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BY

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ON

ARTS EXHIBITION GALLERY

IN

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HEAD OF DEPARTMENT

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D E D I C A T I O N

- THIS THESIS IS DEDICATED TO MY MOTHER MALAMA KASUWA ADAMU FOR HER LOVE.
- A TRIBUTE TO 'HER FOR HER WISDOM AND STRUGGLE TOWARDS THE ATTAINMENT OF MY EDUCATIONAL AMBITION.

I PRAY AND HOPE THAT SHE MAY LIVE TO REAP THE FRUIT OF HER LABOUR.

GREAT ART)(ARCHITECTURE, MUSIC etc) IS CERTAINLY NOT FOR A PRE-ORDAINED AND PRIVILEDGED MINORITY. BUT IT IS NONETHELESS CERTAINLY FOR A MINORITY - NOT THE CHOSEN FEW BUT THE DEVOTED FEW WHO GIVE EFFORT AND ENERGY TO LEARNING TO UNDERSTAND IT.

A LESSON FROM THE DESIGNERS ACHIVE OF THOUGHT.

Some critics or architects/artists in certain periods have tried to formulate laws of their design; but it always turned out that poor architects did not achieve anything when trying to apply these laws while great masters could break them and yet achieve a new kind of harmony no one had thought of before.

The truth is that it is impossible to lay down rules of this kind because one can never know in advance what effect the architect may wish to achieve.

However this does not prevent any one from discussing matters of taste although it is said that we cannot argue about it does not mean taste cannot be developed.

The strict adherence to this rules has some effect on the patrons who are more attracted by the forms of the past than by the new possibilities, being satisfied with imitation thereby neglecting the opportunity for creativity - the result is a parametric kind of architecture.

There is need for creativity as one artist puts it.

> "Any artist who copies or re-enacts the artistic creations of the past; who is incapable of introducing his own version of visual images into our constantly changing and ever vegetating, physical environment has no claims to a creative and meaningful leadership role today" 1
>
> = Uche Okeke (ed).

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1 Ref. From a paper presented at the seminar on "The inter relationship of the arts in Nigeria University of Lagos, centre for cultural studies Yaba Lagos.

When we talk of architects' achievements some people wonder how this can be measured.

There is need to realise that architecture does not exist in an empty space; that no architect is independent of predecessors and models, that he no less than the scien tist and the philosopher is part of a specific tradition and works in a strctured area of problems.

The degree of mastery within this framework and, at least in certain periods the freedom to modify these strigencies are presumably part of the complex scale by which achievement is being measured.

Therefore what is required of us as living architects is our own personal contribution - that which we can claim authority- regardless of the amount for the architect does not solve all the problems, but only seeks to solve and dramatise a few.

AUTITUR.

DESIGN ABSTRACT ON ARTS GALLERY WRITTEN BY ADAMU N.S.

The choice of any design topic results from the inner thought of the designer and being motivated by some factors which could be social, political or educational.

The reasons for the designers choice of this topic is not far fetch

It is a true statement that some aspects of our life have been highly neglected for quite a long time. This aspect is the visual arts Which is by no means the least important in our struggle for cultural awareness.

As a result of this negligence the joy derived from the products of the creative genuis of Nigerian architect is felt by the elites alone It is the belief of the designer therefore that this creative genums is better placed in public trust.

For any successful realisation of this there is need to keep the art work in our museums, art galleries and monuments which is accessible to the public. It is in the light of this that the designer has chosen the art galleries as a topic of this thesis.

No design can be achieved without set goals and objectives. This objectives are already enumerated in the introduction. In a nutshell however it involves the following steps

- Research
- Analysis of the data
- Production of a design based on the owners needs and the data collected.
- To see to the implementation of the project.

In any design there must be an achievement regardless of the amount Considering the attitude of Nige ians towards the Gallery it is my hope that the evolving design will be able to create the awareness needed in the people, a source of public enlightenment , and as a means of educating the people. Besides a gallery which will create its own spiritual climate, one where the artist can find enrichment for his work and thought and where the public can absorb that artistic culture which the modern spirit demands.

A C K N O W L E D G E M E N T S .

In a research work such as this one builds up enuruous debts of very different kinds, which should be acknowledged if not properly paid for Although it is not possible for the designer to tist all the names of those who have in one way or the other contributed to the success of this thesis, attempt will be made. to bring in as many people as possible.

My first acknowledgements go to some noble architects and writers whose views appear in this book. This includes louis Kahn, Mies Vande Rohe, wright, Gombrich for his ideas on arts; Uche Okeke (artist) for his ideas on arts patronage in Nigeria. Arc Lambruck for his ideas .on lighting.

The following people are also acknowledged for some parts of their works that may apper in this write up. They include Raymond a stude G. Guena, S.A. Gregory, M.L.J. Abercrombie, Amos Rapoport for their ideas on design methodology. Others include Lee A, Jacobus on aesthetic and art, Herbert Read on meaning of art. Finally the editors of Musse for their useful contribution particularly on display techniques.

Apart from literary contributions many people have contributed to th success of this thesis in form of advice, moral support or finance The first in this list is the Head of my department Professor E.A Adeyemi for his piece of advice on this thesis.

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I also owe some votes of thanks to other members of staff for the knowledge imparted in me right from the day entered the department. This includes Mr. Solanke, Mrs Wojdylo, Mr. C.S. John, Mr. Stan . Kawkan, Mr. Gniacik, Mr. Shin Adesina and other members whose name may not appear here.

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I also owe a vote of thanks to the following for they helped in one way or the other when I was in difficulty. This include L. Idoko Paul Adejo, Mr. Francis Ebute, Mr. James Okpe, Dennis Abu, Adejo Umar O O, Lakpa. John Oji, Sylvanus Abu, Bros. Romanus Amodu, Enemali Denni Felix Eneche . Mr. Baba Ochai and my typist Mr. Nathaniel A. Okama.

This list is not exhausted so to those whose names do not appear in this list accept my apology.

Adamu N.S.
A.B.U,June 1981

BIBLIOGRAPHICAL NOTES.

The number of published books which deal solely with the subject of arts gallery design is limited. The main sources of information perfaining to curient research in this field are contained in a few technical journals and published conference seminar papers.

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A.J. 153 (3 Feb 71)	Case study
A.J. 155 (1 April 77)	Display stands
A.J. 152 (11 Nov 70)	Expo
A.R. 149 (Apr. 71)	Dining and Kitchen
A.R. 155 (June 74)	Criticism on kinbell Art Museum
A.R. 152 (Nov 72)	Interior Design
A.R. 155 (May 74)	Show case design
A.R. 146 (Dec. 69)	Interior Design.
A.R. 165 (Jan. 79)	Criticism on National Gallery of art Washington

Mussee (IV)	Air conditioning at the National gallery, London, its influence upon the preservation of pictures.
Musee (XVII)	Alarm devices. The protection of museum against theft.

News Bulletin
A publication of the Benue State

Council for Arts and Culture.

TABLE OF CONTENTS

DESIGN ABSTRACT ---------- i

ACKNOWLEDGEMENT ---------- ii-iii

BIBLIOGRAPHY ---------- iv-vii

CONTENTS ---------- viii

CHAPTER I

1.1 INTRODUCTION ---------- 1 - 9

1.2 MOTIVATIONS

Owner/Users objectives ---------- 10 - 11

1.3 LOCATION CRITERIA

Social, Economic, Political etc ---------- 12 - 14

1.4 PHYSICAL AND CLIMATIC CONDITIONS

Topography, Soil, Rainfall etc ---------- 14 - 18

1.5 PHYSICAL BOUNDARIES

Road Network ---------- 19 - 20

Site Analysis ---------- 20

1.6 GOVERNMENT CONCERN OVER ARTIFACT ---------- 21 - 22

1.7 ACQUISITION OF ART WORK ---------- 23 - 24

CHAPTER II

2.1 DATA ON LOCAL AND INTERNATIONAL EXHIBITIONS - 25 - 29

2.2 DATA ON ARTS COLLECTION ---------- 30 - 32

2.3 CLIMATIC DATA ---------- 33 - 35

CHAPTER III

RELEVANT STUDIES

Behaviorism, Culture Hodology,

Lighting perception, Environmental

hazards etc ---------- 36 - 64

CHAPTER IV

4.1 ARTS GALLERY DEFINITION

Role of arts Gallery in the society

in terms of cultural awareness, public

enlightenment, education, preservation etc ---- 65 - 67

4.2 CASE STUDY

Arts Gallery in the country, Arts gallery in other

parts of the world, prints ---------- 68 - 70

CHAPTER V

5.1 GALLERY OBJECTIVES AND FUNCTIONS ---------- 71

5.2 DESIGN BRIEF ---------- 72

5.3 SPACE ALLOCATION ---------- 73 - 81

CHAPTER VI

DESIGN CONSIDERATIONS

6.1 OPERATIONAL

Exhibition techniques Lighting, etc ---------- 82 - 97

6.2 ENVIRONMENTAL ---------- 97 - 99

6.3 STRUCTURAL AND MATERIAL CONSIDERATION --------100 -106

6.4 THE ARTS GALLERY AND AESTHETICS ---------- 104 -106

6.5 SITING OF THE ARTS GALLERY ---------- 107 -108

CHAPTER VII

7.1 DESIGN ---------- 109 -115

7.2 DESIGN METHODS

Behaviourism, Geometric, Morphology etc ---- 116 -120

7.3 DESIGN CONCEPTS ---------- 121 -123

PRINTS

CHAPTER I

INTRODUCTION

ART EXHIBITION GALLERY.

INTRODUCTION

Nigeria being the largest African Country has varied art forms which dates as far back as the Prehistoric times when Rock Painting and engraving flourished in the area stretching across the Northern boundary of the Country. Excavations has unfolded the Country's wealth of traditional sculptures prominenet among others are the Nok Terra Cotta sculpture of the Niger Benue confluence, the Ife and Benin bronze castings, etc.

Due to the multivalent nature of Nigerian artists it is easier to classify Nigerian artists on the basis of the epoch and tradition in which they exist rather than on the type of work they produce.

In looking at the trend of Nigerian arts two entremes could be reached viz the traditional art and their artists on-one hand and the Nigerian contemporary artists on the other.

Between these two groups is the revolutionary transitional phase.

The traditional artists who owe their creative genius to the mother earth designed for priests, Chiefs, communities and their works are littered about in shrines, palaces and community parks.

The contemporary artists include the formally trained intellectuals and the ultra modernists. The formally trained intellectuals are the poineers who trained abroad - Chief Aina Onabolu, and the products of the Nigerian art schools.

Prominent in this group are Yusuf Grillo Erhabor Emokpae etc. The ultra modernists are the products of the Ulli Beier's experiemental school, prominent among others are the Twin Seven-Seven, Fella Adaranilo etc.

The transitional artists include Ben Enwonwu and Mrs. Etso Ugbodaga-Ugu.

At this juncture it is worth looking at the Patrons of these group of artists.

The tranditional artists were being patronised by priests, Chiefs and their local Gommunities.

Beside these we have the colonial civil servants, enterpreneaurs and the religious missionaries who dictated in the matter of taste. The abode of these art works are the houses of the civil servants and Churches.

When the colonial masters left, the arts patronage shifted to the hands of the Nigerian elites whose efforts were being frustrated by the high price of the Nigerian art. However the few collections are littered in our pups, parks, restaurants, Churches and private galleries.

From the above analysis it can be seen that the purchase of important creative works of art that should properly belong to the people at large lies in the hands of a collective few.

IT IS MY THESIS THEREFORE THAT THE CREATIVE GENIUS OF NIGERIAN ARTISTS MUST BE HELD IN PUBLIC TRUST.

As one artist lamented today, Nok, Igbo Ukwu, Ife and Benin relics of our past have become priceless because they are no longer produced. Tomorrow, these contemporary art pieces that we triffle with or mostly ignore shall be seen by subsequent generations of Nigeria as vital relics of their past. It shall be seen then that we had neigther foresight nor sense of appreciation".

Since they constitute the hall mark of our civilisation they have to be kept in MUSEULS, GALLERIES and MONUMENTS which have vital link with the past.

ARTS GALLERY (NAME AND DEFINITION) The question of name however is a matter of taste and convinience. Arts Gallery, Art Exhibition centre, the Museum of modern or contemporary arts are examples of common attributes.

The problem of arts Gallery definition has not been properly solved by any litrature without subjective reference to the objectives and function of the gallery. However a simple and explicit definition is that given by one of the artists "That the art gallery is where the creative works of art are put into "work". This goes beyond the formal definition that the gallery is the repository for art works.

GALLERY OBJECTIVES AND FUNCTIONS.

1. To serve as the repository for artistic creation
2. To promote the creative genuis in Nigerian art and that of the state in particular.

3. To promote research, art education and appreciation.

FUNCTIONS

4. To acquire and collect Nigerian work of art mainly paintings, graphics, sculptures etc.
5. To organise art competition
6. Organise workshops, lectures, Seminers and Conferences
7. To maintain a documentation centre on art and artists
8. To increase circulation of art works and increase revenue through the reproduction and sale of post cards subject to the copyright art.
9. To serve as a recreation centre
10. To serve as a transient exhibition centre for local and international exhibitions either by individuals or group.

DESIGNER OBSECTIVES

1. Collection of all necessary data coupled with oral interviews of artists and people of varying educational socio-economic and cultural, background.
2. Selection of a site, collection of site data physical, dlimatological, environmental .. coupled with oral interviews with sociologists, planning authorities etc.
3. Selection of clients patrons and evolving a programme or design brief based on the data and in consultation with the clients or patrons.
4. To probe into existing art galleries both local and international to find out the response and behaviour of users; and to find out the design merits and demerits.

5. To evolve an architectural design capable of serving the functional or operational aspect and in response to the cultural, political, socio-economic, and climate based on the analysis and synthesis of the data collected, the complex should serve the following purpose:-

- as a repository centre for art works.
- as an art education centre
- as a transient, exhibition centre
- to provide administrative facilities for the gallery.
- as a recreation centre.

6. To see to the implementation of the project.

DESIGN APPROACH

The aim of any architect is to provide satisfaction for his clients curiosity through his design. This satisfaction can only be attained when the architects try to know the problems involved. without which no solution can be provided. It is believed that the solution to any problem is inherent in the problem.

> "It is my belief that is of the very essence of every problem that it contains and suggests its own solution"
>
> – Louis Sullivan.

In recognistion of this fact therefore the designer underwent a research programme to find out the problems connected with the arts Gallery.

This research includes the physical participation in oral interview, discussions with prospective users. The designer finds This method to be best after considering the attitude of the people people towards questionnaires and other forms of research methods.

The positive response of the people towards this method could be as a result of the non committed nature of the interview since there was no written document. Moreover it was so casual that the people concerned didn't feel that the answers they gave were of any importance to the interviewer.

The result of the interviews showed that most Nigerians or people from this area have no reason for liking the works of art.

It also showed lack of awareness in the public on the importance of visual art in our culture.

Besides some researches carried out in other parts to know the behaviour of arts Gallery visitors were studied. This comes under the chapter related studies.

The designer also recognised the importance and effect of environmental factors, climatic and physical factors on the arts Gallery. Datas were collected on this aspects and analysed.

To go about any new design there is need to look at existing ones so that one can know what is happening as one writer say.

> "We do not design a new object to satisfy environmental needs from scratch. We try to find out what is happening in the use of these objects or complexes at the moment"
>
> - Keith Hanson.

The aim is however not geared towards any fault finding but to learn from other people's mistakes.

Thus the designer undertook case studies of some existing arts galleries in the country and other parts of the world. This aspect is treated in chapter three.

Apart from the interviews and data collected the designer undertook some studies in attempt to find some solution to some perculiar problems in the design of an arts Gallery.

To this effect the section on related studies is fully devoted to this aspect. The designer hopes that it will be of interesting reading to future gallery designers and it could be a base for further studies. The studies were on cultural influence, Behavioures in, hodology, effect of light, Relative humidity, environmental hazards etc.

For any successful realization of design goals and objectives there is need for a comprehensive brief since this is the foundation on which the design rests. The brief is set out putting into consideration the owners objectives and some constraints arising from the environment, politifal, economic social and some legislative bye laws.

Thus one of the tasks of the designer is the setting out of the brief in consultation with the client. The full contents of the brief can be seen in chapter five. The last aspect of this text deals with the main body of the design.

To achieve the desired design goals and objectives various design methods were employed. These includes the Behaviour contigents of systematic design, Geometric analysis, morphological analysis and the use of models. These methods are fully explained in chapter six.

Apart from the methods of design the design considerations are also treated in this chapter which led to the concepts used in the design

Apart from the primary purpose of analysing the design this text provides a useful background guide to future gallery designers. This is why the designer has included some chapter such as the related studies."

It is the belief and hope of the designer that future readers will appreciate this small piece and build on it for a prpper realisation of the necessary ingredients needed for the design of an arts gallery.

CHAPTER ONE.

1.2. MOTIVATIONS

The sole motive behind this project is the designer's desire to make the creative genuis of the Nigerian artist held in the public trust. This project couldn't have been a reality without a client or a patron.

It is perhaps necessary here to draw-up a short list of the possible major state and public organisations that could be involved in this patronage policy namely:-

a) Federal and state ministries of information and culture and of Education.

b) National and state Arts Council

c) Universities and other higher institutions

d) National Museums (Antiquities commission

e) Federal and state Ministries of works and Housing

f) Local Government Councils.

In search for a client therefore the designer discovered that the federal Government has a plan to build a National Arts Gallery in Abuja and also the Benue State has a plan to build a cultural Centre and an Arts Gallery. After due consideration the state Government was chosen as the client who is responsible for the financing and implementation of this project.

OWNER /USERS OBJECTIVES.

In any design the client spells out what he really needs or what his objectives are. It is therefore petinent to enumerate some of the objectives of the sponsors of this project.

The art Gallery- is to:-

1. Serve as repository for artistic creation.
2. Promote the creative genius in Nigerian Art and that of the state in particular.
3. Promote research, Art education and appreciation
4. Acquire and collect Nigerian works of arts mainly, paintings, drawings, sulptres etc.
5. Organise art competitions
6. Organise workshops,lectures, seminar and conferences
7. Mentain a documentation centre on art and artists.
8. Increase circulation of artworks and increase revenue through the reproduction and sale of post - cards subject to the copy-right act
9. Serve as an exhibition centre for local and international exhibitions either by individuals or groups.

1.3 LOCATION CRITERIA

The siting of any project is usually based on certain criteria which could be availability of raw materials - if it is an industry market trend - mainly hotels and some commercial projects - [illegible]

Others are based on economical, political, cultural or educational criteria.

The location of an arts gallery unlike the museum needn't be based on the historical or cultural importance of the place.

Arts Gallery which deals with arts collection is more or less like a hotel and it could be owned by individuals, group of individuals - private galleries or by the Federal or state Government National and state Galleries respectively.

Unlike the museum or industry the availability of exhibit or raw materials within the locality is not a pre-requiste criteria for siting a galleries. This is due to the fact that the art work could be acquired/bought from any part of the country or world and besides the exhibits are not necessarily the products of the artistic creation of the people within the locality.

From the above points the siting of the project in Makurdi is based more on economic, political and social criteria rather than those enumerated above.

1.31. SOCIAL

If there is any part of our culture that has been neglected then it is the visual arts.

It is a bit difficult to access any society in tarms of its likness or love for art due to:-

1. The expensiveness of the few artworks produced in the society
2. Lack of encouragement from any organisation or instituted body.

However this does not mean that the people in this place have no love for artworks.

Archeological studies has revealed that some relics of past arts works in this area among which you have the Igala mask and casing, The Idoma masks and Tiv

As earlier stated in the introduction most of the artists are graduands from the Nigerian arts schools. This implies that there are artists in this area who are among this graduates.

Thd fact that most pubs, resturants, hotels, chief's Palaces in this area are being decorated with artworks shows that their interest which needs to be increased.

With the location of Gallery in this place people will be enlightened and educated on areas where they are ignorant.

It is worth not ing that the state centre for arts and culture has already engaged in international competition organised by

main depression.

The site in question being on the bank of the River Benue slopes into the river with an average gradient of 1 in 5. However there are areas of steep slope particularly as one moves towards the river ie Northwards.

1.42. SOIL

Generally the soils identified in the flood plains are mostly hidromorphic alluvial clays with poor drainage characteristics, and to a lesser extent vertisoils with easier draining of a total surveyed area of about 390,000 ha, 115000 upstream of Makurdi and 85000 ha between Lokoja and Makurdi, 180 000 ha or 46% were found to be suited for intensive development and 210 000 ha or 54% were found to be unsuitable, due to unfavourable drainage and topographic condition.

Site Soil The soil of the site in particular has some perculiar characteristics. The soil consists of sedimentary rocks interspersed with some metamorphic rocks standing up to the height of 3.5m. The site being on a sloping ground is being washed by groun water thereby exposing the bare sedimentary rocks with some patches of alluvial clay soils.

1.43. DRAINAGE

The seasonal streams and the Benue River constitute a Natural drainage system, except for the area earmarked for industrial sites on the South West of the proposed development area, where the drainage will have to be fortified.

However, taking the site in particular the slope creates a natural gradient thereby easing the flow of surface water and those in pipes. Little or no effort is required in terms of drainage except where the system is in opposite direction to that of the site slope.

CLIMATIC CONSIDERATIONS

Makurdi has a hot humid type of climate and thus posses all the characteristics of this type of climatic zone although slightly modified by some local factors.

Due to the effort of this climate on the art Gallery it is worth looking into the various components of the climate. This include Temperature, Rainfall, Humidity.

1.44. TEMPERATURE

From temperature recordings and graphs plotted the mean monthly temperature has two peaks which is typical of towns within this climatic zone. One occurs in March and the other in December.

It also has a temperature range of 7° with the highest in March and the minimum in July. (see fig 1)

1.45 HUMIDITY.

Makurdi being situated in the hot humid climate has a very high relative humidity and this is further modified by the presence of the River Benue which is the sole determinant of the location of Makurdi.

Although there are no comprehensive data on this climatic components the Researcher was able togather this informations from the meteriological station which is about ten years old and five years of relevant services. Datas were collected for the number of year and graphs were plotted to arive at the results used for these project.

Makurdi has a mean monthly relative humidity of 94.2 which is highest and occurs in September and usually at 06 hours while the lowest is in January.

Graphs of relative humidity were plotted for 06 hours and 015 hours of the day when the relative humidity is highest and lowest respectively (see fig 1)

1.46. RAINFALL

Makurdi has the equitorial rainfall characteristics and also been modified by the local factors such as the presence of the river Benue .

From Data collected it has an average rainfall of up to 200 centimetres.

It also has all the characteristics of places within this rainfall zone (see fig. 1)

1.47. VEGETATION

Makurdi has the guinea savana type of vegetation with tall grasses intercepted with average fall trees which have a girth of up to 1.5m and a canopy of about 3 - 4m.

The site however has its own perticular micro vegetation probably caused by the topography and the soil.

The site being rocky and on a sloping terrain the soil cover is being washed away exposing the same rocks which can hardly support any plant growth.

However there are patches of grasses where the ground cover has some alluvial deposits and deep enough to support the plant growths.

What is absent on the site is tree. There are neither economic trees or trees of architectural importance. Any attempt to plant trees on the site has to be backed up with artificial means.

1.5. PYSICAL BOUNDARIES.

SITING.

The location of an arts Gallery like any other cultural buildings is determined by the functions it serves. There are three location posibilities.

1. Site of Historical or cultural importance.
2. Site of Educational importance close to institutions that may need the service of the Gallery.
3. Site in parks, near tourist attraction points etc

From the function of these particular Gallery and the attitude of the Nigerian Public towards the Gallery the designer has been prompted to choose the third one. for the following reasons.

i. The arts Gallery as an institution or concept is still new to the Nigerian society.

ii. Lack of adequate awareness on visual arts.

iii The need to hold the creative genius of the Nigerian artist in public trust.

iv The need to use indirect means of forcing people into the Gallery (through the surrounding facilities) hotels, clubs etc.,

"The notion that arts galleries should be given classic treatment or regarded as an achive of classic arts has become obselete"

For these and some other reasons the arts Gallery is located close to the proposed Makurdi Hotel.

1.51. PHYSICAL BOUNDARIES

The site is bounded on the North by the river Benue and to the North West is the site for the Benue Hotel. The Catering flats and the site for the Makurdi rest houses take it share the Southern Border.

On the east however is the Kano//Porharcourt with account Rail road."

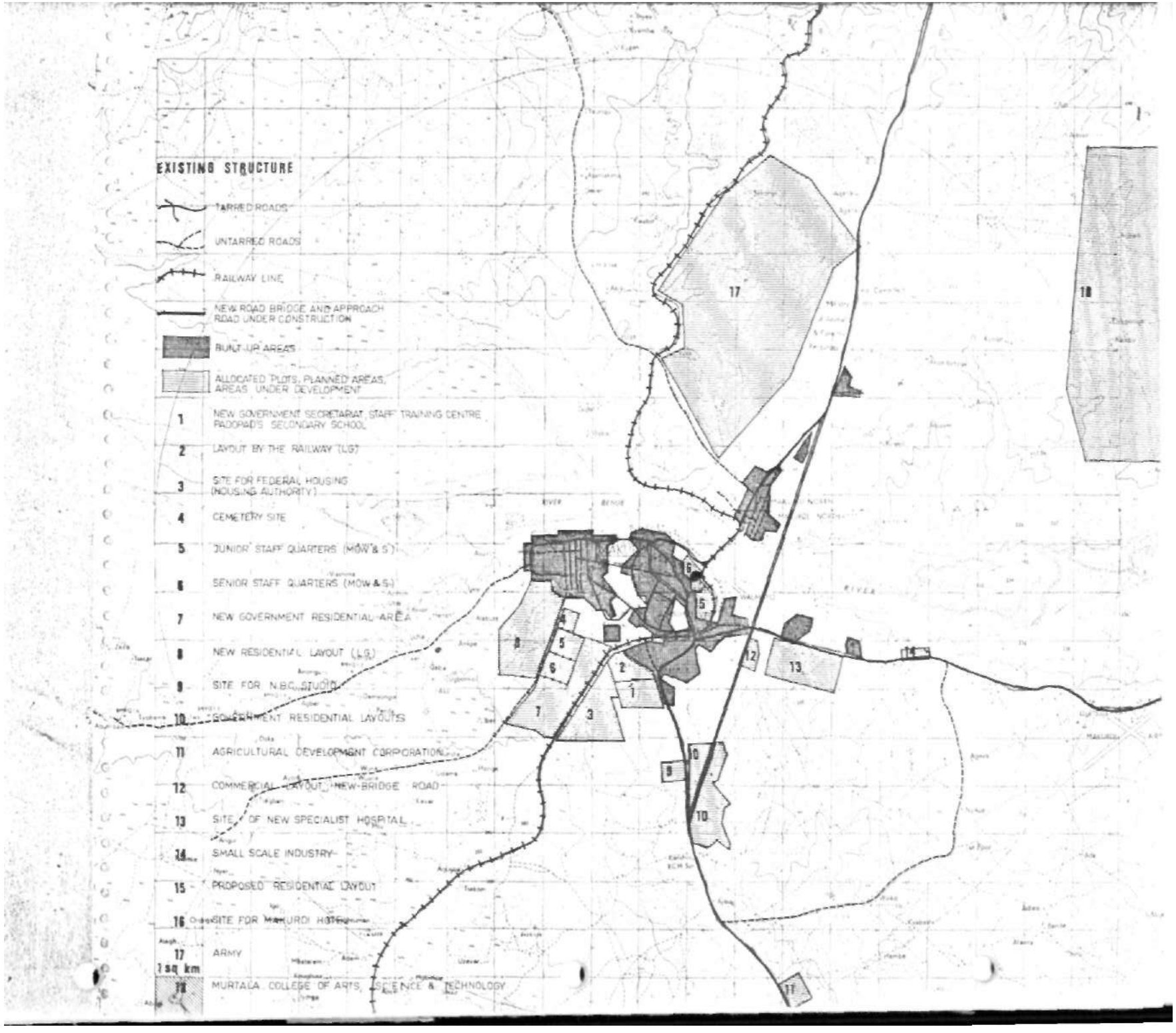
(see fig. 1.51.)

1.52. ROAD NET WORK

Presently the road network is poor although this is not perculiar to site alone but to Makurdi as a whole. The only access road is that constructed to link the town with the Makurdi Hotel. Since these two sites are close the road could serve both of them.

However there are plans as seen in The proposed development plan to construct more access roads within the site. It is also hoped that by the time most of the projects on this site take off more roads will be constructed.

For the purpose of this project the designer has carried out some research on the traffic around the site and has proposed some road outlines. (see fig. 15 2a, b, c.


EXISTING STRUCTURE
TARRED ROADS
UNTARRED ROADS
RAILWAY LINE
NEW ROAD BRIDGE AND APPROACH ROAD UNDER CONSTRUCTION
BUILT-UP AREAS
ALLOCATED PLOTS, PLANNED AREAS, AREAS UNDER DEVELOPMENT
1 NEW GOVERNMENT SECRETARIAT, STAFF TRAINING CENTRE, PADDPADI'S SECONDARY SCHOOL
2 LAYOUT BY THE RAILWAY (L/G)
3 SITE FOR FEDERAL HOUSING (HOUSING AUTHORITY)
4 CEMETERY SITE
5 JUNIOR STAFF QUARTERS (MOW & S)
6 SENIOR STAFF QUARTERS (MOW & S)
7 NEW GOVERNMENT RESIDENTIAL AREA
8 NEW RESIDENTIAL LAYOUT (L/G)
9 SITE FOR N.B.C. STUDIO
10 GOVERNMENT RESIDENTIAL LAYOUTS
11 AGRICULTURAL DEVELOPMENT CORPORATION
12 COMMERCIAL LAYOUT, NEW BRIDGE ROAD
13 SITE OF NEW SPECIALIST HOSPITAL
14 SMALL SCALE INDUSTRY
15 PROPOSED RESIDENTIAL LAYOUT
16 SITE FOR MAKURDI HOTEL
17 ARMY
1 sq km
18 MURTALA COLLEGE OF ARTS, SCIENCE & TECHNOLOGY
RIVER BENUE
RIVER

1.7 ACQUISITION OF ART WORKS.

In any gallery organisation whether private or public one of the crucial problems is the acquisition of the exhibits. Unlike ethnographic material which could be acquired through the enforcement of governmental laws on antiquities, arts works which dues not fall into the group of entiquities is difficult and expensive to acquire. There is hardly any governmental policy on this issue.

It is however possible to ennumerate some of the ways by which art gallery organisations get their exhibits.

1. In most cases the art works are bought from the respective artists and then exhibited in the gallery. In the gallery however there is a possibility of reproducing the works in form of cards and sold to the public. This is subject to the copyright law i.e the artist although sold the art work to the gallery organisation reserves the rights of getting some renumerations from the cards sold.

2. Voluntary donation: - There ocasions when some gallery organisation ask for donations from artist who in response donate some of their works free of charge to the gallery. In such a case nothing is paid for the work.

3. For the purpose of popularity and advertisement some artists send their works to the gallery organisation from time to time for exhibition.

Also in such a case the organisation pays nothing for the work.

4. The Gallery organisation could from time to time employ the services of some artists. In this case the artists are brought into the gallery workshops and he could produce the type of material needed. In such a case the artist will be paid some renumeration as earlier agreed upon but not buying the work from him. This is a property of the gallery and no copright law could be effected if it is reproduced

These are some of the ways of by which artworks could be acquired or collected.

CHAPTER II.

DATA

2.1 DATA ON LOCAL AND INTERNATIONAL EXHIBITIONS.

4TH NATIONAL FESTIVAL ON THE ARTS

28TH DEC. 1974-14TH JAN. 1975

DATE	NO OF VISITORS
8/1/1975	14
9/1/1975	66
10/1/1975	139
11/1/1975	86
TOTAL	314

FORMAL OPENING OF THE NATIONAL THEATRE

NATIONAL EXHIBITION 2ND-9TH OCT. 1976

DATE	NO OF VISITORS
2-10-76	117
4-10-76	126
5-10-76	165
6-10-76	154
7-10-76	263
8-10-76	152
9-10-76	454
10-10-76	159
TOTAL	1650

* NOTE THE ATTENDANCE ON SATURDAY

FESTAC NIGERIA'S NATIONAL EXHIBITION

22ND JAN - 12TH FEB. 1977

DATE	NO OF VISITORS
23-1-77	4
24-1-77	48
25-1-77	108
26-1-77	83
27-1-77	189
28-1-77	108
29-1-77	158
30-1-77	209
31-1-77	104
1-2- 77	110
2-2- 77	87
3-2- 77	74
4-2- 77	134
5-2- 77	45
6-2- 77	173
7-2- 77	72
8-2- 77	160
9-2- 77	177
10-2- 77	62
TOTAL	2110

THE BULGARIAN ONE MAN EXHIBITION

ARTIST - STOYAN STOYANOV

DATE	NO OF VISITORS
7-6-79	26
8-6-79	36
9-6-79	25
10-6-79	57
11-6-79	29
12-6-79	16
13-6-79	22
14-6-79	18
15-6-79	26
16-6-79	3
18-6-79	6
19-6-79	74
23-6-79	18
TOTAL	296

INTERNATIONAL EXHIBITIONS

EXHIBITIONS. VENUE - THE HAYWARD GALLERY

TYPE	DATE	PERIOD	ATTENDANCE	PEAK.
MATISSE	JULY 1968	OVER 60	115000	3800 ON SUNDAY
VAN GOUH	OCT. 1968	OVER 70DAYS	200,000	7000 " "
FRESCOES FROM LORENCE	APRIL 1969	OVER 13DAYS	126,000	
POP ART	JULY 1969	OVER 38 DAYS	26,000	
RODING	JAN 1970	OVER 71 DAYS	170,000	5000 ON SUNDAY
KINETIC & CELTIC ARTS	SEPT. 1970	OVER 60DAYS	12000	

DAILY AVERAGES 2000 OR 200 PER HOUR

2.2 EXHIBITION OF NIGERIAN CONTEMPORARY ART.

DAKAR-SENEGAL 25TH NOV.-7TH DEC. 1980

PRINTINGS	38
SCULPTURES	24
POSTERS	9
PARTICIPANTS	30

EXHIBITIONS AND POPULATION OF WORKS

NATIONAL ART EXHIBITION

EXHIBITION HALL-NATIONAL THEATRE LAGOS

SEPT. 25TH - OCT. 1ST 1980

PRINTING	69
DRAWING/PRINGS	32
SCULPTURE	41
MISCELLANEOUS	17
SCHOOL EXHIBITS	23
TOTAL	191

NO OF PARTICIPANTS 104

ART CLLECTION.

THE TEMPORARY NATIONAL ARTS GALLERY

NO OF ART WORKS.

PAINTING	1	122
SCULPTURE		74
PRINTS & DRAWING		106
TOTAL		302

GONG GALLERY - 100

2.3 MONTH TEMPERATURE FOR NAKURDI

MONTH/YEAR	1973	1974	1975	1976	1979	MEAN
JANUARY	35.6	35.7	33.7	34.3	32.8	34.4
FEBRUARY	35.3	36.5	37.9	37.0	36.0	36.5
MARCH	36.0	36.7	37.7	37.0	36.6	36.8
APRIL	34.7	35.8	32.2	33.9		35.4
MAY	31.9	32.0	33.7	31.7		32.3
JUNE	30.7	30.6	31.7	31.1		31.2
JULY	29.1		30.4	29.8	29.4	29.7
AUGUST	29.2	30.0	30.5	30.1	29.3	29.8
SEPTEMBER	31.1	30.8	30.9	31.5	30.3	30.9
OCTOBER	31.1	31.3	32.7	31.3	31.3	31.5
NOVEMBER	32.7	32.9	34.6	33.4	33.3	33.4
DECEMBER	33.3	33.8	35.0	33.5	34.5	34.2

	RELATIVE HUMIDITY AT 006 HRS GMT.						RELEATIVE HUMIDITY AT 015 HRS GMT.					
YEAR/MOUNTH	1973	1974	1975	1976	1979	MEAN	1973	1974	1975	1976	1970	MEAN
JANUARY	72.0	64.0	55.0	78.0	76.0	69.0	30.3	20.0	20.0	29.0	23.0	25.6
FEBRUARY	69.0	69.0	76.0	88.0	79.0	76.2	27.0	28.0	31.0	52.0	34.0	34.4
MARCH	62.0	81.0	77.0	87.0	78.0	77.0	30.0	37.0	38.0	47.0	39.0	38.2
APRIL	79.0	89.0		87.0	83.0	84.0	43.0	56.0		52.0	47.0	49.5
MAY	86.0	93.0		94.0	93.0	91.5	56.0	67.0		64.0	64.0	62.8
JUNE	89.0	95.0		94.0	95.0	93.3	64.0	68.0		67.0	69.0	67.0
JULY	91.0	76.0	95.0	94.0		89.3	67.0	71.0	73.0	71.0		70.0
AUGUST	92.0	96.0	94.0	95.0	94.0	94.2	72.0	71.0	72.0	70.0	71.0	71.2
SEPTEMBER	91.0	96.0	96.0	93.0	95.0	94.2	65.0	69.0	71.0	66.0	66.0	67.4
OCTOBER	90.0	96.0	95.0	76.0	94.0	90.2	59.0	65.0	66.0	68.0	66.0	64.0
NOVEMBER	85.0	93.0	94.0	93.0	93.0	91.6	31.0	45.0	53.0	55.0	55.0	47.0
DECEMBER	86.0	82.0	86.0	91.0	83.0	86.0	35.0	26.0	36.0	39.0	26.0	32.4

YEAR/MONTH	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1976	1.30cm	17.80	14.70	125.40	209.10	159.90	97.50	192.30	196.20	270.00	1.60	0.00
1979	0.00	T.R	T.R	39.10	318.20	216.40	154.70	172.9	92.00	110.70	T.R	0.00
1980	0.00	0.00	59.80	155.90	183.30	162.5	227.1	351.10	22.70	63.1		
MEAN	1.30	17.80	37.25	106.80	236.86	179.6	159.77	238.77	170.30	147.93	1.60	0.00

Ref.

Source of Information:- Federal Meteriological services Maiurdi Station.

CHAPTER THREE.

3.1. RELEVANT STUDIES

Design failure can be likened to Karl Marx's concept of societal poverty.

Before Karl Marx societal poverty was viewed as a failure of individual but after Marx poverty was recognised for what it really is - the failure of organised society.

In the same manner therefore design failures results from the failure of the disciplines involved in the design viz-architecture, Engineering, sociology, Psychology etc.

Having realised this the researcher underwent the following relevant studies.

Sociology - Behaviorism/culture
Landscape/planning-Modology

Engineering - Lighting

Psychology - Perception.

Environmental studies - Hazards.

3.11 BEHAVOURISM: USERS

Human behaviour appears to be the more correct Unit of analysis, it has characteristics which are relevant empirically verifiable and they are operationaly definable"

- studer

Generally the human behaviour is caused by three interdependent classes of phenomena- genetic endowment, history of interaction with the existing environment.

Studies have been carried out to find the behaviour of gallery visitors while in the gallery and they were able to group the visitors into the following classes.

The art literates: - these are art scholars who have a deep knowledge about the work of art. They normally carry about papers in hand taking down notes as they move along in the gallery. Their interest lies in the quality of exbubits and the method of exbhitions.

The second group comprises of literates but not in arts. People in this group are interested in reading all they can find about the particular painting due to their vaque knowledge in art and the tendency to increase it. The third group comprises of illeterates who can neigther read nor write. Their interest lies in the form and the eqirience of exhibit. They are fond of touching paintings, embracing sculptures probably of a beautiful girl exhibited.

The forth group comprises of professionals such as the architects, Engineers etc. All they are interested in when in the gallery

is the component of the building which is relevant to their descipline. The architect will be interested in the form, the Engineer in the structure and lighting in the Gallery.

Another study carried out on gallery is on the research/visitors to provide usful useful guide to the type of paintings exhibited.

Although I wonIt go into describing the method used here the result was that people like what they are familiar with more than knew exhibits. Also it was discovered that the concept of what is good or bad although depends on taste tends to be the same all through .

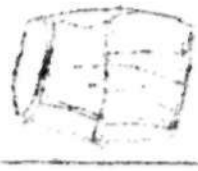
3.12. CULTURE

Culture finds its visual expression in the art it produces. The cultural influence of an arts Gallery is not merely through the works it houses or the classes and lectures it provides but through the creation of its own spiritual climiate one where the artist can find enrichment for his work and thought and where the public can absorb that artistic culture which the modern spirit demands.

There are two points here to note viz

- The culture which is expressed and
- The artistic culture. The former necessitates looking into the cultural elements that exist within and the second relates to the resultant einvironement - a judicious juse of the former to produce the required achitectural form.

Some of the prevailing cultural elements are found diagramatically in fig(3: 12).

	Element	Typical Shape
Music		
Craft		
Architecture		

3.2. LANDSCAPE

To live in a place is to experiment it, to be aware of it through the things that exist there - the sound, smell, the feel of stone metal and wood, how they look from different physical and psychic perspectives and at different seasons of the year.

In no doubt this awareness is conditioned by individual physical and psychological variable - the scale of our inquiry, taste, the extent of our experience with different types of landscape and our location in space.

The success of any landscape therefore depends on peoples reaction to the facilities provided - how much awareness is generated in the visitor.

It is this sense of awareness that led to the holdological research, observation and recommended practical application.

3.21. HODOLOGY - (Hodo - the way)

This concept is based on a research carried out to find out the behaviour/attitude of people towards facilities in public places.

THEORY

THE HODOLOGICAL THEORY POSTULATES THAT VARIOUS PARTS OF A GIVEN AREA HAVE DEFFERENT VALENCIES (valencies being qualities that either attract or repel visitors (Landscape Vol)

OBSERVATIONS.

1. Other things being equal, The parts of the areas near the main entrances and parking areas are used more intensively than the distant parts (see fig 3.21)

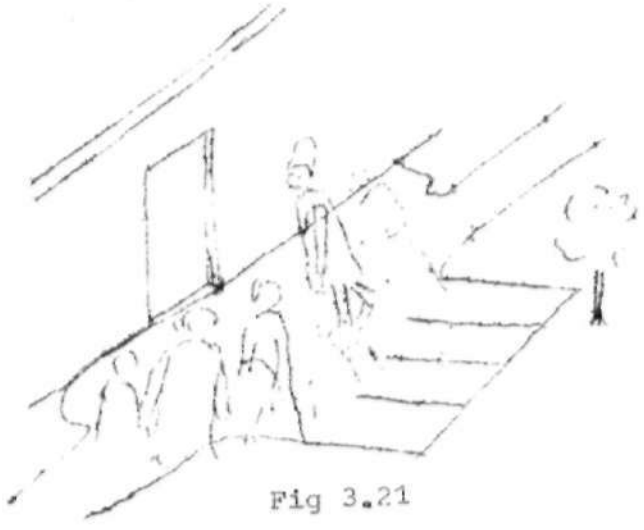


Fig 3.21

2. Concentrations of visitors occur at a number of focal points such as open-air cafes, playgrounds, padding pools, Lidos, waterfalls and top of hills (see fig 3.22)



Fig 3.22.

3. The border zones of two relatively homogeneous areas, of beaches, banks of water and edges of woods have greater densities of stationery visitors than the more central parts of these areas. This phenomenon has been called "edge effect" in analogy with similar tendencies observed with breeding birds



Fig 3.23

4. There is an "island effect" which is to be regarded as an edge effect on all sides. This can be seen when clumps of trees are placed in an open area and where glades are found in woods.



Fig 3.24

REASONS

These can be attributed to

1. desire to have unobstructed views over an open area combined with visual cover in the back.

2. Unconscious motif, of occupying a bit of ground for oneself and ones own group characterised by natural boundaries on at least two sides so that a group cannot be closed in by other groups occupying adjascent parts of the area.

All these follow the concept of individual or group territory - The polarisation effect.

METHODOLOGICAL ASPECT OF THE FINDINGS.

1. Barrier.

2. Physical Distance

3. Dense Woods

4. Orientation Difficulties.

PRACTICAL APPLICATION.

1. Polarisation into busy and quiet parts can be increased by concentrating attractive features in focal points near entrances and parking areas or decreased by locating such attractions in more distant parts.
2. Up to a certain point the capacity of recreation areas could be raised by the creation of more edge and island effects While the use of certain parts could be discouraged by removing elements that create such effect.
3. Planting could be made attractive by making glades in them
4. The reacreational value of waters can be increased by making more banks accessible to visitors and by more iselets or penisulars.
5. Oblong lakes ponds, parks, woods etc or the whole offer more possibilities for attractive spot for recreation than those with a mainly square or circular form where the edge zones are minimal in relation to the total area.

The general principle is that spots generally considered attractive offer some amount of visual and territorial screening combined with a wide view of open spaces or expanses to water.

Ref.

Source of Information: - Landscape (Magazine) Vol.

3.31. LIGHTING

The problem of lighting in an arts gallery cannot be overemphasized The problem is both physical (deterioration of exhbits) physicological (perception and psychological (noslalgia).

There are two main sources of lighting in the gallery viz natural and artificial. The question is which is better.

"Natural light should play a vital part in illumination. The visitor must be able to relate to nature momentarily from time to time -- to actually see at least a small slice of foliage sky, sun, water. And the effect of changes in weather position of the sun, seasons, must penetrate the building and participate in illuminating both art and observer. The creation of the ideal total visual situation, of course involves the physics, physiology, and psychology of it, i.e all levels of perception. But we are not after a measurable physical quantity, or a physicological reaction; we are after a psychological effect through which the museum/gallery visitor feels that both he and the art he came to see are still a part of the real, rotating changeable world".

Kahn.

"For art musecum natural lighting is still adviseable, but this must be supplemented during the darker hours with actificial lighting The later is never as powerful as daylight and is also more trying to the eyes, as with artificial lighting the pupil cannot adjust

itself so consistently to the constant changes of light and colour valentier.

H.E. Van Gelder.

The choise of natural or artificial lighting to be applied in the gallery is guided by preservation requirements of the expibits on one hand and the physiological and psychological comfort of the gallery visitor on the other hand. The aim therefore is to strike at a balance between the two.

At this juncture it is with considering the qualities cum properties or advantages and disadvantages of natural and artificial lighting if any juditious choise is to be made.

Natural lighting

Adv.

1. Natural light is living and dynmaic
2. Creating different impression from minute to minute as its own quality varies.

Disad.

1. Contain ultra violet radiation which causes deteriorations - fading in paintings.
2. It is so variable in quality and quantity (according to time of day, year, climatic conditions) as to necessitate expensive and complicated methods of control to avoid excessive exposure of collections.

3. There is solar gain in summer and loss in winter accounting for physical changes in materials for painting or drawing canvases.
4. It only permits a single storey, top- lighted structure.

ARTIFICIAL LIGHTING.

ADVANTAGES.

1. Contain less ultra violet rays as compared to natural light.
2. It can be controlled easily - used to pinpoint exhibits.
3. Both the intensity and direction can be controlled resulting in display flexibilty.
4. It can be used where the possibility of natural lighting is remote, facilitates multilevel display galleries.

DISADV

1. It is static thereby causing visual fatigue and physiological deadening.
2. It generates a lot of heat when incandescent light is used.
3. Incandescent light contains a high proportion of red and orange rays which change the look of certain colours.
4. Flourescent light gives an impression of coldness and changes some colours as well.

3.32. PROBLEMS INVOLVED IN GALLERY LIGHTING AND POSSIBLE SOLUTIONS.

1. Presence of ultra- violet rays.

Both natural and artificial light contains some ultra violet rays which accounts for deterioration in painting if it is not removed.

The removal is effected by the following methods:-

1. Use of thermolux glass
2. Use of polyvinyle acrylic filters and absorbers over windows and flourescent lamps.

REFLECTION

One of the major problems of Gallery lighting is reflection both from the top of show cases and heads of Gallery visitors.

This can be avoided by:

1. Elimination of side windows
2. Use of adjustable louvres when lighting is from above. This helps to direct the light into the display surfaces.



GLARE

Glare is caused by:

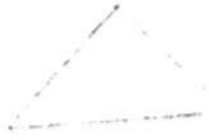
1. Abrupt change in luminous ty and intensity as one moves from one lighting condition to another.
2. Light rays coming directly into the visitors eyes. Sky glare.

This problem can be solved using integrated lighting and airconditioning which helps to remove the heat currents radiated.

3.4 PERCEPTION

In discussing visual arts, perception can not be overlooked. For a full understanding of art works there is need for the conscious use of all the senses involved in perception but that which is most important is the visual perception and consequently the use of the eye.

Fully text on visual perception can be read in any book on physiology. The part that will be dealt with in this chapter is the psychological and physiological meaning of lines and shapes The architect like any visual artist can use lines and shapes to express his emotions visually.

LINES AND SHAPES	VISUAL CONOTATIONS
	Lines and shapes which are vertical give a feeling of strength, upward movement and stability.
	Lines and shapes which are horizontal indicate calmness
	Diagonals and related shapes express vitality and movement.
	Squares and rectangles are associated with stability and permanence.
	Curved lines and form suggest smoothness and gently flowing movement fluidity.
	Circles and consequent forms are symbols of continuity and eternity.
	The triangular shape comprises three converging planes resulting in a closed concept.

1. Lines and shapes (visual awareness) by Frederic Palmer Le Rutherford.

High relative humidity causes the wood materials to swell an and drying when the R.H. is less . This results in concave and convexe effect in the painting, warping , dislocation, between, parts, splitting breating of fibers.

Modes of diterioration includes

1. Change in size and shape

2. Chemical Reaction

3. Biodeterortion.

The rise and fall in the A H consequent upon moisture absorption (swelling and moisture loss (dryness) respectively results in warping, dislocation between parts splitting, breaking of fibres etc.

Chemical Reaction.

This is mainly in terms of

Corosion of metals

the fading of dyes and the weakening of paper and textils

Biodeterioration

This includes the growth of moulds bacteria, infection and the destructive activity of insects like termites.

see section on termites.

Solution in

The main solution recommended and used in most galleries is effective air conditioning with a recommended relative humidity level of 55 ± 5.

Others include the use of dehumidifier

Show cases.

Recommended R H levels for different types of exhibits in a humid zone/humid tropics

65% Acceptable for mixed collection in the humid tropics

55% Widely recommended for paintings, furniture and wooden sculpture in Europe and satisfactory for mixed collections (May cause condensation and posing difficulties in old buildings)

45-55% A compromise for mised collection and where condensation may be a problem.

may as well be the best level for textiles and payer exposed to light 40-45 %. Ideal for metal only collections.

Acceptable for museum in arid zone exhibiting local materials.

MOULD GROWTH

This is very important due to the defacing action of mould to organic matter present in paintings.

Mould growth can be prevented by keeping the R.H. as low as 65 - 75% while bacteria requires lower R.H.

TERMITES

Since most of the drawings are made paintings on paper, textiles and wood more attention is worth paying to the destructive activities of the termites. Species include

1. Tinola (cloth moth)
2. Hofmannophila (Brown House moth)
3. Wood inhabiting species in the family of calotermitidae
4. Those in the family of hodotermitidae which are active in destroying materials containing cellulose, curtainning , clothes, books, tharch, wall paper etc.

- Over 1900 species of termites are distributed over the tropics

- 50 species constitute various threat causing considerate damage to wood and cellulose materials.

5. Species of the families of Rhinotermitidae and Termididae.

To eliminate termite there is need for the study of its life and habitation. This will not be discused here for further details read the book Design for the tropics.

Possible solutions include.

1. Use of chemicals
2. Good Architectural detailing
3. Ventilation of basement levels.

see diagram on Architectural detating.

DETERIORATION OF EXHIBITS.

In the various sections many references were made to deterioration of exhinits in trying to discuss such elements The principal causes of deterioration in the arts galleries include:-

1. Light
2. Relative Humidity
3. Polutants.

4. Light and Relative humidity work together to cause 50% of the deterioration problems in the Galleries. Although the solution to this lie mainly in the hands of the curators much could be saved through good and careful architectural detailing before an architect could do this there is need to know the problems involved and at the same time work hand in hand with the curator in order to produce . Without going into full text of these two aspects which could be read in any book on Gallery designs some studies and recommendations will be mentioned.

RECOMMENDATIONS

Methods of lighting display and ansillary areass and reducing exhinit deterioration described in its report.

1. Reduction of U.V. radiation

a. elimination of the U.V. Component from the lithing
   use of filters over windows and filters over
   (see section U.V.) light

b. Limitation of illumination levels to two

c. defined levels is a means of preserving light sensitive material or exhinits.

d. Reduction of time of exposure.

This and the illumination level give rise to certain average standared recommended.

1. A maximum service value of 50 lux is suggested for such items as water colours, prints etc.
2. 150 lux maximum for oil and temperate painting, wood and lacques.

ILLUMINATION LEVEL

Visual illusion, fading and other forms of deterioration effect in painting are direct functions of illumination both in intensity and duration.

The illutrsation level in the arts galleries affect the visual appreciation of exhibits and could also increase or decrease visual fatilque which is one of the problems eoncountered in the gallery by gallery visitors.

Different types of drawings require different illumination levels. An illumination level which is too light for oil painting and rapestry could be too dull for water colour. Therefore there is need for a compromise between the type of exhibit and the illumination level or intensity is often quantified in terms of lux unit.

Illumination objects Recommended / Valluo of

1. Oil and tempera'

   Paintings, Lacquers 150lux

2. Objects specifically sensitive

   to light - textiles, water

   colours, tapestries, prints

   and drawings, paintings 50lux

   in distemper. Tempera . painting, wood and lacquers.

RELATIVE HUMIDITY.

The rise and fall in relative Humidity consequent on swelling and drying of exhibits copould with light cause warping pilling and faling in exhibits.

Generally 55 + 5 % relative humidity is recommended.

POLLUTANTS.

Air pollution is almost entirely caused by the burning of fuels from domestic, industrial consumption and combustion engines. Most galleries located in industrial areas face this problem of pollutants as experienced by the National Gallery London.

The pollutants include solid, acidic and oxidants.

Solid particulates include aerosols, penticulates, smoke, dust or grit they have diamenters as small as 15-20 microns.

Another type of particulate is that which is given off by New concrete and cement. These are ultrafane particulares at the low end of the range (0.01 microus) which will readily pass the usual air fitters. These particules are alkaline enough to cause damage to hardened oil paint, silk and certain dyes and pigments. Their presence can be detected by passing the air through water. Their effect can be remedied by facing the anterior concrete surfaces or by sealing with a suitable paint or varnish - Toxshi.

Removal of particulates.

This can only be done by full ducted air conditioning so that the whole of the room air passes through the filters. The only alternative is to deal with individual showcases. Electrostatic preciputation (electro-filter) are also effecient in removing particulates but their high ionizing character is a limiting factor.

Dust can be reduced by planting deciduous trees in the path of the wind carrying dust.

The main constitutents of Gaseous pelluttants are sulphur doride for and other inorganic oxides resulting from the burning of organic matters eg fuel, petroleum - coal

For extra studies on Gallery pollution read the Museum environment.

NOISE IN GALLERIES.

One wonders when designers curators get concerned about noise in galleries of visual arts as it is performing arts. The reasons are not far fetched. The gallery visitors not only seek visual comfort or satisfaction of visual curiosity but far beyond this - the knowledge which the art work embodies. Before one can attain this knowledge silence has to prevail. ANDARE TARKOVSK called art the VOICES OF A SILENCE for only silence prevails before knowledge.

LOUIS KAHN - Silence is the beginning of art and he wrote.

> "We cannot therefore, presume that aesthetic consideration exist at the beginning. The beginning of art is in silence"

It is a plain truth that the solution to any problem is always inherent in the problem itself. This implies that if we know the noise - type and source then the solution can easily be found.

SOURCES OF GALLERY NOISE.

1. Noise from conversation between visitors
2. Noise from the gallery floor as the visitors walk along.
3. Noise produced as a result of echoes from walls and and other reflective surfaces.
4. Machine noise from air conditioning plant, fan and ducts.
5. Noise from the kitchen, cafe, refreshment rooms.
6. Environmental noise from authomobils etc.

SOLUTIONS

Problems 1, 2, and 3 . occure in the gallery proper and so can be solved by.

a. The use of sound absorbent materials on wall, ceiling and some reflective surfaces.

b. The floor should be covered with soft material (cape ting, tiles etc) instead of hand concrete cover.

3. Reflective surfaces could be roughened.

With proper location of the Air conditioning and plant room and proper ducting the noise problem in No 4 could be reduced to minimum.

In view of this the air conditioning room could preferably be located in the basement with good access to service route.

The use of centrifugal fans in the duct, circular ducts are some of the ways of reducing noise in the ducts.

Noise sources in 5 and 6 are both external and can be solved by placement of sound insulating materials in the external walls, and interconnecting doors to be treated with good sound insulating materials.

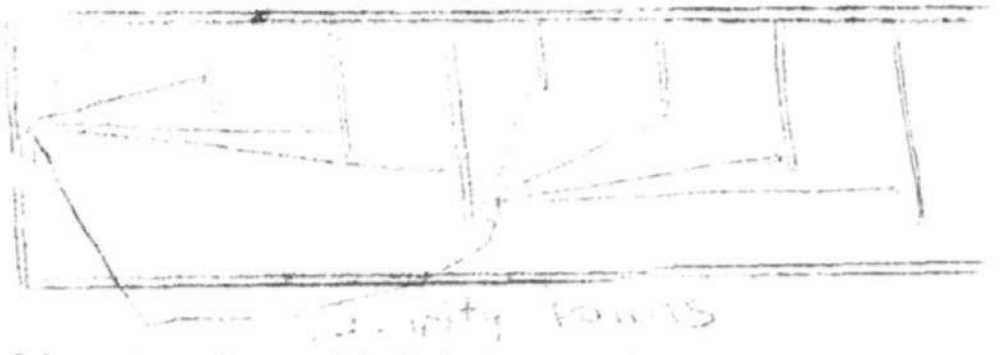
"It is my belief that it is of the very essense of every problem that it contains and suggests its own solutions. This I believe to be natural law" - Louis Sultivan.

THEFT.

Since art work is expensive to acquire the gallery authority needs to spend a lot of energy and resources in ensuring its safety. Although the onus of this lies mainly on the authority good architectural design and display technique can help in reducing cases of theft in the gallery.

Solutions include

1. Positioning of security Guards at entrance and exit to and from galleries and some other important points . Infact the best way is to ensure a visual connection between all security points.



Use of burgular alarm with link to security points.

3. Use of show cases. This reduces cases of theft and at the same time prevents the gallery visitors from fondling the exhibits. However problem of reflection and denial of the sense of touch and feel (perception) are shortcomings of this method.

CHAPTER IV

ARTS GALLERY DEFINITION AND CASE STUDY.

CHAPTER FOUR.

4.1 ARTS GALLERY DEFINITION.

The problem of arts gallery definition cannot be solved without looking at the functions or purpose which the gallery is to serve. Thus it becomes a matter of the perspective from which we look at it-- as an institution or a concept.

However there are attempts to give a general definition and there are some of such difinitions.

- That arts gallery is where contemporary works of arts are exhibited
- That arts gallery is where works of living artists are kept.
- That arts gallery is where works of arts are processed (put into work to use his own words) Shina Yusufu.
- That arts gallery is the recipository for arts work.

The definition of the arts gallery could be better explained in ferm of its role in the society as a creator of cultural awarness education, society enlightenment and the preservation of our art work.

4.11 CULTURAL AWARENESS

As earlier stated any culture finds its visual expression in the arts produced in that cultural society. This implies that through the art works produced within that society the people will be able to know about their culture.

The paintings, graph ics and drawings provide a visual explanation to what cultural elements exist within that society.

It is pssible to tell of any artist about his origin and art through the arts he produces. For example most of the products of the Ahmadu Bello University art school produce paintings depicting the Northern culture like the Durbar, the beggar etc. The terra cota of jos depicts the Nok culture etc.

4.12 EDUCATION

The place of Arts gallery in our educational programme cannot be overemphasized. The arts gallery could educate the public through the organisation of workshops, lectures, symposiums and art films. This is not important to the students of art alone but to the whole people around since it is necessary for everyone to be aware of his cultural heritage which could be derived from the Gallery.

Apart from the points enumerated above the gallery offers tremendors assistance to people who want to widen their knowledge of art through the exhibits on display in the galleries. This inclu artists, historians, laymen, Resturers etc.

4.13 PRESERVATION OF ART WORK.

One of the principal goals of the Gallery is to preserve the arts works acquired. Due to the expensiveness of artworks it is an expensive risk for any Gallery organisation to neglect the preservation of the works it has acquired.

Several methods are adopted after the realisation of the cuases of detenoration of artworks. This aspect is treated under deterioration (see chapter three)

The gallery also maintains a good restoration Unit to restor any work that must have been damaged as a result of rough handling or deterioration.

4.21 ARTS GALLERY IN THE COUNTRY.

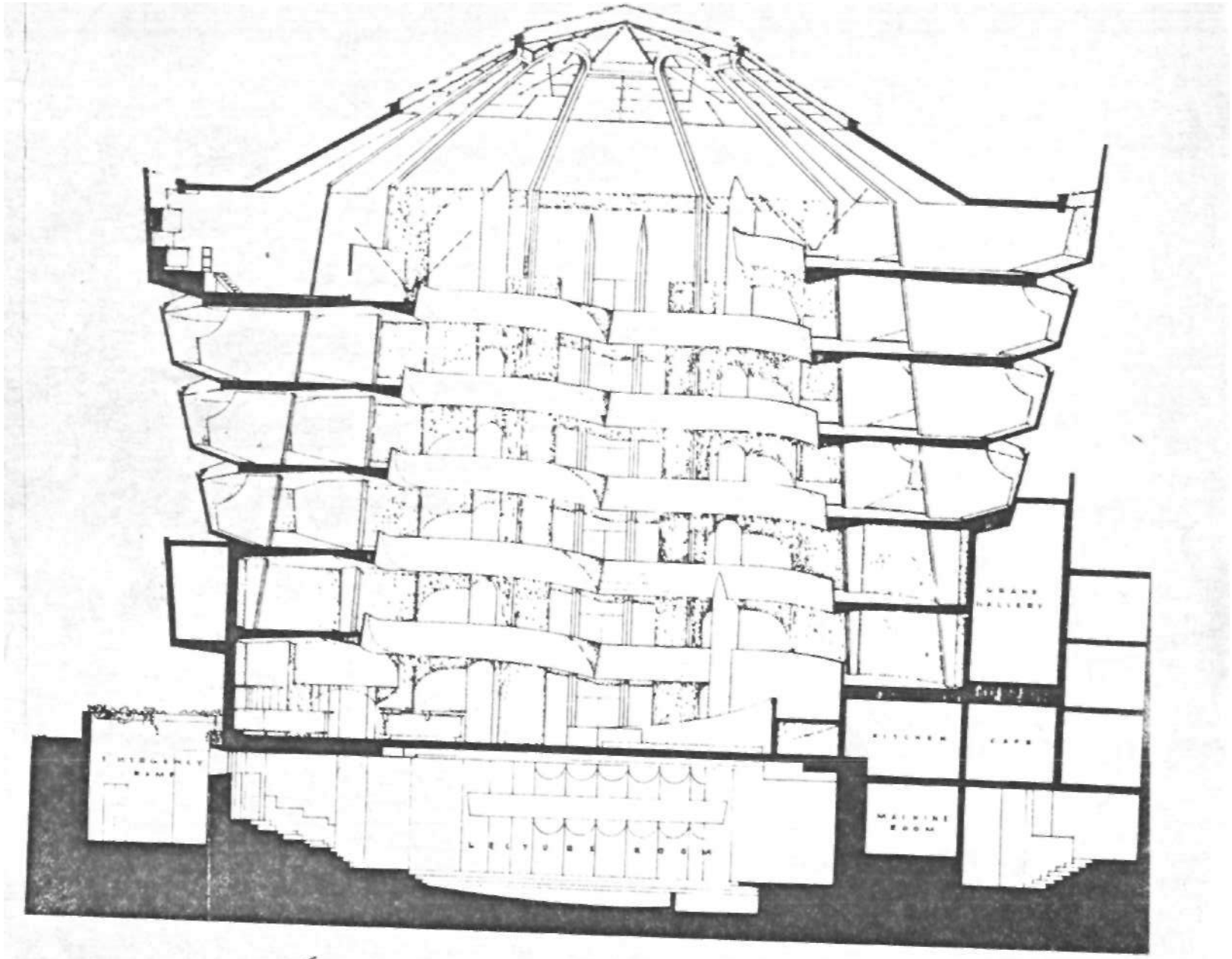
If there is any part of our life that is highly neglected it is the visual arts thus it will not be suppining to note that there is no arts Gallery in the country apart from the temporary one in the Ne National theatre and some small private galleries littered about in small officces - private rooms etc. Such private galleries include the Gong gallery housed in a small office in tafawa Balewa square Lagos.

The Temporary Arts Gallery was born in 1974 after the Great Festival of Arts and culture FESTAC). Some artist suggested that some of the artfacts exhibited during the festival could be bought and kept. One of the agitators is Mr. E.O. Oqunsimo who has been the Gallery manager.

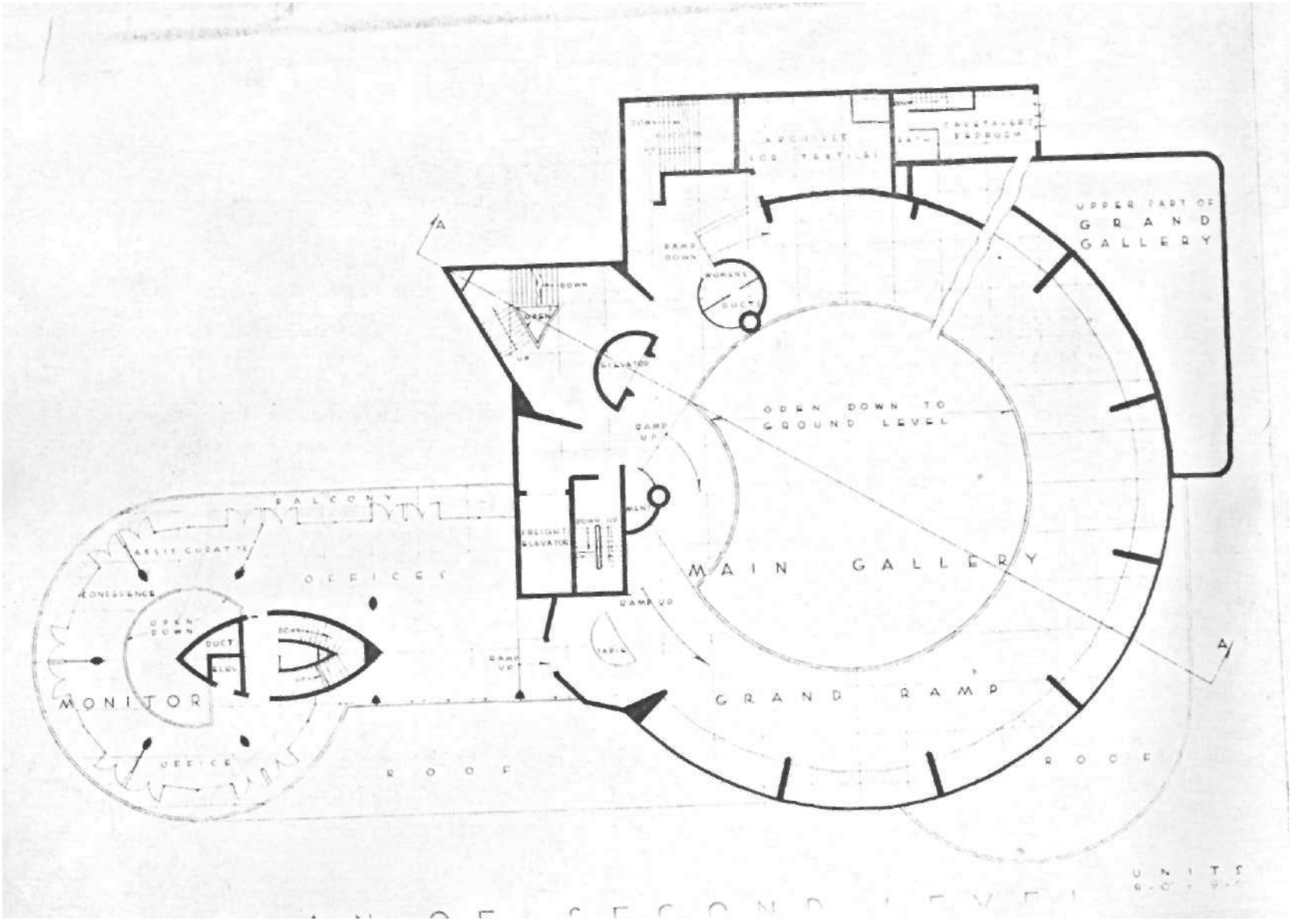
The Gallery is housed on two floors linked with a stair case.

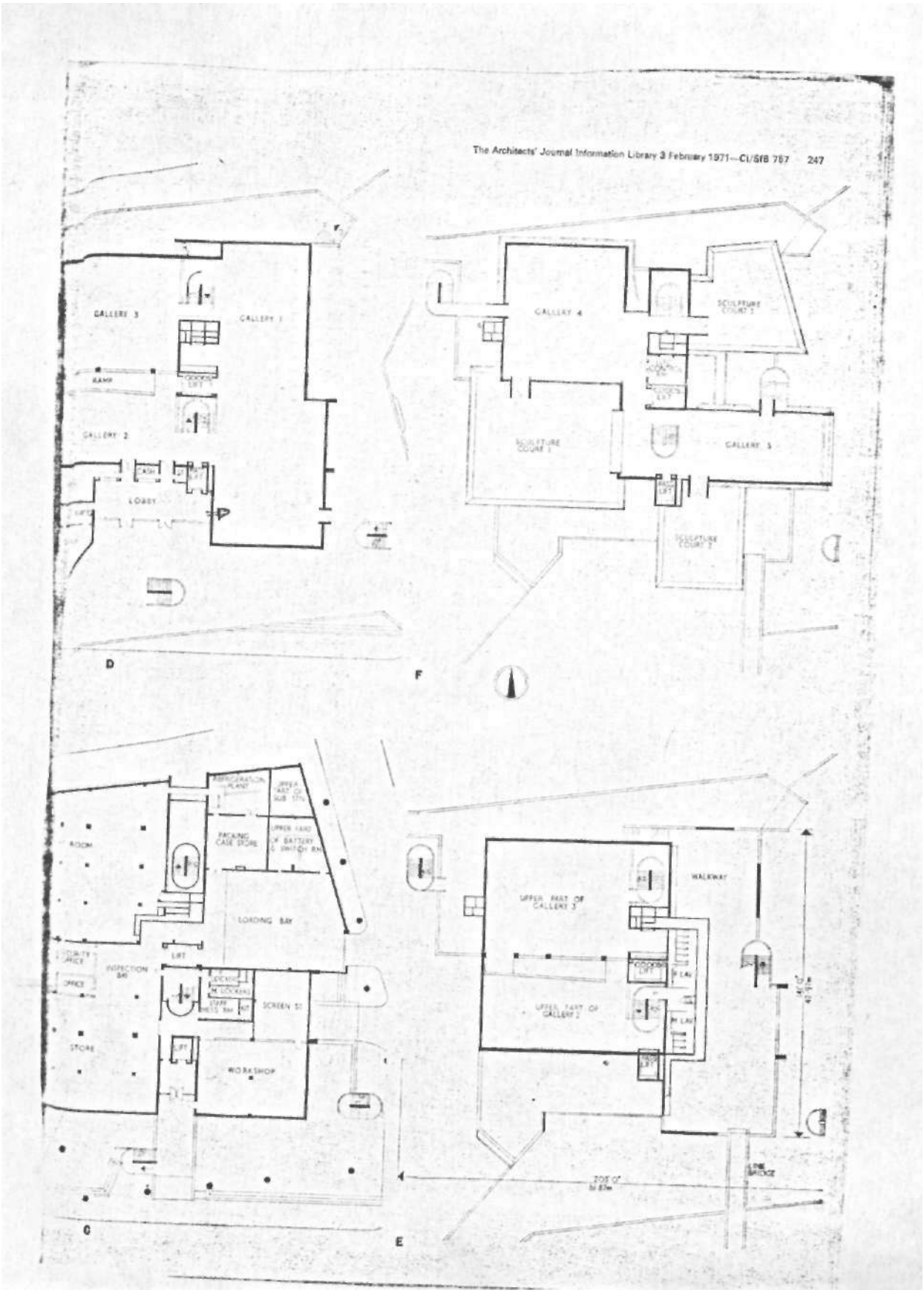
The first Gallery overlooks the court in front of the entrance A. This houses the work of Nigerian artists. On the second floor which is gallery number two are located the portrait gallery, gallery of Nigerian heroes, gallery of foreign arts, and graphic arts.

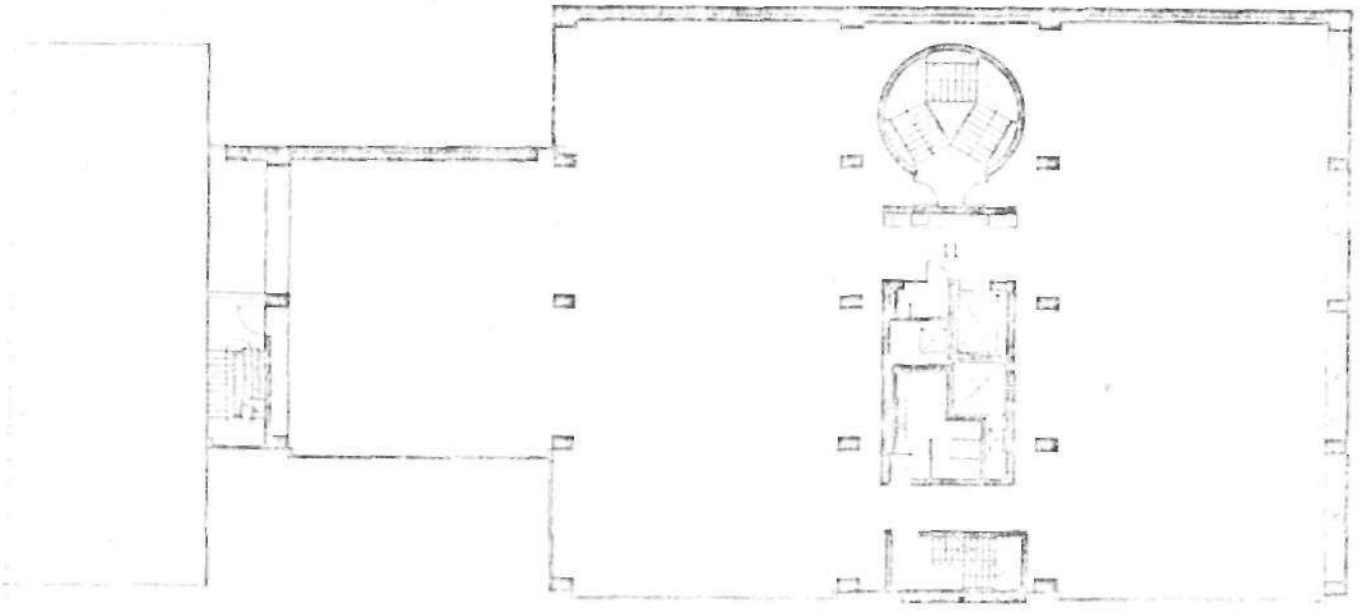
Since it is a temporary gallery and most of the internal construction were still in progress at my time of visit one cannot criticise the gallery so much.



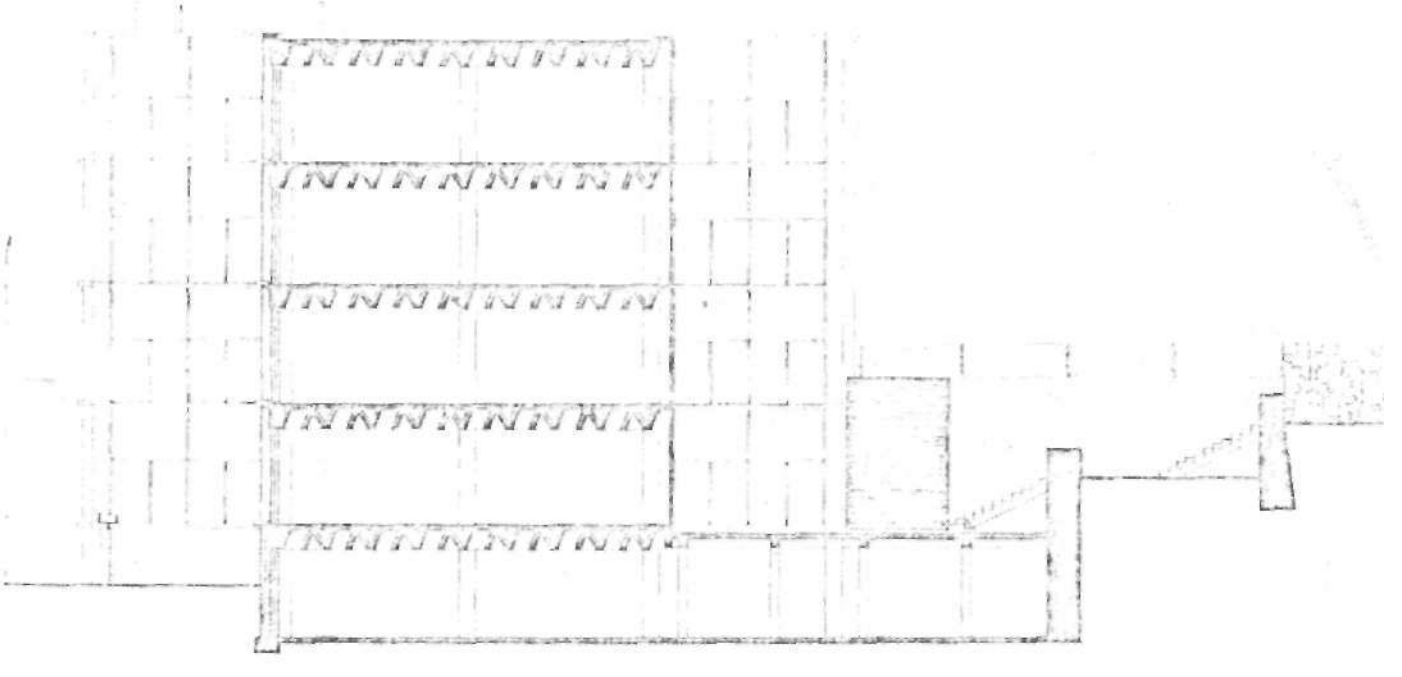
GUGGENHEIM MUSEUM OF MODERN ARTS
BY FRANK LLOYED WRIGHT.


UPPER PART OF
GRAND
GALLERY
OPEN DOWN TO
GROUND LEVEL
MAIN GALLERY
GRAND RAMP
OFFICES
MONITOR
ROOF
ROOF
A
A


GALLERY 3
GALLERY 1
RAMP
GALLERY 2
LOBBY
D
GALLERY 4
SCULPTURE COURT 2
SCULPTURE COURT 1
GALLERY 5
F
REFRIGERATION PLANT
PACKING CASE STORE
LOADING BAY
INSPECTION BAY
SCREEN 51
STORE
WORKSHOP
C
UPPER PART OF GALLERY 3
WALKWAY
UPPER PART OF GALLERY 2
E



KAHN KIMBELL'S



CHAPTER V

OBJECTIVES, BRIEF, SPACE ALLOCATION

CHAPTER FIVE.

5.1 Gallery objectives and functions

1. To serve as repository for artistic creation
2. To promote the creative Genuis in Nigerian art and that of the state in particular.
3. Tp promote research, art education and recreation.

FUNCTIONS

1. To acquire and collect Nigerian works of art, Mainly, paintings, Graphics, sculptures etc.
2. To organise art competitions
3. To organise workshops, lectures, seminars and conferences.
4. To maintain a documentation centre on art and artists.
5. To increase circulation of art works and increase revenue through the reproduction and sale of post cards subject to the copyright law.
6. To serve as a recreation as well as a tourist centre
7. To serve as an exhibition centre for local and international exhibitions either by individuals or Group.

5.3 SPACE ALLOCATION

Area of land available = 3 lectures.

Anticipated total number of collection: 3000

Total number of exhibits to be displayed at a time = ¼ of the total= 75

(This recommendation was made by the Gallery manager, National theatre Lagos)

With a gallery width of 10m and a maximum hanging height of 5.4m and with the use of the method of visual angle the following spaces are are required for the exhibits.

EXHIBITS	TOTAL	NO EXHIBITED AT A TIME	AREA/ONE	TOTAL AREA REQUIRED
Painting(large)	1000	250	$3m^2$	$750m^2$
Sculpture	500	125	$6m^2$	$750m^2$
Portraits	250	62	$1.5m^2$	$93m^2$
Graphics	500	125	$3m^2$	$375m^2$
Nigerian Heroes	100	100	$3m^2$	$300m^2$
Foreign Arts	650	162	$3m^2$	$486m^2$
TOTAL	3000	724		$2754m^2$

MUSEUM OF MODERN ARTS

COLLECTION ¼ of collection in the Galleries

EXHIBITS	TOTAL	NO DISPLAYED AT A TIME	AREA/ONE	TOTAL AREA REQ.
Paintings	250	63	$3m^2$	$189m^2$
Portraits	63	16	$1.5m^2$	$24m^2$
Graphics	125	32	$3m^2$	$96m^2$
Foreign arts	163	41	$3m^2$	$123m^2$
TOTAL	601	153		$432m^2$

TEMPORARY/TRANSIENT EXHIBITION SPACES

Exhibition Hall 1 = $251.30m^2$

Exhibition Hall 2 = $78.5m^2$

OUTDOOR EXHIBITION

EXHIBITS	TOTAL NO	AREA/ONE	TOTAL AREA REQUIRED
Sculptures	100	$6m^2$	$600m^2$

GALLERY ADMINISTRATION

Gallery mangger		$12m^2$
Assistant Gallery Manager		$8m^2$
Curator		$8m^2$
Gallery exhibitioner 1		$8m^2$
Gallery exhibitioner 2		m^2
Artist	1	$4m^2$

General office = $16m^2$

Total = $56m^2$

MOSEUM ADMINISTRATION

	POPULATION	AREA REQUIRED
Curator	1	$12m^2$
Assistant curator	2	$8m^2$
Museum Exhibitioner	2	$8m^2$
Assistant Museum exhibitioner	1 3	 $8m^2$
General office (typist/ clerks		$16m^2$
Total		$56m^2$

TEMPORARY EXHIBITION ADMINISTRATION

	POPULATION	AREA REQUIRED.
CHief exhibitioner	1	$12m^2$
Exhibitioner	2	$3m^2$
Assistant exhibitioner	5	$20m^2$
Exhibition technicians	2	$8m^2$
Attendants	10	
General office (Typist/ clerks	3	$16m^2$
Messengagers/security men	10	
Total		$68m^2$

RESTORATION UNIT

	POPULATION	AREA.
Restoration lab	2	$30m^2$
Restoration officer	1	$12m^2$
Restorers	2	$12m^2$
Lab technician	2	$8m^2$
Lab attendants	4	
Typist Clerk/Messengers	4	$16m^2$
TOTAL		$78m^2$

DOCUMENTATION UNIT

Administrations	$30m^2$
··lies	$30m^2$
Equipment Room	$20m^2$
TOTAL	$80m^2$

REPRODUCTION UNIT

	POPULATION	AREA REQ.
Departmental head	1	$12m^2$
Assistant departmental head	1	$8m^2$
Reproduction lab	2	$30m^2$
Artists	2	$8m^2$
Typist/clerk messengers	4	$16m^2$
TOTAL		$74m^2$

WORKSHOP UNIT

	POPULATION	AREA REQUIRED
Sculpture workshop	1	120m^2
Clay store /lab		
Painting workshop	1	60m^2
Graphics workshop	1	12m^2
Workshop manager	1	12m^2
Typist/clerk/messenger	3	8 m^2
TOTAL		212m^2

EDUCATION UNIT

	POPULATION	AREA REQUIRED
Chief Gallery		
Education officer	1	12m^2
Gallery Education Officer	1	8m^2
Assistant Gallery		
Education Officer	1	8m^2
Class rooms	2	80m^2
Clerks/Typist /messenger	6	16m^2
Photographic studio	1	16m^2
Printing room	1	16m^2
Equipment room	1	16m^2
TOTAL		172m^2

LIBRARY UNIT

	POPULATION	AREA REQUIRED
Librarian	1	$12m^2$
Assistant librarian	1	$8m^2$
Library Attendants	4	$16m^2$
Typist/clerks/messenger	4	$16m^2$
Reading area	60 readers	$120m^2$
stack area	(38 vol/m^2	$48m^2$
Library store		$60m^2$
TOTAL		$180m^2$

ARCHIVE UNIT

	POPULATION	AREA REQUIRED
Chief archivist	1	$8m^2$
Assistant archivist	1	$4m^2$
cold film room	1	$16m^2$
Achive reading		$30m^2$
Achive stacks		$16m^2$
Achieve store		$16m^2$
TOTAL		$90m^2$

GENERAL ADMINISTRATION

	POPULATION	AREA REQUIRED
Zonal director	1	$24m^2$
Assistant Zonal director	1	$12m^2$
Secretary	1	$12m^2$
Assistant secretary	1	$8m^2$
Chief executive Officer	1	$6m^2$
Assistant chief executive officer	1	$6m^2$
Staff Executive Officer	1	$6m^2$
Staff Officer	1	$6m^2$
Chief Accountant		$12m^2$
Accountants	2	$8m^2$
Accounts clerks	5	$16m^2$
Cashiers	3	$8m^2$
Clerks /typists/messengers	10	$24m^2$
Conference room		$30m^2$

THEATRE UNIT

	POPULATION	AREA REQUIRED
Theatre capacity	250	$300m^2$
Theare technician	1	$6m^2$
Open air theatre	300	$400m^2$
TOTAL		$706m^2$

CATERING UNIT

	POPULATION	AREA REQUIRED
Restaulant (capacity)	60	$90m^2$
Refreshment (Rooms)		$30m^2$
Kitchennet		$40m^2$
Kitchen store		$20m^2$
Facilities		$16m^2$
TOTAL		$196m^2$

MAINTAINANCE UNIT

	POPULATION	AREA REQUIREE
Worskshops	2	$60m^2$
Plant and Air conditioner		$160m^2$
Equipment store		$30m^2$
Maintainance officer	1	$8m^2$
Assistant maintainance Officer	1	$6m^2$
Technicians	2	$8m^2$
Clerk/Typist /Messenger	3	$8m^2$
TOTAL		$250m^2$

SECURITY UNIT

	POPULATION	AREA REQUIRED
Security officer	1	$8m^2$
Security men	50	
Security officer		$12m^2$
fire officer	1	$8m^2$
fire men	25	
TOTAL		$28m^2$

STORES

	POPULATION	AREA REQUIRED
Gallery store	¼ of Gallery space	$688m^2$
Exhibition store		$200m^2$
Museum	Store = ¼ of exhibition space	$108m^2$
General store		$60m^2$
Store Administration		$38m^2$
TOTAL		$1004m^2$

OTHER FACILITIES

Childrens playground	$250m^2$
parking spaces for 100 cars	$200m^2$
Water pools	
Resting places	
Fountains	
Toilets	$100m^2$

CHAPTER VI .

DESIGN CONSIDERATIONS

CHAPTER SIX.

6.1: DESIGN CONSIDERATIONS

The design evolved from the consideration of the three fundamental principles in design viz the operational, aesthetic order and the structure

6.11 OPERATIONAL

The main activities in the gallery are:-

1. Permanent Exhibition - The Gallery
2. Transient exhibition-The exhibition Halls.

THE GALLERY

Since the main activity in the Gallery is exhibition and principally aimed at communicating (visually) to the Gallery visitors it is worth looking into the type and quality of the exhbition method and their effect on the architecture. The exhibits as well as the methods employed in the display has a lot on the visitors both in terms of physically and psycologically.

Most of the problems in the gallery are physical and mental fatigue on the gallery visitor resulting from:-

- The position of the paintings
- The lighting effect
- The route taken
- Unnecessary partitioning.
- The language of display -

THE POSITION OF THE PAINTINGS.

CONTINUITY.

- "Exhibition should unrol step by step logically and chronologically without signs and arrows"
- The visitor should move freely and at his own pace
- Blank walls and partitions which obstruct continuity should be made away with
- Rest places reduce physical and visual fatigue.
- Visual connection with the outer surroundings releases the visitor from psychological boredom.

"The visitor must be able to relate to nature momentarily from time to time to actually see at least a small slice of foliage, sky, sun water" - Louis Kahn.

- Continuity should be both horizontal and vertical when there is change in level.
- Maximum use of wall area.

LIGHTING

The main sources of lighting in the gallery are the natural and artificial means.

NATURAL LIGHTING

Although there are galleries which are solely lit artificially most curators and gallery manager advocate for natural lighting.

Natural light should play a vital part in illumination , ... And the effect of changes in weather, position of the sun, season, must penetrate the building and participate in illuminating both art and observer" - Kahn.

In lighting the gallery the confort of the visitor is also put into consideration ie in deciding on the type of lighting to employ.

"Lighting also has an effect on the visitors state of mind, The desiddrata for the lighting of an arts gallery are not only to make the best of the exhibits, but also to create an atmosphere of comfort that will invite the visitor to leisurely inspection."

The position of openings for natural lighting has a lot of impact on the style of the design.

" The direction of the light has a great influence on the overall architectural design, If overhead lighting is chosen the exhibition sector can cover only one floor, When side lighting is chosen, the depth of the building from back to front is limited and if a north light is prefered it is impossible to avoid a stereotyped posititioning of the building from the initial stage on wards, therefore, it is necessary to study the content of the collection in order to examine the various possibilities for lighting technigues"

Lembruck.

There are two ways of admitting natural lighting into the gallery viz:-

1. Through the roof-lighting from above
2. Through side windows - side lighting. Each one of these has its advantages and disadvantages

1. Roof lighting.

Advantages

a. It ensures maximum use of side walls

b. The same general source of light by day and by night

DISADVANTAGES.

1. It permits only one floor exhibition
2. Causes reflection from head of visitors and showcase: tops.

SIDE LIGHTING

DISADVANTAGES

1. It reduces the wall area for exhibition
2. It causes glare as it comes directly into the eyes of the visitor

POSITION OF LIGHT AS IT AFFECTS PERCEPTION

1. Light directed along the same ar as the line of vision gives no contrast and makes perception of space more difficult
2. Light comin obliquely from above and from the side in relation to the line of vision facilitates perception
3. Light coming directly from above projects heavy shadows and disturb perception.

Since we require a lot of wall area for hanging the paintings lighting -

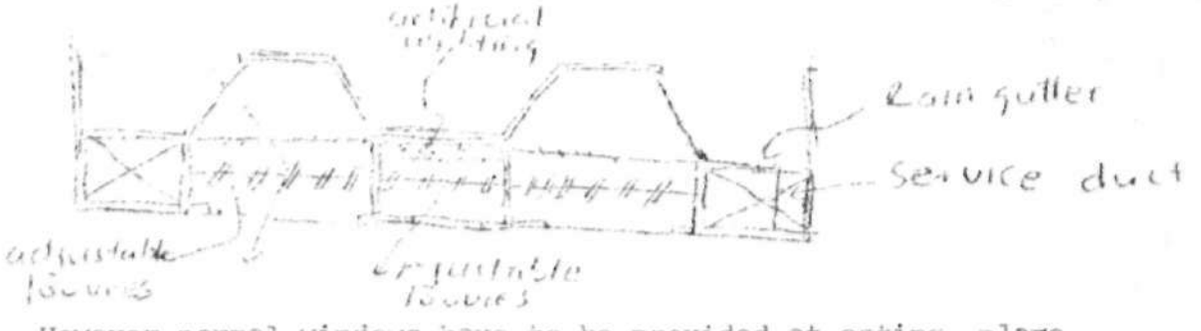
From above seems to be more suitable if well treated.

Treatement includes:-

1. The use of thermolux glass to reduce the colour rendering resulting from some pigments in day light
2. Use of acrylic filters to remove ultra violet rays
3. Use of movable reflective louures to direct the light to the pain paintings on the wall thereby reducing the glare coming from showcase tops and visitors heads.
4. Use of polyvinyle louvres to diffuse the light.

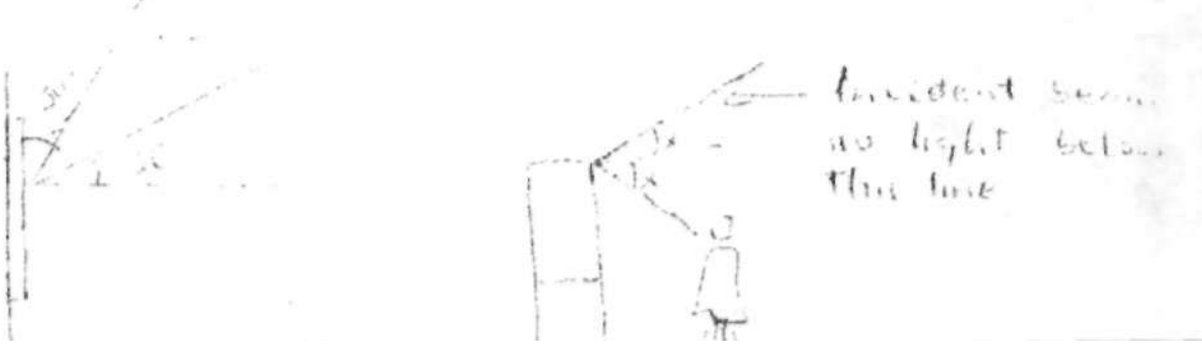
Attempt has been made to combine the artificial and natural lighting so that there can be one source of light both day and night. The heat generated will be removed by ducts into the plenun system.

see fig 6.11

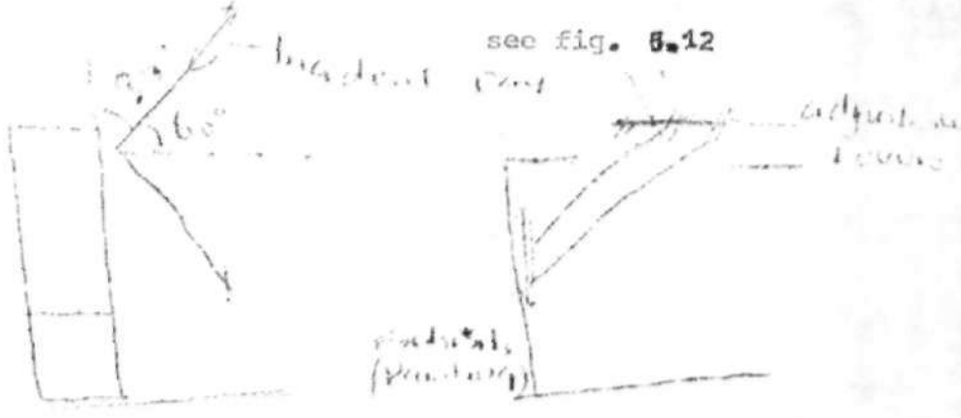


However normal windows have to be provided at esting place.

ANGLE AT WHICH LIGHT FALLS ON EXHIBITS.



The angle at which light falls on the paintings is also important An angle of 30° has been reccomended



see fig. 5.12

Since the effort is geared towards providing maximum exhibition surfaces the height of the building is also determined using the concept of visual angles. The normal eye has a vertical visual angle of 54. see fig 4:111 height in the gallery is 6.5m while the optimum is 3.6m for a gallery width of 10.00

Since most drawing are abnormally tall the designer decided to make provision for the maximum hanging height of 6.5m and 1.5m for services. Thus the total height is 8m.

EXHIBITION SPACES AND ROUTES

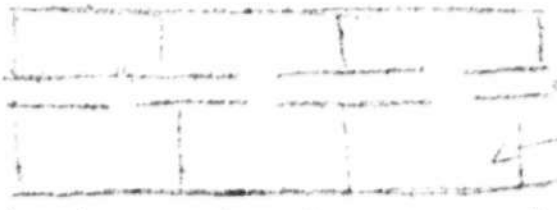
The arrangement of exhibitions spaces and routes has some important effect on the architecture of the gallery.

In this s tion we would look at possible arrangement of exhibiti spaces and the routes and the effect on the design.

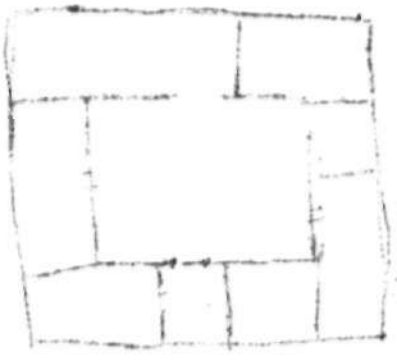
1.: Central horizontal spine with exhibition spaces on one side.



Central horizontal spine with exhibition spaces on both sides.

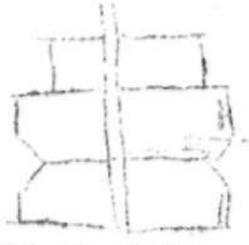


Central copular (Circular, rectangular or square) with exhibition spa around it as in the National Gallery London.



In any of these cases there is the advantage of maximising the use of natural light since the exhibition space is on one level. However the monotony in horizontality resulting from lack of change in level is one of the drawbacks.

2. Vertical central spine with the exhibition spaces around and assesible from the spine .



Lift or staircase.

The drawback of this is the break in continuity as one changes level without any visual connection. Also problem of natural lighting to other levels is there.

3. Use of ramp with the exhibition spaces along the ramp as one moves along. This can be seen in the Gughenhein modern Art museum designed by FRANK LLOYDD WRIGHT. See fig 6.13.



Fig 6.13

This seems to be one of the best ways of distributing the exhibition spaces and route if the problem of lighting can be properly solved.

In this case the designer has combined both horizontal and vertical movement and ensures continuity in display of exhibits. The visitor unconciously change direction both horizontally and vertically without any undue psychological fatique as would have been the case if only one of this is used.

DISPLAY IN THE GALLERY

The functional, easthetic order and the strength of the arts gallery is appreciated only when the visitors obtains the satisfactio he needs when he entres the gallery. This however depends on the display technique employed without which the gallery will only be a functional box devoid of any life.

For any good setting of the exhibits a good background knowledg of the purpose of the exhibition is necessary.

There are many forms of exhbitions viz

- For educational purpose
- For compentition temporary
- Normal exhibition- permanent.

In each of the cases the aim is to communicate to the visitors the artists intensions - the art produced is the visual expression of artists inner emotions.

To be able to do this we should be able to know who our visitors are and then decide on the language to use.

There are two processes involved in the gallery communication syst viz: encoding and decoding.

The gallery exhibitors encode the paintings while the visitors decode it and the sucess of the desplay technique lies wholly on the agreement between the two.

It istherefore worth enumerating the classes of visitors their interests and formally look at the means of communications to use.

TYPES OF VIEWERS

1. The laymen:- This group constitute non-artists. They view a painting with perhaps the greatest detarchment, usually basing their assesment on the old cliche "I don't know much about art, but I know what I like".

2. The second group comprises of the critics. The critic views with some preocupation. His thoughts are concerned with writing erudite comments or withy reactions.

3. The third group is that of the historians.
The historian look for clues to periods and events through dress or significant detail.

4. Artists: The artist views with an appraisal of the technique and the application of paint.

5. The restorer will inspect a picture at close range, looking for signs of deterioration. He will scrutinize the paintings in a mose to canvas position for previous damages and overprint.

6. In the group of laymen their are illiterates who cannot read nor write and so depend on their eyes for interpretation or decoding.

7. The last group includes professionals who are non artists. These seek for the areas that concern their descipline. The architect will look at the form and beauty of the design the engineer at the structure etc.

In the gallery the main exhibits are paintings which need visual explanation rather than long literature. The bulk of viewers can be simply broken down to laymen, scholars and artists.

It has been found that too much lterature on the exhibits bore the viewer.

The following recommendations were made and could be of vital importance for anyform of art exhibition.

- The layman needs visual explanation of art in terms of the material itself thus employment of different languages to explain the art may not be necessary.
- Dramatic lighting, assymetrical installation with much rest spaces, a short pithy title and a completely non-technical condensed text are "musts"
- By means of assymetrical installation a feeling of intinacy and emphasis can be achieved.
- Since exhibition includes reproduction still life objects etc. The installation has to be fluid.

- Rigid rules about eye level heights or conventional symmetry can be avoided.
- The varied objects must be arranged and installed for comfort and beauty.
- A title which catches the public imagination is a good idea. For example an exhibition titled FROM NATURE TO ART" explains visually how and why the artists distort.
- Large letters integrated architecturally with the objects on the walls so that one reads as one looks.

Descriptive rather than emotional adjective which are too personal are better.

- Comparative method is also an effective visual technique
- Integration of art objects from different periods oriental, decorative etc.

Audience participation is necessary such as allowing the visitor to detect the effect of light on some of the objects.

- Good proportions, intelligent use of colour and variety in both scale and form are justifiable means of obtaining a dramatic presentation.
- Explain what can be explained visually and avoid convering the history or biography of the artist.

Ref. Museum (UNESCO Publication) Vol.1 ½)
Subject: Explaining art visually

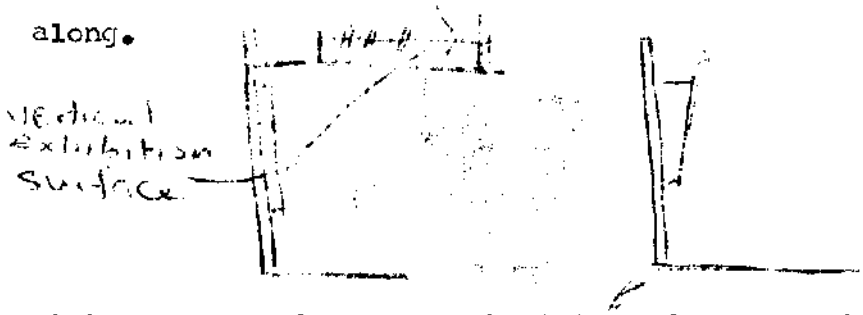
Which ever method is adopted the basic aim is to interest and educate. The intension therefore shouldn't be to keep the visitor balancing from one foot to the other as he absorbs literary ideas about art, but to allow him to move with comfort and ease, learning about art in its own visual language.

Although a factual statement coupled with its visual example can sometimes tell too little or too much. Nuances, substleties, pros and cons are apt to be lost, but this danger can be greatly di diminished by careful wording in the brief test.

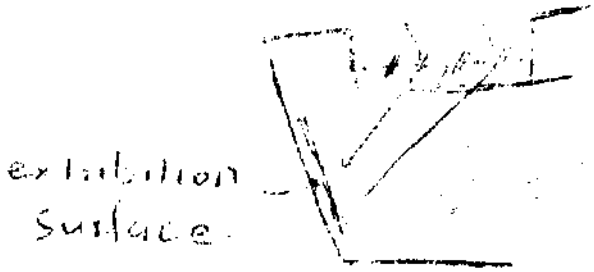
(for further reading see mussee vol. xiii.

PSSIBLE DISPLAY SURFACES.

The main display surfaces in the gallery are the externall w[illegible] of the ramp. However there temporary exhibition stands as one mov[illegible] along.



Pictures hung high up are bent to reduce upward movement of the eye. In the exhibition halls the walls are stanted to reduce visual factigu[illegible] in the vertical direction.



"Exhibition of paintings on stanting walls give a different and bett[illegible] viewing. It is too demanding and tiring when the eyes view only in vertical planes"

Ref. Extract from Museum in Kaduna M.Sc.
Thesis by Dairus Ishaku.

The exhibition consideration coupled with lighting requirements has made the designer to adopt.

Continuity - THE RAMP

LIGHTING - THE COMPOSITE ROOF LIGHTING SYSTEM.

6.2 ENVIRONMENTAL.

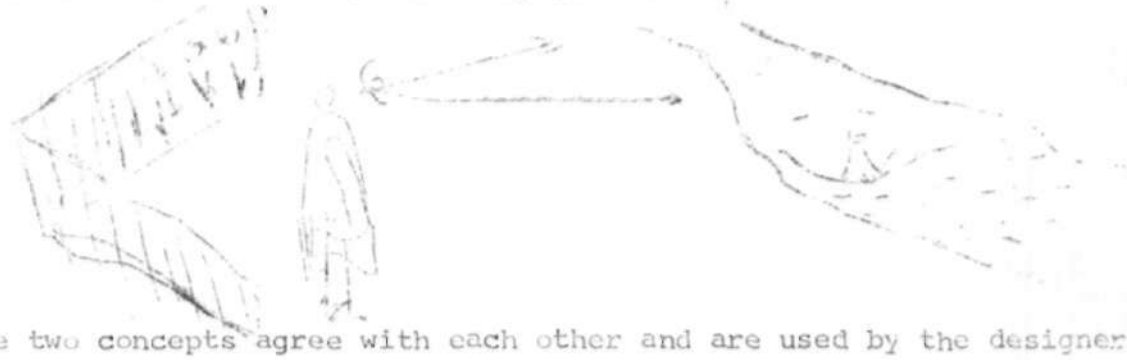
The space concept is not the inner podium alone but the surrounding spaces and the relationship between the objects in the space.

The designer derives its space concept from the architecture in the area - space organisation) and the practical application of the hodological research.

These two aspects have been treated in the chapter "related studies").

The spartial organisation of buildings in Benue State - a circular form with the buildings arranged around a central courtyard in which it stands at the centre a family living house.

The general principle of the hodological research is that people have the desire to have unustructed views over an open area combined with visual cover in the back. See fig 6.22 .



These two concepts agree with each other and are used by the designer final concept.



Fig. 6.23.

6.3 STRUCTURAL AND MATERIAL CONSIDERATION.

Material and structure have a profound influence on architecture. Each material and each structure has its own characteristics and architectural possibilities which if truly understood and mastered, its inherent order percieved becomes a means for the embodiment of an architectural conception.

> "No contradiction should exist between architecture and structure, the two should be in harmony, the structure while in itself not architecture, can be a means of architecture if the builder understands the organic principles of order which relates every part of the building to the whole according to its importance and its value"
>
> - Mies Van de .. he

Architecture which is the will to form results from two types of elements viz: The rational and the irrational.

The purpose of the building the materials and structure employed constitute the rational elements while the irrational elements consist of the emotional aspect which - gives rise to the spiritual urge. The two types of elements are interdependent for without the rational factors architecture will be nothing but an empty play with forms; conversely without the irrational, the architecture is only a kind of engineering. The problem therefore is how to give each its proper place, to balance both according to requirements and possibilities.

To archieve continuity flexibility, and openess in design the designer has made the structural elements different from the in filling panels.

Brick architecture: Brich is naturally beautiful and it is normally employed where there is need for material expression since it needs no renderning.

Concrete architecture: Increase in technology and scarce manual labour led to the discovery of the concrete and the reinforced concrete. Most of the buildings in the present time use this material since it gives them the pssibility of performing architectural wounders such as cantelevers, spanning of wider spaces. It gives (the feeling of structural permanence and order possibilities of architectural expression.

Strong sculptural character can also be achieved using this concrete material.

Glass architecture: This indiccates the play of relfection.

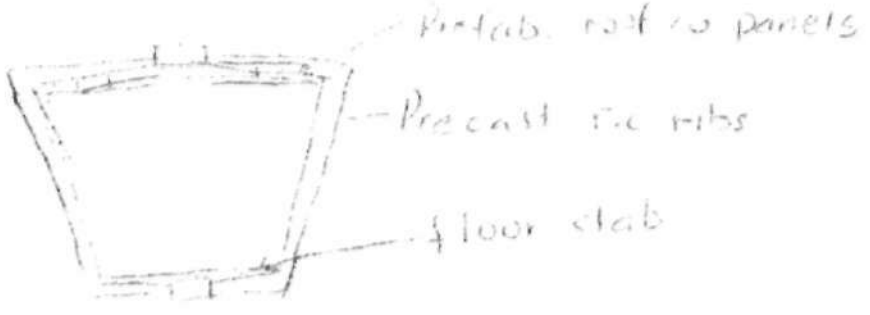
One or more of these materials could be employed to achieve any expression we want. The designer has in effect employed the reinforced concrete and glass to express the sculptural character of the design.

Apart from " the consideration of their characteristics availability has to be considered as well.

Benue state has abondant supply of cement due to the presence of the cement factory in Yandev.

There is freedom to choose any structure or material but once chosen, there is freedom only within its limitations.

To discover these limitations and to develop the structure accordingly is the requisite of any architectural work.



Structural elements.

6.4: THE ARTS GALLERY AND AESTHETIC.

The form and siting of arts galleries have taken new dimension. The traditional belief that an arts gallery should be a historical, cultural warehouse or monument and that it should be sited on cultural and historical sites are obsolete.

The more logical means of determining this is probably the function of the gallery- an institution or a concept.

The whole thing lies on the choice of the architect, whether to maintain the old belief or to make a diametic .move - to embrace the new idea.

However whichever way is taken the fundamental principles of architectural design have to be maintained; which are Convenience, beauty and strength.

CONVENIENCE - the operational/functional aspect of the galleries

BEAUTY EASTHETIC ORDER - the suitability of the form/shape of the design.

STRENGTH :- The material structural lifeability of the design

Although the advocates of form must follow function would prefere any building for their purpose as long as it satisfies the operational aspect of the design there is need for some easthetic order particularly in an arts Gallery because the essence of art is beauty - the two are quite inseparable.

The idea is to striks at a balance between the three for the domination of one over others may lead to a faceless or extravagent architecture "The faceless, purely functional warehouse style is as unsuitable as an obsessive and extravegent preocupation with form" - Arc. Lombruck

However there is need to put some life into the building ior too. mechanical a concept makes the building lifeless, proper only to the lifeless machine.

Although it is not out of place to house the relics of our pasts in historical buildings it is the designer's view that it is sad and outrageous to commemorate the art of the twentoth century with an empty monumental gesture. Thus monumetnality will not be the best answer here.

Any contemporary art speaks of its epoch but the character of an epoch is epitomised in its building. In them, its spiritual and material resources find concrete expression and, in consequence, The buildings themselves offer ineffitable evidence of inner, order or inner confusion[1]

There is ne d for a change from the outmode prejudice which demands a classical setting for ancient works of art as though their venerable dignity would suffer and their aesthetic value be diminished if they are placed in modern surrounding.

1. Ref.
Jacobus on aesthetic and art.

"The building is not only an art warehouse but the architecture of an arts gallery might contribute positively to the spectators appreciation of the airtifacts it houses, that an inspiring environment might catalyse a deeper reaction to them.[1]

However, whichever concept is adopted in both style and form which should be governed by the creative inagination of the designer. architectural interest must not be an end itself but should be subordinated to the purpose in view.

---

1. Ref. Arts International a paper on (the gallery as an alternative space.

6.5 SHAPE OF THE ARTS GALLERY

The visual artist uses lines and shapes to express his inner emotions. Lines and shapes have their visual conotations and these create some feelings in the visual artist.

Before any shape can be adopted it is worth looking at its visual properties Besides, if harmony is to be achieved between the exhibits and the structure that houses them, the basic Principles of artistic creativety has to be understood.

The basic principles in any artistic creation is distortion The graphic artist distort lines to obtain the figures he wants. The painter does the same thing producing so many lines and in so many times to bring out what he wants. The artist on the stage distorts his body, facial expression from time to time to get the appraisal of his audience. Thus the background of any artistic performance both visual and auditory is distortion.

If any attempt is made to bring out the basic or dorminant shape in a painting the result will be a series of loops intersecting severally at points. This is one of the characteristic of distorted symmetry. The complexity of the lines can only be understood by the artist.

In architecture however there is need for simplicity even when we want to apply the principles of distortion.

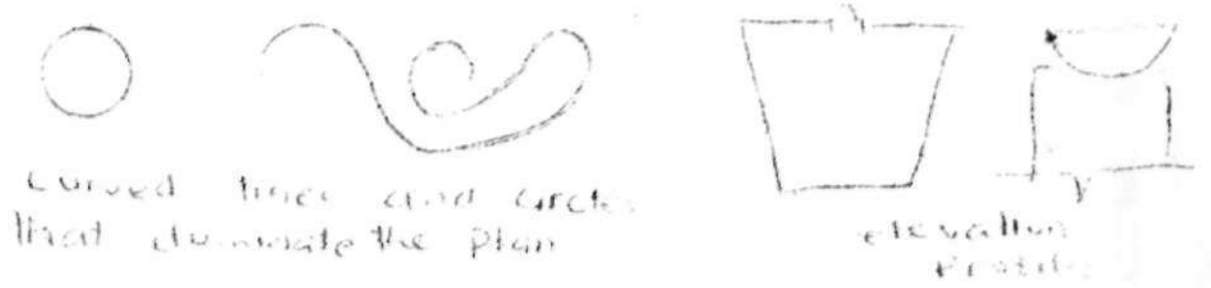
This is why when we take up any design, we are able to analyse the shape and form used.

The various lines and forms have been explained in the chapter "relevant studies" and so in this section the designer will explain only those he has employed. in his design.

From the exhibition consideration the design has to be fluid and so rigidity in form and shape will not be the answer.

It has been found that the forms and shapes that convey this visual expression of fluidity are curved lines and circles. (see chapter 3).

The circules and curved lines are the dominants shapes and lines in the plan. This is also extended to the elevations. To give vitality to the whole design slanting diagonal lines are applied. See fig.



(continuity, fluidity smoothness) (vitality

The application of circles and curves go beyond the main body of the design. It is also applied to the landscape using the curved lines to define pathways. This in effect create some interesting patterns defining, packing spaces, resting, outdoor exhibition and playing areas.

- see site plan.

CHAPTER VII

DESIGN.

CHAPTER SEVEN.

7.1 DESIGN

The objective of all creative effort in the visual arts (architeture is in the group of usual arts) is to give form to space. The form is given through the relations of things in that space to each other leading to a space concept.

Although this is true with all visual arts - architecture, sculpture painting etc. There is a difference between architecture and sculpture. The difference is that architecture is placed in space and at the same time encloses space. This also gives rise to two problems viz handling of inner and outer space. These two kinds of space can be various means be united or they can by various means be unrelated. The inner space can merge with the outer space, the outer space with the inner or they can flow into one space. This can be achieved by use of cantelevers, large appatures. Inner connecting spaces etc.

This creates a space in motion flowing from one part to another.

"The architectural problem is to join and unite certain numbers of parts into a whole by an orderly and sure coherence and agreement of all those parts. The whole must have in itself something of the force and spirit of all the parts with which it is united or unified otherwise they JAN and DISAGREE with each other and by such DISCORD destroy the Unity or beauty of the whole".

This task becomes difficult when the problem is complex and there are so many parts to join.

The process of design is the translation of information in the form of requirements, constraints, and experience into potential solutions which are considered by the designer to meet required performance characteristics. Some creativity or originality must enter into the process for it to be called design.

In deciding on possible solutions the designer puts his principles and design phylosophy into use. It is worth looking at some architects/ writers views on design.

> "Each real style of architecture is able to express certains functions perfectly only by a loss of perfect integrity can a style succeed in giving the most adequate expression to all the functions".
>
> - Hitchwck.

"The space is the essential moulded substance beside which the vessel that contains it is of secondary order".

- Scharoun

> "We want to examine things and allow them to discover their own images. It goes against the grains with us to bestow a form on them from the outsid. This examining of things concentrated upon the form arising out of operational performance (Leistings form) and the classification and articulation of Leistings form would lead to every object recieving and retaining its own essential shape"
>
> - Colin ed.

On aesthetics.

> "We do not design a new object to satisfy environmental needs from stratch. We try to find out what is happening in the use of these objects or complexes at the moment."
>
> - Keith Hauson.
>
> "Some function suggest forms and some forms suggest functions"
>
> = Louis Kahn.

On aesthetics.

> "The aesthetic stance only emerges when the viewer becomes an on looker rather than a participant in the function which the art is serving".
>
> - Ernst Kirs

> "The design of buildings is the organisation of sensitively related structural elements to create flexible anonyous spaces suitable for many different purposes" - Mies Van der Rohe

His dictum "less is more" is a way of saying that a designer must attempt to eliminate the inconsequential and specialised elements in a building to distill, isolate and refine the essential character of a design problem, and then attempt to express it in a carefully controlled integration of form, space , structure and material. These are some of the views and principles expressed by some critics and architects.

The design or an arts gallery is more or less a challenge to the architect in the realisation of architecture as a visual art. Thus it is better for the gallery designer to put himself in the place of other visual artist, employing their principles of creativity if his design is to be in harmony with the exhibits stored in it.Through this the designer will be able to achieve the esthetic organisation which is the basic charateristic of any art work.

Various methods employed to achieve this esthetic order include Unity and variety; Unity and balance, Unity and continuity.

Esthetic Unity is achieved when the parts of an art object fit together in some identifiable order.

The simplest method for creating Unity within a work of art is by repeated use of similar or identical elements.

The employment of repetition alone results in little interest for most viewers. This lack of interest is explained by psychologists.

Psychologist hold it that the need to understand, to find meaning in the world about us, is coupled with a need for stimulation and involvement. The individuals needs to be challenged, he needs problems to solve, mountains to cross. He requires a sense of participation in his environment.

The " will to live" often said to be the great inclussive motive of all living creatures is in human beings not simply the will to stay alive but rather the will to live in active relation with the environment. Being equiped with sense organs and motor organs and a well developed brain, the human individual has a fundamental inchination to deal with environment. This motive is not primarily directed toward serving the organic needs and meeting the emergencies of life, but toward knowing objects and persons, doing things to them and participating in what is going on in the environment.

This objective tendency shows itself in the general tendencies to explore and manipulate the environment, and in a great variety of more specific interests.

The artist recognises the need to involve the observer by presenting him with a work that is ordered and seems comprehensible, but at the same time the artist understands that the observer cannot be bored.

A work of art must provide enough of a challange to maintains the interest of those who stop to view it.

It must have Unity, but it must also have within this Unity a complexity a challenging difficulty, to involve the viewer in search for a meaning that he senses must be there in the work. Both of these attributes Unity and complexity, or as it is often called variety, are essential to any work of art and the measure of an art object is often the result of the skill of an artist who combines the elements of his work into a unified whole with the imagination to and within the basic Unity.*

Variety can be achieved through the use of colour, proportion and size.

Unity through movement and continuty

This aspect of Unity agree with the primciples of proper exhibit... method in the gallery as expressed under design considerations.



Fig 7.11.

* Ref. Visual Dialogue (An introduction the appreciation of art) by Nathan Knobler.

In the above diagram the reader follows a prescribed path which moves from separate element to separate element and ties them all together by virtue of a continuous visual sign.

Equally the circles can represent exhibits in the gallery and the exhibits tied with a continous visual sign. The dotted lines can also indicate the observer's path as he moves from one object to another.

The observer is offered a series of visual orders which moves him in a step bystep awareness from part-to-part- now up, now to the right then down and back again. No matter how complex the path, no matter how devious the route, if he can follow it, the observer is able to see a continu ity between individual elements because they are connected by a ribon of linear movement.

The basic desire is the unification of many different elements in a composition.

The establishment of a more or less continuous linear path which links all the separate elements /exhibits gives rise to a loop which forms the gallery ramp.

Repitition, balance variety, movement or continuity are used in combination as a unifying method in this design.

This principles tend to follow the natural law that every problem suggests its own solution.

"It is my belief that it is of the very essence of every problem that it contains and suggests its own solution. This I believe to be natural law.

- Louis Sullivian.

7.2 DESIGN METHODOLOGY.

Some critics or architects /artists in certain periods have tried to formulate laws of their design, but it always turned out that poor architects did not archieve anything when trying to apply these laws, while great masters could break them and yet achieve a new kind of harmony no one had thought of before.

The truth is that it is impossible to lay down rules of this kind because one can never know in advance what effect the architect may wish to achieve.

However this does not prevent one from discussing matters of taste although it is said that "We cannot argue about taste" it does not mean taste cannot be developed.

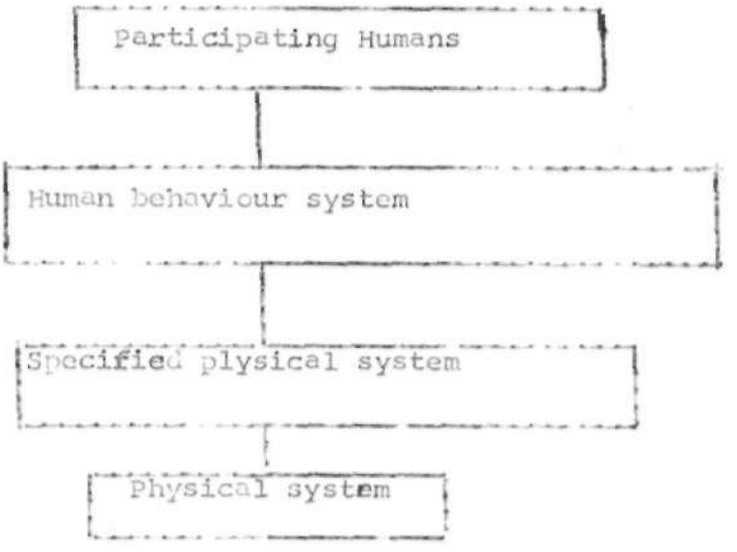
There is need to realise that architecture does not exist an an empty space, that no architect is independent of predessors and models that he no less than the scientist and the phisopher is part pf a specific traditional and works in a structured area of problems. The degree of mastery within this framework and, at least in certain periods, the freedom to modify these strigencies are persumably part of the complex scale by which achievement is being measured.

The methods adopted in this design are explained below.

1. Behavourism as a basis of design

> "Human behaviour appears to be the more correct unit of analysis; it has characteristics which are relevant, empirically verifiable and they are operationally definable".
>
> - Studer.

This method is based on the behaviour of humans: The concept and technical operation can be simplified as below.



Verify

1. Defining the requisite behaviour system
2. Specifying the requisite physical system
3. Realising the requisite physical system
4. Verifying the resultant environmental system

- This behaviour design system is constrained by the physiological and psychological characteristics of the population under analysis. It is also constrained by the cultural suprasystem within which the population or participating humans must operate.

The designer has applied this method in the following ways.

Careful observation and extensive oral interviews with the potential users of the gallery to produce the kind of behavioural data required.

The designer tried further to find the physical causes of behavioural dissonance by looking at the designed enviroments in question. This is done by looking at the features of existing arts gallries.

Finally attempt is made to compare the designed environment with the requiste behaviours since disgonance occurs if and only if there is disequilibrium between requisite behaviours and the desined environment.

GEOMETRICAL METHOD OF SYSTEMATIC DESIGN.

The geometrical method of systematic design can be described simply in the following steps.

1. The classification of datas collected into sets with each element belonging to only one such set such as:-

(a) Technical standards

(b) Data reflecting the requirements of the client

(c) Environmental characteristics

(d) Requirements which the building must satisfy.

The sets are further divided into constructional and functional characteristics and finally put in the matrix form.

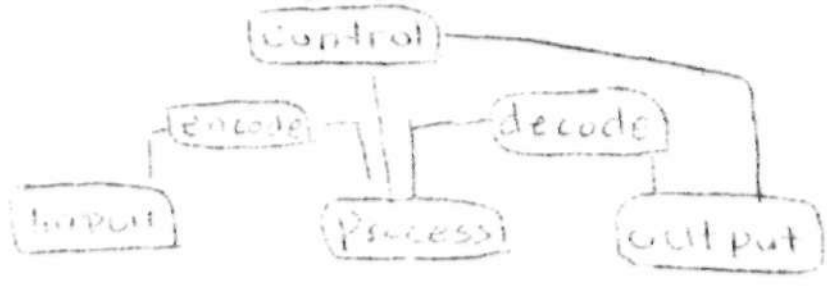
MORPHOLOGICAL ANALYSIS

The third method employed is the use of morphological analysis. Morphological analysis consist of breaking down a system or activity into its essential parts. The essential thing is to distinquish between the necessary actions, or parts, in principle and the ways of carrying them out in practice. The relationship between these parts or actions is also noted.

The morphology provides a basis of structures for working out alternativd forms.

4. USE OF MODEL

The forth method is the use of models. The model adopted here is not a psychological one but a logical picture of the way in which information flows in a designing situation.



Input : This stands for classes of information describing a problem situation, brief and opinions. about Arts gallery. The process involved are encoding and decoding the encoding process is that which the designer goes through in interpreting the imputs inthis situation. This is a

This is a process of coding internal and external information.

This can be in form of shetches, doodling or deagramming.

Decoding which is the reverse process is the transforming of info information so that it can be communicated to people outside the specific situation in a manner that they can comprehend.

PROCESS - This is equaled with the designer's mind. It is here that internal information from the designers mind is fed into the problemso that the external inputs match up to experience or c common sense.

OUTPUTS - The output stands for the information that a designer produces.

CONTROL - This is an external component used to constrain the way in which the designer produce information.

7.3 DESIGN CONCEPT.

- To provide a gallery where the exhibitions could unroll step-by-step logically and chronologically without the use of signs and arrows Ramp.
- Provision of exhibition spaces which will be as flexible as possible Avoidance of partitions and too many columns in the exhibition spaces
- Provision of lighting (Natural and artificial from the same source) both day and night - composite lighting system.
- The use of precast roofing Panels.

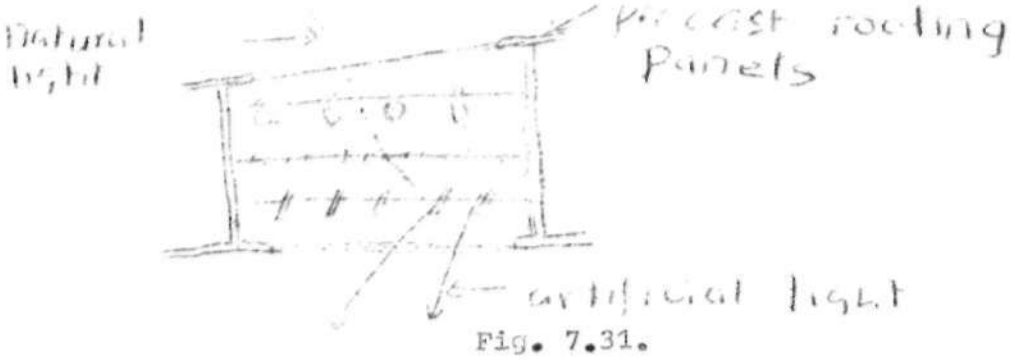


Fig. 7.31.

- Exhibition should not be enclosed by four walls



Fig 7.32.

- Provision of a theatre for art films and lectures.

- An open air theatre incorporated in out door exhibition (sculpture garden) makes the inner and the outer space flow into each other.
- Provision of resting spaces at strategic points to reduce physical fatique in the gallery visitor arising from excessive long walk.
- The visitors should be linked with the outer surroundings through window openings.

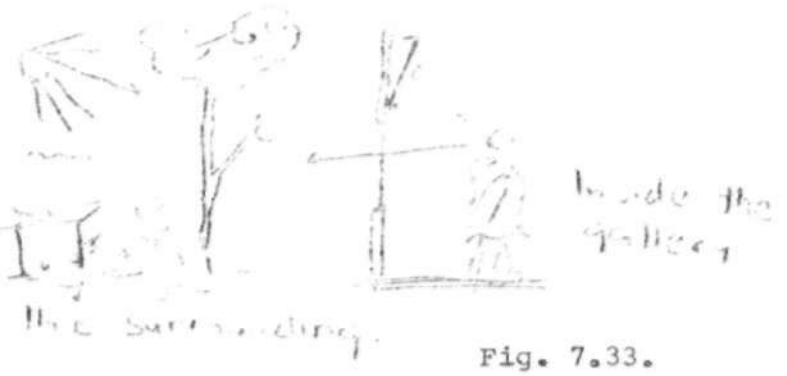


Fig. 7.33.

- Use of recreational elements to force the visitors through the gallery.
- Flexibility in exhibition arrangement to reduce monotony.
- Large storage facilities allow enough art works to be acquired and also allows changes from time to time in the exhibits. This eliminates what discourages the gallery visitors frbm coming back since there is a change of what they see each time they visit the gallery.
- Good interior design coupled with strategic security points and alarm reduce cases of theft.



Fig. 7.34

- Integration of the design into the outdoor space to give the place
- a sense of Unity.
- Outdoor resting places, ;ountains, pools of water at strategic points, children's play ground give life to the whole complex.
- dicious planting to reduce glare, sun penetration, and surface erosion.
- To maintain a visual extension into the out door space and beyond.

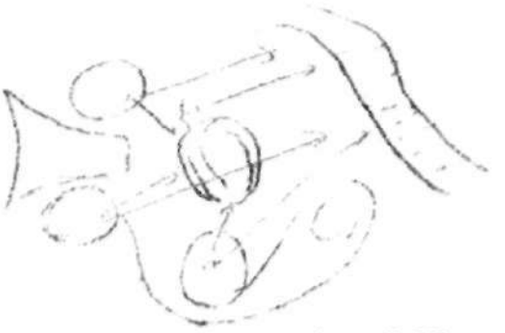


Fig. 7.35

- Oblong pools with more access points of water are prefered to circular or square ones.



Fig. 7.36