

ORGANISATION OF AFRICAN UNITY (O.A.U.)
REGIONAL HEADQUARTERS AT ABUJA
(A SEARCH FOR A FUNCTIONAL ARCHITECTURAL
EXPRESSION)

BY

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D E C L A R A T I O N

I do hereby declare that the work presented in this dissertation for the award of the degree of a Master of Science in Architecture has not been wholly or partially presented in any previous dissertation of its kind. All sources of information have been duly/fully acknowledged by way of reference or otherwise.

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B.Sc. (Hons)

CERTIFICATION

This thesis entitled "O.A.U. REGIONAL HEADQUARTERS,
by OGUNROMBI, OLADELE meets the regulations governing
the award of the degree of Master of Science in Archi-
tecture (M.Sc. Arch) of Ahmadu Bello University and is
approved for its contribution to knowledge and literary
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Date.

DEDICATION

TO

My family

The African child

A happier society

and

The Giver of Life and

Inspiration.

ACKNOWLEDGEMENT

My years in Architecture School have been of mixed feeling of joy, torture, confusion and doubt, but an ability to bear, belief in myself, understanding that problems arise because they have solutions, knowing that good things come to those that wait, have made me understand and appreciate life thus realising that nothing good comes easy. I will like to express my profound appreciation to the following lecturers of the Department of Architecture; Dr. O. Solanke (H.O.D.), my supervisor Mr. Abdulkarim, Mr. Yinka Gbotoso, Mr. Mbina for their constructive advice and criticisms. Other staff of the department have also been quite helpful particularly Mr. Antones and Mr. Madaki of the Data Room. I will also like to express appreciation to Dr. I.A. Suleiman (Urban and Regional Planning Department), Dr. E. Oyedele (History Department) at A.B.U., Arc. Popoola of Steveben Associates, Mr. Olajide of F.C.D.A., Abuja, Mr. Abiodun of the Department of Water Resources and Environmental Engineering for helping in typing the final manuscripts. I will also like to acknowledge my crew of numerous friends, pallies, classmates, acquaintances whom to mention here would mean writing a whole dissertation. Lastly I will want to thank my family in their wanting a better future for me.

A B S T R A C T

This project is a design proposal for an Organisation of African Unity (O.A.U.) Regional Secretariat at Abuja, Nigeria in the West African region. The O.A.U. is expected to play more important roles in Africa and in the World at large. Hence some decentralisation will be inevitable and Nigeria is likely to play the role of regional leadership. The proposed complex is expected to complement the facilities of the existing O.A.U. Secretariat at Addis Ababa in Ethiopia. It will also complement the E.C.O.W.A.S. Secretariat and other United Nations agencies in Abuja.

An attempt is made in the design to blend some symbols and forms of expression in African architecture. Some of these include domes and pyramids for roofs, arches for entrances and openings, courtyards (layouts which emphasize a common focal point), using modern technology. These symbols depict regional identity in aesthetic and visual context, having harnessed the rich architectural history of Africa. To achieve the proposed design, relevant case-studies were appraised and were incorporated as deemed necessary. This ensures maximum utilization of the complex with regard to the special considerations that the project demands.

In addition, visits were made to Abuja to determine the suitability of the suggested site adjacent to the E.C.O.W.A.S. Secretariat at Abuja. It is hoped that the proposal would serve as a model for other African sub-regions to adopt.

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CHAPTER 1

I N T R O D U C T I O N

The Organisation of African Unity (O.A.U.) was founded in 1963 to promote unity and solidarity among African States. However in the recent times, the Organisation has suffered from internal problems that hinder the workings of the Organisation. Instead of being the embodiment of African Unity, the Organisation has suffered disunity owing to depolarisation factors. This makes it unable to address the numerous problems being faced by Africa today. Her most vociferous critics have even questioned the logic of her continued existence. The fact that the Organisation has survived twenty-eight gruesome and torturous years is a proof of the permanence of the ideals which shaped her.

The hosting of the O.A.U. annual summit causes enormous economic stress and strain to host countries, a fact which many African Heads of States refuse to accept in order to save face. The general Secretariat at Addis Ababa is at present the focal point of the Organisation. However, for a more effective dissemination of activities and ideas to all nooks and corners of the continent, an increase in the number of dissemination points at the regional levels is essential.

This upholds the aim of this project being the design and provision of a suitable Regional headquarters of the O.A.U. at Abuja, Nigeria. This will be a building that facilitates the workings of the O.A.U. and which truly in planning and concept symbolises the lofty

aims and aspirations of the Organisation. Focus will be on concepts that can enhance unity, harmony and interaction rather than on those that will further expose the already wide diversity. This project if carried out, could within some years take the O.A.U. member states to a highly economically integrated level and a practicable and far reaching political amalgamation.

1.1 MOTIVATION

The choice of the O.A.U. regional headquarters as proposed was not made haphazardly. It was borne out of deep concern for the survival of the continent that lacks regional cohesion, homogeneous cultural identity and all trappings of an organised life and concern for an infrastructure suitable for the present citizens and those yet unborn. These considerations come from within.

From outside, the emergence of new democratic societies in Eastern Europe, for example, coupled with the real emergence of the European Economic Community Act (E.E.C.), means that political and economic investments would be focussed on Eastern Europe to the detriment of the developing world, particularly Africa. This would threaten continental and regional stability in the African continent because peace, welfare, security and development are interrelated.

Self reliance at the national, regional and continental levels in the African continent would now have to move beyond clichés and soft political slogans to physical reality. Therefore, attainment of the objectives of this project through its architectural attributes would help in fostering unity and cohesion and make sure that the continent is not side tracked. The objectives are as follows:

1.2 OBJECTIVES OF THE PROJECT

The objectives of the O.A.U. regional headquarters at Abuja are as follows:-

- i) To achieve unity in a multi-cultural society (Africa). This will hopefully be through the abstraction of traditional symbols and their subsequent adaptation in architectural context as a means of evolving a sense of unity and identity in Africans.
- ii) To provide a rallying point for member states and agencies of both the O.A.U. and the U.N. affiliates in the West African region. It can also be a venue for O.A.U. summits, when the turn of any member of the region to host the O.A.U. arises. This will save costs for erection of temporary (make shift) venues. The permanent venue will allow for a faster and more widespread dissemination of policies and ideas to a larger part of the population.

- iii) To complement the E.C.O.W.A.S. building at Abuja as they both share mutual objectives on a broader level to a certain extent.
- iv) To serve as a prototype for other regions, but with alterations and amendments as deemed necessary due to cultural, climatic, economic, political and geographic reasons that might arise.
- v) To serve as an Architectural response to the dilemma of regional integration and fostering unity through design by identifying operational constraints that might hinder the utilisation of existing facilities of this nature, thereby designing to ensure maximum utilisation of the complex (i.e. by being able to expand as flexibility demands but still allowing for interaction at permissible levels).
- vi) To design and cater adequately for both staff, clientele and delegates. The design should also serve as a centre for the preservation of artefacts depicting the struggle to unite the continent.

1.3 SCOPE OF THE PROJECT

1.3.1 The Analytical Scope:

This will include the following:

- (a) An analytical study of the problem of unity in Africa through detailed analysis in the form of historical and literature review.

- (b) Evaluation of the problem with respect to the independent cultural identity and the identification of factors behind the cohesive forces as evident within a cultural group.
- (c) Identification of cultural/social architectural similarities among the various major groups in Africa. Subsequent abstraction and adaptation of the ones necessary for development of an O.A.U. regional headquarters at Abuja using these similarities as a guide.

1.3.2 The Design Scope:

This will include:

- (a) The presentation of unity
- (b) The promotion of unity
- (c) The use of architectural elements and spaces to emphasize unity

(a) The Presentation of Unity:

This will entail the adaptation of traditional planning concepts, traditional forms/symbols and philosophies into the design and development of the regional headquarters. Presentation of these concepts will be such that they are identifiable and hence understandable in the traditional context.

(b) The Promotion of Unity:

This will include such activities which portray regional cohesion. This will be by the provision of buildings and facilities to house the following departments.

- (i) The administrative departments, conference halls and facilities, theatre/auditoria, seminar rooms, general office facilities, lettable office space.
- (ii) A financial and economic planning department, shopping mart, trade centre/commodity exchange and banking services.

(c) The Preservation of Unity:

This is achieved by providing for

- (1) Socio-cultural Departments i.e. recreation areas (banquet rooms, landscaped courts, plaza, restaurants and exhibition rooms/museum). The exhibition rooms would be for preservation of cultural artefacts, documents, paintings and other relevant artworks/pictures that portray or reflect unity. Other supporting facilities would also be provided i.e. maintenance services (electrical, water, drainage, sewage disposal etc). Health centre, parking facilities and security services would also be provided.

1.4 USERS AND CLIENTS

It is hoped that the Economic Commission for Africa (E.C.A.), the African Development Bank (A.D.B.) in collaboration with the O.A.U. Secretariat will buy the idea of the project and fund it together with the Nigerian

Federal Government. An appropriate site would be provided for the structure at Abuja by the authority in charge of the area i.e. the Federal Capital Development Authority (F.C.D.A.).

1.5 RESEARCH METHODOLOGY OF THE PROJECT

In order to achieve the stated objectives, the following approach will be adopted.

- (a) A review of existing relevant literature i.e. books, thesis write-ups, magazine articles, seminar papers and reports, which give an insight into the historical background of Africa highlighting the geography, past, present and future of the continent; the O.A.U. itself by studying its evolution and achievements. Literature relevant to concept formulation using architectural elements to emphasize unity are also looked into.
- (b) The appraisal of existing relevant facilities of this nature i.e. case studies.
- (c) Interaction and discussion with people knowledgeable in this field of study.
- (d) visits to Abuja and personal observation of the proposed site and facilities and the collection of appropriate drawings.
- (e) Design proposal for the secretariat.

CHAPTER 2

AFRICA AND THE O.A.U.

2.1 AFRICA:- Physical Environment, People and Architecture:

Africa is a compact land mass second only in size to Asia. It is joined to Asia by the narrow isthmus of Suez, and it is separated from Europe by only nine miles that forms the Strait of Gibraltar from Morocco to Spain. But Africa is widely separated from the other continents. It is 2,000 miles to South America across the narrowest part of the Atlantic Ocean, 2,500 miles to the nearest part of Antarctica and 5,000 miles to Australia along 30°S latitude (from Durban in South Africa to Fremantle in Australia). The continent extends about 5,000 miles from North to South almost equally divided into two by the equator. It is over 4,500 miles from West to East at its widest points.

Within its 30 million square kilometers (about a quarter of the land surface on earth), Africa contains widely diverse environments. Vast plains, dormant volcanic mountains, rugged equatorial forests, mountain ranges, arid wastes and palm-fringed beaches are but a fraction of this diversity. Relief shows that Africa is high in the South-East and low in the North-West. Plains are a dominant feature of the continent's landscape. In the drier regions, they are astonishingly flat and smooth. In the humid zones, permanent valleys provide slightly more diversified relief. More than half of

Africa is however arid or semi-arid, but the coastline is distinctive for its beautiful beaches often stretching many kilometres of rare-rocky highlands. Within this interesting physical environment, are over 400 million people (about 15% of the world's population). Physically, Africa is a continent of extremes.

2.2 A SURVEY OF AFRICAN SETTLEMENTS:

Over most of the continent the typical pattern of settlement is the agglomeration of the largely agricultural population into villages. The nuclei of these settlements are usually family groups, whose houses are usually enclosed within thick thorn hedges, or surrounded by mud walls. In general these settlements occur in a series of dispersed nucleations, separated by more or less extensive patches of forest or woodland. The pattern changes to scattered isolated hamlets in the more open grassland regions of the continent. plates 2.1, 2.2, 2.3 show settlement patterns in a village of West Africa.

Africa is the least urbanised of the continents with less than 10% of the population living in communities of more than 5,000 people. The lure of the towns is now strong throughout Africa, with modern urban centres replacing those few long-established traditional urban areas.

Of the traditional towns, mention should be of those of

- (a) Arab, North Africa including Cairo, Algiers, Tunis, Marrakesh, Khartoum.

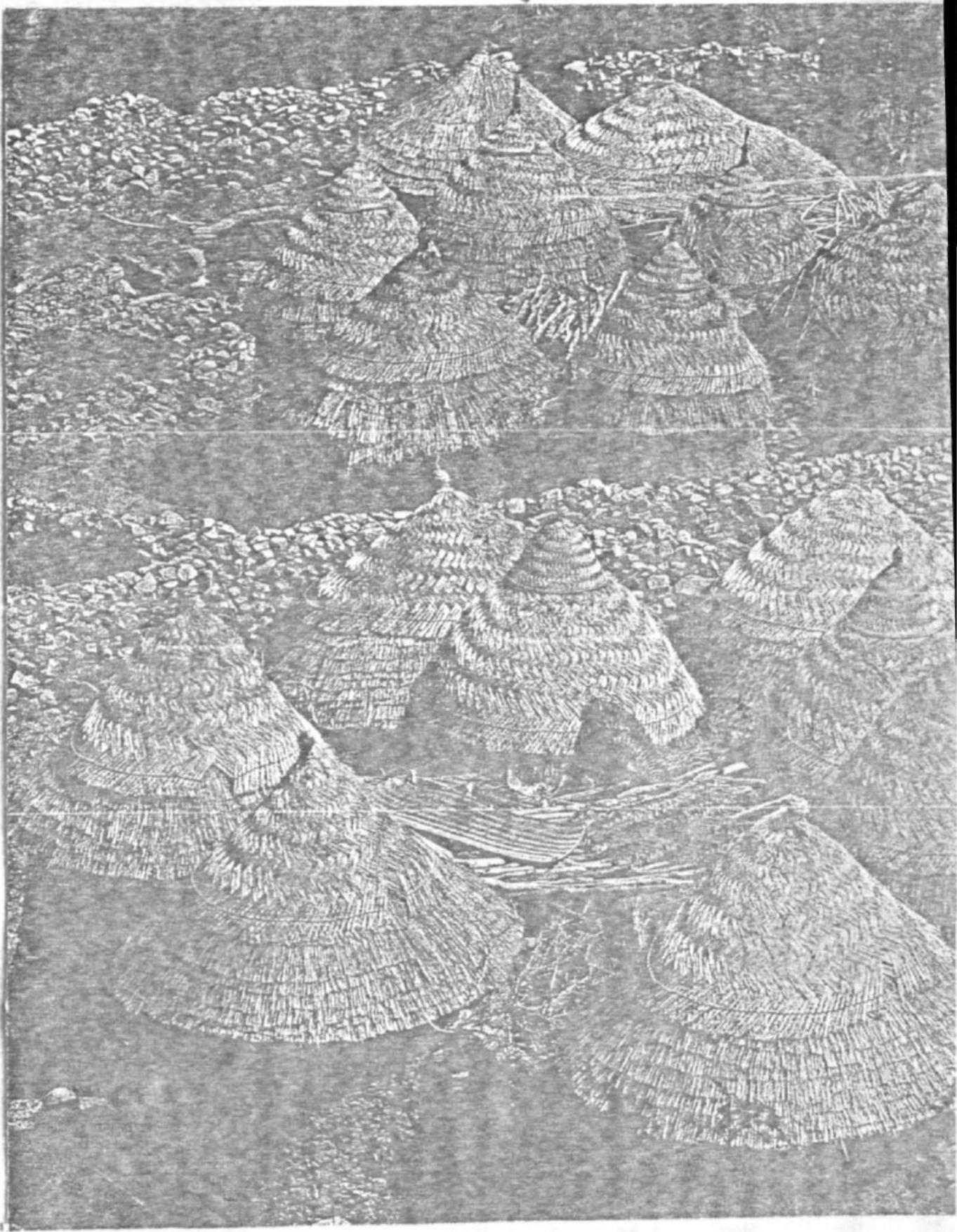
- (b) West Africa including Lagos, Ibadan, Kano, Accra, Kumasi, Dakar, Freetown etc.

Elsewhere on the continent, groupings in villages is predominant except occasional urban centres (mainly National Capital cities). Here urbanisation is a new phenomenon.

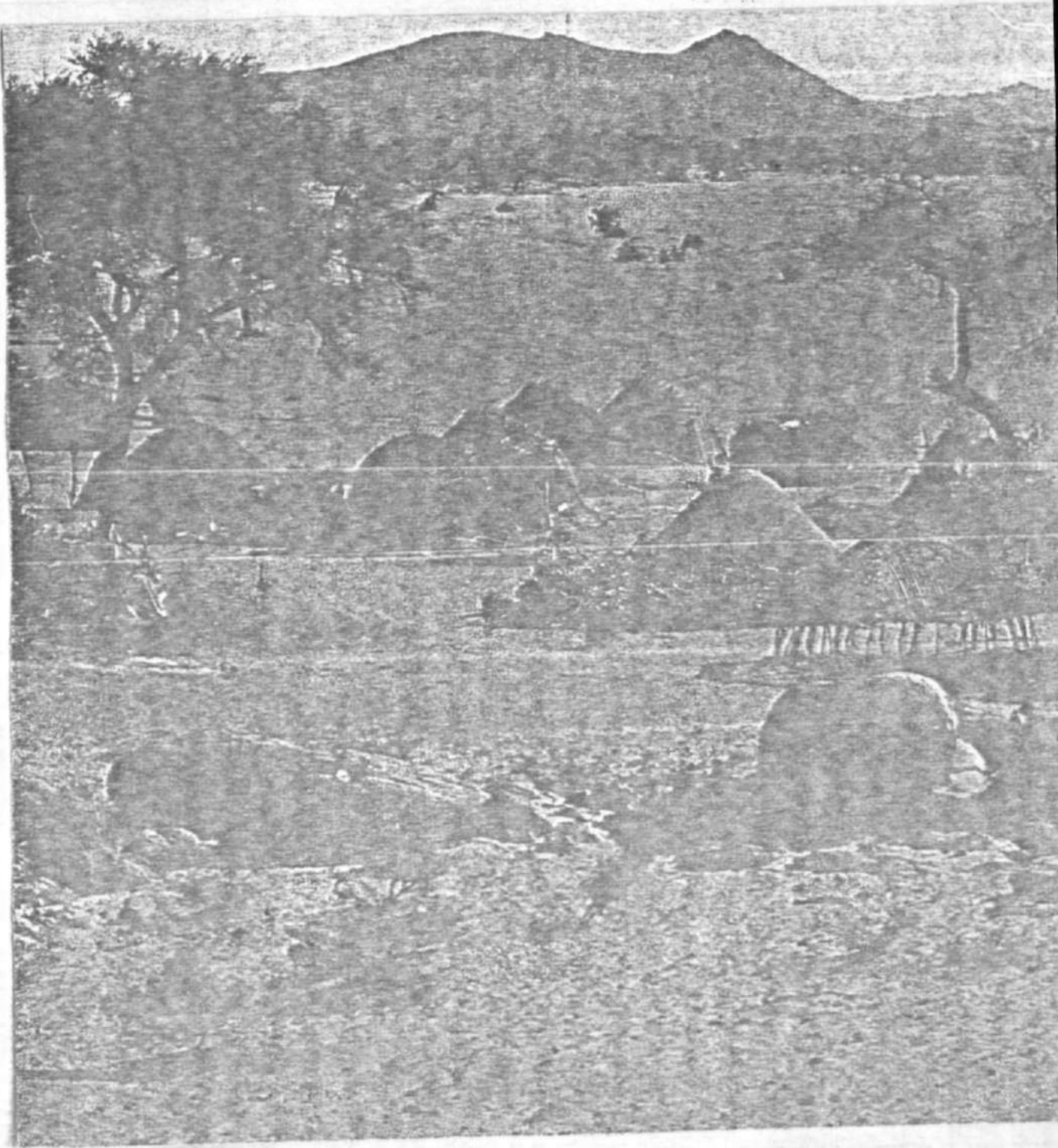
The main period of urban formation occurred in the late 19th century, particularly after the European partition of Africa when a number of new towns were created by the Europeans to serve as administrative, commercial, mining or transport centres. The pace of urbanisation has increased substantially throughout Africa not only through the expansion of existing towns, but also by the creation of new ones such as Nouakchott in Mauritania, Beida in Libya and Tema in Ghana. The main distributional pattern resulting from this urban evolution is a strong tendency for clustering of towns in five regions of Africa namely; the Maghreb region, the Nile valley, the Niger area, the West Coast and the Cape.

The pace of urbanisation is measured by the rate of growth of urban population. In 1965, the urban population of Africa was 48 million, by 1985 it was 120 million and by 1995 it is expected to have nearly reached the 200 million mark.

The urban growth rate of 3% (UN source) is one of the highest in the world. Moreover, the rural population is decreasing due to migration to urban centres in search of a better life. The various Sub-regions are discussed briefly along with their predominant architectural and settlement styles.



© A traditional neighbourhood cluster in a West African village. Note the brick walls for security.



© A Masai Settlement in Kenya
- East Africa. Note the
settlement pattern and house
type.



Plate 1. Timbuktu, once a famous trans-Saharan trade terminal on the Niger, and a great cultural centre, is now far from West Africa's main routeways

The city of Timbuktu
(now ancient and desolate).

A COMPARISON OF TWO EXTREMES.

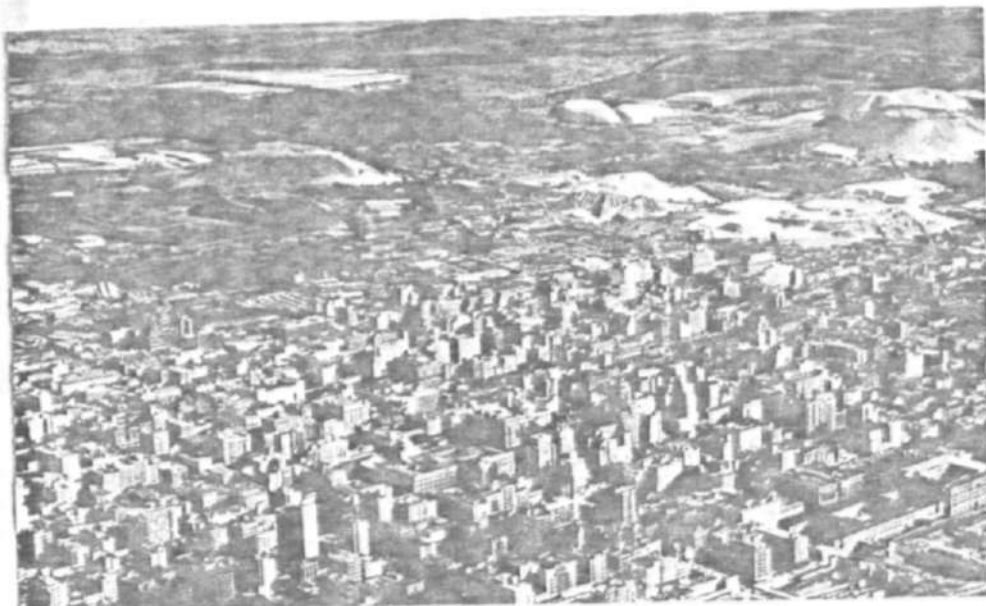


Plate 65. The central area of Johannesburg. Along the southern side is a line of waste tips from the gold mines, with industrial establishments between them. Beyond stretches the level sky-line of the Highveld

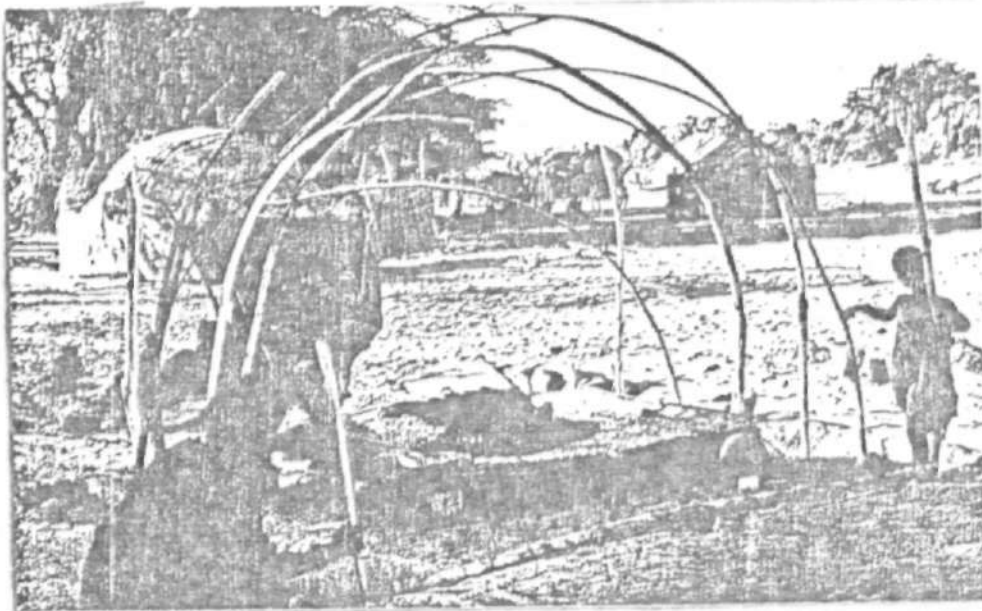
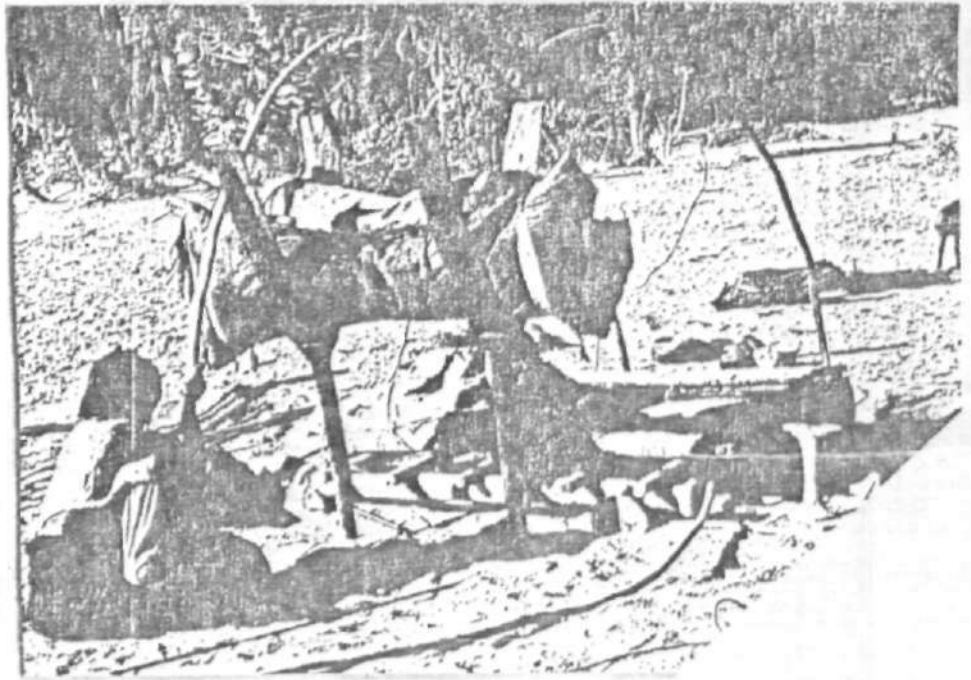
The bustling city of Johannesburg
(South Africa). A good example
of urbanisation in modern Africa.
Note the use of modern technology
in construction. Whites dominate
the population here.

2.2.1 North Africa:

The Sahara desert dominates North Africa. The people live close to the Oasis that dot the desert. They grow dates and where irrigation allows, barley and vegetables are grown. Others lead long lines of camel caravans heavily loaded with salt, cloth and wester-made goods along transport routes that have been in use across the Sahara for hundreds of years. The predominant tribes are the Arabs, Tuaregs and Moors. Islam has ordered the spiritual life of most North Africans and the Nile River has helped sustain those who dwell close to it.

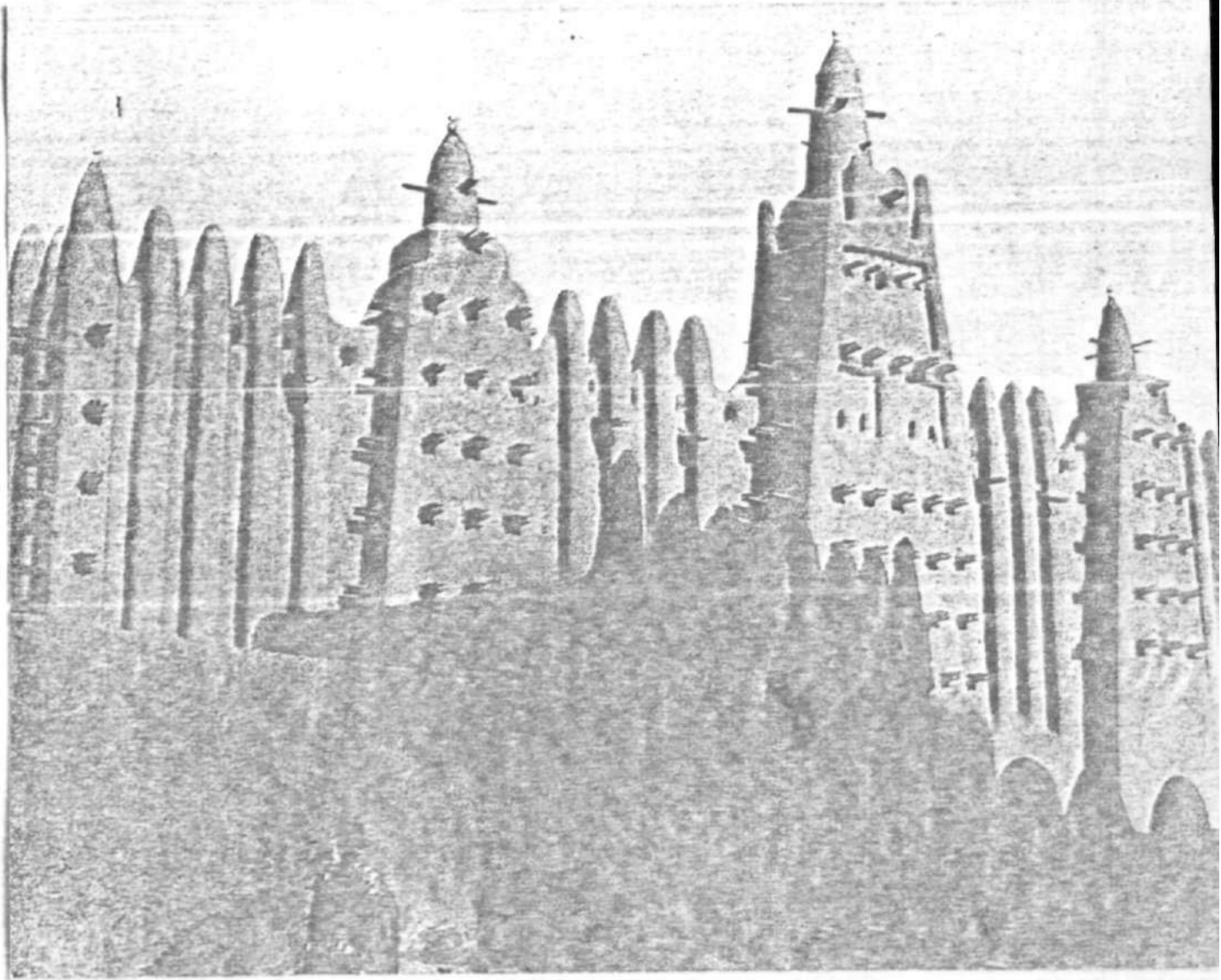
Architecture: The nature of buildings of the dwellers of this part of the continent is tent-like structures. Materials used for building are basically animal skins and fabrics laid on a framework of sticks (see plate 2 - 4). The arid nature of the region allows for the nomadic nature of the people due to the need to be near to areas of fluctuating essentials needed for human existence, e.g. water and green areas.

The Islamic influence on this region allows for planning based on Islamic principles. Mosques are common place features in the towns and villages of the region (see plate 2.5). Mud structures also abound with styles of design and construction differing from place to place (see plate 2.6). The pyramids of Egypt (tombs of past Queens and pharaohs in ancient Egypt (See plate 2.7), ancient temples are some of the symbolic architectural edifices in this region.

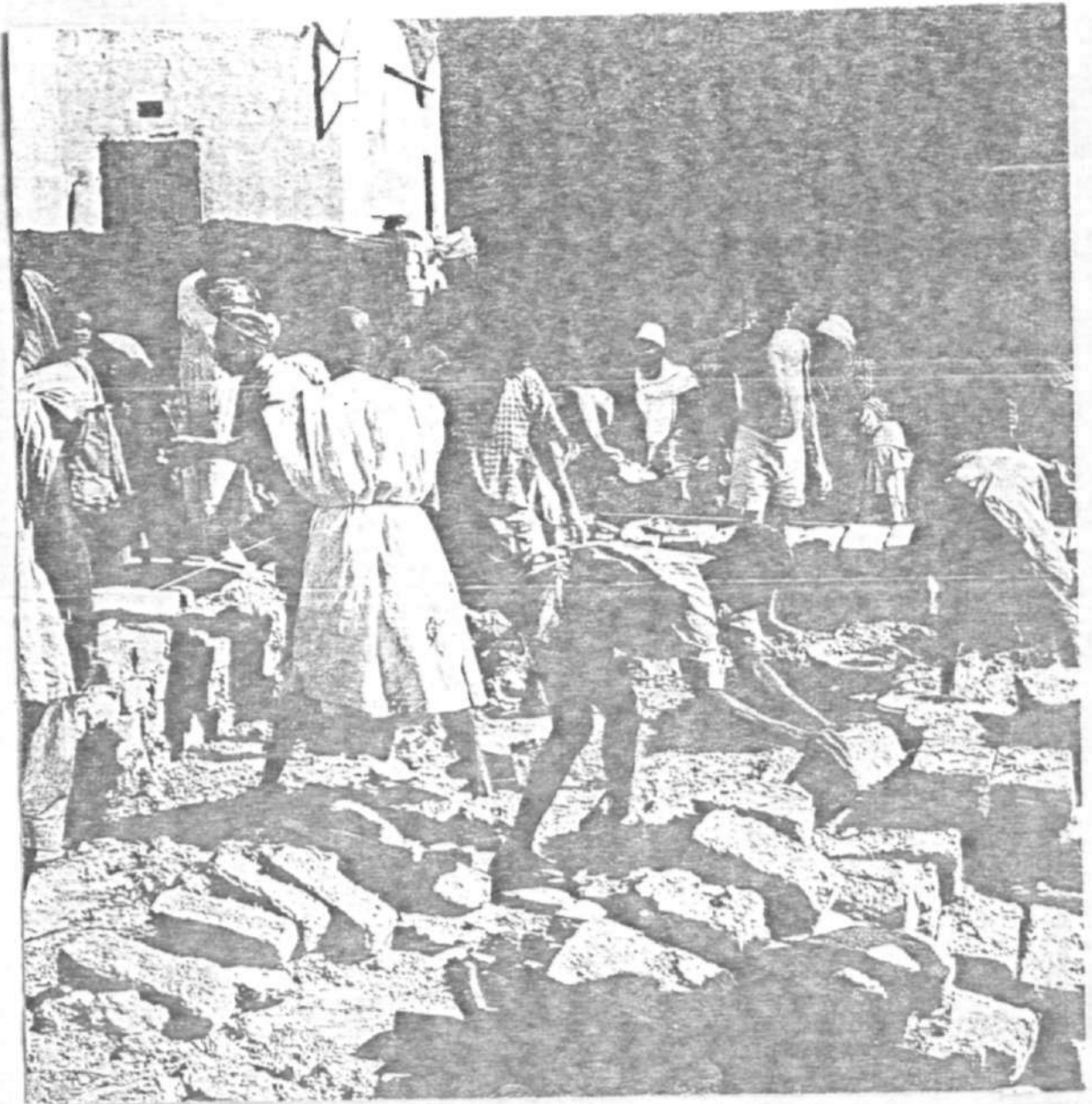


© The process of erection of traditional houses by rural North Africans. Framework of sticks on which fabric, skin is laid in tentlike pattern.

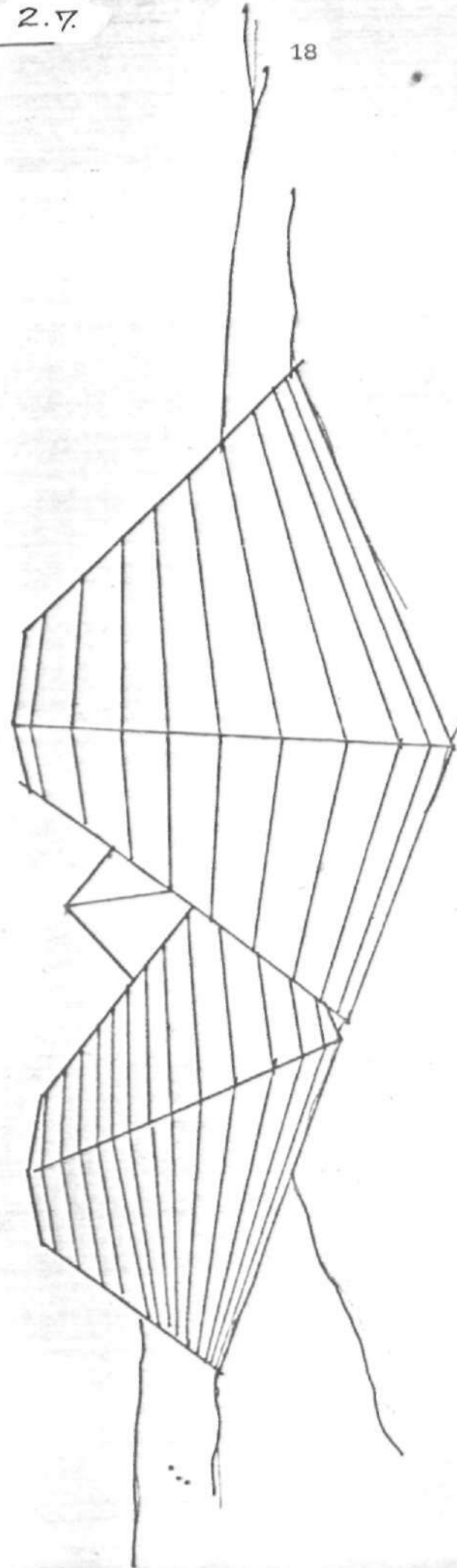




© A traditional mosque in Morocco (North Africa).



© Making and moulding of mud bricks used for traditional house types by artisans and builders, in African set-up.



● The Pyramids of Egypt. stunning architectural achievements of stone work using slaves as workforce and crude technology. to act as tomb for ancient Kings. Shape also used to bag commodities i.e cotton & groundnuts. Shape generally accepted as symbol of prosperity.

The impact of modern architecture is felt in the established urban centres with close European linkages e.g. Cairo, Alexandria, Tunis and Algiers. Planning of layouts is open with courtyards between structures to suit the hot climatic conditions.

2.2.2 West Africa:

Earliest written records of muslim traders who crossed the Sahara and reached the Great Kingdoms of the middle Niger reflect these societies as being dynamic and organised. By some 4,000 years ago, man in this region drove his cattle herds southwards in search of greener and more luxirant pasture as the Sahara started drying out.

The Fulanis are basically cattle people and their great herds represent their main form of wealth which indicates the status of the individual. They traded meat, hides and dairy products with other tribes like the Hausas who live in the tse-tse fly belt of the Savannah region and take grown foodstuff in payment. From the 13th century they began to convert to Islam introduced by the Berbers and Arabs involved in the trans-Saharan trade. This new religion provided them with a new and dynamically unifying force. In the past decade drought has devastated their traditional way of life by the encroaching dryness of the desert climate.

In southern part of West Africa which is the most populated area, fertile land is plentiful and crops like

cassava, yams and cocoa thrive in the forest regions of this zone. The dominant tribes here are the Yoruba, Ibo, Ashante and Hausa.

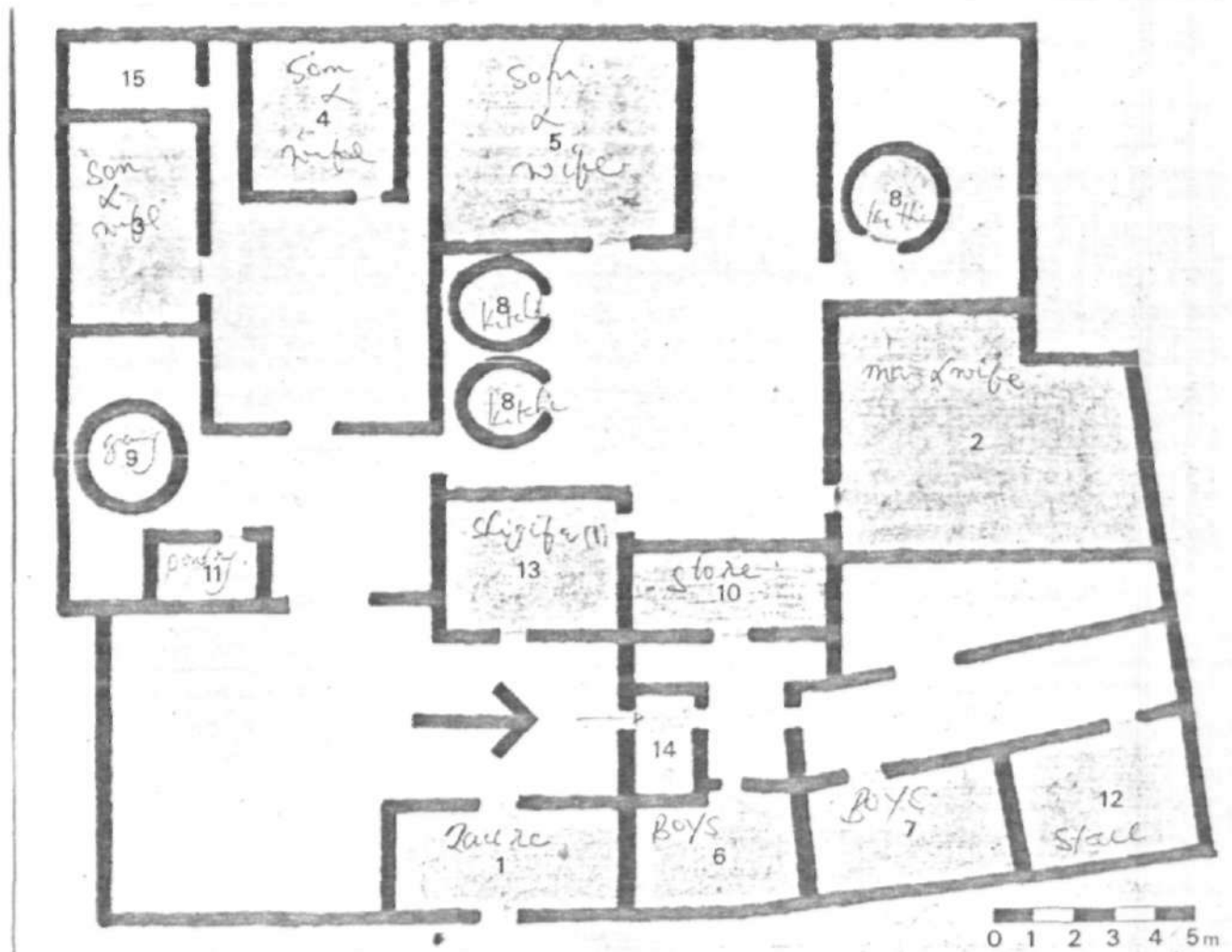
Architecture:

The architecture of West Africa is varied. Differences abound due to factors like climate, materials available, traditional customs, beliefs and cultures, environmental factors, nature of site (e.g. swampy, rocky), influence of religion and modern technology.

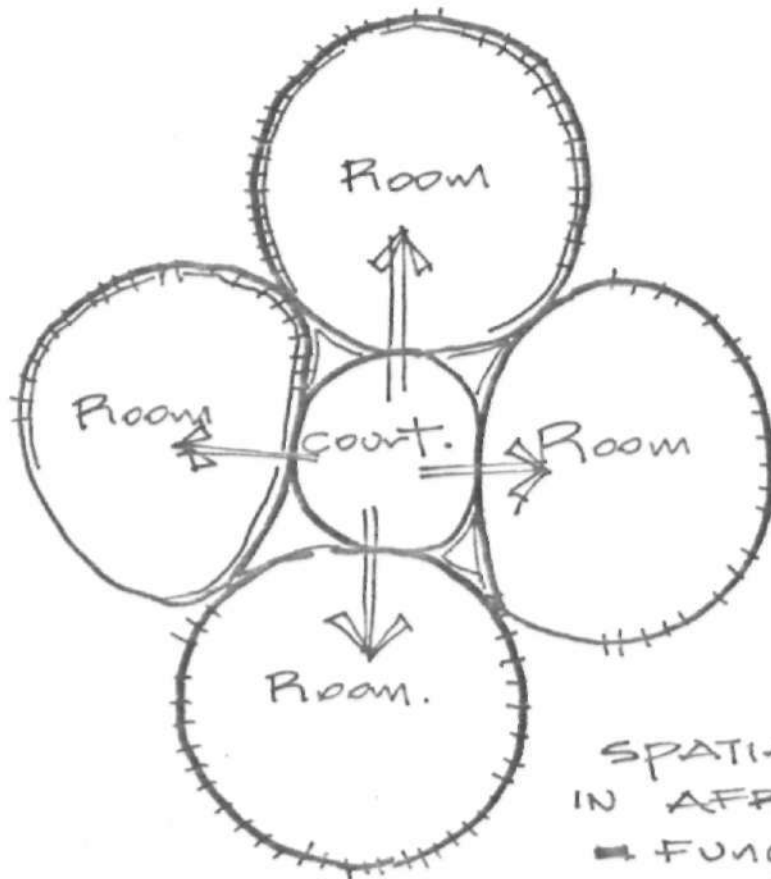
In the northern part of the region i.e. the Savannah belt, mud houses with thatch roof (either square or circular plan shape) are found. These are normally grouped in clusters around courtyards. In the southern parts, mud structures also exist. In swampy areas, houses on stilts are found. Churches and Cathedrals dot the scenery due to the predominance of christianity in the sub-region. In the urban centres modern concrete and glass buildings are found. plates 2.8, 2.9, 2.10, 2.11, 2.12, 2.13 show planning design and layout concepts found in this region of the continent.

2.2.3 East Africa:

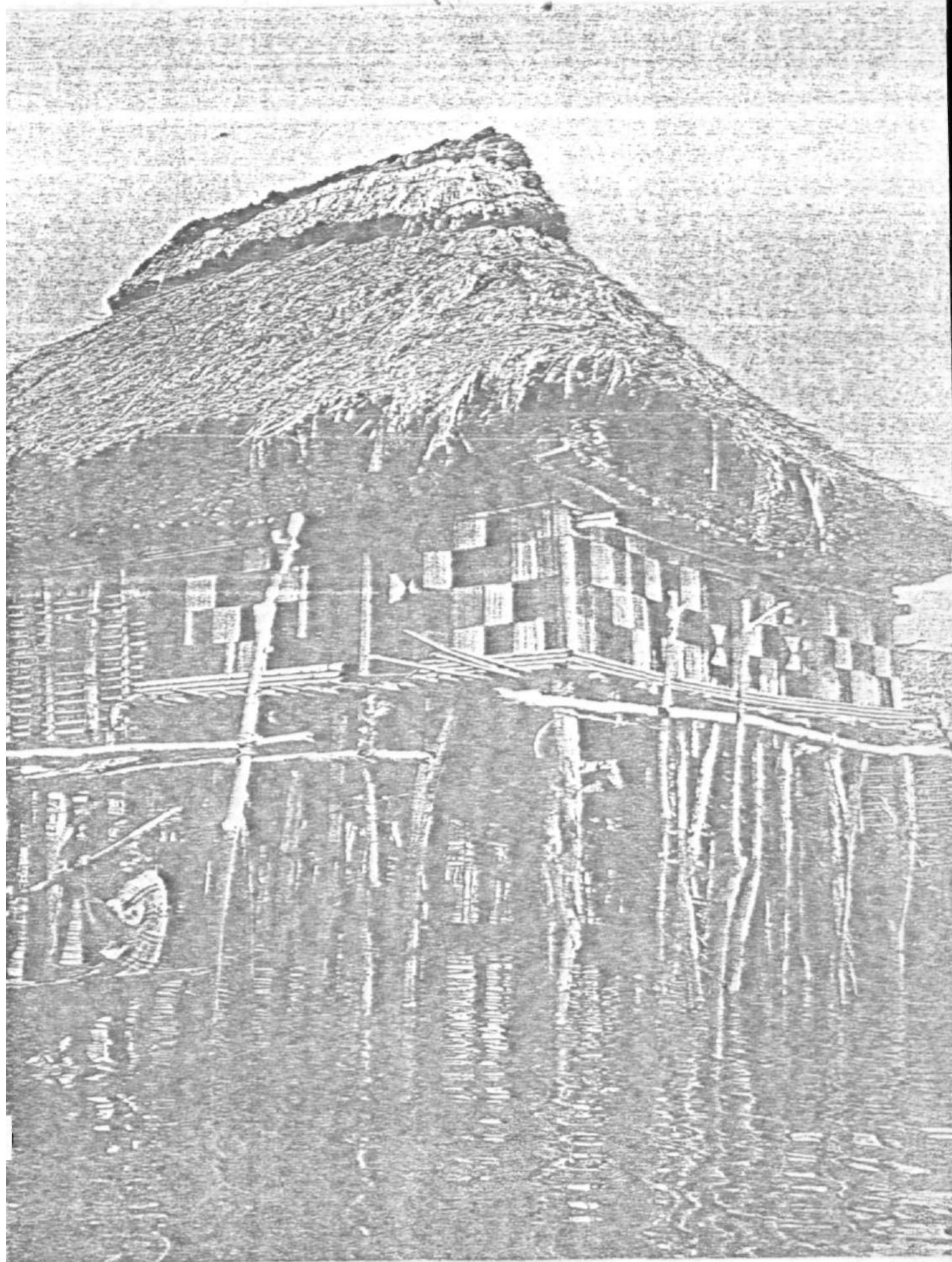
To traverse the Great Rift Valley of East Africa is still a great experience. This is an area little influenced by the outside world. In its far north, man's presence is hardly noticed because the relief and climate in this area is too hostile, so few choose to venture there. To the East and West of the Rift Valley, stretch



- © A Hausa house design. Note the planning format and use of open areas in space articulation.



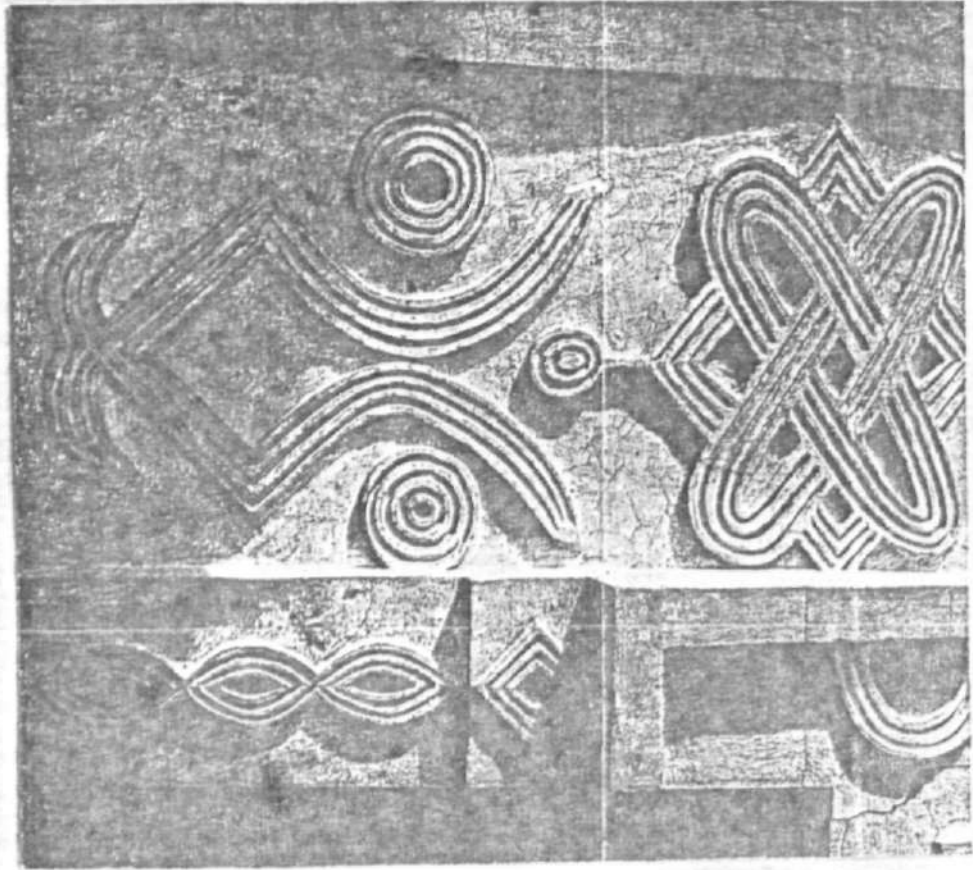
SPATIAL ORGANISATION
IN AFRICAN COMPOUNDS
= Functions around
a central open
core =



© A house on stilts.
Very common in swampy areas of
West Africa



Surface Texturing of a traditional house. Motifs are of symbolic importance.

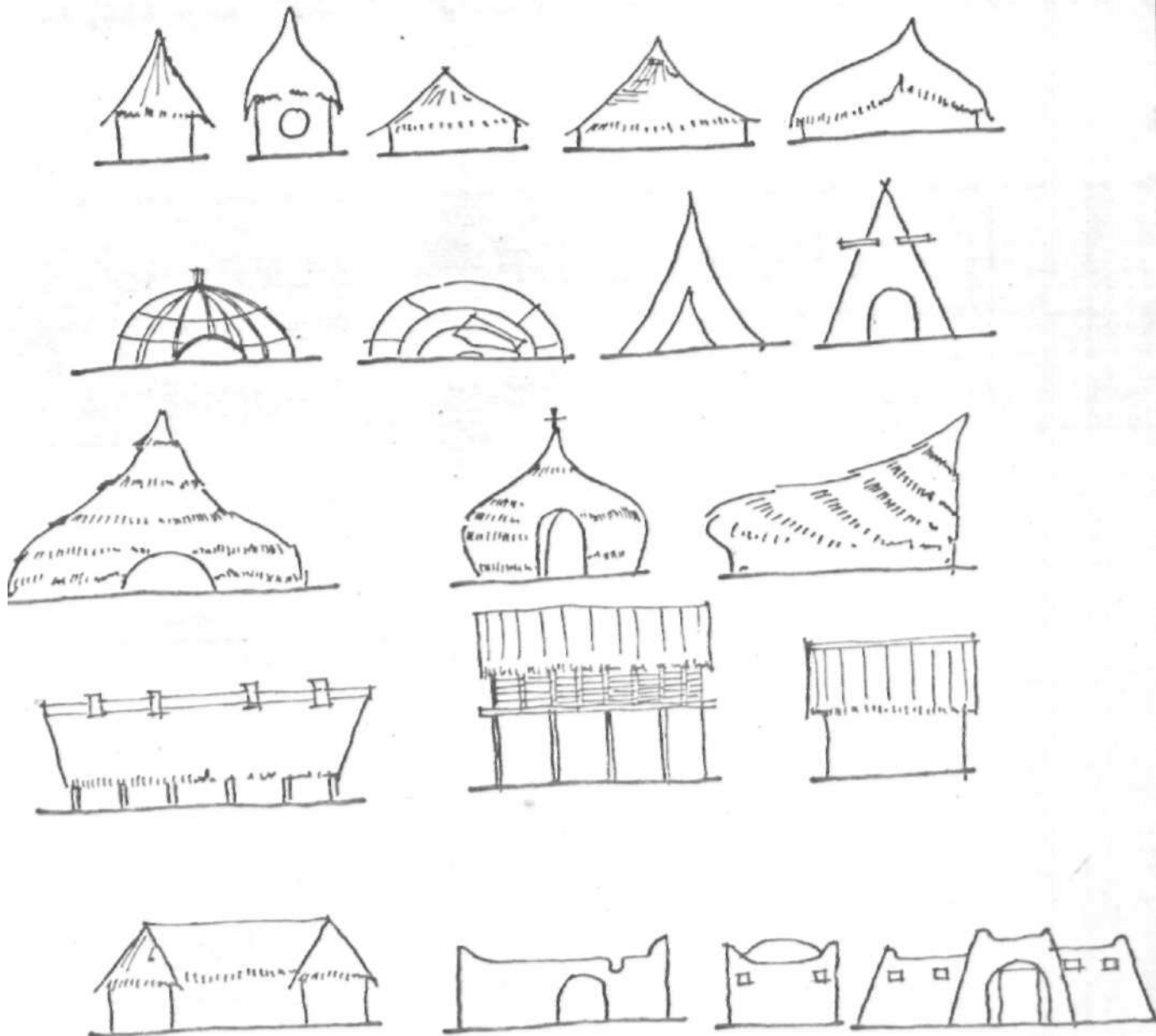


© Traditional motifs and decorations.

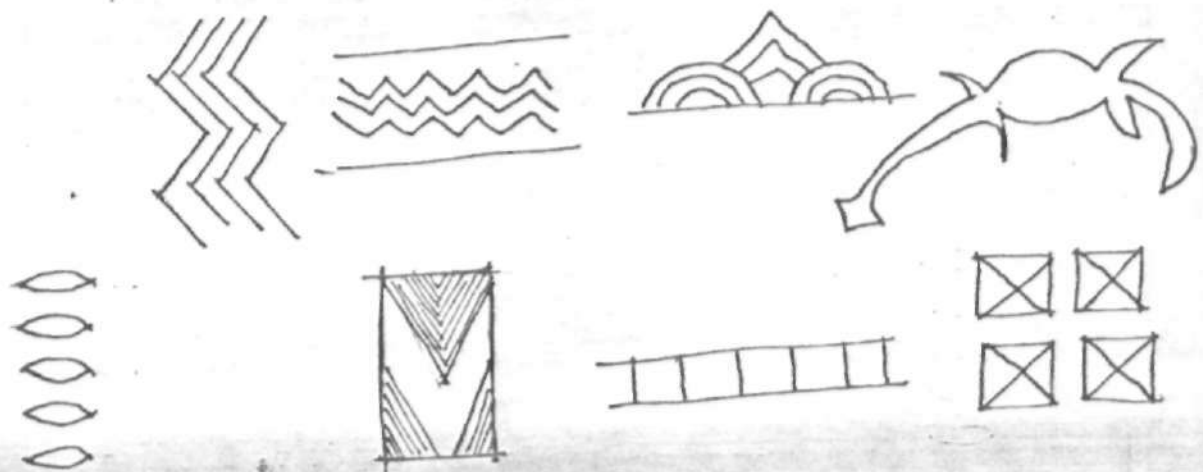
© motif on entrance of a traditional house.



© TRADITIONAL AFRICAN HOUSE
TYPES. Plate. 2.13. ©



© WALL MOTIFS & DECORATIONS.



the high and largely featureless plains of the African plateaux. Vegetation changes from patches of grass and low shrubs to fuller grass growth with trees appearing singly further south where rainfall is more. Drought has also hampered human and animal survival in these parts. Ethiopia is the worst hit, so also are northern Kenya and southern Sudan. The entire Sahelian fringes as far west as Mauritania are also affected.

The Masai people (a prominent tribe) are pastoralists and their cattle is their means of livelihood and status symbol. Some of them marry women from cultivator tribes such as the Kikuyu so that their crops can augment their diet. For many, however, the only alternative to the traditional life as cattle herders is to drift to the cities in the hope of making a living. Rwanda is the most densely populated country on the continent with an average of 140 people per square kilometer and 96% of them dwelling in the rural areas.

Burundi, to the south of Rwanda is also densely populated and is facing acute land problems which has led to migration of people to neighbouring countries like Tanzania and Zaire whose economies are also underdeveloped.

Kenya is largely the most developed economy in this region as foreign investment is high and wildlife potentials are gainfully utilized through high tourism boost.

Architecture:

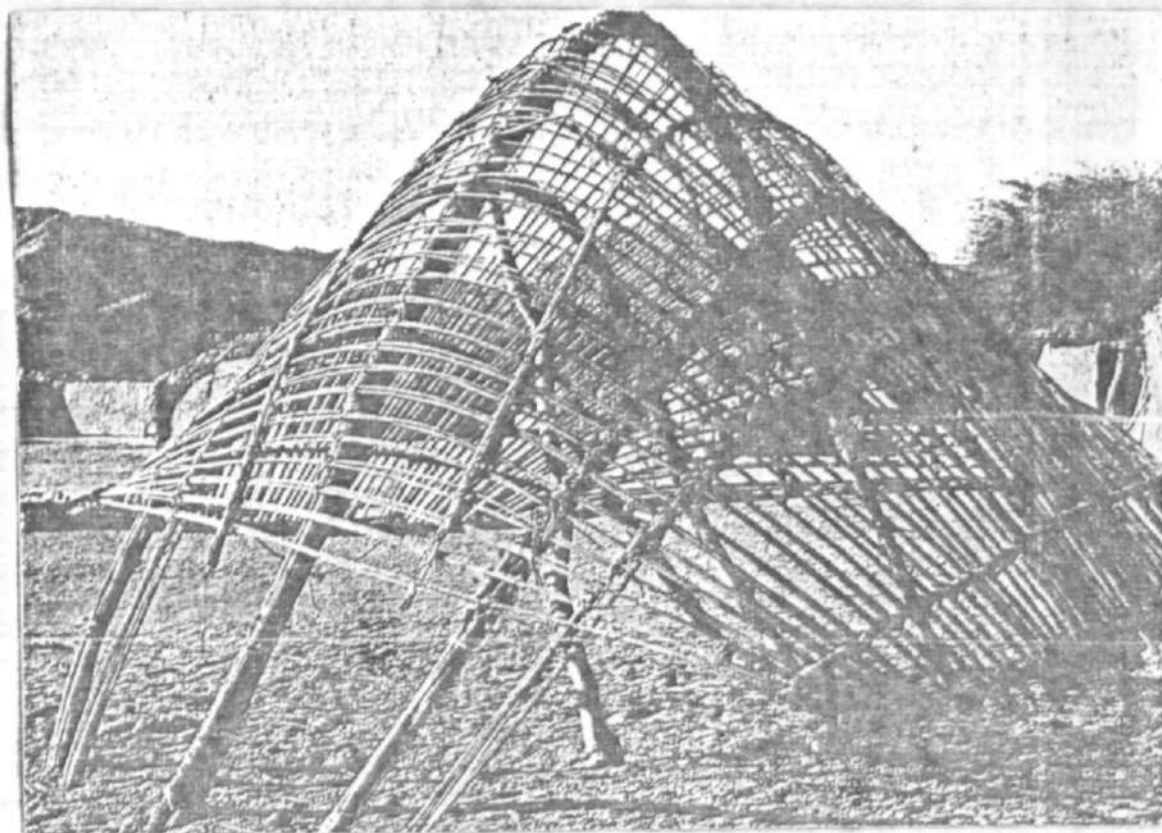
The style of planning in the rural settlement is the nucleated type huts called kraals. Grouping of clus-

ters is done depending on the occupation and desires of the owners. The structures are temporary since the people (mostly the Masai) are mobile. The Kraals consist of a framework of sticks on which thatch or skin/hide is laid. Mud structures also exist. Modern buildings dot the landscape in urban areas. Many hotels are built to cater for the high tourist attraction in this region of the continent. Plates 2.14, 2.15 show planning, design layout concepts being adopted in this region of the continent.

2.2.4 Southern Africa:

The Bantu tribes including the Xhosa and Zulu in South Africa, the Shona and Matabele in Zimbabwe, the Owambo and Herero in Namibia and the Bemba and Tonga in Angola dominate this part of the continent. The large number of tribes reflects the diversity of languages within one broad linguistic family bound by common values. Land is **never** owned by individuals or groups but by the community in care of the chief. Cattle is also a measure of wealth and status in these communities.

The region is vast, its soil potentials are low, but mineral deposits are abundant. Diamonds of high quality are washed down the sea from the Orange River and are a major source of wealth. Uranium and gold are other minerals found in abundance. In the face of such wealth and riches, competition is fierce with foreign powers striving for influence and control. Total independence is **still** denied in some territories, while



© The making of one unit. (Kraal)
sticks being assembled for
framework. Skin/hide is later
laid on this skeletal structure.





© A Masai household close to their shelter (Kraal).

racial discrimination (apparthoid) is the order of the day in some places.

Architecture:

The planning techniques are similar to that of East Africa i.e. villages with nucleated settlements. Symbolic structures of value include the ancient Great Zimbabwean stone palace relics. Evidence of modern architecture abound due to the influence of the whites who have lived there for a long time.

2.3 THE O.A.U.

2.3.1 Historical Background

The O.A.U. was founded in 1963 to promote unity and solidarity among African States following previous futile attempts at unification by the Casablanca, Monrovia and Brazaville groups.

(a) The Casablanca Group:

The name is used to describe the participants at the conference at Casablanca convened on 3rd January 1961 by King Mohammed V of Morocco. The meeting was attended by representatives from Egypt, Libya, Ghana, Guinea, Mali, Morocco and Algeria. Nigeria, Tunisia, Ethiopia, Liberia, Sudan, Togo and the Gambia were invited but declined to attend. The Brazaville group were however not invited. This group is often referred to as the radicals.

(b) Monrovia Group:

This group owed its name to the Monrovia conference held during 8th - 12th May 1961 and attended by delegates from some African states including Cameroon, Chad, Central African Republic, Congo (Brazzaville), Dahomey (Benin), Ethiopia, Gabon, Ivory Coast, Liberia, Malagasy Republic, Mauritania, Togo, Tunisia and Upper Volta (Burkina Faso). Of the Casablanca group, only Libya accepted the invitation. Sudan withdrew its acceptance because it objected to the presence of the Mauritanian delegation. Laire was not invited because of the unsettled situation there then. This group is often referred to as the moderates.

(c) The Brazzaville Group:

This group was formed in October 1960 at Abidjan at a meeting of Heads of State of former French colonies; Senegal, Mauritania, Ivory Coast, Upper Volta (Burkina Faso), Niger Dahomey (Benin), Chad, Gabon, Central African Republic, Congo (Brazzaville), Malagasy Republic and Cameroon. It was called at the instance of President Houphouet - Boigny of Ivory Coast who wanted the French speaking African States to mediate in the Algerian conflict. No Arab State in North Africa attended the meeting. Togo declined the invitation and Guinea strongly denounced it. This group is referred to as the conservatives.

Despite the divisions, there was a sustained desire to unite all the independent African States. Each of the three groups made frantic attempts to end the division through diplomatic channels, in the lobbies of the United Nations (U.N.) and at various international gatherings attended by delegations from African States.

Because governmental policies in Africa are largely determined by personalities, the compromise agreement was reached by direct talks between Heads of States during their mutual visits which since 1962 have been mainly preoccupied with African Unity.

In 1963, Heads of States of the then thirty-two (32) Independent African States came together in Addis Ababa to form the O.A.U. Table 2.1 shows the present member states of the Organisation while plate 2.16 shows map of Africa with its independent states.

Table 2.1: List of Independent African Member States of the O.A.U.

1. Algeria	26. Libya
2. Angola	27. Malagasy Republic
3. Republic of Benin	28. Malawi
4. Botswana	29. Mali
5. Burkina Faso	30. Mauritania
6. Burundi	31. Mauritius
7. Cameroon	32. Mozambique
8. Cape Verde	33. Niger
9. Central African Republic	34. Nigeria
10. Chad	35. Rwanda

Table 2.1 (Cont'd)

11. Comoros	36. Sao Tome & Principe
12. Congo	37. Senegal
13. Djibouti	38. Seychelles
14. Egypt	39. Sierra Leone
15. Equatorial Guinea	40. Somalia
16. Ethiopia	41. Sudan
17. Gabon	42. Swaziland
18. Gambia	43. Tanzania
19. Ghana	44. Togo
20. Guinea	45. Tunisia
21. Guinea Bissau	46. Uganda
22. Ivory Coast	47. Western Sahara
23. Kenya	48. Zaire
24. Lesotho	49. Zambia
25. Liberia	50. Zimbabwe.

The O.A.U. charter has its objectives which are the following:-

- i) To promote the unity and solidarity of the African States.
- ii) To co-ordinate and intensify their co-operation and efforts to achieve a better life for the people of Africa.
- iii) To defend the sovereignty, territorial integrity and independence of African States.
- iv) To eradicate all forms of colonialism from Africa.

© INDEPENDENT AFRICAN STATES ©



- v) To promote international cooperation in keeping with the charter of the United Nations.

Furthermore the member states also resolved to coordinate and harmonise their general policies, especially in political and diplomatic cooperation. There is also to be economic and cultural cooperation as well as joint action in defence and security.

Article III of the charter gives the guiding principles in foreign relations between African States and other countries. These are:-

- (a) The sovereign equality of all member states.
- (b) Non-interference in the internal affairs of States.
- (c) Respect for the sovereignty and territorial integrity of each state and for its inalienable right to independent existence.
- (d) Peaceful settlement of disputes by negotiation, mediation, conciliation or arbitration.
- (e) Unreserved condemnation, in all forms, of political assassination as well as subversive activities on the part of neighbouring states or any other state.
- (f) Absolute dedication to the total emancipation of the African territories which are still dependent.
- (g) Affirmation of a policy of non-alignment with regard to all blocs.

The adherence to all the 33 Articles in the charter was a guiding factor in the unification process.

(b) Council of Ministers:

This consists of foreign and other ministers of each state and it meets twice a year. It has powers to make recommendations only. However in practice, it has become the central political organ of the O.A.U. The council drafts and implements all O.A.U. resolutions. Each session elects its own chairman. There is provision for extraordinary sessions as needs may demand. The council is responsible to the assembly of Heads of States.

(c) The General Secretariat:

This is the administrative organ of the O.A.U., with headquarters at Addis Ababa. It serves the meetings of all the organs and committees of the O.A.U. (except the Liberation Committee). It draws up the programme and the budget of the organisation and is responsible for its implementation. It carries out their functions assigned to it in the charter of the O.A.U. and by other agreements and treaties made. The Secretariat contains the following departments:- Political, Finance, Education, Science and Culture and Social Affairs, Economic Development and Cooperation, Administration and Conference Facilities. The Secretary General is elected for a four-year term by the assembly of Heads of States.

2. The Commissions:

The specialized commission in the O.A.U. include the following:-

(a) Specialized Commissions:

The number of the specialized commissions has changed several times. They meet irregularly and convening is subject to a quorum of a two-third (2/3) majority.

The specialized commissions include:

- (i) Economic and Social Commission
- (ii) Educational and Cultural Commission
- (iii) Health, Sanitation and Nutrition Commission
- (iv) Defence Commission.

(b) Arbitration Commission:

This is made up of the Commissions of Mediation, Conciliation and Arbitration. It seats in Addis Ababa and consists of 21 members elected by the assembly of Heads of States for a five year term (no state may have more than one member). It has a bureau consisting of a president and two vice presidents, who shall not be eligible for re-election. Its task is to hear and settle disputes between member states by peaceful means. It was originally set up as a permanent organ of the O.A.U. but was subsequently changed to an ad-hoc type of institution.

(c) The Liberation Committee:

This is a co-ordinating committee for the liberation of Africa. Although not provided for in the charter, it was established in 1963 with office at Dar-Es-Salam, Tanzania - The duration of its existence depends on the attainment of the O.A.U.'s principal aim which is the total liquidation of colonialism in Africa and the elimination of apartheid in South Africa. It is the third most important O.A.U. body after the Assembly and the Council of Ministers.

3. Specialised Agencies:

These include:

- i) African Civil Aviation Commission (A.F.C.A.C.)
(Formed 1969, HQ - Dakar, Senegal).
- ii) Inter - African Bureau of Languages
(formed 1966, HQ Kampala, Uganda).
- iii) Organisation of African Trade Union Unity
(O.A.T.U.U.)
(formed 1973, HQ - Accra, Ghana).
- iv) Pan-African Postal Union (P.A.P.U.)
(formed 1980, HQ - Arusha, Tanzania).
- v) Pan-African News Agency (PANA).
(HQ - Dakar, Senegal).
- vi) Pan-African Telecommunications Union (P.A.T.U.)
(formed 1977, HQ - Kinshasha, Zaire).

- vii) Scientific, Technical and Research
Commission (S.T.R.C.)
(formed 1965, HQ - Lagos, Nigeria).
- viii) Supreme Council for Sports in Africa (S.C.S.A)
(HQ - Yaounde, Cameroon).
- ix) African Development Bank (A.D.B.)
(HQ - Abidjan, Ivory Coast).
- x) Union of Africa Railways (U.A.R.) - Formed 1972
(HQ - Kinshasha, Zaire).
- xi) Economic Commission of Africa (E.C.A.).

Each of these has offices at different locations on the continent. Plate 2.17 shows Organisational set up chart of the O.A.U.

There are also some sub-regional groupings which include:-

- (a) The East African Common Services Organisation
(Formed - 1961):- comprises Kenya, Uganda and Tanzania.
- (b) The French Equitorial Africa (A.E.F.):-(formed (1961). In the Central African Region there are also the integration of the common market into the Equitorial customs union, Central African Customs and Economic (Formed 1964).
- (c) Economic Community of West African States
(E.C.O.W.A.S.) (formed 1975 - Abuja, Nigeria).

ORGANISATIONAL STRUCTURE.

Assembly of Heads of state and Government. Policy making body. Convenes once a year Adopts Resolutions and makes decisions.

Commissions of Mediation, Conciliation / Arbitration. No permanent staff members of the O.A.U.

Council of Ministers. Adopts budget, Prepares agenda for assembly, Makes Recommendations, Meets twice a Year (or more).

Defence Commission.

Economic, Social Transport and Telecommunication Commission.

Education, Science, Culture and Health Commission.

Labour Commission.

Executive Secretary of the O.A.U in Europe - H.Q. at Geneva.

General Secretariat. Permanent organ. Carries out resolutions and decisions, Services meetings information and public Relations. Keeps Archives.

Co-ordinating office for assistance to Equatorial Guinea. (Santa Isabel).

Co-ordinating Committee for the Liberation of Africa. Channels financial and Military aid to Liberation Movements. H.Q. at Dar-es-Salaam Tanzania. Sub-regional offices at - Lusaka, Windhoek and Maputo.

Cabinet General Secretariat H.Q. at Addis Ababa.

Executive Sec. of African group at U.N. Co-ordinating of African Policies at U.N Headquarters. New York.

Scientific, Technical and Research Commission. Pre-investment studies, Scientific Publication. H.Q. at Lagos.

Soils Bureau H.Q. Bangui.

Animal health H.Q. Nairobi Kenya.

Publications Bureau H.Q. Niamey Niger.

Phytosanitary Council H.Q. Yaounde Cameroon.

African Linguistic Bureau H.Q. Kampala Uganda.

2.3.3 Achieving Unity in Africa:

Analysis of a new cultural entity by consideration of factors responsible for cohesion and the application of these factors on a rational scale ensures objective and cohesive development and also brings about a strong regional identity. Africa should now strive for a policy toward integration so as to achieve an idealistic O.A.U. It is time to ask "which way Africa"?

Independent Africa inherited fragmented, virtually undeveloped economies. Small scale agricultural and craft production and local trade afford subsistent incomes for the bulk of the population. Colonial economic growth was all but entirely limited to export-import enclaves. Profits and interests on investment by foreign firms remitted overseas consumed the bulk of surpluses. Economic independence and higher living standards require sustained advances in per capita output which can only be achieved through radical changes in the structure of African States. However, economic reconstruction are for the most part doomed to total or partial frustration due to:-

- (i) Small size of national individual markets.
- (ii) Lack of capital needed to provide large sized, efficient industrial complexes.

The Organisation of African Unity should set-up an industrial research council to accelerate Economic and technological development in Africa. If Africa is to

overcome its numerous economic and technological development problems, it should urgently establish such a council to co-ordinate all the researches being undertaken in the continent. The council would identify all the raw materials available in the continent and device measures to effectively utilise them for the benefit of the African people rather than exporting them to Europe and America at give away prices.

Africa could never get over its debt burden until it takes deliberate measures to restructure its economy. A more effective central body will ensure through its diversified activities the real/apparent presence of an African Common Market by the year 2,000.

2.4 SUMMARY

African countries, most of them being newly industrialised, have tended to embrace Western culture as a sign of progress and prosperity. Reasons why people in traditional societies desire change include the crave for better health care, increased agricultural output, technological efficiency etc. But if traditional physical contexts must change to some degree due to effects of modernization, the new physical environment should be as well adapted as possible to the traditional living patterns that they will accomodate. Therefore neglecting the societal order will effectively render any piece of architecture grossly inadequate no matter how superior, fantastic, grandiose, aesthetically or functionally adequate the structure could be.

Only by a sound understanding of past qualities of African Urban dwellings or centres would the building and shaping of an environment for the future be possible. Without this understanding and compromise, no genuine African architecture can spring up. Architecture has a lot to do in helping bridge the gap by the hybridization of traditional values with modern techniques.

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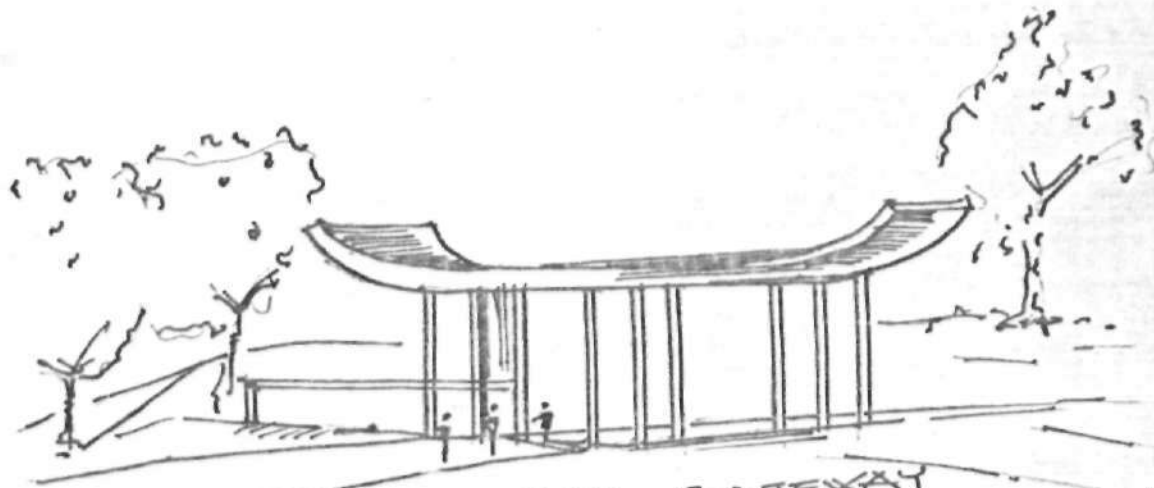
CHAPTER 3A SEARCH FOR FUNCTIONAL EXPRESSIONS3.1 THE SEARCH FOR AN AFRICAN IDENTITY:

In the search for a suitable building that will house the O.A.U. regional headquarters, social criteria has been mapped out as essential to its success. The O.A.U. regional headquarters is meant to be a centre for reflection and promotion of unity amongst present and future generations of Africans and also as an effective force for binding the heterogeneous people of the continent. Kuttermann (1969) notes that various attempts at African architecture have been made such as hybridisation, from synthesis, use of local building materials or wall decorations using tradition as the main vehicle for the propagation. Kenzo Tange (1973) opined that tradition should be seen as a means to an end and not an end in itself. This has to be borne in mind in the African context with a highly heterogeneous society. As such it would be right to say that there is nothing to call an African tradition or architecture per se. Generalisation is thus impossible as there is no central theme but similarities and disparities. What has to be done is to take into account the widespread features around the continent, the unique design expressions and the trends and concepts that relate to or are peculiar to unification and integration in African buildings. A study of the society and its tradition is essential to achieve this end.

However beyond tradition, there exists the expression of changes in society and technological demands. All these must be taken into consideration. Creative architects such as Pierre Atepa (1978) have succeeded in using these styles without losing their African expressions. plates 3.1 and 3.2 show various expressions used in designs.

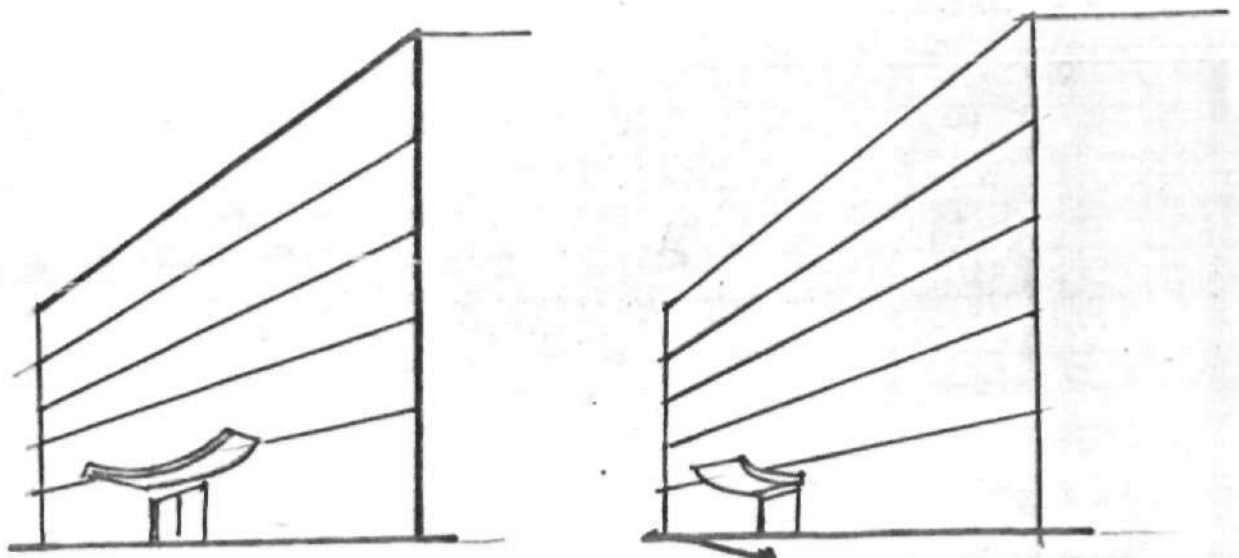
3.1.1 Traditional Architecture:

The concept of architecture in the traditional African sense was that of owner/builder. The mode of construction has been passed on through generations and where special skills are required like in the design of public buildings, master masons and carpenters are employed. Readily available materials set the limitations while socio-cultural values, climate and site constraints set the design parameters. Individual personality play a large part in the creation of the African shelter. Village, organisations and family relationships were expressed in the physical disposition of community while use of spaces within and outside the building were governed by social hierarchies and symbolic values. Relevant concepts with rich possibilities of adaptation in an urban framework need to be adopted. In order to further understand the search for an African identity in symbolic buildings, the modes of city planning, spatial organisation, form synthesis and technology must be analysed.



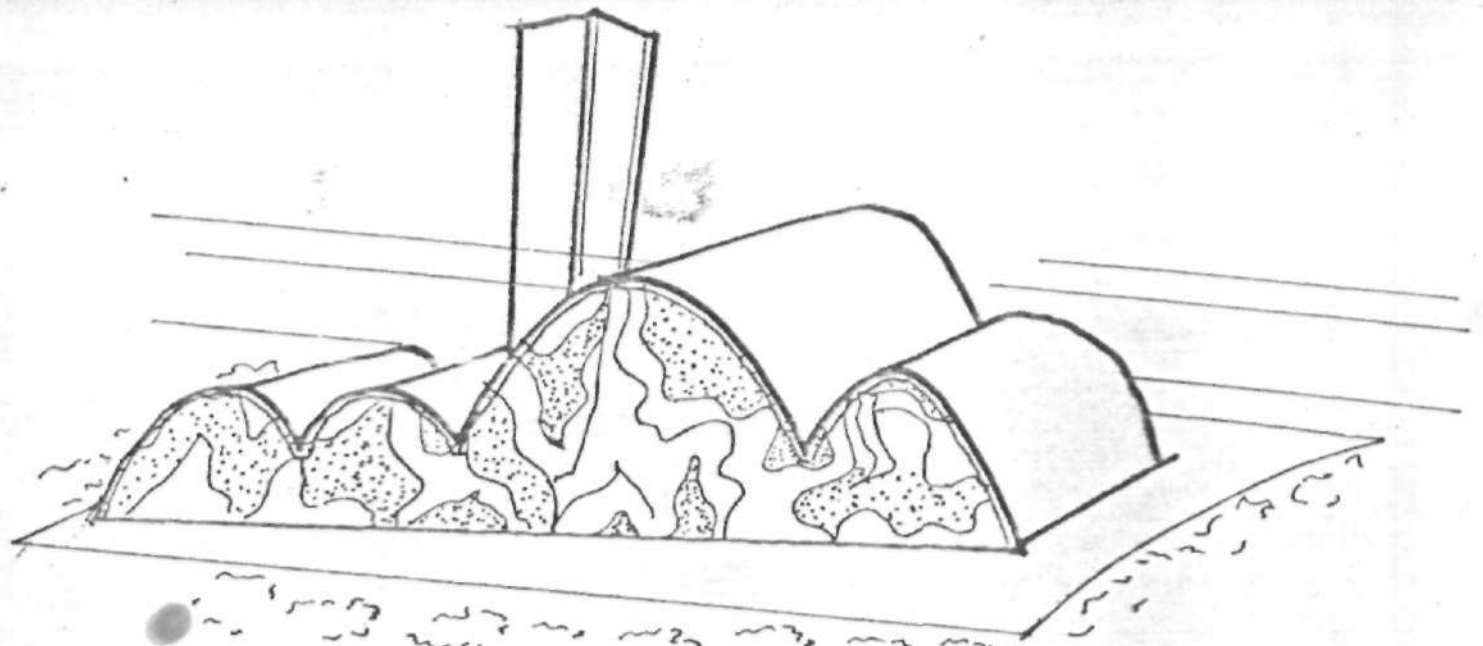
ENTRANCE GATEWAY
(University of Science & Technology, Kumasi)
Ghana.

USING THE FORM OF TRADITIONAL
ASHANTI STOOL. [Fig 3i]



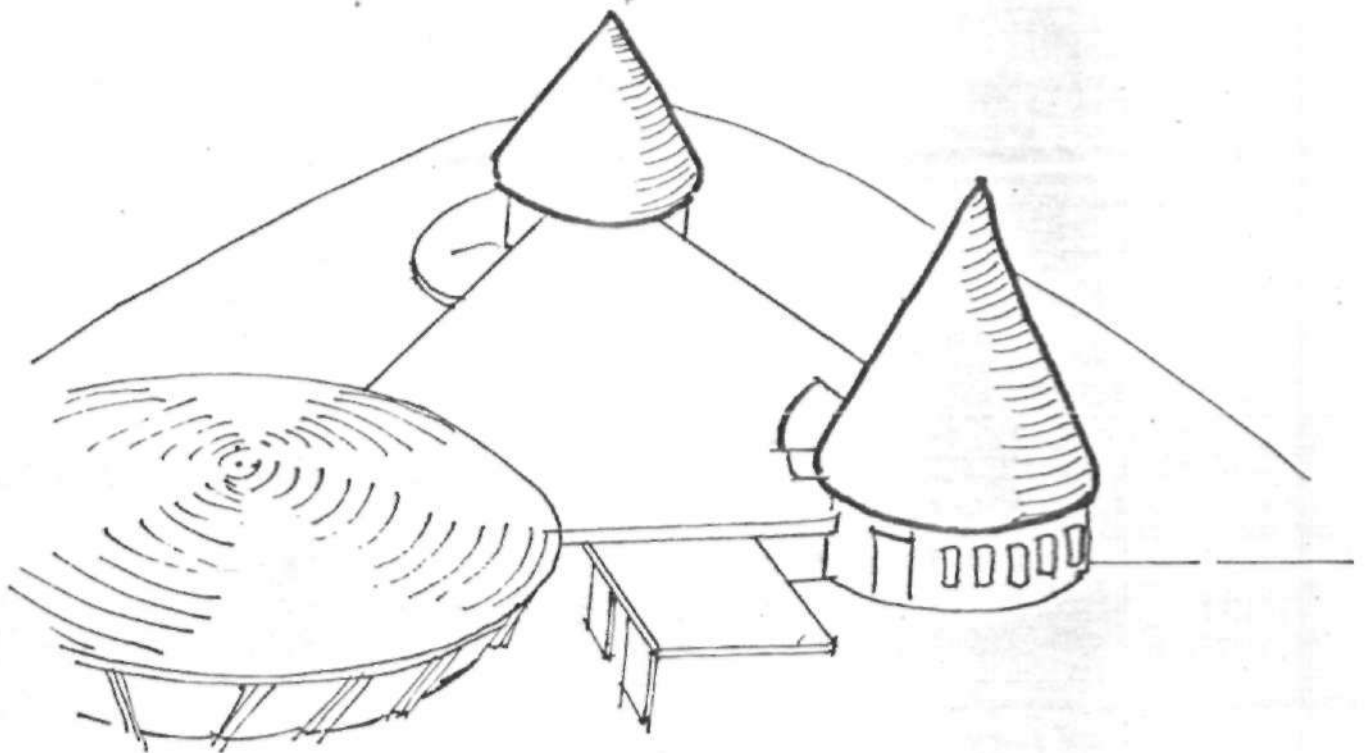
USING FORM OF ASHANTI STOOL FOR
ENTRANCE CANOPY FOR SOME
HOUSES IN GHANA.

[Fig 3ii]



CHURCH OF ~~SÃO FRANCISCO~~ SÃO FRANCISCO OF ASSIS, BRAZIL.

DYNAMIC FORMS OF REINFORCED CONCRETE SHELLS
MODERN ART, MURAL DECORATIONS. [Fig 3 iii]



HOTEL IVOIRE, ABIDJAN IVORY COAST.
(FORM OF COTTAGES TAKEN OVER FROM TRADITIONAL
AFRICAN ROUND HUTS. EXAMPLES OF

ATTEMPT AT ADAPTATION INTO MODERN
ARCHITECTURE TRADITIONAL FORMS.

[Fig 3 iv]

3.1.2 Mode of City Planning:

Settlement patterns in urban layouts of traditional African cities exhibit the need for security and authority. The city walls are approached from streets radiating from the core of the city. This core usually houses the major public buildings. These being surrounded by the dwellings of citizens in order of status in the society. "The royal institution gave rise to this kind of planning about central communal spaces. These meeting spaces constitute a hierarchy at different levels of societal congregation. "It starts at the city level through the ward and neighbourhood level, and ends up in household courtyard" Prussin (1976). It can be logically inferred that this is a consequence of the need for interaction and an avenue for exhibiting authority.

3.1.3 Spatial Organisation (the traditional style):

Prussin (1976) made a study of spatial organisation in African homesteads and further revealed the need for communal open spaces. Large buildings like palaces sometimes have up to six courtyards while smaller buildings have up to two or three depending on the degree of activity and privacy. A hierarchy of functions exists to effect privacy and security, as these are important considerations. Some examples are:

- (a) Entrance huts (reception) are usually provided for visitors who are not allowed beyond that part of the house.

- (b) Inner and outer courtyards are provided to cater for different categories of functions.
- (c) Functions within a compound or facility are linked up as necessary and access between these functions could be direct or indirect.

3.1.4 Form Synthesis:

All traditional forms on plan reduce to either a square or a circle. The organic nature of these functional circles, squares or rectangles give rise to various geometric collisions that can result in interesting forms. The designer then has a wide choice of geometric forms. However, the roof shape usually dominates the forms. These roof shapes range from the earth domes in West Africa to the conical thatched roof present around the continent. It is largely correct to say that Africans build massive forms in preference to skeletal ones.

The external walls of large public buildings are covered with a facing which not only protects the building from rain, but allows geometric and figurative motifs to be made. The erotic curves and sensuous forms reach their zenith in the sculptural architecture, in Africa as in the Emir of Zaria's palace and the adjoining mosque.

The symbolic nature of jugged spires and slanted walls with pinnacle tops evoke a strong sense of identity in African buildings. This nature of African buildings has been attributed to the lack of proper setting-out of

materials to make them regular. However, almost 80% of traditional African architecture have this characteristic: the tendency to reach up and envelope the sky. The African conical roof and even the domes which have their tips spired to effect this are examples. These forms are typically African and evoke a feeling of prosperity in the community. The sculptured oval entrances into these buildings also evoke a sense of identity in African architecture. This should be represented in the modern context.

3.1.5 Technology:

Within the building industry, technology refers to advances made in building practice and use of materials. Technology has to come in as a moderator in a design where there are limitations as to the use of local materials. The demerits of using traditional materials and technology include the low strength qualities provided, low durability, low weather resistance and speed of erection. Building costs will however be reduced if improvement on local materials can be made thus making for convenient utilisation.

From the above, it is obvious that modern technology cannot be done away with especially for a project like this which will necessitate structurally daring construction.

3.1.6 Conclusion:

Susan Denyer (1980) suggests that an extraordinary range of architectural language each eloquently proclaiming the cultural characteristics of its users exist within Africa and that the spirit of the place and community is fully expressed in these buildings, whose subtle variations are adapted to specific social, economic and geographical environments. These have all tended to disappear in the face of imitation of architectural stereotypes and technologies from western cultures. "These traditions however constitute a heritage which we must now rediscover" Oakley (1970): not just out of nostalgia, but in order to recreate a living synthesis between the wisdom of the past and the knowledge of the future. The rediscovery of these traditions leaves one with a set of ideals which would guide the design.

3.2 THE DYNAMICS OF VISUAL IMPACT OF BUILDINGS IN ARCHITECTURE:

A proper understanding of the basic elements of modern architecture is a complex one. However, it is a prerequisite for a proper design programme. These basic elements are used in the conception of a design and are manipulated to impart a visual experience on an observer. The basic elements of architecture are form and space which are derived from the primary elements: points, Lines, Planes and volume. Architecture is a product of the organisational pattern relationship and hierarchy

of spaces supported by spatial definition and a structure and enclosed by a form having scale, proportion, surface, shape and edges as suggested by Schultz (1971) in his book Existence, Space and Architecture.

Accommodation of the programme, users requirements, economic factors must be ensured and they must be compatible with other aspects such as site, climate, character of building and positioning of the building to enhance good views.

The physical nature of the building is manifested through the building elements such as walls, roofs, columns, fins, windows etc. Architectural elements include lines, square, cube/cuboid, circle, triangle, pyramid and cone.

To arrive at a required form involves the use of one or a combination of any of the three methods of transformation. These are the Dimensional transformation, subtractional transformation and Additive transformation. The derived forms form the basis of architectural manipulation and effective composition to convey meaning that are attached to them by the designer.

3.3 USES OF DIFFERENT BUILDING ELEMENTS IN ARCHITECTURE

Building elements refer to the various component parts of a building structure which tend to affect each other in certain ways; but work together as a whole to give identity to any particular building. These elements are:

- i) Foundations
- ii) Walls/partitions
- iii) Shading Devices
- iv) Windows
- v) Projected Fins/buttresses
- vi) Doors
- vii) Floors
- viii) Circulation Elements
- ix) Roofs
- x) Decoration
- xi) Ornaments
- xii) Arches and Collonades
- xiii) Parapets and pinnacles.

All these are applied as they become necessary in designs.

3.3.1 Foundations:

They are briefly divided into shallow and deep foundations. The particular type of foundation used depends on:

- i) the soil type
- ii) type and magnitude of loading
- iii) the design of the building (i.e. the plan configuration and the building nature)
- iv) cost consideration
- v) available technology.

Generally all foundations involve the digging or sinking of trenches to contain the concrete support for the superstructure. The plan shape determines the kind and dimensions of the foundation used. However foundations as elements of the substructure have very little or no use in symbolising unity in the visible structure.

Combinations of different kinds of foundations to achieve some certain effects on the building structure is however very possible. The nature of foundation proposed has relevance to the search of an architectural expression.

3.3.2 walls and partitions:

A wall is a continuous, usually vertical, solid structure of brick, stone, concrete, timber or metal thin in proportion to its length and height, which encloses and protects a building or serves to divide buildings into compartments.

Walls are defined as external or internal to differentiate functional requirements; and as load bearing or non-load bearing to differentiate structural requirements.

Functional requirements of a wall are to achieve and maintain stability, strength, exclusion of rain, durability, fire resistance, thermal properties i.e. insulation resistance to sound transmission and sound absorption. In achieving a unifying purpose in an architectural space, walls should be such that their design, arrangement and location form good interaction between spaces while still achieving the functional

requirements of the design. The visual effect of a symbolic form is got from the exterior wall, so its design and treatment must be one that suggests what is being symbolised.

3.3.3 Shading Devices:

The different types include:

1. Elaborate surface
 - (a) screen wall
 - (b) walls with projections.
2. Those that invite a play of light and shadow.
3. Those that constitute architectural entities which can be dismantled because they are not structural. This offers better adaptability; are easy to manipulate i.e. combination of horizontal and vertical elements and provides better aesthetics. Examples are steel frames, aluminium sheets and concrete.

The type of sunshading device used is determined by latitude, location, orientation, pattern and the material being used, but they all have strong visual effect. Shading devices are located either in the interior or exterior. In the interiors, there is minimal elimination of solar energy because the radiation is reflected and re-radiated between room and glass. Glass cannot allow the passage of re-radiated heat. Effectiveness is decreased by 35% if located inside rather than outside for a given sun shading device, because for exterior, convected and re-radiated energy is mainly

to the outdoor. Materials that could be used for sun shading device in the order of increasing effectiveness include:-

- i) Venetian blinds
- ii) Roller bands
- iii) Tinted glass
- iv) Insulating cotton
- v) Outside shade screen
- vi) Outside metal blind
- vii) Coating on glass surface
- viii) Trees
- ix) Outside awning (hood)
- x) Outside fixed shading device
- xi) Outside movable shading device.

The arrangement and design of the device can help achieve strong visual effect of symbolic or monumental magnitude on the building i.e. texturing, balanced arrangement and good colour.

3.3.4 Windows:

These are elements of opening/penetration. They allow light and air to penetrate the building. They are also used to exclude excesses of the outdoor climate. They are used when and where desirable and their arrangement pattern helps enhance the visual quality of any particular building. Symbolising unity by the use of a balanced, symmetrical array of glass area on the facades and a good play of light in interiors by harmonising its sources is essential.

3.3.5 Projected Fins (buttresses):

These are elements on the exterior of a building. They are used when the need arises for definition of facades. Their design pattern helps in giving visual quality to the overall perception of the building form.

In symbolising unity they could be designed to follow traditional traits exhibited in the construction of buildings in Africa. They should give a monumental and grand outlook to the building structure by a balanced, symmetrical and interlinked pattern.

3.3.6 Doors:

They are elements of opening and aid in horizontal movement between defined spaces. They are used in the internal relationship of spaces and linkage from exteriors to interiors. The use of doors in achieving unity in a building will be by proper location to achieve good interaction without altering their functional requirements i.e. security, fire protection etc.

3.3.7 Floors:

These are elements of vertical space definition. They are used to support people, furniture, equipment and machinery. It has functional requirements of achieving stability, strength, durability, fire resistance, resistance to sound transmission and sound absorption. In achieving unity in architecture, floors would be complementing the use of other elements of circulation i.e. corridors, doors, lobbies, staircases, and lifts.

This will be by proper locationing of the floor and effectively carrying out the functional requirements demanded by it.

3.3.8 Circulation Elements:

These include, corridors, walkways terraced areas, lobbies etc. which are elements of horizontal circulation. Stairs and lifts are for vertical circulation. Generally, to enhance unity in design, these elements should be able to allow for adequate free flowing spaces depicting openness of plan, which enables good interaction. Change in levels at strategic points also help in achieving good space relationship. Focal points must be enhanced by the way these circulation elements open up to them.

3.3.9 Roofs:

These are dominant feature of a building structure. The roofing system might even be the entire building itself. Roofs tend to dictate the style of architecture because of the very prominent position (on top of the building structure).

Functional requirements of roofs are, stability, strength, exclusion of wind and rain, durability, fire resistance, thermal resistance properties. Roofs are flat or pitched and are either of timber or steel trusses on which are laid roofing sheets. Concrete roofs either flat or shell roofs, could also be used.

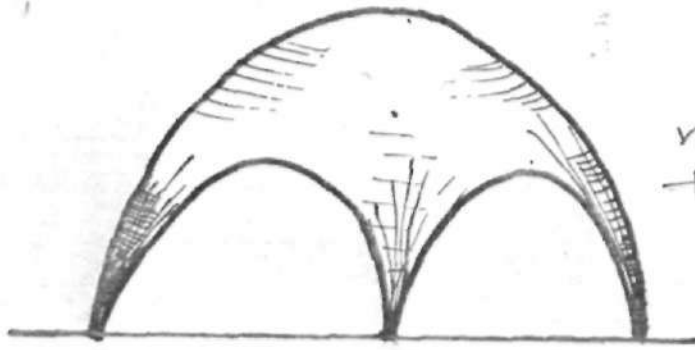
Whatever roofing system is used, it must have good visual character. Some of the roofing systems used in this project are shown in plates 3.3, 3.4, 3.5 and 3.6.

3.3.10 Materials and Finishes:

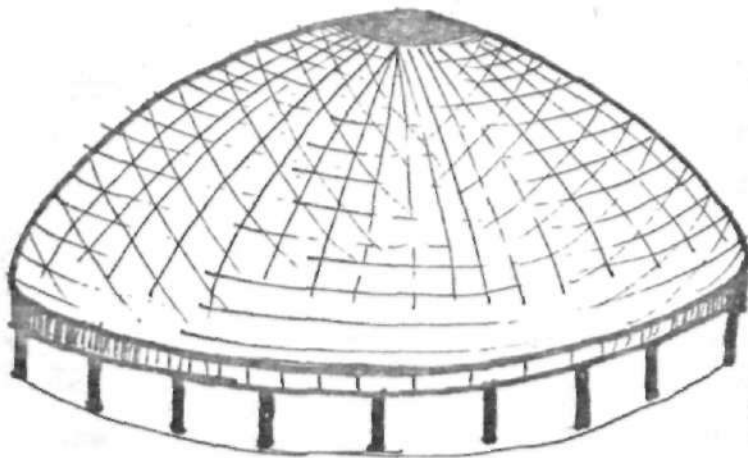
Materials are used in attracting attention towards a building by exploiting their inherent qualities. Different materials exhibit different qualities held by the observer. The qualities are easily recollected by him on contact with it. For example, extroverts may like strong exuberant colours while introverts may prefer subdued and quieter colour. Some colours may create certain emotional tendencies e.g. black and dark purple are linked to depression and death. Violet with grandeur, white with purity and power/authority, Blue is associated with coolness and distance, yellow and red are associated with warmth. Good quality paint is essential to achieve the desired effect. A good colour combination should also be chosen.

Certain materials for construction and finishing are also associated with certain abstract qualities which can be used when conceiving a proposal. For example, wood is associated with warmth, steel with coolness, marble with formality, field stone with informality while metal roofs are institutional.

Materials and finishes could also be used to achieve some other perception of space such as confinement, openness, serenity, coldness, darkness etc.

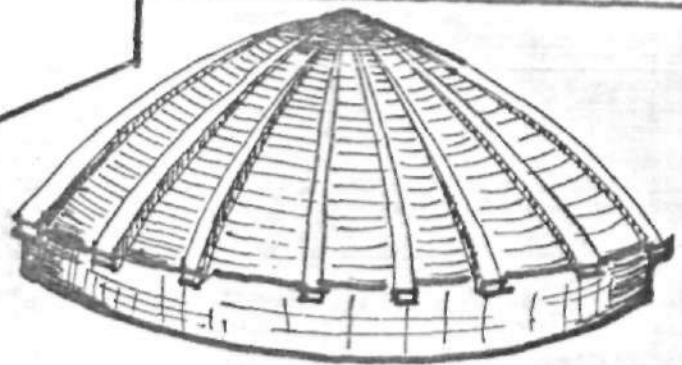


reinforced concrete
thin shell.
(15-50m). It has low
span stresses, slow
construction, poor
acoustics and no
point loads. It has
a strong directionality.



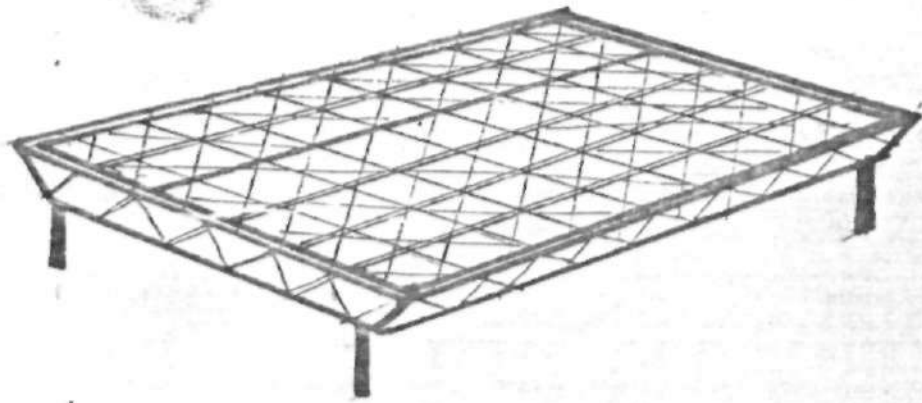
steel trussed-
(40-150m)
span. It has a long
span. Requires skin for
stability. Usually used
for sports stadia.

Membrane action in
both tension and
compression.



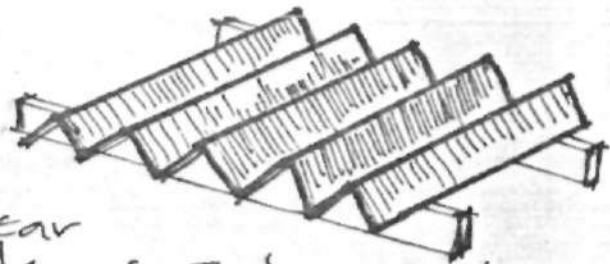
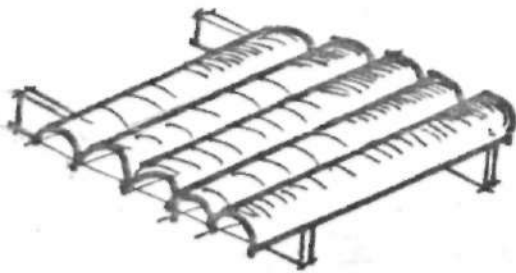
Reinforced concrete
(convoluted or ribbed)
(30-100m).
span.

It can accept moderate point
loads. slow construction.
Popular form for sports
stadia.

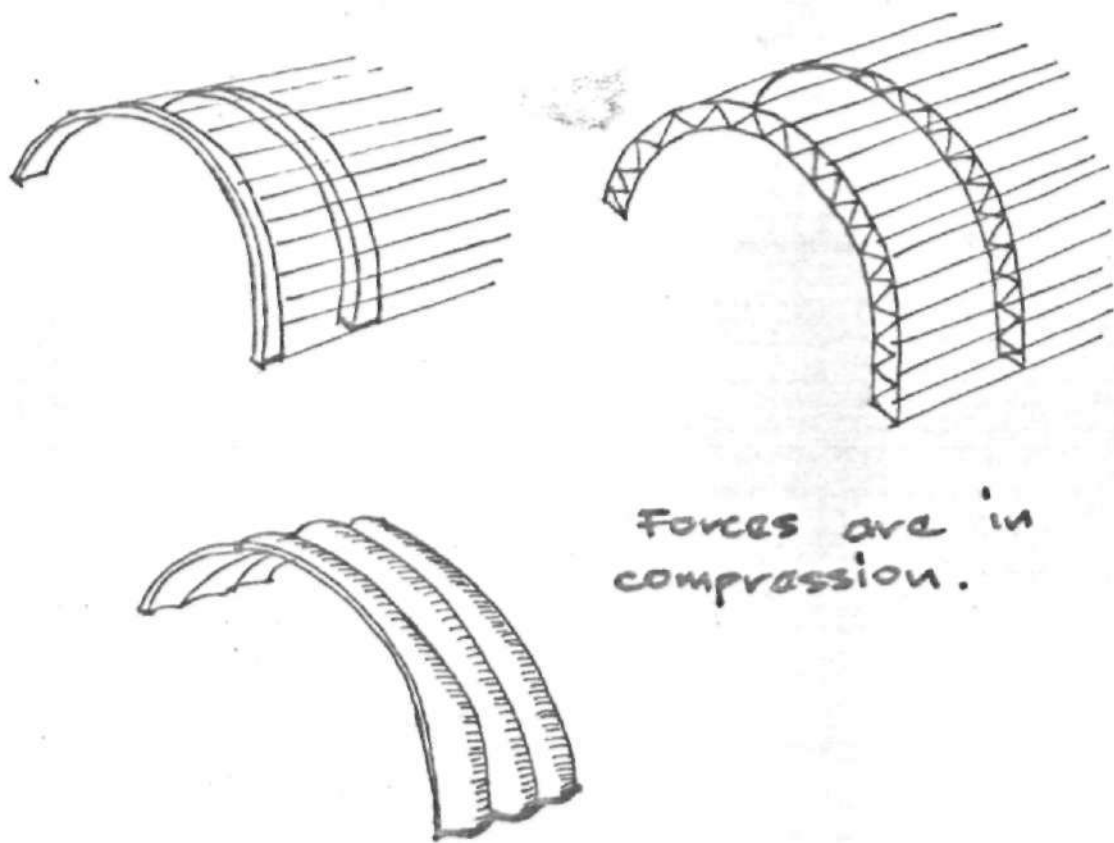


Tension and compression forces present. Made of steel members. (20-80m span). High span/depth ratio and long span. High technology employed. Used for Roof construction only.

BARREL VAULT & FOLDED PLATES.

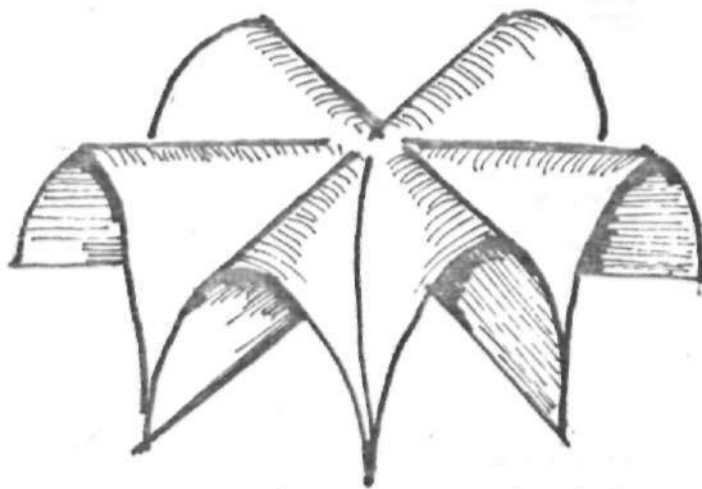
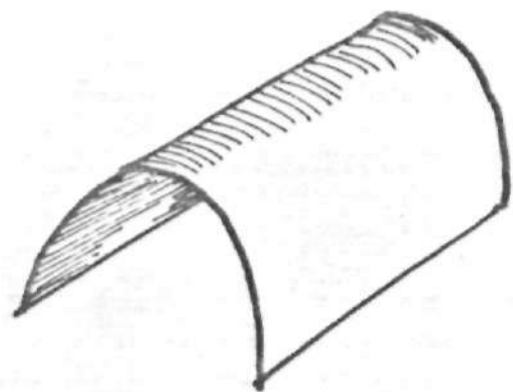
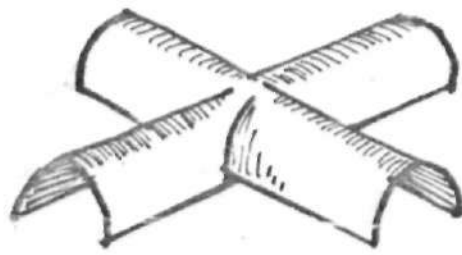


Bending and shear forces present. Made of Reinforced concrete thin shell. (20-40m span) Many shapes possible. Entails slow construction and the openings are limited. They have got Dominant forms and are used mainly for roof construction.



Arches are usually of Timber (glued-laminated and truss), steel truss and reinforced concrete, convoluted or ribbed. They are all used for roof construction.

- (i). Timber glued-laminated spans 20-40m. It has a wood finish appearance. Large pieces have to be transported over distances.
- (ii). Timber Trusses spans 30-70m. They employ low technology and is not good for concentrated loads.
- (iii). steel truss spans 40-100m. Has a long span and is not good for concentrated loads.
- (iv). Reinforced concrete convoluted or ribbed spans 20-70m. It has low maintenance, but is slow in construction.



Membrane action is both in tension and compression. Made of Reinforced concrete thin shell. (20-60m span)
 Many shapes are possible.
 Construction is slow with limited openings. Forms are very Dominant.
 Acoustics is also very poor. There are no point loads used. Vaults are usually circular or parabolic in shape. Mainly used in Roof construction.

3.3.11 decorations (motifs):

African decoration provides the pedestral to satisfy both utilitarian and aesthetic needs and as well link the buildings to spiritual icons and beliefs. The nature of the dominant building material allows for geometric and figurative motifs in a wide variety of ways. Stones, baked bricks or polished ceramic cones are embedded during construction to give decorative compositions.

The wide range of motifs cannot be used extensively as they represent different interpretations in the continent. However, colour and material utilization can be employed to enhance African aesthetics. The sculptural and erotic disposition of the motifs can be represented in the form of building components like shading devices, fins and openings.

Symbols that are of relevance to unity in Africa can also be employed to effect identity.

3.3.12 Arches and Collonades:

These elements could signify entrances and grandeur within an architectural pace or could simply be structural elements depending on their treatment and positioning. They are also elements of traditional African architecture. Their use in signifying unity, would be in enhancing the authority and grandeur of the building and could be incorporated in this project to enhance its architectural expression.

3.3.13 Pinnacles and parapets:

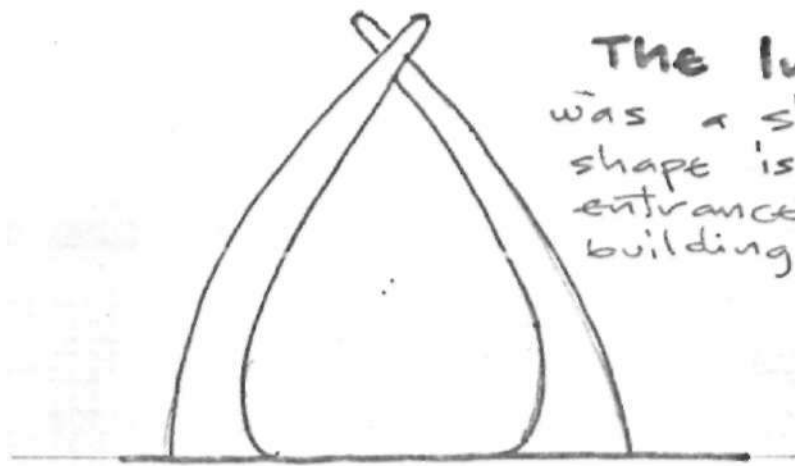
Pinnacles crowning the corners of hausa buildings are known as Zanko. They are now rarely functional elements having become Aesthetic elements, decorative and symbolic accessories. They are placed at the corners of buildings and above portals. There are a wide variety of pinnacles.

Parapet:- Are more functional than aesthetic because they guide rain-water to discharge points. They give additional elegance, height and dignity to buildings. The proper design and placing of these elements help enhance the overall visual appeal of the building. They should where necessary be incorporated in design.

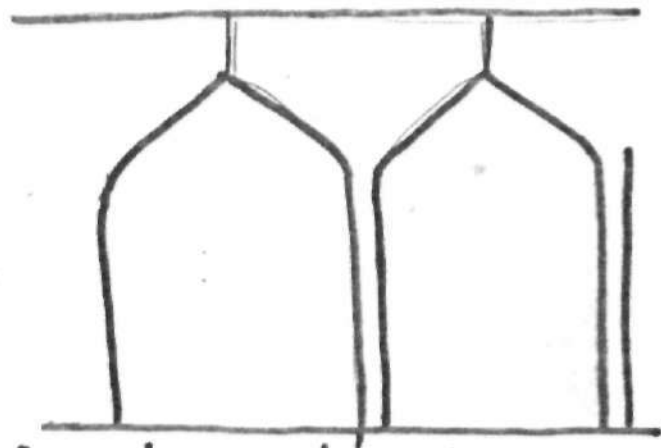
3.3.14 Entrances:

Points of entry need to be carefully treated because they have to be beautiful and symbolic in order to welcome visitors. The use of canopies or unity symbolising elements are suitable for that purpose. In traditional African architecture, the crossing of Ivory Tusks (forming an arch) are used to signify unity (see plate 3.7) and could be incorporated in a design like this.

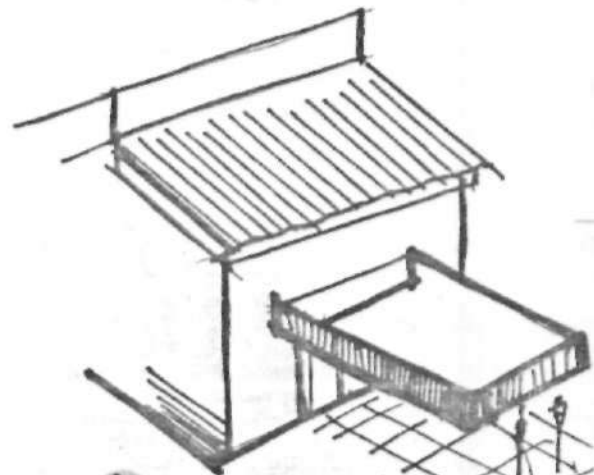
All the elements discussed above have characteristics peculiar to different traditional or regional styles. Therefore the shapes, forms, mode of expression, mode of construction and use of materials must all be emphasised in design to give the needed familiar human scale, when their use has been justified.



The Interlocking of horns was a sign of unity, and the shape is consistent with the entrances of African traditional buildings in some locations.



Arches & Collonades.



Canopies



Oval entrances in traditional houses.

3.4 FEATURES OF VISUAL IMPACT:

Certain features when used in space composition and organisation are highly exploitative in achieving a desired emotional and visual impact depending on the intention of the designer. These features include:- Scale, Proportion, Dimension, Space and Composition.

Spatial organisation and hierarchy of spaces in modern buildings involve the use of a planning sequence which is fundamentally concerned with the definition, arrangement, division and grouping of spatial forms in a sequence and with the relationship between the varying sequences. This reflects the degree of importance of the spaces and the role they play in their organisation. It is both subjective and objective, resting upon what the design program entails and the overall impact intended by the designer coupled with other design variables. Spatial organisational style adopted could be any of the following:- centralised pattern, linear pattern, clustered pattern, grid-iron pattern or isolated or scattered pattern.

For a building to successfully attract the maximum attention and exert its dominance on an urban townscape, it must be consciously designed with a profound understanding of the basics of architecture and how to exploit them. With this, architecture can be used as a medium to convey a desired message to the observer about the function, the owner, and perhaps the designer of the building. It can be designed to subject both the observer and the user to some psychological, physiolo-

gical, mental and intellectual impact, all in a bid to attract or distract attention" (Aminu 1989). This could be achieved through monumentality, form and symbols.

3.4.1 Monumentality:

Monuments by their sheer size and symbolic expression, emphasize the needs to preserve values. Being human landmarks, they are intended to outlive the period which originated them. It should be visible and have a meaningful scale for pedestrians and leisure drivers in the immediate environment and must be contemporary in expression while complementing the landscape. They are works of architecture symbolizing the aspirations and achievements of our society while giving testimony of the high standard of culture. In trying to create a monumental expression, the architect picks up the superficial characteristics of traditional monuments i.e. stability and massiveness and apply them to modern abstract geometrics. The monuments of our time are hospitals, schools, cultural and civic centres, corporate headquarters. These replace palaces, temples and triumphant arches for emperors, aristocrats and fascist gangs.

Modern architecture with its repetitive grid; light weight construction using materials such as glass, steel, aluminium and plastics; emphasis on functionalism and flexibility is believed to be inappropriate for perpetuating and generating form that is monumental.

This is because they are simply diagrammatic in form with as little emotional content as other mechanical products, whereas the word "monumental" connotes unity, weight, solidity, weight and slow rhythmic patterns. Thus there is the need to shift emphasis towards a quest for a significant form by altering building elements size and shapes to give or remove emphasis on some certain aspects as necessary (see plate 3.8).

Solutions and approaches to monumentality include thematic concepts i.e. the use of shafts, landscape sculpturing, building structures which enclose usable space, pavilions (see plates 3.9, 3.10).

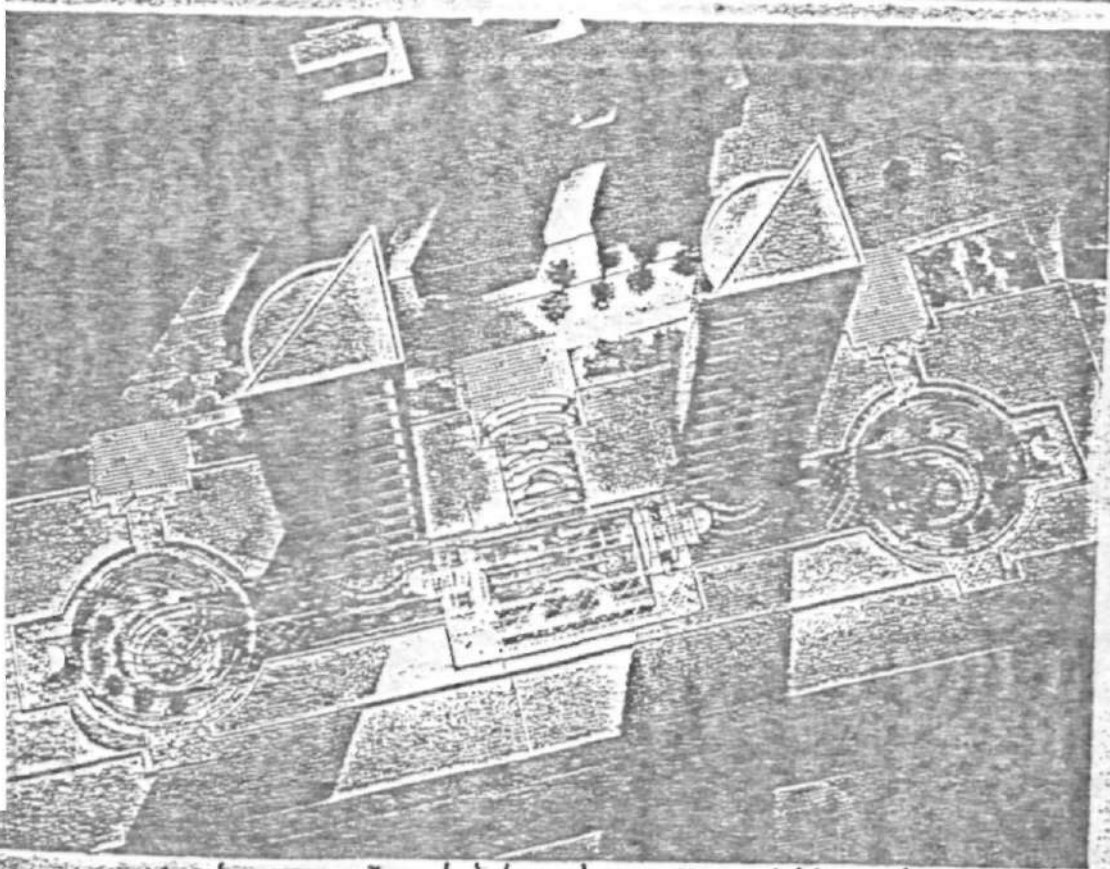
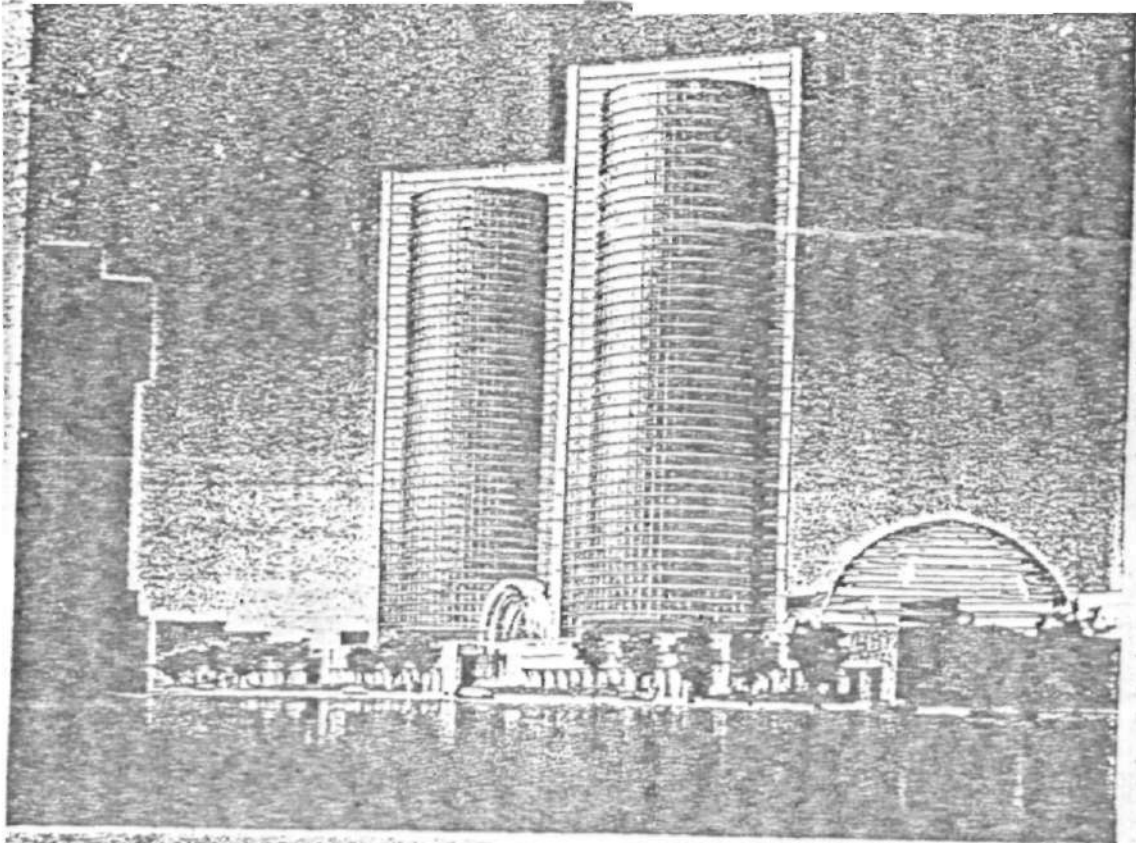
Monumentality is simply a matter of scale the addition of emotional qualities to the functional ones and a factor of the hierarchy of types and uses of buildings and of ability to use the vocabulary of modern architecture to achieve a significant and emotionally convincing result.

3.4.2 Form In Architecture:

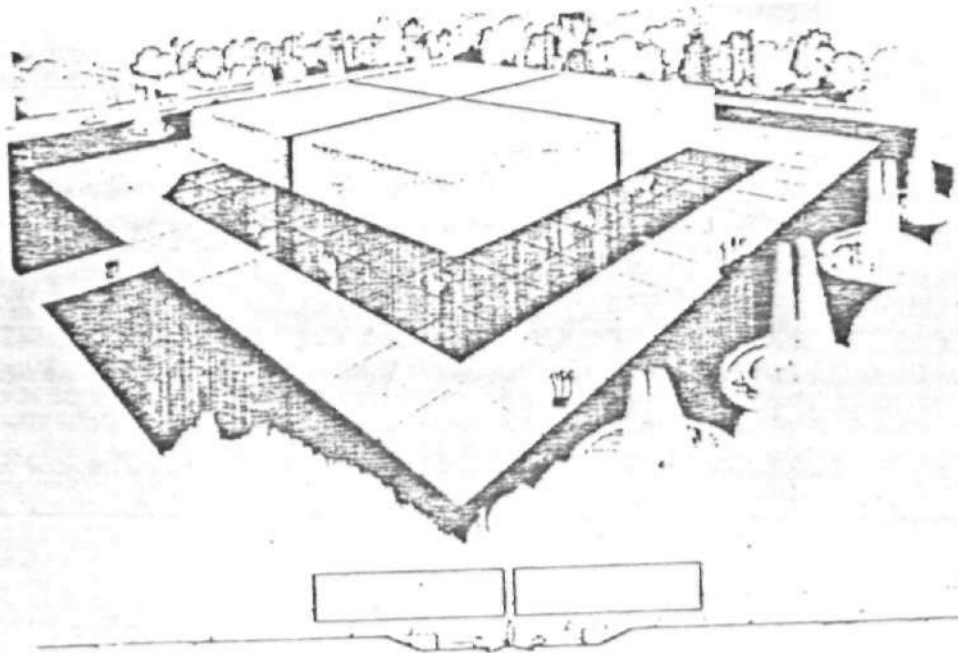
This is prominent or unique about the shape, configuration or expression in an object. Types of form are: Rectilinear, curvilinear, plastic, skeletal, planar or organic.

The form can be cultural or personal and the use to which the building would be put will determine the way and manner in which the building form is articulated and expressed. Symphony in architecture which relates to form, refers to the effective and co-ordinated compo-

© Plate 3.8

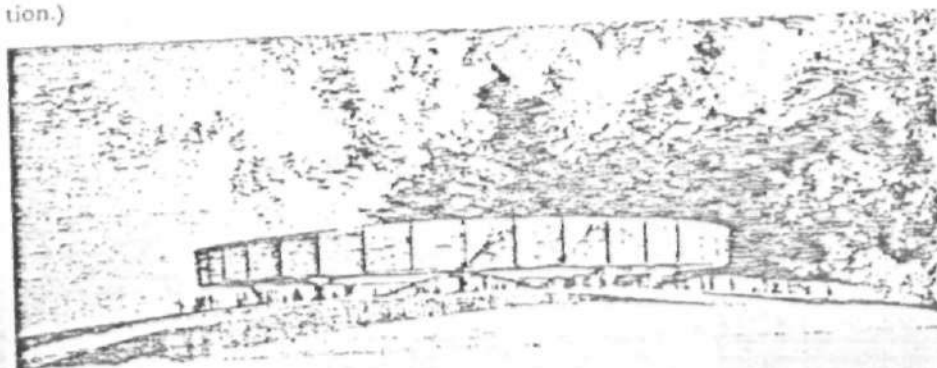


Modern Architecture with its
repetitive grid, lightweight construction³⁵⁹
with materials like glass and steel.

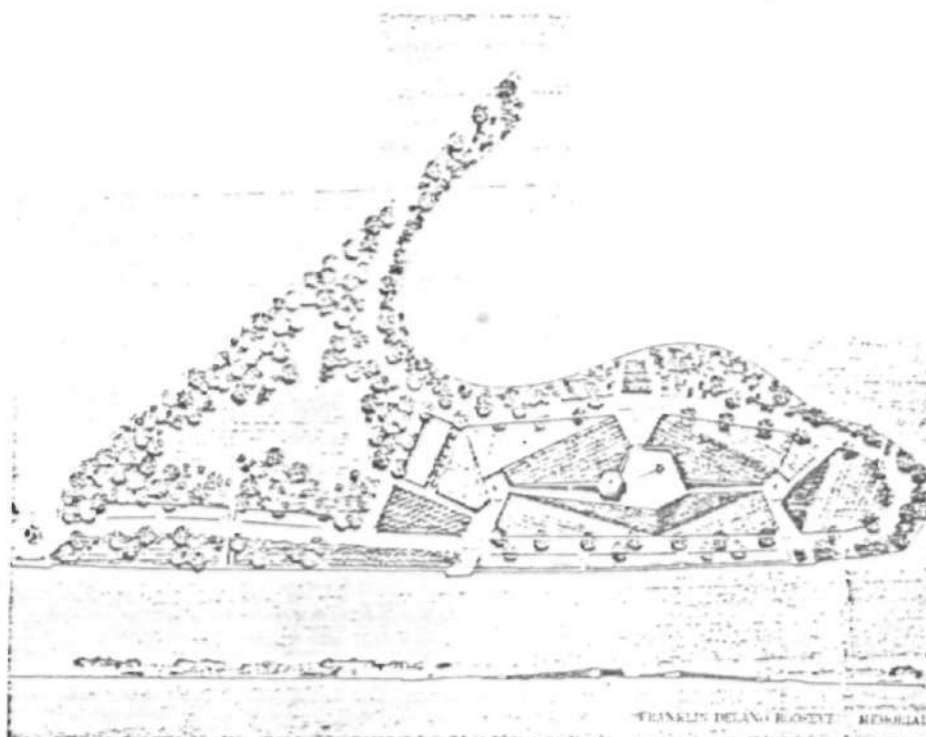
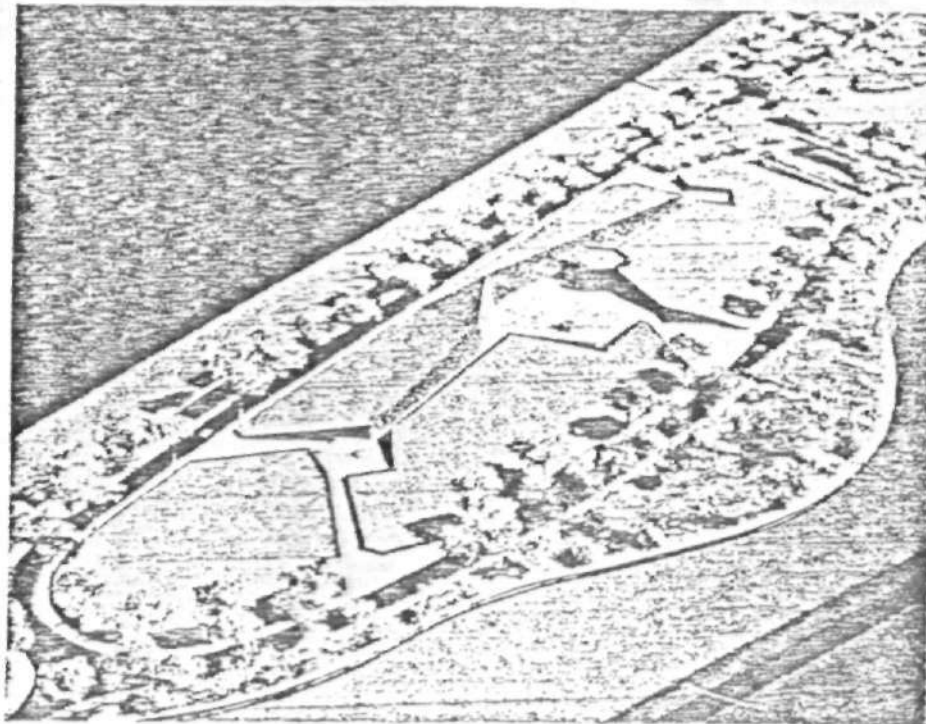


Anthony V. Genovese, architect. Eugene A. Meroni and Herbert Maddalene, associates. (Honorable mention.)

Frank F. Ehrenthal, architect. Tibor Fecskes, Valentine G. Agnoli, and Elio Benvenuto, associates. (Honorable mention.)



STRUCTURAL MEMORIAL CONCEPTS
(EXAMPLE 2)



THE WEHRER - BORKIN SCHEME MEMORIAL
ENTRY

sition of large set of building elements and concepts in achieving desired imagery. The harmonious blend of form, symphony and Imagery aid in helping the designer achieve his aspirations. However, compromises have to be made so long as harmony is not jeopardised. The history of form is in reality the history of variation in expression. The visual properties of form which are shape, size, colour, texture, position, orientation and visual inertial help in giving identity to the particular building.

Identity defined as individuality and personality has bearing to cultural roots/linkages and societal influence, but is also deeply rooted in function. The form that a designed space takes should be a manifestation of the identity of its users, but the function to which it would be put has to be expressed also. Sullivan (1956) said "Just as every form contains its function and exists by virtue of it, so every function is engaged in finding its form". This implies that the Headquarters being proposed should look like one and that its peculiar services or structure should also be expressed architecturally.

3.4.3 Symbolism in Architecture:

A symbol is a sign, mark, object or concept looked upon as representing something e.g. white is a symbol of purity and nobility, the dove is a symbol of peace. Man's insatiable quest for monuments of time is the basis for symbolic architecture.

Symbols express the invisible by means of the visible. Therefore a building itself can be a symbol, (e.g. a mansion shows a symbol of wealth). A simple form can have symbolic meaning such as the spire which suggests reaching towards the lofty heights. The word "spire" relates to aspire and inspire, office buildings portray strength just as the pointed arch is symbolic in Islamic faith etc. Symbolism permeates buildings in every community.

A design of this nature must create a symbolic expression.

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this in different ways in his works. What is unique about his works is that he hardly repeats the same communication theme in his designs. One of his works is hereby appraised in search for an African uniqueness.

Project: The E.C.O.W.A.S. Fund Headquarters building

Location: Lome, Togo.

Client/User: E.C.O.W.A.S. Fund Secretariat

Architect: Pierre G. Atepa (Senegalese)

Structural Engineers: Afoda Sebou (Senegalese)

Design Appraisal:

This project consists of two major materials concrete and glass. The complex is made up of two towers of different heights (the left-hand tower is 15 floors while the right hand tower is 13 floors).

The two towers are dramatically bridged on the seventh floor and a sunken, circular domed conference hall is set in the sector formed by the arc chaped complex. The complex is approached by two principal entrances on either side of the towers and a basement garage (parking) is approached from the rear. Access from the building proper to the conference hall is via a sunken access way covered by a glazed space frame and open on all sides. The ground floor has 16 compartments to the rear which are exhibition galleries for the 16 member states of E.C.O.W.A.S. The concept of the design is based on a suspension bridge linking the 16 E.C.O.W.A.S. countries together is very unique and structurally daring. The

manner in which the sunken conference hall brings out the effect of the dome, which flushes with the ground level is highly commendable. Orange curtain walls interlaced with sculptural concrete fins and further complemented with African motifs form the facades in the design. Plates 4.1, 4.2 show a view and floor plan of the building.

Merits.

- i) The concept of two towers which are bridged, expresses unity which is commendable for a project like this.
- ii) African symbolism has also been adequately exhibited in both the technique of expression and use of symbols because of successful use of forms and integration of elements.

Demerits:

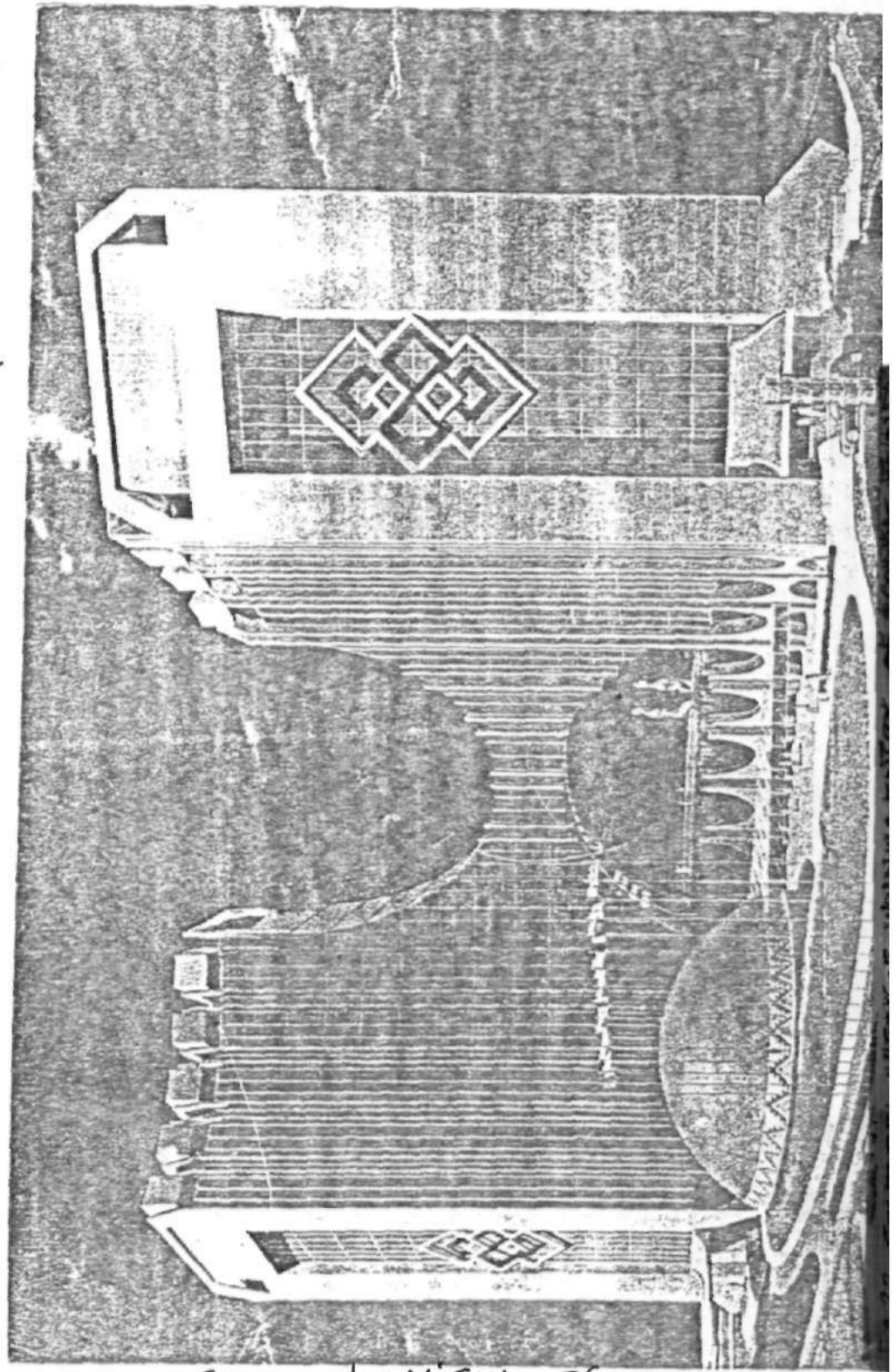
- i) Poor security consideration by the open access from the complex to the conference hall.
- ii) The idea of having separate major entrances at opposite ends of the complex encourages ethnocentrism.
- iii) The design falls short of adequate expression of West African sub-regional symbolism.

4.2 THE JOMO KENYATTA CONFERENCE CENTRE, NAIROBI, KENYA

Location: The conference centre is set in an open area of nearly a quarter ($\frac{1}{4}$) square mile in the very heart of Nairobi.

Designed by
Pierre-G. Atepa.

© Plate: 4.2 4.2



General view of
E.C.O.V.A.S. Fund
H.Q. Lomé, Togo.
(Winning entry).

Client: The Government of the Republic of Kenya.

Users: For variety of uses.

Architect: Karl Henrik Nosvik.

The Kenyatta conference centre became operational in July 1973 and since then over 250 International conferences have been held there. It is highly functional hence has been well utilized.

Design:

a) Layout and Facilities:

The complex consists of an extremely large plenary hall to the east, a strikingly beautiful amphitheatre to the west and a twenty six (26) storey administrative tower situated in between. On the twenty-sixth floor of the cylindrical tower is a revolving restaurant from which panoramic views of Nairobi can be appreciated. The component parts of the entire complex are discussed here.

- i) Plenary Hall: Facilities inside the building include; complete sound amplification and recording systems, interpretation booths with simultaneous interpretation by wireless system in up to seven languages and two observation galleries. The total floor area is $26,000\text{ft}^2$ which may be furnished/partitioned to the requirements of the hirer. Seating can accomodate four thousand (4,000) delegates or up to three thousand (3,000) with tables. Banquets can serve two thousand

(2,000) while cocktail parties may host up to five thousand (5,000) people. The hall could also function for exhibition purposes.

- ii) Medium sized Conference Rooms: Each room has accomodation for about four hundred (400) people with six (6) language interpreter booths with simultaneous interpretation by wire system, public address, microphone and tape recording facilities. The design concept of two separate rooms each with a minor reflection of its neighbour, makes these two meeting rooms uniquely suitable for bilateral type conference meetings.
- iii) The Amphitheatre: The mushroom shaped amphitheatre seats eight hundred (800) people at tables on three balconies circling the main auditorium. The podium is on the central balcony immediately above the entrance from the covered walkway linking at roof level across the main link building from the two main entrances to the complex. This facility is sound-proofed with the use of dark grey felt on walls and floors. The highly pitched ceiling with its patterned louvres provides both filtered daylight to the interior and gives an interesting sense of proportion to the building.
- iv) Press Facilities: A special telex room communicates with all parts of the world, whilst a switch board serves twenty international telephone booths via

the telephone desk. Provision is made for a press coverage lounge complete with bar and catering facilities.

- v) Tower Block: The tower block has multipurpose office space for lease in its majestic twenty six (26) floors. Banking facilities, post services, travel agencies, insurance companies and the like are represented. These office spaces are open and can be partitioned to suite various office accommodation. The cylindrical office tower is clearly visible on the skyline of Nairobi. It is dramatically roof topped by the inverted, cone shaped revolving restaurant. The third building consists of the L-shaped podium as base.
- vi) Circulation: Circulation which was one of the major problems encountered in this design was solved using different levels. The two main entrances are located in the podium on opposite sides and are linked by the reception hall. There is access to the offices and restaurant via staircases and lifts; or to various meeting rooms located under the plenary hall or to the amphitheatre through walkways and staircases. The roof concourse also links the tower to the amohitheatre.
- (b) Appraisal:
The Kenyatta Conference Centre has been described as one of the most practical complexes of its kind in the world and are of monumental success.

Merits:

- i) A very elaborate design with maximum respect for flexibility and circulation.
- ii) The location of the complex is excellent, thus enhancing its utilisation on a daily basis.
- iii) The revolving roof top restaurant is very innovative.
- iv) Some sort of African identity in the play of abstracted symbols and styles i.e. the conical African roof has been styled for the amphitheatre, which is very innovative. Plates 4.3, 4.4 show views, sections, elevations and plans of the design.

4.3 THE UNITED NATIONS ORGANISATION HEADQUARTERS BUILDING

Location: New York, U.S.A.

Clients: U.N.O.

Users: U.N.O.

Architect: Oscar Neimeyer (Brazil)

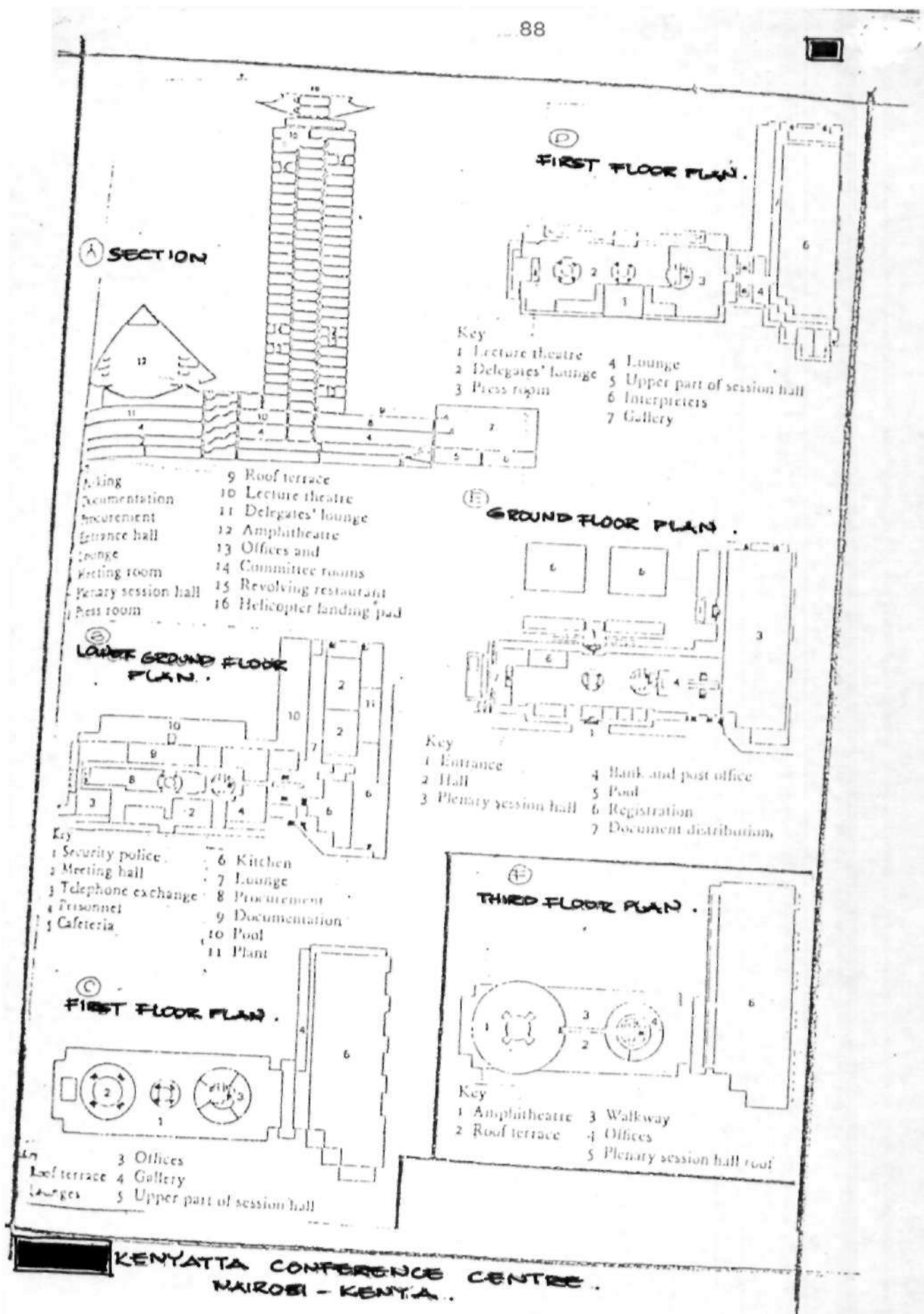
Le - Corbusier (France)

Wallace K. Harrison (U.S.)

Design Appraisal:

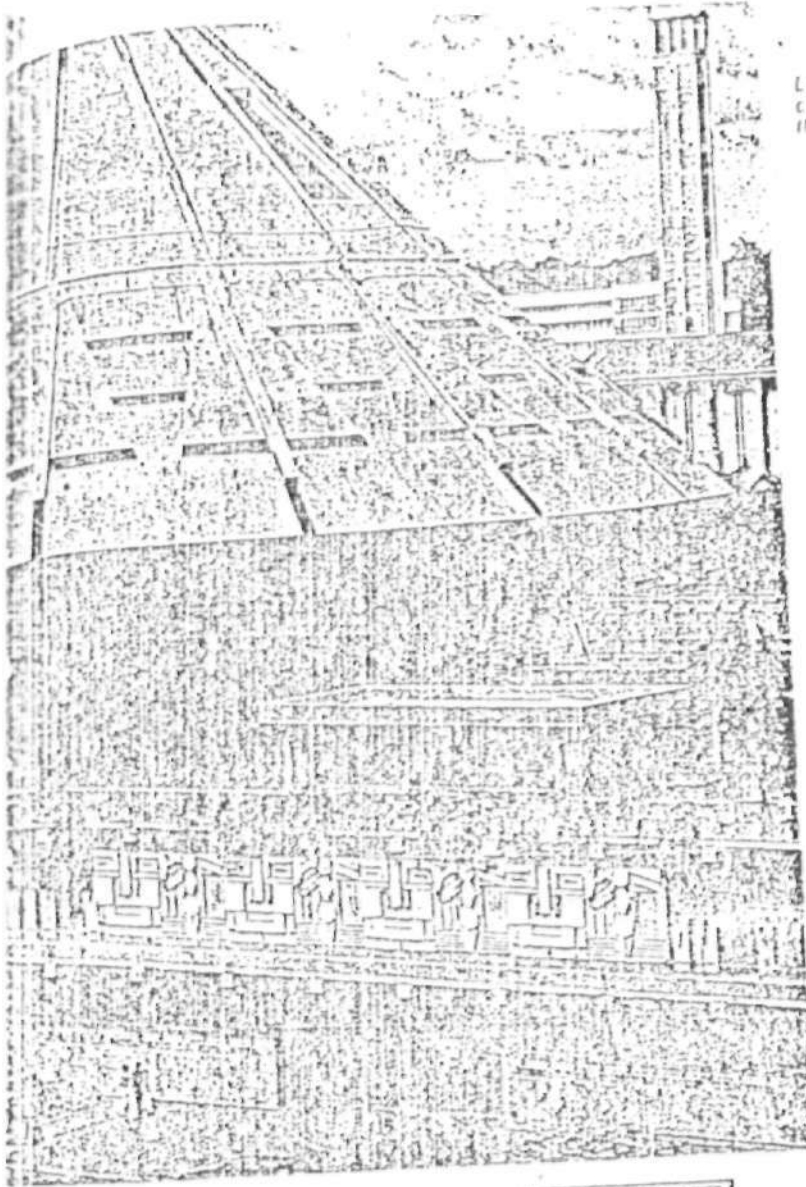
The facilities and the make up of the layout are the domed general assembly (conference hall), a tower housing offices, and a number of other smaller buildings.

The monumental slab skyscraper is the office of the 3,400 employees of the United Nations Secretariat. The ends of the slab are of white marble. The two sides are of green tinted glass. Atop the tower, an aluminium



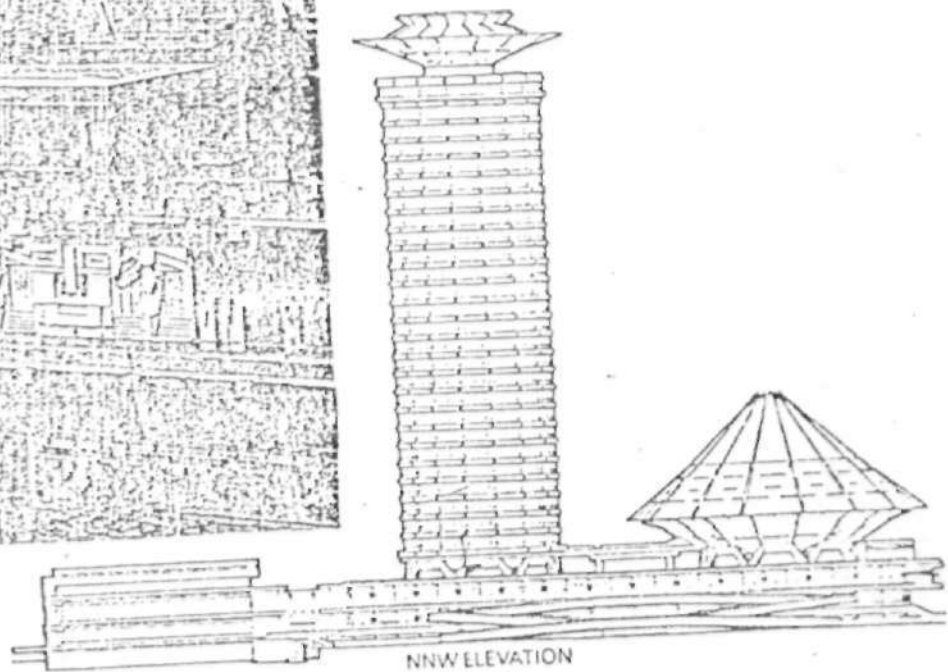
Floor plans and Section.

● Plate: 4.3

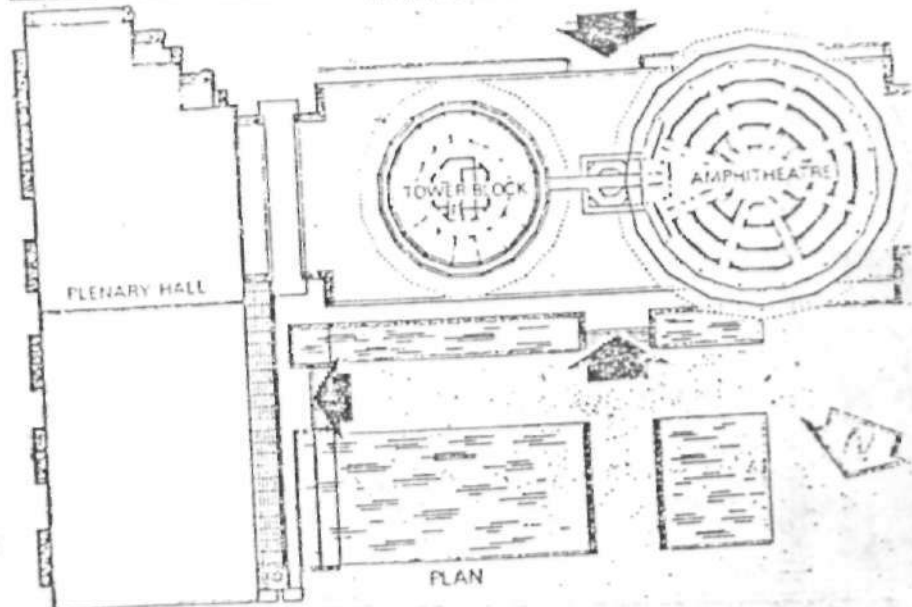


Left: The South East entrance, with the covered walkway to the Amphitheatre in the background.

Below: Condensed Elevation & Plan.



Below: The Central siting of the KCC.



grille conceals the service equipment and service floors divide the facades into three (3) horizontal parts. Since the axis is North - South, the building has a view of the East River on the east and holds a gigantic mirror to the Manhattan skyline on the west. Plates 4.5, 4.6, 4.7 show views, sections and plan of the complex.

Merits:

- i) This building which stands for the unity of the whole world has come to be a standard for other international organisations.
- ii) The solution of the circulation problem is commendable because the entire complex is well laid out allowing delegates, press and public to all have their different routes and seating areas in a manner that enhances security.

4.4 UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION (U.N.E.S.C.O.) HEADQUARTERS

Location: Paris, France.

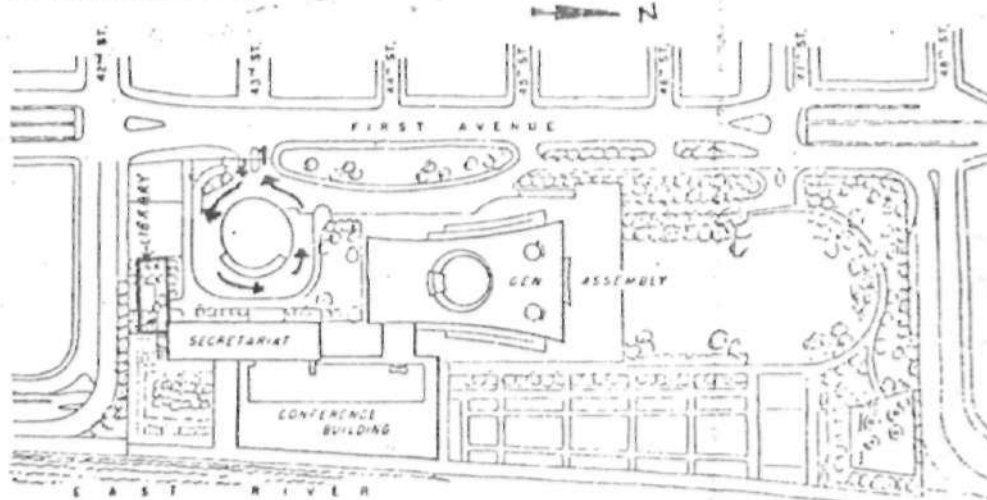
Clients: U.N.E.S.C.O.

Users: The complex serves as the seat of U.N.E.S.C.O., housing all its policy making and administrative facilities.

Architects: Marcel Breur (U.S.)
Bernard Zehr (France).

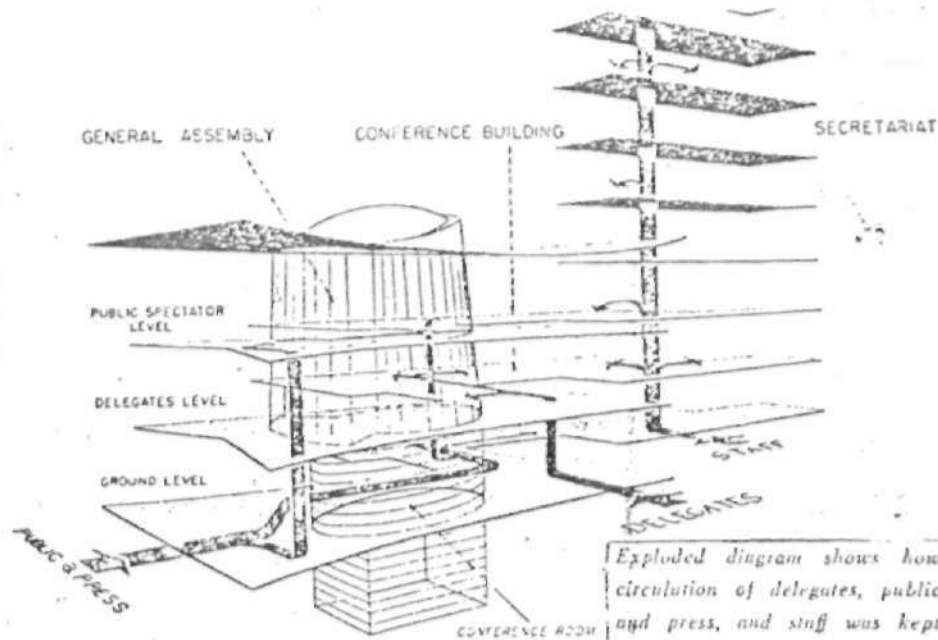
Structural Engineer: Pierre Luigi Nervi (Italy).

UN GENERAL ASSEMBLY



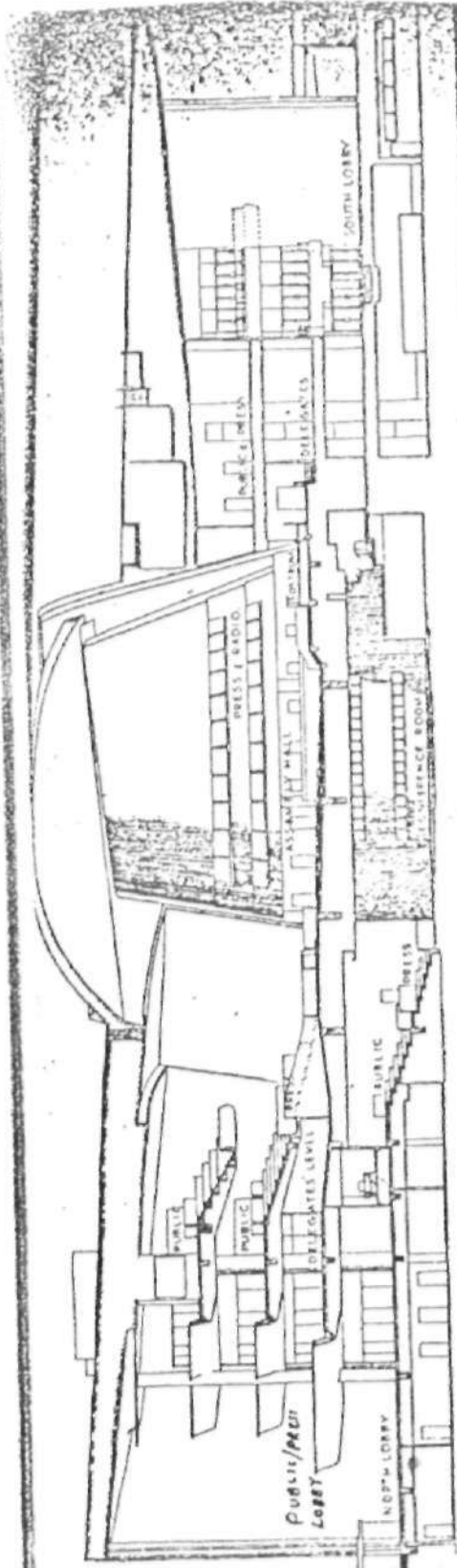
SITE PLAN OF UN GENERAL ASSEMBLY.

© Plate 4.5



EXPLODED DIAGRAM.

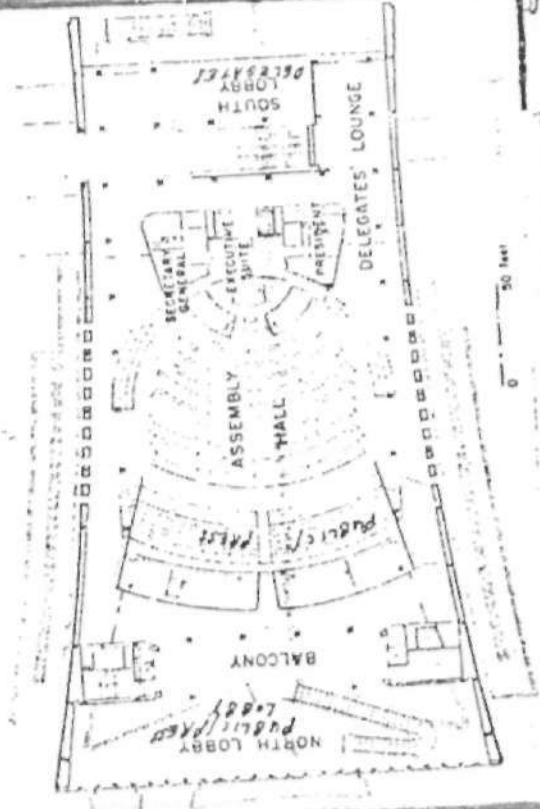
Exploded diagram shows how circulation of delegates, public and press, and staff was kept clear and unentangled. All public and press enter group at north end of new General Assembly and circulate either on ground level or "third floor." Delegates enter west side, miss public, and circulate on "second floor" to conference building. Most of staff enters Secretariat, where offices are, but can reach General As-



LONGITUDINAL SECTION FACING EAST

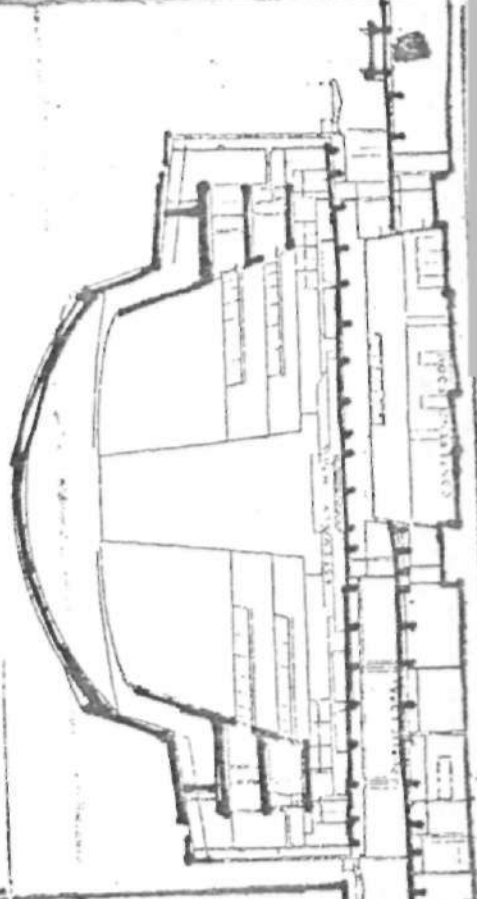
SECTION THROUGH ASSEMBLY HALL.
NOTE PUBLIC AND PRESS GALLERIES.

Plate 4.6



PLAN OF ASSEMBLY HALL, PUBLIC PRESS GALLERIES, OFFICES, LOUNGE, ASSEMBLY HALL

CROSS SECTION THROUGH ASSEMBLY HALL
SHOWING INTERIOR OF MAIN HALL.



GENERAL VIEW.



© Plate: 4.7.

The United Nations Organisations
(U.N.O) General Headquarters
Building. New York, (U.S.A)
designed by Wallace K. Harrison,
Oscar Niemeyer & Le Corbusier.

Design Appraisal:

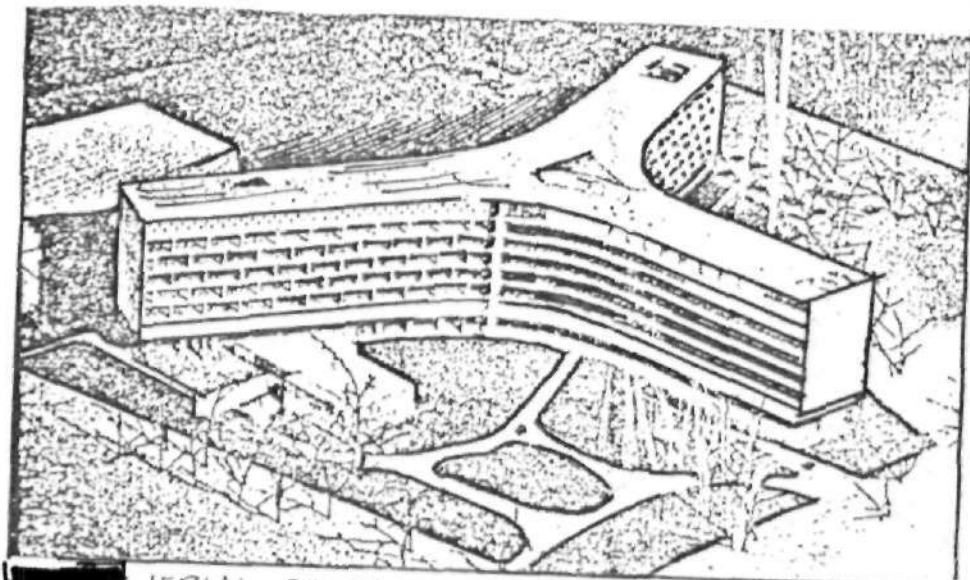
The facilities available in the complex are those normally required by such an international organisation which include conference facilities, administrative facilities and eating facilities. This simple "Y" shaped structure house the entire U.N.E.S.C.O. body. The form though simplistic, is interesting in the way the complexity of the ground floor changes to the simplicity of the upper floors. Circulation between offices and conference is direct on the ground floor.

Merits:

- i) The simplicity yet interesting nature of the building is good.
- ii) When viewed in three dimension, the "Y" shaped structure looks imposing thus relieving the eye of the conflict at ground floor level.

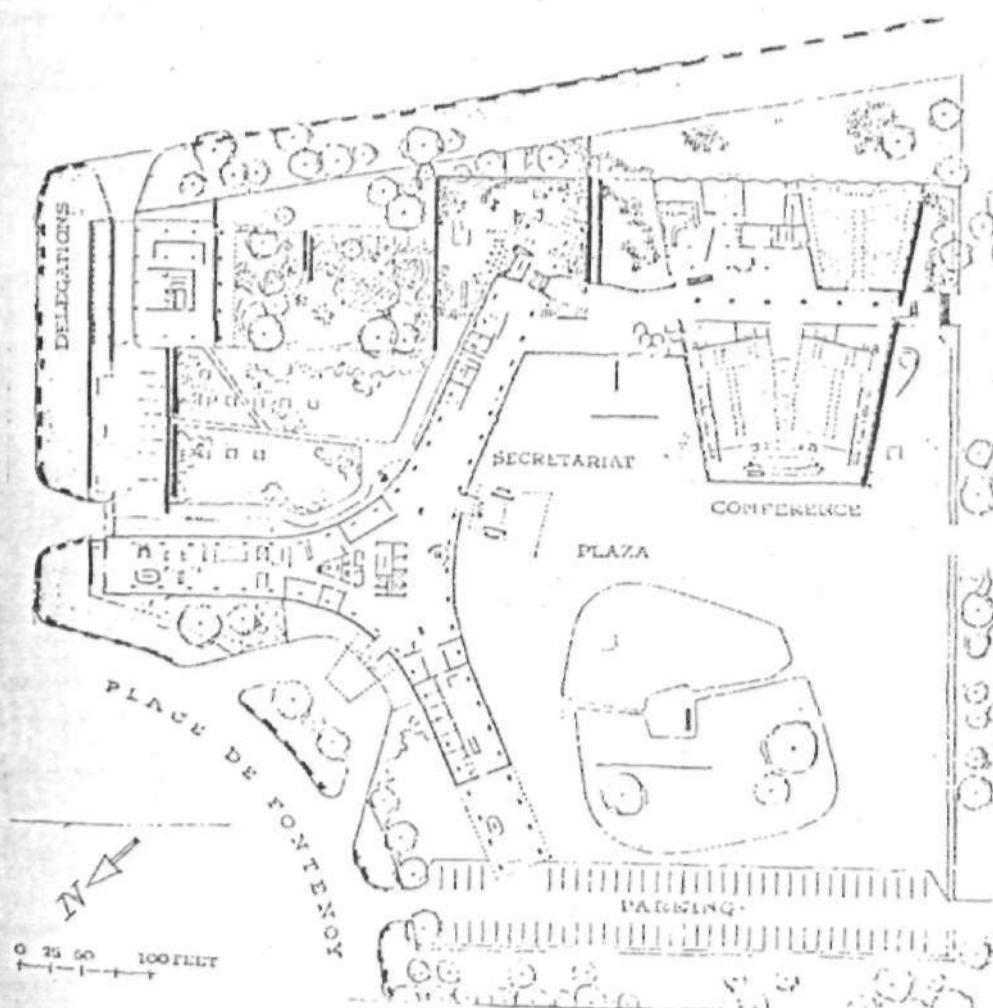
Demerits:

- i) The relationship of the conference hall to the main building in terms of composition, leaves much to be desired because the connection looks like an afterthought. Plate 4.8 shows a view and floor plan of the building.



AERIAL PHOTOGRAPH OF UNESCO HQ

© Plate 4.8.



DIAGRAMATIC GROUND FLOOR PLAN.

4.5 THE WORLD TRADE CENTRE, NEW YORK, U.S.A.

Location: The building is located in the lower Manhattan section of New York. The site is bounded on the west by West Street and Hudson River; at the south by Liberty Street; on the east by Church Street; on the North by Barclay and Vessey Streets.

Clients: Port Authority of New York and New Jersey.

Users: Multi-tenant, representatives of the World trade community including exporters, importers, freight forwarders, custom house brokers, international bankers, U.S. and foreign trade agencies. Full occupancy of 800 tenant firms and organisations.

Architects: Minoru Yamasaki and Associates
(Troy, Michigan).

Associate Architects: Emory Ruth and Sons
(New York).

Background

Built at a total cost of \$900 million, the world trade centre is the result of deliberation by a world trade corporation set up in 1946 to see the feasibility of an international trade market place in New York. Its professed purpose is to serve as an international centre for financial, commercial and governmental organi-

sations concerned with world trade. It also centralises trade information agencies in the port area as well as stimulate the entry of new companies into world trade. It was hoped that the presence of this building would strengthen the economy of the city as well as add prestige and lustre to the whole metropolitan area.

Design (Layout and Facilities):

A five (5) acre plaza is flanked by two 110 storey North and south towers. Each is 1,350ft high and 40,000ft² total floor area. The north and south-east plaza buildings are each 9 storeys high including concourse level. The U.S. customs office occupy an 8 storey building on the northern part of the plot.

Access to the 16 acre plot size of the world trade centre is via subways, business and vehicular broadways. Intra-building transportation consists of 25 express and local elevators and skylobbies. Daily average population is between 50,000 to 80,000 employees and visitors.

The office spaces are divided into different categories each complementing the other. These include a 52 storey trade mart, a 30 storey world commerce exchange, a 20 storey trade centre gateway and an 8 storey securities exchange. An internal pedestrian concourse for shops and commerce is accessible from the five acre plaza.

parking space for 1,600 vehicles is provided for. A hotel space is also provided to generate funds and further complement the existing facilities. The column

free floor spaces of the world trade centre tower buildings provide utmost flexibility and efficiency. Easy space layout regardless of office size. Conference rooms, private offices, receptions and open areas can be placed in the most efficient locations without obstructions. Clearing facilities, lounges, meeting rooms and an integrated computer communication system are available to add efficiency to the centre.

Design Appraisal:

Merits:

- i) The entire complex is a stunning creation. Its soaring metallic structures are clean but not sterile.
- ii) Its plaza at the base are surrounded by buildings and galleries reminiscent of classical architecture in Italy.
- iii) The disposition of the twin towers is elegant.
- iv) Design objectives were achieved.
- v) Facilities are excellently provided.
- vi) Utilization of complex has been of tremendous success.
- vii) Circulation and services within the centre have been problem free.
- viii) The design is noticed and identifiable throughout the world.
- ix) The idea of the skyscraper as a product of competitive economy is typified here.

- x) The complex allows the city to gather in a central core with a massive amount of space organised and equipped for work.

Demerits:

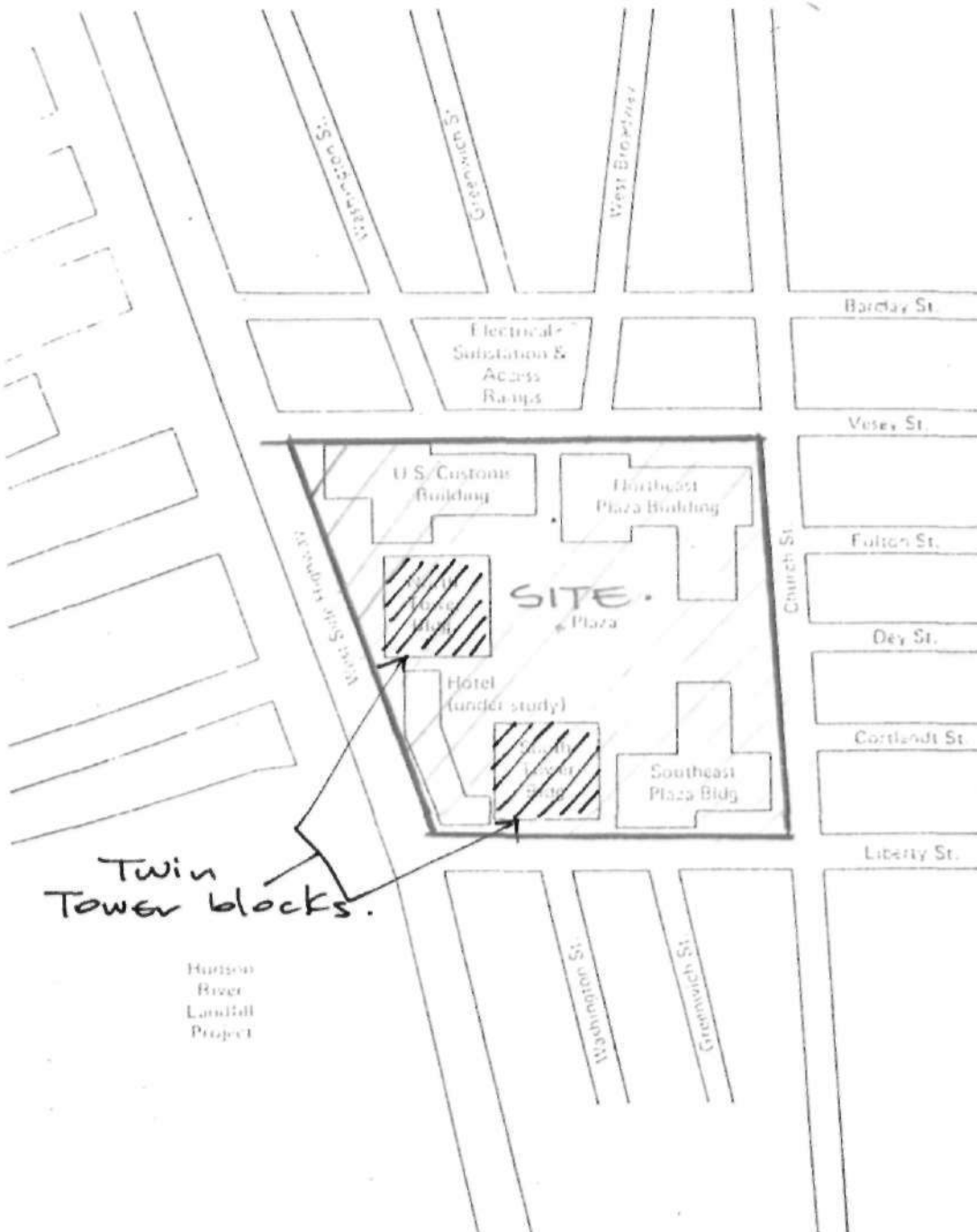
- i) "The rigid twin towers stick out like unspeakable slabs dominating within 30 miles radius".

(Ann Holmes - Houston Chronicle, 1983).

- ii) "The twin towers which are straight, stark and simply yanked off at the top, rudely disrupt the lower Manhattan skyline" (Von Eckardt - Los Angeles Times, 1982).

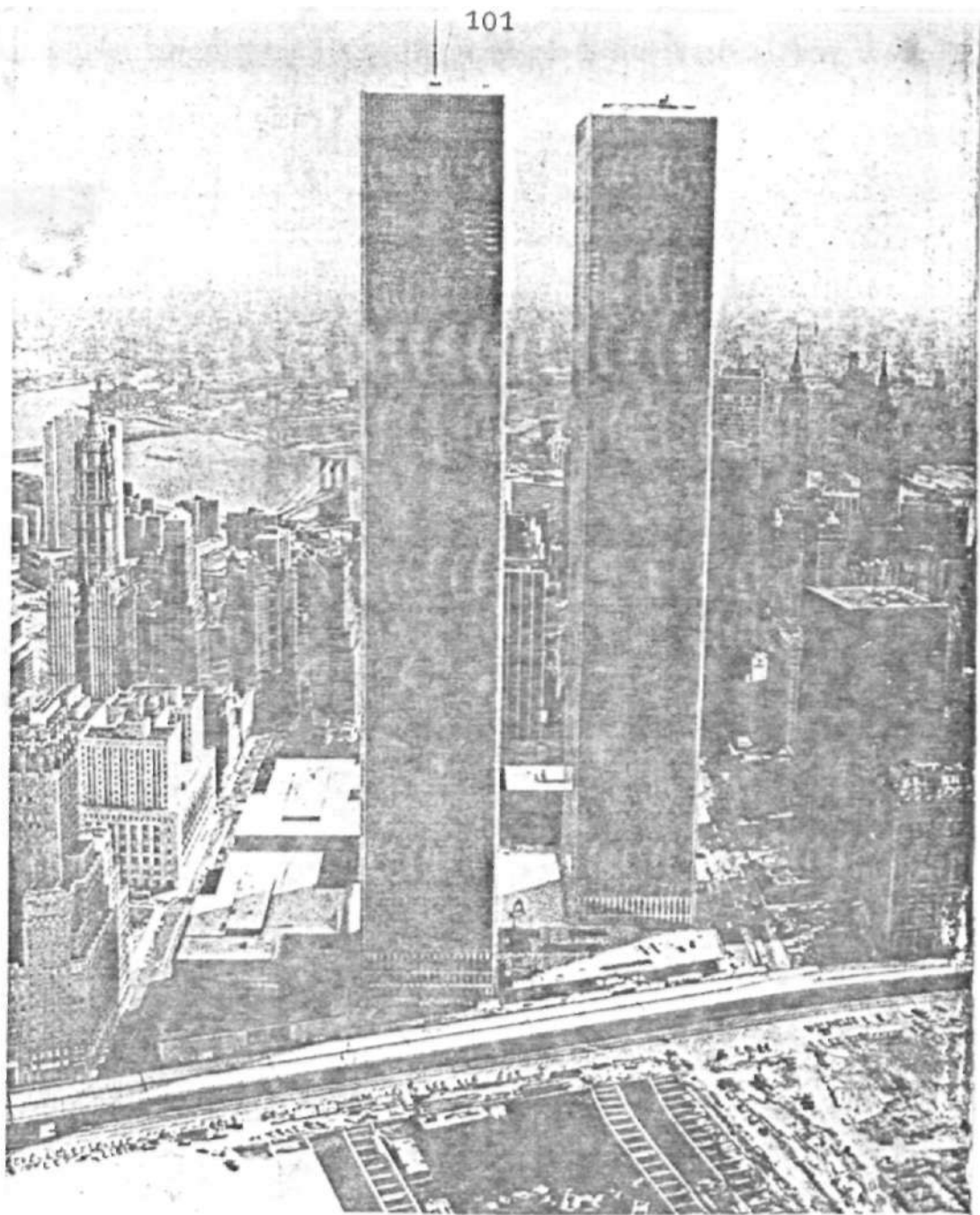
Plates 4.9, 4.10 show site layout views and sections of the buildings.

Site plan, The World Trade Center



Hudson
River
Landfill
Project

World Trade Centre (New York, U.S.)
Site Plan -
by Minoru Yamasaki.
© Plate: 4.9.



The World Trade Center and Manhattan backdrop.

© Platz 4.10

General view of the twin
tower blocks and the
World Trade Center.
Manhattan, New York (U.S)

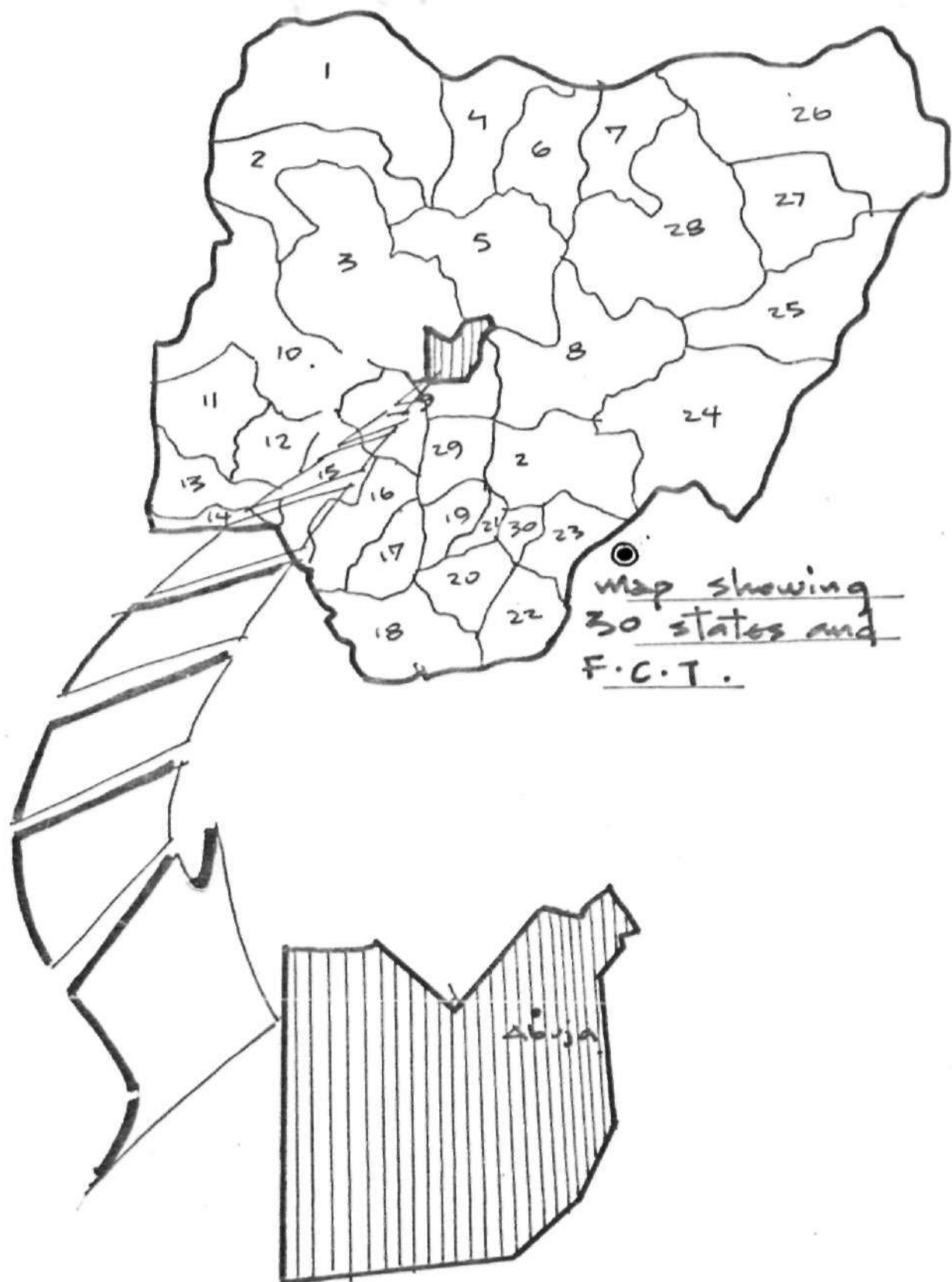
R E F E R E N C E S

Articles:

1. Justin Mandy: The Highrise of an African Architect. Architectural Review (A.R.) (1987).

Books:

2. Oyekola, M.B. (1988). E.C.O.W.A.S. Fund Headquarters Building - Lome, Togo, Unpublished M.Sc. Thesis, A.B.U., Zaria.
3. Oyeleke, T.B. (1989) - Commodity Exchange Market - Abuja, Nigeria. Unpublished M.Sc. Thesis, A.B.U., Zaria.
4. Sule, M.A. (1989). Nigerian Export Promotion Council Building - Abuja, Nigeria. Unpublished M.Sc. Thesis, A.B.U., Zaria.
5. Ruchelman, L.I. (1977). The World Trade Center: Politics and policies of skyscraper development. Longman, New York.



Map showing
30 states and
F.C.T.

Blow Up of F.C.T.

● DISTANCES in (km) OF ABUJA
TO OTHER MAJOR CITIES IN ●

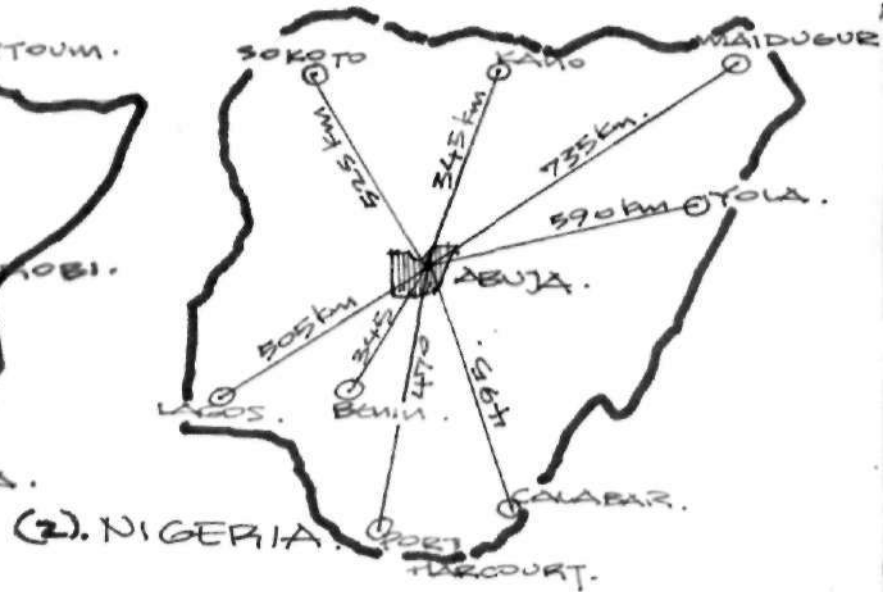
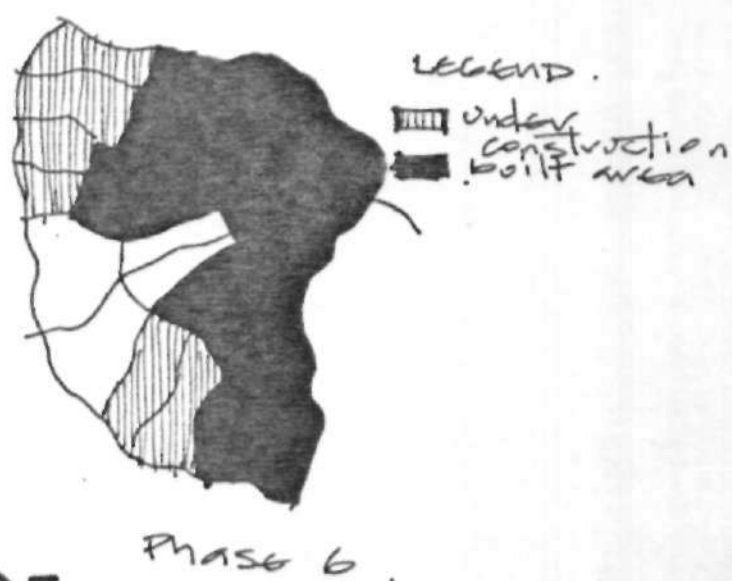
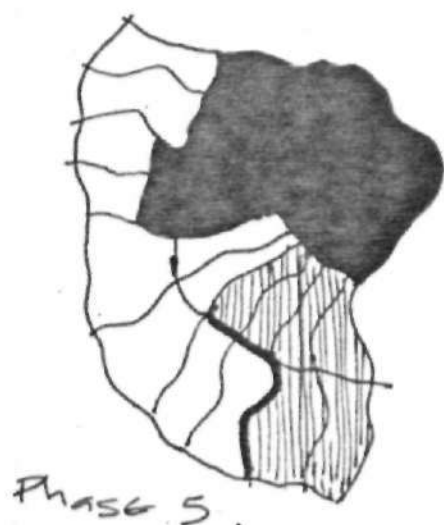
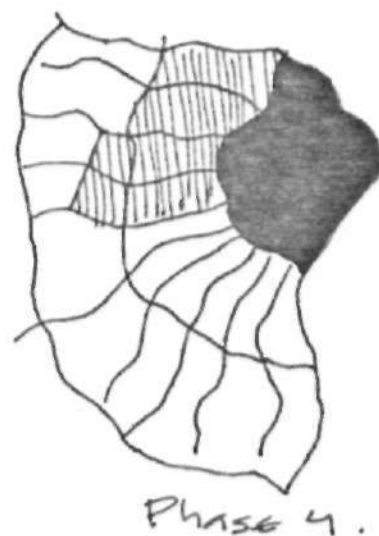
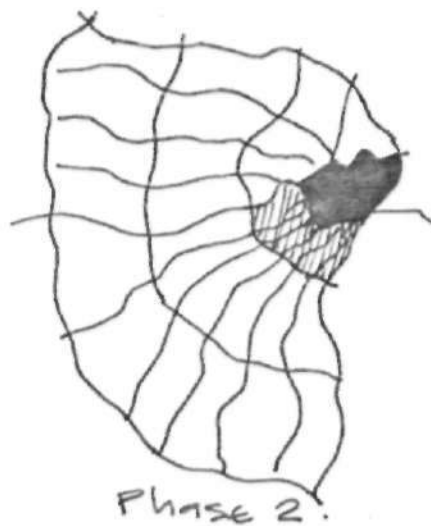
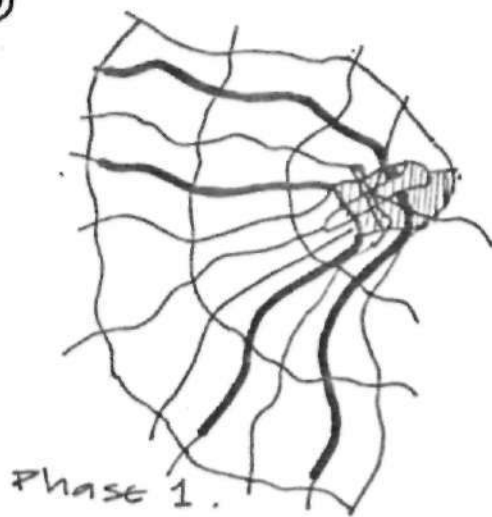


Plate: 5.2



©



LEGEND.

under construction

built area

- ΔBUJA-
DEVELOPMENT PHASING -

The Central Area will house the following:

- a) The three Arm zone:- the National Assembly, the presidential complex and the Supreme Court building.
- b) The Ministerial and state government liaison offices buildings to house governmental activities.
- c) The National Hall and square.
- d) The cultural spine:- The National mosque, National Cathedral, National Library, National Conference Centre, National Archives, National Museum and the Monumental communication tower.
- e) The central business district which will form the main spine for shopping and commercial/economic activities.
- f) The transportation terminal which will form the nerve centre for transportation in and out of the territory.
- g) The central market.
- h) The National Sports Complex (see plate 5.4).

The other six districts are mainly for residential housing and supporting facilities for both public and private ownership. Plots are laid out for prospective developers. Supportive services such as road networks, water supply, waste disposal, telecommunication, electricity supply lines are provided by the appropriate service organisations under the supervision and guidelines laid by the Federal Capital Development Authority.

Plate: 5.4.



The Central Area Plan



Central Parkway

Ministries

National Conference Center

Transitway

Supreme Court

Municipal Administrative Center

Ministries

Golf Course

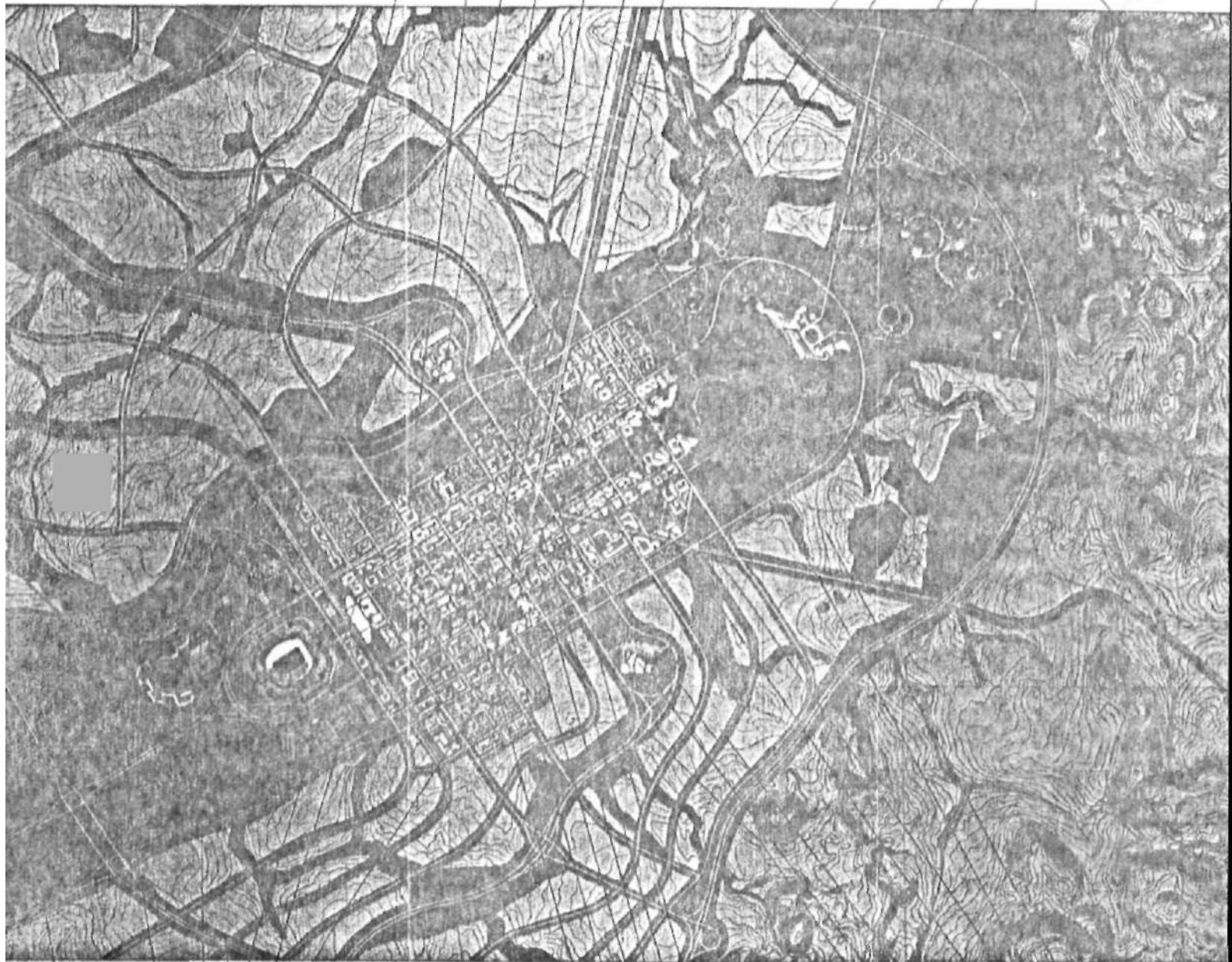
Official Residences

National Assembly, Legislative and Executive Offices and Official Residences

National Arboretum

National Monument

Aso Hills



Central Market

Central Hospital

Transportation Center

Transitway

National Sports Center

Transitway

Parkway from Airport

Presidential Residence and Gardens

National Museum

National Square

Ministries

Central Business District

Main Shopping Street

Embassies

Park

Ministries

Mall

Transitway

National Theater

Central Parkway

5.1.2 Site Description:

The proposed site for the O.A.U. Secretariat complex is located in the Asokoro District Area of the Federal Capital Territory at Abuja. The Asokoro district is situated some distance away from the central area. The site is in the Diplomatic area zoned for embassies and other international organisations.

The site is bounded on all sides by a vehicular artery which will be tapped for access. Low density residential buildings and the E.C.O.W.A.S. Secretariat are the only existing neighbouring structures. The site is generally flat and savannah type vegetation with short grasses and low shrubs being the ground cover. It is criss crossed by footpaths which would have to be removed. There are a number of trees on the northern boundary of the site which could be left as landscape elements. There is also a hill on the eastern boundary of the site across the road. This could be used as a good view element and the micro-climatic conditions it provides could be harnessed.

The choice of this site is primarily based on the use for which the area is demarcated. Asokoro district is to house all the foreign missions and embassies and other international organisations such as the E.C.O.W.A.S. Secretariat building which is already built. Other high-class, low density residential areas are proposed for this zone complete with their support facilities such as public gardens, nursery schools, health clinics,

hotels, religious buildings etc. The reputable hotels in Abuja such as Nicon Noga Hilton, Abuja Sheraton, Agura hotel and a host of others still being built, would cater for delegates to the proposed complex.

An alternative site was considered in the other diplomatic zone of the central area. This is however rejected because of circulation problems envisaged for a complex of this kind. Also the alternative site is not close to the E.C.O.W.A.S. Secretariat which the proposed O.A.U. Secretariat is supposed to complement. The chosen site is adequate for future expansion as needs may arise. Plate 5.5 shows the site analysis.

5.1.3 Climatic Conditions in Abuja:

- i) Site Topography: The area is typified by gently undulating terrain interlaced by riverine depressions. The central area consists of uplands and plains with numerous inselbergs, whalebacks and other rock outcrops. Height variation is around 50m.
- ii) Geology: Underlying the majority of Abuja are rocks of medium to high strength i.e. Migmatite, Granite, Gneiss and Biotite which are not expected to present any formidable engineering problems for construction purposes.



SUNRISE...

- iii) Soils and Vegetation: The soils are typically deep and well drained. They can be classified into ten complexes on the basis of parent materials and texture. Vegetation is characterized by park savannah, Riverine depressions are typically skirted by fringes of thickets and high trees. There are occasional patches of forest and heavily wooded areas.
- iv) Temperature: Maximum mean temperature of 35°C is experienced around June while minimum mean temperature of 18°C is experienced between December and January. It is however generally hot and humid all year round and can be unbearable sometimes.
- v) Relative Humidity: A maximum of 88% can be reached during the rainy season notably between June and August. Minimum humidity of 23% is recorded during the coldest dry months of December and January. These extremes are not within the comfort zone of between 30 - 70% hence solutions to arresting this in buildings have to be worked out by the architect.
- vi) Pressure: The average pressure is recorded between 8 a.m. - 1 a.m. and 6 p.m. The pressure is directly related to the quantity of moisture in the air.
- vii) Rainfall: Mean monthly rainfall is at a maximum of 20mm in September and falls to about 2mm in January.

- viii) Radiation: It is at a maximum of 8 and 9 hours a day between December and February and at a minimum of 4.5 hours in August.
- ix) Prevailing winds: The harmattan winds blow from the Aso hills over Abuja creating stagnant air pockets during the dry season. The maritime winds blow in the other direction during the wet season. As against the harmattan winds which are dust laden, cold, dry and undesirable, the maritime (south west) winds are moisture laden and desirable. Plates 5.6, 5.7 and 5.8 show climatic charts, figures and diagrams.

5.2 TOWN PLANNING REGULATIONS IN ABUJA:

- 1) Harmony of building with the site and surrounding environment.
- 2) Accessibility in terms of
 - (a) Traffic
 - (b) parking
 - (c) Movement of pedestrians.
- 3) Proper and effective landscaping.
- 4) The design project should take into account the existing buildings in the area with respect to linkage with the following networks.
 - (a) Water in collaboration with the water supply grid (Authority).

- (b) Electricity in consultation with the National Electric Power Authority (N.E.P.A.) supply grid.
 - (c) Drainage of rainwater and waste water complying with laid down guidelines and procedures.
- 5) Fire security for the area involved.
 - 6) Proper zoning in compliance with planning authority (or the F.C.D.A.).
 - 7) Good orientation of building - for minimising of glare and wind problems.
 - 8) The design project must have good regional character depending on the type and nature of the building.
 - 9) The Federal Capital Development Authority (F.C.D.A.) approve to all the parameters prior to the design and construction of any project.

The above must all be strictly adhered to.

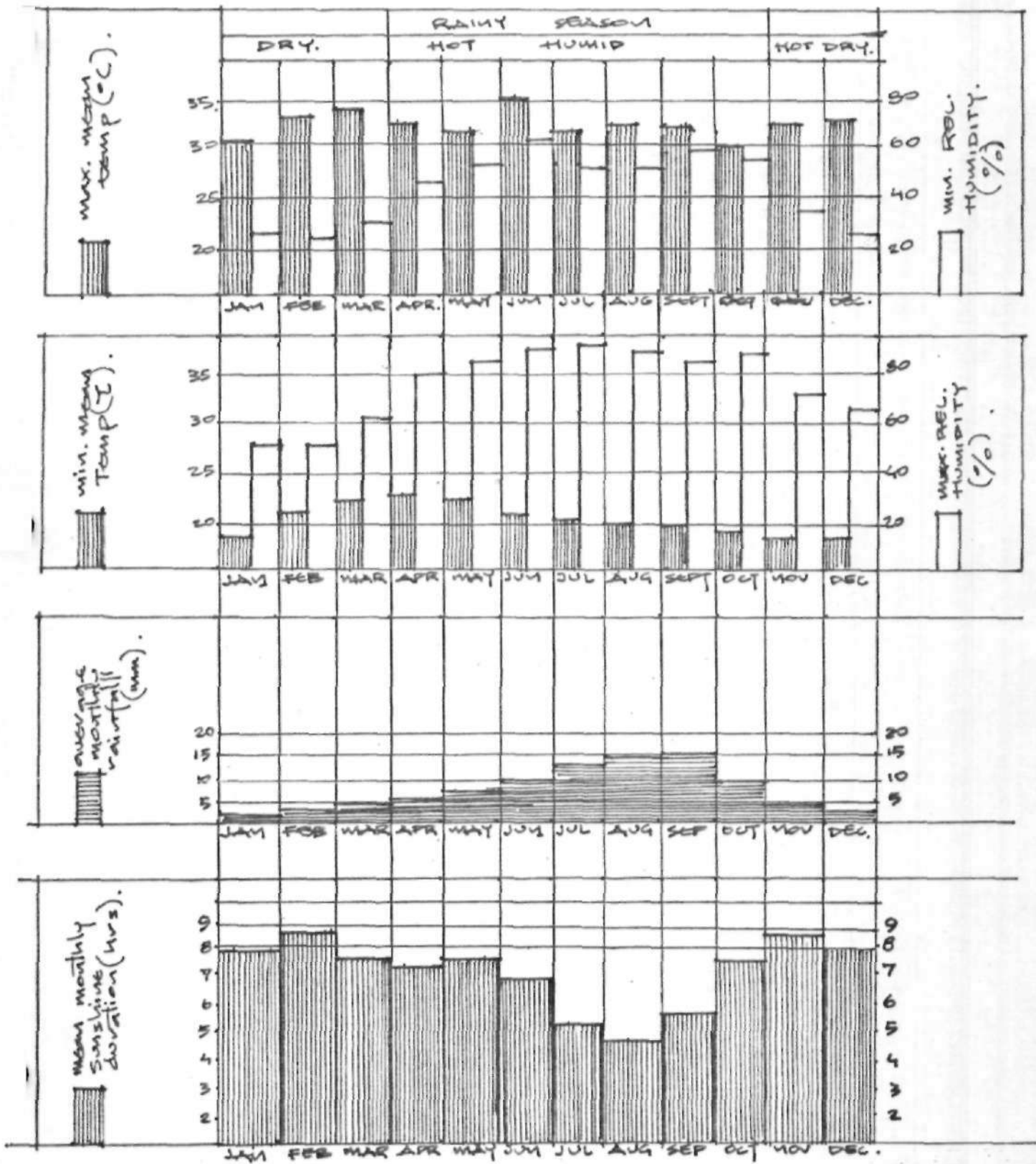
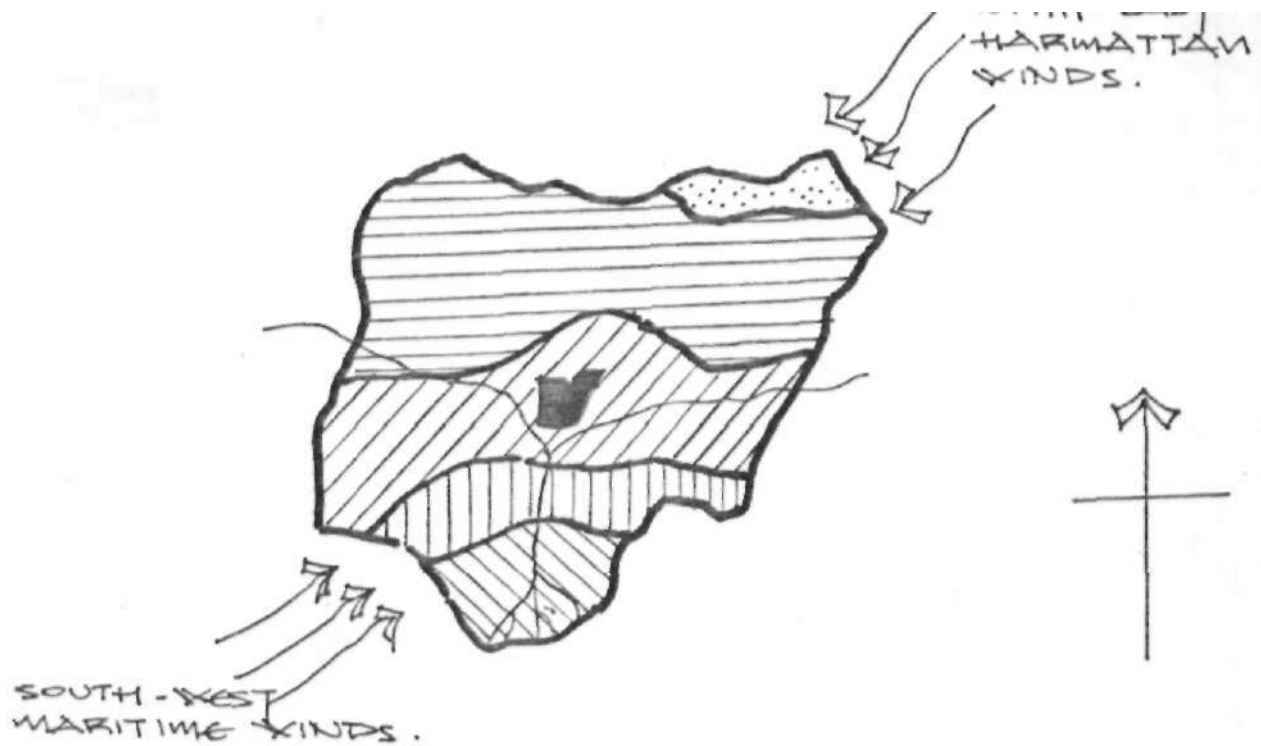
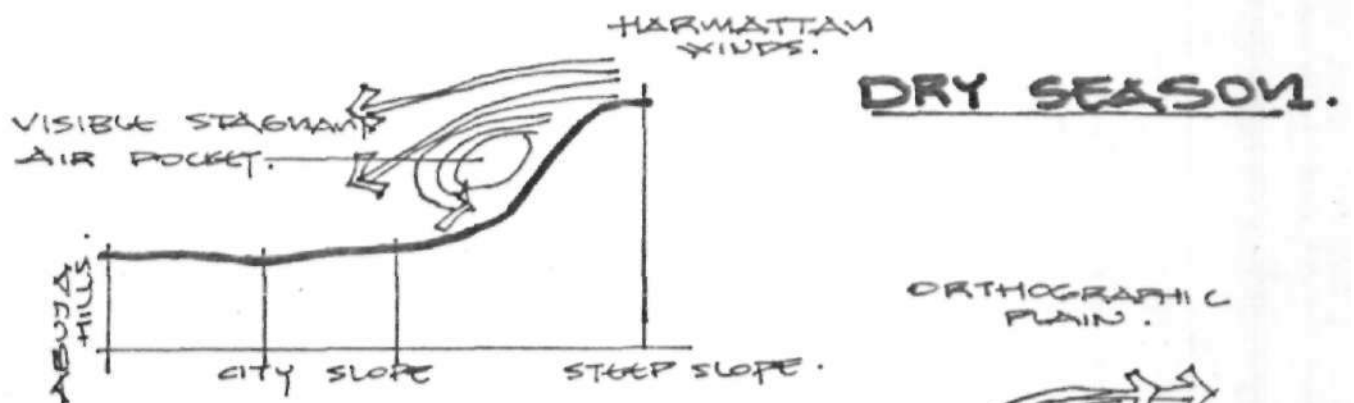


Plate: 5.6.

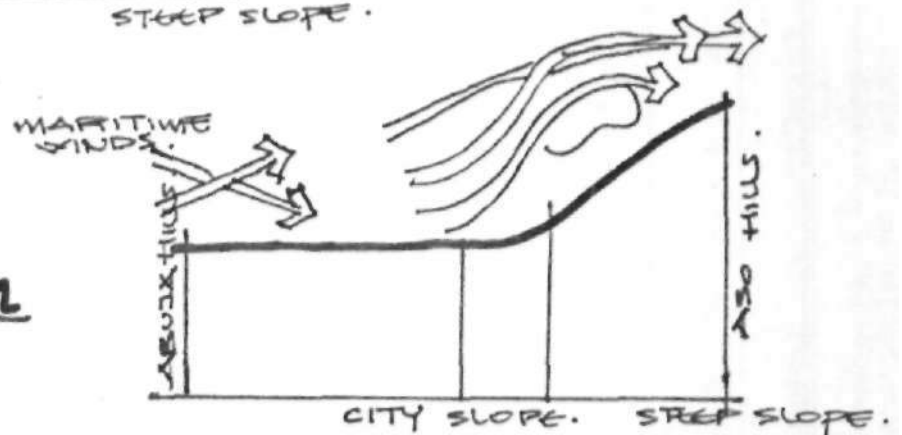
© ABUJA CLIMATIC
CHART.



Major Winds Characteristics of Nigerian climate.

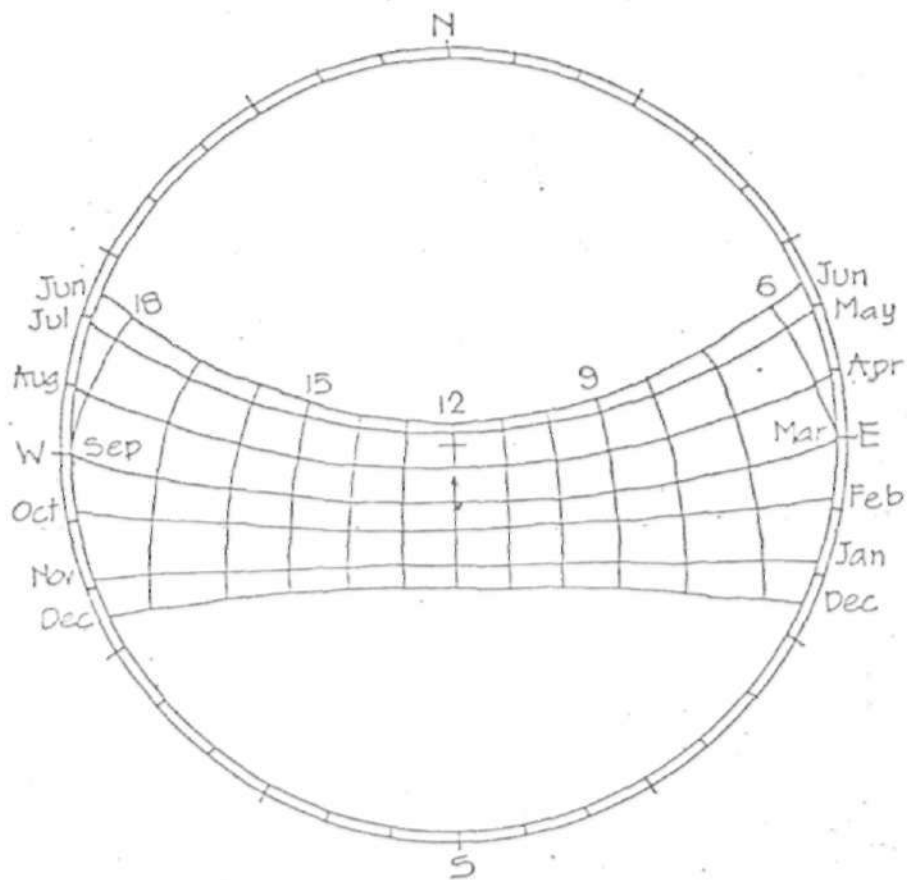


WET SEASON



Seasonal Wind Pattern Over Abuja.

SUNPATH DIAGRAM



Stereographic sunpath diagram for latitude 16°N

Plate: 5.8

D-

REFERENCES

The Master plan for Abuja the New Federal
Capital Territory. (F.C.D.A., Federal Republic
of Nigeria).

CHAPTER 6CONCEPT DEVELOPMENT AND SPACE ANALYSIS6.1 THE ORGANISATION AND OPERATIONS OF HEADQUARTERS/
SECRETARIAT:

Organizations in what ever location in the world always have headquarters/secretariat, that have the purpose of being the nerve centre or focus of all activities or enquiries related to that organization. They are also the administrative offices and consequently the power/authority base of the organisation.

The building itself must be an embodiment of the principles and guidelines that govern the organization (i.e. the building must have strong character of office), dominant structure that dwarfs all its agencies and sub-offices making them look like mere off-shoots of the parent structure. The headquarters is responsible for dissemination of policies, ideas, operational codes, memoranda and other binding issues to its sub-offices for prompt action.

Prior to the design and erection of a secretariat, the viability is assessed based on cost implications, site constraints, regional character (to relate this to form to be used, architectural style and language). A design proposal for a headquarters should further enhance and portray the organisation in a better light since it is the reference point of the organisation.

The user requirements vary from organisation to organisation but generally it must comprise of

- i) Administrative (office accomodation) building which houses various departments, and divisions of the organisation.
- ii) Conference facilities.
- iii) Support and auxilliary facilities e.g. maintenance and security.
- iv) Lettable office space.
- v) Social facilities e.g. restaurants, bars, banquet hall and shops.
- vi) Services e.g. parking, water supply, drainage and electrical supply.

Personnel and staffing whose number and disposition depends on brief requirement. However the hierarchy of staff ranges from policy makers (i.e. Secretary General, Director-Generals) down to support staff (i.e. Janitors and security personnel).

Flow of activity is same as is found in office buildings but emphasis is given to particular design requirements (i.e. security, good zoning of activity).

Planning and design must enhance circulation and proper space co-ordination.

6.2 DESIGN PROGRAMME:

Having established relevant traditional African character concepts of planning with emphasis on the usage of building elements with possibilities of hybridising with modern concepts and adapting them for the Regional Headquarters building, one is left with certain concepts that will characterize the proposal. These are:-

1. Organic Nature of Design: Choice of materials and design must complement and blend with the site.
2. Strict adherence to the hierarchy of space and proper zoning of functions.
3. Compactness: By use of cluster designs with communal open spaces and ventilation and lighting.
4. Design for social interaction by use of casual circulation patterns.
5. Designing for climatic comfort.
6. Flexibility for expansion purposes will entail a dynamic approach to design.
7. Entrances must be well celebrated with strong African character, decorations and representational motifs.
8. The use of forms and patterns that enhance authority dominance, integration and unity in African traditional architecture as far as they are relevant. The composite visual effect must be symbolic and should have meaning.
9. The proposal must as much as possible be cost effective.
10. The design should neither be of traditional nor vernacular architecture, because of the diversity of users. Traditional styles are used as a catalyst and technology as a moderator.

11. The proposal arrived at will not be exhaustive. It relates to this particular project at hand. It should also not serve as a style, though the process of its conceptual evolution involves different styles that have come to be very popular. It should be a response to a social problem i.e. a need for the users to identify with architecture they can relate to.

6.2.1 Functional Parameters:

In preparing a functional diagram for the facility, function and activity are analysed. The functional system is an operational system of activities and relationships that is organised for the accomplishment of specified objectives. A facility makes possible the existence and performance of this system. Understanding the functional system is essential in order to project a corresponding physical systems of elements, relationships organisation and configuration.

The functional system or framework of the complex is based on the clients goals and operational objectives because of its uniqueness. The activity system is examined as a distinct entity or as a subsystem of the functional complex in order to analyse and create a model on which a facilities physical system is based.

6.2.2 Functional Diagram:

The diverse nature of activities in the architectural space has directed the designer to bring into focus those intricate functions closer together for efficient design process. This is done by relating them to a set of relationship in another unit. The totality of the unification process defined the building form. The relationship as established with the context of architectural design process takes the following three forms:-

- a) Visual Relationship
- b) Vertical Relationship
- c) Linear Relationship.

a) 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. It shows the vibrancy of visual communication.

b) Vertical Relationship:

Functions are related vertically in situation where restriction is placed on land. The relationship gives linkage through various spaces and architectural elements such as staircases, lifts and ramps.

c) Linear Relationship:

Where land is abundant and restriction is not placed on any function, linear relationship is best achieved through the manipulation of various functional elements. Visual elegance is also achieved by the juxtaposition of building mass along the horizontal plane. Plates 6.1, 6.2, 6.3, 6.4 and 6.5 show the functional diagrams.

6.3 CONCEPTUALISATION:

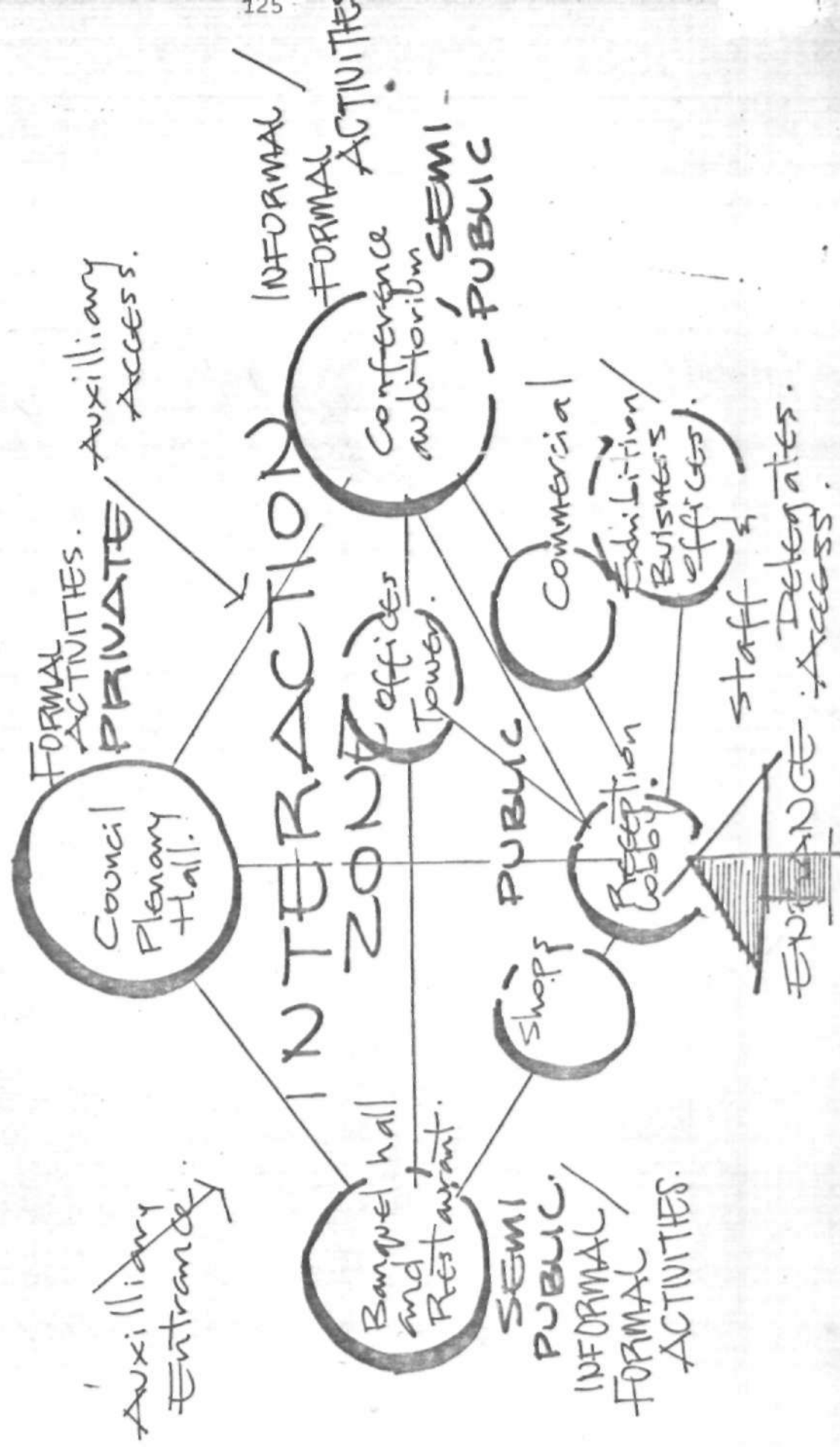
The concept identifies and integrates the various aspects of the design into a coherent whole thus enabling the designer to direct his thoughts and resources to the most important part of the design. It is the result of a concentrated and imaginative effort of bringing apparently dissimilar design indices together. The following approaches were considered.

- (a) the use of Architectural ideas.
- (b) the use of a particular theme
- (c) using super organising ideas
- (d) using the Parti-scheme (by use of sketches initiated at inception to logical conclusion).
- (e) literal translation.
- (f) using pragmatic concepts.
- (g) use of universal architectural ideals and values.

The most difficult part of the entire project was deciding on which concept to adopt. This problem becomes even more evident considering the wide variety of cultural

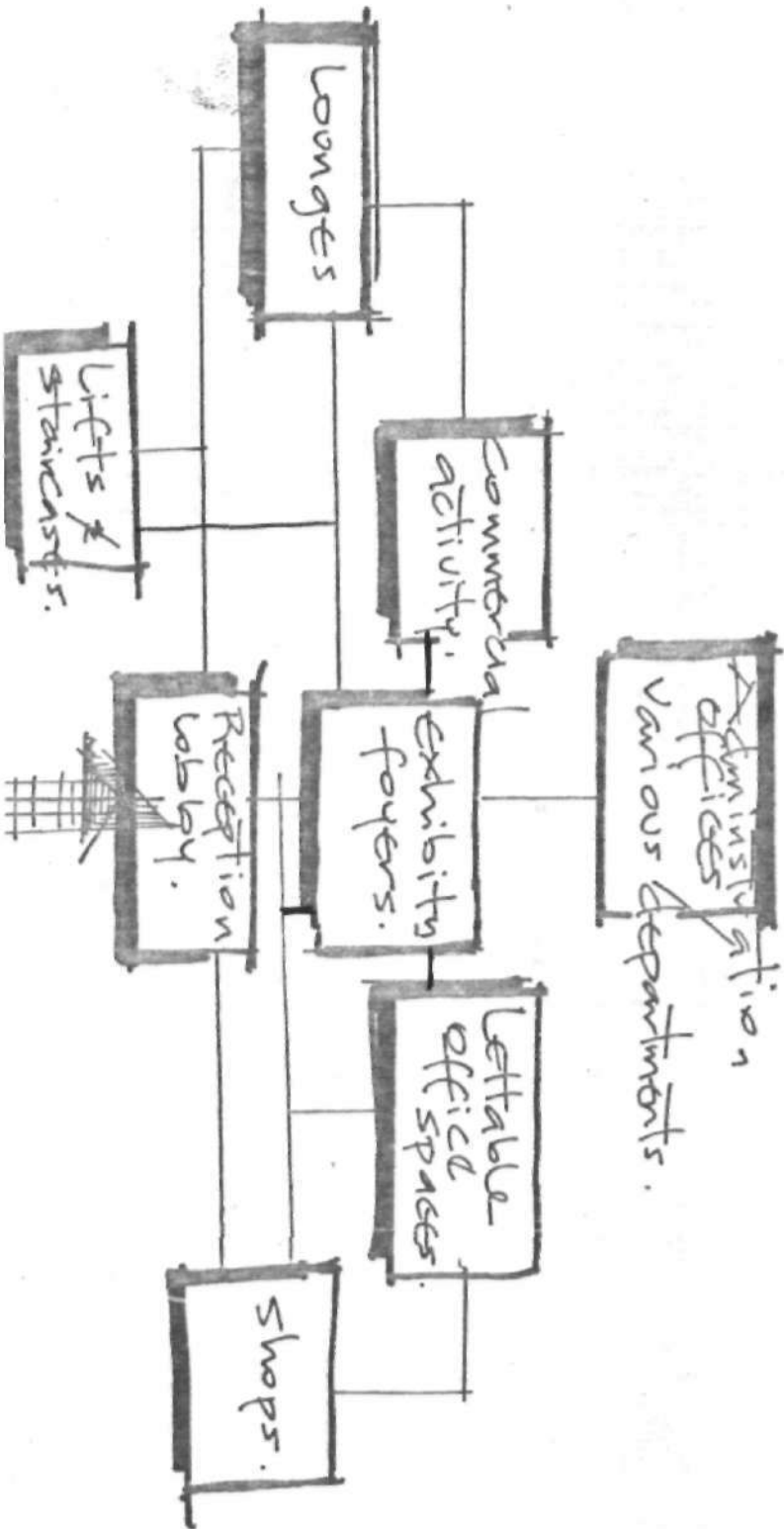
● Plate 6.1

FUNCTIONAL FORMAT



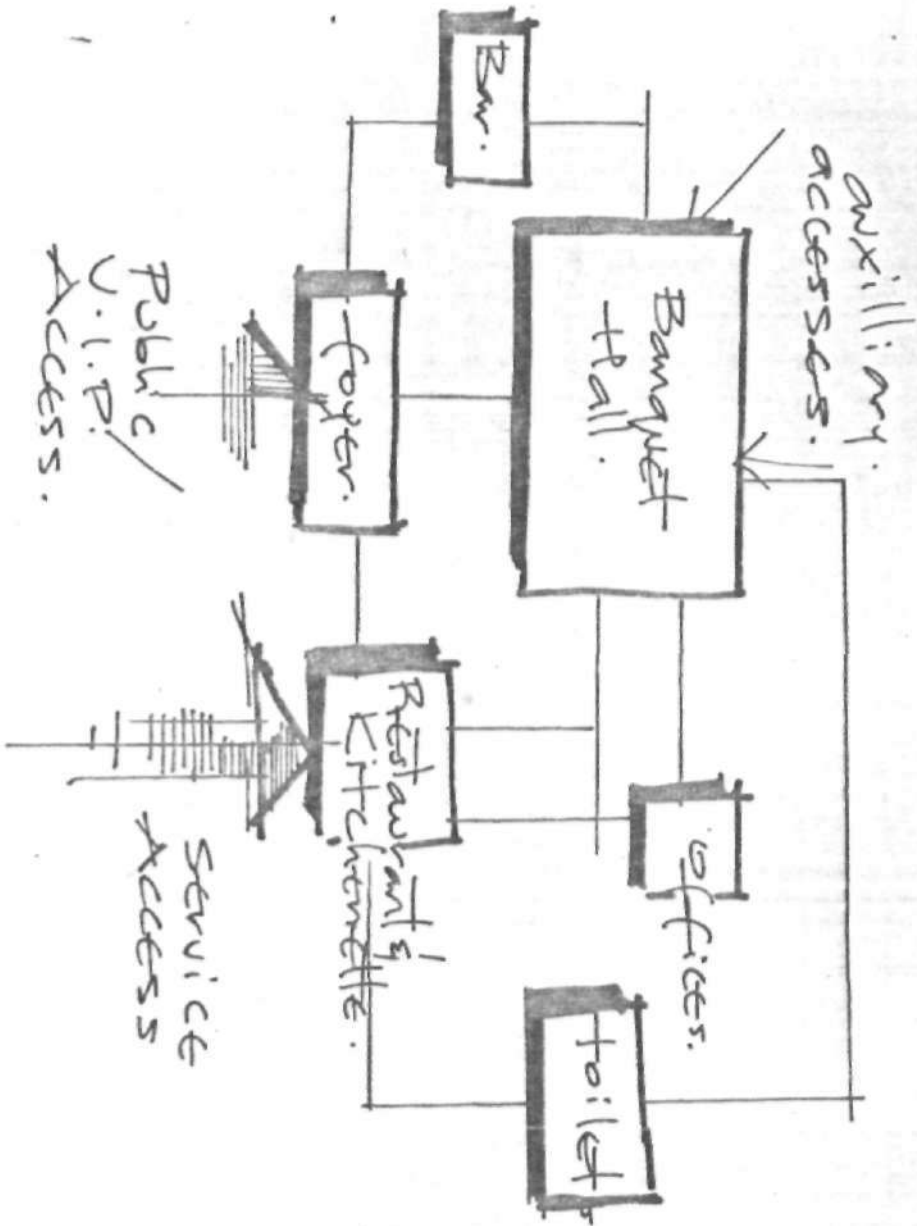
Admin. Tower Unit.

Plate 6.2.



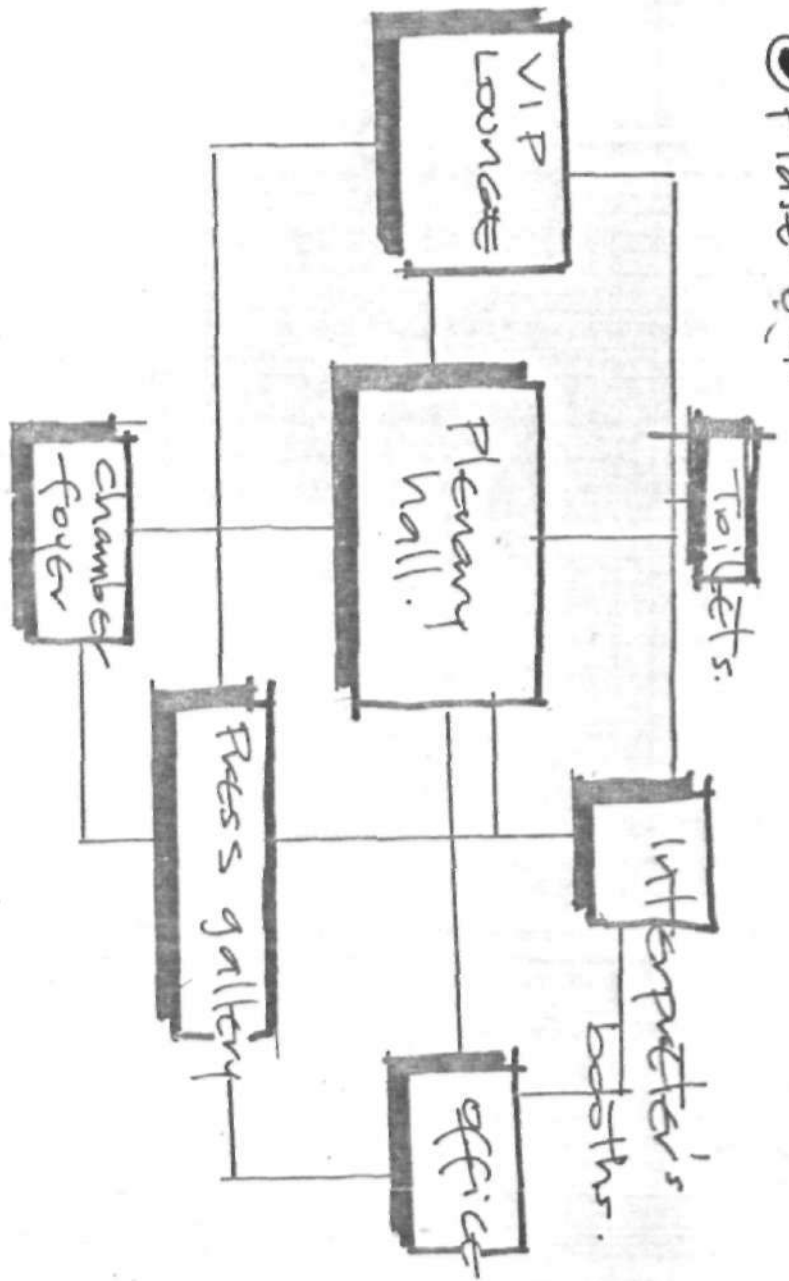
Banquet Unit.

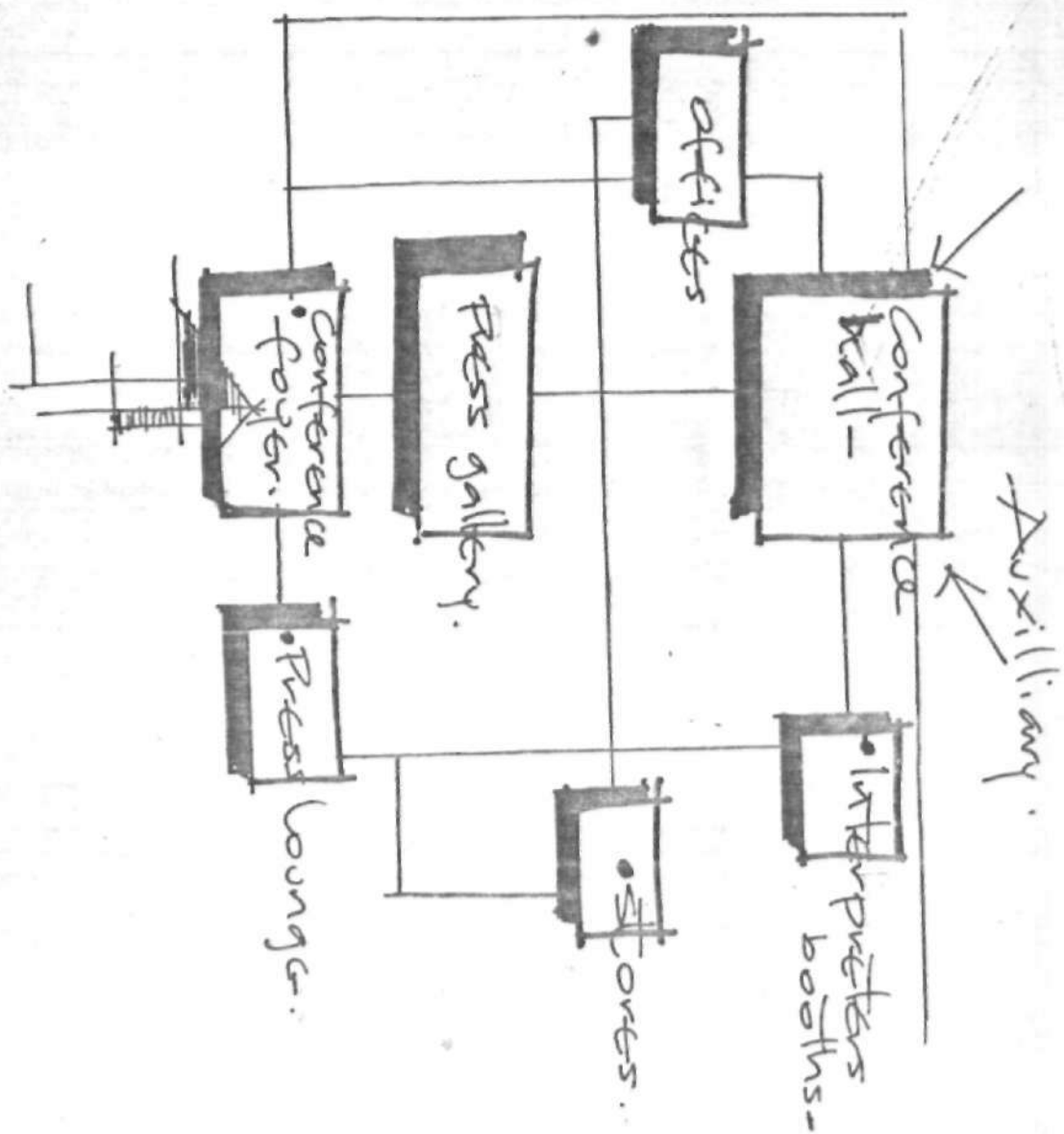
Plate 6.3.



Council Chamber Unit.

Plate 6.4.





values in the African region. Choosing a theme that would cut across the entire continent was achieved by a blend of all these approaches.

6.3.1 Concept:

This initial concept started from a square which is the basic plan shape. This was rotated to stand on an edge. The theme "African Alliance" was abstracted i.e. two 'A's were set inside the square in opposite directions. Further development was done along the set design parameters according to functional requirements. See plates 6.6, 6.7.

Forms, shapes, building elements and design styles were blended and juxtaposed inside that square. African identity and symbolic character were aspects that guide the evolution of the design concept. Interaction within units and between the various units was also strongly considered. Four units representing the four regions of the continent being linked through a focus.

6.4 THE BRIEF:

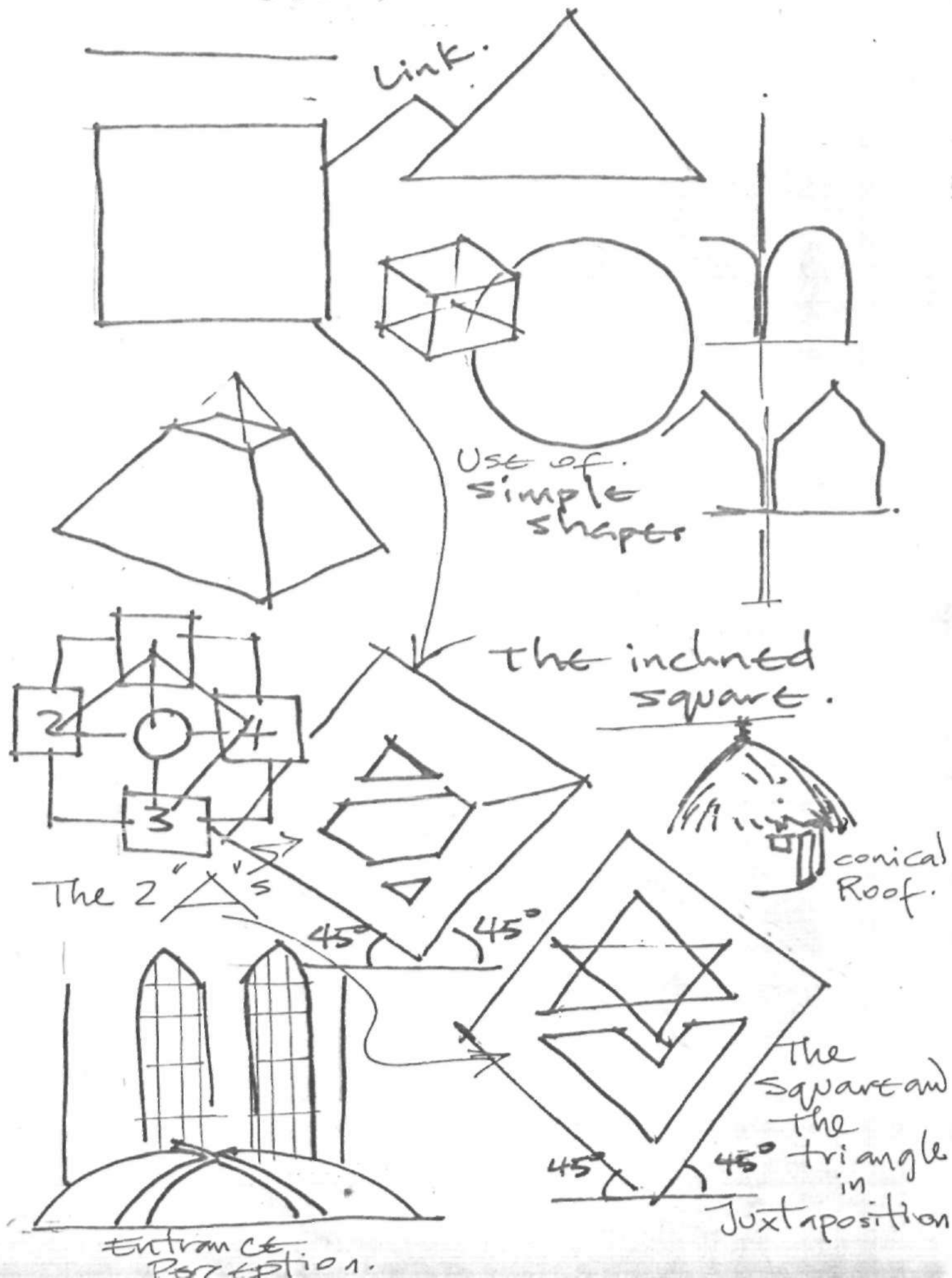
The entire complex as already mentioned is divided into three Broad units.

1. Administrative Unit:

This is the central administration co-ordinating the activities of all the other units. It is responsible for the overall performance of the various departments under it. It is directed by

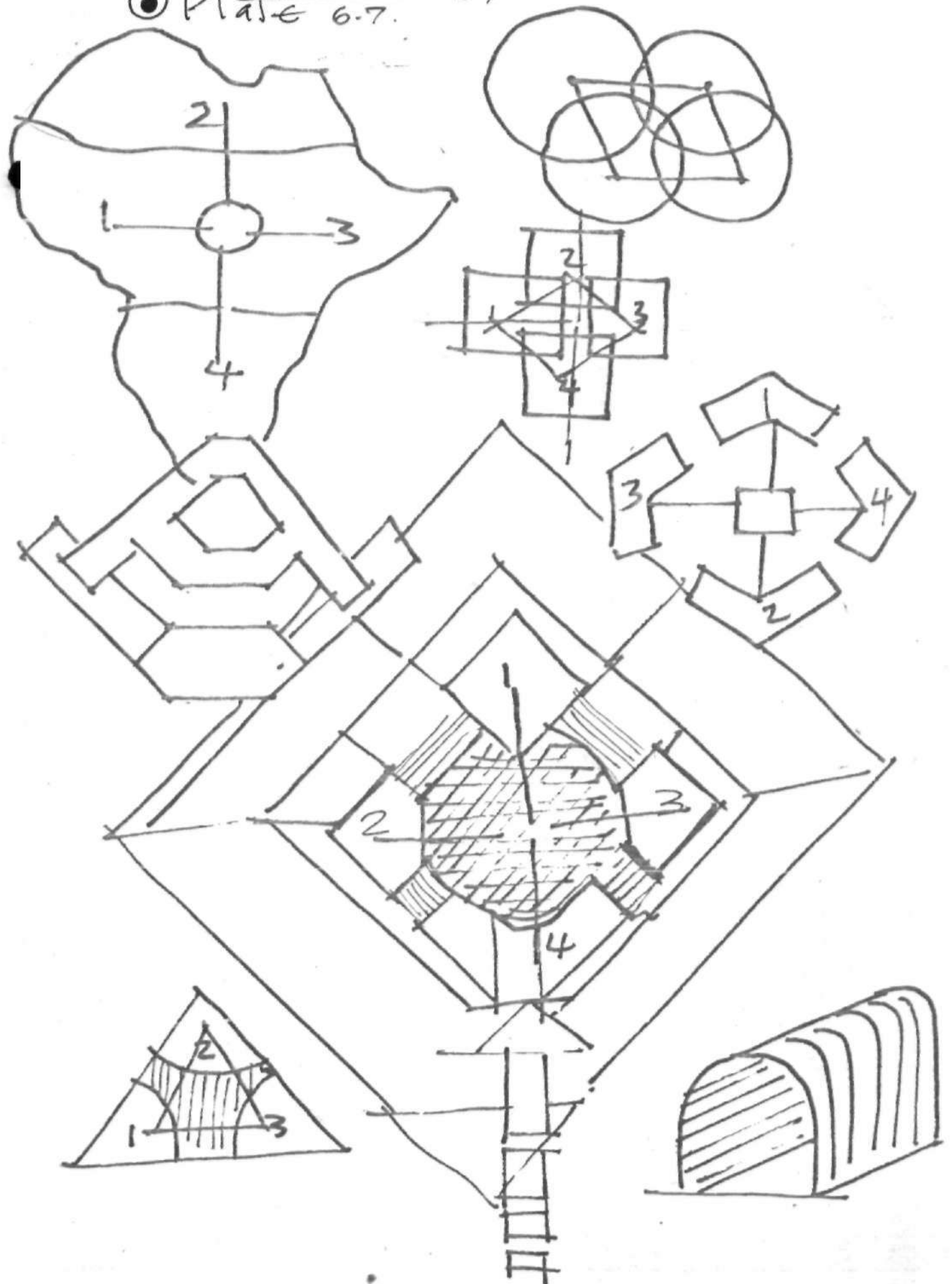
THE CONCEPT DEVELOPMENT (I.)

© Plat 6.6



CONCEPT DEVELOPMENT (2)

● Plate 6.7.



a chief executive who is charged with responsibility regarding the development of broad corporate policy matters, management systems and general administrative and financial programme. The design of this unit must consider flexibility and circulation.

This unit would be typical of office design and as such a background knowledge of the elements of an office building is necessary to know the types of office layouts available to be used. Elements such as

- (i) The office shell
- (ii) The scenery
- (iii) The set
- (iv) The services

They all must be functional and efficient.

Spaces to be provided are grouped into Public, semi-public, semi-private and private spaces.

- (a) The public spaces are

- (i) The reception area
- (ii) Lounges.

- (b) The semi-public spaces are

- (i) Auxilliary spaces - (i.e. exhibition space, seminar rooms, shops and other commercial activities).

- (c) The semi-private spaces: These are non-executive spaces.

- (d) The private spaces: These are Executive spaces.

2. The Conferences Unit:

This contains facilities for

- (i) The council chamber
- (ii) The banquet hall
- (iii) A restaurant
- (iv) A functional conference auditorium.

3. A Service Unit:

This includes facilities for maintenance, mechanical works, electrical works and a plant room.

4. A Central Plaza:

To act as a communal zone and to help in proper circulation.

6.5 SCHEDULE OF ACCOMODATION:

The following space allocation for functional spaces is proposed.

<u>FUNCTION</u>		<u>AREA m²</u>
i)	Conference foyer	70m ²
ii)-	Conference Auditorium (Hall)	600m ²
ii)	Press lounge	60m ²
iii)	Press Gallery	45m ²
iv)	Store	20m ²
v)	Toilets	1.2m ² each
vi)	Translation Booths (5)	5m ² each
vii)	Control Room	20m ²
viii)	Staff offices	20m ²

ix)	Banqueting Hall	450m ²
x)	Restaurant/Kitchenette	400m ²
xi)	Banquet Hall foyer	70m ²
xii)	Toilets	1.2m ² each
xiii)	Stores	20m ²
xiv)	Foyer	65m ²
xv)	Council chamber (1)	330m ²
xvi)	Council chamber (2)	280m ²
xvii)	V.I.P. lounge/kitchenette	95m ²
xviii)	Press gallery	45m ²
xix)	Translation Booths (2)	5m ² each
xx)	Toilets	1.2m ² each
xxi)	Offices	20m ² each
xxii)	Central plaza	2300m ²
xxiii)	Landscaped courts	200m ²
xxiv)	Parking for 300 cars	15m ² each
xxv)	Maintenance section	120m ²
xxvi)	Plant room	30m ²
xxvii)	Electrical	30m ²
xxviii)	Mechanical room	30m ²

Administration

i)	Top Executive offices	45m ²
ii)	Secretaries/waiting rooms	36m ²
iii)	Staff offices	30m ²
iv)	Utility rooms	12m ²
v)	Lettable space (average)	25m ²

vi)	Archives	54m ²
vii)	General storage	30m ²
viii)	Information section	30m ²
ix)	Telephone and Bills	20m ²
x)	Telex/computer services	75m ²
xi)	Business centre	80m ²
xii)	Bureau de change	120m ²
xiii)	Reception lobby/exhibition	550m ²
xiv)	Conference rooms	60m ²
xv)	Seminar rooms	30m ²
xvi)	Staff lounges	180m ²
xvii)	Auxilliary exhibition spaces	80m ²
xviii)	Two elevators (for 12 persons each)	4m ² each
xix)	Staircases (width)	4.0m
xx)	Escape stairs (width)	3.0m
	Security posts	18m ² each.

CHAPTER 7DESIGN REPORT7.1 PREAMBLE

A final design proposal was arrived at based on the design parameters derived from analysis. These include:- A good understanding of the functions of the complex, the symbolic expression of the project, its aesthetic appeal, climatic considerations, predominant regional styles, site and special design considerations, design brief requirements and other miscellaneous aspects.

7.2 DESIGN CONSIDERATIONS

Special features of this project are listed below and discussed briefly.

1. Simultaneous interpretation systems (S.I.S.)
2. Audio Visual Equipment
3. Room Acoustics
4. Structure Systems
5. Services
 - (a) Air Conditioning
 - (b) Fire Protection and control.
 - (c) Power supply
 - (d) Ventilation
 - (e) Thermal insulation of roofs
 - (f) Water supply
 - (g) Site Drainage (storm water and drainage)
 - (h) Sewage disposal
 - (i) Solid and refuse Disposal.

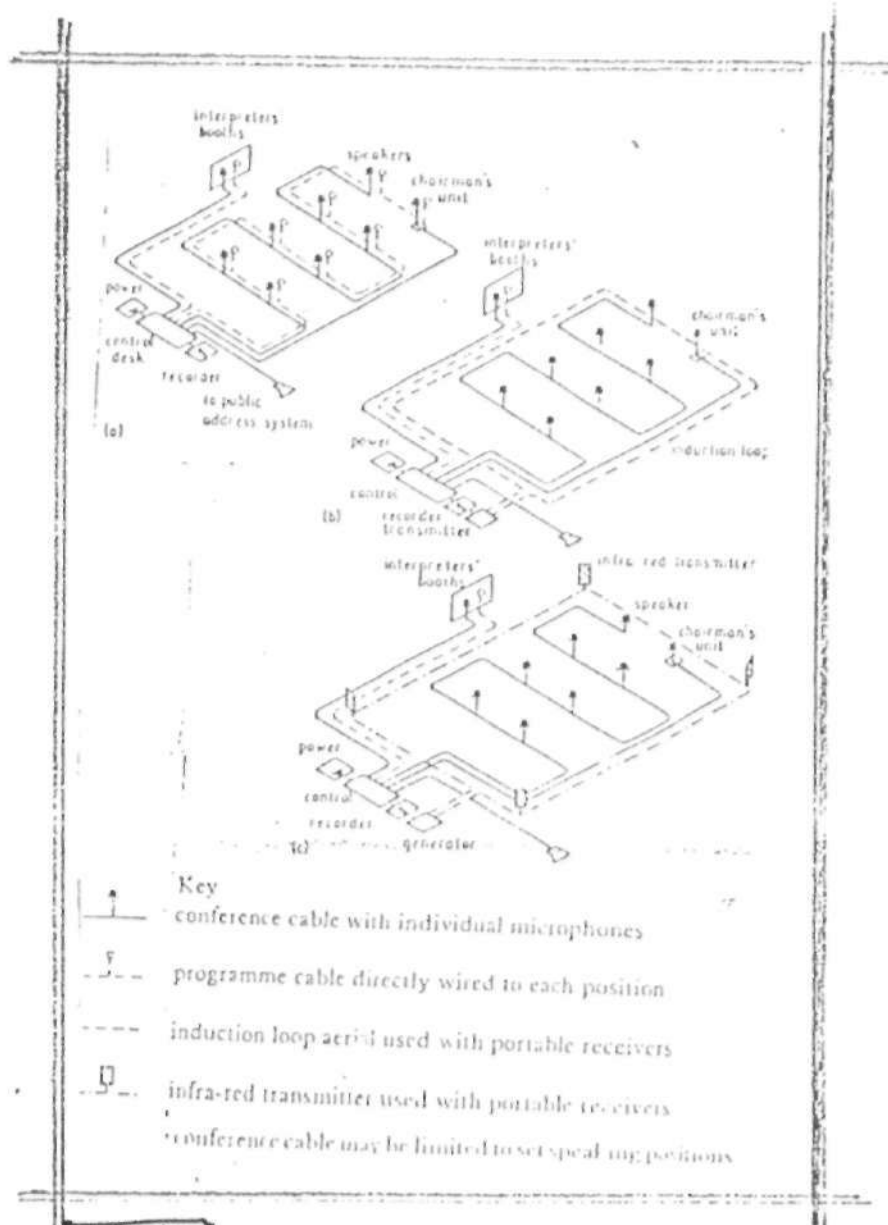
6. Orientation
7. Circulation
8. Landscaping
9. Accessibility
10. Maintenance
11. Security Consideration
12. Internal Environment.

7.2.1 Simultaneous Interpretation Systems (S.I.S.)

Due to the multi-lingual nature of O.A.U. member nations, it is necessary that conferences and meetings be conducted in the lingua franca of member states. Thus the proceedings should be translated into the various languages of member states. This is done in booths located in the conference halls using the simultaneous Interpretation System (S.I.S.). The S.I.S. enables speeches to be relayed to and from the delegates via the interpretation booths. There are three main systems in use namely:- Cable or Hard wired systems, Induction loop system and the infra-red system (see plate 7.1).

7.2.2 Audio-Visual Equipment

They are used for recording, announcements, public addresses, enlightenment etc. They should be securely installed in control rooms. However, they are usually damaged by mishandling, dust and moisture. Some of the equipment in use include:- microphones, Tape reproducers, loud speakers, Headphones, Television and Video Cassette decks, slide and Film projectors.



SIMULTANEOUS INTERPRETATION SYSTEMS

- a. Cable or wired system
- b. induction loop system
- c. infra-red system

7.2.3 Acoustics

Many acoustical problems in buildings can be avoided by considering the broad requirements early in the design process, as rectification done later is rarely satisfactory nor economical. Factors that guide a good acoustics solution in a design include: Room shape and Quality, internal Noise sources, external noise sources.

Also sound amplification is provided in spaces meant for speech, Acoustic ceilings and boards are used, the shape of the auditorium and the council chamber should be ideal for speech making. In addition sound buffers should be provided i.e. trees being used to check noise coming from the maintenance area.

7.2.4 Structure Systems

It is very essential at the inception of design to decide on the structure system that will be used in the design proposal. Structure systems could be of Form Active, Bulk Active, Vector Active, Surface Active or Vertical types (see plate 7.2).

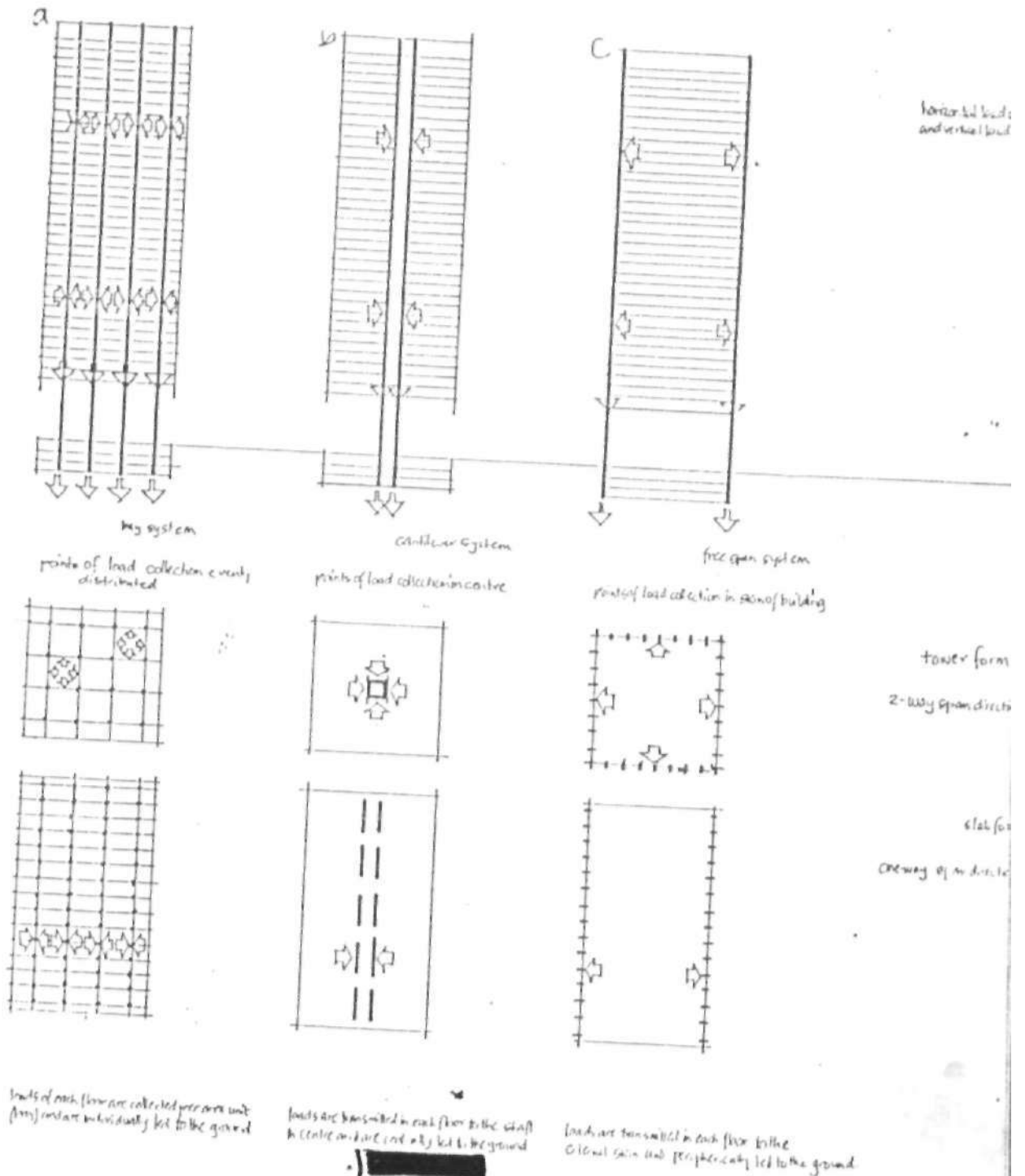
7.2.5 Services

i) Airconditioning

This is desirable for the entire complex. The vapour and the compression system of airconditioning is the most suitable for the office block. The central airconditioning system is more adequate and economical than unitary split system as the

Systems of load transmission for vertical structure systems

principal systems of load transmission in vertical str.



long term benefits will compensate for the high cost of purchase, installation and duct work. Distribution can be via suspended ceilings and false floors. However, where necessary, unitary split systems would be provided (see plate 7.3).

ii) Fire Protection and Control

Fire in buildings occur due to error by man either directly or indirectly. The objectives of good fire control precautions are

- (a) to reduce the possibilities of fire outbreaks
- (b) to provide facilities to aid the escape of the occupants from the building.
- (c) to reduce the spread of fire within the building and to adjoining buildings.
- (d) to prevent the building structure from failure and collapse due to fire.

The hazards of fire must be properly and effectively curtailed by the use of the following materials and components which help reduce fire occurrence and its effect on buildings.

- (a) Fire resisting building blocks/cladding materials.
- (b) Flame retardent surface finishes.
- (c) Flame retardent roofing elements.
- (d) Flame retardent insulating components.
- (e) Fire resisting and controlling elements of vertical circulation.

Plate: 7.3

Details of high pressure air-conditioning systems

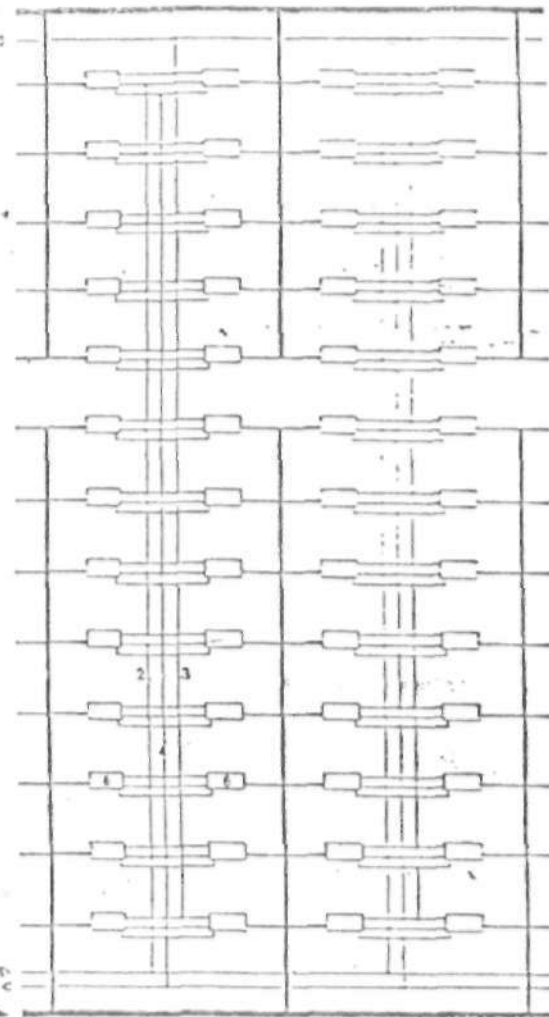
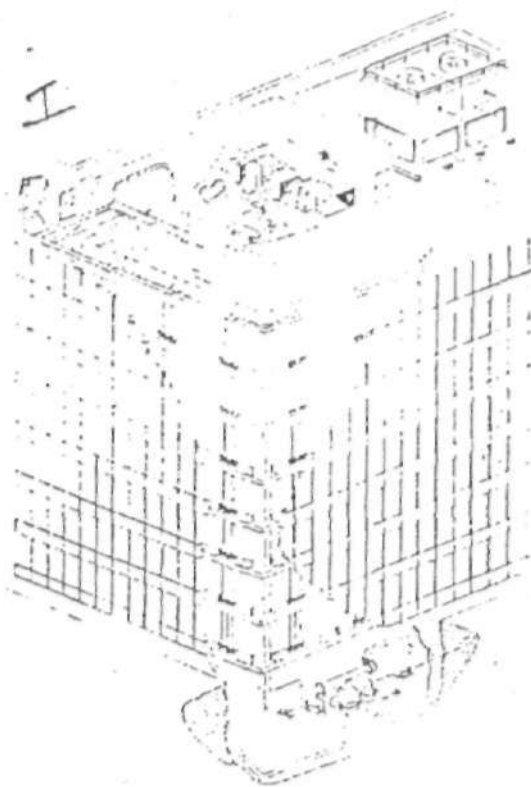


Diagram of a high-pressure air-conditioning system with convectors for a 13-storey office building. The building is served by two central air-conditioning plants, in the basement and on the top storey respectively. The central heating plant and refrigerating plant are installed in the basement only. The convectors on all floors are supplied with hot water (or cold water, if cooling is required) from the basement (flow and return pipes).

1 conditioned air supplied by plant in basement; 2 flow pipe; 3 return pipe; 4 condensate return pipe; 5 conditioned air supplied by plant in top storey; 6 convectors/induction units.



3.2 High-pressure air-conditioning system with convectors for a seven-storey building (American example). The air-conditioning plant and cooling tower are installed on the roof of the building; the refrigerating plant is in the basement. In the United States, office buildings are often heated by a district heating system.

- (f) Fire resisting opening components (i.e. doors, shutters and windows).
- (g) Fire proof service ducting.

To ensure a good fire prevention and control strategy, the following passive and active measures are proposed:-

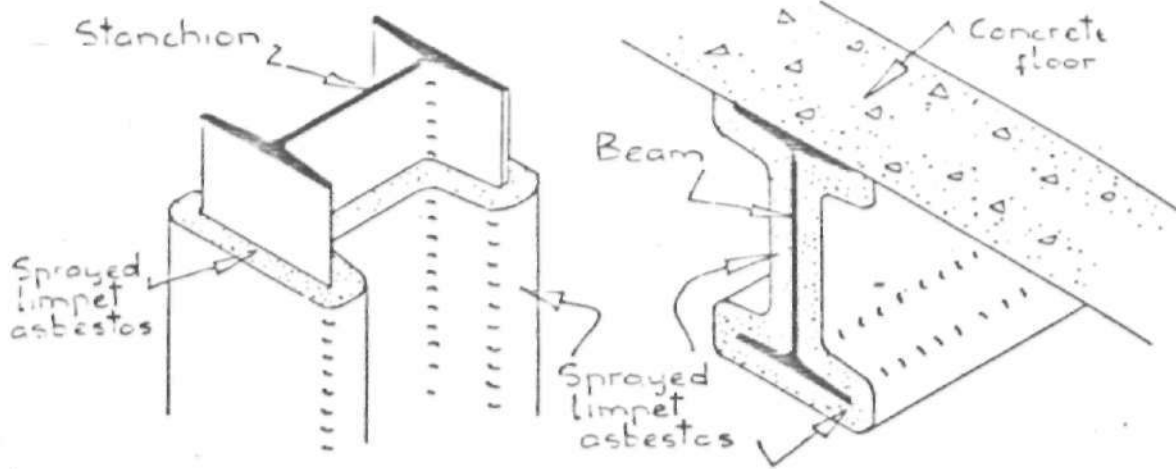
- (a) Proper installation of electrical gadgets and equipment.
- (b) The proper planning into fire tight compartments.
- (c) Provision of well ventilated fire escape routes.
- (d) Access for fire service personnel
- (e) Installation of active control measures such as sprinkler systems, alarm systems, smoke and heat detectors, hose reels, dry risers, water hydrant inlets.
- (f) Adequate protection by casing, proper reinforcing, spraying, painting and proper design of building elements i.e. walls, floors, ceilings, doors, cavity walls partitions, columns, beams, steel stanchions and steel frames (see plates 7.4, 7.5, 7.6).
- (g) A good fire insurance cover.

iii) Power Supply

Electricity will be supplied to the secretariat complex from the municipal supply grid. However a standby generator will be provided to take care

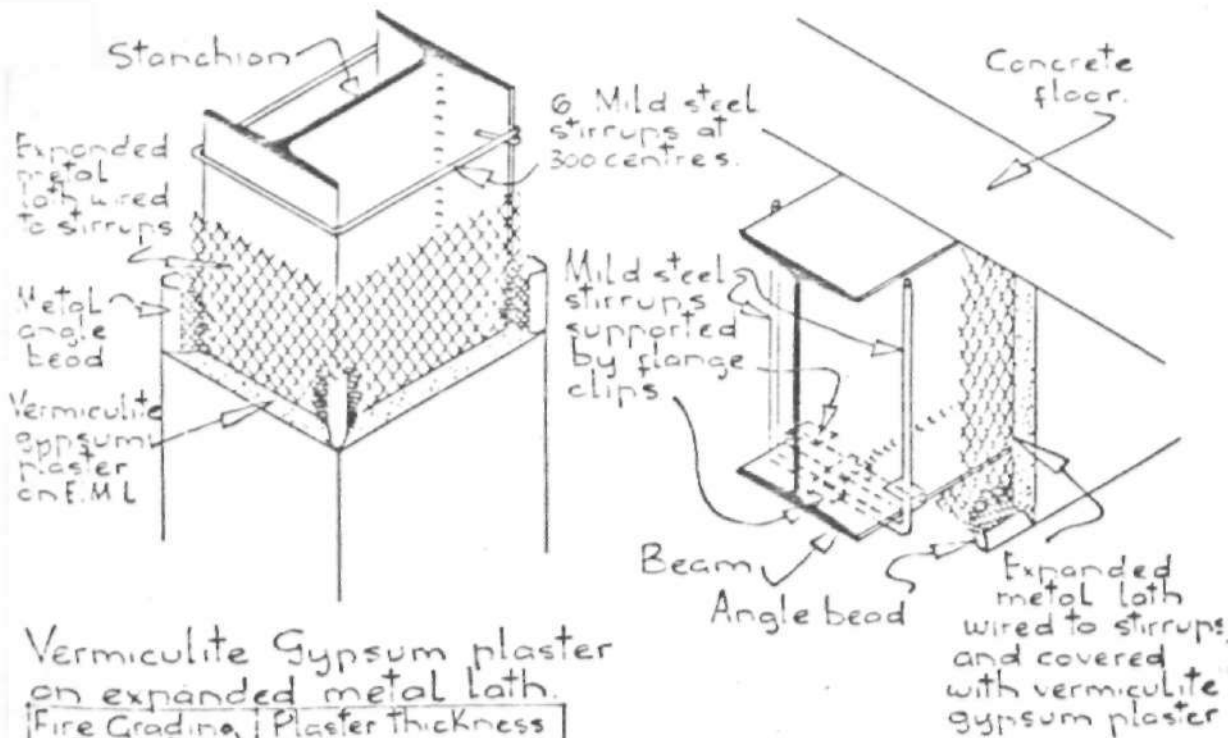
● Plate. 7.4.

CONSTRUCTION OF BUILDINGS



Sprayed limpet asbestos fire protection

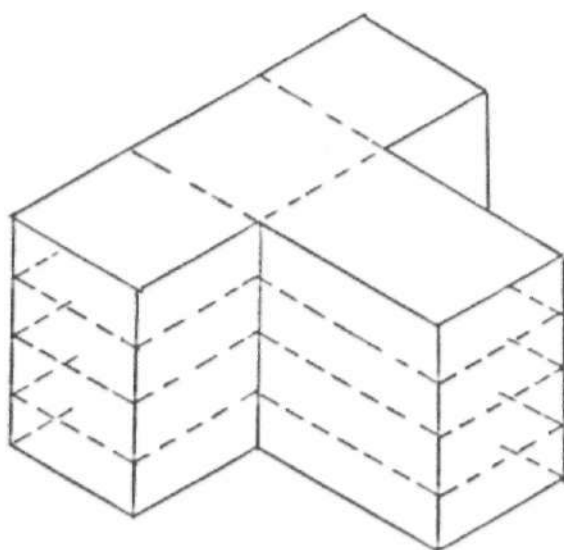
Fire Grading [Hours]	Thickness of limpet asbestos
1	10
2	19
4	45



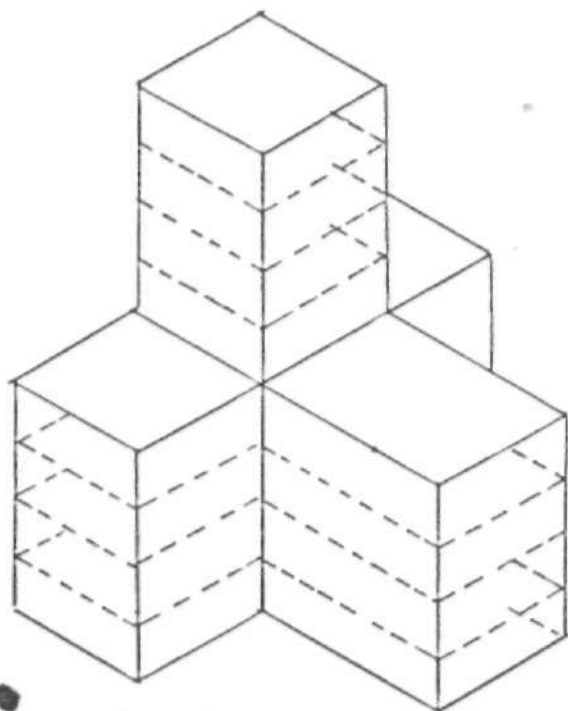
Vermiculite Gypsum plaster on expanded metal lath.

Fire Grading [Hours]	Plaster thickness
2	19
4	50

● Fire Protection for Structural Steelwork



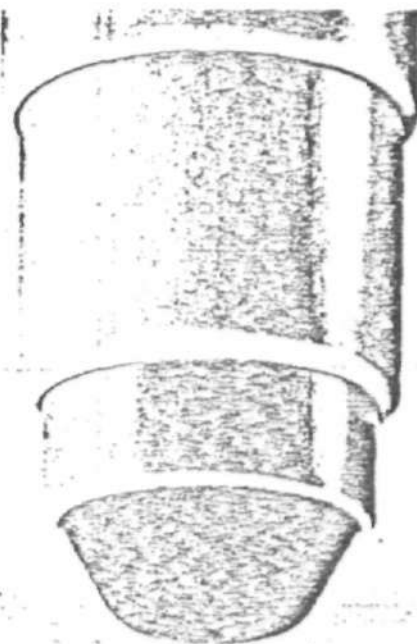
• vertical subdivision arranged in 4 compartments.



• vertical and horizontal subdivision arranged in 4 compartments.



INFRA-SCAN DETECTOR.
PARTICULARLY SUITABLE IN
HIGH SINGLE-STORY
BUILDINGS.



INFRA-RED FLAME
DETECTOR.

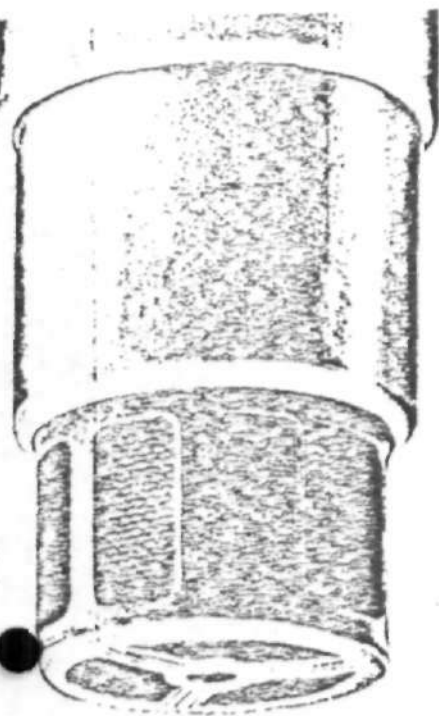
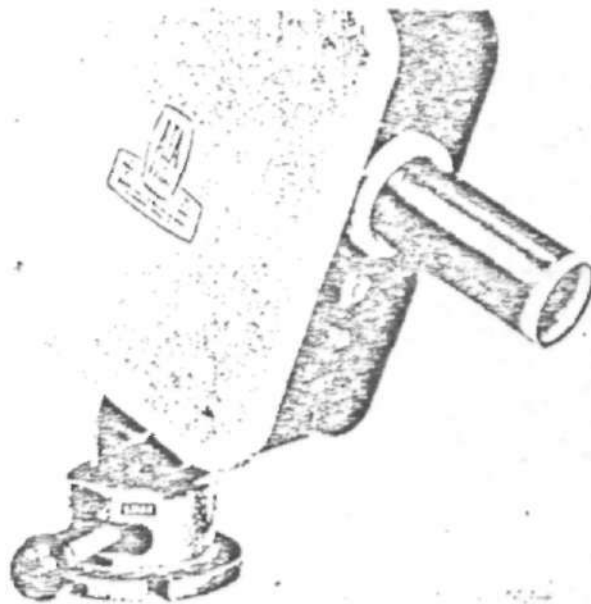


PHOTO-ELECTRIC
SMOKE DETECTOR.



INFRASTAT DETECTOR
PARTICULARLY SUITABLE
FOR PROTECTION OF PLANT
OR PART OF A PROCESS.

of power supply shortages. This will allow for uninterrupted power supply.

iv) Ventilation

The purpose of ventilation in a building is to maintain a prescribed condition and air cleanliness within the building. Ventilation can be general or local. Local ventilation is intended for removing polluted air at source to prevent the dispersal of impurities through the building. For example toilets have extractor fans to get the bad odour out. Much of the impurities is removed through this way and what remains is diluted by the in-coming air. Local ventilation is assisted by the use of fixed screens or by air curtains. The use of natural cross ventilation as much as possible is proposed but in areas where this is not adequate, artificial ventilation systems are proposed alongside split unit and central air-conditioning units.

The central plaza also helps to solve ventilation problems. Awning top-hung windows are proposed and appropriately located to take advantage of air draughts.

v) Thermal insulation of roofs

Thermal insulation is required to keep heat in when needed and keep it out when not needed. Insulation is done using any of the following means:-

- (a) Insulation of sheet roof coverings.
- (b) Under purlin insulation lining.
- (c) Over-purlin insulation lining.

They all involve the use of insulation boards or felts at different stages of roof erection/construction. Types of insulation boards in use include

- (a) Fibre building board
- (b) Expanded polystyrene
- (c) Insulating plaster board.

Types of insulation felt in use include

- (a) glass fibre
- (b) quilt
- (c) mineral wool
- (d) vegetable wool.

vi) Water Supply

Water is the prime necessity of life. An adequate quantity and quality of water will be provided for the secretariat for domestic uses. At present a comprehensive and effective water supply network exists in Abuja. Sufficient water to the secretariat building would be supplied from this source and adequate distribution systems will be provided. An overhead service reservoir located within the complex will ensure steady water supply.

vii) Site Drainage (storm water and drainage)

Drainage is provided along trenches and street drains taking advantage of the topography of the site. The storm and rain water from roof tops is collected as appropriate and discharged through the drainage system.

viii) Sewage Disposal

Sewage from the Secretariat complex will be collected through a properly designed network of sewage system pipelines and discharged into the central sewage treatment plant. The collection and treatment should follow the guidelines of the Federal Capital Development Authority (F.C.D.A.).

ix) Solid and Refuse Disposal

Dustbins will be provided at strategic locations in the secretariat for refuse collection and disposed as necessary. The existing method of refuse disposal is by sanitary landfill located some kilometers from the city centre.

7.2.6 Orientation

Proper orientation of buildings would reduce the excessive heat in the building. In long narrow buildings, the excessive heat can be drastically reduced by locating its narrow ends on the east and west and to locate the longer sides with more glazed areas to the north and south. These arrangements will expose minimum area of

the building to the sun. Proper orientation would also ensure adequate air circulation in the interiors as well as enhancing the good views where possible.

7.2.7 Circulation

Circulation on site refers to movement of people and vehicles via properly designed and located pedestrian walkways, terraces and vehicular linkages. Separation of vehicular and pedestrian traffic should be well carried out. Circulation can be horizontal and vertical. Vertical movement of people and material via stairs, steps. Escape staircases are provided on both wings of the ten floor office block. The use of corridors, lobbies, foyers in the interiors and walkways, paved terraces in the exteriors help horizontal movement of personnel and materials.

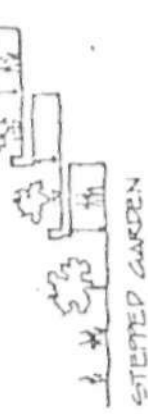
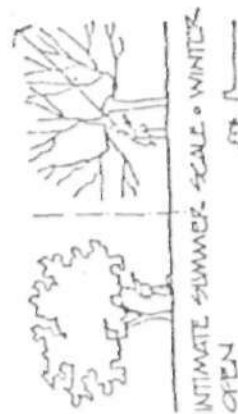
7.2.8' Landscape

An environment lacking in proper landscaping does not appeal to human perception. Landscape design is significant in the conservation of already existing natural landscape of an environment. The landscape is an integral part of architecture as it is the link between the building and its immediate environment.

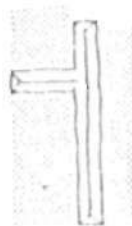
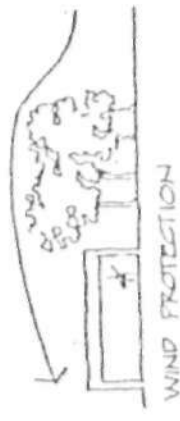
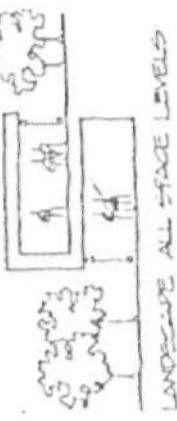
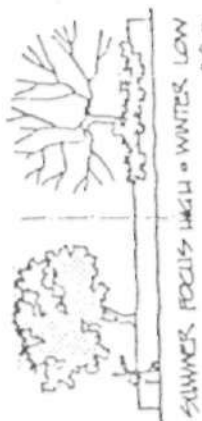
The different components that are involved in a good land scenery include ground form, ground texture, plant cover or vegetation, water and rock formation.

Artificial elements i.e. sculpture pieces could also be incorporated into the landscape (see plate 7.7).

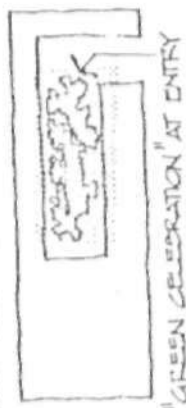
Landscaping with Plants



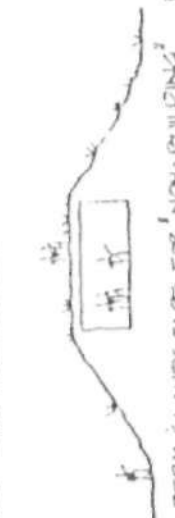
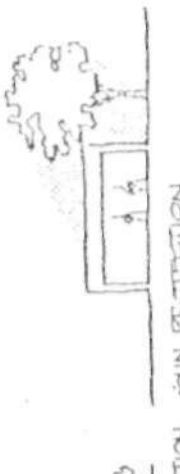
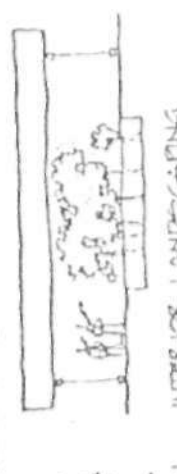
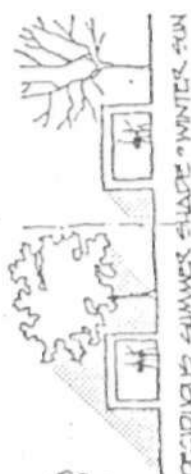
LANDSCAPING AS REFERENCE TO BUILDING FORM



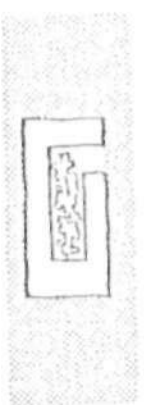
BERM FOR SITE USE ZONES



CONTRAST LANDSCAPING WITH BUILDING FORM



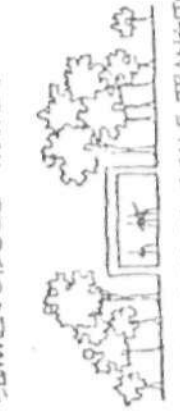
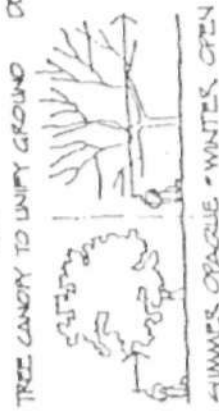
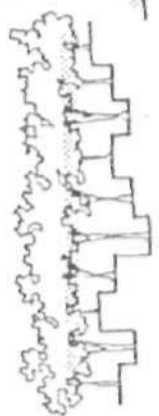
BERM & LANDSCAPE FOR NON-BUILDING



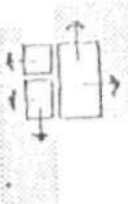
LANDSCAPE ONLY CONTROLLED AREA LEAVE REST NATURAL



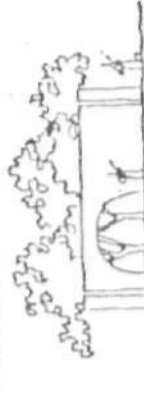
RELATE LANDSCAPING TO BUILDING FORM



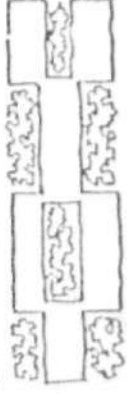
LANDSCAPING AS SCALE TRANSITION



LANDSCAPE AREAS FOR STAGES



LANDSCAPING AS INITIATION DEVICE



MODULAR LANDSCAPING FOR BUILDING FORM

7.2.9 Accessibility, Parking and Transport Facilities

The site is accessible via two routes. One is on the northern major access road and the second one is for services and goods from the eastern road access by vehicular traffic and pedestrians. The internal road system must be free of unnecessary obstructions and would be linked to the external roads as appropriate. parking should be adequate and well located.

Access to the office tower is via a canopy in front to act as drop off for delegates. Other side entrances could exist.

7.2.10 Maintenance

The choice of materials should reflect the need for easy maintenance of components since durability and performance are desired.

Minor maintenance work must not obstruct official activity. Good positioning and easy access will ease maintenance work. The maintenance section co-ordinates all work in relation to this.

7.2.11 Site Security Considerations

This is of great importance due to the nature of the clientele. The secretariat must control trespassing, pilfering, burglary and spying. Since lettable office spaces to other related organisations would be provided, security has to be improved. The following devices are proposed to thwart any security risk.

- (i) bullet proof glazing where necessary
- (ii) Electronic surveillance systems (such as close circuit T.V. systems).
- (iii) Screening gadgets at control and entrance points.
- (iv) Security personnel to man such control points.
- (v) Fencing of the site.
- (vi) Good and reliable locking devices.
- (vii) Effective communication systems.

The provision of safe zones will be necessary. Ease of access for security personnel should be ensured.

7.2.12 The Internal Environment

The interior design and decor has to meet a number of specific requirements. These are features that will give the complex the required authority it commands. For example, the complex should

- a) be attractive
- b) generate a sense of awareness and interest for users
- c) be easy to clean and maintain
- d) Resist damage and facilitate repair and replacement with a minimum disturbance.

7.3 DESIGN TECHNIQUE

The plan shape of a square resting on an edge using a diagonal grid was used as a start. African Alliance being the theme of the design, two "A"s were inserted in the square (one was upright and the other was inverted). Subsequent developments brought about four separate units connected by a central core with the central focus plaza as a communal space. Parking and other services facilities are arranged in the periphery of the core complex.

The administrative building being the point of authority was put in front. The two public meeting places were set at the flanks while the council chamber considered a restricted area except for authorised pressmen and delegates was put at the rear although another executive council meeting room was incorporated within the administration tower.

The pyramidal, the cuboid and the square forms were chosen where applicable for their stability and dominance while the dome is used in depicting authority and power. The square plan shapes are chamfered at edges to suit circulation and layout arrangements.

The Office Tower: This has 10 floors. The ground floor has space for reception services, lounges, staircases and lifts, commercial activities and some offices. The office tower has a "V" shape with two distinct wings which are linked via double banked corridors and foyers which further aid interaction and could be used for exhibitions in addition to other smaller exhibition

spaces provided. Two sets of toilets are provided in each floor. The first and second floors house the general administration. The third to sixth floors house the various departments while the seventh to tenth floors are for lettable office space to be partitioned by users to taste. A roof top executive meeting area is provided at the summit. Structural beams and columns form the skeletal framework of the building. Wall cladding and partitioning are then fixed in structural fins and horizontal elements for sun shading are provided on the external facade.

The Auditorium: Located on the eastern flank of the complex is raked design taking into consideration the sightliness, spacing and acoustic requirements. It is mainly designed for speech making although it could be adapted for other functions. Access for public, press and other delegates is on the ground floor. For segregation purposes, this access is linked to the upper floor of the office block by a stepped glazed tunnel. The press and public gallery are on the upper floor. The basement floor contains the translation booths and the press lounge while toilets, stores and offices are on the ground floor. The roof shape of this unit is its dominant feature. It consists of concrete folded plates set in pyramidal fashion and resting on columns.

The triangular folds look like triangular arches when viewed at the facades. The folded plates are supported by ribs, edge beams, a ring beam and columns.

Slanting buttresses offer extra support. Storm water drainage is via the grooves of the folded plates and parapet gutter. A pyramidal roof lighting system is provided using tinted translucent roofing sheets fixed in aluminium frame. The traditional conical pyramidal roof is adopted here.

The Banquet Hall: This is similar to that of the conference auditorium especially in plan shape to balance the layout design and achieve symmetry. This hall is not raked. It is flat but has a raised podium. A basement restaurant serviced by a kitchnette is provided with low level windows for lighting and ventilation.

Curved shells (which appear like folded plates) are used as dominant roof feature. Curved arches are formed in contrast to the triangular arches of the conference auditorium. The more informal nature of this unit inspired the contrast. A pyramidal roof lighting system similar to that of the conference auditorium is also proposed. A paved walkway is provided around the banquet hall for circulation purposes while access is from two sides.

The Council Chamber: To be used as executive meeting area and should be designed to reflect historical events common to the region. The conference facilities will serve as an effective tool for the promotion of continental understanding and peace. The council chamber is located in the southern part of the complex. Support administrative offices and facilities are on the ground

floor. An intricate network of columns, beams, ribs, waffle gridded floor and slanting buttresses give the structure better stability apart from added aesthetics on the facades. The main access for delegates is via the glazed tunnel leading from the first floor of the tower block. Auxilliary access is provided via stairs from the offices on the ground floor up to the press gallery and foyer on the upper floor. Seats in the chamber are raked in four tiers forming a horse shoe pattern and made to face the raised podium which is designed for maximum flexibility of arrangement. The seating arrangement include a writing area for secretaries and microphones. Rise of seating tiers should take cognisance of sight and vision lines. Since delegates would be making use of electro-acoustic appliances, strong reflectors may not be necessary, but they could be used to improve the acoustics in the halls.

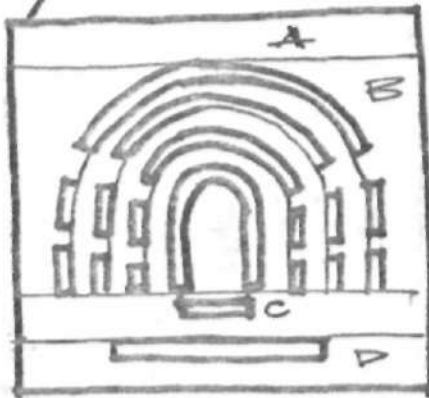
Interpreter booths and toilets are at the rear of the podium. A glazed domed roof top restaurant is provided also.

Plates 7.8 and 7.9 show seating arrangement patterns and dimensions in the chamber and the conference auditorium.

Site Planning: The site is laid out as described. Access roads and parking spaces are separated from the pedestrian routes.

Well pruned hedges and trees beside the roads demarcate circulation paths in the exterior.

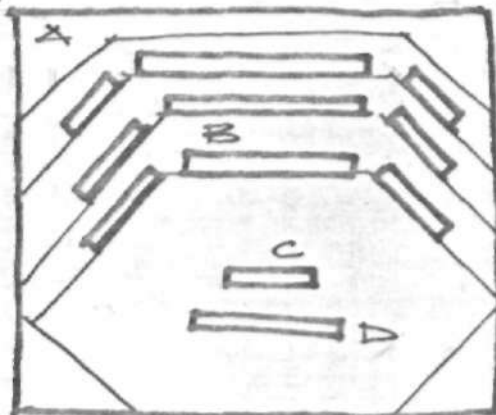
1./ HORSE SHOE.



60 seats (approx)
for 3-tier design
arrangement.

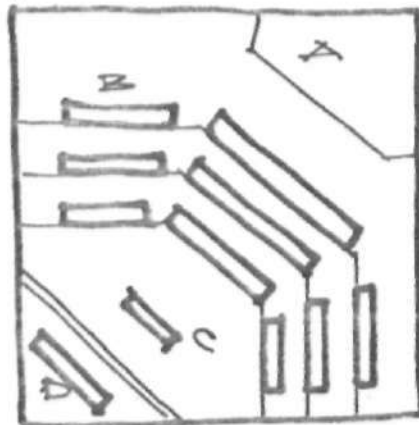
SEATING ARRANGEMENT
IN COUNCIL CHAMBER &
AUDITORIUM FOR
CONFERENCES.

2./



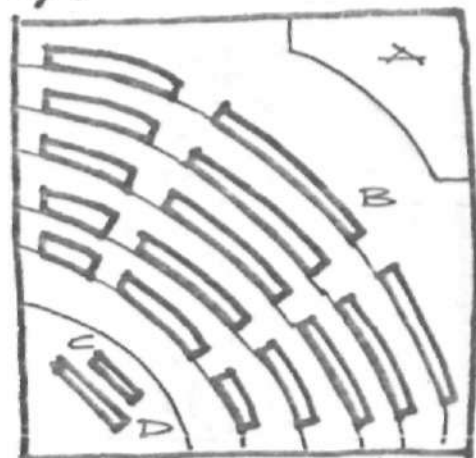
100 seats (approx)
for 3-tier design
arrangement.

3./



60 seats (approx)
for 3-tier design
arrangement.

4./



300 seats (approx)
for 5-tier design
arrangement.

Note: ① Figures given change
with requirements in
design
② Seats have arms, back
and writing desk.

SPACE ANALYSIS.

- 1/. BACK to back (seats)
— 1200 mm
- 2/. Centre to Centre Width
seats with arm — 700 mm
- 3/. Desk or flap (writing)
slab
— height — 800 mm
- 4/. Space between chairs
— 225 mm.
- 5/. Floor level (Riser drop)
— 150 mm.

LEGEND

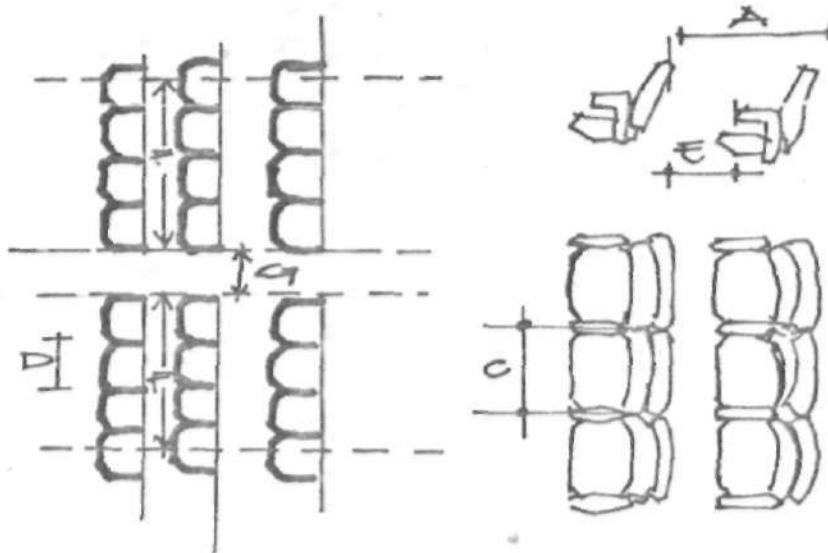
- A. Press Gallery &
Public.
- B. Delegates &
Members.
- C. Officials.
- D. Chairman of
conference.



P- Edge of horizontal Plane.

X- Top of the head of the person in the front row.

Y- 100mm Above 'B'.



SPACE ALLOCATION SCHEME

UNIT.	SPACE ALLOCATED.
1./ Back to Back (A).	760mm
2./ Width of seat with Arms (E).	510mm
3./ Width of seat without Arms (D).	460mm
4./ Unobstructed vertical space btw rows (G).	305mm
5./ Minimum width of Gangway (C).	1070mm.
6./ Arm Rest (width).	250mm.
7./ Height of handrail for balconies & galleries (Guardrail).	800 - 1050mm

Well trimmed grass lawns form the surrounding areas in which trees would be planted. Water fountains and pools are provided at choice spots within the complex to add to the overall beauty of the complex. Sculpture pieces are put inside some of these pools of water. Landscaped paved terraces are found in the central plaza. Covered walkways allow for movement of people and materials. The 52 flags of the Independent African countries are fixed in the grass areas set at the front of both wings of the Administrative tower block.

Materials and Finishes

The use of cured concrete, tinted glazing, mosaic tiling, marble slabs, sandtex finishing, P.V.C./terrazzo/marble tiled floors, good quality texcote paints preferably of dark brown or maroon in blend with cream or white colour which give the whole complex some rich African look are proposed.

Wood trimmings and facing could be used in interiors for particular effects.

Constructional Techniques

A wide variety of construction styles were used. These include:

- i) The lift slab system and the framed structure/curtain walling system both used for the office tower.
- ii) The folded plates roof system used in the conference auditorium.

- iii) The shell roof structures used in the banquet hall
- iv) The roof top lighting systems employed in the banquet hall and the auditorium.
- v) The structural supports used for the council chamber, and the two public meeting places.
- vi) The dome framed roof top restaurant.

A diversity of construction techniques which are balanced and are in harmony are used.

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CHAPTER 8C O N C L U S I O N

An O.A.U. Regional Secretariat is proposed at Abuja, the Federal Capital of Nigeria for the West-African Sub-region. The Secretariat is expected to complement the O.A.U. Headquarters at Addis Ababa, the E.C.O.W.A.S. building at Abuja and other United Nations Agencies. It would serve as a focal point for the O.A.U. member states and her Agencies where meetings, conferences, seminars etc. are held to discuss African problems and her relationship with other continents. The location of the Secretariat at Abuja is unique because of Nigeria's leading role in Africa. A suitable site has been located at Abuja in the Asokoro District.

A design of the Secretariat is presented bearing in mind the ideals the O.A.U. stands for. Various geometrical shapes were conveniently used in designing the elements of the building. Attempts were made to blend some of the African architectural symbolic expressions with the contemporary architecture. A number of facilities are provided for the comfort and convenience of the users.

It is hoped that the proposal would serve as a model for other African sub-regional headquarters to adopt.

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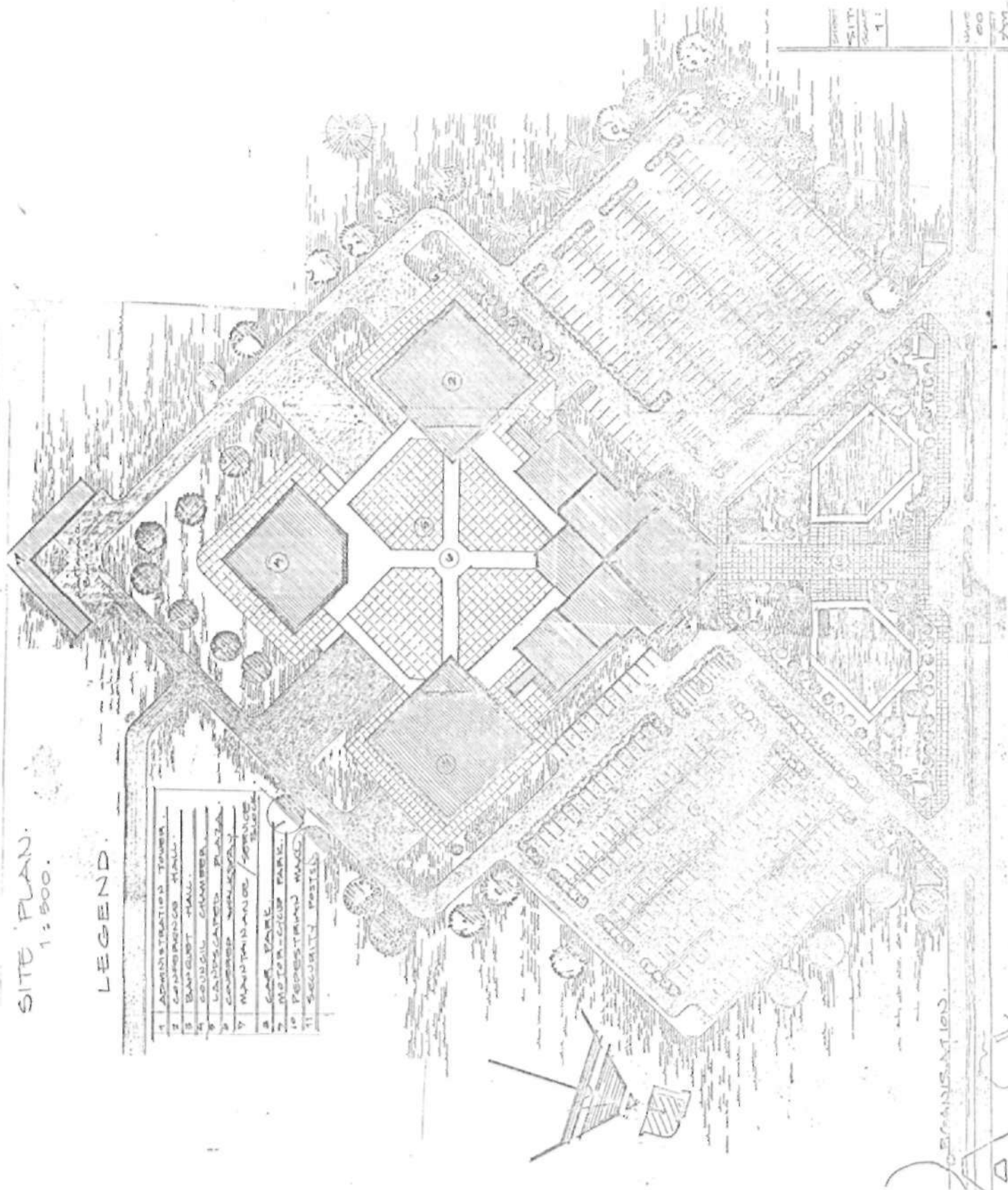
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SITE PLAN 1:500.

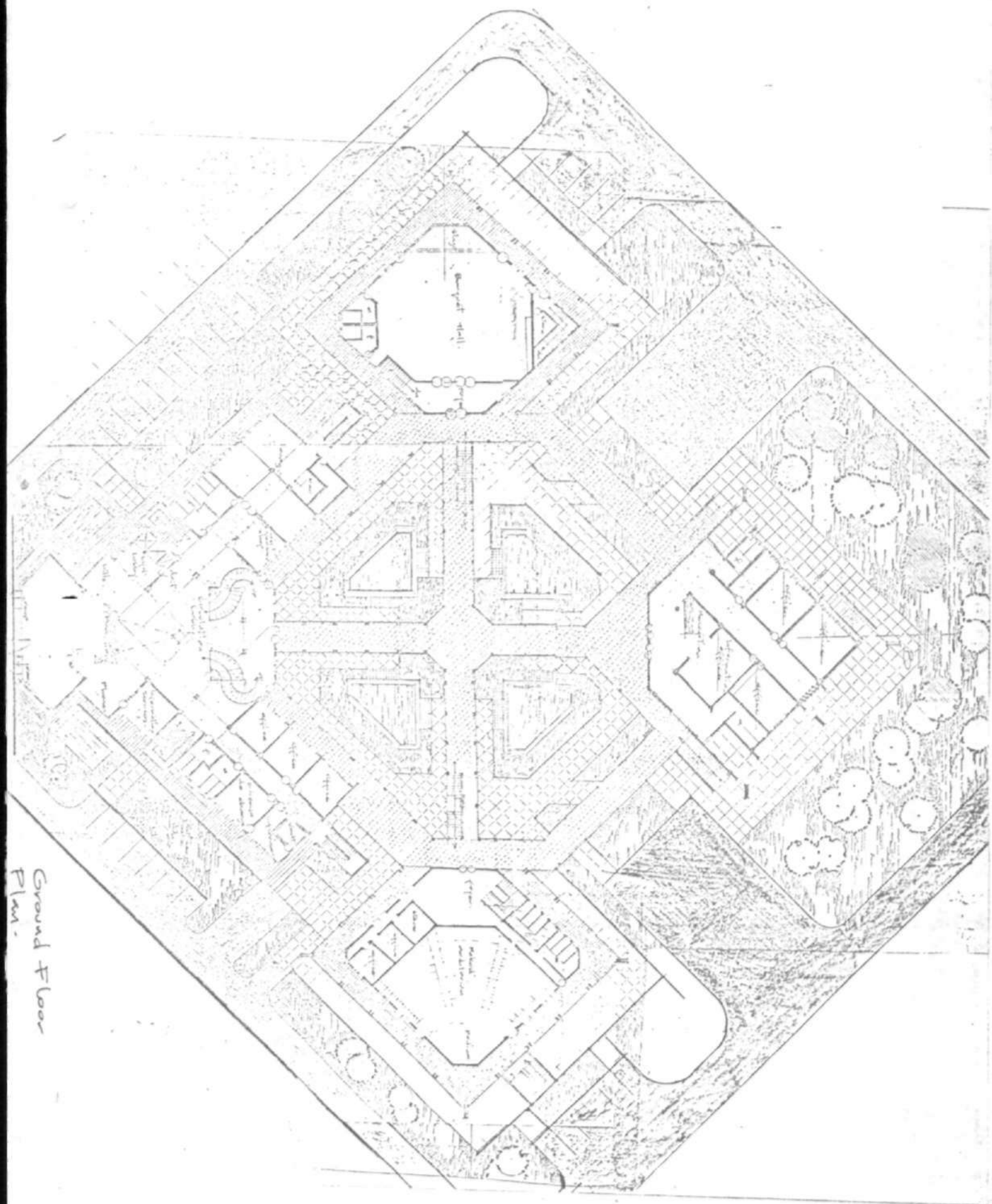
LEGEND

- 1 ADMINISTRATION TOWER
- 2 CONFERENCE HALL
- 3 BANQUET HALL
- 4 COUNCIL CHAMBER
- 5 LANDSCAPED PLAZA
- 6 COVERED WALKWAY
- 7 MAINTENANCE/STORAGE
- 8 CAR PARK
- 9 MOTOR-GRUP PARK
- 10 PEDESTRIAN WALK
- 11 SECURITY POSTS



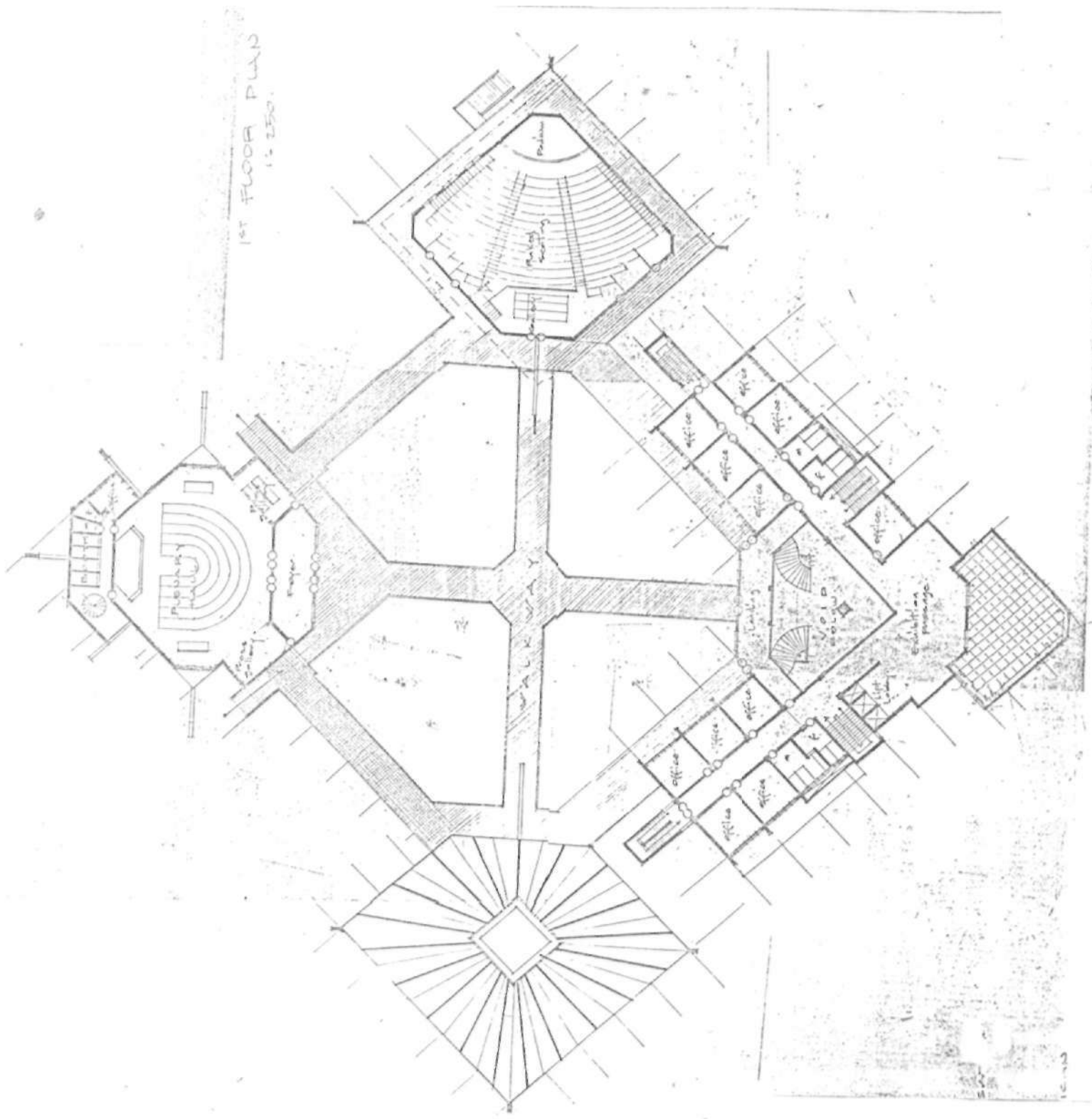
TRANSITION

DATE
SHEET
1
NO. 00
ANN

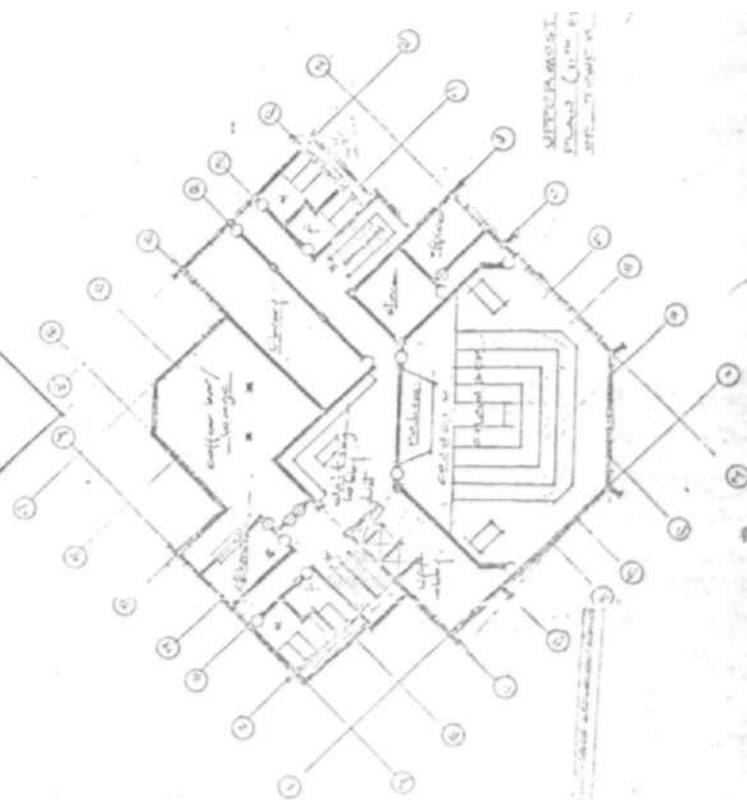
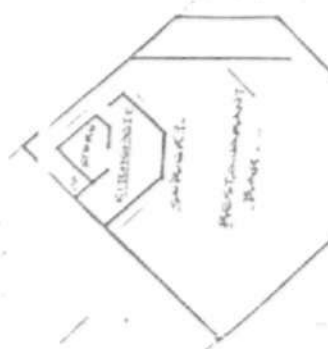
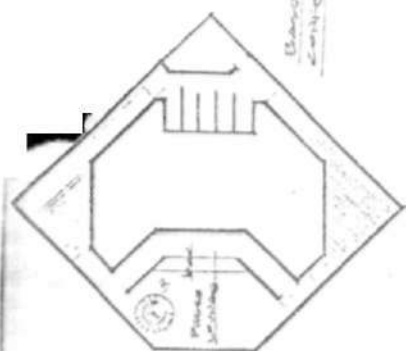


Ground Floor
Plan.

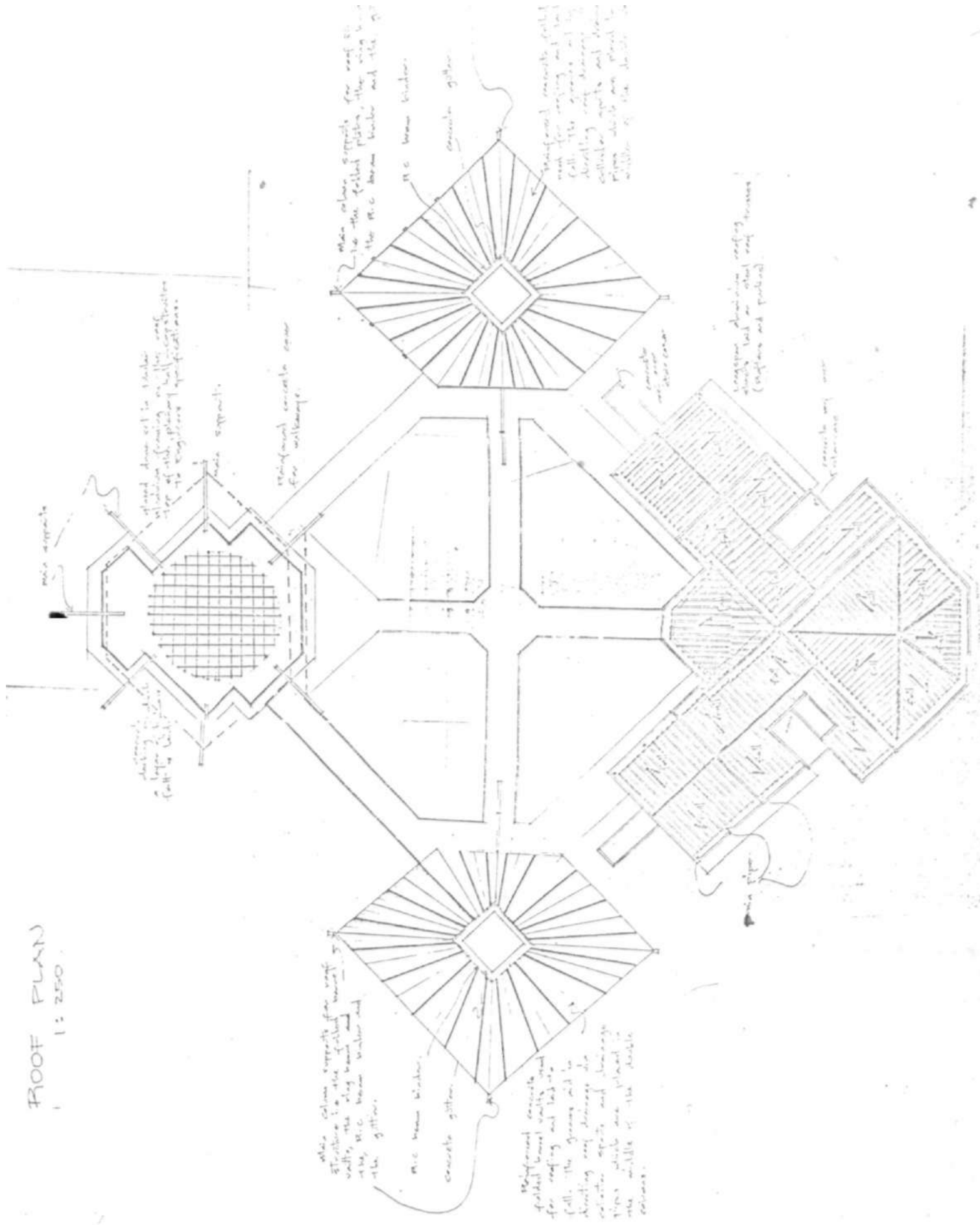
1st FLOOR PLAN
1:250

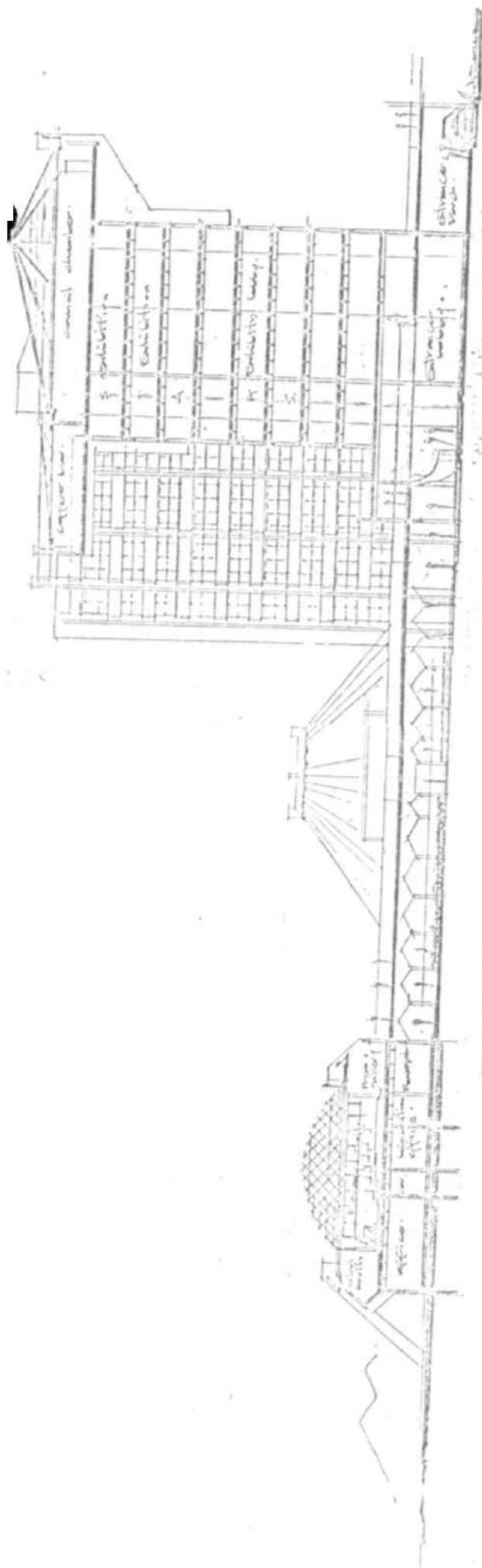


Variations + local PLADs = 112500.

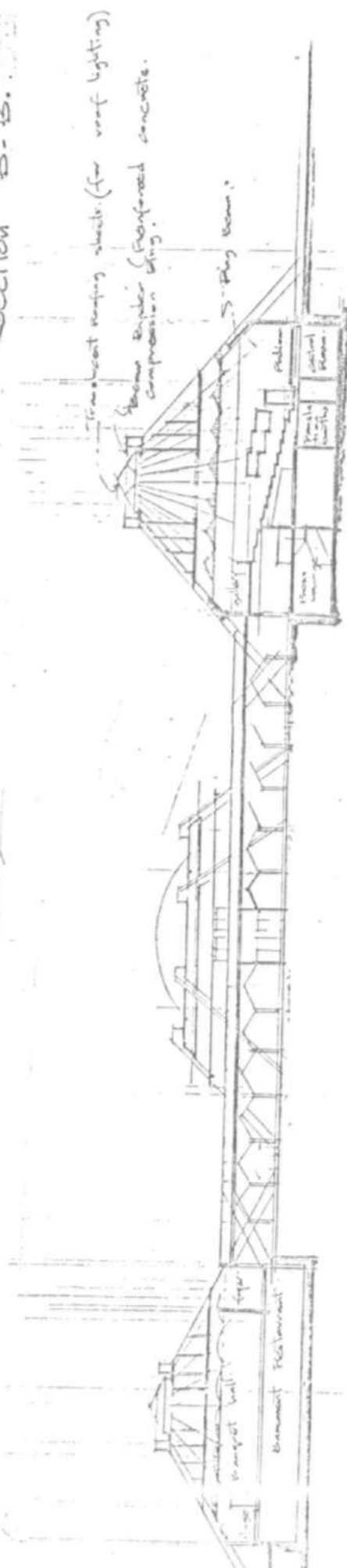


ROOF PLAN 1:250





Section B-B.



Section A-A.

ELEVATION - 1:250

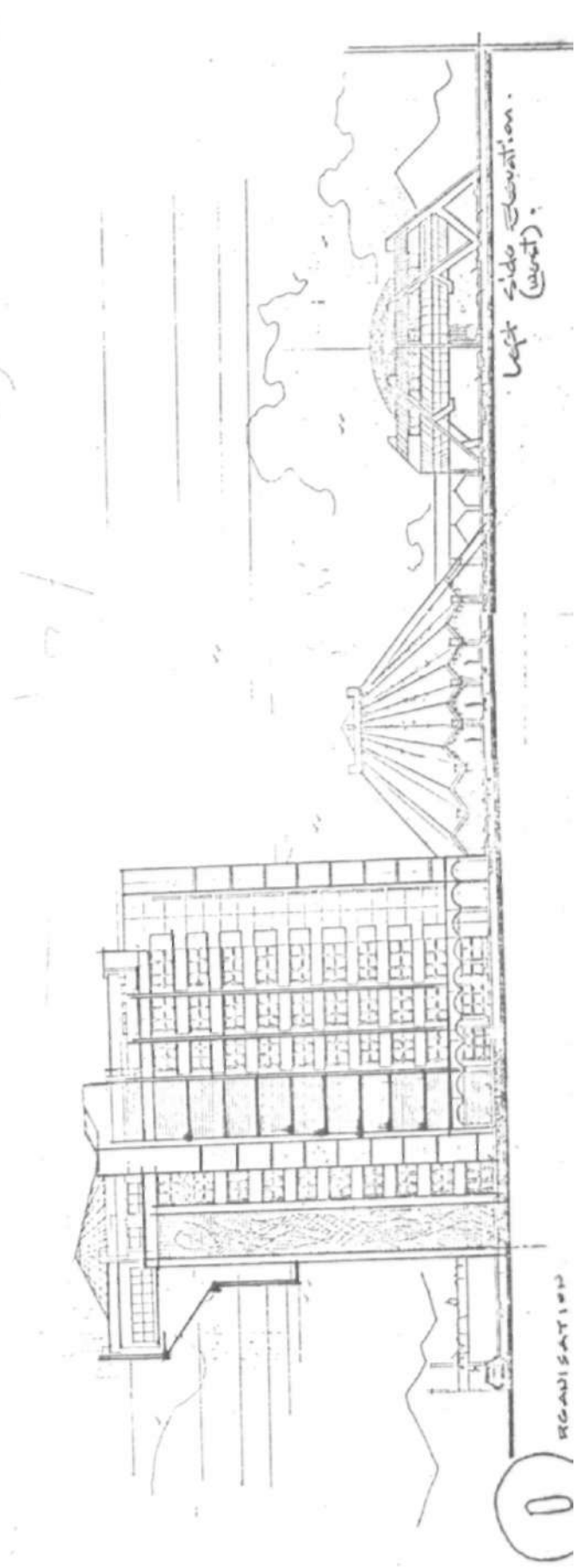
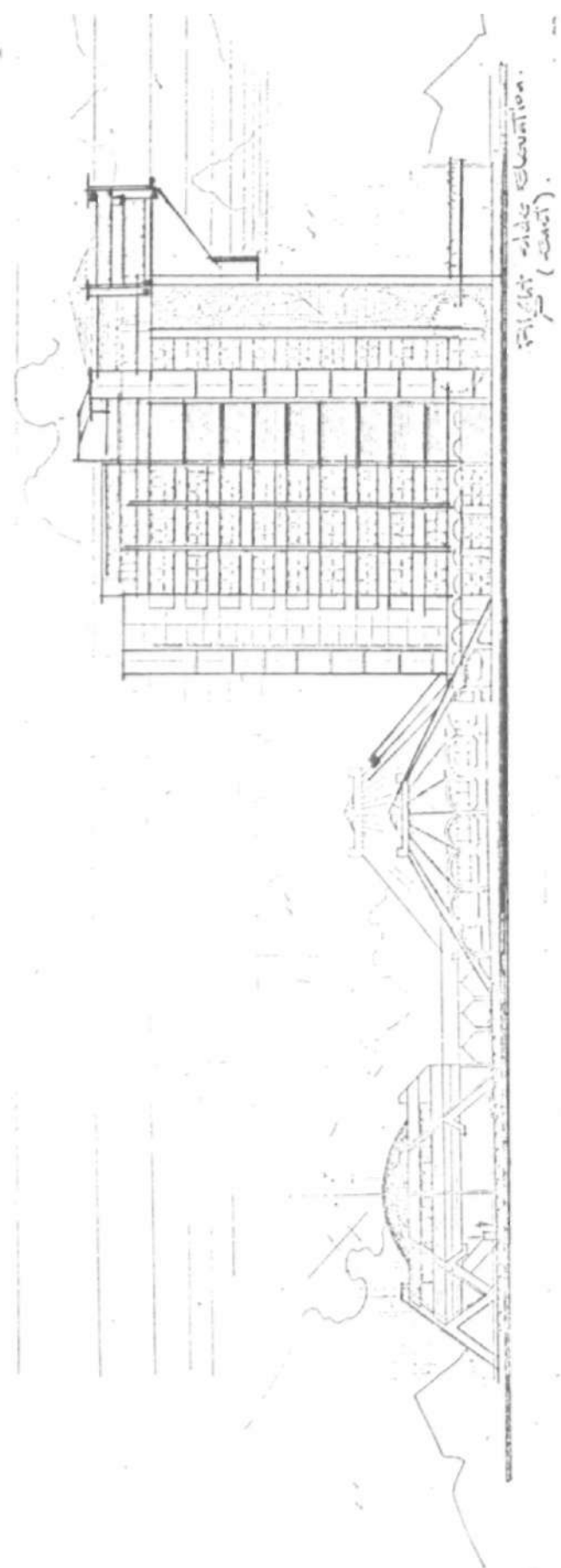


Front Elevation
(North)



Rear Elevation
(South)

ELEVATIONS. 1:250



10
REAR ELEVATION

PERSPECTIVE

