Social Entertainment

Traditional dances for pleasure, revealing joy, good news etc. which takes the form of musical bands being invited to grace the occasion and this is accompanied by praise singing of invited guests.

3.11.7 Maidens Dance

It consists of traditional dances performed by young girls at the premarital stage as an expression of beauty and innocence.

3.11.8 Puppet Theatre

Traditional show using puppets, dramatising folk tales of a particular society.

3.12 Theatre Architecture in Nigeria

It could be emphatically stated that theatre architecture of Nigerian origin is non existent looking at the various attempts made by designers in this direction. The hindering factor is that of neglect of the salient features of traditional theatre and African elements which could be used to enrich theatre houses.

A look into the historical development of construction of spaces would reveal to a great extent how spaces are defined within the context of need. Both the Greeks and the Romans who are regarded as the pionners of theatre architecture defined spaces by evolving various forms of theatres to house their religious and social activities. Their conception of spaces based on many factors such as climate, economy and material availability has shown how space intricases could be resolved by applying various design parameters.

The Nigerian theatre space should be conceived based on the nature of activities it would accomodate and this has necessitated the evolvement of space standards to help enhance audience participation which is one of the most important features of traditional theatrical performances.

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CHAPTER FOUR

CASE STUDIES

This thesis is aimed at providing facilities and space from basic needs for a cultural center but investigating the framework of architectural and design ideas of related disciplines is inevitable, if it is to serve as background knowledge for the evolvement of, design ideas. The issue of 'first principles' is most sensitive in performing spaces hence the case study is based towards performing centers which are often designed on the basis of two philosophical schools of thought, namely:

i) The Multiple use Complex

This school of thought proposes that centers for performing arts should consist of one single theatre for all types of theatrical performances such as opera, symphony, drama etc. The theatre should be acoustically and visually adjustable to suit each type of performance.

ii) Multiple Single Purpose use Complex

This school of thought is of the opinion that theatrical performances such as the ones already described should be provided with individual facilities which is designed strictly for that performance.

Though the most ideal, but not realizable because of factors such as cost, construction, staff maintenance as well as its general maintenance.

4.1 Amphitheatre for Performing Arts and Culture, Katsina.

4.1.1 Historical Background

This multiple single purpose use complex was conceived to serve as the venue for cultural performances which hitherto had no specific building designed for that purpose. The design which was prompted by the creation of Katsina state, was carried out by cellular consultants and work commenced on site in early 1989 by standard Construction (Nig.) Ltd.

4.1.2 Client/User/Sponsor

Katsina State Ministry of works are the clients while the bulk of the users are expected to come from Katsina metropolis with the Katsina state government as the main sponsors of the project.

4.1.3 Site Location

The site is located on the outskirts of the walled city on the eastern part of Katsina town along the road to Jibiya which acts as the only physical site bourdary. The site is approached from the walled city through the Kofar Guya gate. Site allocated for the project = 90,000m^2 (300 x 300) of which the amphitheatre covers about 10%.

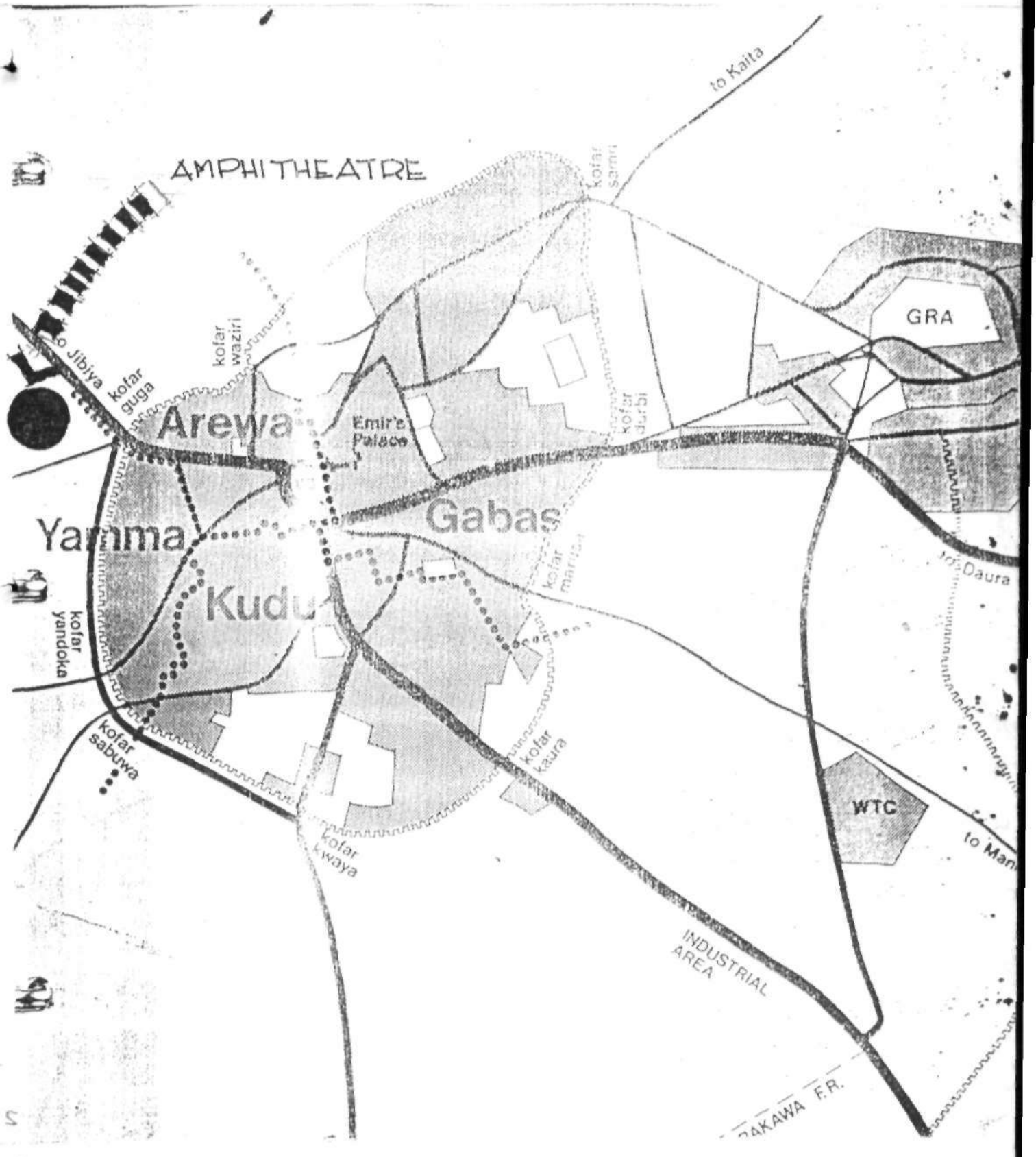


Fig 4.1 Site location Source: Katsina master plan 1976

The soil on site consists of transported sandy or loamy materials overlying rounded quatz pebbles with the vegetation consisting mainly of loose top soil and patches of grass. The site was chosen as a result of anticpated development around that area.

4.1.4 Scope

The amphitheatre has a seating capacity of 2,800, covering an area of 4000m^2 and standing about 14.5m at its highest point. It consists of the following facilities.

A. Ground floor facilities

Functions	Area in M^2
6 offices	24 per office
1 entrance lobby	72
1 performing arts studio	80
1 exhibition hall	80
1 multi-purpose hall	190
2 security control rooms	20
1 thrust stage	320

B. Upper floor Facilities

Functions	Area in M^2
2 offices	9 per office
2 projector rooms	9 per room
2 snack shops	9.5 per shop
1 lounte	72
8 toilets	12

C. Back Stage Facilities

Functions	Area in M^2
1 Male changing room	60
1 Female changing room	60
2 Back stage preparation rooms	100
1 Back stage	50
1 Common hall	150
1 Rehearsal hall	75
6 toilets/washrooms	9

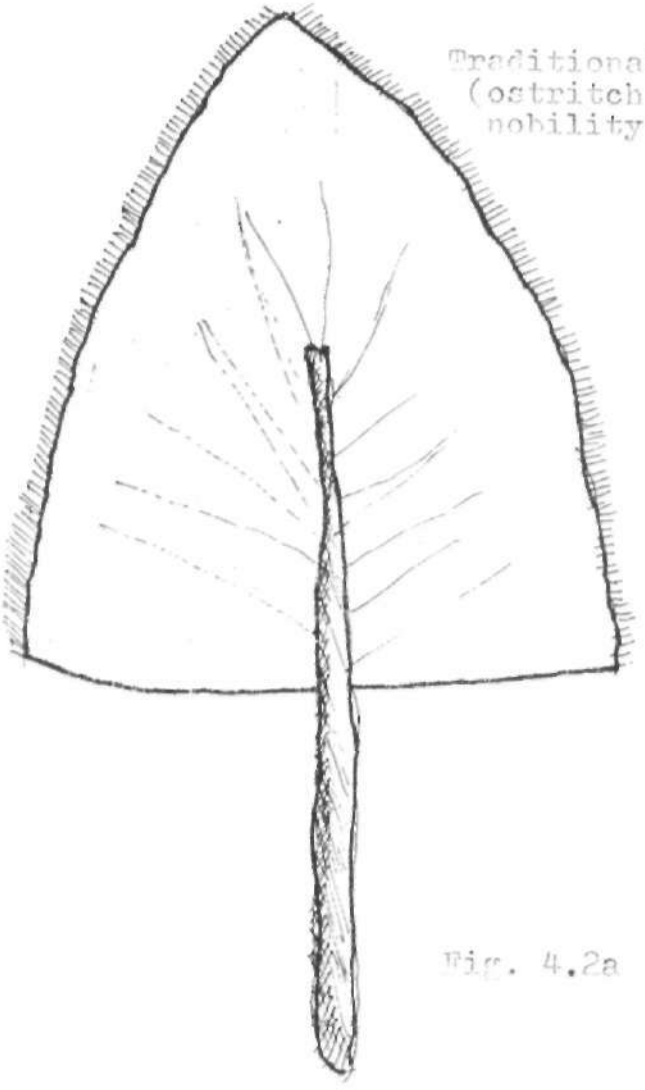
There are four entrances with two serving the general public one serving the V.I.P. and one as the back entrance for artists and staff.

4.1.5 Design Concept

The design sought to reflect nobility and cultural pride in the use of the 'Mafici' (traditional fan) while the organic concept in the form of the 'kunkuru' (tortoise), reflects centuries of endurance and slow change of the hausa states in the face of colonial contact. This is analogous to the Hausa proverb which states that 'Sannu-Sannu bata hana zuwa' (slow progress does not hinder success).

4.1.6 Construction

Concrete is the dominant material proposed for this design with certain parts employing a frame structure while the other parts consists of block work.



Traditional concept: 'Mafici' (ostritch fan) to reflect nobility

Fig. 4.2a

Organic concept: 'kunkuru' (tortoise) to reflect centuries of endurance and slow change of the hausa states in the face of colonial contact.

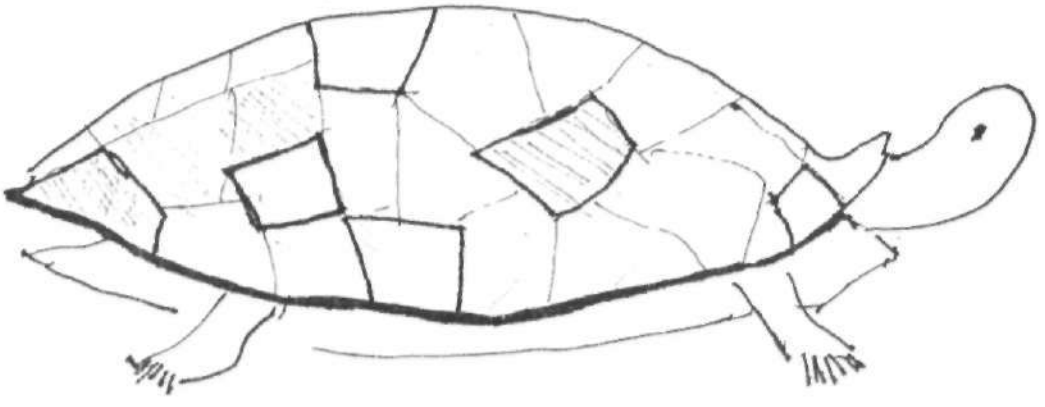


Fig. 4.3b

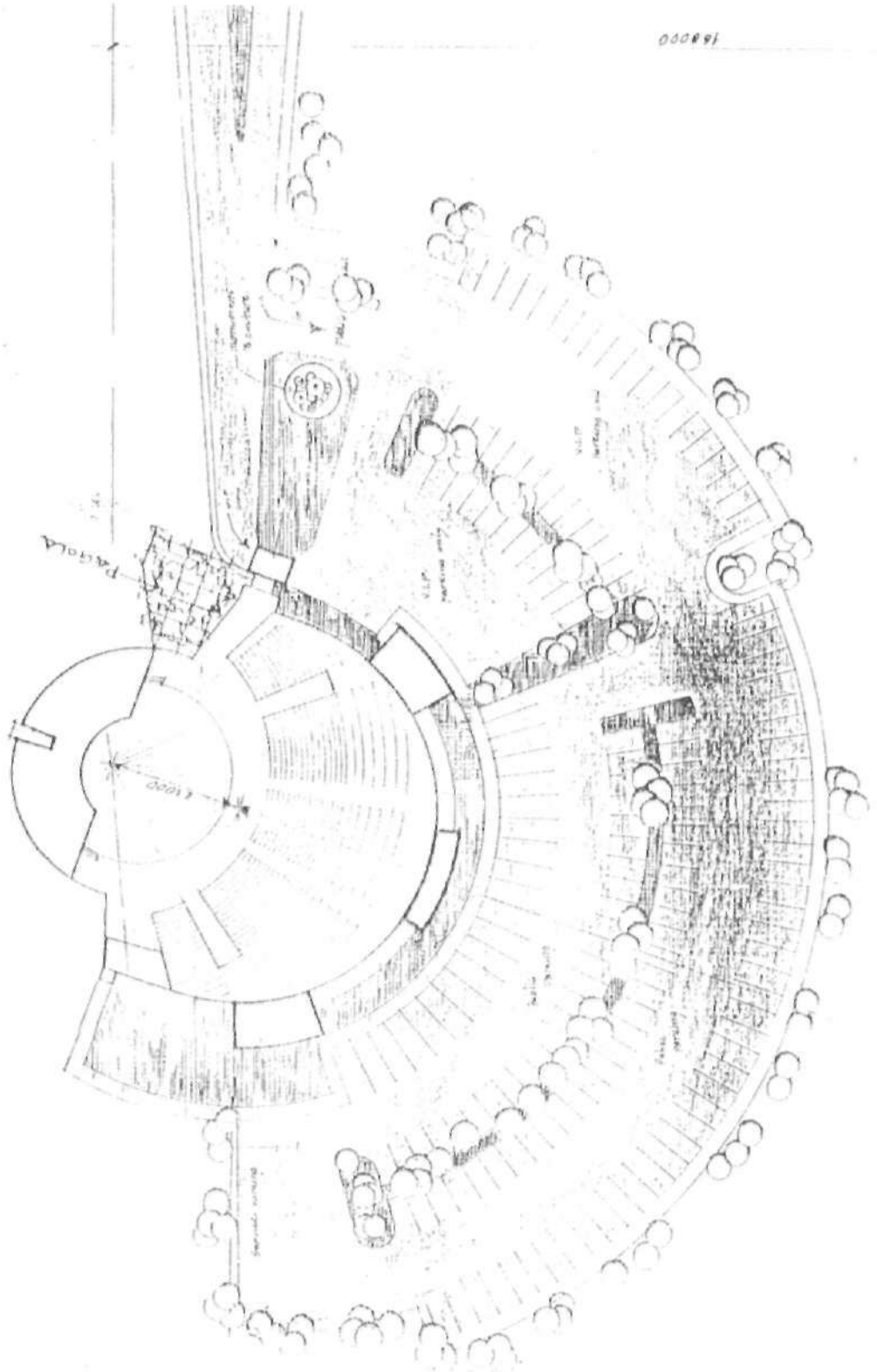


Fig. 4.3 Site plan

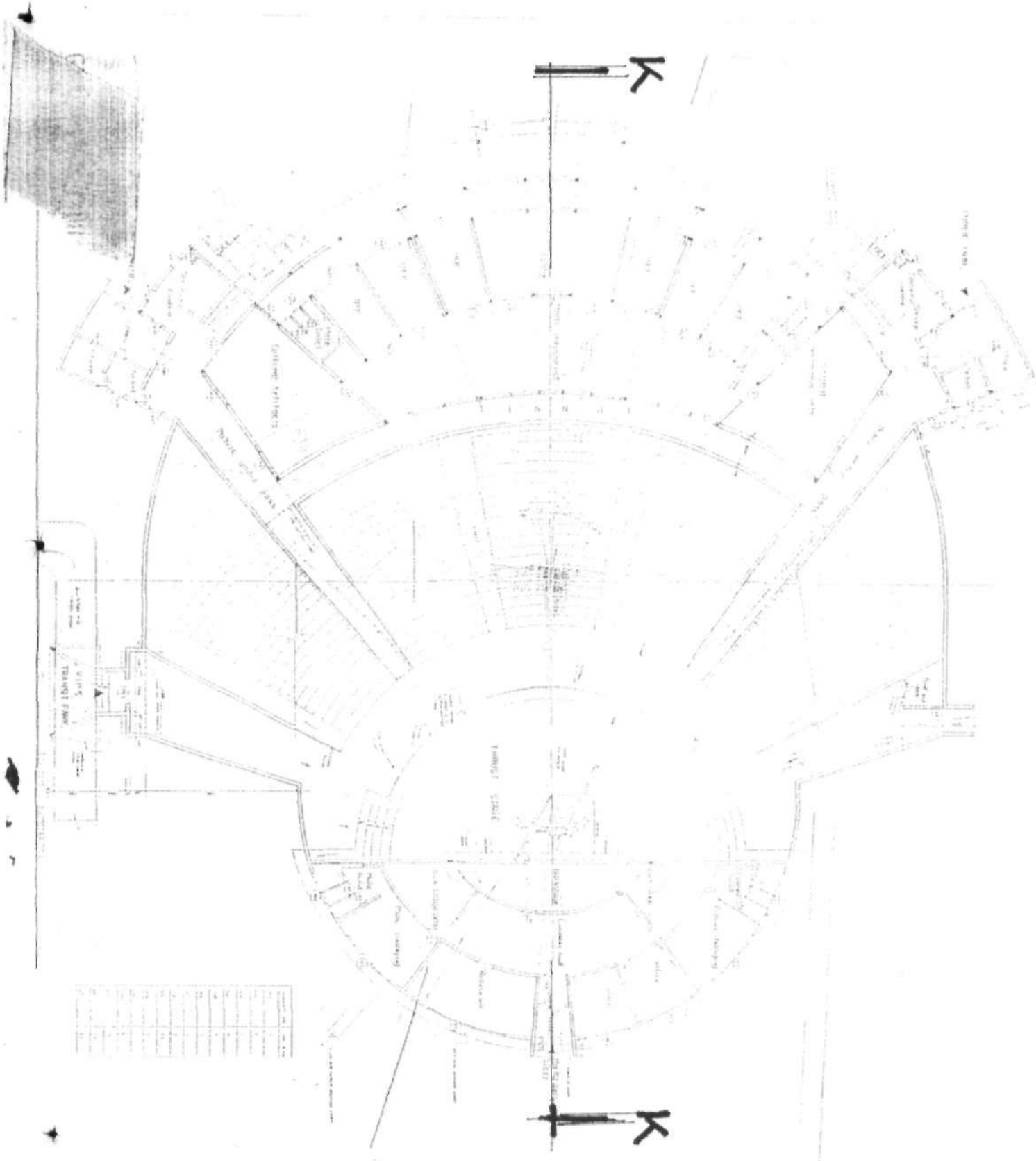


Fig 4.4 Floor plan

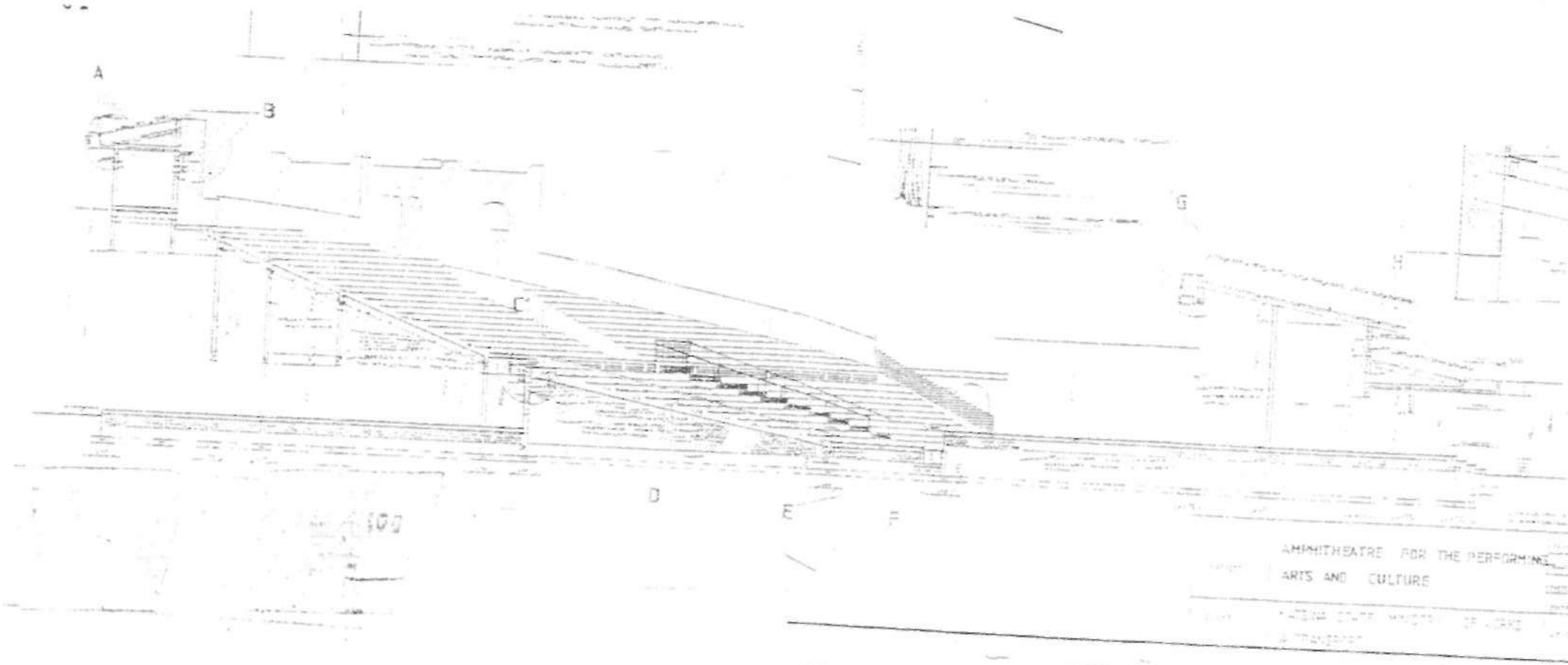


Fig 4.5 Section 1-1

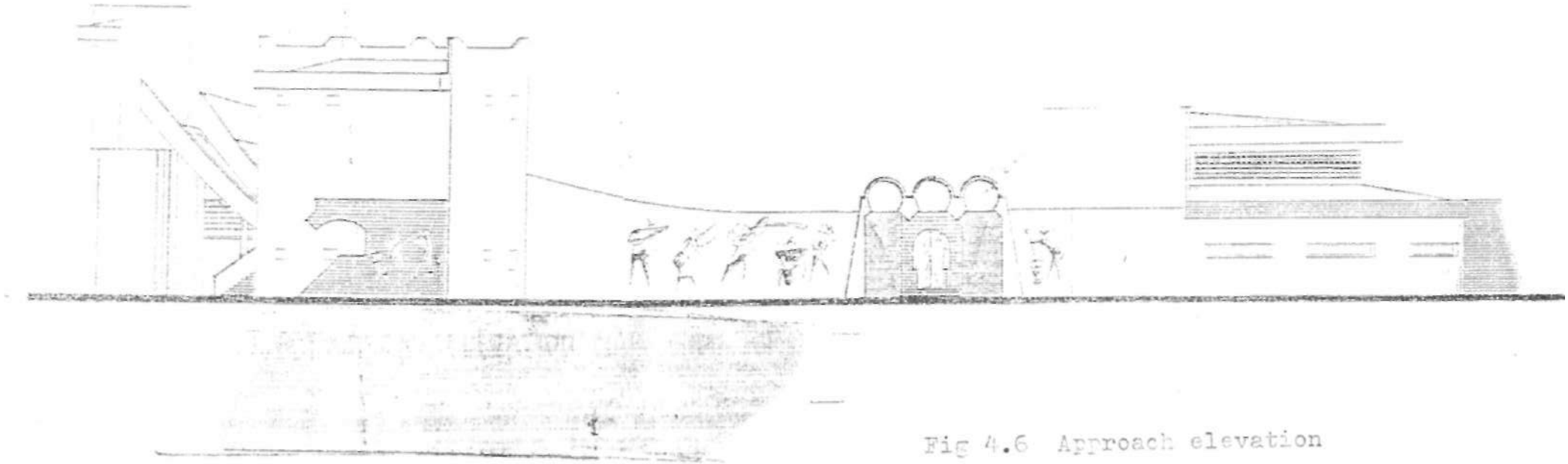


Fig 4.6 Approach elevation

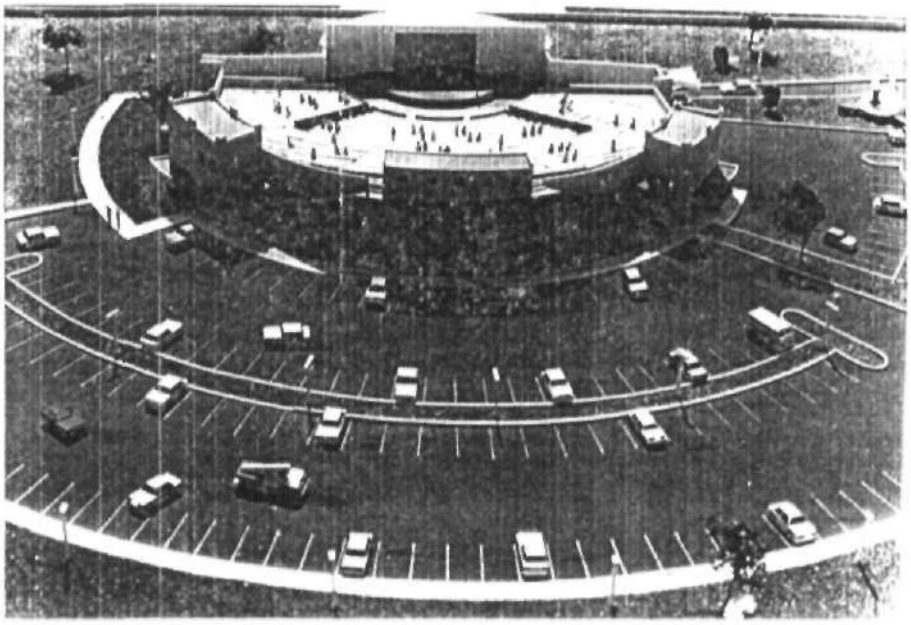


Plate XX View from parking area (model)

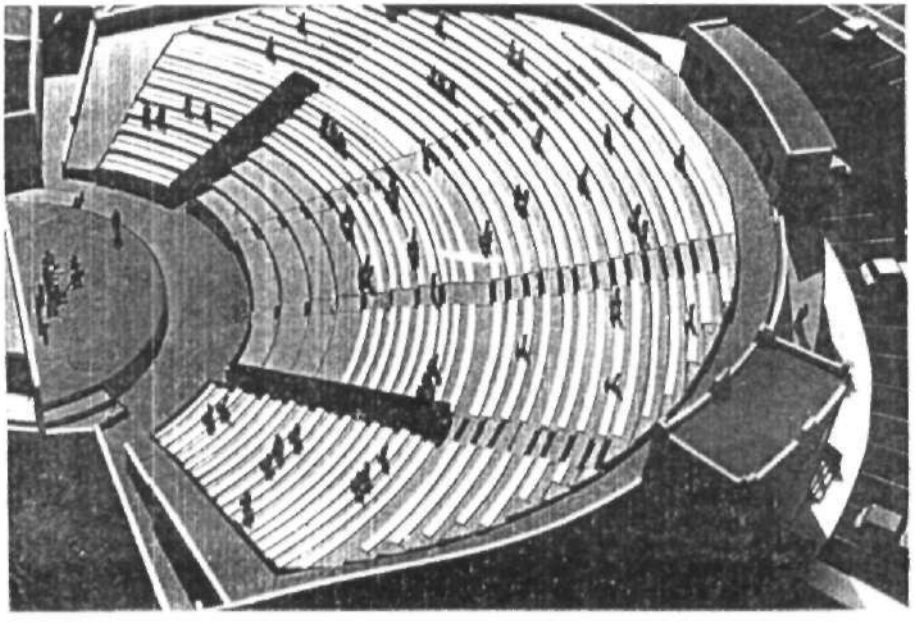


Plate XXI Aerial view (model)

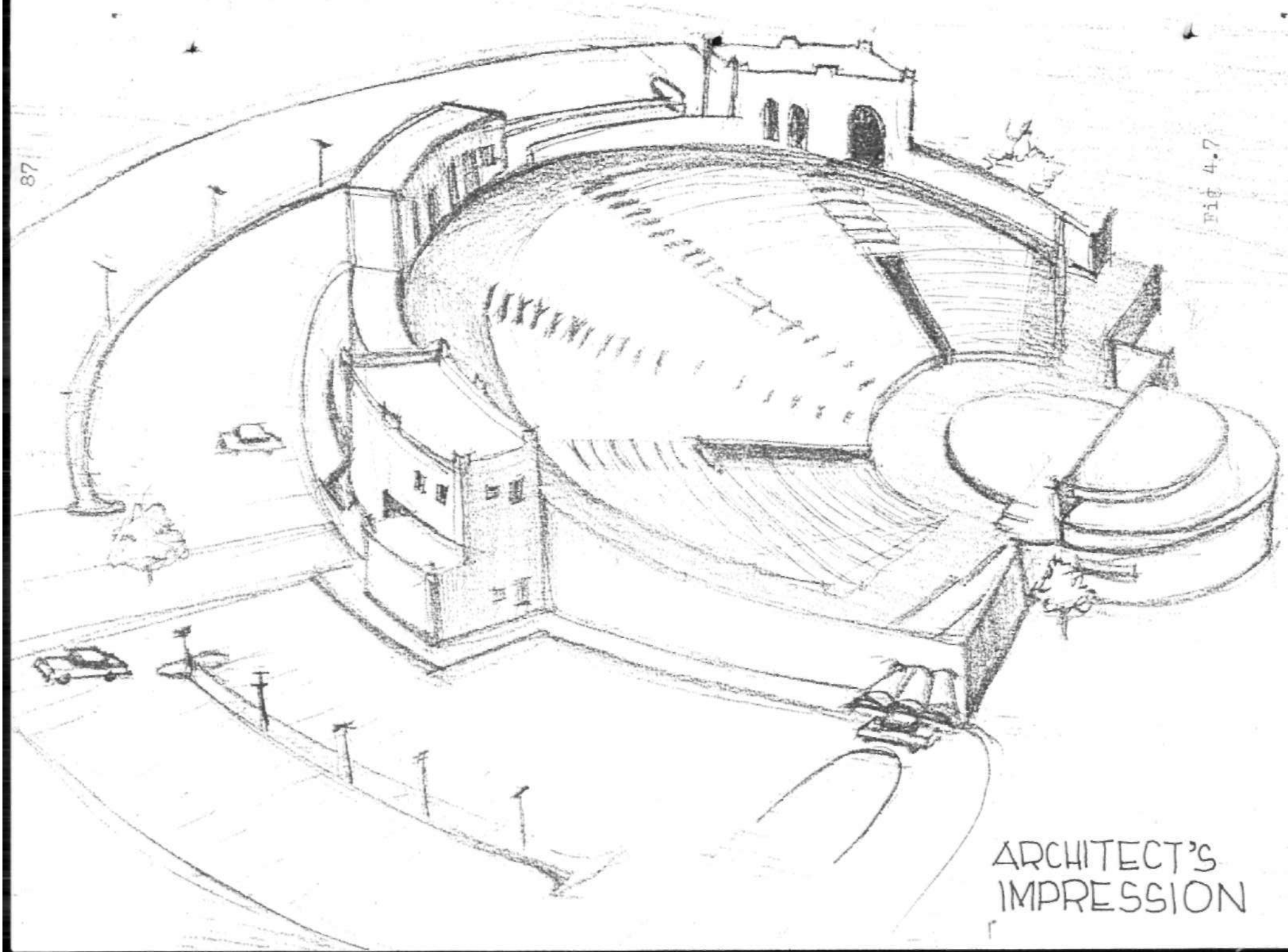


Fig 4.7

ARCHITECT'S IMPRESSION

The raking consists of 200mm risers 1700mm and 1000mm treads respectively which is supported by 68 R.C. columns. The covered parts of the amphitheatre are roofed with timber trusses and aluminium roofing sheets. The canopy over the V.I.P. entrance consists of barrel vaults.

4.1.7 Proclamations and Declamations

The tunnel under the raking meant for circulation had no provision for natural lighting and ventilation which resulted in a proposal for open risers which in turn will give rise to water leakage when completed.

The success of the design is in the architect's innovative transformation of the concept into a building form which was aided by the duplication of functions.

4.2 Ahmadu Bello University Studio Theatre, Zaria

4.2.1 Historical Background

This case of multiple single purpose use complex was conceived to serve the drama students of the Department of English but with the increase in awareness in drama, the studio theatre has turned into a major focus of theatrical performances on campus. The project's brief was developed by Michael Etherton (formerly of Department of English A.B.U., Zaria) and the design was carried out by Steven Enlich (formally of Department of Architecture, A.B.U. Zaria). The project was finally commissioned on the 9th April, 19

4.2.2 Client/User

The Department of English was the client while the A.B.U. authorities were the sponsors and the project was expected to serve A.B.U. students and visiting theatrical groups around Zaria.

4.2.3 Site Location

The site is located on the southern part of the main campus behind A.B.U. staff school on the way to the university dam. The site lies on a level of 685 above sea level and from the proposal for the extension scheme for existing campus facilities, it is expected to be bounded on the north by the students union building, on the east by the proposed school of General Studies and on the south by the proposed staff housing.

4.2.4 Scope

The studio theatre was designed for 250 but has been known to accomodate 400 spectators. It covers an area about 1000m^2 with the actual performing area consisting of a sunken arena stage of with an area of 50m^2 and bounded by 2 round huts with a total area of 110m^2 that serve as shelter for daytime classes and as seating spaces during performances. The other two smaller huts with total area of 50m^2 serve as both stage and seating area depending on the kind of performance. The "soro" (square hut) in the artist's

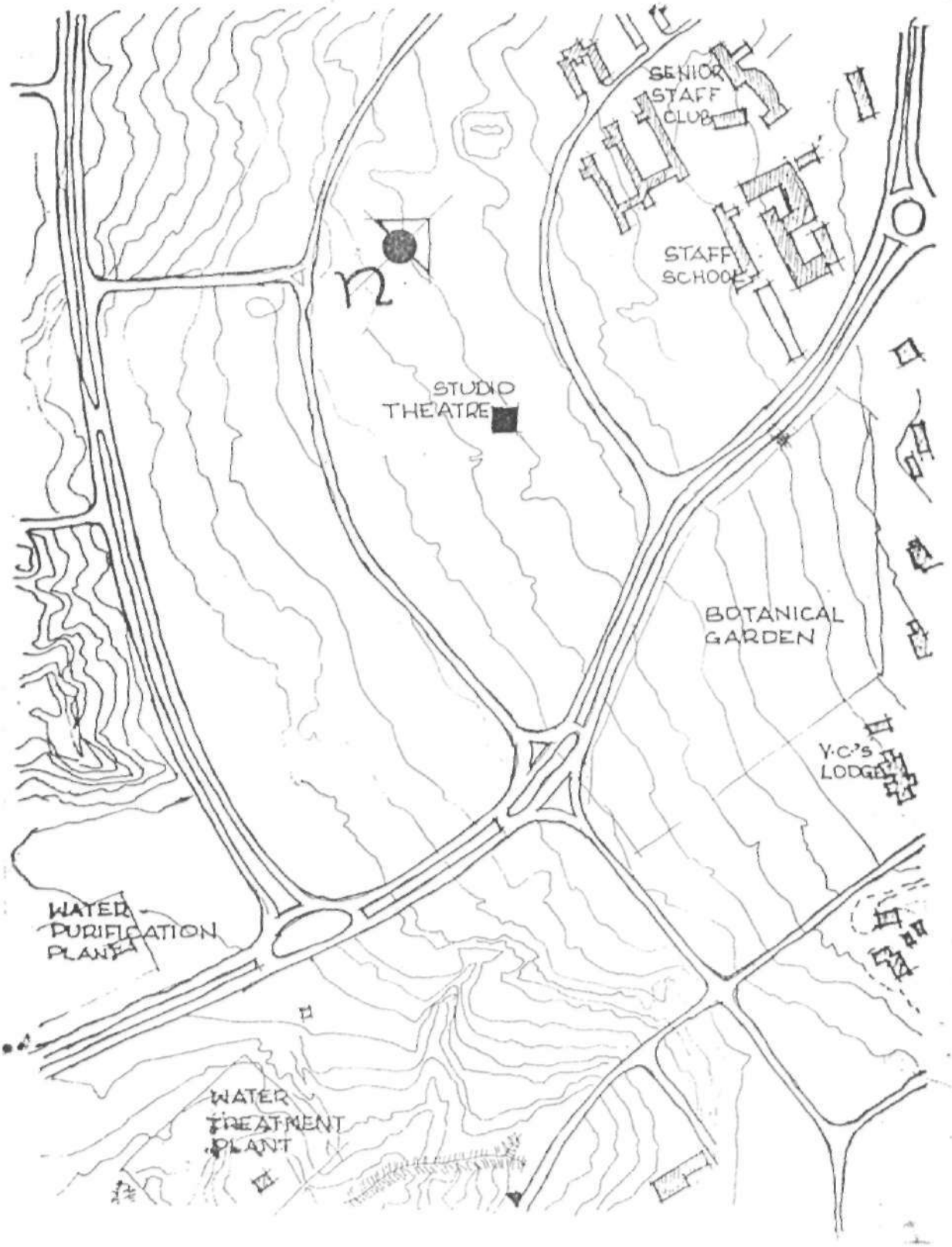


Fig 4.8 Site Location

dressing room. It has a well decorated entrance, and was initially roofed with a mud dome which later gave way to zinc roofing sheets. The lighting control room with an area of $6m^2$ is situated within one of the round huts while the lighting fixtures are fixed on surrounding walls.

The whole studio theatre is bounded by a perimeter wall which is 2m high and it is meant to privacy, containment and reasonable amount of security

Other additional facilities later added include a watchman's room = $20m^2$, maintenance workshop = $20m^2$, male and female changing room = $30m^2$, stores = $20m^2$ and 2 toilets = $4m^2$ all seperated from the main performance area by a courtyard.

4.2.5 Design Concept

An attempt at creating an ideal environment for traditional performing arts can be seen in the spacing of spectators around a center stage which is the main feature of African theatrical performances. A further attempt at giving the studio a traditional outlook was achieved through the use of circular huts built in traditional materials all linked with a perimeter wall typical of Hausa traditional compounds. The open air stage also forges a close link with indigenous settings for theatrical performances in the form of the village square.



Plate XXII Entrance



Plate XXIII Box Office

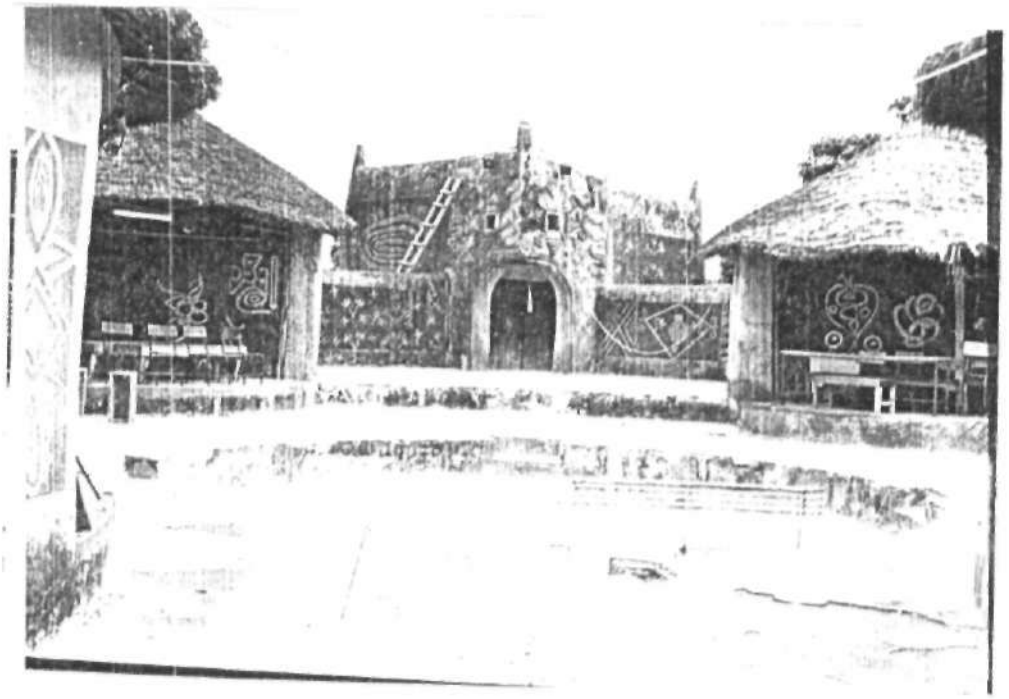


Plate XXIV The 'Soro' (Artist changing room)

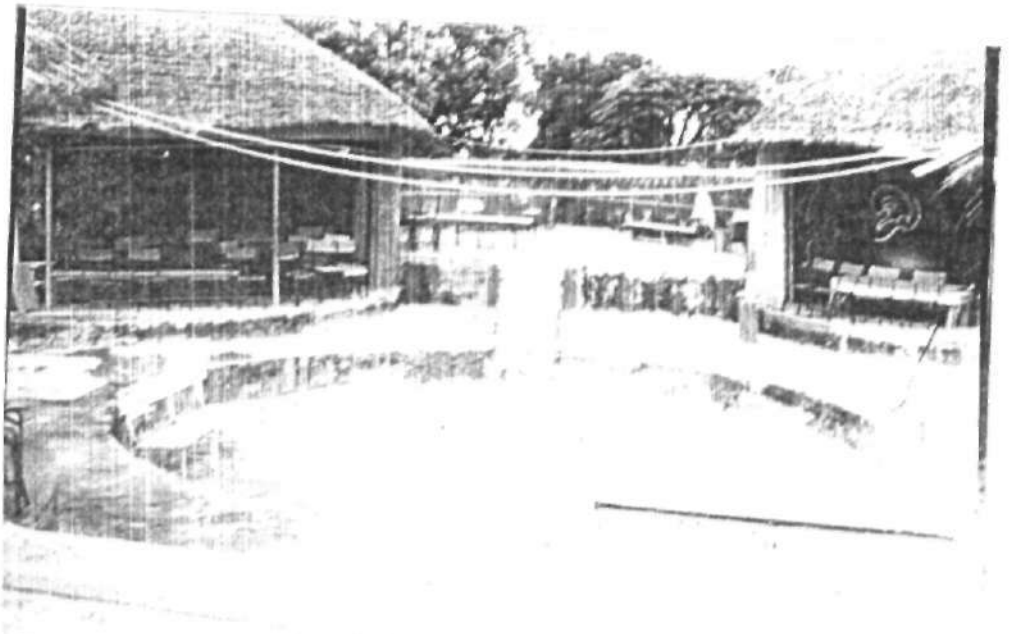


Plate XXV Asunken Arena stage

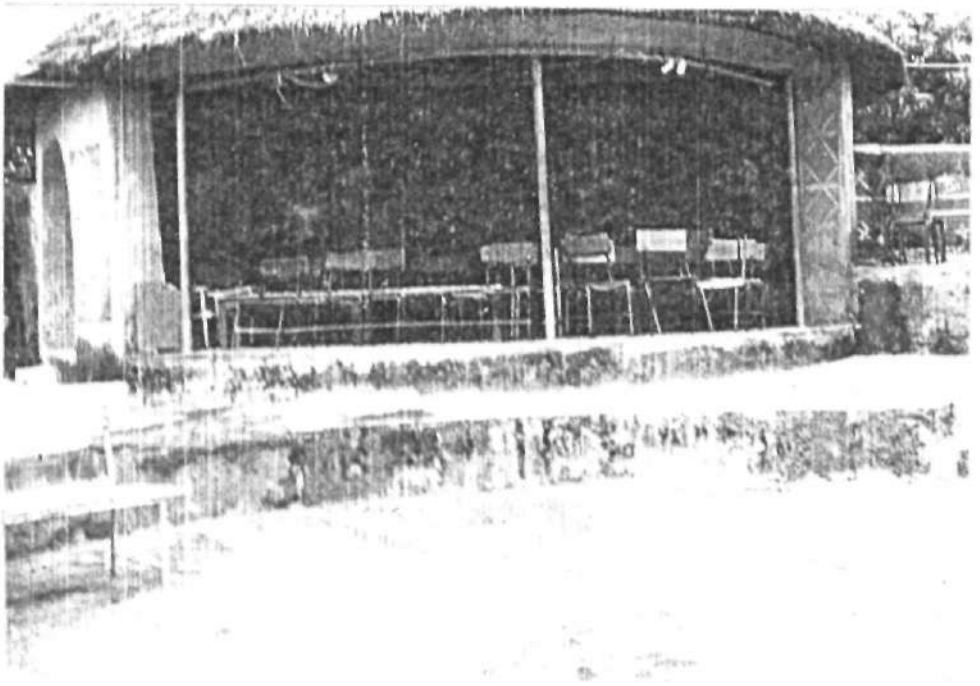


Plate XXVI Informal audience seating area

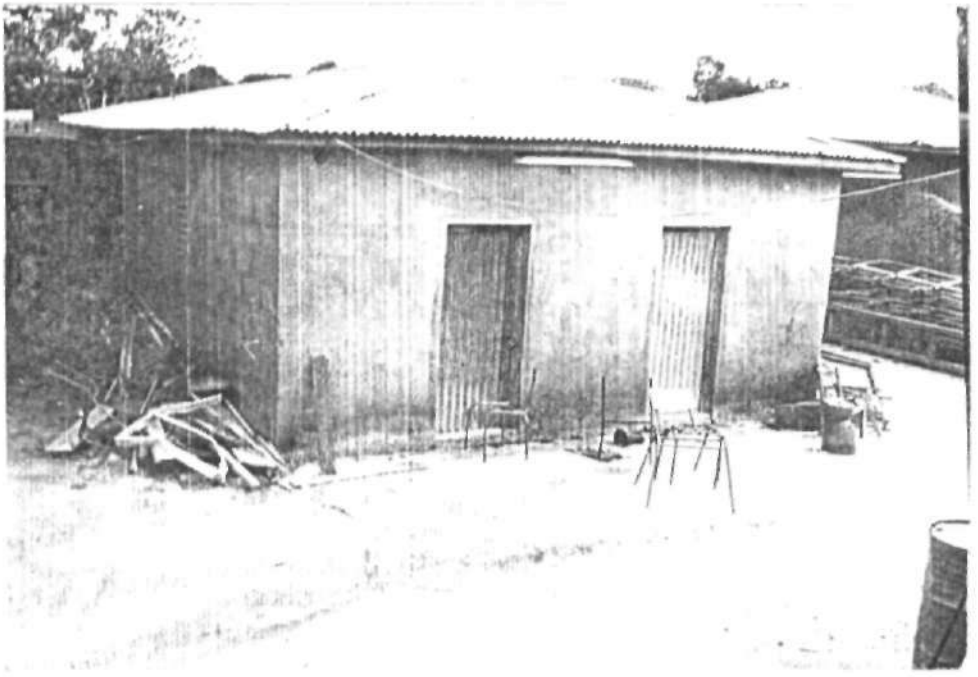
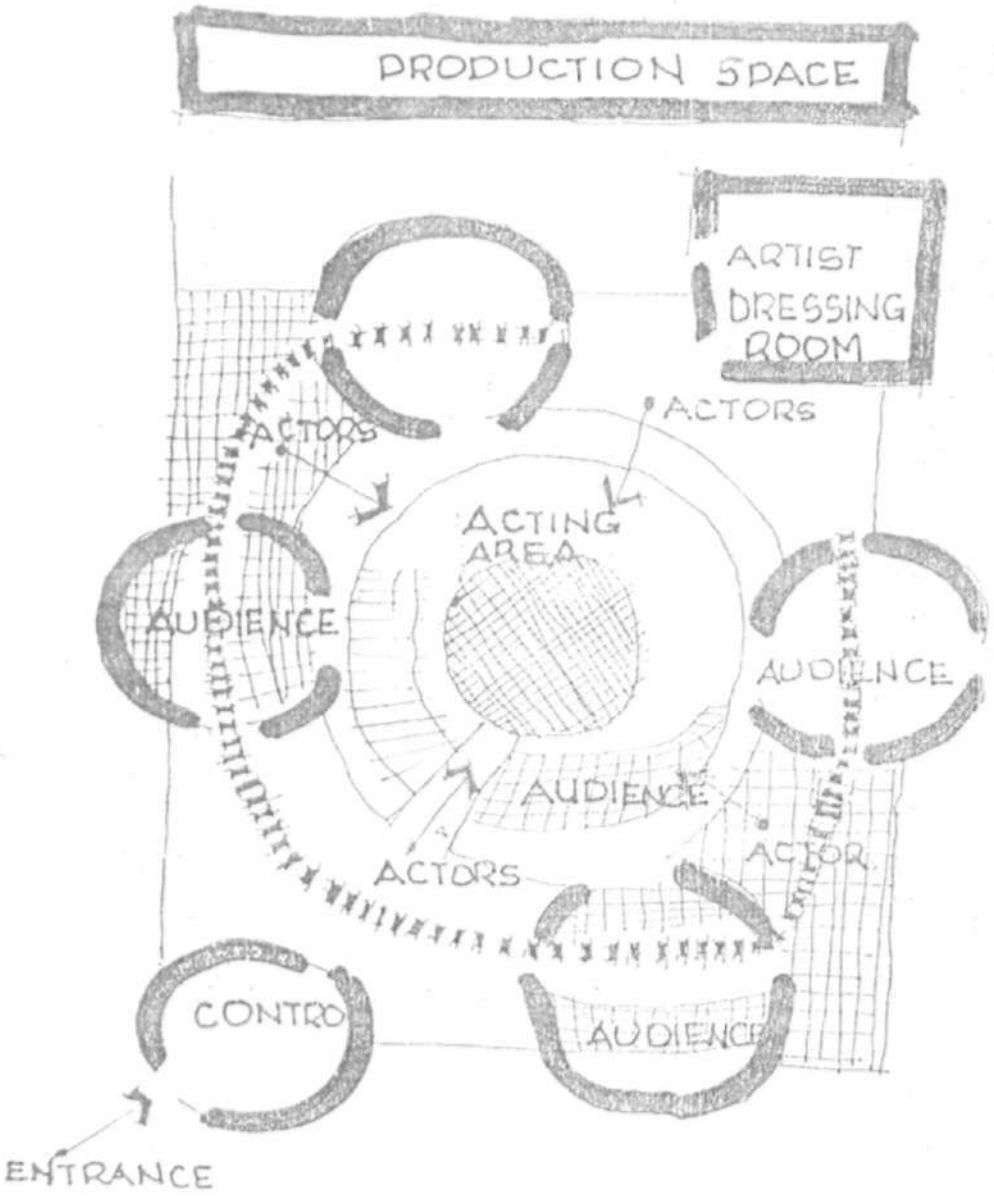


Plate XXVII Artists, changing room



SCHEMATIC PLAN OF A·B·U DRAMA VILLAGE.

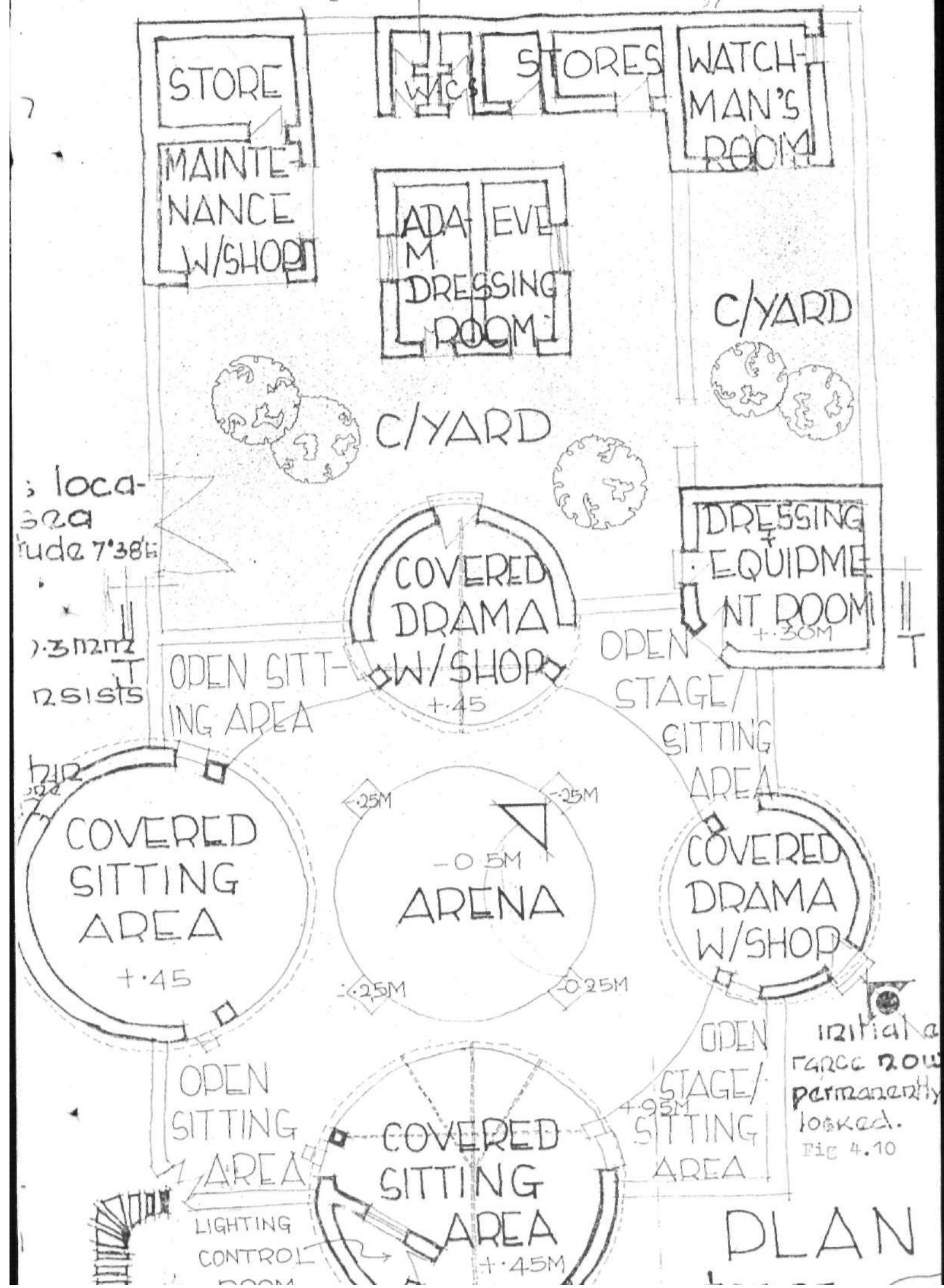
Fig 4.9

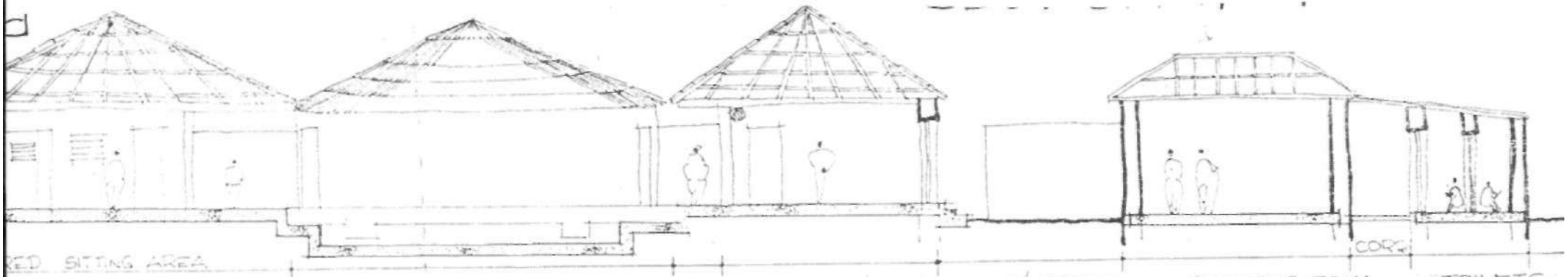
4.2.6 Construction

The initial phase of the project consists of the performing area while the latter addition includes the back stage facilities. Coupled with this is the non-durable nature of the materials used for the first phase which is responsible for the difference or clash in building materials.

The studio walls were constructed with 'tubali' (mud bricks) which are made by digging up mud, mixing it with water and grass, and made plastic by churning. Hands are the used to mould conical balls out of this plastic mixture to form the 'tubali' which are set in place with mud mortar and allowed to set in the sun before placing the next mortar. The walls were later plastered with cement and finished with murals and decoration.

The roofs consist mainly of thatch with later parts roofed in zinc. The framework of the thatch roof is made on the ground and lifted into place. The lowest tie is anchored onto the mud surface using metal strips passed over them and burried in the mud wall. Grass wooven into sheets are placed over the frame work and tied to it with ropes. The peak of the roof is covered with a specially made grass mat, and tied at the base with ropes.


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Fig 4.10
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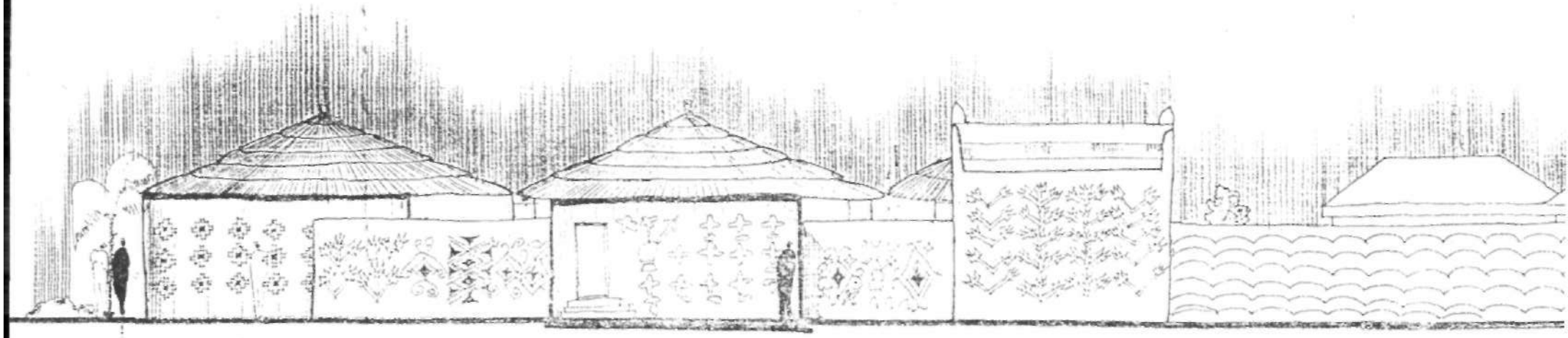
SECTION J-J

Fig 4.10a



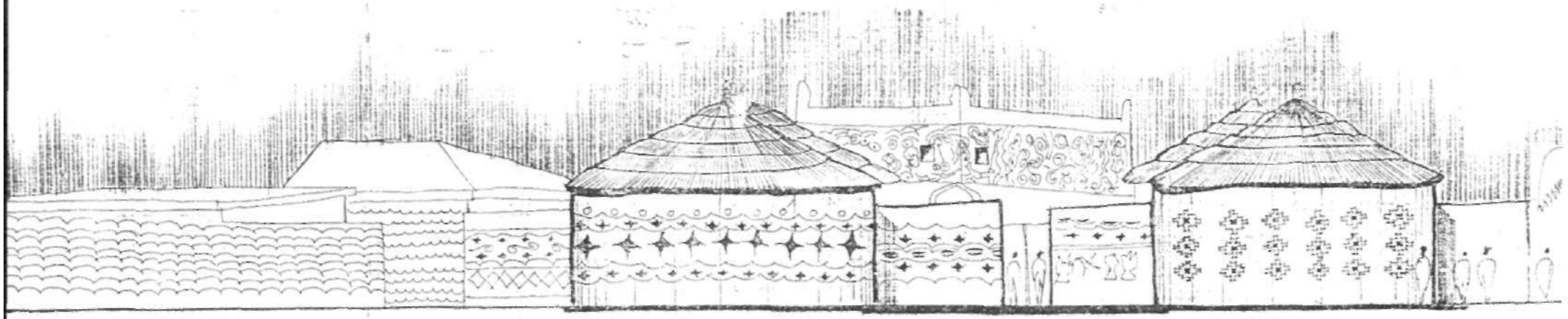
SECTION T-T

Fig 4.10b



APPROACH FAÇADE

Fig 4.11a



SIDE FACADE Fig 4.11b

The heavily decorated entrance into the 'soro' is made of two intersecting arches which are corbels of palm wood (rafia branches) azara cantilevera) over each other and tied together with grass ropes and then covered with mud to form the frame over which more azara was woven and finally covered in mud.

The floors are made of reinforced concrete with the arena stage flour screed to drain towards a central hole which is in turn drained by an under floor pipe. The base of the mud walls were placed as far as possible from the ground to prevent erosion of the base which could lead to eventual collapse of the walls.

The round huts consists of large openings overlooking the central stage which were initially spanned with thick eucalyptus logs and have since been replaced with reinforced concrete ring beams supported with steel poles as a result of sagging experienced by the logs.

4.2.7 Proclamations and Declamations

The nature of the materials used requires constant maintenance in order to last longer and the open air nature of the stage is often threatened by bad weather as such theatrical performances are often disrupted

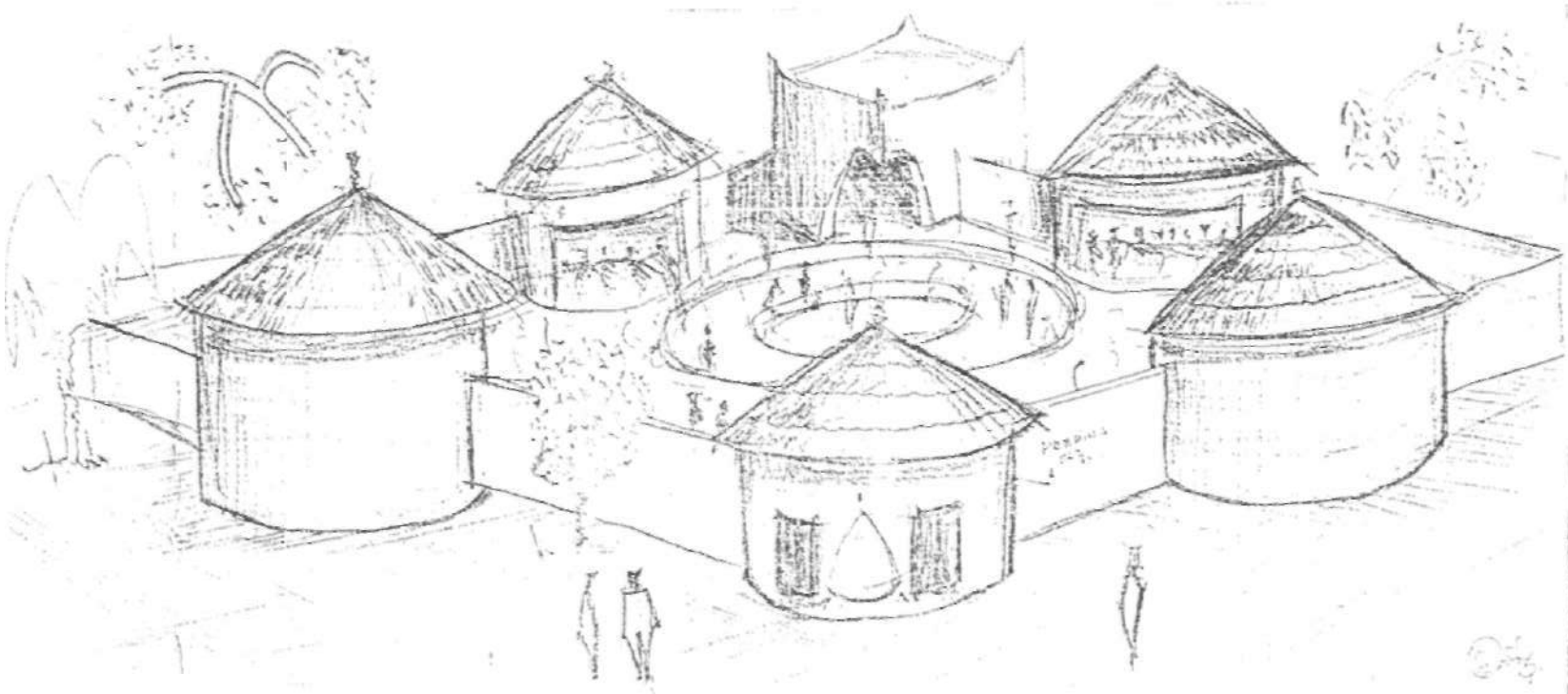


Fig. 4.12

ARCHITECT'S IMPRESSION OF A.B.U. STUDIO THEATRE

during the rainy season. The effectiveness of the studio is also hindered due to the single entrance/ exist which does not allow for effective circulation.

The design boasts of a high audience-actors relationship through the use of informal theatre spaces.

4.3 National Arts Theatre, Iganmu Lagos.

4.3.1 Historical Background

This multi-purpose complex was officially commissioned in 1976 to serve as the major venue for the 2nd World Black Festival of Arts and Culture (Festac). The project sponsored by the Federal Government covers an area of about 22000m^2 and a height of about thirty one meters.

4.3.2 Site Location:

The national theatre, situated within the Lagos metropolis, is boarded on the western end Iganmu side by Wateco, and by water on the eastern end. The site is a reclaimed land which used to be a lilly pound.

4.3.3 Scope

The complex has the following facilities.

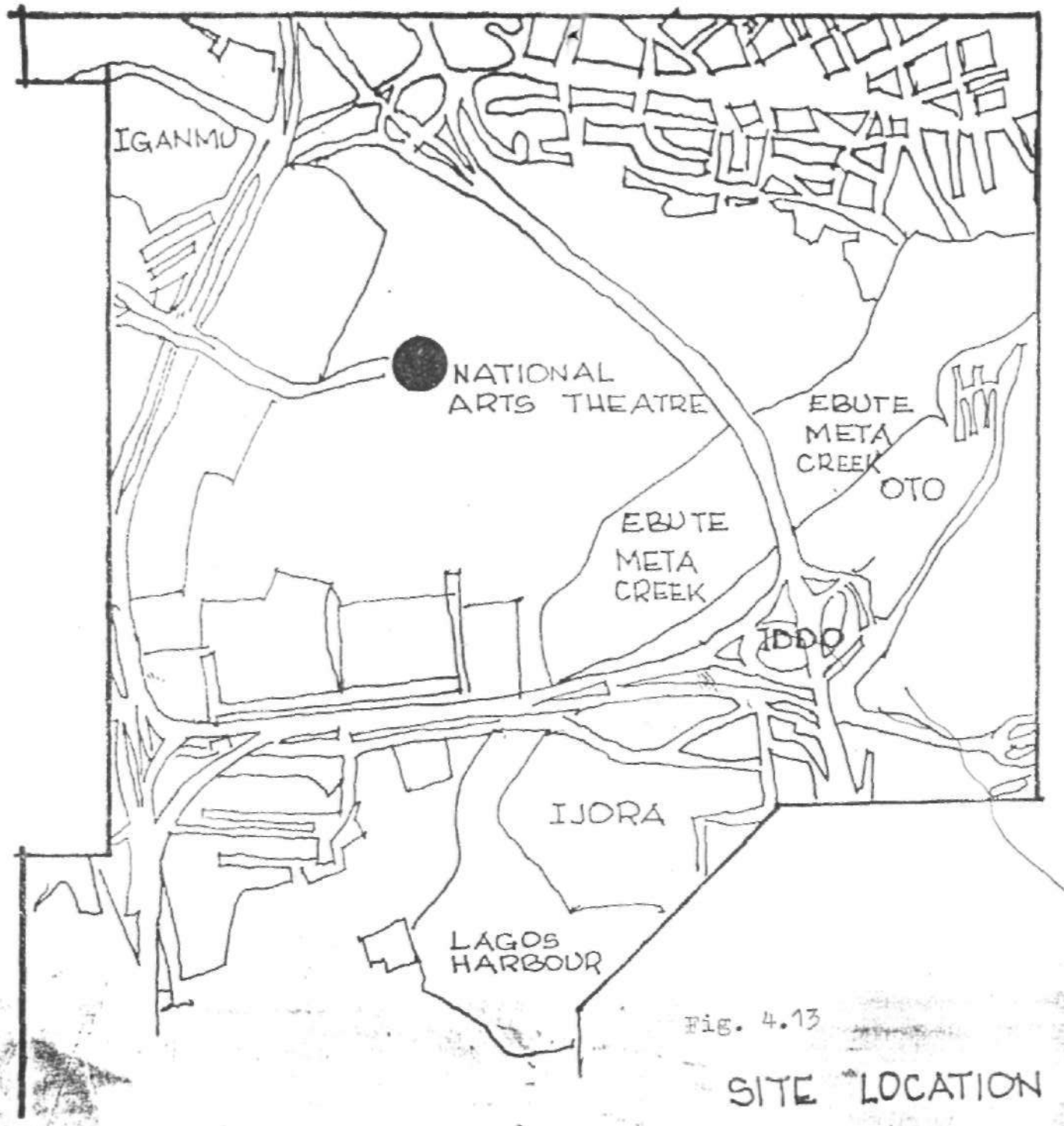


Fig. 4.13

SITE LOCATION

A Main Hall

This hall has a seating capacity of 3,500 when used in the proscerium arrangement and 5,000 when used as theatre in the round, which is made possible by the use of a revolving stage. The seating arrangement is on three different levels, which depend on the category of ticket. Though essentially designed for concerts, it could be converted for indoor games, drama etc. Access into the hall can be from either of the four entrances while exits number up to seven, each about three and a half meter wide. Facilities available within this hall includes 16, 35 and 70mm projectors, interpretation booths and cubicles, radio and video communication room, and sound and lighting room.

B Conference/Banquet hall

The hall has a capacity for 1,200 people with an area of about 1,800m^2. It is designed to host activities such as symposia, conferences, musical shows etc. The hall is equipped with seven language interpretation booths and a prosecenium kind of stage.

C Cinema Hall(s)

There are two cinema halls each with a capacity of 676 audience. The halls are equipped with 16, 35 and 70 mm projectsors and are occasionally used for drama, meetings etc.

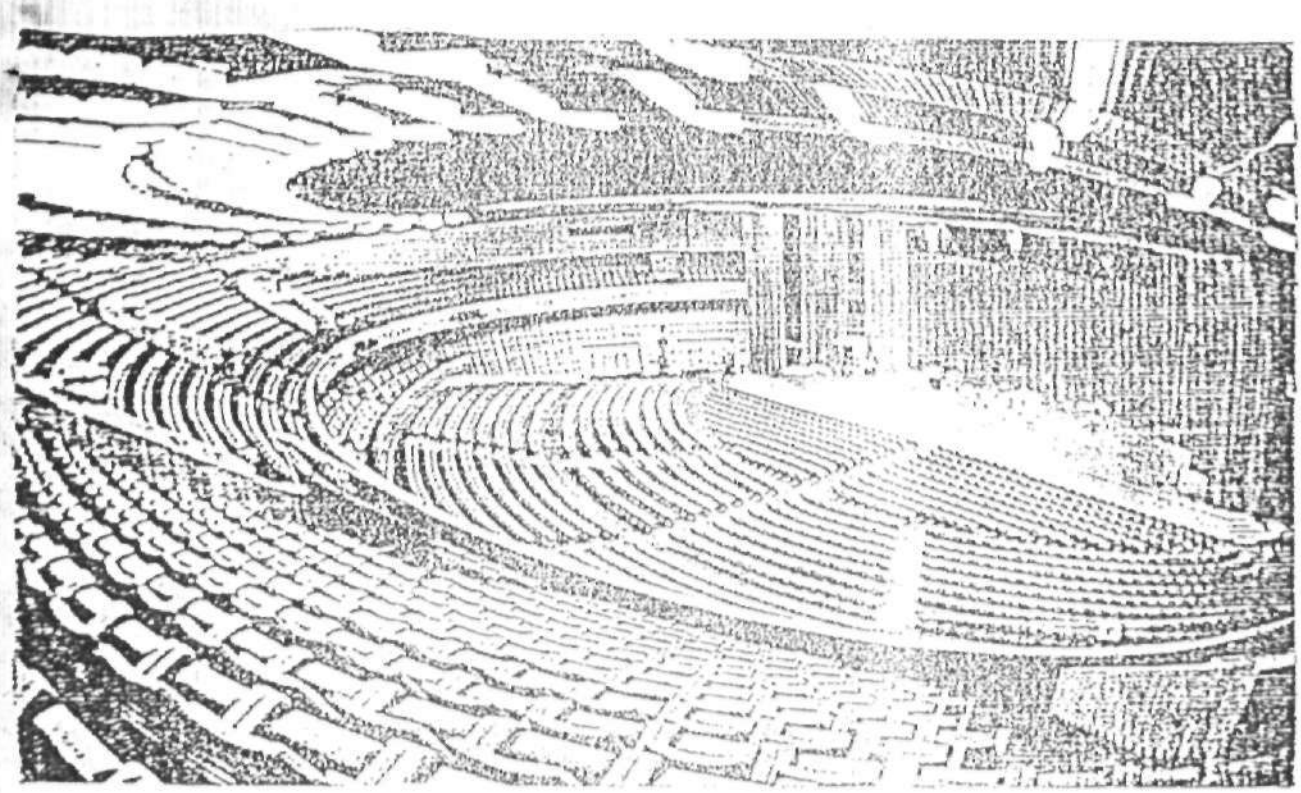


Plate XXVIII - Main hall

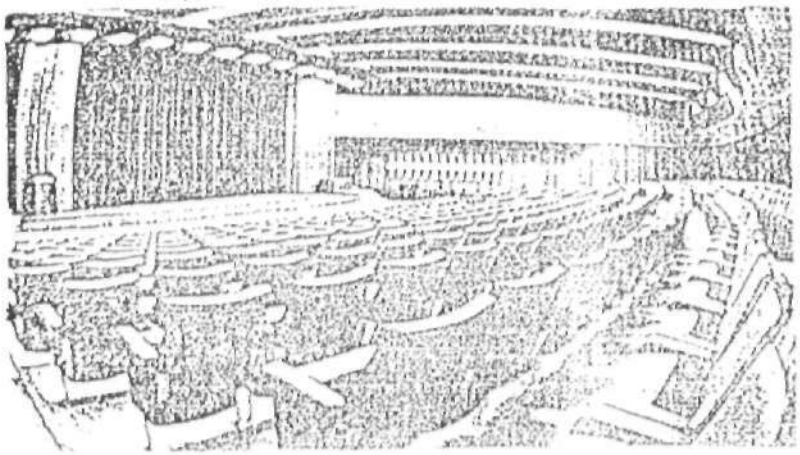


Plate XXVIV - Cinema hall

D Exhibition Halls

There are two exhibition halls each about 1800m^2 with one of the halls permanently used by the center for Black and African Arts and Civilization while the other is used for exhibition of goods made in Nigeria.

E National Gallery of Modern Art

This is situated between the entrance B lobby area and the foyer of the theatre and it functions as a museum for art works of Nigerian and black artists.

F Press Conference Hall

The hall is designed to seat 80 people for press briefings and meetings and is equipped with electroni gadgets such as close circuit television, telex machines, typing pool etc.

G Entrances

There are four major entrances which are highlighted by ramps. Entrance A - is the V.I.P. entrance which bears the coat of arms. Entrance B and D are public entrances depending on the category of ticket. Entrance C leads to the artists dressing rooms.

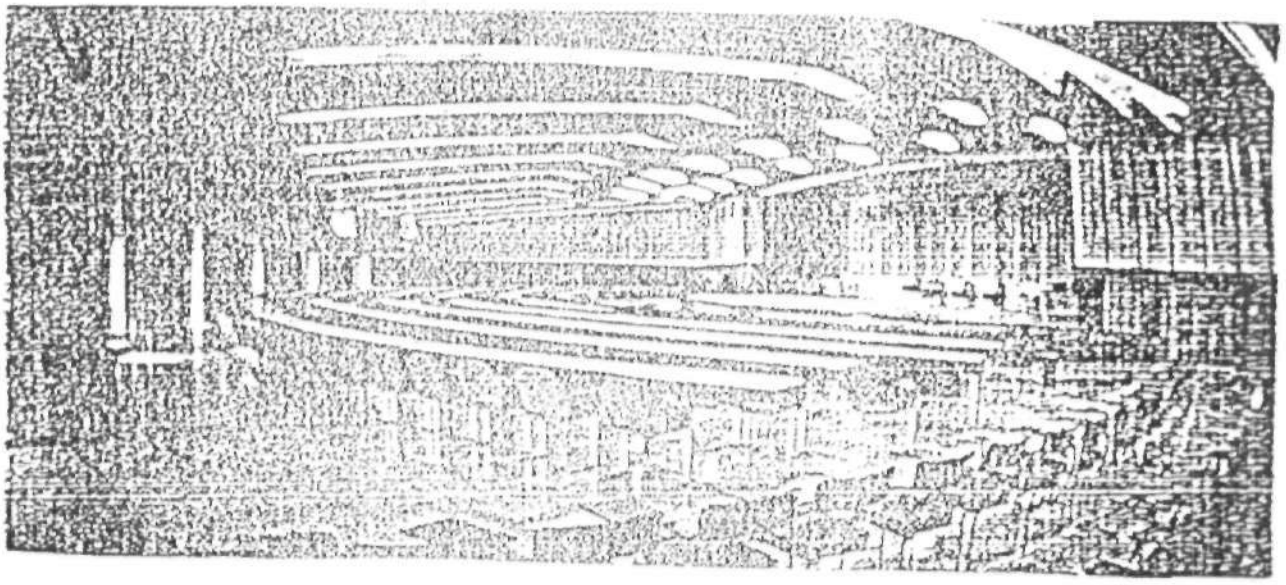


Plate XXvv - Press conference center

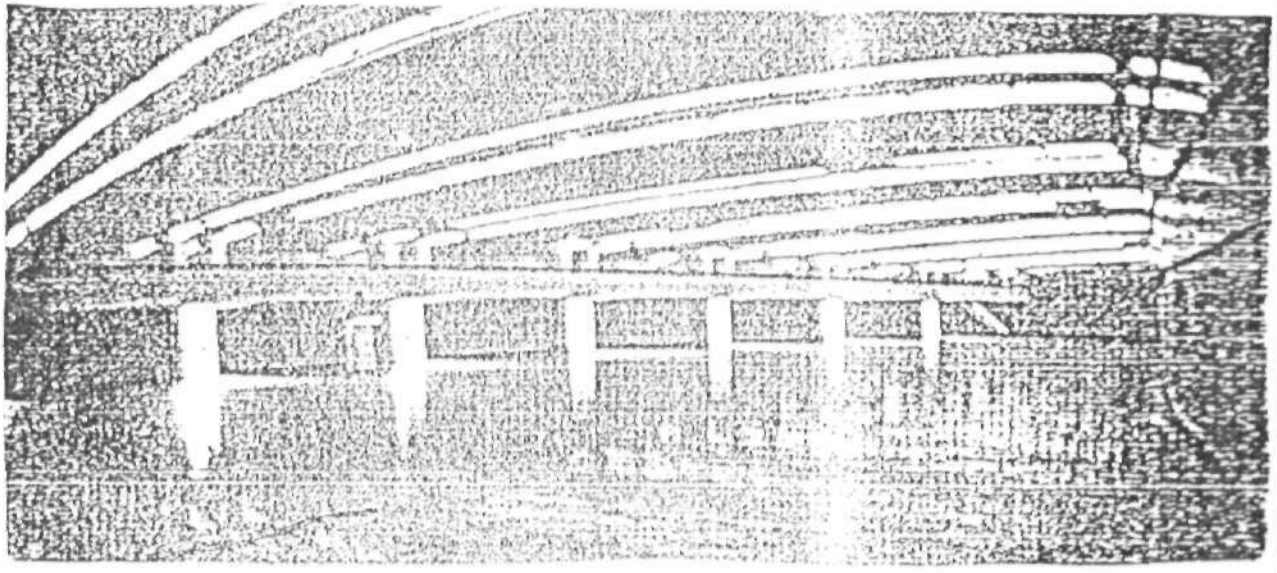


Plate XXvvi - Exhibition hall

H Maintenance

This department is divided into sub-departments namely electrical, mechanical, electronics, machine shops, plumbing, refrigeration and airconditioning, painting and automible. These departments are jointly headed by a chief technical officer.

Other facilities in the complex include foyers which are now hired out for exhibitions, snack bars and stores which are located near the box office and are hired out to interested parties; storage facilities which are situated under the ramps, restaurant and kitchen, clinic offices, banking services, box offices dressing rooms and travel bureau.

4.3.4 Design Concept

The functional requirements evolved a radial function with the main bowl as the focus and other functions arranged on the periphery with the two axes serving as the pedestrian and vehicular access. The visual concept employed is the form derived from the army cap which is allien to African culture which this theatre is supposed to promote.

4.3.5 Construction

The complex consists of 12 split floors supporte by 2,500 piles while the ramp at entrance "A" is supported by 500 piles. The overall plan is spherica

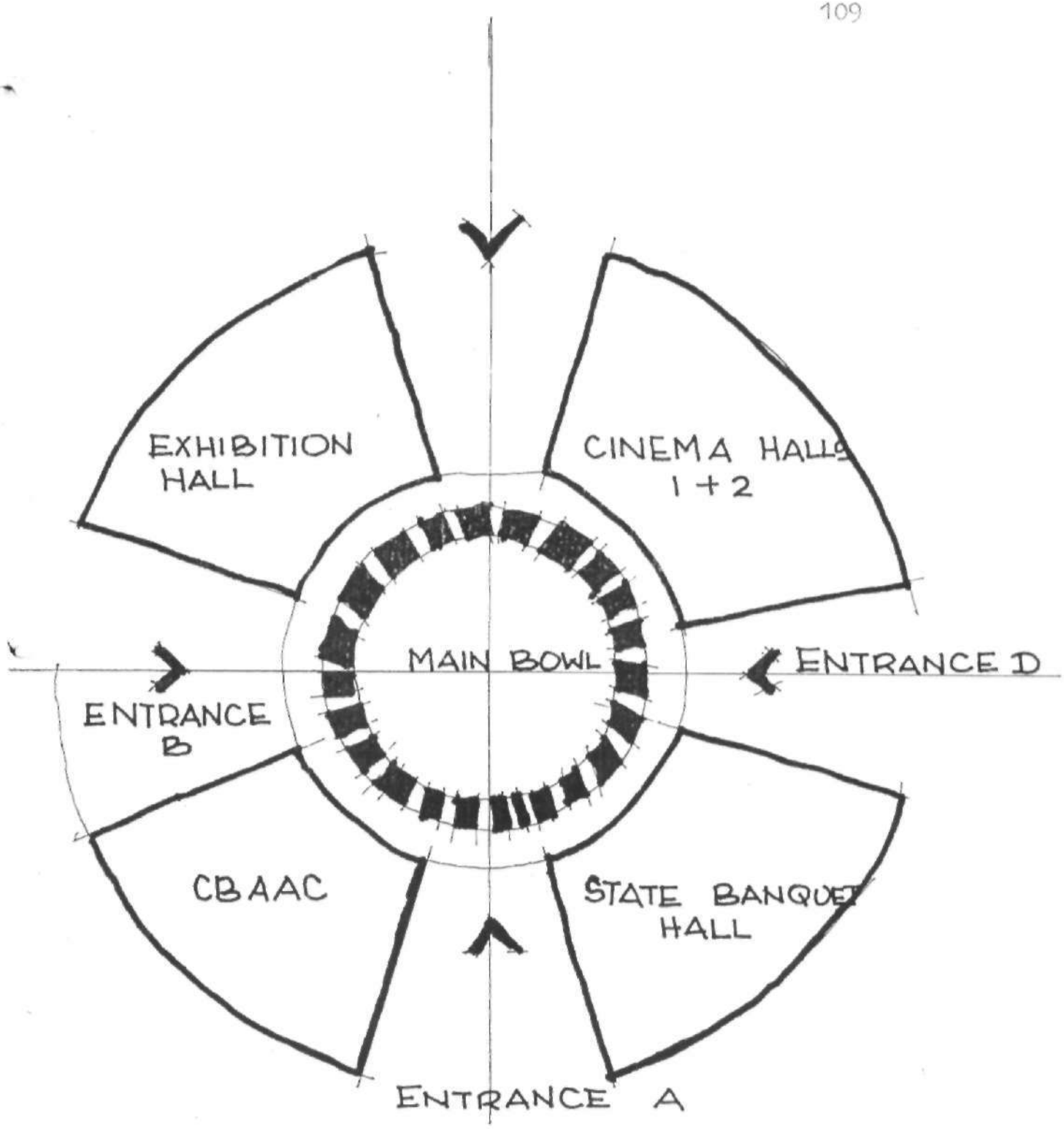


Fig 4.14 Schematic plan

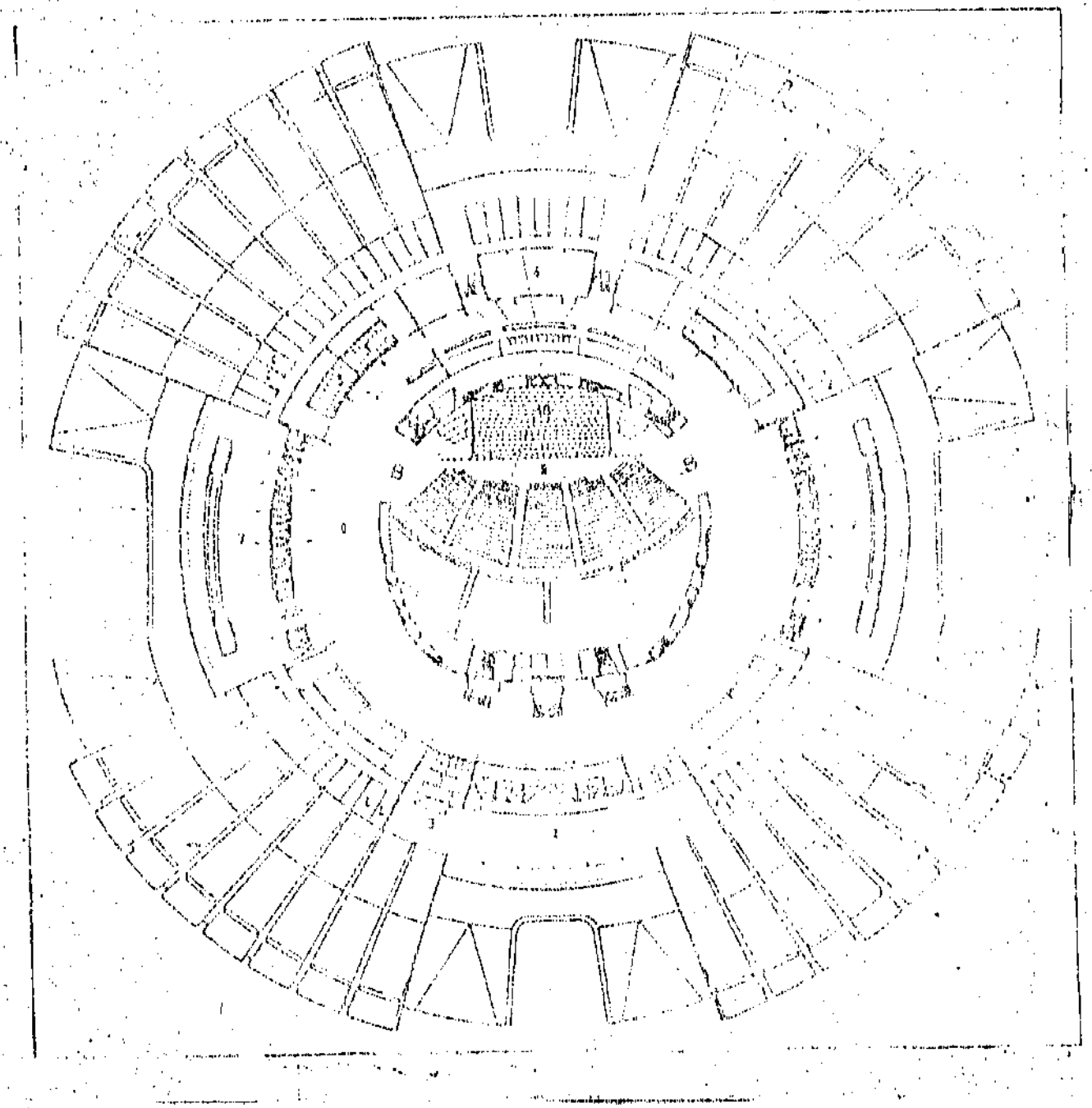


Fig. 4.15 Floor plan

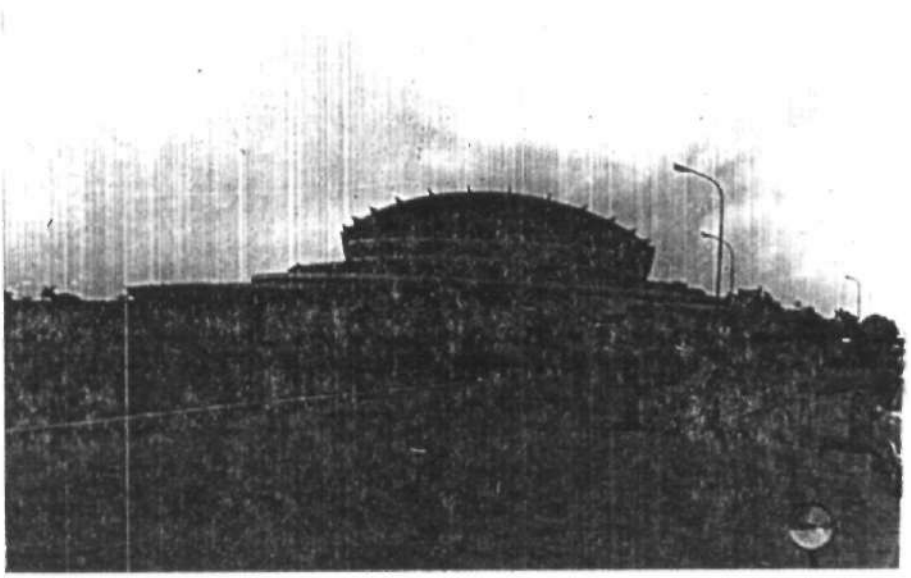


Plate XXVVII - Approach

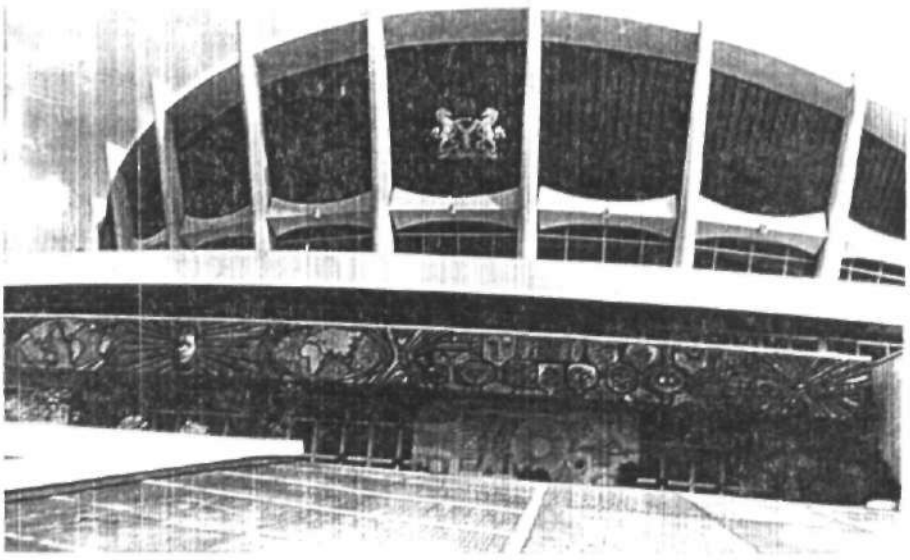


Plate XXVVIII - Entrance A

re Iganmu, Lagos.

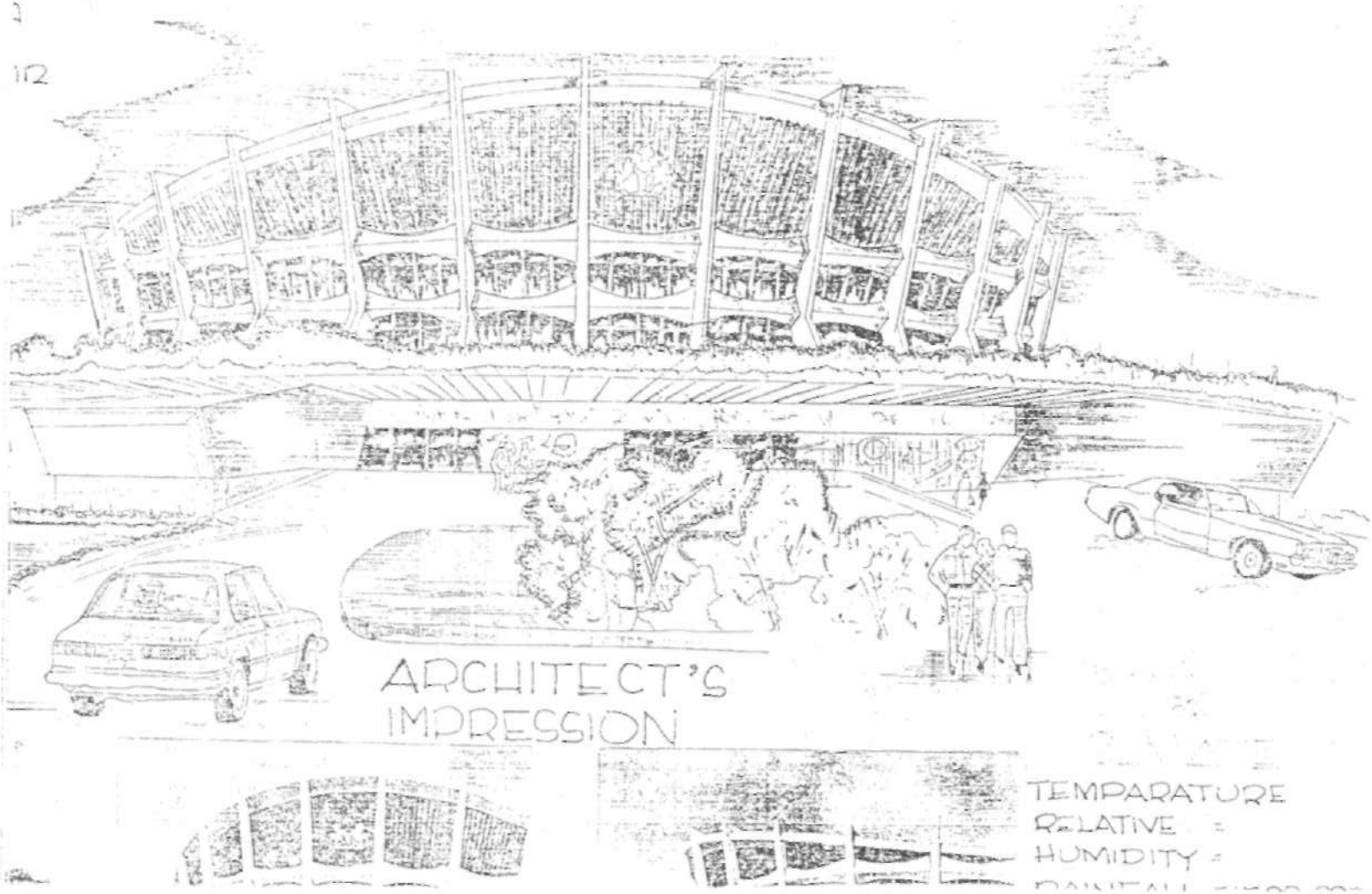


Fig 4.16 Architect's impression

synclastic
in shape with a shell roof anchored to the edges by cables which are in turn supported by phylons. Precast concrete and glass are the chief materials used for the design which is rumoured to have been lifted from Bulgaria.

Proclamations and Declamations

Due to the design's sole dependence on artificia ventilation, the complex has lost patronage as a result of the breakdown of the central air conditioni system.

The success of this design is in the designer's innovative transformation of an army cap into a building form, though the visual impression does not tally with the functional spaces.

Conclusions

The issue of space requirements in theatres affect one of the most important aspects of tradition theatrical performances - Audience participation. All the above theatres with the exception of the A.B.U. studio theatre have failed in this aspect due to the nature of the seating arrangement which hinders any form of audience participation. The A.B.U. studio theatre's success in this aspect can be traced to the provision of informal, flexible and

uncommitted theatre spaces which might not yield the same positive results if applied on a larger scal It therefore follows that in addition to the nature of the stage provided, the seating arrangements in theatres have to be well analysed in order to completely enhance audience participation.

5.0 THESIS SITE AND ENVIRONS

5.1 Site Selection Criteria

In the search for the most suitable site for this project, certain factors have been used as guidelines. These are:

(a) Accessibility:- The nature of the project requires constant patronage and its location shall seek to enhance maximum usage. This can be made possible by centrally locating it within the community so that it will be accessible to the most number of people. The bulk of people in Katsina reside within the old city wall and the most logical place to locate the project is within this wall but the fast developing nature of the town has/neccessitated the use of one of the two proposed development areas, where a greater support population is anticipated.

(b) Environmental Factors - These are in the form of soil characteristics such as drainage, stability etc. There is also need for enough land and space for effective circulation which is scarce within the city wall.

(c) Zoning - This is in relation to adjacent properties and in accordance with the master plan proposal for location of cultural facilities.

5.2 Location and Character

Katsina is located in the extreme north of the northern Nigeria less than 40km to the boarder with Niger Republic. The town lies on Latitude $12^{o}58'N$ and Longitude $7'45^{o}E$ at a height of about 500 meters above sea level. The town is situated on a spur of land between two water courses namely the 'KORAMAR GISU' and 'GORAMAR TILLA', which flow in a north easterly direction. The site for the proposed center is located on the south western part of the town with an area of about $90,000m^2$

5.2.1 Geology

The geology typical of Katsina, is underlained by sedimentary rocks of cretaceous age, comprising the Gundumi formation. Lithologically, they consists chiefly of course, purple and moffled, feldsphathic grifts. Impersistant interrelations of blueish and purplish clays are occassionally present in the grifts, while bands or horizons of quartz pebbles are common at certain levels. The sediments rest on an uneven floor of pre-Cambarian basement complex rocks although in general, they dip at a low angle to the north-west. Inliers of the basement complex rocks can be seen at several localities in the valley of the Koraman Gisu, these rocks consists of coarsely crystalline, porphyritic granites and granite gneises.

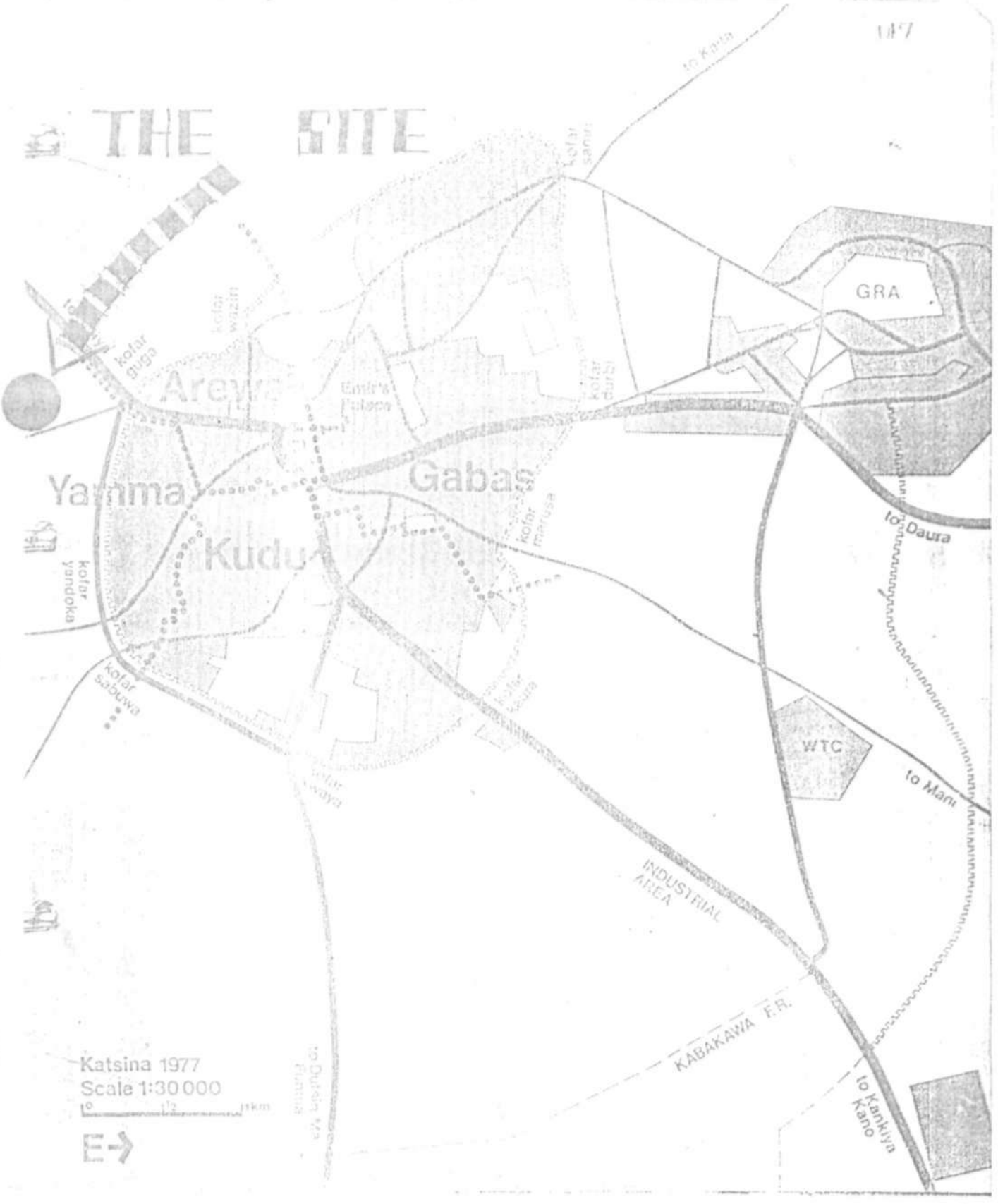


Fig. 5.1 Site Location

Source: Katsina Master plan

5.2.2 Soil Type

The soil comprises transported sandy or loamy materials overlying rounded quartz pebbles and clays derived mainly from the weathering of cretaceous conglomerates. The soils are often quite permeable and this explains the existence of very few streams in the area. The profile characteristic of the soil is dependenat on the permeability of the underlying rock. Generally the lighter textured soils lie on higher slopes, where they are better drained, while loamy soils lie on the lower slopes. The top soil of the whole region is sandy in nature and non-homic. This is probably due to the extensive local drifting of material during the dry season. All the soils are generally easily cultivated except in areas of shallow doposition where pebbles tend to impede cultivation. However, the top soils tend to dry out quickly.

5.2.3 Vegetation

Katsina lies in the Sudan-Savannah region with the type of vegetation which consists of some stunted trees, such as cacia, dumpalm and boabab which are all adopted to the dry environment. These trees grow to an average height of 6m with a foliage of about 15m. The trees described are scattered over the site and some other tropical trees have been selected as part of the project's landscape scheme. The features of these trees are given below:

(a) Neem (Azadirachta Indica)

This belongs to the mahogany family, has a densely wide spread crown, and grows to an average height of 5.3m. It attains a height of about 16m at maturity.

(b) Savannah Mahogany (Khaya Senegalensis)

Because of its water requirement, it is best grown around the valley and long heavy plain where the water table is high.

(c) Eucalyptus (Canal dulensis)

This has a vertical crown, and grows slowly for variety.

(d) Tecoma.

It has yellow flowers and large leaves and grows to a height of about 2m at maturity.

(e) Bourganivilla

This behaves as a shrub and a climber having pink and red flowers. It grows to an average height of 2m.

(f) Delomix (flame of the forest)

This has an average growth of 14m and a foliage of 14 meters.

5.2.4 Landform and Drainage

The town as earlier mentioned is built on a spur of land between two water courses the 'Koramar Gisu'



LEGEND

~~~ contours at intervals of 20ft

⟶ storm water run-offs

▬▬ Main Drainage Runs.

Fig 5.2 Landform and Drainage
~~~

and Koramar Tilla , and is at a narrow neck of the watershed between the Kada and Tagwai river basins. Just to the south and east of the settlement, another ridge runs from south-west (Katsina Polytechnic to north-east (women Teachers College and G.R.A.). To the south east, the land drains gently into the Tagwai valley (now damned at Ajiwa for water supply). The high water shed ridge that continues south ward is arid and barely supports the Barawa Forest Reserve.

The general direction of flow of drainage in Katsina is dictated by the ridge of high ground that runs from the water tank to the Emir's Palace. So flows are north west to the north water courses outside the city walls and south east to the eastern water courses outside the walls.

5.2.5 Hydrogeology

Katsina is located in a part of Northern Nigeria where the crystalline rocks of the basement complex (a poor source of ground water) have been over lapped by the drift deposits. There are no permanent or perenial streams in the area immediately surrounding Katsina. The Koraman Gisu only carries surface run-off water during the rains; permanent pools are however present in the Koraman Tilla stream bed. Ground water in the area is held mainly in the sediment of the cretaceous Gundumi foundation. The most

important feature controlling the distribution and circulation of ground water in this area is the existence of a buried granite 'ridge' in the valley of Koraman Gisu. However water supply for the town is from Ajiwa dam, which was built over River Tagwai, about 15 kilometers away from Katsina.

5.3 Climatic Data

5.3.1 Winds

Katsina experiences rain between the month of may and October. This period is regarded as the wet season which lasts for six months. The wind direction changes towards the south west between the months of April and October, and this is moist ladden and is characterized by storm. The average wind velocity around this period is 3m/sec and it has an implicatory effect on buildings whose roofs or openings are not properly placed.

The other prevailing wind, the north-east trade wind blows across the sahara between the month of November and April. It is characterized by dust and is dry, with an average velocity of about 2.0m/sec. which causes a lot of discomfort around this period. Effective landscaping is necessary so as to reduce the effect of dust.

5.3.2 Temperature

The mean maximum temperature is recorded in the month of April with a value of 37°C. Between the months of July and November, an average temperature of 25° is recorded while the lowest temperature is experienced when the north-east trade winds are blwing in November, December and January with a value of 15°. Adequate interior and exterior finishes should be selected to combat expansion/ contraction problems which arises from these seasonal changes.

5.3.3 Humidity

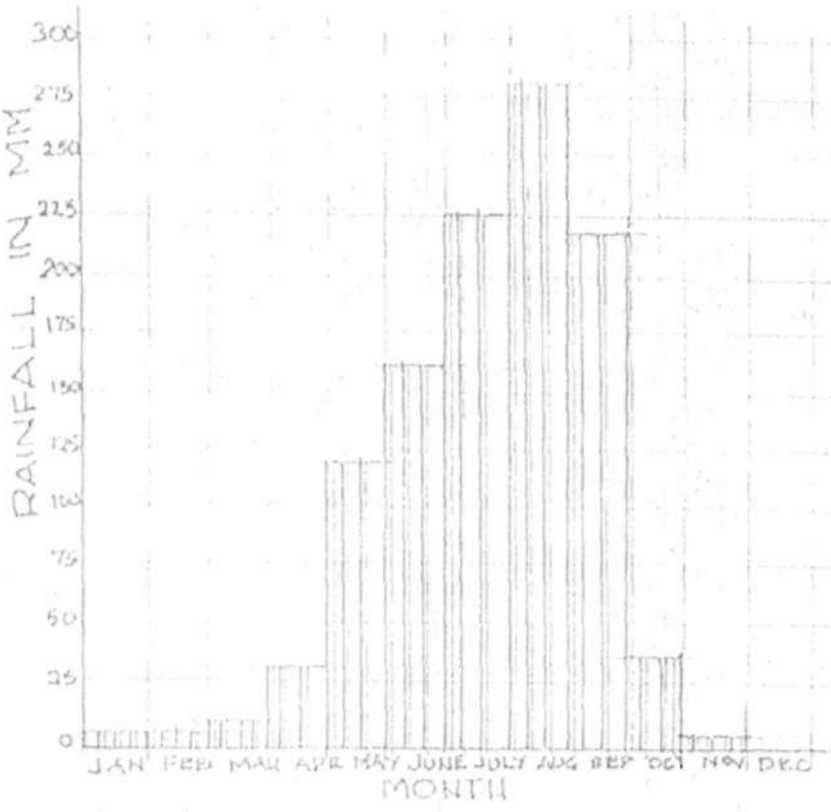
The month of August records the maximum relative humidity with a value of 80%. The value decreases to 20% around January. Actual a.m readings of 100% are not uncommon.

5.3.4 Rainfall

Much of the rainfall occurs as storm of a short duration but high intensity usually starting in June or July. During this rainy months, the south westerly winds are dominant and are heavily ladden with moisture. The rains produce zones of intense convectional rainfall which varies from 1950mn (46") to less than 700mm (28").

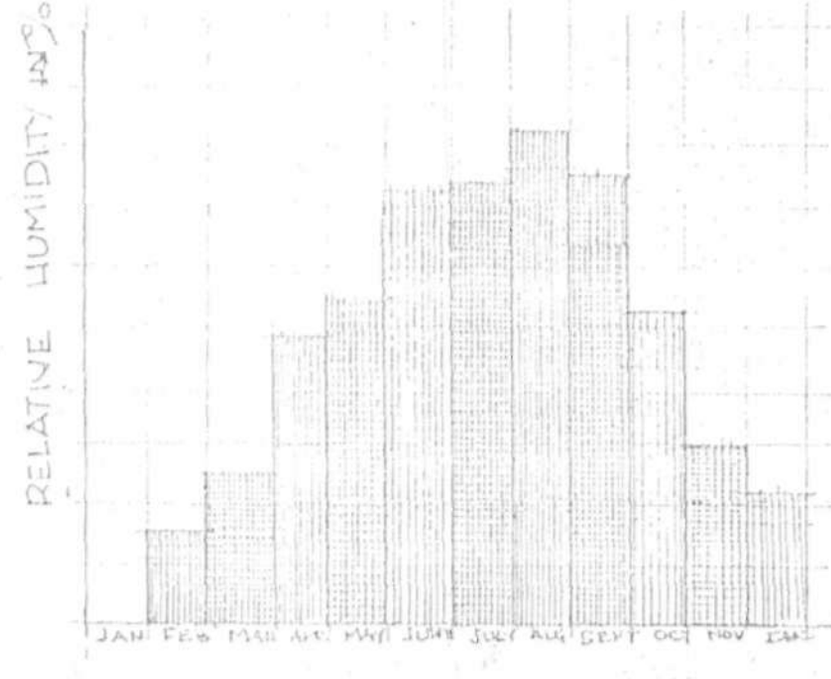
5.3.5 Sunshine Hours

Global radiation levels peak in February, March and October at levels in excess of 500cal cm^{-2} per



MEAN MONTHLY RAINFALL
KATSINA.

Fig 5.3a



MEAN MONTHLY RELATIVE HUMIDITY
KATSINA.

Fig 5.3b

SOURCE: KATSINA AIRPORT
METEOROLOGICAL DEPT.

day. The highest sunshine hours is recorded in the month of November with a value of 9.4, while the lowest value is about 5.2 recorded in August.

5.4 Site Attributes

5.4.1 Approach and Access

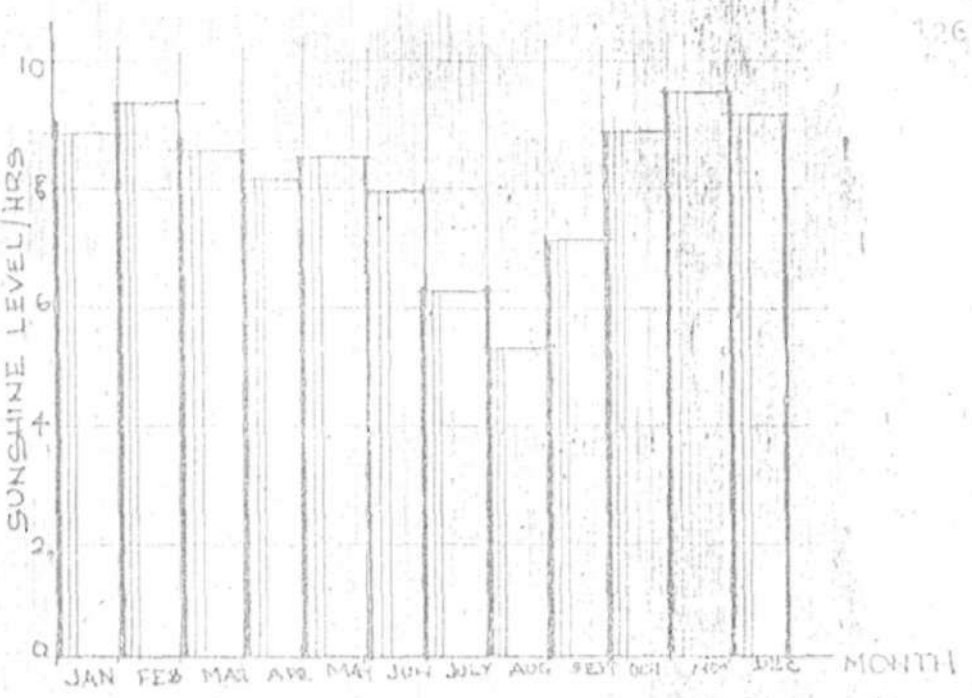
The site is approached from the walled city through one of the city gates - Kofar Guga and is bounded on the East by the Jibiya road , the north by the site for the propsed women Development Center and on the west by the site for the proposed School of Nursing. Access into the site can be tapped from the existing Jibiya road.

5.4.2 Existing Super Structure on Site

Presently, construction work is in progress on the amphitheatre which was proposed in 1988. The amphitheatre was designed to seat 2,800 spectators and the whole project covers an area of about 9,000m^2 with the proposed parking space for 200 cars covering an area of about 5,000m^2. he rest of the site consists of open grounds with patches of grass and a few scattered trees.

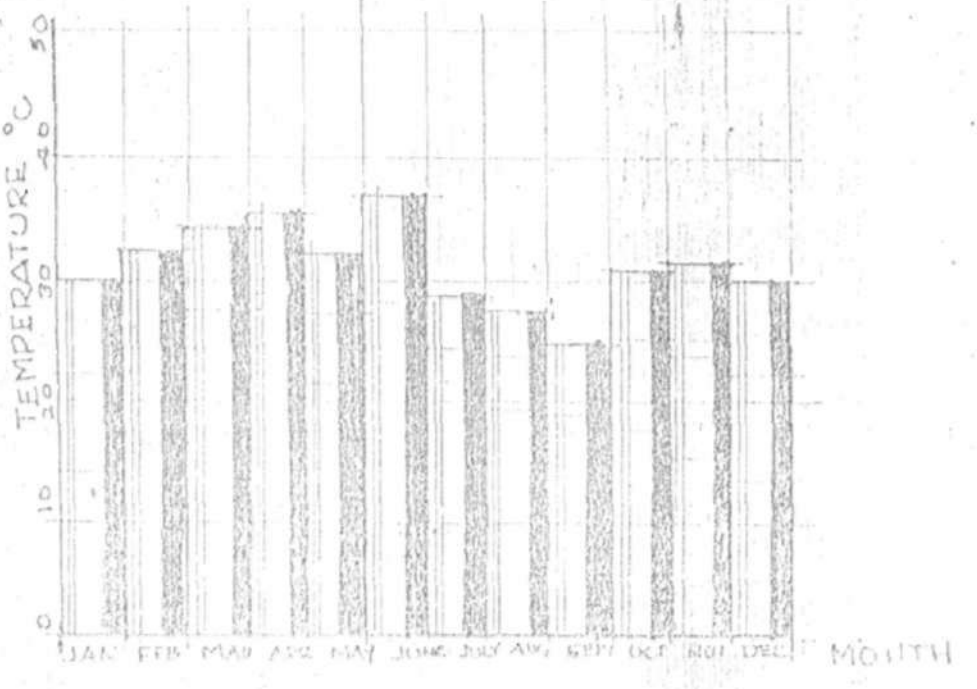
5.4.3 Services

(a) Water Supply: Though demands for water in a complex like this is minimal, there is still need for this provision and the site is expected to benefit



MEAN MONTHLY SUNSHINE HOURS, KATSINA.

Fig 5.4a



MEAN MONTHLY AIR TEMPERATURE, KATSINA.

Fig 5.4b

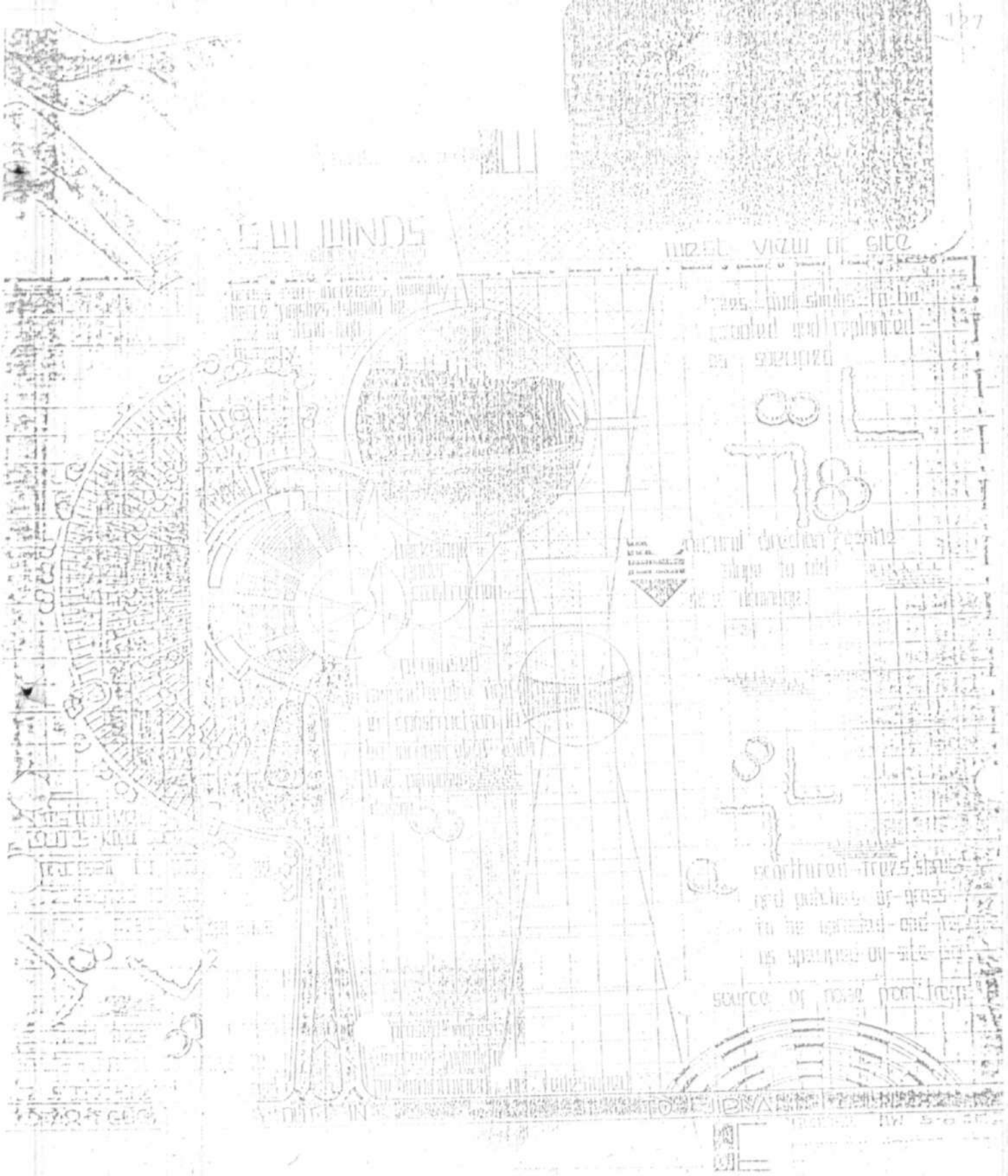


Fig 5.5 - Site Analysis

from the distribution network proposed for that area in the master plan.

(b) Electricity Supply

The complex's critical demand requirement for power supply is expected to be tapped from the National Supply Grid which passes infront of the site.

(c) Sewage Disposal

The site sewage disposal is expected to function with the proposed sewage system for that area at full development while expansions could be made to locate some sewage plants as population rises.

(d) Storm Drainage

The effect of storm-drainage on the site if not well tackled would create erosion, gullies and other form of land deformation as a result of the loose nature of the soil. To combat these chanels lines are proposed, coupled with proper landscaping.

5.5 Demography

The projected population for Katsina for the year 2,000 is estimated at 576,316. Deductions from this population projection is to find the labour force percentage who can afford to come to the proposed theatre which will be the most used facility on the proposed center. From master plan reports of 1977-78,

the active population in terms of labour force participation ratio is put at about 45% of the total population which is the required labour force participation for a community to run effectively. The high labour force percentage is attributed to female participation along side the men coupled with the structure of employment associated with low income levels which is expected to change with favourable economic situation. Looking at the income distribution (fig.) it can be deduced that the center when built will enjoy enough patronage due to availability of people who can afford to pay to watch theatrical performances. Also from the projected age-sex distribution table (fig.), it can be assumed that the bulk of the users will be aged between 10-65 for the simple fact that ages between 0-10 years will not comprehend theatrical performances while 65 years and above will be too old to bother with such performances. Hence the patrons of the proposed center will be aged between 10-65 years and this makes up about 62.6% of the total population which is assumed will remain the same by the target year 2000. This percentage accounts for the number of people capable of coming to the theatre given by

$$\frac{62.6}{100} \times 576,316$$

Assuming labour force to be 45% as stated in the master plan and assuming this is directly proportional to the population by the year 2000 hence

Percentage of people capable of coming to the theatre is given by

$$\frac{360,774}{576,316} \times 45$$

$$= 28.17\%$$

Therefore the number of people capable of paying to watch performances

$$\frac{28.17}{100} \times 360,774$$

$$= 101,630 \text{ people}$$

Assuming that at a particular time only 1% of this population will come to the theatre;

$$\frac{1.0}{100} \times 101,630$$

$$= 1016 \text{ people}$$

Therefore the capacity for the proposed theatre will be 1000 people.

5.6 Feasibility and Viability

Though the existing structure on site (the amphitheatre) would form the basis for most of the design decisions, there is enough land for effective intergration of the proposed center with the amphitheatre under construction without disrupting the proposed circulation routes or the physical structure.

	Dauma				Nathaniel	Malumfashi	Kani
0- 4	20.0	15.3	17.03	14.5	18.5	18.67	17.2
5- 9	16.7	15.0	15.61	17.4	16.8	15.73	15.5
10-14	9.4	8.1	10.72	12.1	11.4x	10.32	11.0
15-19	9.0	8.1	9.44	8.9	10.3	8.11	7.9
20-24	7.8	8.0	8.27	8.8	9.4	7.50	9.5
25-34	17.0	18.6	15.69	15.9	13.4	16.46	17.4
35-44	10.5	12.6	10.90	11.3	9.6	11.79	11.3
45-54	5.9	7.6	6.11	5.9	5.8	6.76	5.0
55-64	1.9	3.2	3.34	3.0	2.7?	2.58	3.7
65+	2.1	1.9	2.21	2.7	2.3	2.09	2.8

Table 1: Age Distribution

INCOME GROUPS	% OF POPN	% OF INCOME	CUMM. % OF POPN	CUMM % OF INCOME
VERY LOW	2·5	13·6	25	13·6
LOW	2·5	19·3	50	33·4
MEDIUM	2·5	24·1	75	57·5
HIGH	12·5	23·9	93·5	81·4
VERY HIGH	6·5	19·6	100·0	100·0

Table 2: Income Distribution groups

The site is also symbolic in nature as it is located along the route leading to the boundry between Niger Republic and Nigeria. It is envisaged that the location of the proposed center will further enhance the dissemination of culture between the Katsina people and their Niger counterpart.

CHAPTER SIX

6.0 DESIGN BRIEF AND PARAMETERS

6.1 Design Brief Space Analysis, and Schedule of Accomodation

The ultimate aim of the proposed cultural center is to promote and preserve the cultural heritage of the people of Katsina which is imbeded in tradition performing arts and crafts. The provision of facilities for these purpose shall therefore form the main core of the design.

The equivalent of the theatre house in precolonial Africa is the open field and certain traditional performances are not adaptable to the conventional theatre and this forms the basis for the provision of the open space tagged the cultural plaza to cater for such performances.

The proposal will contain the following faciliti

i) CULTURAL PLAZA - which is basically an open court to cater for different functions such as theatrical performances, relaxation etc.

ii) THEATRE - This will accomodate mainly traditional performances and other supporting facilities for it to function effectively.

iii) MUSEUM - which is saddled with the responsibility of preserving the culture in terms of crafts. The museum shall consists of exhibition spaces, museum and general information unit.

iv) CRAFT VILLAGE - This will cater for the production of artefacts common to the Katsina people. It shall incorporate smaller exhibition spaces and will be designed to function like a market place where artefacts could be bought, or repaired.

v) Other facilities for efficient co-ordination of various departments in the center will include an administrative unit, accomodation for visiting artists, catering facilities for artists and maintenance department to render technical assistance to the whole complex.

Space Determinations

The allocation of the right amount of space to every activity and function in a programme greatly determines the quality and efficiency of a design. There is the need to translate owner/users ideas into square meter areas of net usuable space and circulation and service space. Having denounced the fact that certain standards can not be adapted to the Nigerian situation, the allocation of spaces shall be mainly accomplished by visual surveys taking into consideration cultural background of users, and environmental setting. The safety standards specified in the applicable building codes are also to be considered in awarding square meter areas for enhancies, corridors, and staircases as they require certain

ANTHROPOMETRIC CONSIDERATION

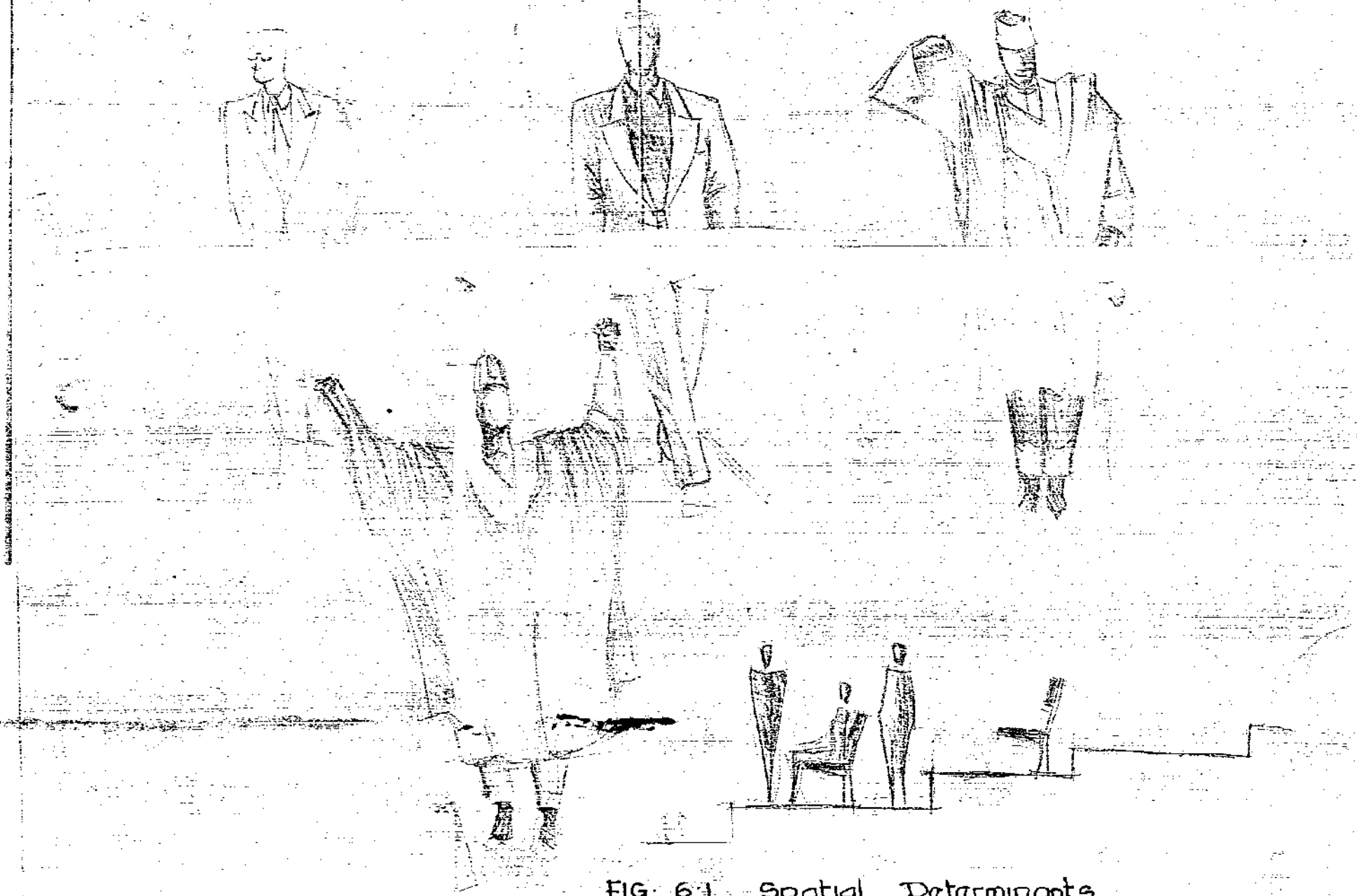
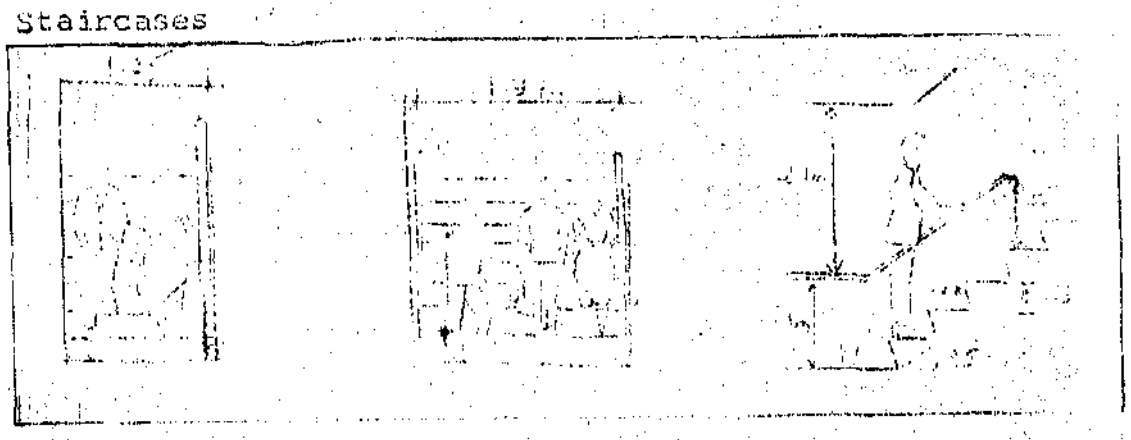
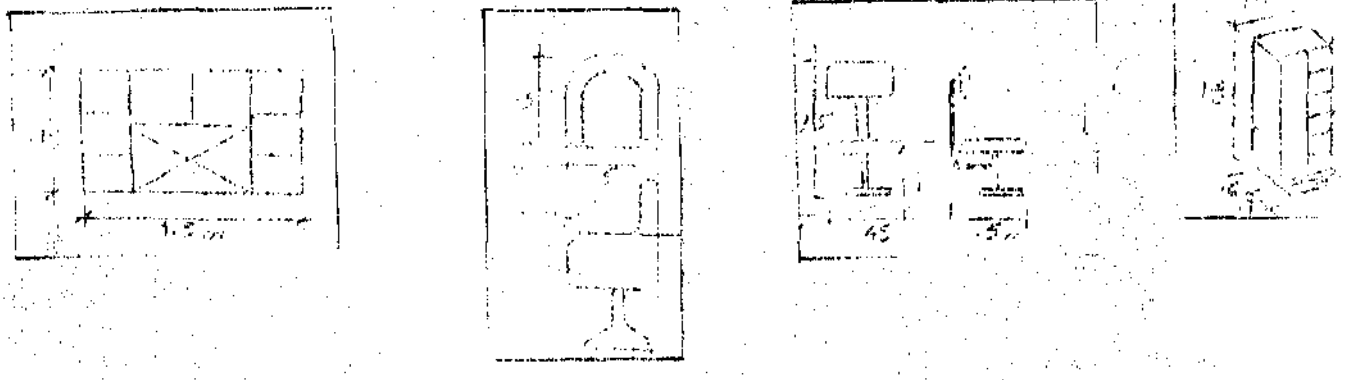


FIG. 6.1 Spatial Determinants

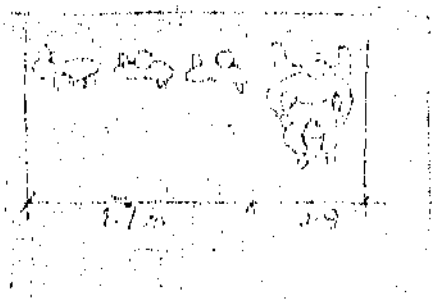
Staircases



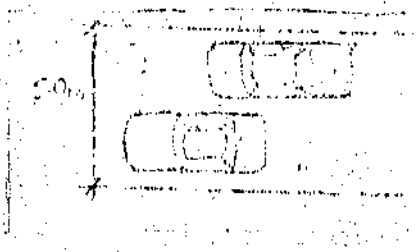
Office furniture



Pedestrian Access



Vehicular Access



Toilets

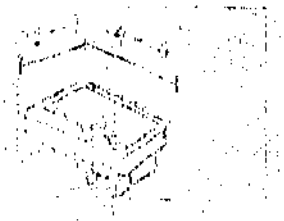




Fig 6.2 Spatial determinants

minimum dimensions to secure safe egress for the number of occupants they serve.

A. Theatre Spaces

Capacity = 1000 people

Area per person = area of seat = 0.5 x.85 = .425m^2

Area for 100 people = 425 x 1000 = 425m^2

Due to high activity of audience as established in chapter 2, assuming 75% circulation = 319m^2

Total area = 425 + 319

= 744m^2

Stage: size of stage is determined by the area occupied by the dance with the largest troupe as established in chapter 2.

= 100m^2

Foyer: Area is based on the capacity of Auditorium and the peak hour demand.

Assuming 30% of capacity of aduditorium

$\frac{30}{100}$ x 744 = 223m^2

Box office: Area for selling tickets; to contain personnel and some furniture fittings

Area = 25m^2

for 2 box offices

Total = 50m^2

Rehersal Room = 150m^2

Dressing Rooms: for male and female artists.

Each dressing room = 50m^2 (to accomodate 20 artists)

Total Area = 100m^2

Toilets ($2m^2$ per toilet) = 2x8 (1 toilet to every 5 artists) = $16m^2$

Showers ($2m^2$ per shower) = 2 x 4 (1 shower to every 10 artists) = $8m^2$

Lounge for relaxation purposes with area based on the capacity of the theatre. Assuming 40% of theatre capacity $\therefore \frac{40}{100} \times 744$

$= 298m^2$

Total area (2) = 2 x 29

$= 586m^2$

The lounge would contain toilets assuming 1 toilet to every 100 spectator area

$= 2m^2 \times 10$

$= 20m^2$

Total area for 2

$= 2 \times 20$

$= 40m^2$

Theatre manager office = $12m^2$

Production manager office = $12m^2$

Set-designing room/workshop = $30m^2$

Musical equipment store = $15m^2$

General store = $40m^2$

Lighting control room = $12m^2$

Sound control romm = $12m^2$

Shopping Areas

This area is part of the revenue generating source for the maintonance of the complex, thus lettable areas are provided on a standardised basis.

This unit is to contain standard furniture and a storage unit. The lettable area functions are

Tailoring	$54m^2$
Barbing	"
Bontique	"
Hair dressing	"
Insurance	"
Photocopying	"
Magazine/newspaper	"
Total =	$2538m^2$

B. Museum /information unit

Small museum	$100m^2$
Exhibition hall	$80m^2$
Repair workshop	$30m^2$
Photography lab	$30m^2$
Chief photographers office	$15m^2$
Audio-visual studio	$50m^2$
General office	$30m^2$
Printing/Binding room	$150m^2$
Chief Curator's office	$20m^2$
Archives	$20m^2$
General store	$30m^2$

Library (for 50) $100m^2$

Lobby/lounge (for 20) $30m^2$

Toilets (6) $12m^2$

Offices (4) $40m^2$ ($10m^2$ per office)

Total = $717m^2$

C. Crafts Village

The spatial requirements depend on the process of production as established in chapter 2.

Function	Space in M^2
Male cloth weaving	35
Female cloth weaving	25
Embroidery	15
Dyeing room	10
6 dyeing pits	9
Mat weaving	20
Basket weaving	20
Pottery	20
Metal work	30
Leather work	50
Wood carving	25
Basket carving/deco	25
Exhibition space	80
Store	50
Toilets (10)	20
Total	$434m^2$

D. Accomodation

The center is expected to play host to visiting artist and hence would be accomodated in the center. The accomodation is split into two male and female accomodation.

Function	Space in M^2
Reception/lobby	15
Lounge(s) for 10 people (2)	40
Hostel type bedrooms (30) 5 x 4, 20x30	900
Toilets (10) 1.5 x 10	15
Showers (6) 1.5 x 16	9
Clearner's room (4) 3 x 2 3 x 4	12
Restaurant (50) $2m^2$ per person)	100
Kitchen (assuming 33% of restaurant)	33
Store (assuming 33% of kitchen)	11
Games room (20, $5m^2$ per user)	100
Total	$1135m^2$

E. Administration

The spatial needs of the Administrative building shall be dictated by conventional office furniture such as desk, chairs etc and the structure of the building should be designed to meet a wide variety of organizational needs.

Function	Area in m^2
General office (2 typists, 2 clerks) $5m^2$ per person $5x4m^2$	20
Director of culture	30
Deputy Director of culture	25

Assistant Director of culture	25
Account's office	30
Publicity Secretary's office	20
Board room (30 people) $2m^2$ per person	60
Secretary to Director	20
Lobby (for 20 people) $2m^2$ per person	40
Head of performing arts	20
Cultural officer	20
Booking office	20
Toilets (4) 1.5 x 4	6
Store	20
Total	$450m^2$

F. Maintenance Services

In any establishment, where a number of mechanical and electrical equipment such as air conditioners etc. are used, there is need for maintenance of these equipment to avoid breakdowns etc. In view of this a maintenance section is proposed and is to provide the following services

Function	Space in m^2
Mechanical workshop	30
Electrical workshop	30
Airconditioning workshop	30
Store	20
2 offices ($10m^2$ per office) 2x10	20
Total	$130m^2$

In order to find the total area for functional spaces, 30% of the computed area is added. To allow for undefined spaces hence

Total computed area = 45404

Total area of built site including area of amphitheatre = 5404 + 3,000

$= 7404m^2$

20% of total area $= 1660.8m^2$

$= 10084.8m^2 = 1.0$ hectares

Total site area $= 90,000m^2 = 92$ hectares

Percentage of built site $= \frac{1.08}{9} \times 100 = 12\%$

∴ 90,000–10,084

$= 79,916m^2$ (7.99 hectares is left for

(a) on site parking

(b) site traffic routes

(c) organized open spaces

6.2 Design Parameters for Theatres

There are various requirements governing the design of theatres for various needs. The fundamental requirement that must be met is the balance between maximum seating capacity, good vision, acoustic and structural stability, hence in designing a theatre, the necessary technicalities such as type of stage floors, sight line, acoustice etc. must be taken care of. In addition to all these technicalities, the design of theatres in Africa should be geared towards maximum audience participation as this is the measure of success of a performing group.

6.2.1 Sight Line

The seating arrangement of an auditorium must be so designed that it meets the requirement for good sight line position. The uniform change of eye level permits good vision from seat to seat in a given row. The seating position could be staggered at times as the design requires, for vision from row to row through the shoulder.

Accurate viewing curve could be determined either by analytical or graphical method for the sight distribution from seat to seat.

(a) Graphical Method.

The diagram in fig. shows the increament factor of the sight line from row to row from a reference point P which forms the visual focus of every seat. The visual factor (c) is added to every seat to its line. The disadvantage of this method is the tediousness in projection of the site line factor from row to row to the last seat.

Fig. 6.3a Graphical Method: The eye level Rise 'C' is plotted continously to determine the viewing curve.

Fig. 6.3b. Viewing curve by analytical method.

(b) Analytical Method

The individual height factor is determined by using a mathematical formulae (see fig)

Height above state (Y)

$$Y = \frac{c}{d}(2.37)g\left(\frac{x}{a}\right) + \frac{(b+c)}{a}x - c$$

Sweeping of viewing curve

$$\frac{dy}{dx} = \frac{c}{d}\left(1+2.31g\,\frac{x}{a}\right) + \frac{(b+c)}{a}$$

Change of eye level

$$\frac{C = Y - \frac{bx}{a}}{\frac{x}{d}(2.31\ g\ \frac{x}{a} + \frac{x}{a} - 1}$$

a - distance of P from row eye level

b - height difference between stage floor level and from eye level 150-200 mm

d - rows c/c 800-900mm

xg - any eye-level factor related to reference point (P) as zero system.

eye level height above floor level : 1150-120

6.2.2 Seating

Seating arrangement in an auditorium is governed by many factors which are termed as working constituents for a good auditorium design. These factors are capacity, arrangement, depth, and stage-audience relationship. For good design the seating arrangement, must be such that sight line defect does not occur, invariably the designer works between various parameters in order to achieve a balance.

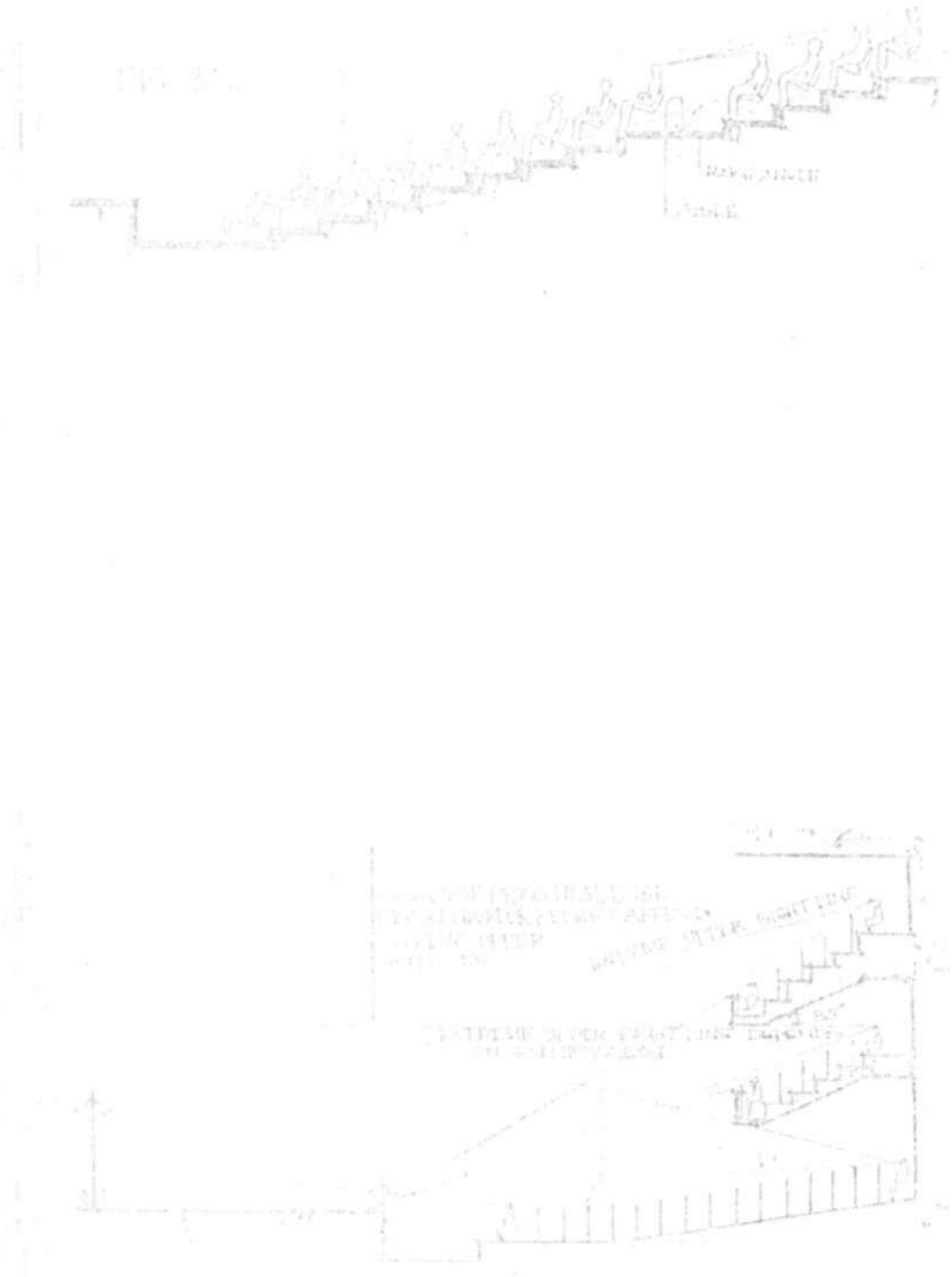


Fig. 6.4 Sight defects in Theatres.

The visual limit is found to vary for various performances where expression of certain kind is expected to be conveyed to the audience such as drama. While in other events, where this is not likely to be emphasized, the limit could go beyond 30m. The sight defect control in theatre has become one of the basic problems the designer must resolve for effective performance.

6.2.3 Acoustic Limit

In the acoustic design of an auditorium, the intelligibility of the propagated sound from the stage to the audience is of utmost importance. It tries to achieve a uniform distribution of sound to the audience without any distortion, excessive reverberation, echo etc. The elemental component of the auditorium interior such as seats, halls, ceilings, finishines, form and audience should be seen in contiguity with good room acoustic.

The acoustic phenomenon such as reverbration as observed is dependent on two main factors, the amount of reflected and absorbed sound by the surface of the auditorium, the volume and the stage area. The interior could be aided by the design of various reflecting and absorbing materials which function under different performances.

6.2.4 Acoustic Design Considerations

Auditorium acoustics have always been the determining factor in the selection of form by designers looking at the complex nature of theatrical activities.

Other elemental factors considered in the intelligibility are type of seats, walls, shape, volume, ceiling heights etc. These elemental acoustic design factors considered have become non exhaustive and have created avenue for some.

Designers should take into consideration the remedy of acoustic defects.

i) Distribution of sound within the interior, so that the farthest state also receive intelligible sound.

ii) Uniform distribution of diffussion of sound energy.

iii) Reverbration within the auditorium should be kept at a minimum.

iv) Echoes, long delayed reflection, flutter echoes, sound concentrations, distortion, sound shadow and resonance should be oliminated.

1. Loudness Level

The following criteria should be used in achieving a good loudness level.

(a) The form selected should be such that the audience are brought close to the sound source.

(b) For a good sound feedback, the sound source should be raised.

(c) The audience level should be raked so that deflection of sound do not create distortion.

(d) Where necessary, sound reflecting surfaces such as plaster, plywood, rigid plaster board etc. should be used as aids to aid acoustic performance.

Sound Diffusion

In sound diffusion, the basic variant of diffusion should be selected, this includes the structural elements, coffered ceilings, serrected enclosures, sculptured surfaces etc. The architect within the level of available resources should select the best approach to interior acoustic.

Reverberation Control

To reduce reverberation within an auditorium, sound absorbing materials should be carefully selected and placed. This would help in reducing efects such as echoes, flutter echoes, long delayed reflection and sound concentration. Empahsis should be placed first on the side walls which process high diffusion problems. The shape of the rear wall will be a key determinant in the selection of material.

6.2.5 Reverberation

Reverbration is the prolongation of sound as a result of successive reflection in an enclosed space after the sound has been turned off.

The reverberation time (RT) is the time for the sound pressure level in a room to decrease by 60 decibels (db) after the source of sound has been turned off.

Sound absorbing materials should be used as interior finishes in order to control the reverberation time, which varies for different production in a multi-functional auditorium. The RT time ranges between 1.5-2.0 second for music to 1 second for speech.

The relationship between reverberation time, surface area and the volume of the room is given by the capital Sabin formula:

$$RT = \frac{0.16V}{A + XV}$$

where RT = Reverberation time

Y = Volume of room in cubic meter

A = Total absorption in sqm Sabin

X = Air absorption co-efficient.

1. RT and Room Flexibility

The concept of room flexibility is to investigate the possibility of adapting the reverberation time of one performance to another taking into account the

multi-functional usage of theatres. This is possible by

(a) The use of ceiling baffles to reduce the volume of the auditorium.

(b) Covering hard surfaces with soft materials of highly absorptive value.

(c) Designing the theatre with short reverbration time for drama while that of music can be achieved by the use of electronic extension devices to extend the reverberation time.

6.2.6 Room Acoustical Defects

1. Echo

Echo occurs, if a minimum interval of 1/25 second (for speech) $\frac{1}{10}$ second (for music) elapse between the perception of the direct and reflected sound originating from the same source since the speed of sound is approximately 344m/s. The critical path difference is 14m for speech and 34m for music between direct and reflected sound. Unless acoustically treated, a concave surface and sound reflective rear wall is a potential echo producing surface.

2. Delayed reflection

This is identified in character to echo except that the delay between the perception of direct and reflected sounds is to an extent.

3. Flutter echo

This consists of a rapid succession of noticeable small echoes produced between parallel sound reflecting surfaces. A good treatment of the roof would absorb this defect.

4. Sound Concentration

This is caused mainly by concave surfaces. The sound, after reflection, courages at the focal point of the surface placed somewhere within the interior. Convext surface absorbers should be used where appropriate to correct this defect.

5. Sound shadow

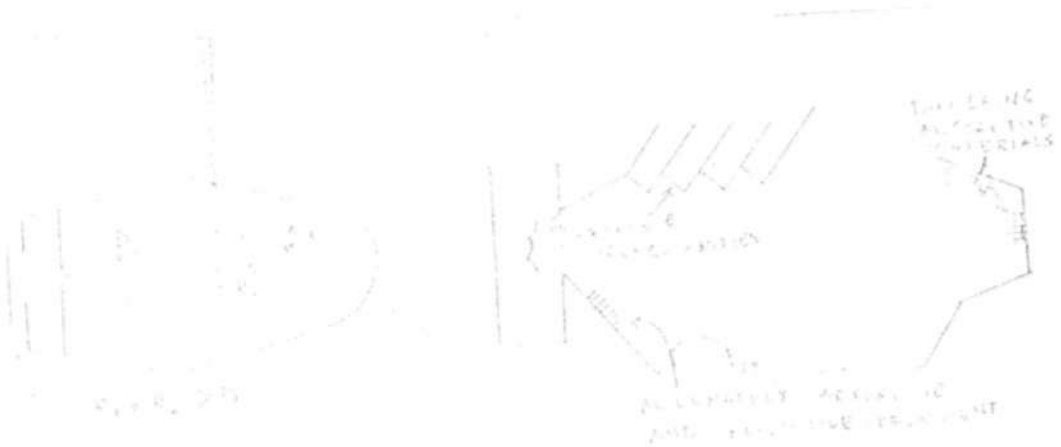
This defect is noticeable under a balcony which produces too far into the air space of an auditorium. It creats poor audibility of the remote seats underneath the balcony. To reduce this defect, the balcony's department should not be more than twice the balcony's beadroom.

6.2.7 Sound Amplification

Sound amplification devices are aids provided in a large auditorium in form of electronic microphone. Their basic functions are:

(a) To reinforce sound level

(b) To minimize ^{room} reverberation.



ECHO

Diffusion of sound

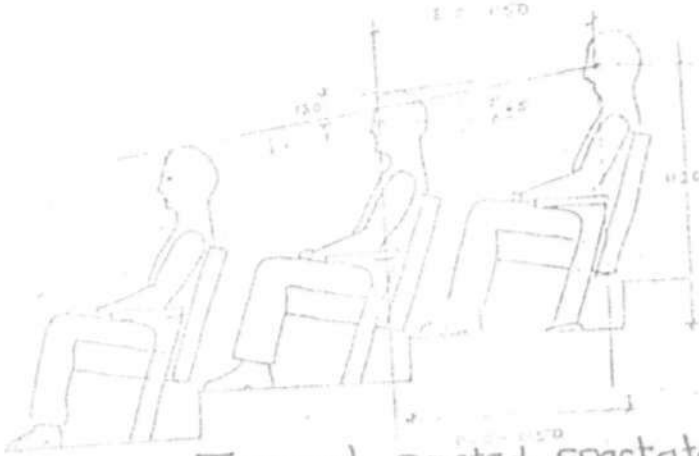


1 concave surface
2 long delayed reflection
3 sound shadow under balcony
4 - sound concentration

The vertical angle above which the ability to see a familiar object falls rapid is 30°



Flutter Echo



Typical seated spectato

Fig 6.5 Acoustic and Visual Defects in Theatre.

c. To provide amplified sound for dead rooms

d. To reduce the masking effect of a background noise.

6.2.8 Acoustical Materials

The complex nature of theatres has necessitated the need to provide various forms of acoustical aid for a good performance of the interior. The provision of absorbing and reflecting materials in the form of panels is one of the basic requirements and these materials are located at various points within the room to generate the much needed acoustical performance of the theatre.

The nature of the side walls has necessitated the need to provide absorbing panels in order to reduce the defects of multiple reflection within the interior. The rear wall and the ceiling systems should be panelled with reflectors for a good room intelligibility.

There are three types of acoustical materials commercially in use:

i. Prefabricated units

This include acoustical tile, which is the principal type of material available for acoustical treatment, mechanically perforated units backed with absorbent sheet.

(ii) Acoustical plaster with sprayed on material

These materials comprise plastic and porous materials applied with a trowel and fibrous materials combined with binder agents, which are applied (sprayed on) with an air gun or blow.

(iii) Acoustical Blanket

These are made up of mineral or wool, alass fibres, kapoic batts and heirfelt.

6.2.9 Aisle Arrangement

For the purpose of good visual communication, radical aisles are best with curved aisles only slightly less efficient. In continental aisles, non of the best viewing positions are lost to gangways and from actor's point of view, the audience is undivided. The space between the rooms has to be wide for better knee room but it could be distracting when an audience is passing between rows and during fire hazards, the whole audience find it difficult to get out on time.

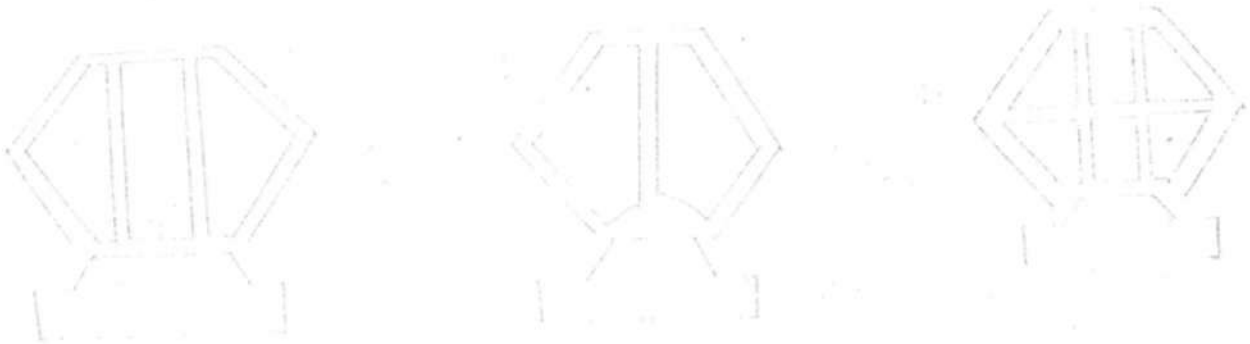




Fig. 6.6 Aisle and Seating Arrangement

6.2.10 Sound and Vibration Control in Theatres

This can be achieved through 3 major ways viz:

1. Site Planning

Noise control in theatres can be taken care of if the theatre is sited in a less noisy area or by seperating the theatre as much as possible from all exterior and interior noise and vibration source such as air or vehicular traffic, mechanical equipment etc. Where noise and vibration can be generated.

2. Ventilation and Air Conditioning System

This should be designed in such a way that the noise level created by the system is between 5 to 15 db/or below the permissible background noise level of 20-25 Nc (noise control).

3. Creation of Buffer Zones

This will help in reducing the external noise like those from vehicular traffic as well as internal noise control through the creation of buffer zone rooms, which includes lobbies, vestibules, circulation areas, restaurants, bars, offices etc. These rooms should have sound absorbing ceilings and insulated floors.

6.2.10.1 Special Consideration in Noise Control

In theatres, where ventilation and air conditioning systems are used, there is need for special attention to the noise produced by these systems. The special considerations is for three principal noise producing parts of the system viz.

(a)Central Mechanical Equipment

(b) Supply and return ducts and

(c) Supply and return grilles.

In an attempt to reduce these categories of noise in theatres, there is need to install these equipment away from the theatre either in the basement level or in a separate building. Other methods of reducing the noise produced from these systems mentioned above are as follows.

(1) Absorption of noise in duct wall linings.

(2) Reduction of noise by means of bends.

(3) Division of noise into several branches of the direct system.

4. Supporting ducts by resilient floors and hangers.
5. The use of heavy gauge metal for ducts, properly braced and stiffened.
6. Seperation of duct from walls and floors acoustically at points of penetrations, by the use glass, rubber, neoprene and by caulking the exposed end of the picking.
7. Spreading of noise into the room at supply or return air grilles.

The use of sound absorbing materials such as mineral fibre or glass fibre along the inside of rectangular or tabular ducts will increase the attenuation of noise along the duct. The material used for lining of duct should have a high co-efficient of absorption and a smooth surface for low air friction, adequate strength to resist disintegration due to air flow, and adequate resistance against fire.

6.2.10.2 Vibration Control

The use of vibration insulators such as resilient element or materials can be used between one structure and another to stop the transmission of vibration. Vibration insulators include the following:

- resilient ceiling hangers (spring)
- resilient floor mount steel spring, air spring, rubber, cork, elastometer, fibre glass, felt neoprene etc.
- resilient insolator such as isulation clip, resilent wall bracket etc.

- Flexible hose such as stainless steel, reinforced rubber.

6.2.11 Lighting

There is need for visual harmoney and ability of the audience to be satisfied with performers' expression with little obscurity. A large part of the lighting from the direction of the audience should be such that it strikes the performer's face at 45 degrees. If the angle is steeper, dark unflattering shadows under the brows occur and if at a shallow angle, there is the danger of unwanted shadows on the set or other performers.

A. Lighting Positions

1. Ceiling slots - there are spot lights around the acting area and are essential for proper lighting of performers in the frontal acting areas. Slots should extend from wall to wall with adequate space for positioning and rotating instruments in plan and section for maximum aiming. Slots should be placed at a maximum distance of 4.5m apart, measuring from the stage outwards and should extend down from the ceiling approximately 3m above stage level.

2. Side Wall slots - These are also used as acting area spot lights essentially for the front corners of the stage and that of fore-stage areas. Useful for low angle wide lighting.

3. Balcony Fascia - This is an alternative to where ceiling and side walls are non-existent. The spot lights are slotted in front of the balcony.

6.2 Stage Types

The audience and the actors can be related to each other in a number of ways through the arrangement of the audience to the performers on the stage. This degree of variation can be achieved through the change of stage shapes or audience seating arrangement.

1. Arena stage (360° Encirclement)

This form has the stage in the center and is surounded by a ring of audience.

Pronounciations

(a) Economy of space as it sits the maximum of audience in the minimum enclosure with the largest audience within the shortest distance from the acting area.

(b) It provides the highest form of audience Interaction with actors.

(c) Ideal for African type of performances.

Denounciations

(a) Audience views normally blocked by actors.

(b) Actors mask each other and are often seen against the background of a member of the audience on the other side of the stage.

(c) Access to stage by actors often difficult and only possible through the use of vormitories. through the audience seating area.

(d) Use and movement of scenery often difficult obscurring the view of the performing area.

2. Proscenium Stage (90^{o} encirclement)

The performing area is at one end of the auditorium with the audience facing the stage in one direction.

Pronounciations

(a) It provides the best form of arrangement for presenting maximally perceptible presentation.

(b) It has the ability to contain a large amount of scenic wall and transformations, the mechanics of which is hidden from the audience.

(c) Provides short duration differences in arrival time between direct and reflected sound.

(d) Provides a large range of choice in size of performing area.

Denounciations

(a) Since the audience can only face the performers in one direction, it is difficult to seat a large capacity close to the state (for more than 650 people, a balcony becomes necessary).

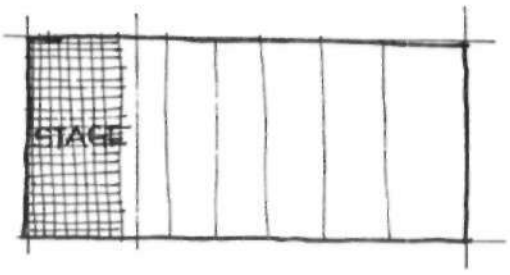
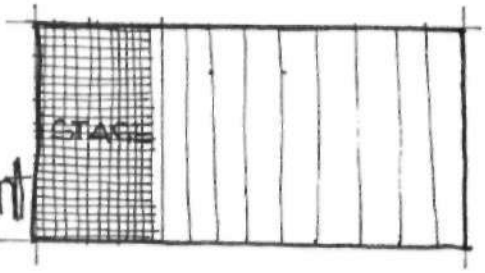


FIG 6·7a Zero degree encirclement



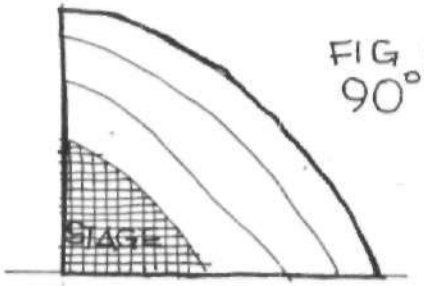


FIG 6·7b
90° encirclement

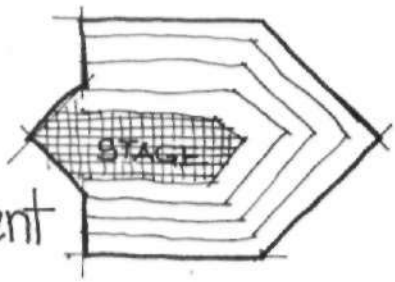
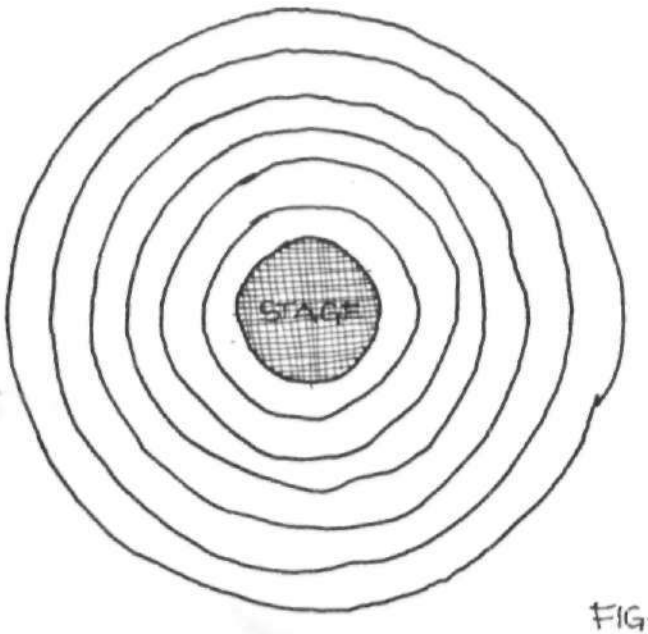
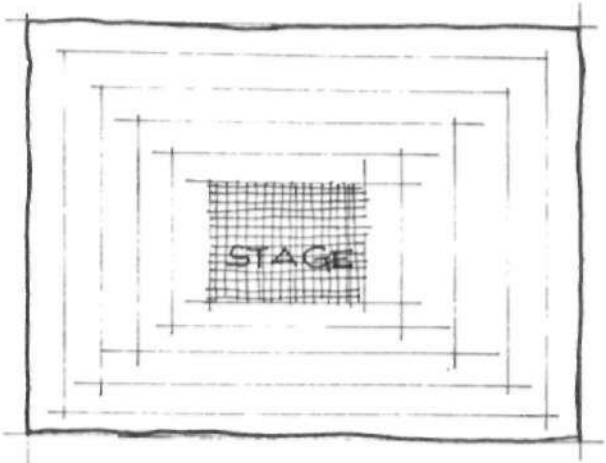


FIG 6·7c 210° encirclement





FIG·6·7d 360° encirclement

FIG· 6·7 AUDITORIUM MORPHOLOGY

(b) It provides less intimacy between actors and audience.

3. Open thrust stage form (180° encirclement)

The main performance area projects into the audience and is sorrounded on several sides. It also provides some acting space behind openings at the backstage.

Pronounciations

(a) It provides better audience and actor intimacy than the proscenium stage, contributing to better visual contact.

(b) The end of a play is not marked by sharp drawing of curtains which is known to heighten the illusionistic effect of performances which this kind of stage reduces.

(c) It reduces scenery and cost of production.

Denounciations

(a) Entrance and exits of actors difficult as in the case of the arena form of stage.

(b) Difficulties arise in change of scenes.

(c) It has a less uniform effect in orientation.

4. Thrust Prosecenium Stage

In addition to a stage house and acting area, of nominal size, it has a thrust stage in front of the proscenium which projects into the audience at a wide fan of about 90°.

Pronounciations

(a) It gives an open stage thrust effect by bringing the performing area into the same space as the audience.

(b) It also reduces cost in production as less scener is used.

Denounciations

(a) Difficult to achieve satisfactory sight lines for both the thrust (apron) and the area behind the proscenium arch, especially for balconies if introduced.

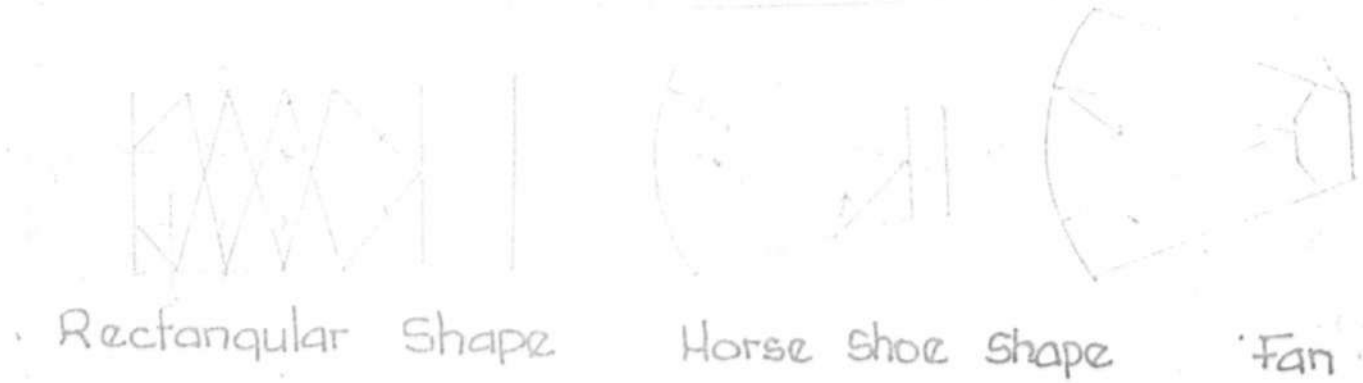
(b) Incombustible scenery may have to be used infront of the safety curtain.

6.2.13 Floor shapes and their Acoustic Effects

It is fundamental to enhance choice of floor for good theatre design with particular interest in acoustics.

1. Rectangular shapes: less problem encountered in small halls but when used for larger halls, the auditorium is likely to be too wide for the stage which leads to the production of bad sight lines.

Acoustic effects: This type of shape produces cross reflections which between parallel surfaces produces flutter echoes.



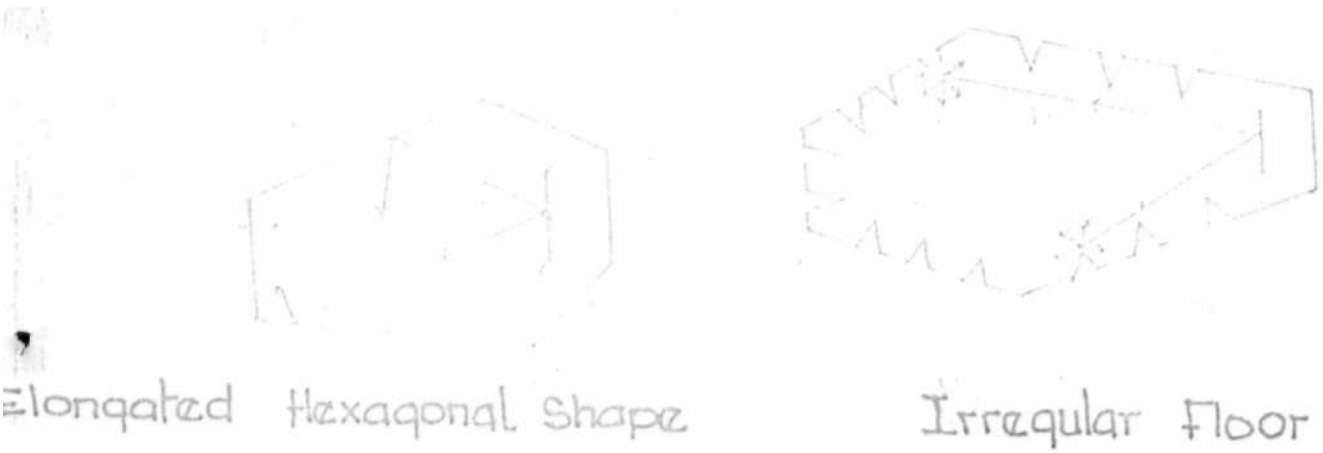


Fig. 6.7 Floor shapes and their Acoustic Behaviour

2. Horse-shoe shape: It is the traditional shape for opera houses with the advantage of containing a large number of audience.

Acoustics:

The concave wall surfaces must be sound absorbent either by using absorbent materials or by covering the with tiers or galleries because they produce echoes or sound concentrations.

3. Fan shape:

This has the advantage of containing the maximum number of people in a given angle for a specified maximum source-receiver distance. This characteristic is attractive for economic reasons as well as the ability to fulfill multi-purpose requirements.
Acoustics - The curved rear wall and the curved balcony front, unless treated acoustically or rendered diffusive, are likely to create echoes or sound concentration.

4. Elongated Hexagonal shape - This is a compromise concert hall which if well designed may overcome the acoustic limitations of the fan shape auditorium.

5. Irregular Floor shape

This floor shape can bring the audience unusually close to the source of the sound. Acoustic intimacy and definition attainable as surfaces with the

tendency of producing short delayed reflections can be easily intergrated into the overall.

CHAPTER SEVEN

7.0 DESIGN PROCESS

7.1 Functional Diagram

The diverse nature of activities in an architectural space has directed the attention of architects to bring into focus those intricate functions closer together for efficient design process. This takes the form of relating functions in a unit and later relating them to a set of relationship in another unit. The totality of the unification process defines the building form.

The relationship as established within the context of architectural design process takes the following three forms.

(a) Visual Relationship

(b) Vertical Relationship

(c) Linear Relationship

7.1.1 Visual Relationship

In this approach, sets of relationship are established based on visual communication. The relationship so established would highlight the demand requirement of that function. For example, the orientation of hotel rooms towards a beach; the placement of a bar near a swimming pool etc. This relationship show the vibrancy of visual communication

7.1.2 Vertical Relationship

Functions are related vertically in a situation where restriction is placed on land. The relationship gives linkage through various architectural elements such as staircases, lifts, ramps etc. Visual Dominance might be another factor selected for vertical relationship whereby an elemental composition is achieved along the vertical plane which accentuates the building mass.

7.1.3 Linear Relationship

Where land is abundant and restriction is not placed on any function. Linear relationship is best achieved through the manipulatory tendencies of various functional elements. Visual elegance can also be achieved by the juxtaposition of building mass along the horizontal plane.

The establishment of the functional relationship for the proposed center is a manipulation of the above three forms of relationship working homogenously. The functional contiquity of the complex is shown on fig(s) 7.1, 7.2, 7.3, 7.4 and 7.5.

7.2 Design Criteria

After a careful study of the building functions and their performance on site, it became necessary to outline certain design criteria within the context of physical architecture so as to enhance the building's


THEATRE
theatre manager
stage manager
design room
store
projection room
artists lounge
dressing rooms + toi
rehersal
STAGE
sound control
lighting contrd
AUDITORIUM
control
box office
foyer
toilets

Fig. 7.1

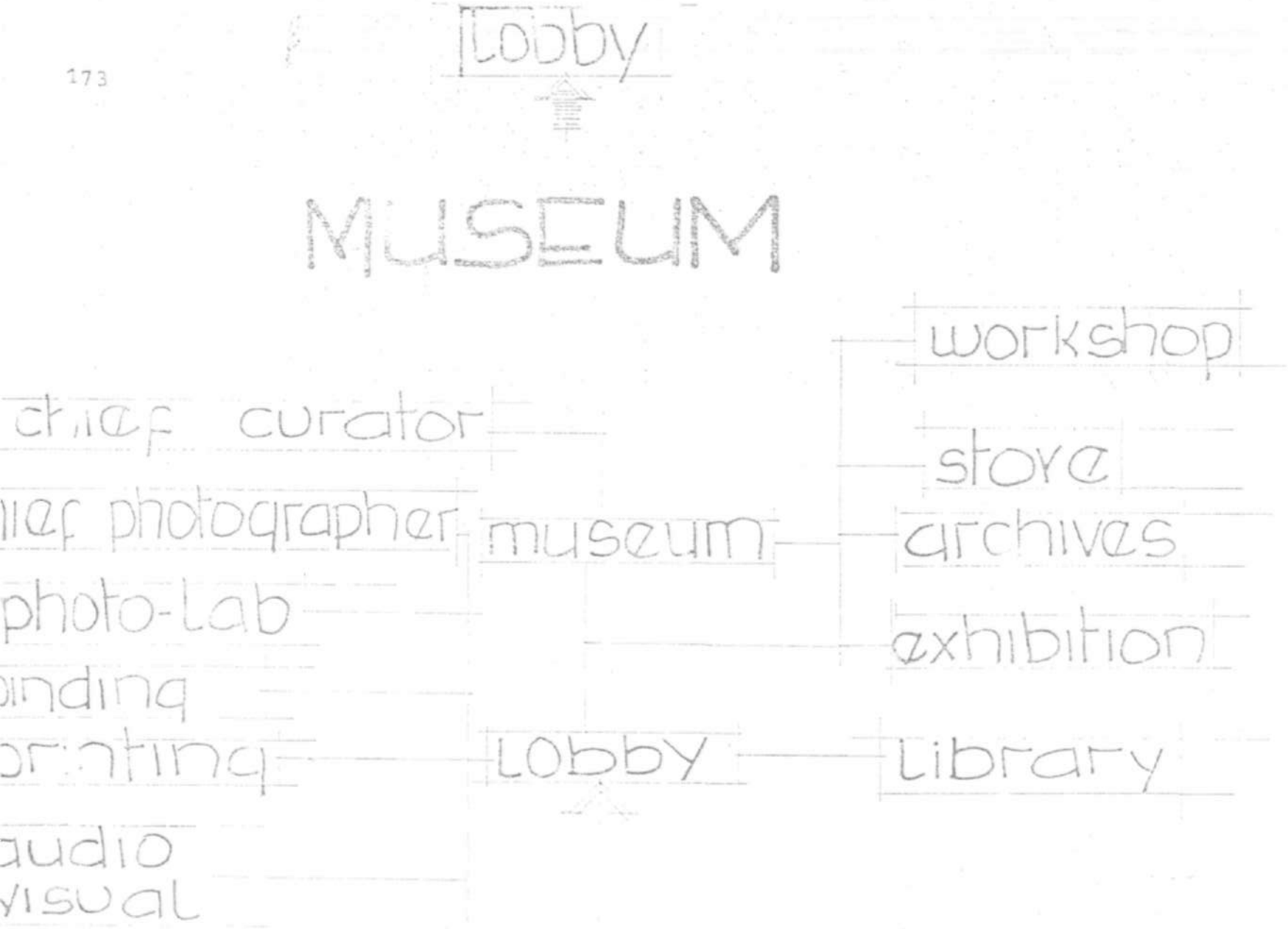

lobby
MUSEUM
workshop
chief curator
store
lief photographer
museum
archives
photo-lab
exhibition
inding
rinting
lobby
library
audio
visual

Fig. 7.2

CRAFT VILLAGE

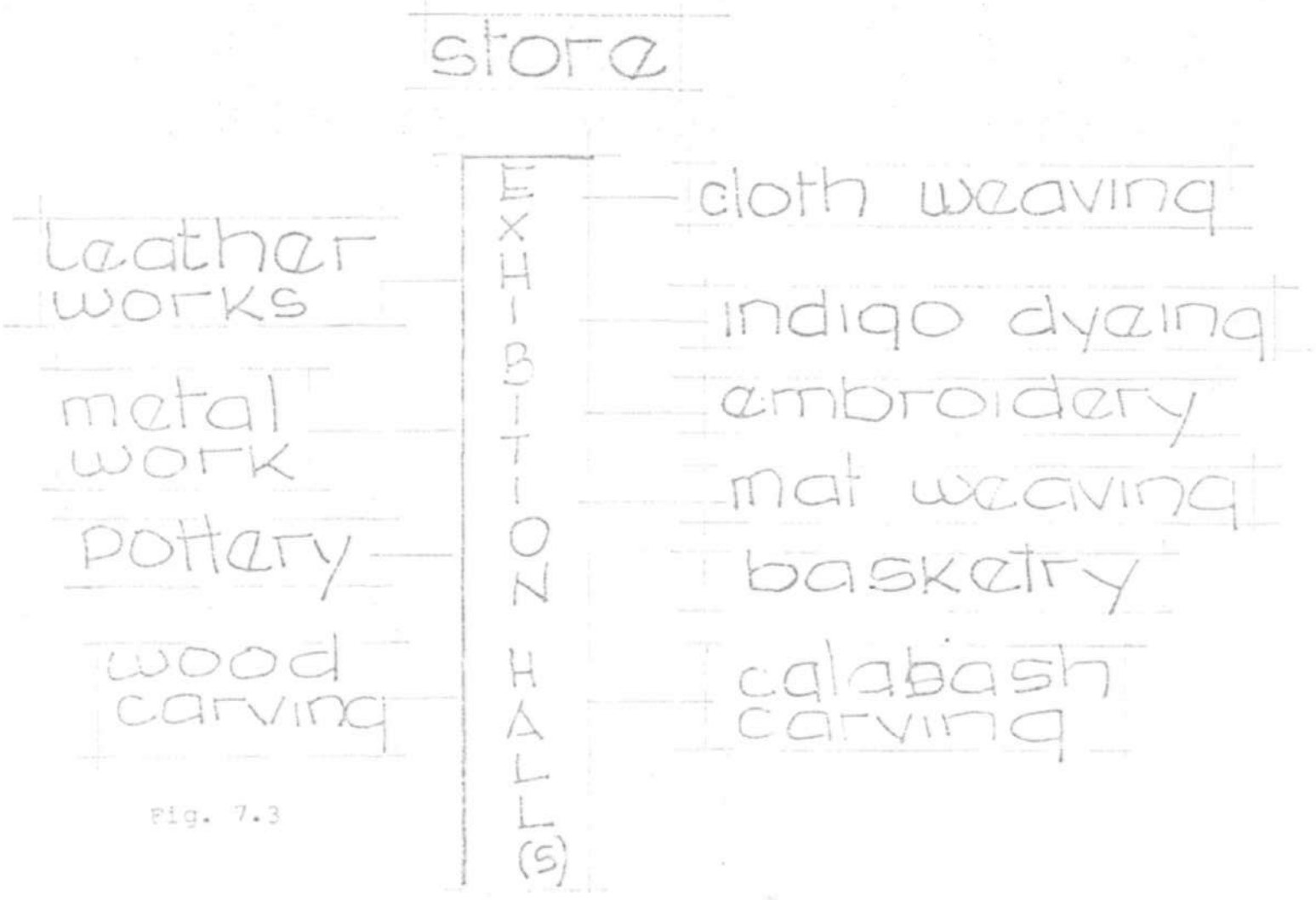


Fig. 7.3

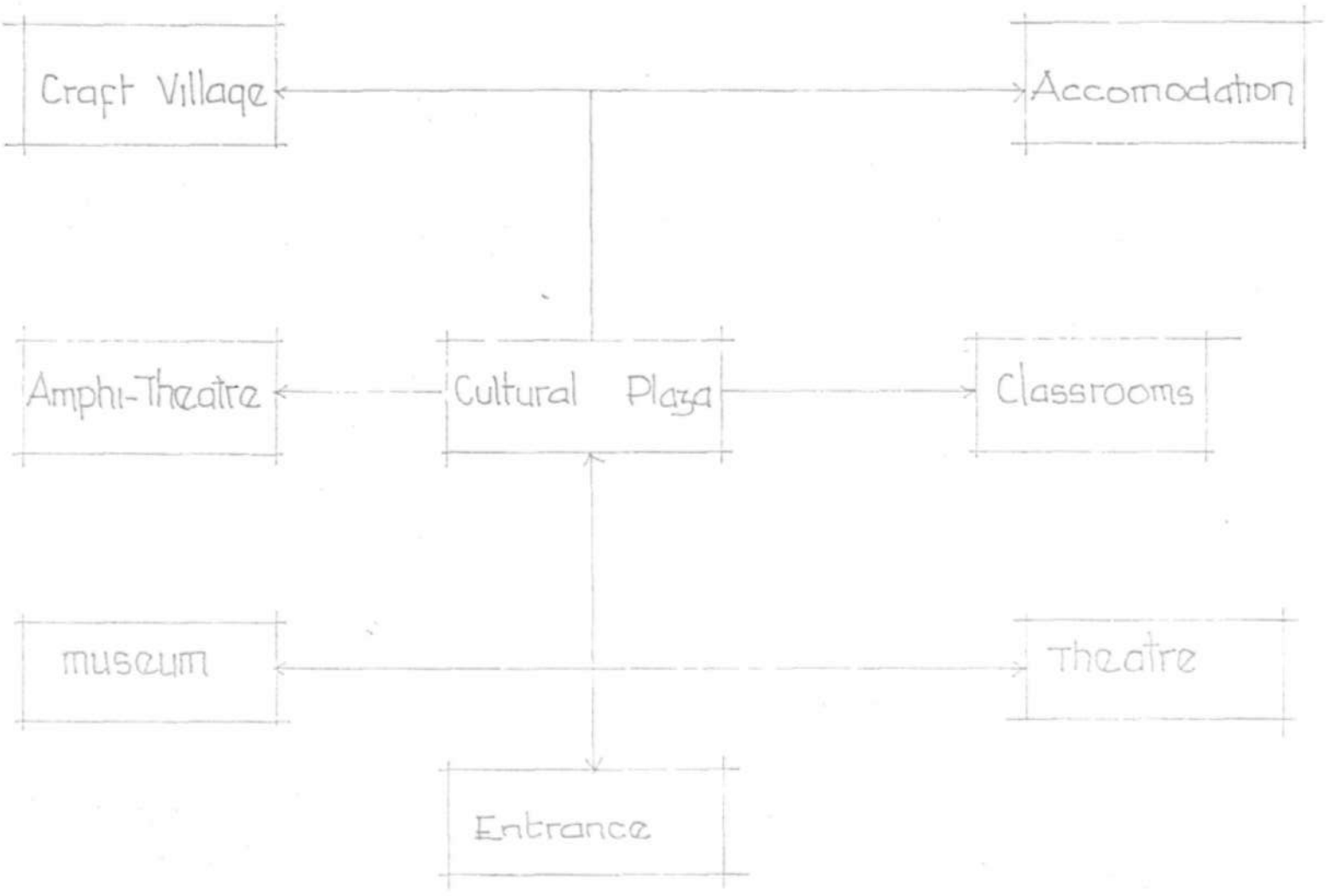


Fig. 6.5 Integrated Functional Diagram.

functional qualities.

Physical architecture has been attributed to form. Out of the vast store of form potentials in the creative mind of the architect, one and only one is chosen for a particular project. The choice of that particular form is far arbitrary. It is evolved as a result of rational consideration vis-a-vis creativity. Paul Rudolf, one of the greatest of the second generation 'modern' American Architects enumerated a number of steps which he called Determinants of forms. They are as follow:

- Environment - building relationship with other buildings and site.
- functional aspects.
- particular region/climate/landscape/natural lighting.
- Conditions limiting Regional expression
  (a) Industrialization
  (b) Ease of travel or communication
  (c) Rising costs of building materials and skilled labour.
  (d) Influence of the architectural press
  (e) 'Do it yourself' according to manufacturers' instructions.
  (f) Abstract qualities inherent in new concept of space
- materials used

-Satisfying peculiar physiological demands of the building - accomplished by maniulation of space and symbols.

-Spirit of the times.

These principles serve as useful guidelines to the successful evolution of form and will be considered in this proposal, though not every single one is applicable in this case.

The following qualities are examined with the aim of enhancing the building's functional contiquity.

(a) Imageability

(b) function

(c) Circulation

(d) Structure

(e) Materials

(f) Landscaping

(g) Aesthetic

(h) Parking

(i) Fire hazard

7.2.1 Imageability

Imageability - "that quality in a physical object which gives it a high probability of evoking a strong image in any given observer".[1] This quotation serves as a usefull definition for imageability. If the building should house the cultural attributes of Katsina, it should have character.

The search for such a form inevitably leads to the architectural term 'content' which is the medium by which architectural ideas are translated into being. Architectural content can be examined under two broad terms:

A. Symbol of use

B. Expression of technique.

A. Symbol of Use

The architectural symbol is that architectural element that carries a particular meaning by virtue of continued usage. For example, the cross evokes memories of a church, the dome represents cosmic forces, the tower represents power or authority as is characterized by the towers of castles and pagodas.

Unfortunately modern architecture according to the encyclopedia Britannic has abandoned this technique as according to it, it lacks expressive requirements of the twentieth century architecture[2].

A different school of thought, which would best express an African or Regional architecture was put forward by Robert Venturi which states that "symbolism must have cultural relevance. Architecture can have an esoteric level but it must also mean something to ordinary people. Symbols can make use of essentials or history but they must be historically incorrect".[3]

B. Expression of technique

This aspect of architectural content which without doubt serves as the vehicle of modern architecture has to do with interpretation of construction techniques and materials as the major means of architectural aesthetics. For example glass is used to show lightness, very characteristic of mens' buildings. Steel is exposed to reveal tensile qualities and concrete to show plastic qualities.

7.2.2 Function

As a design criteria, the functional intricacies of the complex would define the best space adjacency and implications. Based on users requirements and degree of use, the placement of these facilities should enhance flexibility.

7.2.3 Circulation

The design will address itself to those inherent circulation problems. Forces of conflict would be resolved and grouped to evolve a good circulation pattern within the complex.

7.2.4 Structure

The general question within this context is the implications of structural decisions. This will also reveal the resources available at the design proposal.

7.2.5 Materials

Well selected materials for both the interior and exterior finishes would enhance the use pattern of the interior. A careful thought would be made to see the type and their performances within the aesthetic and acoustic requirement.

7.2.6 Landscaping

The most appropriate approach to site landscaping would be sought to see how and where landscaping elements would be placed. These elements include, sculptures, seatings, fountains etc. All these elements viewed together would give the complex the desired environmental quality.

7.2.7 Aesthetic

The aesthetic consideration is so complex that the designer has to define it within his own framework. The generation of elemental building rythm, the harmony of building mass, the juxtaposition of basic function, the intergration of building function, and some other intricate thoughts are considered towards the generation of a suitable aesthetic language.

7.2.8 Parking

The parking consideration is aimed at finding the number of suitable parking spaces within the complex and the use pattern.

(i) Architectural ideas - These are concepts that have been translated into certain architectural concerns. For example, organic architecture, space, daylight, integration of structure and form etc.

(ii) Theme - This is a particular pattern that characterize the design project. For example, Rombell Art Gallery in Texas, by L.I. Khan "Light" is the them used. He postulated that the changing pattern of daylight over a season and during the day defines a piece of great architecture.

(iii) Super organising Ideas

This talks about the design being built round a particular geometric configuration or heirachy e.g. circulation.

(iv) The parti (scheme) and esquisse (sketch)

This was formulated by the Ecoles Beav Arts of France during the 19th century. It was based on the strategy of developing a very general scheme (parti) in the form of a sketch and carrying the initial parti throughout the rest of the project. It is generally speaking, a conceptual and graphic method.

As the parti develops, it becomes necessary to put down graphically, so as to distinguish as early as possible between the measurable and unmeasurable. According to L.I. Khan "To express oneself in music or architecture one must employ the measurable means of

or design. The first line on paper is already a measure of what can not be expressed fully". This statement was in answer to a young architect who could not seem to be able to translate his dreams to reality.

(v) Literal Translation

This was used by Edward Barne to describe how a concept and diagram could be developed to be the simplified plan of a project.

7.3.1 Concepts and Principles

1. Anologies

This identifies literal relationship between things The project is built around one thing which is identified as possessing all the desired characteristics needed.

It was generally believed before the modern movement, that all the great architectural pieces have been built. Hence the architect had to figure out which previous building is the appropriate model for the project at hand. Thus it was assumed at one time, that the gothic is the appropriate model for churches; colleges and universities, Greek doric for banks and St. Peter's basilica for capitals.

Analogies do not have to necessarily relate to other buildings. For example L.I. Khan in his university of Pennyslavinia medical Research building, argued that researchers need to communicate and share

ideas. So he developed an anology of this building as a community where scientists could see each other and become aware of activities within one building. He likened researchers' activities to those of artists in their studios. The anology is that of an artist's studio filled with creative researchers.

II. Metaphors and Similies

Here, abstract rather than literal relationship between things are identified. For example, Charles Moore likened buildings to geodes. This is a conceptual metaphor where a building could possess two different images. On the outside, its image could blend with that of the neighbourhood, while on the inside it could have an entertaining, theatrical and dramatic image.

Gio ponti, in his book 'in praise of architecture, defined various aspects of architecture metaphorically:

"Architecture is like a crystal"

"The fountain is a voice"

"The room is a world"

"the obelisk is an enigma"

"the door is an invitation"

"the colonade is a choir"

"the house is a dream".

III. Essences

This looks beyond the pragmatic needs of the project at hand. It gives insight into the most critical and intrinsic aspect of a problem. The essence of a project arises due to the identification and discovery of the roots of the issue.

The search for the essence of a project is to identify ideas that tie together various parts of that project, then the most important is made the most essential. For example, Eero Sarinen, in his TWA terminal building, evoked the essence of movement and that of transition rather than a static one.

Symbols are a subset of the Essence category. "Symbols in architecture are images that evokes automatic responses to a set of stimuli, usually visual".[4] It expresses the building as both as a place for an activity and the image that symbolizes the activity.

(iv) Pragmatic Concepts

This centers around issues explicitly defined in the building program. It responds to the problems at hand. For example, in Oyo Obata's Air and space museum, Washington DC, the concept of circulation was taken as the prime issue.

(v) Ideals

This looks at universal values, it represents the highest aspiration of an architect.

Mies Van de Rohe developed the concept of an ideal building which is based on large, open, unobstructed spaces called "universal space"

Another ideal concept is the conservation of energy in a building which includes compartmentalization. Zoning according to need of heating, orientation of openings etc.

7.4 Design Concept

"The development of organizational patterns for a design program begins with the observation of the characteristic activity patterns of the users. This reveals a heirachy in frequency". (Kempler 1979).

The dominant activity in the proposed center is the performing arts and its venue in pre-colonial Hausa cities was the village square which was often situated at the center of the town. In view of this, the design concept shall attempt to celebrate a center both in a physical and symbolic sense. Physical in terms of location and symbolic in terms of the function it serves. The basic space required for traditional performing arts is the open ground which for the purpose of this project, has been tagged the "cultural plaza",

and this will form the central focus with other facilities radially disposed around it. This is aimed at creating a feeling of "Dejavu" among the users since the physical nature of Hausa traditional cities consist of a center in the form of a market or square with the rest of the town spreading radially around.

A further celebration of the design concept, has been extended to the micro level by the use of courtyard spaces as physical centers around which the functions in each zone are planned. On the whole, the concept aims at establishing a heirachy of courtyard spaces with it's highest form acting as the cohesion zone between all other facilities on site.

7.5 Form Concept

For a complete and logical execution of the design concept, circular forms will be put to use and this will aid in expressing the dynamic nature of culture. In the researcher's view the circle is one of the best forms in expressing this phenomenon because of its sign of completeness, motion and progression, as may be seen when a stone touches water.

The fact that the building to house the cultural attributes of the Katsina people should be both imageable and representative can not be over emphasized and much has been said about the architectural

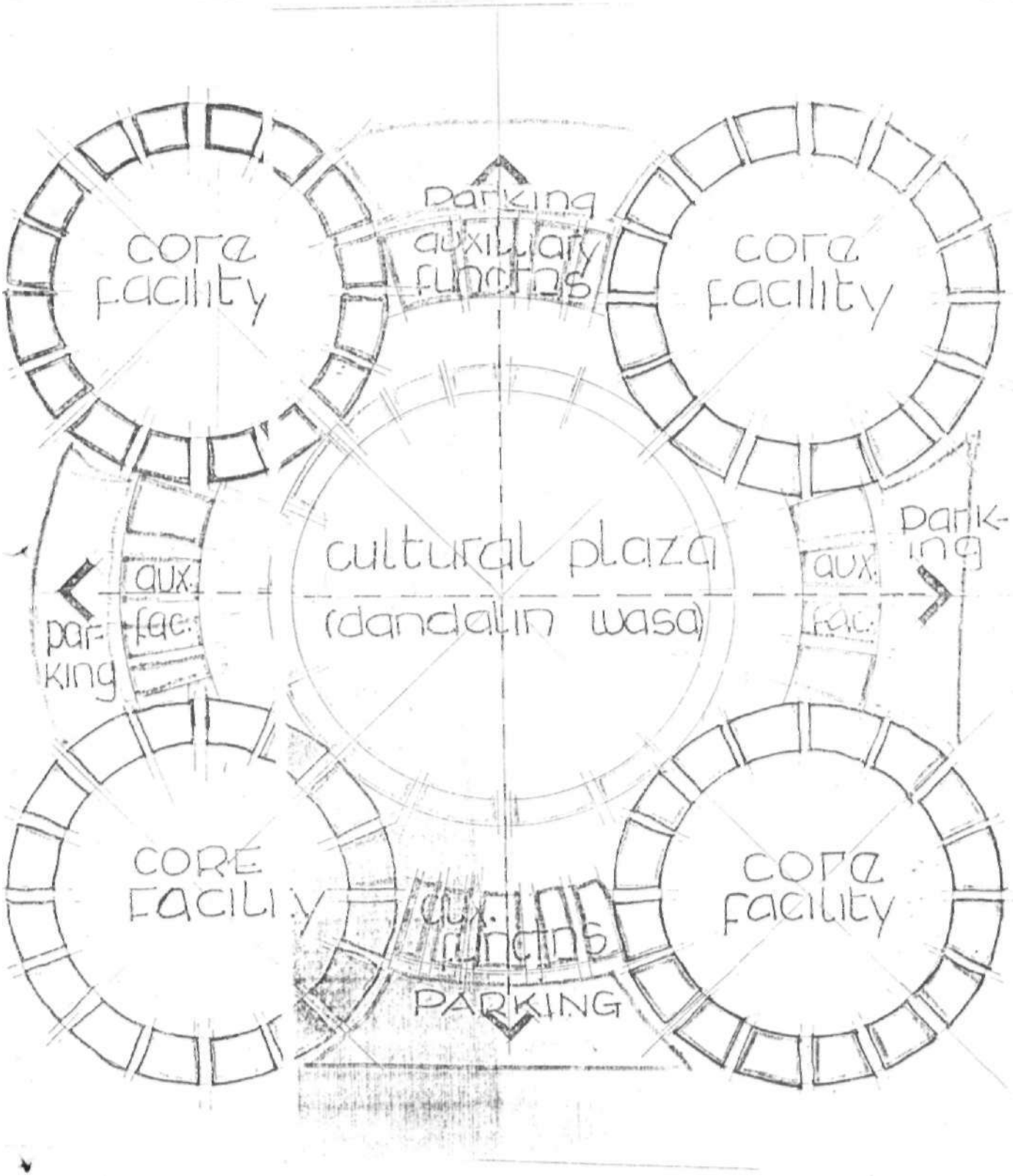
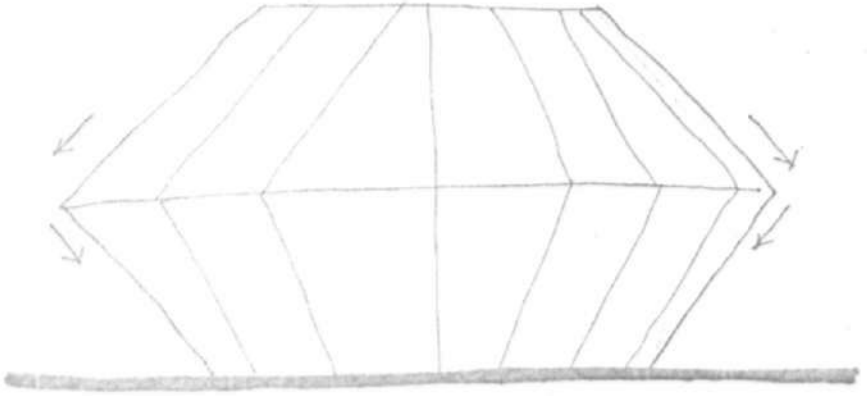


Fig. 7.6 Site concept

- Salient features of products of Hausa crafts
  - circular forms
  - double curved surfaces

Impressions

a.



b.

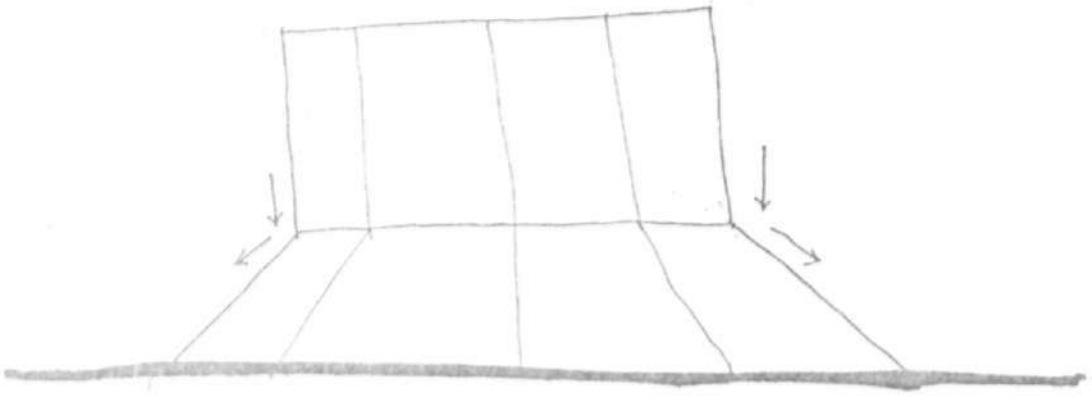


Fig. 7.7 Form concept

implication of these terms under the design criteria.

In traditional Hausa cities certain clans specialise in certain guilds e.g. blacksmith's guild, hunters' guild etc. Similarly developed were the performing art forms based on almost each of the specialised craft guilds. (See chapter 2). The ultimate goal of the aesthetic intentions of the designer is to translate this relationship to architecture, through the use of forms dominant within the products of traditional crafts. Due to the wide range of products, available and the indecision on the best form to adopt the design methodology formulated by Ecoles Beaux arts of France known as parti (scheme) and Esquisse (sketch), was adopted to arrive at the final solution.

7.6 Design Metarmophosis

This section illustrates the evolution of the design from the very first sketches. Each sketch is numbered and accompanied by explanatory notes to give a clear understanding of how the design progressed.

Sketch 1

This attempt is geared towards the sorting out of zones around the central courtyard (cultural plaza). There are four main zones in the form of the theatre amphitheatre craft village and accomodation, with

auxilliary functions in the form of the administration exhibition and recreational facilities acting as the link between the four major zones.

Sketch 2 - This serves at the first attempt at drawing to scale while sorting out functions within individual zones solutions to inherent circulation problem were proposed with each of the zones surrounded with parking space.

Sketch 3. A further development of sketch 2 with the center of each zone being dictated by the central point within the cultural plaza. The main zones in this case have been increased to five to include a museum building adjacent to the theatre with the admin serving as the bridge between the two. A maintenance division has been included between the theatre and crafts village while the catering facilities is proposed between the museum and the accomodation unit. The first attempt at creating an aesthetic language is seen below the plan. The salient feature of most products of a traditional crafts in Hausaland is a double curved surface and this is incorporated on the theatre and the museum to pronounce their relationship.

Sketch 4. - A 3 dimensional impression of the above elevation. The complex is perceived as an introvert design with only one side of the plaza open while the

other sides are completely enclosed. Arches have been introduced to add regional character.

Sketch 5 - The previous form was discarded and substituted with a similar structure with the double curved surface highlighted by structural members. An attempt here is made to enhance the viewers appreciation of the courtyard by the introduction of a geodesic dome which is evident from the approach facade.

Sketch 6 - Possible roofing problems necessitated the need to reduce the span at the top of the structure with the upward angle in this case more sharply defined. The structural possibility is yet to be determined.

Sketch 7 - In order to aid more regional character, a dome is proposed for the theatre while a double curved flats are proposed for the museum so as to enrich the composition. The geodesic dome has been eliminated due to its alien nature.

Sketch 8 - This reveals the architects intention in terms of materials and also height juggling to arrive at a final composition. Glass and reinforced concrete panels are proposed to act as infill within the main structural elements.

Sketch 9

The structural possibility is investigated with the aid of these sections. The theatre consists of R.C. raking supported by columns with the main bowl at 3m height. The main structural element is the R.C. butress which is tied to a ring beam which in turn is cantilevered to form a gutter which supports the shell roof. On the topmost level, the theatre opens into a pedestrian mall which also serves as a barrier from air borne noise. The level below this is designated for night shopping activities while the lowest level consists of lounges, foyer etc.

Sketch 10

The parking in the whole complex has been reduced to two main parking lots. One by the amphitheatre while the other runs around the theatre. This measure was taken to reduce the possibility of vehicular/ pedestrian clash due to a large number of parking lots.

Sketch 11

The [illegible] in this case is perceived to consist of 4 building housing different craft clustered around a main courtyard. This highlights the situation in most traditional housa cities where certain areas of the town is famous for certain craft.

Sketch 12

A further attempt to solve structural problems necessitated the omission of the cantilevered gutter. The new solution proposes a ring beam acting as a gutter, fixed between the buttress from which the reinforcement for the shell roof is extended. Yet the stability for the buttresses can not be guaranteed at this stage.

Sketch 13

The resultant elevation from the above section shows the theatre with muralled r.c. panels while the entrance to the admin and pedestrian mall is further accentuated by the introduction of another dome. The arches on the theatre are introduced to compliment those leading to the pedestrian mall.

Sketch 14

This is a further refinement of the above elevation by the reduction of the span; thereby reducing the angle of inclination of the buttress making the theatre more elegant than the previous attempt.

Sketch 15

Plan showing the main bowl with the introduction of dancing platforms within the audience sitting area to enhance audience participation. The stage is also

designed to aid this phenomenon while the vormitories lead close to the stage to evoke a feeling of being close to the stage at entry point.

Sketch 16

Ground floor plan showing the complete space allocation scheme.

Sketch 17

The need for improvement on elevations prompted the use of stain glass instead of R.C. panels as earlier intended for the topmost part of the theatre.

Sketch 18

Views of other facades showing accomodation unit and craft village in the fore-front with the theatre and museum behind.

Sketch 19

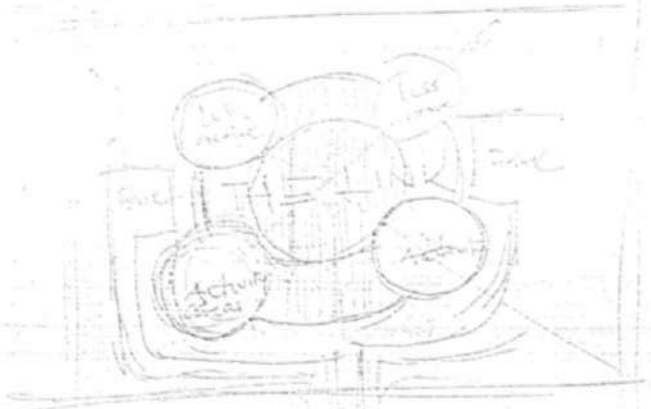
In search for a coherent whole, the previous elevations have been adjusted to blend with the theatre by the introduction of viewing galleries around the museum and craft's village, while the R.C. panels have been regulated to appear at the same level. Slanting columns at 45^{o} tend to tie the elevation together. This elevation was corrected and adopted as the main facade.

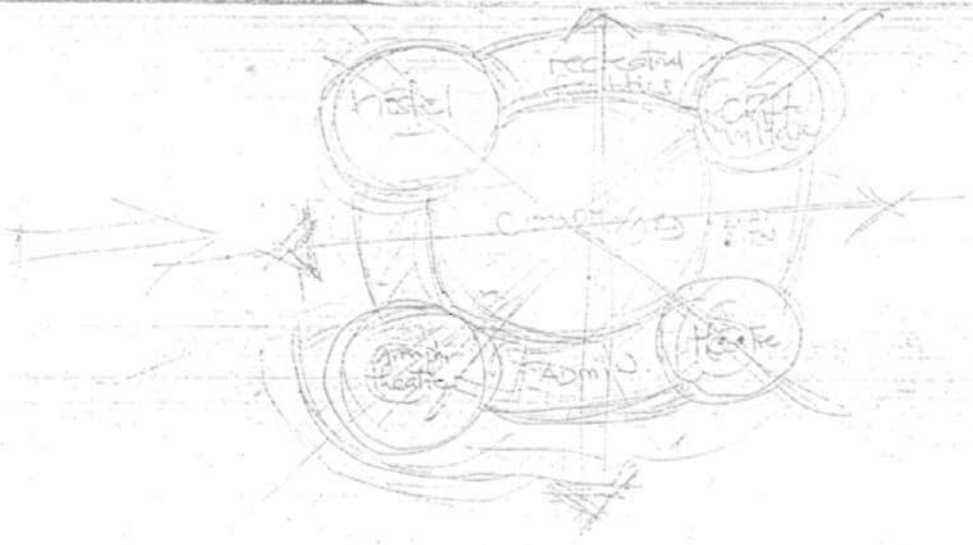
Sketch 20

A further attempt at improving circulation routes. Two entrances are proposed with one leading directly to the parking lot around the theatre while the other leads to both the amphitheatre and the V.I.P. parking area. The entrance to the admin is approached by an informal walkway but the need for a drop-off point persists which gave birth to the final site plan.

Sketch 1

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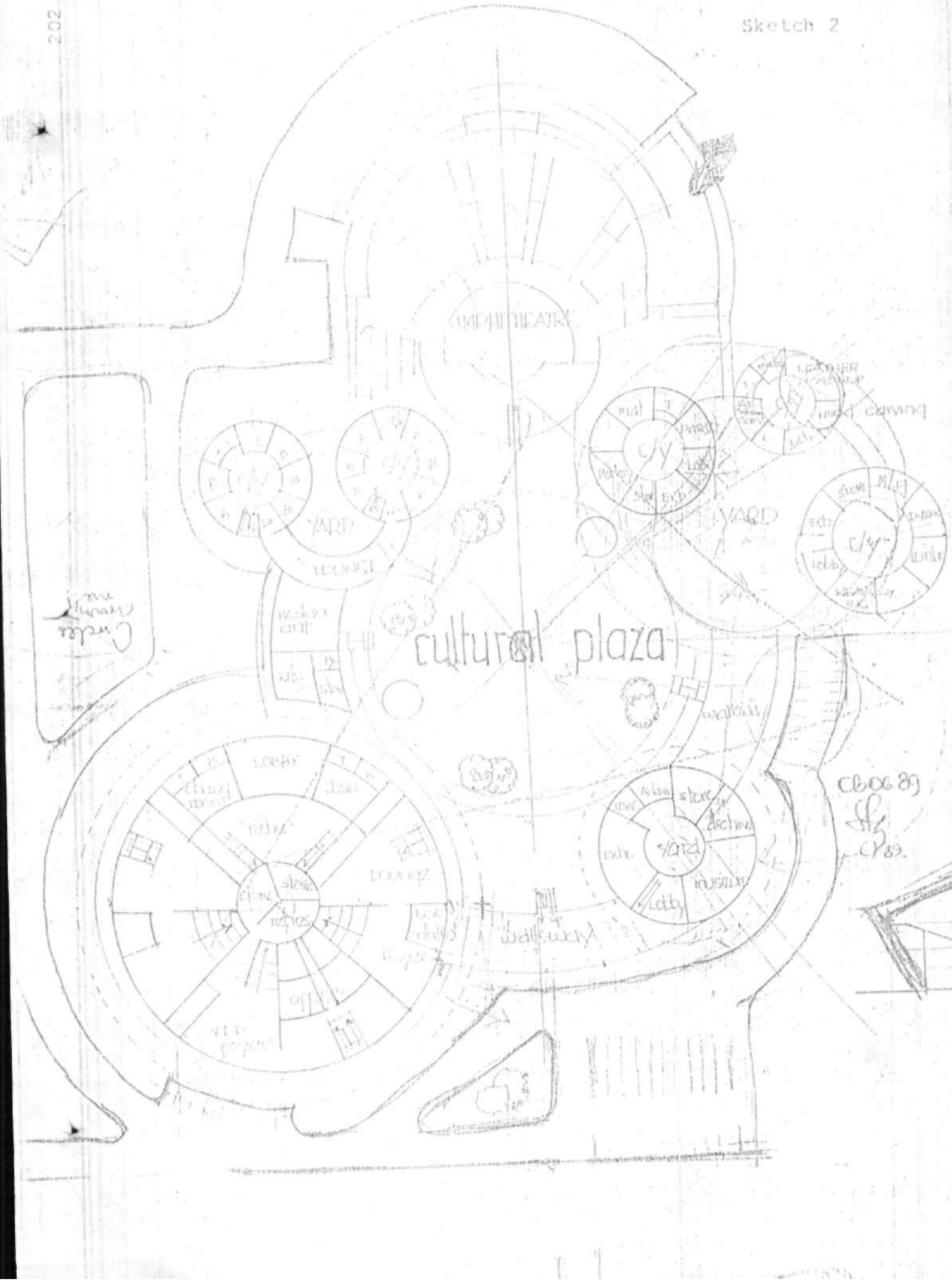


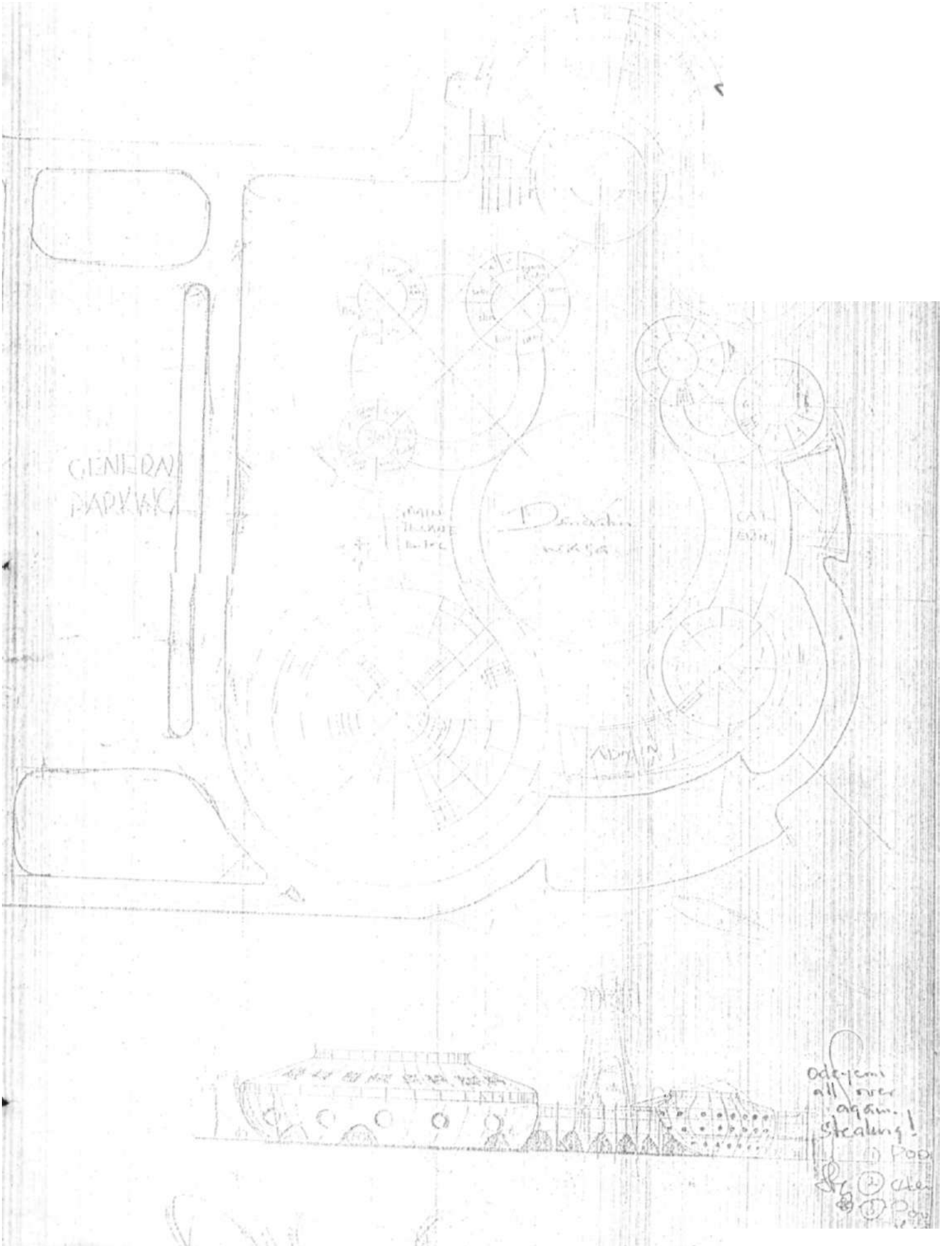


INVESTIGATE RELATIONS-
HIP 3/D THE VESSEL + CRAFT

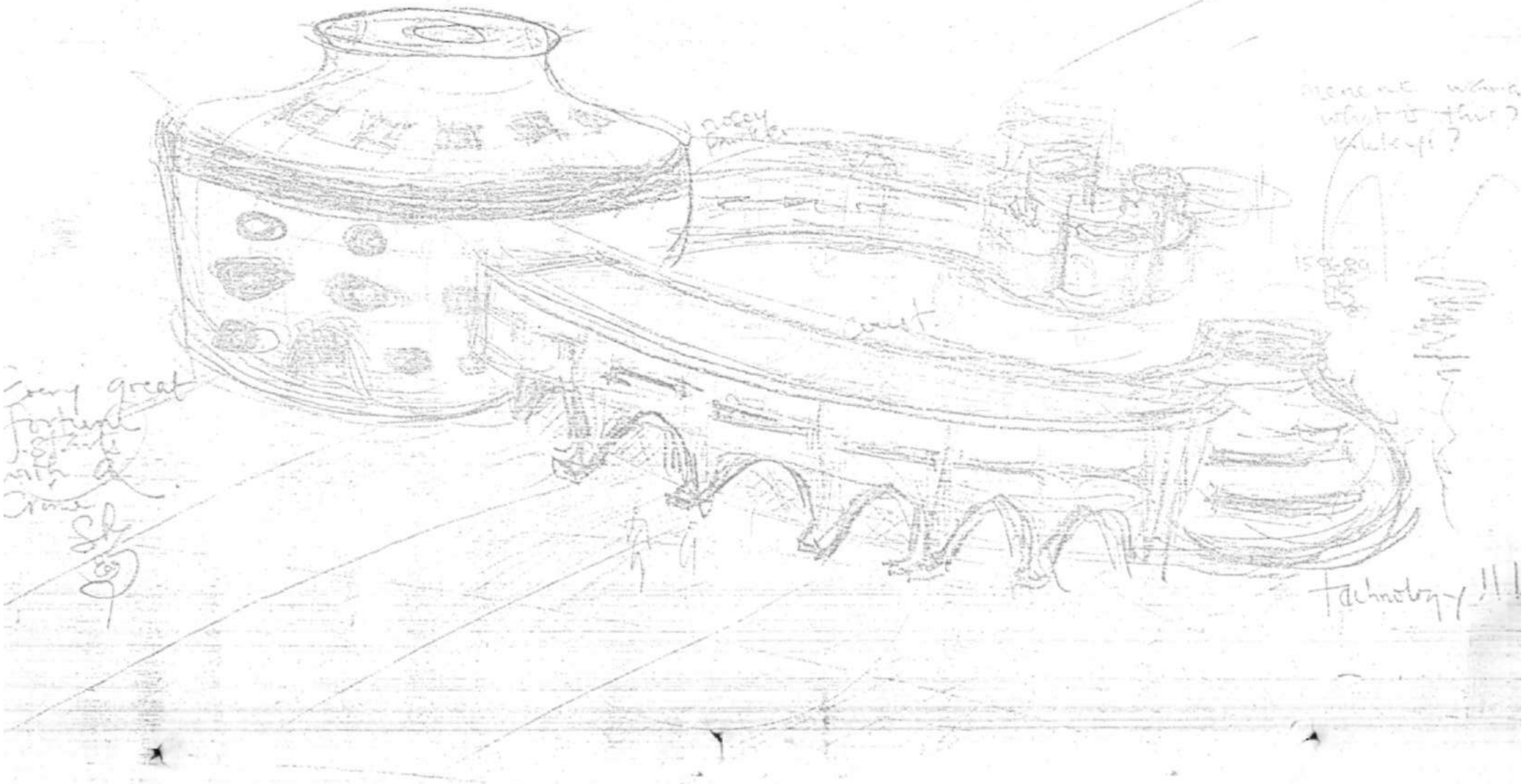


Sketch 2

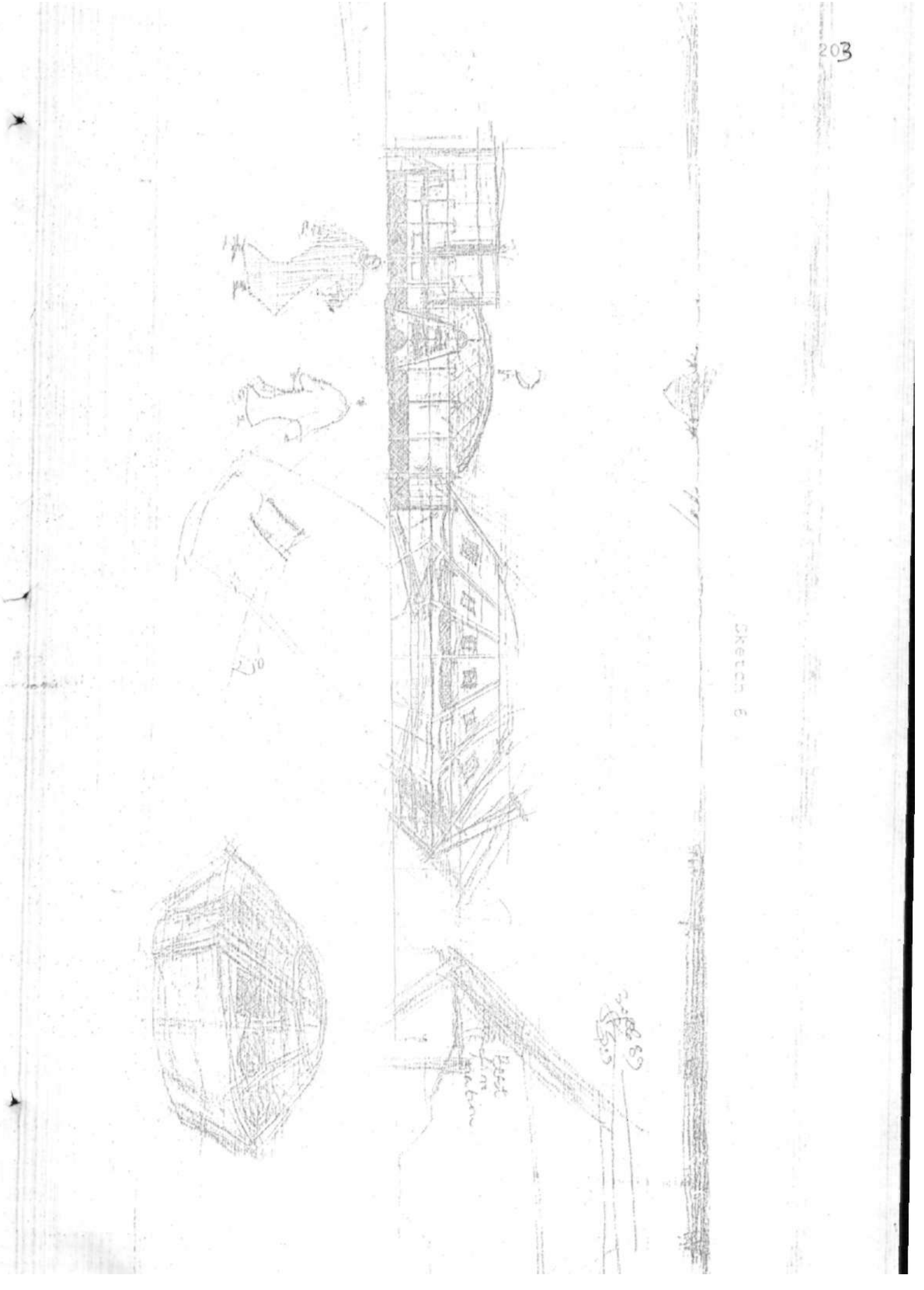

AMPHITHEATRE
YARD
LOUNGE
C/Y
cultural plaza
walkway
LOBBY
STORE
LOUNGE
YARD
LOBBY
walkway

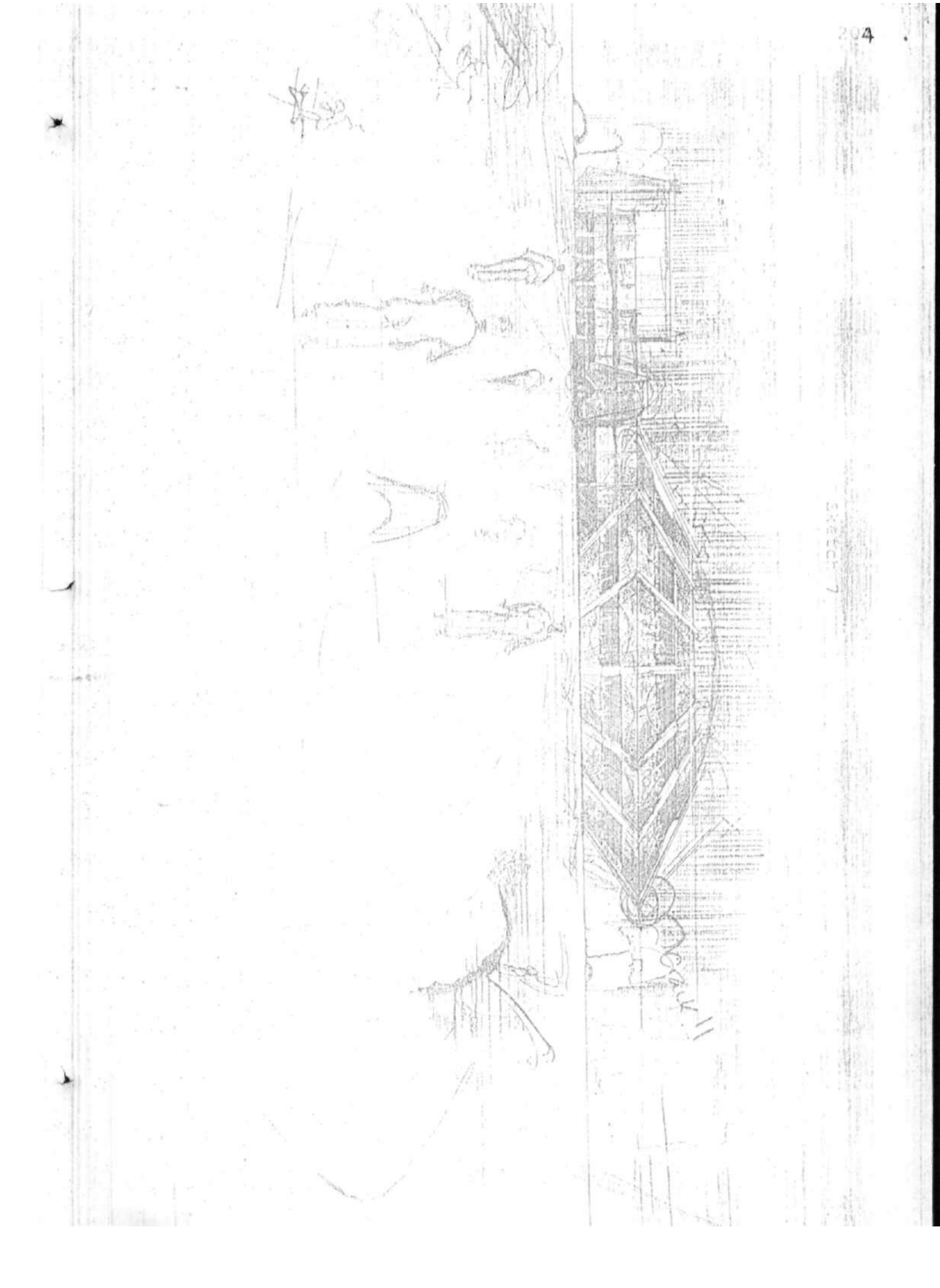

GENERAL
PARKING
ADMIN
Odersemi
all over
again.
stealing!

Sketch 4

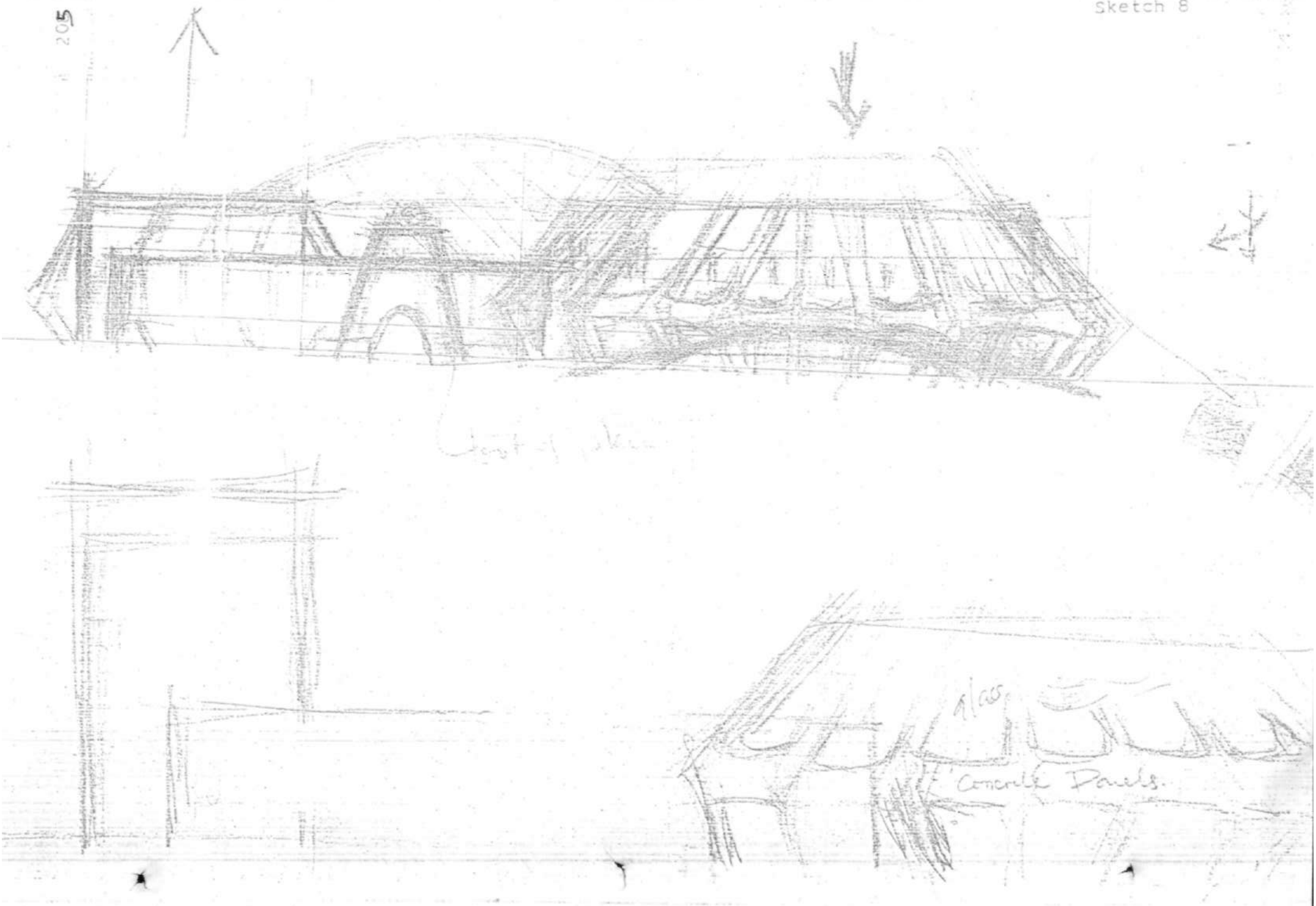


Sketch 5

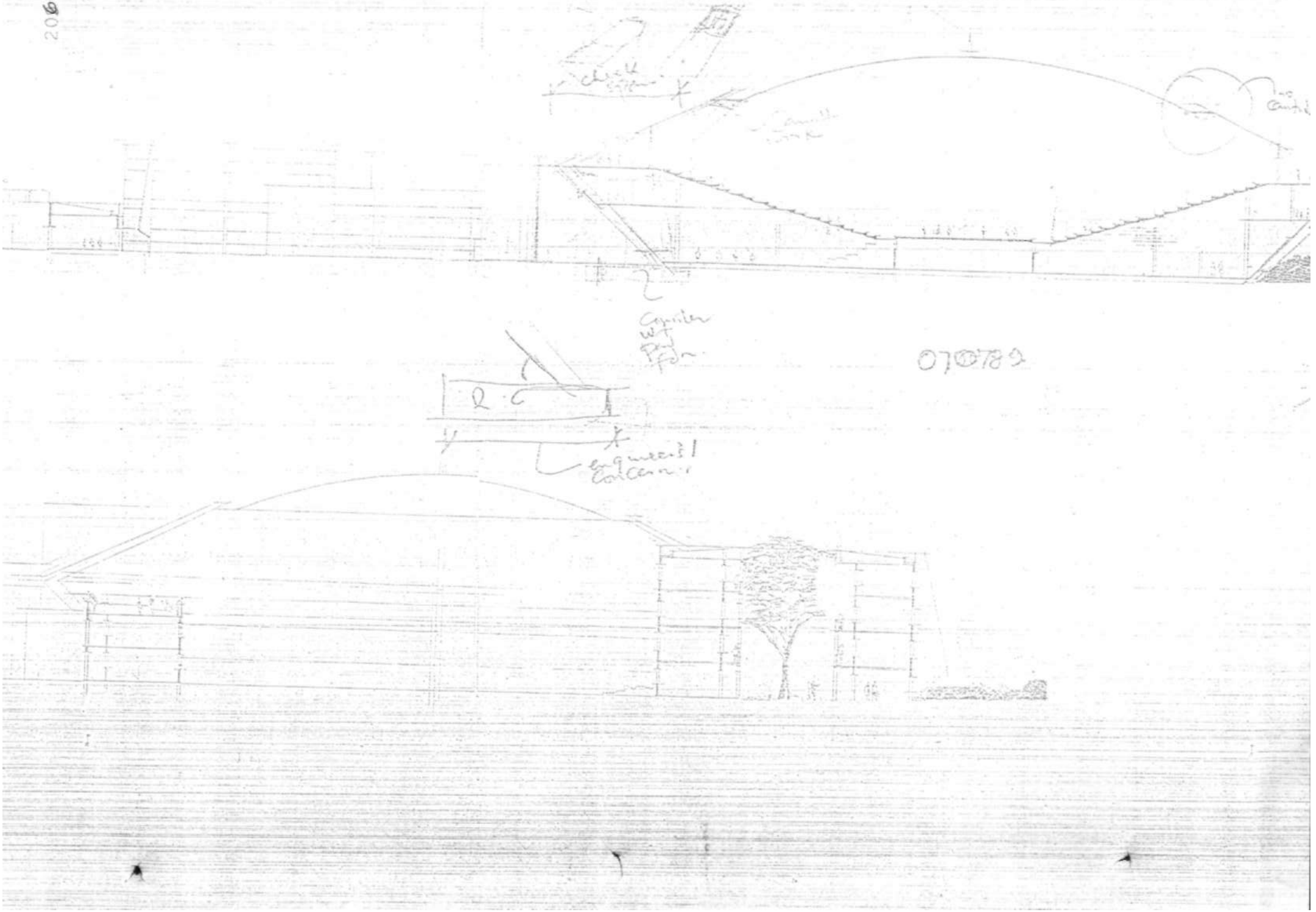

Sketch 3



Sketch 8



Sketch 9

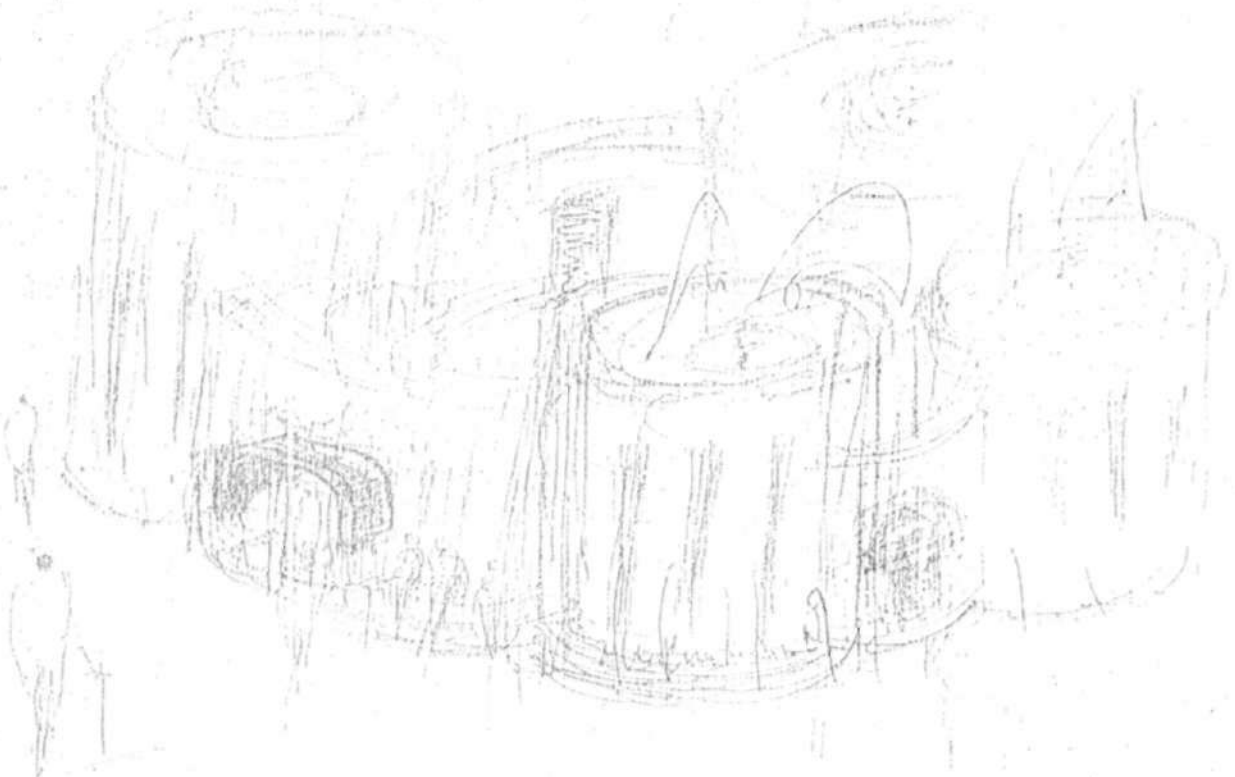


Sketch 10

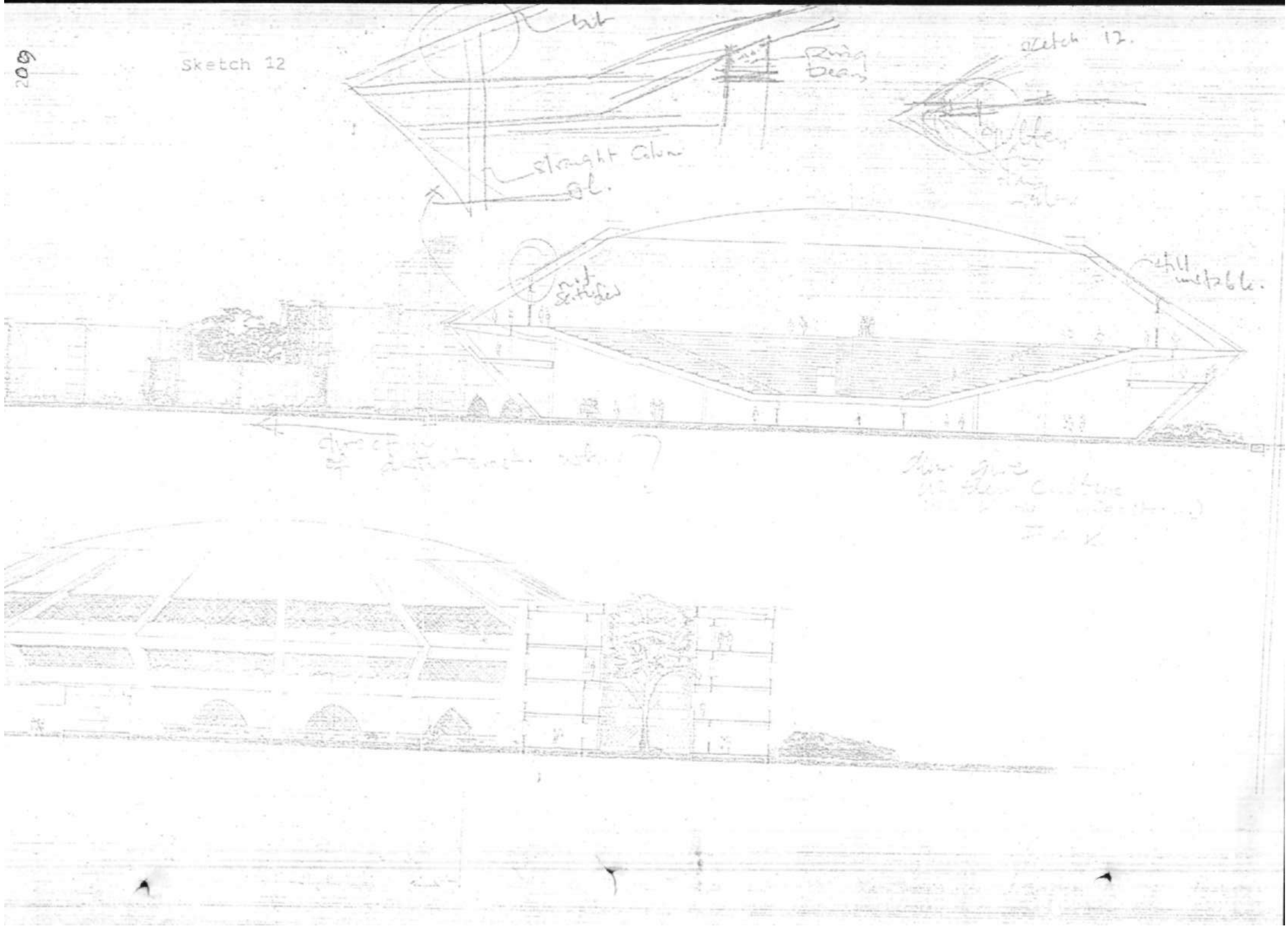
Sketch 11

208

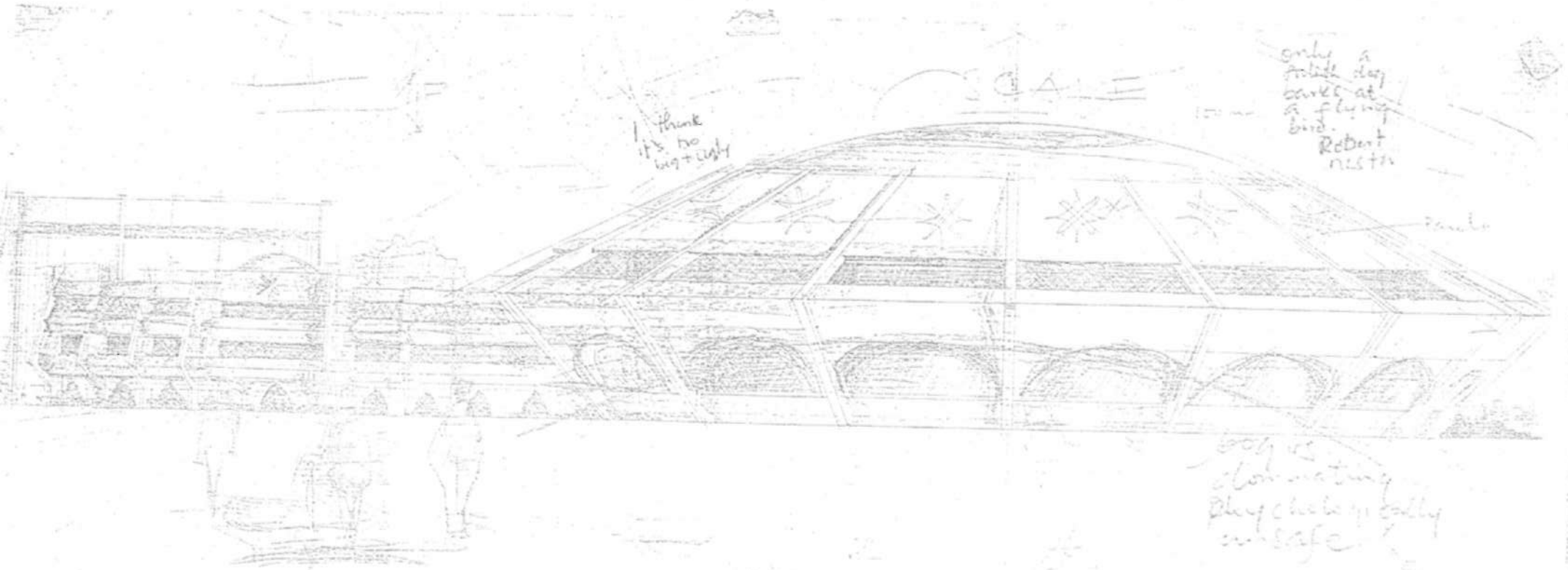




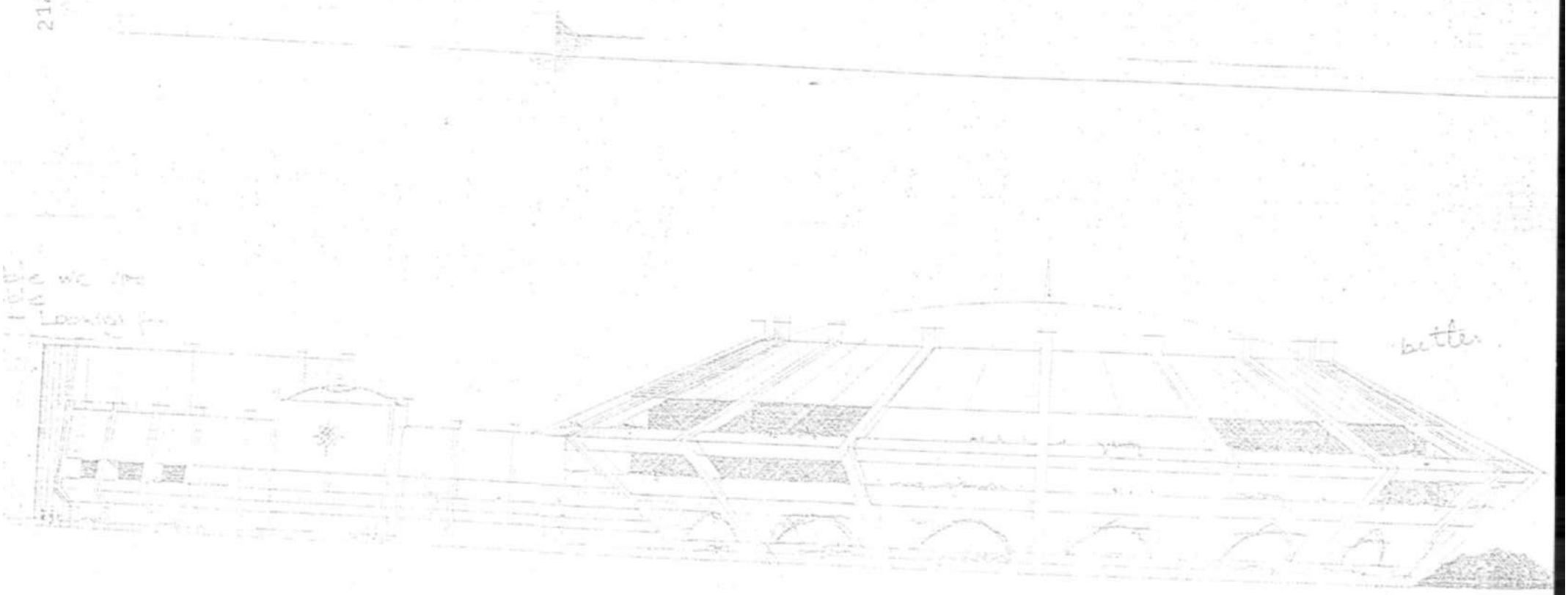
Sketch 12



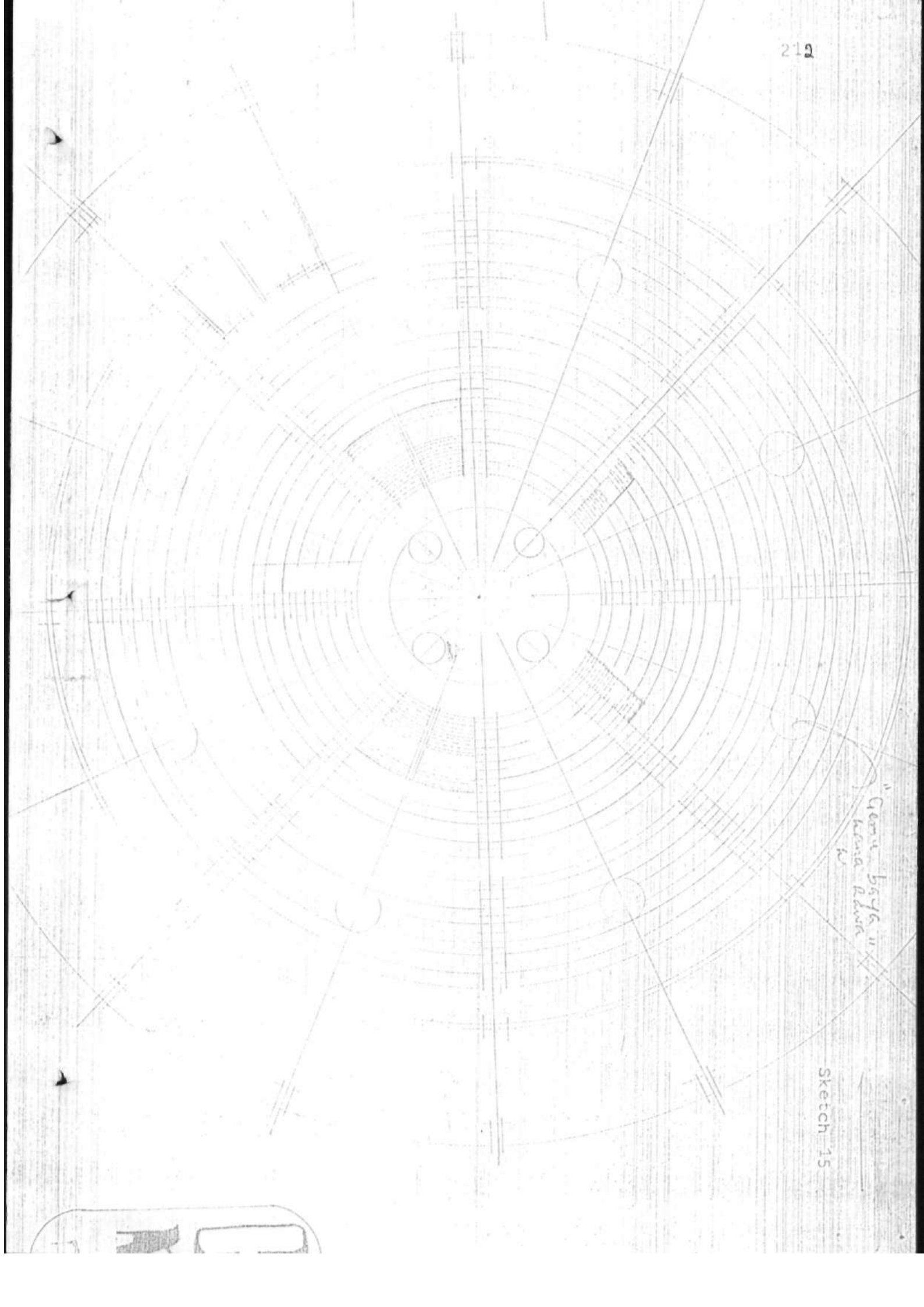
Sketch 13


I think it's too big + ugly
only a little dog barks at a flying bird. Robert Nesbitt

Sketch 14



I think
I am
pretty sure
but can I make
interpretation?



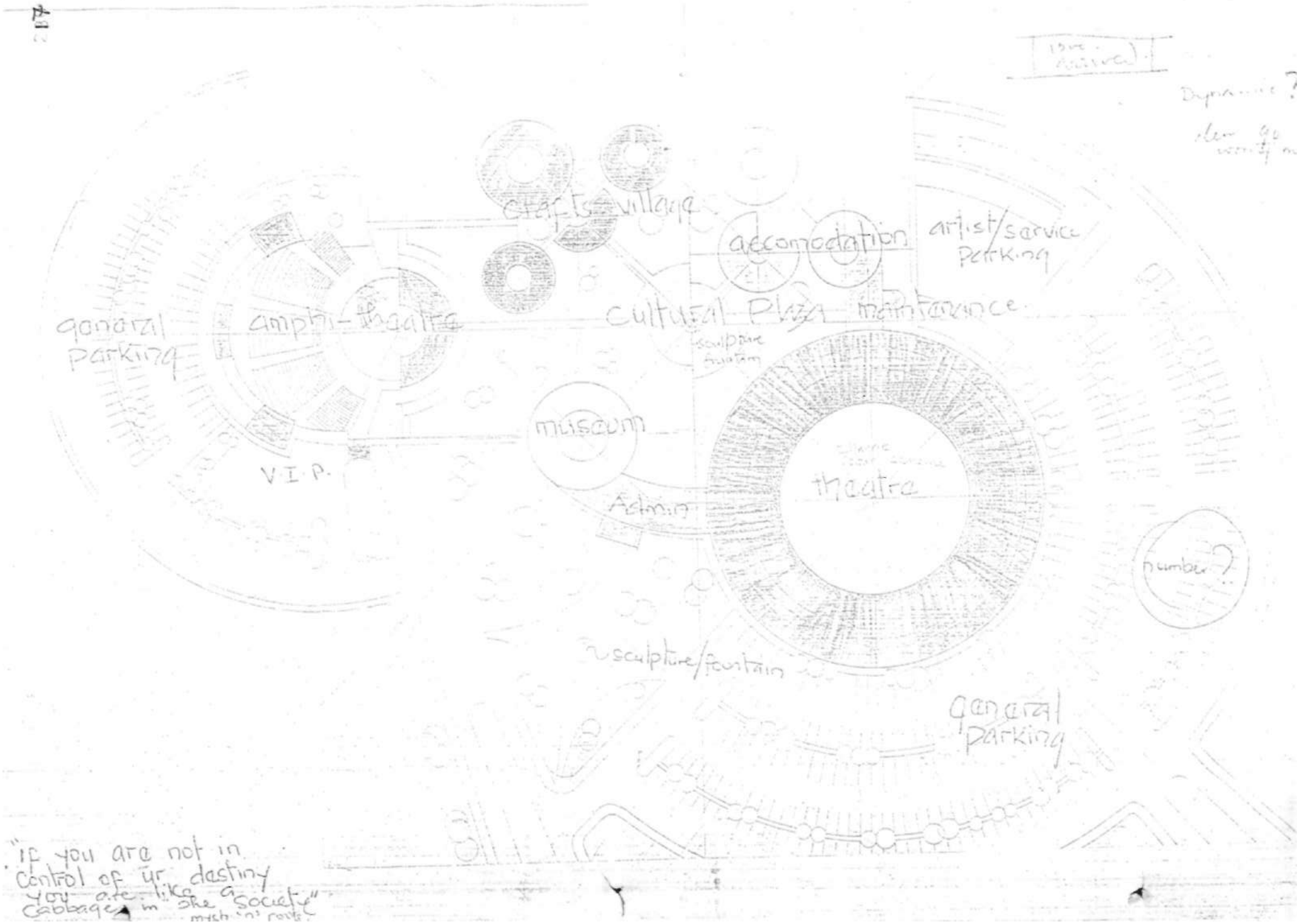
Sketch 15

Sketch 16

Sketch 17

Sketch 16

Sketch 19


craft village
accomodation
artist/service parking
general parking
amphi-theatre
cultural Plaza
maintenance
sculpture fountain
museum
V.I.P.
theatre
Admin
sculpture/fountain
general parking
"if you are not in control of ur destiny you are like a societe cabbage in the mush'n' roots"

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CHAPTER 8

8.0 DESIGN REPORT

Within the context of activity, 3 basic zones have been clearly defined. These are:

(a) The Fringe zone - which consists of the theatre amphitheatre, museum and the administrative building.

(b) The middle zone - this consists of the cultural plaza in its entiretys and

(c) The extreme zone - which entails the crafts village, classrooms/workshops and the accomodation unit.

These zones have been so positioned depending on the degree of use while the order respects the traditional hausa heirachy of spaces, private - semi-private public.

8.1 Traffic Network

The ultimate goal is to ensure effective circulation and orientation for a very large number of users. The traffic network is thus designed so as not to create a demand that aggravates its own congestion.

The access to the site is through the dual carriage Katsina-Jibiya Road. Two engress/ingress points were tapped and in order to create high circulati order on site, a system of seperating the vehicular traffic and pedestrian was devised. This takes the

form of locating parking spaces closer to functions in use. The public parking was provided directly opposite the theatre as this unit is expected to attract the most number of users. This same parking lot is expected to serve the administrative building and it also extends to the accomodation unit and backstage area, so as to serve partists. The other parking lot on site fans around the amphitheatre through the canopy in front of the administrative unit. The canopy is meant for ceremonial processions.

8.2 Entrances.

In order to cater for a large number of users, decentralized planning was adopted such that the different facilities are highlighted by their own entrances with the total whole culminating at the drop-off point. This canopy leads to a pedestrian mall from which all other facilities are accessible. The mall is accentuated by archways and the same is applicable to the theatre. The entrances to the other units are highlighted by natural stone planters and steps. In the case of the theatre, the archways lead to a mall which in turn leads to the different foyers lounges, box offices etc. depending on the category of ticket. There are basically 3 foyers. Two for the general public with access to the main bowl through vormitories while the other entrance is for

V.I.P's and the disable with a ramp leading to the main bowl. The artists approach the theatre through the mall between the accomodation unit and the theatre. This mall leads to the artist lounge which in turn leads to the rehearsal hall, all on the ground level. The rehearsal hall boasts of two vormitories to the main bowl.

8.3 Structure

In dealing with the building stability, a closer look at the structural system used would explain the basic idea incorporated. Simple frame construction was used for most parts of the complex with roofing sheets acting as the roof covering except in the administrative and classroom building, where concrete roofs have been employed.

The theatre consists of reinforced concrete columns supporting the raking while additional sixteen buttress tied together by a ring room at the top which in turn supports the 80mm shell roof.

8.4 Orientation

The building orientation after a careful survey of the existing local forces, gave birth to a concept which best utilize the shading angle for the design comfort performance. Shading devices were provided in places where they are deemed fit. The location of

certain facilities within the complex has been approached to take advantage of orientation. For example, the axis of the amphitheatre has been located in such a way that the prevailing wind blowing from the stage towards the spectators will function as reinforcement of the acoustic performance.

8.5 Lighting

The planning of structures was such that natural lighting was achieved in most of the units. Where the level of natural lighting is inadequate, it becomes necessary to reinforce this with the use of artificial lighting. Within the theatre, lighting fixtures have been provided from the ceiling and walls, focusing on the stage at an angle of 45° to the stage.

8.6 Acoustics

Certain measures have been adopted to screen the theatre from the following noise sources.

(a) Air-borne noise

(b) Structure borne noise

From the air-borne noise generated by traffic and pedestrian movement, the use of a buffer in the form of a terrace is aimed at reducing the impact of these nuisance within the interior. Special acoustical materials were provided in the form of wall, ceiling and floor finishes to aid interior audibility. The

seats are proposed to be made of special absorbing material, making intelligibility possible when the theatre is not in full capacity, the suspended ceiling is made of plaster bonding acoustical material.

8.7 Finishes

For a good visual apprehension, the interior and exterior were finished in various types of materials, which is hoped to induce a psychological acceptance to the users. For example, the entrance lobby adopted mosaic floor finishes, art works for wall finishes etc.

8.8 Landscaping

Different types of landscaping elements were located at strategic points around the site. The intergration of these landscaping elements within the complex enhances the site harmony. Within the courtyards, concrete seats were provided while decidious trees were proposed to reduce site erosion and also provide foliage covering for relaxation.

8.9 Drainage

For an effective drainage of both surface and roofs, a channelization scheme was proposed along the building pheriphery so that water collected from the roofs and surface are eventually channeled into the

proposed drainage system.for the town. The courtyards are also drained by underground drainage pipes.

8.10 Sewage Disposal

Septic tanks were located closer to toilets in order to avoid blockage of pipes that might be caused due to long distances and bending of pipes along the line.

8.11 Electricity Supply

As proposed in the master plan scheme, power supply shall be through the national grid network system along the site boundary. This scheme is aimed at meeting the local demand of the complex.

8.12 Water Supply

The water supply to the complex shall also respect the channelisation scheme proposed in order to meet the local demand requirement.

8.13 Conclusion

Within the thesis framework, the theatre is the most affected and this is in the form of audience participation. The architectural solution proposed is the use of informal stages within the seating arrangemen so that the audience - artist relationship is further enhanced. Considering the fact that the measure of success of a performing group is the amount of money extorted from the audience, the design has tried to enhance. This phenomenon by the provision of auxilliary stages around the main stage.

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SITE REGION



N

SITE PLAN

GRAND
TIER TIER

SECTIONS
E-E LOOKING
D-D LOOKING

ENCE PARTICIPATIO



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to
av-

MU BAYA HANA RAWA'

ENHANCING AUDIENCE



- through informal stages placed within the seating arrangement so that audience are encouraged to join the performance without leaving thair seats per se.



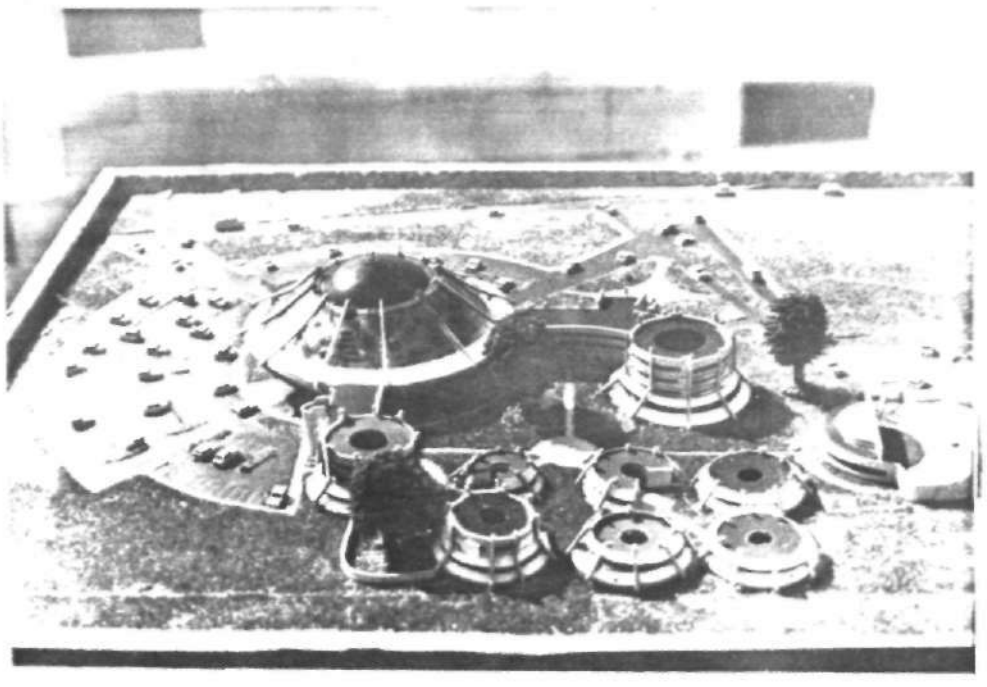
- through informal stages
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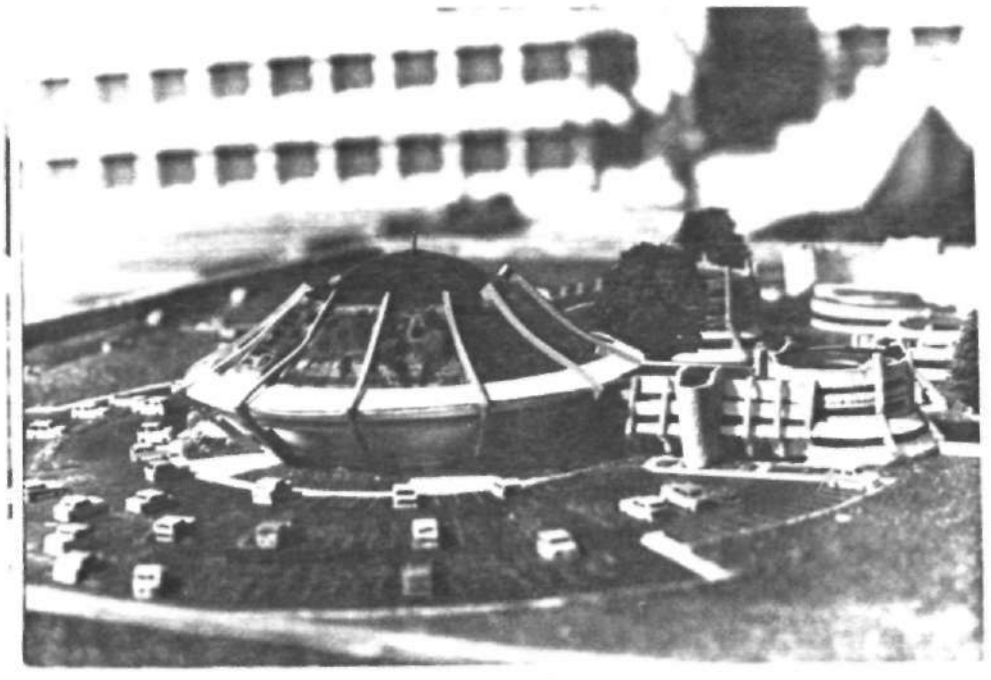


PANORAMIC VIEW



AERIAL VIEW (model)

KASHI



VIEW FROM ARTISTS' PARKING LOT (model)