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National Art Gallery, Accra

A DESIGN THESIS

presented to the Faculty of Architecture
of the university of Science and Technology,
Kumasi, in partial fulfilment of the require-
ments for the Post-graduate Diploma in Archi-
tecture.

By

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KUMASI-GHANA
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June, 1986

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TABLE OF CONTENTS

	PAGE
ABSTRACT	vi
CHAPTER 1 : INTRODUCTION	1
1.2 The Sigoal Role of the National art Gallery	
1.3 Service to the Community	
1.4 Scope of Design Thesis	
CHAPTER 2 : "STATE OF THE ART"	7
2.2. An Assessment of existing Gallery Facility	
2.3. The Arts Centre, Accra	
2.4. Cultural Centre, Kumasi	
2.5. America Centre, Accra	
2.6. The British Council	
2.7. Goethe Institute	
2.8. Private Art Galleries	
CHAPTER 3 : THE ADMINISTERING OF THE ARTS IN GHANA	12
3.2. The Arts Cojncil of Ghana	
3.3. Organizational Structure	
3.4. Aims of And Activities	
CHAPTER 4 : THE NATIONAL ART GALLERY	15
4.1. Finance	
4.1.1. Systems of Financing artistic	
4.2. Finance of the National Art Gallery	
4.3. The Brief	
4.3.2. Activities	
4.3.3. Ancillaries	
4.4. Oorganizational Structure	
CHAPTER 5 : THE SITE	22
5.1. Site Selection	
5.2. Site Locational Properties	
5.3. Relationship of site to Proposed develop- ments in zone by planning authority	
5.4. Site Conditions.	

TABLE OF CONTENTS (CONTD.)

	PAGE
CHAPTER 6 : THE SEARCH FOR FORM	26
6.2 Evolution of the organizing principle	
6.2.1. Historical Allusions	
6.2.2. The grammar of expression in African Sculpture	
6.2.3. The Corbusier Example	
6.3. Transplantation of the organizing principle	
CHAPTER 7 : CASE STUDIES	31
7.2. Gallery of Modern Art, Rio de Janeiro	
7.3. Solomon R. Guggenheim Gallery, New York	
7.4. Gallery of Modern Art, Turin	
7.5. Summary	
CHAPTER 8 : DESIGN PROPOSALS	
8.2. Design Proposals	
8.3. Major Accommodation	
8.4. The Concept	
8.5. The Design	
8.6.23. Conclusion	
BIBLIOGRAPHY	66
APPENDICES	
1. Schedule of Accommodation	67
2. Lighting Study	69

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Abstract: Brief Summary of Report

This report constitutes an essential complement to the design thesis providing the essential verbal support for the thesis development from concept to design solution.

The first chapter introduced the subject of designing an art gallery, establishing the need and social role of such a facility and the service it renders to the community. The scope of the design thesis was established here.

The second and third chapters of the report dealt with the state of Ghanaian art today, an assessment of existing gallery facilities and the existing structures for the administration, finance and promulgation of the arts in Ghana.

The fourth chapter discussed systems of financing artistic activity and the practical element of financing a national art gallery, its brief, what its functions, activities will be etc.

Matters of site selection and chosen site properties are presented in the fifth chapter. In chapter six, the approach for evolving an organising principle by which some conscious form can be arrived at for the art gallery is presented. This involved a detailed study of art expression in african sculpture and how this might be suitably harnessed for the purpose.

Three examples of art galleries were treated as case studies in chapter seven these being preceded by a historical assessment of art galleries.

The rest of the report was then devoted to presenting all aspects of the design solutions proposed for the national art gallery.

CHAPTER 1

INTRODUCTION

There is a present surge in the art market which manifests itself in a growing art education and an established demand for more and improved exhibition space and ancillaries, a more institutionalised presentation of art to the public; and a store and record of our art treasures which are being sifted gradually into private collections (mostly outside the country).

While all this may be going on in presumably elitist circles, there has been rather little effort at raising the level of consciousness of the role of art activity in the minds of the greater majority of society; this consciousness necessary for any major upheaval in decision-making as regards development in the arts. Growing art education in Ghana has to recognise the need for creative attitudes in education and the necessity for linkages between creativity and all fields of human endeavour.

The role of practising artists and general art activity in raising this consciousness cannot be over-emphasised. The utilitarian concept of african art and its relationship with the applied arts (ceramics, textiles, metals, furniture, glassworks etc.) has a profound role to play in the search for art consciousness in the people.

The facility of a National art gallery is lacking in this country and most countries of black Africa. The impetus such a facility gives to a nation's art and culture cannot be over-stressed. Serving to stimulate artistic ability and intellectual purpose, on the art scene, it also plays the important role of awakening the creative spirit latent in each citizen who uses the facility.

Though highly intellectual and bustling activity is observed on the art scene at the moment, the absence of such a facility tends to stifle this. This condition is as well worsened by the scarcity of bookable exhibition space in the private sector of Ghanaian art because and the resulting high commissions demanded.

1.2 Social role of the National Art Gallery

An art gallery is above all a reflection of man and his art activity, of his natural, cultural and social environment. It stands as a monument to the glory of the creative spirit for a nation. Its permanent collection of art works signifies wealth and status, offering a feast of research to art education, the university and the lone scholar. It is also a record of cultural vision at a particular period.

This facility in the modern sense, is both an expression of Ghanaian society, and an instrument to serve it. The mummified view of this facility (of long ago) that it is a treasure house frequented mostly by tourists must disappear in the face of the educational and cultural needs of Ghanaian society. It marks out the aesthetic values of all society for its public because of the importance for

- . the continuity of culture
- . preservation of artistic and cultural values
- . stimulating intellectual purpose and creative activity

As institutions developed by modern society to stave off for as long as possible the deterioration of artworks treasured for their cultural value, the permanent collections of art galleries do for art that libraries do for books. Society does not save these things just to hoard them but to use them for cultural purposes. The art gallery will assemble, study and con-

serve artworks and set them before the public for the sake of information, education and enjoyment. The commercial aspect of its activities is also important.

1.3 Service to the Community

The National Art gallery's programme and activities is based on understanding of the community's needs as a whole and its diverse parts, social classes, minorities and so on. On these bases the spread of its activities, scope of permanent collections commercial activity and the material means to give them effect will be established.

Furthermore, its programme takes into account educational needs e.g. syllabi of university, primary school etc. and lastly, the reaction of the community itself evaluated at each level of art gallery activity.

1.4 Scope of design thesis

A design thesis on a complex of galleries and related services and ancillaries, primarily to serve this established need for a national art gallery will be presented with a special dual aspect.

The rigorous demands in the functional design of a facility primarily concerned with the visual communication of objects of aesthetic interest constitutes the initial aspect; the physical demands of lighting, climatic control, security etc. all going to make the design an involving one.

The secondary but no less involving aspect pertains to the development of form from an organising principle in the related discipline of african sculpture for the sake of blending the building with its contents. The quest is partly for a built environment that activity contributes to the visual communication function both in terms of architecture and display, and for a "regionalism" or "cultural classicism" evolved from the

established tradition of ornament.

This approach towards the design results from the need to reinforce the certified fact that architecture is essentially and ultimately an art; that modern architecture's puritanical blandness and functionalism drives the artist to a counter-culture that suggests some form of cultural classicism as a much more refreshing approach to the art of architecture.

It is very much the gallery owner's market. It is not uncommon for the artist to be told which style to paint in, what forms are popular among buyers and therefore of commercial value (if its sculpture) or what framing to use if it is a painting. The context

CHAPTER 2

STATE OF THE ART

The contemporary Ghanaian artist seeking an outlet for his work faces the rather tough prospect of finding the recognition he requires to evade the grim competition (make him stand out of the crowd) before he can stand a chance to vie for the limited exhibition space.

It is very much the gallery owner's market. It is not uncommon for the artist to be told which style to paint in, what forms are popular among buyers and therefore of commercial value (if its sculpture) or what framing to use if it is a painting. The present commission for works exhibited and sold, as dictated by gallery owners, is 25% of the sale of value of the work. There has recently been talk from the more popular gallery owners of a necessity to push up this commission to 30%.

Consequently the initial competition for recognition serving to stimulate creative activity and artistic ability among artists is killed eventually by the bottleneck of these conditions imposed by the exhibition gallery.

2.2. An Assessment of Existing Exhibition Gallery Facilities

About 90% of the nation's commercial art activity takes place in the Accra art market. This is where the supposedly more affluent population live and patronise the art. As such it is not surprising to find that a corresponding proportion of the country's exhibition gallery facilities are to be found there. All these apart from a couple, are not spaces originally designed for their purpose and are therefore very deficient in any usual communication capacity. They fall under the broad groupings; the governmental and private.

The governmental:

1. The Arts Centre, Accra.

2. The Cultural Centre, Kumasi.

Some diplomatic missions offer the use of parts of their spaces for art exhibition purposes. These are:

3. The American Centre, Accra (U.S. Embassy).

4. The British Council, Accra (British High Commission)

5. The Goethe Institut (West German Embassy)

2.3 The Arts Centre, Accra

Of the above, only the Arts Centre in Accra can be said to have a gallery purposefully dedicated to the exhibition of works of art. This facility consists basically of a room of rather small proportions which makes it difficult to view exhibits in the right perspective. No conscious effort has been made to control the environment in any way to protect the exhibits. Another space at the Centre is devoted to the dual purpose of exhibition and sale. This is also a small, poorly lit space with no display panels; exhibits are either on the floor or on the walls and sales are carried in a corner of the room unfit for the purpose.

In the forecourt of the Centre, a pressing need for further exhibition and sales space for small private dealers in paintings sculpture and other art works has necessitated the conversion of a large part of the car park into a string of small shops to serve this purpose. This group of dealers constitute a very important section of the art market serving a large part of the tourist market and it will be found necessary to provide for them in the National Art Gallery.

All these spaces enumerated can be entirely written off as unsuitable for their function yet it is difficult for artists to find an open week in the schedule of the Arts Centre.

2.4 Cultural Centre, Kumasi

This facility does not have any purpose built space for art exhibitions. It only boasts of an arts and crafts shop and a small museum with a permanent collection of art and cultural artefacts.

By virtue of its location, it records practically no exhibition activity of importance throughout the year aside from its permanent collection.

2.5 The American Centre (U.S. Embassy), Accra

A small space in the American Centre is devoted to periodic art and documentary exhibitions. Aside from its limiting size, the environment is well-suited to its purpose of small scale exhibitions, with good lighting and thermal control.

2.6 The British Council, Accra

The British Council converts its general hall for exhibition purposes and the extent to which the space can aid the proper display of exhibits is limited.

2.7 The Goethe Institut, Accra

The Goethe Institut usually holds day time art and, documentary exhibitions on the lawns of its grounds. Back-up services are, of course, non-existent as is the case in all the exhibition galleries.

These constitute the governmental or quasi-governmental galleries of any importance.

2.8 Private Galleries

There are only a couple of private art galleries worthy of mention doing any reasonable job of hosting the nation's artists.

The Loom, Accra; this is arguably the most important exhibition space in Ghanaian art circles today. The nation's most important artists have found it an ideal place for the exhibition of their works.

The art gallery is housed in a purpose built structure on Liberty Avenue, Accra. Though the building's upper floors are used as office space, it is difficult to detect this due to careful design. Though in terms of exhibition space it has more than other galleries discussed, it is still limiting in size. Because of this it is not possible to categorise exhibits into various sections and a permanent collection is non-existent.

The two-storey volume of the exhibition area itself, apart from affording more wall area for display, gives an interesting architectural effect. There is a cosy snack bar, with a nice view onto Liberty Avenue, attached to the gallery and circulation of users is routed such that those interested only in the use of the snack bar cannot help but go through the gallery (and perhaps stop en route to peruse the exhibits).

There is a some competition for exhibition space in the Loom and the average artist, most times, will have his or her works screened before an exhibition.

'Q' Modern African Art Gallery:

This gallery is situated rather disadvantageously in a suburban residential quarters (the Airport Residential Area) and this factor has done a lot to harm its patronage.

It is combined with a small shop for a variety of goods and the main facility dealing with art is a room of quite moderate proportions

with rather limiting visual communication properties. Like most of the rest, very little is done to protect exhibits from harmful ultraviolet light.

This gallery has not as yet made its mark on the art market and it is still possible to find weeks of dormancy in its schedule, this due mainly to its location.

As part of its recommendations, an Arts Council of the then Gold Coast was to be set up, to organise the arts and

C H A P T E R 3

ADMINISTERING OF THE ARTS IN GHANA

Historical background: the first national attempt at organising the development of the arts of Ghana was made in 1955 when a Committee was appointed to examine how best a "National Theatre Movement" could be developed.

As part of its recommendations, an Arts Council of the then Gold Coast was to be set up, to organise the arts and encourage their appreciation.

Later on Arts Council of Ghana was inaugurated by an Act of Parliament in 1958, taking effect from 1959 which later became the Institute of Arts and Culture. The present Arts Council of Ghana inherited its assets and liabilities from this institute.

3.1. The Arts Council of Ghana

This was established by N.L.C. Decree No. 232 of 29th February, 1968, to promote and encourage the appreciation of the arts and in particular to preserve, foster and develop the traditional arts and culture of Ghana.

The headquarters of the Arts Council is at the Arts Centre in Accra. This is situated on 28th February Road, approximately opposite the Parliament House buildings.

3.3. Organisational Structure

The Arts Council of Ghana is a department of the Ministry of Education, Culture and Sports. The Board of Directors of the Council consists of a Chairman and four members. The Executive Secretary, who is

the chief Executive of the Arts Council, is responsible to the Board of Directors for the direction of day to day business of the Council and for administration, organisation and control of all employees of the Council. The Executive Secretary undertakes the formulation and implementation of national policies on the Arts Council under the direction of the Board of Directors of the Council (See Fig. 1).

3.4. Finance

Government: At the moment, the Arts Council of Ghana is financed wholly by Government subvention. Its objective is not monetary but rather the promulgation and advancement of the arts.

Income from fees and other charges: Income from fees and other charges are kept minimal and are generally used to defray production expenses. This is done to encourage the public to patronise the activities of the Council.

Sales of paintings, crafts and publications: The income from sales of paintings, crafts and publications go to their contributors. The Council at the moment charges a nominal fee for the use of exhibition space. With the establishment of proper gallery facilities, the need will arise to charge competitive commission to help run the gallery.

3.5 Aims and Activities

Among the numerous aims and activities of the Council in the general promotion and encouragement of the appreciation of the arts, is the express aim to:

- (1) exhibit works of art, both local and foreign;
- (2) to build up an archive of material of the arts of Ghana.
- (3) search for and promote individual talent through teaching; and aid with books and materials.

CHAPTER 1

These aims are best achieved and expressed, in the visual and utilitarian arts, in the National art gallery's establishment. Also of prime importance is the improvement of the present art condition by the achievement of said aims.

CHAPTER 4

THE NATIONAL ART GALLERY

4.1 Finance

To the extent that art itself is a "prestigious" activity, individuals, groups, cities for whole societies may compete for supporting its most important living practitioners, its activities or acquiring its most famous works.

This motive has been present in almost all elite-oriented societies. Competition of would-be patrons for the prestige of supporting living artists increases not only the economic allocations to art but also the freedom of the artist.

The value of art as an important investment either for ensuring its preservation or for increasing it, grows in periods of social or political instability or currency fluctuations. Small scale art works by masters, become the safest means of investment in times of trouble. This has been an important motive for art connection in the renaissance periods as well as the modern 20th century.

4.1.1 Systems of financing artistic activity

Society has always had diverse ways of supporting artistic activity, self-financing possibilities for such activities (as the National Art Gallery) are limited. Sponsorship, the most popular form of support occurs when the artist draws upon the support of individuals or organisations that do not necessarily get anything for themselves in return. In supporting art as a "social service" to the people, they are primarily committed to art for its own sake.

4.2 Finance of the National Art Gallery

The National Art Gallery will be conceived on three basic categories of finance. For initial capital development of the project, the gallery can count on outright grants from interested organisations and foundations like the following:

- (1) The Chinese government's long standing grant for the establishment of a National Art Gallery for Ghana.
- (2) Wealthy Multi-National Corporations in Ghana who have shown precious interest and support for artistic activity in Ghana. Some of these are:
 - . Mobil Oil (Gh) Ltd.
 - . Valco
 - . British Petroleum
- (3) International Organizations established for supporting and promulgating the arts e.g. U.N.E.S.C.O.
- (4) Diplomatic foundations like the British Council who have shown interest and monetary support.
- (5) Companies and corporations in Ghana and wealthy individuals whose private funding will be made possible and almost recurrent with favourable tax legislation from the government.
- (6) Last, but not least, allocations and grants from the government, albeit marginal, are necessary as proof of the government's interest and support for the promulgation of its arts and culture.

can be enumerated and structured as follows:-

- ### 4.3 The Brief

The ^{IV} National Art Gallery will fulfil four basic functions:

- The facility will serve for the public display of works of art chiefly paintings and sculpture. The applied arts will be represented i.e. textiles, ceramics, glassworks, furniture, metalworks etc. these will ideally be divided in departments of the gallery, each with its own:

- (i) Exhibition space
- (ii) Curatorial offices
- (iii) Study rooms
- (iv) Workrooms/Studies
- (v) Storage space and mechanical workshops if necessary.

4.3.2 Activities

- (a) Competitive exhibits will form the bulk of commercial activity for the Gallery. This will essentially be submissions by individual artists to a jury which will select for exhibiting. Such works will be offered for sale.
- (b) The gallery will build up and maintain a permanent collection of works of art owned by the gallery as well as host travelling dx exhibits of similar collections from foreign and local organisations.
- (c) **Special** exhibits will also place which may be devoted to a single artists, particular medium, style or period of art of specific theme. These may either be travelling exhibits or may be assembled from the permanent collection or borrowed works.
- (d) Educational functions: the National Art Gallery will not restrict its activities to interesting the casual visitor who may chance to come to its doors. It will organise constructive educational programme extending to schools and many types of civic organisations.

It will:

- (i) supply loan exhibits
- (ii) send out lecturers films, lecture material and spread the educational message by radio and television.

(iii) maintain an efficient guide service to the permanent collections.

All these functions and activities are expected to be catered for well in the design.

4.3.3 Ancillaries:

(i) A central library accessible to both staff and visitors is required in order to fulfil the educational function.

(ii) A lecture hall/auditorium will afford the opportunity for talks to the public illustrated by the surrounding exhibits.

(iii) It will be found necessary to include studios for artists. This is in the hope that the provision of ideal environments for them to work in will serve to stimulate their creative ability and provide a fertile environment for artistic activity. Subsidies should make it possible for any average artist to afford workplace in these studios.

(iv) It is also important to provide for the large collection of private art vendors (dealing mostly for the tourist market) who at the moment, operate in the forecourt of the Arts Centre, Accra. Exhibition and sales for this activity will not only boost trade in this end of the market but also bring in revenue by way of rent to the gallery.

4.4. Organizational Structure (See Fig. 2)

The National Arts Council will elect members to a board of trustees of the National art gallery and these will in turn elect a president of the board. The board of trustees will be the main policy making body of the gallery and its members will essentially be interested persons of substantial wealth and status in society.

A gallery director will be responsible to the board of trustees and will have as his duty the successful direction of the gallery's activities towards the aims, ends and policies set forth.

The various departmental heads will be responsible to the gallery director.

(2) Such a site, if devoted to an art gallery reinforces the national prestige and civic pride which the zone radiates. The very character of the neighbourhood and adjacent land areas...

5.2 Site Locational Properties:

The chosen site offers the following properties:

- (1) It fittingly occupies a part of the stately buildings zone with the supreme court, parliament buildings and other important buildings on the same street.
- (2) Such a site, if devoted to an art gallery reinforces the national prestige and civic pride which the zone radiates. The very character of the neighbourhood and adjacent land uses are ideal.
- (3) For reasons of land value and optimum usage of the site, the choice of site couldnot be better.
- (4) The following also point to its suitability:
 - (i) The size of site and possibility for future expansion.
 - (ii) visual qualities offered.
 - (iii) relation to surrounding properties considering matters of casements and building heights.
 - (iv) other physical features - micro-climate, geological properties.
 - (v) proximity to the proposed site for the arts centre is an added locational advantage.

5.3 Relationship of Site to Proposed Developments in Zone by Planning Authority

Among proposed developments in the general area of the chosen site a proposal for a cultural and entertainment zone stretching from the Osu Castle to the North-east of the site Holy Trinity Cathedral and south of the 18th February road.

This comprises three areas:-

- (a) A public garden linking the Independence Square and the Osu Castle containing restaurants and private clubs.
- (b) The Independence square area, comprising the Independence Square and Arch for national celebrations.

(c) The cultural and entertainment zone which stretches from the Independence to the Holy Trinity Cathedral. This area is at present covered with temporary buildings housing government offices, the existing arts centre, the community centre, Legion Hall and a warehouse for the Food Distribution Corporation.

To the immediate North of the art centre site, extensions to the existing parliament buildings are proposed. A new community centre is envisaged further west of the site.

The 28th February road is to become a dual-carriage way and a reservation line of one hundred feet from the centre of the road has been instituted.

5.4 Site Conditions

The site is savannah land with a bald pate on and around the area used at present for a football field. A lot of shrubs and few trees grow to the South and South-east of the site.

5.4.1 Topography: Sloping gently from north to south approximately, the land has a gradient of 1 in 30. No marked undulations are observed on the site and the highest point on the site (60' a S.L.) occurs on the North-North-Eastern part of the site.

5.4.2 Geology: The site is underlain by alternating sandstone and shale of accraian formation. Soil profiles of the area are generally uniform with six to eight feet of variable soft sandy clay transported deposits under which is a layer of eight to fifteen feet of stiff mottled marine clay resting on shale beds.

5.4.3. Drainage: The land, by virtue of its topography drains southwards towards the sea. An uncovered drain exists on the site towards the east.

5.4.4 Climate

Situated on latitude $5^{\circ}38'N$ and longitude $0^{\circ}6'W$, the climate of Accra is typical grass savannah climate; hot and humid.

Rainfall: Generally, two rainfall seasons exist with an annual average of 28.8". There is a monthly maximum of 7.1" in June and a secondary monthly maximum of 2.6" in October. Fluctuations are considerable. Dry seasons are from November to February and from Mid-July to September.

Wind Velocities: These are generally low averaging between 5 mph and 10 mph towards night and early morning, surface winds are mainly south-westerly and west-south-western, though they are modified slightly by land and sea breezes which blow at right angles to the coastline. By virtue of the site's location, wind direction changes occur frequently. Maximum periods of calm (25%-50%), occur during late evening to early morning (21.00 hrs - 08.00 hrs GMT).

Sunshine: Average hours of sunshine vary between 4.5 hours and 7.5 hours daily.

Air Temperature: Temperatures are warm throughout the year with daily temperature variations of between $11^{\circ}F$ - $16^{\circ}F$. Maximum mean temperatures occur during March ($89.6^{\circ}F$) with the mean minimum temperature ($70.3^{\circ}F$) occurring in August.

Humidity: Relative humidity is high throughout the year, highest relative humidity conditions being about 80% of night and lowest about 60% in the afternoons. The lowest relative humidity conditions occur during the dry months of December to March.

5.4.5. Services: Water, electricity and telephone service lines run along the northern edge of the site. The Accra central sewage systems line runs along the middle of the 28th February Road to the north of the site.

CHAPTER 5

THE SITE

5.1 Site Selection

Consultations with planning authorities revealed that spatial planning for the facility of a national gallery did not exist per se. It had been categorised with certain incompatible performing arts and cultural activities under the tag of an arts centre.

Space on the urban plan devoted to this activity was made substantial to incorporate a theatre, a complex of general performing arts and culture facility to serve the arts council and an art gallery tacked on. The site zoned for this is the present site of the arts centre, 28th February road. An alternative site has been allotted, this being the Tetteh Quarshie circle, Accra.

The need to extricate the quiet activity of a National art gallery from the arts centre and wholly cater for it spatially is important. It is a facility which has to be treated as an entity as regards design demands.

The alternative site proposed by the city planners is discredited on the grounds of being right in the heart of an interchange of heavy traffic from the Accra-Tema motorway. Its very location is well as too remote to be of any attraction to the public.

Adjacent to the first site on 28th February road is an extensive undeveloped site, part of which is used as a football club's training grounds. This site offers ideal conditions as regards its location and qualifies as the prime choice of site for the National Art Gallery.

CHAPTER 6

THE SEARCH FOR FORM

As every new concept loses its fascination after a time, so will every prevailing style in architecture. The search for a formal consistency, for that which is constant in the face of the changes of style has been just as alluring as elusive. The history of architecture portrays the story of change and counter-culture, avantgarde and conventional and if one is to rely on history, one is justified in saying that any movement or style preaching universal validity in its essence is only good for its prime time; till it leaves the stage for its successor.

The multiplicity of schools of thought streams, ideologies in any particular age is baffling; an assorted range from the extremes of rationalism to poetic intuition will always find some form of valid application. So, in this academic as well as practical search there will be no claim for universality of findings.

The search will basically be for an organizing principle in the development of a style, perhaps a "regionalism" for the cultural context we live in. Whatever develop will then find its material expression in the design of the National expression in the design of the National Art Gallery. This approach or attitude towards the design results from the need to reinforce the already certified fact that architecture is essentially and ultimately an art. This century's attitude has been, for the most part, to handle architecture like an axe; a certain functionalism that unknowingly creates some vacuum in the hearts of those who would rather play architecture like a fiddle.

Putting it simply, modern architecture's puritanical bareness drives one to a counter culture that suggests some form of "cultural classicism" as a much more refreshing approach to the art of architecture. This cultural classicism will be developed from forms borrowed and adapted from the established tradition of ornament in Africa sculpture.

Having established the organizing principle from the above, there will have to be evolved the appropriate detail for this cultural classicism. The fitting deployment of this appropriate detail in design should result in a successful style.

6.2 Evolution of the organizing principle

One may ask why African sculpture should be chosen for this purpose and not 'African' architecture. This is because it is not yet possible to talk of a truly african architecture. Contemporary architecture in Africa has proved to be too diverse, heterogenous and often contradictory for it to be classified, or for it to offer any strain around which we can evolve a principle. The multiplicity of cultures, complicated by country borders with no ethnic or national bases makes it difficult to identify any such a strain.

Though African sculpture is neither a monolithic whole nor a single style subject to minor variations, it is possible to identify a universal strain in the aesthetic attitudes will soon become evident.

6.2.1 Historical Allusions

In their search for new forms of expressions, artists of the "belle epoque" (i.e. turn of the 20th century) were the first to recognise a certain aesthetic value of african sculpture. The strangeness and difference of the figures intrigued them. A special charm and aura beyond the form itself was an answer to their search

for the means to break down the heavy barriers of convention. Many artists have delved deeply and unhesitatingly into this rich vein of form offered by african sculpture.

Various art movements in the development of 20th century art owed it their influence and inspiration to such an extent that certain direct references and reminiscences are easily detected as in:

- (i) cubism (or concretism): in the building up of stereometric - cubic basic forms: as in dogon sculpture.
- (ii) Surrealism: in the fantastic combination of elements suggesting power; a direct reference to the banda mask of the Baga.
- (iii) realism in expression: with exaggerated natural forms; as in the Ekoi - batchokwe (nigerian) sculpture.

6.2.2. The "grammar" of expression in african sculpture

Observations about african sculpture point to the fact that each style's artists felt the need to express spiritual by formal means as intensely as possible.

On observing the large number of styles that exist, it would appear that rules for general application in african sculpture are questionable in the light of the large number of styles that exist. Yet these observations made by Prof. Elsy Leuzinger help to crystallise the universal strain we require so much for our organizing principle:

- (i) the artists exhibit in their work as sure feeling for the material and the clear three dimensional form.
 - (a) the effect of light and shade
 - (b) the tension created by the interplay of surfaces, lines and values.
- (ii) for the sake of an idea, a natural form may be transformed, seized in its bare essentials, transcended, doubled, paralleled, and inessential features left out.
- (iii) Spiritual conceptions are given physical form or shape by means of cubist forms.
- (iv) "Proportions of significance" replace anatomical proportions of the subject.

subject.

(v) Sharp curves and angles and deep shadows are experienced as aggressive and powerful. These are used in the art to make an impression, to terrify etc.

(vi) The artists exhibit an exact knowledge of the expressive value of the forms used in the art.

(vii) The human form, for instance, may be reduced to a geometric figure to such an extent that it is almost an ornament; while again it may be overlaid so much with ornament that it seems to have disappeared completely.

All in all, this art form in each of its styles shows a high degree of abstraction brought about by the expression of immaterial conceptions in concrete terms. The formal unity and particular power of expression and directness of its statements contribute to make it that unique art form.

Having extracted our organizing principle from the formal character and expression of african sculpture, it is left for us to adapt and translate these formal characteristics into architecture to achieve the "cultural classicism" I proposed.

This can only be achieved through the practical design of the National art gallery to establish the order-implicit detail.

Thus the design thesis, as it is to be presented, will exhibit suitably adapted versions of the formal characteristics elaborated above.

6.2.3. The Corbusier Example

Before I go ahead to suggest guides and methods for translating the organizing principle, it will be worthwhile to have a case study of form in architecture which evolved under similar lines.

The latter works of Le Corbusier offer an opportunity to observe the translation of the formal characteristics of a plastic art. into architecture. Right from his early days as a painter, he was involved with cubist themes, which art movement was profoundly influenced by african sculpture. In his later life, he practised sculpture which

had an immense influence on his work (see illustrations).

The pictorial examples shown on pp. 34a to 34b of some of his typical latter works show the basic elements of his sculptural work translated into architecture. Without a veritable passion for the plastic forms of sculpture, Le Corbusier would never have created the forms which little by little appeared in his architectural.

In certain instances, such was the depth of influence that even plan forms were also sculptural as in the chapel at Ronchamps. (illustrated).

6.3. Translation of the organizing principle

In the translation of the organizing principle into architecture, one is bound by the elements of expression of the plastic language. Effective translation of this requires artistic creative talent in order to find the corresponding combination of plastic forms that will convey the power and intensity of experience or expression desired.

No accepted definitions of the psychological properties of the shapes which are the elements of the plastic language exist; yet we unconsciously associate certain shapes with certain emotional reactions. For example:

- (i) flat surfaces relating to calmness
- (ii) a symmetrical composition relating to balance
- (iii) the tension between rounded and angular forms (majority of african sculpture shows the interplay of rounded and angular forms; extensively rounded or angular forms are rare.

A most striking facet of the language which will have to play an important role at this stage is the conscious act of expression of formless ideas in form. A non naturalistic approach i.e. a tendency towards abstraction into geometric forms should also be very evident in the architectural forms one arrives at.

C H A P T E R 7

CASE STUDIES

Historical Development

Since the early 19th century when the art gallery evolved into a real social institution, its design has developed through lots of phases.

19th century galleries were designed, as always, to portray national prestige and civic pride. Thus monumental and imposing buildings were the mark of art galleries of the period. Prominent sites with grandiose architectural treatments e.g. colonnades, arches, high-vaulted interiors and vast flights of stairs both inside and outside the building. These were used to produce these imposing prototypes that exhibit a demand for the expression of wealth due to their contents of treasures.

The exhibition galleries themselves were normally of rectangular plan area; very narrow with windows on one wall; This was essentially because effective artificial lighting had not been developed.

In modern times, there is a stricter obedience to functional demands. Improved lighting has brought greater freedom in art gallery design. There is a tendency to shape and illuminate to improve the display of exhibits. Sometimes, there is a complete departure from traditional planning. Rooms may be designed to harmonize with exhibits. Formal facades combined with informal treatment of windows and a variation atmosphere of spaces are other popular marks of current art gallery design.

7.2. Gallery of Modern Art, Rio de Janeiro

This complex of buildings on the shore of Rio de Janeiro includes a theatre/auditorium seating 1,000 persons, the actual exhibition building with its reinforced concrete frames sloping outwards and a low wing containing administrative offices, a restaurant and a school of design.

The main exhibition area consists of two levels of display space over a mainly open ground floor. The ceiling of the second floor consists of suspended translucent plastic distributing the light of the fluorescent tubes above. (Spotlights for local lighting are also provided).

A ramp from the inner court leads to a terrace overlooking the bay and the city. The landscape of the bay is introduced into the viewing areas (galleries) through the north and south windows.

Judging by the exhibitions held on the first floor of the south wing, the reconciliation between bright dramatic landscape and small scale exhibition is not always easy as this building shows. The brutalist aesthetic of the gallery's buildings accentuates its bold forms and give the visitor a feeling of anticipation for the buildings contents.

7.3. The Solomon R. Guggenheim Memorial, New York

This art gallery is one amongst a few whose buildings concept is entirely based on the idea of the current tour of a gallery. Its very structure is defined by the assumption of a viewing sequence. One can very well say that this gallery's design is rigidly determined by this assumption.

The gallery is on fifth avenue, New York city, facing the central park. It is entered under the overhang of the four story administration building. On entry, a semi-circular vestibule leads straight into the main gallery. The concept of the exhibition gallery is a viewing ramp rising as an unbroken line spirally, to the dome 92ft. above.

The gallery's walls and spaces could be considered as one in substance and effect. Walls slant gently outwards to form a giant spiral with a well-defined purpose. Elevators lift visitors to the top of the viewing spiral ramp from where they begin an easy downward drift of viewing from alcove to alcove on this giant spiral. In a great upward

sweep of movement, the exhibit is seen framed as a feature of architecture. Circular shafts in the structure house lifts and service cores and comfortable low seats are placed at base of the structural webs forming the alcoves.

All in all, this building is certainly an architectural achievement yet there is a certain unavoidable dogmatism about any plan which defines circulation as a closed circuit; a presumption that once on the cultural convey or belt it would be a mistake to step off. This may not matter in small galleries but can become extra-ordinarily irritating in a large building (there may after all be considerable sections of the gallery one may not want to see in a second visit).

One could consider the closed circuit plan as an attempt to enforce a certain clarity and sense of order on the plan. As long as linear progression can be maintained, the circulation is clear and determined even if visually that clarity cannot be grasped.

7.4. Gallery of Modern Art, Turin

The Gallery, at the edge of the centre of the town of Turin, consists of three zones; a central main exhibition area, a smaller wing for temporary exhibitions and a subsidiary wing containing a library and large lecture room.

The design was considerably influenced by an attempt to devise an lighting solution within a multi-storey building and the section is undoubtedly the buildings most interesting feature. Due to the cantilevered first floor, the splay of the exterior walls and the light in the centre, it was possible to give sufficient light to both floors of the main exhibition building. Whether the devices necessary to produce this solution are in the end worthwhile in terms of the gallery as a whole is, however, very much open to question.

The lower floors facing the garden are entirely side lit. The upper floors are mainly top lit except at the north end and in the centre of the main exhibition wing where there are glass doors opening onto balconies.

The top lighting both natural and artificial from fluorescent tubes is diffused by corrugated acrylic sheet.

The library on the first floor and the lecture hall on the ground floor cater for 20,000 volumes and 350 people respectively.

7.5. Summary

The assumptions on which the art galleries of the 19th century were based have undergone radical transformation during the last forty years, as these case studies have shown. The economic, social and technological changes which have occurred and their effect on education, leisure and mobility have added impetus to the art gallery's performance and documentation.

From these studies, it can be realised that the total method of communication determines the architectural organization of the art gallery. The anatomy of the building will be shaped by the social role envisaged and the emphasis to be given to different aspects of that communication. Inevitably, foremost among these must be the encounter between individual and exhibit; this is after all the essence of the art gallery; it is what distinguishes it from other building types.

CHAPTER 8

DESIGN PROPOSALS

8.1 Preamble:

8.1.1. Aim: To design a complex of galleries with related services and ancillaries to serve the established need for a National Art Gallery, and the projected needs of visual arts promulgation in Ghana and in the process to evolve a conscious form that actively contributes to the visual communication function of the building's design.

8.1.2 Problem Summary:

- A low level of public consciousness in the role of art activity and creativity in all fields of human endeavour.
- Lack of improved and commensurate exhibition space, ancillaries and services for the current surge in art activity and art education.

The absence of a conducive environment:

- for the storage, preservation and presentation of artworks and their commercial marketing.
- for artists to work in to stimulate intellectual purpose and artistic activity.

8.1.3 Limitations

- Public finance for development is limited.
- No definite projections on the growth of public interest in the visual and utilitarian arts are possible.
- Building line restrictions.

8.1.4. Assumptions

- Private funding from corporate bodies, foundations, organisations and individuals will be made available for development.
- Interest in the visual and utilitarian arts as well as art education will continue to grow.

8.2 Design considerations

Before arriving at a layout and design for such a complex, a detailed study of the requirements for the various activities which take place within it must be made together with a study of all other factors that effect the design.

This study is done in three sections:-

- (a) Requirements for various activities
- (b) functional relationships
- (c) other factors and considerations.

8.2.1. Requirements for various activities

The detailed requirements of the activities in the art gallery determine to a large extent the calibre of accommodation to be provided. See pp. 44 to 51.

8.2.2. Other factors and considerations

- (i) The art gallery's planning should be influenced to a great extent by some assumption of a viewing sequence. This circuit of a sequence should strive to enforce some sense of order and clarity on the plan. This clarification of circulation by some form of linear progression is important.
- (ii) A definite scheme of growth or expansion should be worked into the scheme and this can be made an extension of the sequence established above (ideally).
- (iii) Elements which impose visual order and have an importance in direction finding are necessary in the plan. Recognisable architectural equivalents of such city planning elements like landmarks, nodes, edges, districts and paths are relevant to orientation in an art gallery.
- (iv) In art galleries the amount and frequency of maintenance is very much related to the nature of the environment (the more the environment is controlled, and especially kept constant, the less is there likely to be a need for drastic repairs). It is for this reason that full air-conditioning giving control over temperature, the humidity of the sea breeze

ACTIVITY/SPACE	NOISE & ACCOUSTICS	VENTILA- TION	DAYLIGHTING/ LIGHTING	ASSOCIATED FACI- LITIES
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Curatorial Rooms	Noise pene- tration re- quired but not criti- cal.	Mechanical Ventila- tion is necessary	daylighting: 100 humens/ft ² min. supple- mentary arti- ficial task lighting. Ultra-violet filter are necessary.	Varnishing room with stove.
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Textiles
metals, por-
celain stone,
etc.

-do -

-do-

-do-

ACTIVITY/SPACE	PLAN	SECTION	FIXED EQUIP- MENT	EQUIPMENT REQUI- RING STORAGE
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Workshop

flat floor, dust extractors, timber, hammers,
min. ceiling tracks with power tools, gas
ht.: 3.5m pulleys (if re- rings, expamet,
sinks, woodwork- nails, screws etc.
ing machinery,
benches, grind-
ing stone

Storage Rooms

min. ceiling storage racks
ht.: 3.5m for paintings,
cabinets, illu-
minated shelves,
panels.

ACTIVITY/ SPACE	PLAN	SECTION	FIXED EQUIPMENT	EQUIPMENT RE- QUIREING STORAGE
Curatorial Rooms paintings	Flat floor, oil resist- ant	Flat floor, minimum room ht. 3.5m	press, washing tank fumigation chamber stove, hot table, ben- ch, cupboards.	Chemicals, lamps screens.
Textiles	-do-	-do-	stove press, wash tank, work table, sink, dress racks	Ironing board, materials; dye- stuff, chemicals
Metals, porece- lain stone, etc.	-do-	-do-	Cupboards, shelves examinations ta- ble with micros- scope, electroly- tic tanks, sold- ering and brac- ing tops, lathe drill, vice, oven	ultra-violet lamp, balance scales, record files, chemicals.
Lecture hall	Reduction of noise penetra- tion very es- sential. Rev- erb. time of 0.5-0.6 secs. desirable.	Mechanical Ventilation preferable		Projection booth, toilets, entry foyer
Library	-do-	Some suppl- mentary mecha- nical ventila- tion	Maximum day- lighting and permanent lighting.	toilets, libra- rian's office

ACTIVITY/ SPACE	PLAN	SECTION	FIXED EQUIPMENT	EQUIPMENT REQUI- RING STORAGE
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Lecture hall	shape determi- ned by angle of vision of scre- en and speaker ing areas.	Raked floor desirable. Distance from front row of seats to screen is critical.	audience seating screen	Screens, ampli- fication equip- ment, spares
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Library	Shape to maxi- mize daylight- ing in reading areas.	flat floor Min.ht. 4m.	Lending counter turnsiles, no- tice boards.	
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ACTIVITY/SPACE	NOISE AND AC- COUSTICS	VENTILATION	LIGHTING, DAY- LIGHTING	ASSOCIATED FACI- LITIES
Lecture hall	Reduction of noise penetra- tion very es- sential. Rev- erb. time of 0.3-0.6 secs. desirable.	Mechanical Ventilation preferable	General artifi- cial lighting. Daylighting	Projection booth, toilets, entry foyer

Library	-do-	Some supple- mentary mecha- nism ventila- tion	Maximum day- lighting and permanent lighting.	toilets, libra- rians, office
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ACTIVITY/ SPACE	NOISE AND ACOUSTICS	VENTILATION	DAYLIGHTING, LIGHTING	ASSOCIATED FACI- LITIES
Studios Painting, Crafts Sculpture Textiles	reduction of noise between adjoining spaces	Natural Ventila- tion desirable	Daylighting desirable General Light- ing.	Changing and washing faciliti- ties, refuse col- lection

ACTIVITY/ SPACE	PLAN	SECTION	FIXED EQUIPMENT	EQUIPMENT RE- QUIRING STORAGE
Entry Foyer	Flat Floor. Sized according to volume of visitors	Room volume, height modulated for ef- fect.	Seating, no- tice boards telephone	

NOISE AND ACCOU- STICS	VENTILATION	LIGHTING, DAYLIGHTING	ASSOCIATED FACILITIES
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Measures to con- tain noise in this area may be necessary.	Natural ventilation desirable	Some day- lighting, supplemen- tary arti- ficial light- ing.	W.c.'s sales facility for publications, prints, etc., reception and gallery sales.
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Artshop Arcade	PLAN	SECTION	FIXED EQUIPMENT	EQUIPMENT RE- QUIRING STORAGE
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Individual shops arranged for effect. Max. size: 3mx4m.	Ceiling height modulated for an intimate feeling.	Shelves, dis- play cases, cabinets.	Artworks, Jewel- lery etc.
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NOISE AND AC- COUSTICS	VENTILATION	LIGHTING, DAYLIGHTING	ASSOCIATED FA- CILITIES
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Measures to con- tain possible noise in area may be necessary	natural ventilation supplementary mech- anical.	Natural light Supplementary artificial light.	
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Painting	Flat and easily cleaned floor	Flat Floor, height e. 5m	Shelves, pinup boards, podia, cupboards, ben- ches, sinks, ventilated cabinets.	rolls of cloth, dye stuff, stools, shuttles, yarn, spindles
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ACTIVITY/ SPACE	NOISE AND ACCOUSTICS	VENTILATION	DAYLIGHTING, LIGHTING	ASSOCIATED FACI- LITIES
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Studios Painting, Crafts Sculpture Textiles	reduction of noise between adjoining spaces	Natural Ventila- tion desirable	Daylighting desirable General Light- ing.	Changing and washing facili- ties, refuse col- lection
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STUDIOS (CONTD)	PLAN	SECTION	FIXED EQUIP- MENT	EQUIPMENT REQUIR- ING STORAGE
Ceramics and Pot- tery	-do-	Natural Ventila- tion desirable Mechanical ven- tilation in storage area.	-do-	Changing and wash- ing facilities, tipping yard, driers, compacting area, glazing (kilns), reading area, rest rooms.

Galleries	Flat and easily cleaned floor. Oil-resistant.	Flat Floor. Mini-mum room height 5 metres. Top-lighting configura-tion.	Occasional rest seats	Display equipment
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NOISE AND ACCOUSTICS	VENTILATION	LIGHTING/PLAY- LIGHTING	ASSOCIATED FACILI- TIES
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Reduction of noise pene- tration be- tween and adjacent spaces	Mechanical venti- lation is neces- sary	Daylighting de- sirable. Gene- ral artificial lighting. Space should be top lit. All light sources should incorporate ultra-violet filters.	
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STUDIOS	PLAN	SECTION	FIXED EQUIP- MENT	EQUIPMENT REQUIR- ING FACILITIES
Sculpture	Flat and easily cleaned floor, oil resistant.	Flat floor, height minimum: 3.5m	Shelves, hand-operated hoists	timber, irony, stone chisels, knives, polish etc.
Crafts	-do-	Flat floor, height minimum: 3.5m	Shelves, benches	cane, polish etc.
Ceramics and pot- tery	-do-	Firing kiln should have fire-resisting walls and floor.	Potters wheel, clay traps pugmix, benches, cabinets, sinks taps.	clay, chemicals, ce- ment, chicken mesh, finished products, spray guns.

ACTIVITY SPACE	NOISE AND ACCOUSTICS	VENTILATION	DAYLIGHTING/ LIGHTING	ASSOCIATED FACILITIES
Workshops	Reduction of noise penetration isnecessary. Sound insulation of vibration machinery.		Top natural lighting if possible, Top artificial lighting 200-250 lux.	Changing rooms, rest room paint shop
Storage rooms	noise reduction not important	full air-conditioning is necessary.	-do-	receiving bay, offices.

and air pollution including dust is recommended.

The design of the air handling system must pay special regard to the amount of lighting there is likely to be.

(v) Fire fighting requirements demand that all part of the complex to be accessible to fire-fighting vehicles.

(vi) Security is important in the gallery's planning. Measures devising security arrangements in terms of theft and disfigurement or arson have to be considered to avoid irreplaceable loss.

(vii) The following site conditions should also be factors in design:

- the micro climate
- geology (especially earthquake - resistant measures), topography
- relationship of service lines (electricity, sewage etc) to site
- orientation of site.

8.4. Major accommodation

For detailed schedule see Appendix 1.

Administration:

Offices for the gallery administration:

Office for gallery director
Boardroom

Offices for:

Education department
Publications
Registrar
Chief Curator
Business

Public Spaces:

Foyer with reception and sales facility
Artship arcade
Temporary exhibition space.
Gallery space for exhibiting the major
Visual and Utilitarian arts

Sculpture courts

Restaurant and snack bar

- open seating

- enclosed seating

Kitchen

Lecture (capacity, 20,000 volumes)

Library hall (seating 350)

Studios

Studios for

Crafts

Sculpture

Pottery and Ceramics

Metals

Textiles

Curatorial Offices

for crafts

metals, stone, porcelain etc.

Textiles

Paintings

Storage and Production Space

Rooms for

Storing exhibits

Study collection

Exhibition preparation

8.5 Conceptual Approach:

- (i) It is intended that by design, certain visual and textile experiences that sharpen the encounter between artefact and observer will be harnessed to the full. Art will be extended into passage ways. Open areas and landscaped grounds.

- (ii) An open layout of buildings is desirable due to demands of the tropical context.
- (iii) A clear distinction between public and private areas should be a mark of the design.
- (iv) Circulation of visitors should allow them to make a circuit tour and as well to break away from this if so desired.
- (v) The organizing principle on form evolved from african sculpture should be evident in the architecture helping visual communication of exhibits.

8.6. The Design

8.6.1. General

Pedestrian entry into the site is given priority and dominance over the two vehicular access which are relegated to the east and western fringes of the site. Pedestrian entry is at the axial centre of the site terminating in the main foyer of the facility.

The forecourt of the National Art gallery is treated as a landscaped sculpture court setting the building back and heightening the effect of approach to a national facility.

Public and semi-public areas are arranged to the north of site to be encountered directly by the visitor entering invariably from the north boundary of 28th February, road, whilst non-public and work areas are relegated to the rear i.e. the south section of the site.

The galleries are a series of courtyard directly accessible from the main foyer entry and are arranged such that any future expansion of the galleries (to take place to the south-west of the galleries) will appear as part of the functional entity as well as part of the circuit of galleries. The cafeteria hooks into the circuit of galleries to the south east.

Studios, curatorial rooms and workshops at the rear of the site have vehicular access for delivery and service.

Formal visitors enter the main foyer which acts, like most parts of the complex, as an "exhibition space." Art is introduced to the visitor right from entry, through the immediately accessible galleries through sculpture courts and cafeteria till the very end of his tour.

The artshop arcade is arranged in an interesting curve directly east of the foyer. The lecture hall facility lies west of the foyer, above which is the library. These are given direct access from the street as well to enable them to be used when the gallery is not in session.

These clearly-defined functional parts do a lot to orient the visitor right from entry.

Future expansion space for the galleries is carefully landscaped and set with sculpture pieces to the south west and doubles for open air painting sessions for artists working in the gallery's studios.

Different forms of landscaping and paring also offer variety and interest throughout the complex.

8.6.2. Circulation

Planning of circulation for the gallery has been influenced to a great extent by the assumption that there will be some viewing sequence by visitors.

The galleries, directly accessible from the main foyer maintains a form of linear progression and as long as this is maintained circulation is clear and determined. There is a clarity and sense of order about this that is appealing.

Yet a certain dogmatism can result when circulation is defined as a closed circuit so that gaps are left in the circuit such that whole sections can be avoided if so desired.

Elements imposing visual order and are important are employed to help visitors. Recognisable architectural elements, bold sculpture pieces along the circuit etc., serve this purpose.

Non-public circulation is designed for the fringes whilst public circulation dominates the scheme at the centre when gallery is in session.

8.6.3. Architectural Expression

Forms of the buildings of the entire complex have been contrived with the plastic language of African sculpture. Suitable architectural equivalents are present in each element as in the arcades exterior arcs or the facade's bold columns which take on these curves, and angles to make a bold impression on the visitor.

Certain direct references to African or for that matter Ghanaian art are unavoidable as in the abstraction of the geometric rhythm of kente design used for the exterior of the walls of the galleries and certain textural patterns adapted from the established tradition of African ornament.

DESIGN OF VARIOUS SPACES

PUBLIC SPACES

8.6.4. Main Entry Foyer

The whole flavour of the art gallery is suggested by the treatment of this space (being the first and usually the last place seen by the visitor).

Its functions are essentially a place to receive and assemble parties of visitors, where notices are displayed and directions given, where guide books, gallery's publication, reproductions can be purchased, a waiting area, and where security checks can be carried out. These are

adequately catered for.

The foyer is entered through revolving doors which allow simple automatic locking in case of a burglar alarm. The character of the space is clearly established by bold elements of sculpture and painting. A pool around which waiting visitors can sit extends from the foyer interior through a glass curtain to the exterior porch. The very size of the space makes possible to cope with considerable crowds.

Direction finding is simple on entry. A reception counter is provided opposite the entry point. The sales facility is in the alcove en route to the toilets.

Artshops are visible and accessible from the foyer and the administration, which is placed above this foyer is accessible by stairs next to the foyer.

Large crowds and the volume of dirt have suggested easily cleaned floors.

8.6.5. Artshop arcade:

Directly accessible from the foyer is the artshop arcade which consists of a string of shops in an interesting curvilinear arrangement.

The intimate feeling of the oriental "bazaar" or middle eastern "Souk" is evoked here. Ceiling height is reduced to give the intimate feeling and the arcade over the passage gives a suitable rhythm to the promenade. The curving fashion of the shops arrangement is functional serving to reduce the number of shops one encounters visually at a time. Thus the considerable number of shops do not overwhelm the visitor.

8.6.6. Exhibition Galleries

General: A clear circulation has warranted that these galleries be directly accessible from the main entry foyer.

The gallery entrance that suggests itself is the beginning of the gallery circuit. Each is entered through revolving doors which are useful as draught excluders.

The galleries are similar modules each fashioned around a courtyard. The space is designed on a ten metre module derived from viewing distance observations for all types of artworks. The galleries are therefore open adaptable spaces which allow the interior to be organised for whatever artform is to be exhibited.

Comfortable seating is provided randomly around the centre columns at the comfortable distance of 5 metres from either of the gallery walls where weary visitors on the circuit can rest and whilst at it contemplate on the surrounding exhibits.

The courtyards around which the individual galleries are organised are refreshingly land-scaped for an "eye rest" effect and are clearly visible through a series of large windows on all four sides of the court.

The tyro-textured surface of the walls serves for a low reflectance finish which gives a comfortable contrasting, unobstrusive background to the artworks exhibited.

Lighting

Daylighting: The gallery's enclosure is given sectional properties to make possible the admission of shaded top-daylighting. High level angled windows are employed and these are shaded with cantilevers to reduce direct sunlight and glare. This control of daylighting is important for the technical problem of conservation of the exhibits and it also serves to reduce the heat gain into the indoor environment.

The daylighting thus admitted is filtered through screens of translucent acrylic etched to reduce glare and coated to filter out ultra-violet light.

All the natural light sources are fitted with blinds to obscure or modulate daylight when desired e.g. during the hours of daylight when the gallery is closed to the public.

Artificial Lighting: A versatile and adaptable system of lighting is needed. Guide tracks on the ceiling held directionally and positionally adjustable tungsten filament lights. Their adjustable quality make them adaptable to any scheme of presentation or artform. This is essential since different objects will need different qualities of light to become "visible". A uniform lighting in its inappropriateness to function will contribute to the tiring effects of "gallery fatigue" from excessively static illumination.

Both forms of lighting should together not exceed 150 lux.

Air-conditioning: This is a functional necessity in the context of the art gallery. The harmful effects on exhibits of the excessively high humidity and salinity of the sea breeze, the dust etc., and the stringent demands for conservation of exhibits dictate this service a prime necessity.

Clean air and a uniform environment at 55% relative humidity is specified for these interiors. Two plants of $9\text{m}^3/\text{sec.}$ capacity each are specified for the three courts of galleries. These are situated on the roof. This is found necessary because a larger central unit will be plagued with pressure losses and heat gains in the ducts to excessive lengths of ducting.

The capacities of these plants are specified taking into account the heat gains from the lighting sources.

Ducts run through the pitched ceiling void and a high level delivery of conditioned air and a high level exhaust, through ceiling ducts again,

of vitiated air is employed.

The cost of installing such plant is offset by a lower conservation bill.

Fire Requirements: A fire detector system is specified as against a sprinkler since it is undesirable to have exhibits drenched at the slightest signs of fire. Some exhibits will be coated with fire retardant solutions and fire extinguishers and sand buckets will be provided.

Emergency and Escape

The layout of the complex is such that visitors are never in excess of 30 metres away from a staircase or exit.

8.6.7. Lecture Hall

This facility is directly accessible from the main entry Foyer. It is as well given an access to the street enabling its use when the gallery is not in session. The foyers toilets are adjacent to it.

Seating: Encirclement is approximately 60° . This lecture hall seats 350 persons in two raked tiers of 18 rows. Seats are the tip-up type with back-to-back spacing of 900mm. The distance between the centre of stage and the last row of seating is 25000mm, compatible with accepted standards.

Behind the last row of seats, standing space has been provided so that disabled persons can be wheeled in without disturbing normal circulation.

Interior Design

Interior surfaces are alternate vertical bands of smooth and textured nails, the textures derived from African ornament. Curtains with traditional motifs of a dark but attractive nature are used for controlling daylight into the hall.

Projection booth: this is at the rear of the hall and is equipped with projection equipment specified for operational flexibility, circulation space around the equipment for servicing purposes is allowed for.

Screen: A curved directional screen is provided on stage. Screen radius is 80% of projection throw and rises of chord is 10% chord width.

Lighting and Illumination: Subdued lighting is provided for effect. Lighting has been provided for steps in gangways and also for seat demarkation. Dimmer equipment will be in the projection booth, the man at the controls reading from a dimmer plot prepared for him.

Sound Amplification: Controls are in the project room and duplicated on the speakers podium. A loud speaker system fixed into the ceiling is specified.

Accoustics: A suitably shaped room enclosure, provision for adequate diffusion, well controlled reverberation time, carefully selected accoustical finishes control and stimulate the conditions of the lecture hall.

All seats have been provided with accoustic panels beneath so that the absorption equivalent remains unchanged when unoccupied.

Emergency and Escape: The hall is catered for in the even of rapid evacuation. Two entries/exits are provided which cope with a large volume of traffic.

All combustible materials are to be coated with fire-retardant solution and fire fighting equipment provided is a manually operated sprinkler system.

Ventilation: The hall is designed to receive the pleasant sea breeze from the south west. Maximum window openings are provided on the

southern and northern walls and ceiling fans supplement air circulation.

8.6.8. Library

The library is above the lecture hall facility and it shares a foyer with it making it accessible from the street and usable when the gallery is not in session.

Turnstiles are provided for control and security near the enquiry desk. The card index and catalogue guides are also provided next to the enquiry desk.

Reading/Study Area: Work tables of 900mm by 600mm per reader are provided and readers sit facing each other in groups of four. The study area is located for maximum use of daylighting.

Shelving Units: Individually adjustable island metal shelving with a unit height of 2000mm are used. Shelf depth is 300mm and main routes in 'open access' area are of 2000mm clear width while minor routes are 1500mm wide.

Lighting: Artificial lighting is generally by fluorescent lighting but additional tungsten filament lighting to indicate changes in function or environment as in the control area or shelving are added sparkle and interest to the scheme. Control and enquiry desk area should have a lighting level of 600 lux. Reading tables should not be lighted in excess of 400 lux.

Finishes: Resilient like flooring is used in all areas. Steps are carpeted to reduce impact noise. Sound absorbent soft board ceilings help control noise level and pale quiet colours are employed for a sombre studious environment.

Ancillaries: Catalogue work area and office space is provided for a librarian and his staff. Toilets are adjacent to the library on route to offices of the general administration.

8.6.9 Sculpture Courts:

Two Sculpture courts are provided along the circuit of galleries. A major third court is visible from the Cafeteria and this extends into the south-west open landscaped area which is also treated with sculpture. The forecourt of the complex is also given similar treatment of a carefully landscaped sculpture court to heighten approach to the complex. The courts whenever paved are done with glare free surfaces.

8.6.10. Cafeteria/Restaurant Area:

This area hooks into the circuit of galleries at an interesting point. Though it is easily accessible from the foyer to the familiar visitor, the new comer will probably encounter this area as a refreshing break to his tour.

On the ground level, there are both unclosed and open seating areas, the latter in visual link with the sculpture court. Sculptural columns of double-storey height are used in the open seating area.

Bar: The bar serves both the enclosed and open seating area and sufficient seating is provided along the counter. The "back counter" of the bar acts as a 'shop window' for the display of available selection of drinks and also as a store for all items on sale.

A sink and space for a refrigerating machine have been provided. Bulk storage will however be in the kitchen storage area.

Restaurant: The restaurant is designed so that a variety of seating arrangements can be provided for a varying number. Service aisles are in all cases not more than 1500mm. The ambience of the interior is an important factor for the guest's comfort and decoration and lighting have been made an integral part of the design.

A bar counter is provided with seating as well. A waiters' rest-room is adjacent to the toilets.

The restaurant is serviced from the kitchen on the ground floor, a goods lift capable of handling 3 trolleys and a staircase are provided to link the restaurant's ante-room with the kitchen. The restaurant's ante-room acts as a serving.

The restaurant is air-conditioned from the second plant that serves the gallery close to it.

Club Rooms: Meeting rooms have been provided to serve a valuable function. Although artwork within a gallery can only communicate to individuals, this communication can be discussed and compared as a result, may frequently become more intelligible.

Two such spaces are provided on the restaurant level and these open out onto a terrace that overlooks the Atlantic ocean.

Kitchen: This is served directly by a service road from the rear and careful design conceals the delivery of food as well as the exit of garbage. Washing and changing facilities for workers is located near this service entrance and storage facilities (both dry and frozen) are directly accessible from the service entrance. Circulation space in the area makes room for bulk delivery and handling of goods.

The main kitchen is one general area yet is divided into its functional parts of vegetables preparation, cooking, frying, grilling, cold buffet serverly and wash up area.

A hood over the cooking area equipment joins a stack of two-storey height that discharges over the roof the terrace above the kitchen.

Toilets: Adequate toilet facilities for visitors have been provided for visitors at very convenient and easily accessible locations on both the ground floor and restaurant level.

Caretaker's Residence: The Caretaker is provided with a two bedroom flat right above the toilets south of the facility. Careful design makes it possible for the facility not to intrude or be disturbed with surrounding activity.

WORKING SPACES

8.6.11. Studies

These are situated south of the site directly accessible to galleries and curatorial rooms.

Ceramics and Pottery: The studio is on the ground floor of the studio block (sub-level to the gallery entry level) and is linked to the service entry to the curatorial rooms from where the studio is serviced. A tipping yard for clay is provided here. A compacting area is provided. The studio is organised into three functional areas, the first being a modelling area, the second being an area for benchwork, heat treatment and the third area organised for a kiln and glazing.

A chalkboard, materials store and office are also provided.

Sculpture: This is also situated on the ground floor level of the studio block with access to the service entry of the curatorial rooms.

An outdoor space for large scale modelling and sculpting is provided. The interior space of the studio is structured into individual work niches surrounding a podium for posing. A materials store, office and washing facilities are provided.

Metals: This space is structured into an area for workbenches and a forging, heating and casting areas. An office and storage facilities are provided.

A studio for drafting out ideas is provided next to this studio to be shared by all the departments of the block.

Textiles: This consists of a weaving area with a materials and chemicals store and a dyeing and printing area. An office is also provided. Drafting is done in the adjoining general studio.

Crafts: An adaptable space is provided for a multiplicity of crafts and much of the space is left without fixed furnishings. Storage and office space is provided.

Painting: The painting studio has the largest amount of space compared to the other studios.

An informal area of drawing and painting is organised around a posing podium. Small niches are also provided for individual work. Materials storage and office space are provided.

General: The two levels of studios are served with a lift for exhibits and a staircase. The bulk of washing and changing facilities are provided on the first floor next to the crafts studio.

Large temporary storage space for exhibits produced by the studios is provided adjacent to the jury room and curatorial office provided in the studio block.

Circulation: Corridors in the block are made wide to accommodate any movement of large exhibits or equipment.

Ventilation: Adequate ventilation is had through extensive window areas on the north and south windows. Mechanical ventilation in the form of fans are provided in all studio to aid the condition. Chemical storage areas are served with unit air conditioners.

Lighting: All studios are provided with general supplementary artificial lighting in the form of fluorescent lighting at 300 lux maximum.

8.6.12. Curatorial Rooms and Workshops:

Curatorial Rooms: Work of a precise and critical nature is performed here and great care has been taken to provide an environment adequate in quality and size.

Paintings: These have adequate provision: a minimum of 300 lumens/sq.ft. from the windows facing south. This is a functional necessity. Space is provided for a fumigation chamber and a varnishing room with stove.

Metals, porcelain, stone etc: The general level of illumination as provided for by all light sources is 50 lumens/sq.ft. More exacting work areas have been provided with 100 lumens/sq.ft. lighting level (locally). The room has two sections: one side dealing with metal work and a fume cupboard for cyanide treatment and side for detail work on porcelain, stone, marble etc.

Textiles: The room is organised into two functional areas: one side for sewing and mending and one side for laundry and cleaning. A large wash tank, 3500mm x 1500mm is provided.

Furniture, Wood etc.: Ample space is provided here for the larger pieces of woodwork since there may be several being restored at the same time.

The ceiling is made strong enough to take the thrusts of telescopic tubes used for glued inlays etc.

The room is laid out in two broad areas: a partitioned space to house a grinder, jigsaw, cabinet maker's bench and a multi-purpose lathe, and a general area for the rest of the required equipment.

Ventilation: Full air-conditioning is provided in these rooms as a functional requirement. The refrigeration and air handling plant is on the storage level, a floor below the curatorial rooms.

offices and records room: Space is provided for curators' administrative records work.

Exhibition Preparation/Workshop

This space is laid out for both metal working and woodworking functions. One side of the space for a forge, grinder, drill machine, lathe and soldering. Woodworking benches, a circular saw, a wood lathe take up the rest of the space. The generous size of the shop enables large exhibits and panels to be handled.

Exhibits are received or dispatched by way of two large lifts linking this level to the storage level below.

Storage: Storage of exhibits received, travelling or otherwise, is covered by two 150 sq.in. rooms. There is a service entry for vehicles into a side court which is secured with a roller grille shutter once vehicles are in for off loading. Receiving offices for curators are provided next to the service entry and storage rooms are directly accessible from here.

Two large goods lifts link this level to the upper floor, for the purpose of moving exhibits.

Ventilation: Storage rooms are air conditioned as their function requires. The plant is located on the same level next to one of the storage rooms. Plant capacity size is estimated to be $7\text{m}^3/\text{sec.}$ and resulting plant room size is fixed at 80m^2 .

Circulation: Corridors are of 4 metre width to make possible the delivery of large crates of exhibits.

Fire Requirements: A fire detector system has been provided and fire extinguishers and sand buckets will be on hand.

8.6.13. Administration Offices:

These are located for prominence and accessibility, over the entry foyer and artshop arcade.

The gallery director's offices are prominent on the facade commanding a view of the forecourt and activity on 28th February Road. A general office is provided and additional office space for the following departments of gallery administration are provided:

- (1) Education Department publications
- (2) Chief Curator's offices
- (3) Registrar's offices
- (4) Business Manager's offices.

A board room caters for policy-making meetings for the board of trustees of the gallery. Toilets are provided adjacent the general office. A walkway linking the director's offices with the other departmental offices achieves an interesting architectural effect when it crosses the double-volume of the main entry foyer below it.

8.6.14. Construction

Generally, all buildings of the complex are reinforced concrete framed structures. Various modules are [redacted] for the different buildings of the complex but the underlying factor of 2000mm does not occur by itself.

The galleries are dominated by a 5000mm module whilst the foyer areas, cafeteria and studios employ varying centres as the condition demands.

The arcs that traverse the artshop arcade onto the roof of the gallery administration are precast reinforced concrete panels to be hoisted and cast into place.

All fascias are in-situ cast reinforced concrete lecture.

Lecture Hall: The roof of the lecture hall forming the floor of the library is out of deep section. Lattice girders carrying the columns of the library above. Steel decking with a concrete topping constitutes the structural flooring.

8.6.15. Finishes:

The standards of finishes are to be reasonably good and building materials and finishes are to be durable, almost maintenance free and having a good appearance. Spaces have been carefully located for murals on some external walls. All exposed metals should be corrosive-free or corrosive resistant.

8.6.16. Parking:

The main public car park caters for motor cycles, coaches and bicycles as well as 100 cars. Staff parking caters for 30 cars. At peak periods, overspill of visitor parking is accommodated on the lawns adjacent the parking areas.

8.6.17. Landscaping: This has been discussed under other headings.

Water taps and storage for gardeners' tools have been incorporated.

8.6.18. Ventilation and Orientation:

Orientation leans towards the favoured east-west axis though a few walls have to have their openings specially shaded since they face this axis.

All windows have adequate shading and the axis of orientation make naturally ventilated interiors receive the full benefit of the wind direction.

8.6.19. Services:

Air-conditioning:

Full air-conditioning has been provided in the galleries, restaurant and the storage and curatorial rooms of the complex. All air is directed and supplied from ceiling grilles. Air volumes in the galleries will be monitored according to exhibits demands.

One refrigeration plant sends chilled water to the two $9\text{m}^3/\text{sec}$. air handing unit on the top of the galleries. Warm water from the refrigeration plant is colled on a cooling tower on the roof of the cafeteria in the direction of wind from the ocean.

All equipment should be selected to operate at minimum noise levels. Plant mountings consisting of anti-vibration units of the spring loaded patterns will be incorporated and noise traps will be filled into all ducts to eliminate air borne noise.

Another refrigeration and air-handing plant serves the curatorial and storage rooms with similar performance. This is on the other hand situated on the ground floor of the block.

Noise and Accoustics:

Accepted noise levels, noise control and isolation determined to a large extent the layout of the complex. The positioning of the galleries and their conditioned environment reduce noise in them to an acceptable level. The library and the lecture halls are provided with sound locks where they are adjacent to any noise source.

Water and Sewerage:

Pipelines exist on site and these can be easily connected. The Accra main central sewage line runs along the 28th February road and all sewage lines will be connected to it.

Drainage:

An open drain runs east of the site entering the sea south of the site. This will receive drainage from the adequate drains, roof spouts incorporated into the complex to facilitate easy site drainage.

Electricity:

A transformer and generator plant are located south of the workshop area. Switch rooms have been located where they will be needed and sufficient space is provided for socket outlets and switches. All wires will run in concealed conduits.

Lighting:

Special lighting for various areas have been discussed in detail but all areas will be provided with general lighting. Lighting will also be provided in car parks and entrance routes and in landscaped areas.

Lighting:

Special lighting for various areas have been discussed in detail but all areas will be provided with general lighting. Lighting will also be provided in car parks and entrance routes and in landscaped areas.

Telephones:

Telephone links will be provided for all parts of the complex.

~~Taken-operated~~ telephones have been located in the main entry foyer.

Maintenance and Cleaning:

Changing rooms and tools stores have been provided for cleaners at convenient locations.

Refuse Disposal:

Cupboards and enclosures have been provided for refuse bins and refuse rooms have been provided for the kitchen and workshop.

8.6.20. Escape and Emergency:

Much depends on the clarity of layout of buildings of the complex. Exits have been related to normal circulation routes and the danger of panic has been taken care of. All internal spaces have been designed for rapid evacuation and materials with accepted fire ratings have been used.

Fire Fighting:

Fire fighting requirements have been discussed. Generally, hose reels have been incorporated and fire hydrants have been located in easily accessible positions.

8.6.21. Security:

The gallery's collection are a valuable irreplaceable set of objects which must be protected from loss or accidental destruction.

Means devised in the complex against theft fall under two categories. Guards on duty provide the first category. They are aided by an alarm system which when set off shows on a central switchboard in the reception of the main entry foyer and which can cause all doors to close so as to trap the thief.

Fixing details will be connected to an electric system which sets off an alarm when there is a disturbance of the exhibit.

Night time security is achieved by preventing entry and measures to immediately detect this. Openings are protected by roller grille shutters that are wired to a central system so that an alarm is set off when they are opened.

8.6.22. Phasing and Expansion

It would be desirable to complete the complex as designed as one phase of development if the funds can be acquired with subsequent expansions to gallery space forming other phases of expansion. In the

event of a short-fall in these expectations, the following phasing proposals help achieve the development in a peace-meal fashion.

Phase 1: Main entry foyer with administration and artshops, gallery spaces, lecture hall and library will be completed in this phase. The workshop, storage and curatorial rooms will also be developed. This makes the gallery though incomplete, more of an entity as it stands.

Phase 2: The cafeteria and studio block will be added to the complex in this phase.

Subsequent phases will seek to expand the exhibition gallery facility to the South-west of the site.

8.6.23. Conclusion

Putting up a National art gallery will not in itself guarantee an increase in patronage of the visual and utilitarian arts by the Ghanaian. Rather it is gallery policy and programmes of operation that will help promulgate the interest and increase patronage. To this end

- (i) Programmes of the gallery should be drawn up on the assessment of the Society's educational needs and the distinct demands of the various sections of Ghanaian society.
- (ii) The gallery's educational department should send out lecture material and organise guided tours for groups both inside and outside the country to help propagate the arts.
- (iv) The restaurant/cafeteria could be an important factor to pull visitors to the facility if management is particular about the quality of its services.
- (v) Maintaining an efficient guide service to the gallery is important in helping the visitor appreciate and digest what he or she observes.

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APPENDIX I

SCHEDULE OF ACCOMMODATION:

PUBLIC SPACES	Area M ²
Main Entry Foyer:	240
Reception	40
Sales Facility	36
Toilets - male	16
Female	16
Circulation	190
Artshop Arcade	536
Exhibition Galleries:	
Open Informal area	500
Galleries	5280
Courtyards	420
Circulation	900m ²
Cafeteria/Restaurant area:	
Open Seating	250
Covered seating and bar	550
Toilets - Male	68
- Female	68
Restaurant	500
Toilets - Male	36
- Female	36
Lecture Hall:	
Circulation	88
Library:	
Circulation	560
Visitors Parking	2200
WORKSPACES:	
Studio Block	
Painting Studio	160
Office	14
Materials Store	16
Crafts Studio	128
Office	14
Storage	20

SCHEDULE OF ACCOMMODATION (CONTD.)

	Area	M ²
Ceramics Studio		80
Glazing/kilns area		80
Modelling area		16
Storage		16
Tipping yard		48
Sculpture Studio		128
Tools, materials store		20
Office		16
Forecourt		48
Materials Studio		80
Office		16
Store		24
Textiles Studio		100
Material Store		20
Chemicals Store		16
General Drafting Studio		80
Jury Room		44
Curatorial Office		16
Artist's Check-in		16
Caretakers Apartment:		
Sleeping space		24
Toilet, bath		8
Kitchenette		12
Living and Dining		28
Balcony		4
Circulation		20

APPENDIX 2

LIGHTING

Since the art gallery's primary concern is with the visual communication of objects of aesthetic and cultural interest, the success of such communication will be highly dependent in the clarity and aptness of lighting conditions provided.

General:

To be seen objects require light. The amount of light needed however is not a quantity which can be specified easily but depend, on the situation and context of the situation of viewing. Art gallery lighting is in general halfway between the predetermined dramatic lighting effects of the theatre and that for a laboratory or classroom in which various objects are to be examined in visual comfort. Since all light and ultra-violet in particular will deteriorate most items on display, lighting in galleries is usually also a balance between the demands of the exhibits and that of the viewer. It is always desirable to work with the lowest possible illumination in areas with light sensitive exhibits and make certain that these levels are maintained for the shortest possible time. This means that measures should be devised in such areas to progressively lower the lighting levels from the transition from outdoors to indoors.

Daylighting:

Quantitative Aspects: The variation of outdoor illumination makes it unrealistic to use specific values of illumination as standards for the design of interiors. Recent practice has tended to exclude

natural lighting in an attempt to define an ideal through considerable manipulation of artificial lighting.

But where daylight can be effectively tapped, it can be used to the advantage of visual quality thus avoiding the inappropriate uniform conditions for lighting highly individual objects sometimes obtained with artificial lighting. As such a daylight factor of 1% is used for the purpose of indoor lighting level computations for the facility.

Qualitative Aspects: All daylight received into the gallery is controlled to achieve the desired quantity as well as quality. All direct sunlight directly with ease. This is achieved with a large roof overhang and openings pitched at an angle to the cantilever.

All daylight admitted is filtered to screen out all ultra-violet rays which have been shown to be harmful to exhibits. These filters, applied to the glazed openings consist of translucent acrylic sheet etched to reduce glare and coated with a varnish, the openings are all equipped with adjustable louvre blinds and these can be used to dim or shut out entirely the component of daylight.

Artificial Lighting:

Quantitative Aspects: Maximum recommended levels of lighting relating to certain groups of exhibits where these maxima are derived from a need for conservation (by the Illuminating Engineering Society) are applied in the specification of lighting for the gallery's interior. These levels will in practice give perfectly adequate viewing.

Qualitative Aspects: In the specification of artificial lighting for gallery purposes, the spectral value of the light specified is of importance. The colour temperature of a light source in Kelvin (the temperature a perfect black body will have to reach in order to emit light of that spectral value) is specified for a number of reasons.

A very close relation exists between the levels of brightness the

viewer finds agreeable and their prevailing colour temperature.

Fluorescent tubes are available in three ranges of colour temperature; the upper range equivalent to north light at over 6000°K , a middle range equivalent to mid-afternoon sunlight at about 42000°K and a lower range which is meant to equal tungsten filament. Fluorescent tubes used in gallery illumination are of the middle range their warmer tones at lower intensities are much more agreeable. Where still warmer tones are desired, tungsten lamps are used as they are safer from a conservation point of viewer.

It is necessary to filter all fluorescent light source of their ultra-violet content. It is much better to have the filter (a coated transparent sheet) over the light source rather than over the exhibit, ultra-violet filters have a rather short life of under four years in tropical sunlight and these should be changed regularly to safeguard exhibits.

Summary: A visit to an art gallery is basically a visual experience and the visitor relies on these specifications on lighting to enable him see the exhibits. Proper lighting control starts right from entry and the visitor upon entering and moving through the building must be given time and satisfactory ambient lighting conditions to enable him adapt continuously to the different display lighting conditions for different exhibits.