A FUSION OF NIGERIA'S REGIONAL ARCHITECTURAL STYLES IN THE DESIGN OF PROPOSED NATIONAL ARTS AND HISTORY MUSEUM, ABUJA.

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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE IN ARCHITECTURE

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Declaration

I declare that the work in this Thesis entitled A FUSION OF NIGERIA'S REGIONAL ARCHITECTURAL STYLES IN THE DESIGN OF PROPOSED NATIONAL ARTS AND HISTORY MUSEUM, ABUJA has been carried out by me in the department of Architecture, Ahmadu Bello University, Zaria. The information gotten from the literature has been duly acknowledged in the text and in the reference list provided. No part of this thesis has been presented for another degree or diploma in any other institution.

Nnaluo Chukwuedozie Gabriel	_____	_____
Name of student	Signature	Date

Certification

This Thesis entitled A FUSION OF NIGERIA'S REGIONAL ARCHITECTURAL STYLES IN THE DESIGN OF PROPOSED NATIONAL ARTS AND HISTORY MUSEUM, ABUJA, by Chukwuedozie, Gabriel NNALUO meets the regulations governing the award of the degree of Masters of Science in Architecture of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Dr. A. J. Ango — Signature _____

Chairman, supervisory committee — Date _____

Dr. J. J. Maina — Signature _____

Member, supervisory committee — Date _____

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Head of Department — Date _____

Prof. S. Z. Abubakar — Signature _____

Dean, School of Postgraduate Studies — Date _____

Dedication

This thesis is firstly dedicated to the memory of the dearest woman I've yet encountered through my life's sojourn, my mother, late Mrs. Katherine Okonkwo, who consistently saw greatness in me and nurtured it tirelessly with all her strength and grace. Keep resting Ma.

It is finally dedicated to the two angels I know in human skin, my nephew and niece, Kelechi and Chisom both of whom have not as much as uttered a constructive sentence in English but have taught me both to trust and to be cautious. I hope you both grow wings someday.

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I'm grateful to the Curators and the entire management of the Gidan Makama Museum, British Council Library Kano, National Museum Onikan, and National Museum of History, Aba, National Museum Owerri, for providing field materials and allowing access to relevant materials during the field work of this research. Their assistance has enamoured this Thesis.

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Abstract

Several researches have been done to ascertain the impact or influence of Euro-American architectural style to third world countries, especially within Africa. This thesis argues that the architecture of Nigeria as obviously distinct between her 3 major geo-political zones; Hausa land, Igbo land and Yoruba land, also referred to as Regionalism existent within each zone, bear common features in terms of both sense of space as well as sense of place as obvious in their planning concept and or building form, which provides a centre for fusion to obtain a unique style that cuts across all three regions with intrinsic identity. Given the odds of such a fusion it is suggested under the aegis of *Deconstructivism,* an architectural philosophy concerned with abstraction and fragmentation of constructs towards the evolution of new forms of existence of same. The data for this research was gathered both from literature on the architectural history of Nigeria from the Traditional to post-modern era and from field data obtained Museum buildings from each of the three regions studied. Its tool for assessment included a walk-through survey and check list analysis of variables learned from literature, both of which are essential for an Exploratory Qualitative research as this. The research employs the use of both graphs and charts to interpret field data. The result was validated by a focus group analysis involving both student and staff architects of Ahmadu Bello University, Zaria to ensure viability. Relevant findings from the study showed that the trio-regions were best fused by Trace philosophy of Deconstructivism in search of a national identity with 30%, 30%, 28.33% attributes for Hausa, Igbo and Yoruba regions respectively and 11.67% undecidables. Its implication to design includes that the new Nigerian archetype among other parameters should centre on local climate sensitivity, use of indigenous building materials and functional consideration in circulation spaces.

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Glossary

Azara	a locally obtained wood, and thatch for roof trusses, beams
Makuba	a type of dry grass, formed and heated to solidify
Massalacci	Mosque
Mbari	Igbo native shrines
Parc de la Villette	a French architecture congress
Souqs	market
Tubali	locally moulded conical bricks, composed of red clay
Zaure	entrance hall, compound head's reception room, visitor's room

CHAPTER ONE

1.0 INTRODUCTION

1.1 Research Background

The world as we know it undergoes constant changes. These changes include evolution of humans, animals and plants. During the Neolithic age, humans lived in cluster formations around large fresh water sources along valleys, such as the Tigris and Euphrates. First Settlements date to around 9000 BC following Neolithic revolution (Ahmed, 2014). Regional formation and amalgamations gave rise to formation of larger kingdoms, colonialism extended the rules and reigns of these kingdoms across seas, oceans, and even continents. Where ever humans went, they went with their beliefs, their culture, their tradition; this was their identity, and where ever basic resources for survival were available, they would settle until they require more space. This was how the colonial masters entered Africa in 1884, and in 1914, northern and southern Nigeria were united for administrative purposes into a single British colony (American Historical Association, 2013).

Nigeria enjoyed a rich cultural and natural heritage, traceable from antiquity to contemporary times, spread across its geo-political zones. Such as is evident in the diversity of the people's way of life, worship of deity, cultural identity, creative arts, settlements, and even recreation. Though there is archaeological evidence that societies have been living in Nigeria for more than twenty-five hundred years, the borders of modern Nigeria were not created until the British consolidated their colonial power over the area in 1914. Nigeria's pre-colonial periods enjoyed leadership of the divided territories by traditional native rulers. The people were basically agrarian community, with the south involved in hunting and gathering, the North was committed to ground nut and cereal farming, while the east farmed yams and processed palm oil. It could be perceived that a shared value among these people was their skin colour, cultural identity and artefacts including pieces of statuary and carvings, rare

coins, archaeological and ethnographic formations. The 1920s and 1930s saw worldwide economic crisis. This period saw the rise of efforts by African Americans and others of African descent outside of Africa to link the condition of colonized Africans to universal concepts of justice, natural rights, and human rights with the goal of eliminating colonialism by promoting independence (American Historical Association, 2013).

In most third world countries, colonialism improved facets of the peoples' economy, education, industry and health care, etc. while it depletes layers of cultural significance, tradition and identity through an injection of modernity, some of which were valid "in a world totally dominated by Western economies where one must modernize or starve" (Habib, 1985). This cultural depletion anchors the problem of architecture in many third world countries. Hoteit (2015) describes architecture as one of the oldest human crafts. It began with the birth of man and accompanied him through the different stages of his development, changed as he changed and mirrored his different influences. Therefore, architecture, similar to man, is influenced by society, customs, traditions, intellect, politics and economics. Adeyemi (2008) explains that Nigerian Traditional architecture which once denoted typical Nigerian buildings, especially houses of residence in both Northern, Western and Eastern region; worship places such as the famous Zaria *massalacci* buildings and Town Palaces gave way to massive "thoughtless" importation of foreign styles from the Europeans and Americans, thereby corralling the Traditional architectural identity to a niche. Nigeria's colonization lasted until 1960.

According to Habib (1985) Regionalism as an ideology is gradually asserting itself among intellectuals of the Third World as well as a lot of Western thinkers thinking about the Third World. It is a response to architecture of "places, culture and climate" (William, 1982), that succeeded the Traditional architecture of third world countries. Researches including William (1982), Habib (1985), Adeyemi (2008) Frampton (1983) and Procnal-Ogunsote

(1993), among several others, have explored the strengths of Regionalism and its prospect for architectural identity in regional societies, and a dare to say, national identity, especially third world countries. In some instances, countries newly independent from colonial rule pursued a philosophy of modernization as a strategy towards cultural identity (Habib, 1985). This has led to theories like critical regionalism, an architectural "commitment to *place* rather than *space,*" (Frampton, 1983). Its limitation, however, is its criticality to only a region such that "a conjunction between the *cultural* and the *political* is difficult to achieve in late capitalist society" (Frampton, 1983). Such limitation becomes colossal in the contemporary Nigerian society where multi-ethnicity, religious diversity and apparent fragmentation characterizes its morphology. In her research, (Procnal-Ogunsote, 1993) specifically identifies Regionalism among Post-modern and International style, as "able to satisfy the desire for identity" recommending further research to improve them.

1.2 Problem Statement

In Regional societies such as Pakistan, India and Nigeria, the search for a national archetype is a prevailing architectural problem, as in many third world countries, with Regionalism as a basis for exploration. This becomes obvious in studies like Habib (1985), Kenneth (1983) and William (1982). However, societal regions share a common geographical boundary and within which the peoples' "aspect of live and prevalent modes of expression as well as climate and topography" (Habib, 1985) is relatively the same. This poses a particular problem among larger domains, in which the synthesis of a National archetype based on a single region is redundant, as when a region gets very large it loses its perceptual cohesiveness (Habib, 1985) and "attempt to circumvent the dialectics of this creative process through the eclectic procedures of historicism can only result in consumerist iconography masquerading as culture" (Frampton, 1983).

The research problem is hence that of a phenomenon, one of fusing the predominant Nigerian Regional styles in an attempt to synthesize an archetype that offers identity on a national scale. It employs deconstructivism as a tool of contemporary relevance. Through this process, a generated archetype lies on the grid of culture and civilization. Adeyemi (2008) describes this phenomenon as "a task for creative talents, because lesser talents run the risk of producing buildings which are pastiches of both modern and traditional forms." While Eclecticism could displace certain cultural features as it interlaces with other styles, it does so, no more than evolution and civilization. The rationale for Deconstruction in the regional fusion is to regulate recombination of specific variables of identity, both in form and space, of each region, and proffer manipulation of same to generate an archetype devoid of "sterile stylistic cultural interpretation" (Sabir & Hasan-Uddin, n.d).

1.3 Justification

Very little is yet known or explored on the design philosophy of *Deconstructivism* in Nigerian architecture. Some critics assume it has the same stance as early Modernism to victimize the vernacular, however the application of its concept have transformed sedentary architecture in developed countries with relevance to place, history and local context. Following the demand for a Modern Museum by the Society of Nigeria Artists (SNA) in the Federal Capital Territory (FCT), expected to play a role in promoting national unity, the proposed Museum and its approach seek both to satisfy this need as well as harness our potential for contemporary and futuristic architecture. Hooper (1994) explained that understanding that there are critical moments being created in history that are becoming more challenging to communicate in a form of an exhibition, Architects, and professionals relevant to the field of Museum design, need to re-evaluate how to capture these services in a way that holds social interest and relevance to the public.

As narrated in Cho (n.d) “Radical changes made in the cultural and social domains of the world, lead to the evolving nature of predetermined theory, ideas and architectural building types. It is from these revolutionary shifts in history, that the museums require alternate means of representing those events of the past”. Hoteit (2015) explained that “architectural designs are similar to writings. By reading them, we can understand the structure of the society where they were built, its social relationships, and its overview of life and the outside world.” In more or less senses than one the establishment of the Western type of museum in most African countries as a place for spending leisure time has been possible only through the disruption and destruction of African peoples’ much more positive and quite ancient understanding of the museum as an institution (Bassey, 1997). The proposed Museum, a symbol of unity in diversity, following the principle of its design- *Deconstructivism*, will not only collect and exhibit our artefacts as well as preserve our historic values but will provide employment for some Nigerians among artists, historians, curators and technicians, trainers and other specialists both during its design and construction stages, and through its lifetime.

1.4 Aim and Objectives

1.41 Aim

This research aims at synthesizing a national archetype for Nigeria through fusion of existing regional styles to obtain a singular archetype that satisfies national identity, while possessing contemporary relevance. It seeks to explore the intervening variables of Regionalism in Northern, South-Eastern and South-Western Nigerian architecture as a basis for the fusion.

1.42 Objectives

- To identify the concept and boundaries of architectural regional expression especially in Museum design from literature reviews and case studies.
- To deduce from checklist the consistent variables among existing models of Regional Museum buildings in Nigeria as a basis for fusion.

- To find architectural ways of fusing the established regional styles, and hence demonstrate research findings in the design of National Museum of Arts and history, Abuja.

1.5 Research Questions

- What are the negligible variables of Regionalism among the given areas which do not meet for national identity, hence redundant?
- What attributes are typical and representative of the Northern, Eastern and Western Nigeria's Regional style in space and form, which may provide a platform for fusion?
- Which architectural concept best tackles Nigeria's regional architectural fusion.

1.6 Research Hypothesis

Nigeria's Northern, Eastern and Western Regional architectural styles can be integrated through combination into a single architecture style based on their communal attributes.

1.7 Scope

The proposed facility is to be built in the North-Central Nigeria, Abuja. It will exhibit both pre-colonial and contemporary Nigerian Artefacts and History. The Museum will contain exhibitions spaces to showcase local works of arts both within its interior galleries as well as outdoors, administrative facility and ancillary units. The facility is proposed to host 50,000 people among Nigerians and foreigners annually. It will also contain spaces that offer ancillary functions suitable to public facilities.

1.8 Limitation of the study

This research is concerned with the exploration of Nigeria's Regional styles and centres on its fusion, towards the synthesis of a suitable national archetype for public building scenario. The study limits its research scope to national museums; however, the research implication is relevant to the generic context of public facilities.

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter begins with an overview on the evolution of architecture in Nigeria both prior to colonization, with emphasis on Historic and Traditional architecture, and post-colonization discussing Modernism, Regionalism and the International style, with particular emphasis on Regionalism as a potential style possessing virtues worthy of harnessing it for a national archetype. It proceeds to explore the concepts and boundaries of *Deconstructivism*, by defining its terms, introducing its history, philosophical origin, theory and concepts. Furthermore, the chapter discusses the protagonists and antagonists of deconstructivist architecture and introduce museum architecture from its inception in 1817, to study existing museum buildings as tools for ensuring an informed approach towards the synthesis of a national archetype.

2.2 Evolution of Architecture in Nigeria

The study on the evolution of architecture in Nigeria is carried out with reliance on the existing literatures by Dmochowski (1990), Procnal-Ogunsote (1993), Adeyemi (2008) and photographs from Saibu (2003). Here the researcher's interest is in communicating the process which Nigeria's architecture has evolved, first with insight on the architecture of Nigerians before colonization- the Historical/ Traditional style- which was basically seen in residential buildings and farm houses erected with locally available materials such as mud bricks, thatch roofs and bamboo stalks. The post- colonial period brought along the import of foreign building materials and methods. The return of first-generation architects from Britain, Brazil and America also introduced new styles of architecture both in housing and public buildings.

2.2.1 Historical style/Traditional Architecture

Procnal-Ogunsote (1993) observed that the basic distinction in Nigerian architecture can be made between the North and South, which is due in part to the influence of climate and partlly a result of their history. Traditional architecture in the Northern and Southern regions of Nigeria started before its amalgamation. The basic building block of structures in the North was mud, adobe, *Azara*- a locally obtained wood, and thatch for roofs as seen in Plates i and ii. Exception to this archetype is found in (Adeyemi, 2008) who described the "*Mopti* and *Djenne* mosques and particularly the Zaria Friday Mosque, Massallacci Juma'a, as having a "refreshingly monumental character that qualifies each for a prominent place in architectural history." However, these materials have profound limitations in competing with their expected delivery in modern times.

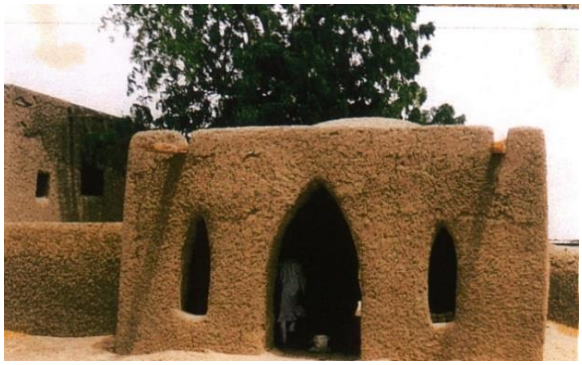


Plate i: Hausa traditional Façade.

Source: Saibu (2003).

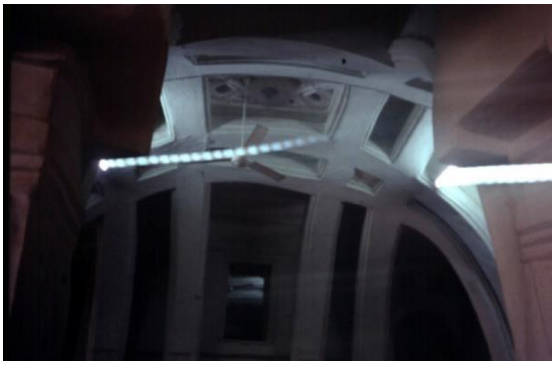


Plate ii: Hausa traditional interior.

Source: Saibu (2003).

In southern Nigeria, reliance on locally available building materials and method is again paramount within this period. Such as palace buildings of local chiefs and town heads- *Oba,* as it is called in Yoruba. In the courtyard houses of the Yoruba, spaces are organized not only to accommodate the activities of sleeping, cooking, storage etc. but also disposed as to promote family cohesion (Adeyemi, 2008). As further explained by Adeyemi, the layout plan of the indigenous house is significant for its sociocultural relevance, an attribute considered of greater importance than the technology of their construction.

lgbo Architecture, on the other hand was described to have reflected the heterogeneity of the Igbo culture and so also did the architectural monuments which included shrines to the ancestors, native shrines called the "*Mbari*" houses with their profuse decorations in bright paints and the sculptural images (Adeyemi, 2008) as seen in Plates iii-v. He proceeded to describe the variation of forms these buildings adapt to and the use of materials employed especially in local roofs thus "The heavy thatched roofs were constructed with such exquisite skill that the texture of palm-ribs and grass was itself an adornment."

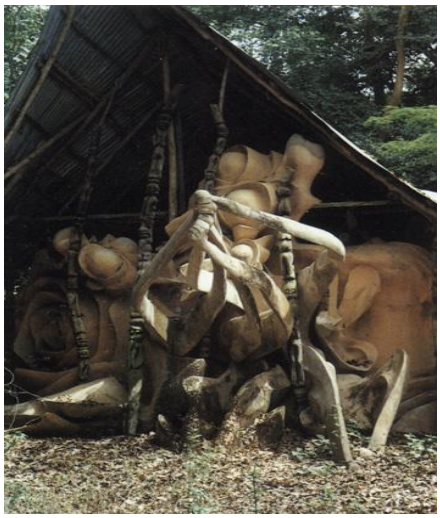


Plate iii: Yoruba traditional building. Source: Saibu (2003)

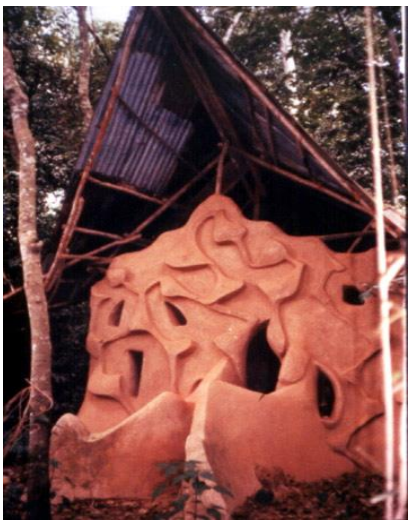


Plate iv: Yoruba Traditional Buildings. Source: Saibu (2003)



Plate v: An Igbo Traditional Building.

Source: Herbert (1973)

2.2.2 Post-Colonial Architecture in Nigeria

As identified by Oluwagbemiga & Modi (2014) “the advent of colonialism in Nigeria changed the traditional life and culture of Nigeria which creates a weak connection between traditional architecture and contemporary architecture in Nigeria.” This weak link presents the absence of identity of a truly Nigerian architectural style. Contemporary Architecture of Nigeria as stated in Procnal-Ogunsote (1993) covers all present architectural activities from traditional structures, through vernacular, called sometimes folk architecture using modern technologies, materials in the spirit of fashionable trend. The study identifies three major trends consistent in architecture in Nigeria: Regional, Post-modern and the International trends.

2.2.2.1 Regional Style

According to Adeyemi (2008), “the significance of the Nigerian tradition in building is emphasized more in its socio-cultural content rather than in its technological excellence.” This context is where the regional architecture is expressed. The Regional style is adopted in residences, especially in Northern Nigeria. Procnal-Ogunsote (1993) illustrates that “functional layout of residences, which is most capable of reflecting the Nigerian way of life and generally important here is the closeness to nature through outdoor areas.” However, it has informed the development of such Public buildings as NIPSS in Kuru, NIA secretariat in Lagos. In her conclusion on Regional trend Procnal-Ogunsote (1993) states “the Regional Trend is represented by contemporary modern buildings using the motif of a hut…or using courtyard or impluvium concepts. Natural materials like timber or stone may be explored but most essential is the natural ventilation.”

2.2.2.2 Post-modern Style

According to Adeyemi (2008), "Modern Architecture evolved from a progressive ethos, a rejection of the past and a search for new forms, new materials and new construction methods." However, as he explained further, "lack of appropriate traditional experience in building technology has limited the possibility of a modem Architecture with a distinctly Nigerian variant." A limitation of Post-modernism is found in Procnal-Ogunsote (1993) as stated "Postmodern architecture reached Nigeria quite early with plastic forms but now it is difficult to continue its development due to economic crises." Robert Venturi in his architecture, produces vivid examples of Post-modernist buildings. Some of the buildings of this style include: Hood Museum of Arts in New Hampshire; Saïd Business School in Oxford, by Edward Jones; The Roy E. Disney Animation Building in Burbank, California, by Robert A. M. Stern; The MI6 Building in London, UK, by Terry Farrell, and a myriad of Iconoclastic buildings.

2.2.2.3 International Style

The progressivist view which gave rise to modern Architecture in the industrialized countries of Europe and America made an inroad to the developing countries and facilitated its ready acceptance (Adeyemi, 2008). This style is believed to dominate the contemporary architecture in Nigeria. According to Procnal-Ogunsote, more than one third of modern buildings in Nigeria urban centres belong to the International Style. Procnal-Ogunsote, (1993) explained that the international style explores simple geometrical forms, having exposed parapet walls. Typically, it uses concrete external walls supplemented by concrete, steel or aluminium sun shading devices. Its mode of design as described by (Uzueghbunam, 2012) as "characterized by a new conception of architecture as volume rather than mass, making use of regularity rather than axial symmetry and a complete rejection of applied ornament." Examples of Nigerian buildings in this style include: Chevron Nigeria Office, Lagos.

2.2.3 Challenges of Contemporary Nigerian Architecture

The advancement in architecture brought by Modernism in Nigeria also opened doors to certain challenges. Among the problems highlighted in Procnal-Ogunsote, Modernity in Nigerian architecture presents the following limitations:

i. Maintenance/ cost problems
ii. Lack of Identity
iii. Dependence on active cooling means/ systems

Aida (2011) categorised buildings after this approach as proof that even when borrowing forms, elements and details, the result is not contextual harmony, but rather devastation. he describes the reason to owe to absence of thought of architectural concept or creativity or using the contextualism process as a tool not a purpose.

2.2.4 Architects' ideal Nigerian Architecture

User needs differ across several building types, economic situation, time and space to mention a few. According to Uzueghbunam (2012), Nigerian architecture can best be described as multicultural. He expects this pluralistic culture to be reflected in Nigeria's Architecture, describing culture as "the soul of architecture". Procnal-Ogunsote (1993) listed the requirements of an ideal Nigerian contemporary architecture to include:

i. Functional consideration
ii. Climatic condition
iii. Interesting form

However, as discussed in Aida (2011), it is not about finding an ultimate answer or a definition, since it probably does not exist, but rather finding answers to particular problems and circumstances of a certain place and time. In this study, answers are aimed at the problem of identity in Nigerian architecture.

2.2.5 Architecture of Identity

As opined in Dmochowski (1990), a comprehensive treatise on Nigerian Architecture is a work to be done by Nigerian scholars: preferably by the combined effort of architects and geographers, anthropologists, ethnographers, art historians and sociologists. Adeyemi (2008) stated extensively "to collect the best features of a past epoch and amalgamate them into a new synthesis is likely also to end up with what was termed 'eclecticism'; a state of chaos, a bizarre concoction of past elements. Were Nigeria to provide a tradition of significant architectural styles discernible from her traditional Architecture, there is likely to be a problem of the appropriateness of such synthesis to the present needs… The creative genius is hence faced with translating the basic elements expressing national or regional adaptation and meanings of the past into a form appropriate to changing social condition." Dmochowski (1990, p. ix) decried the repetition of ancient patterns or copying them in revivalist attempt, adding that the contemporary Nigerian architects should accept the traditional as a starting point of their creative independent thinking, evolving in steel and concrete, glass and aluminium, a modern school of Nigerian Architecture.

2.3 Regionalism and Its Prospect for National Identity

A region is a geographical area where people live together having one, some or all the following: historical, economic, socio-cultural, geographical and political affinities (Adewumi, 2016). William (1982) explains "Region is at the very best a hazy notion. It may refer to the distribution of racial or ethnic groups; to common geographical or climatic features; to political boundaries de-limiting a tribe or some other federation. Rarely does it make sense to make a direct equation between region and nation, or between region and religion." Procnal-Ogunsote (1993) recognised limited instances of Regional trend in Nigeria, pointing it as a style worth studying by other architects, architecture students and the society, being able to satisfy the desire for identity. Adewumi (2016) categorised

architectural regionalism in Nigeria into five (5) notable regions (South-West, Mid-West, East, Middle Belt and the North) with the corresponding regional architectural styles (Yoruba, Edo, Igbo, Nupe/Tiv/Igala and Hausa-Habe) – which have different peculiar characteristics on the long run. Adewumi's classification relative to Nigerian traditional architecture is based on the following:

i. Political affinity as an element of regionalism
ii. Historical affinity as an element of regionalism
iii. Geographical affinity as an element of regionalism
iv. Socio-cultural affinity as an element of regionalism
v. Economic affinity as an element of regionalism

Dmochowski (1990) classified Nigeria's regional architecture relative to the traditional into Northern (Hausa speaking), South-eastern (Igbo speaking) and South-western (Yoruba speaking) regions as captured in Plate vi. Dmochowski's classification affords a more streamlined spectrum for this study based on ethnographic and historic and cultural relevance. However, limitations of regionalism in the Nigerian context as discussed in chapter one of this study begs for further research towards its accentuation. Global researches on accentuating regionalism have yielded styles such as Critical regionalism and Quasi-regionalism. As Aida (2011) pointed, Quasi regionalism tries to achieve correspondence with traditional architecture, but for all the wrong reasons – "that have nothing to do with design aesthetics but more with social unethics". Furthermore, that critical regionalism, a highly relevant and useful theory in architecture, "is still up to individuals to critically asses all the relevant aspects of both sides." Hence, while regionalism may potentiate a national archetype, neither critical regionalism nor quasi regionalism is a derivative that offers the merits of national identity in the Nigerian scenario.

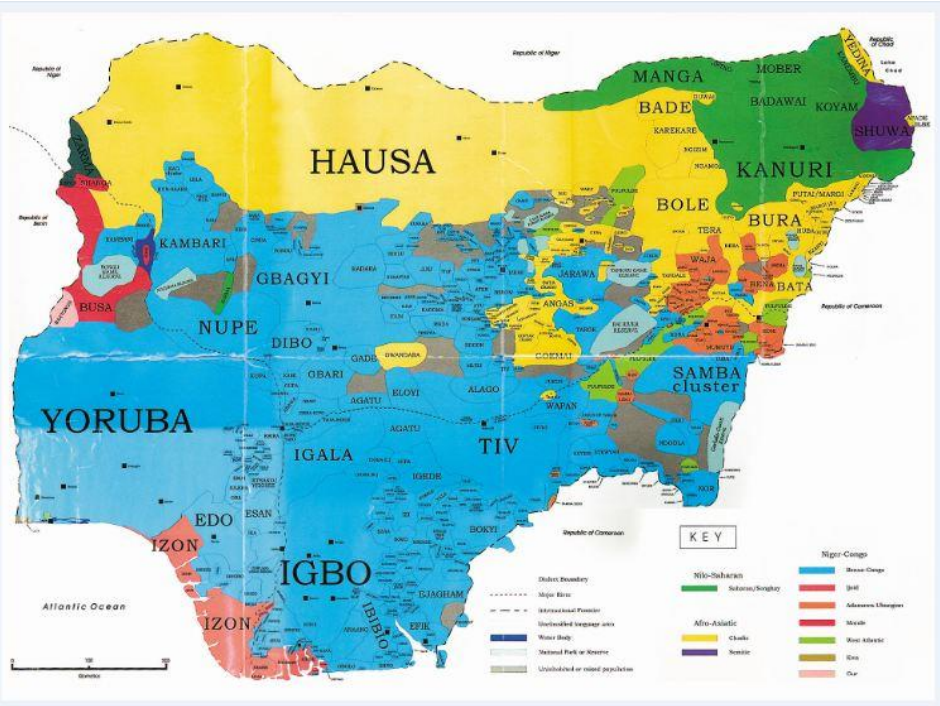


Figure 1: Ethnic map of Nigeria showing the 3-major regions.

Source: gatestoneinstitute

2.3.1 Northern Nigerian Regionalism

The Northern Nigeria constitute the region on the upper side of the Niger River seen in Figure 2. In ancient time, this area was dominated by NOK culture- an ancient civilization that was concerned with iron smelting and forgery, artistic as well as sculptural workmanship, most of which are excavated today as national relics. The two main ethnic groups in this region are the Hausas and Fulani. The region is semiarid grassland or savanna, characterised by tropical rainfall and high temperature. Some of the states under this region include Kaduna, Kano, Zamfara and Yobe, among fifteen others. As with other regions of the world, earliest architectural formations by the northerners were shelters which were mostly short-lived due to the lifespan of the building materials and method of construction or building function such as storage sheds as seen in Fig. 2. Gradually, more durable structures began to appear, particularly after the advent of agriculture when people began to stay for longer periods in one location (Rikko & Gwatau, 2011). According to (Ruqayya,

2011) the climate, human physiology and geography led to the development of Curvilinear conical and mud roofed structured in the North and Rectilinear thatch roof mud houses in the South.

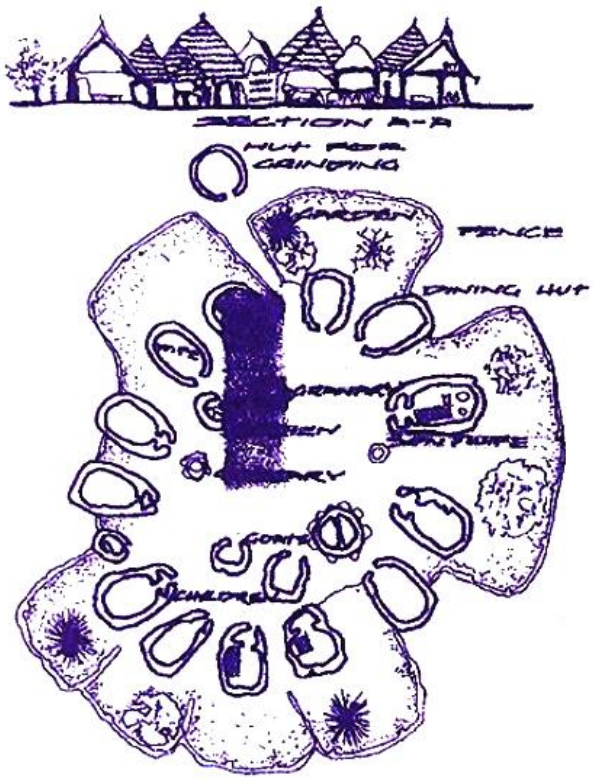


Figure 3: Traditional compound layout in Jos, Nigeria.
Source: Rikko and Gwatau (2011)

For centuries Hausa master builders have acquired and practiced their highly skilful craft in building houses for the people and royal inhabitants of Northern Nigeria. In Northern Nigeria, there has been arrangement of Hausa building culture and social structure that is hierarchical ranging from a base level, which includes master builders and labourers that construct mud houses, blacksmiths and local artisans to royalty at the top (Nura, 2011). In the Moslem north, for example, houses are of two main types based on the wealth or poverty of the owner. The wealthier town dwellers in the more northern areas build flat-roofed mud houses with thick walls, the roof being made of timber covered with mud; the poorer people build houses of circular mud walls and conical thatched roofs (Traditional Houses, n.d).



Plate vi: Round Hausa Huts.

Source: Yemi Salami, (2013)



Plate vii: Rectangular Hausa Building.

Source: Yemi Salami, 2013.

Because of the short life and high maintenance costs of Hausa traditional construction, new building methods and materials are now being introduced which are changing the form of the Hausa settlements (Moughtin, 1964). Regional architecture of Northern Nigeria, takes into account the constraints of obtainable building materials, the climate under which they are built, and availability of fund. It offers a better resilience to climate than the traditional through the use of improved materials such as brick walls, metallic roofing sheets, seasoned timber, etc. It covers a wider range of traditional building styles and concepts.



Plate viii : Regional Building in Zaria City.

Source: Bing.com

According to Saad (1981) The ubiquitous pinnacles crowning the corners of traditional Hausa buildings have, over time, metamorphosed from purely functional elements, to aesthetic, decorative and symbolic accessories to the edifice. The *Zanko* has evolved into a symbolic manifestation of aesthetic elegance in traditional architecture, having lost some of its original functions.

2.3.2 Eastern Nigerian Regionalism

Geographically the Igboland is found around the eastern part of the Niger river. It comprises of five states namely: Abia, Anambra, Enugu, Ebonyi and Imo state, forming the largest ethnicity of this region alongside their Ibibio counterparts. Ola (1996) posited that Igbo traditional architecture takes on various regional forms. This diversity, however, is silent on certain areas of the peoples' architecture. Traditional Igbo architecture utilises 'wattle and daub' mud wall construction and thatched roofing. See plates ix and x. Local laterite and dung stabiliser is filled between wattles framing to produce a smooth wall surface, which is then treated with decorative plaster to achieve some weather protection (Ola, 1996). Traditionally the Igbo built form adapts to rectangular shaped plans. However due to a "natural consequence of the diversity of the materials used for wall and roof construction, and for decoration" (Dmochowski, 1990), a varied design is obtained.



Plate x: Bamboo used for building Traditional shed. Source: Ottenberg (1952)



Plate ix: Traditional shed in Igbo land. Source: Ottenberg (1952)

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The regional architecture of the Igbos saw the replacement of most of the traditional ones such as bamboo, mud and thatch, with more stabilised and current ones as seen in plate xi. For instance, mud blocks are replaced using stabilised earth bricks and sandcrete blocks, thatch is replaced with metal sheets for roof, etc. Ola (1996) pointed some of the traces of Igbo architectural transition as owing to minimal influence from Christianity and colonial era of the 1857 and 1903 respectively. He spelt increase in salaried monetary acquisition as a more defiant determinant of the transition.



Plate xi: Transition to Regionalism.

Source: Curle (1973)

Unlike the modern development of traditional South-east Asian and Islamic architecture, few serious attempts have been made to incorporate Igbo domestic architectural design with the modern concepts and requirements in architecture (Ola, 1996). The architecture of Demas Nwoko's residence in Idumeje-Ugboko village, built between 1970s to 1980s, gives a brilliant description of the regional architecture ot the Igbos. Its building materials include: cement blocks, cast concrete and wood. Not many works have followed this attempt at a recognisable architecture in eastern Nigeria. Plate xiii below captures an eloquent description.



Plate xii: Depiction of Igbo Regionalism.

Source: Ottenberg (1994)

According to Ola (1996), “the events that led to the Nigerian civil war and its aftermath further transformed the Igbo village and its architecture.” Instability due to wars, inter family disputes, better job opportunities caused a rather unstable settlement in which people were almost always transferring between regions. This may have been the impetus for the more ostentatious, often non-functional design styles commonly found in many village residences (Ola, 1996). The 'Westernisation', and in the last decade more specifically 'Americanisation', of Igbo architecture is likely to continue as there is little innovative indigenous design to challenge these trends… Architectural identity specifically, both in towns and villages, has become Westernised (Ola, 1996).

2.3.3 Western Nigerian Regionalism

South-western Nigerian states include: Lagos, Oyo, Osun, Ekiti, Ondo and Ogun. The common building materials used in traditional Yoruba houses include mud, wood, straw, palm fronds and raffia matting. Yoruba houses outside the urban centres, for example, are mainly rectangular, with rooms built round open courtyards. The walls are made of mud and the roofs of mat made from the leaves of the raffia palm (Traditional Houses, n.d). See Plates xiii, xiv and Figure 3 for description.

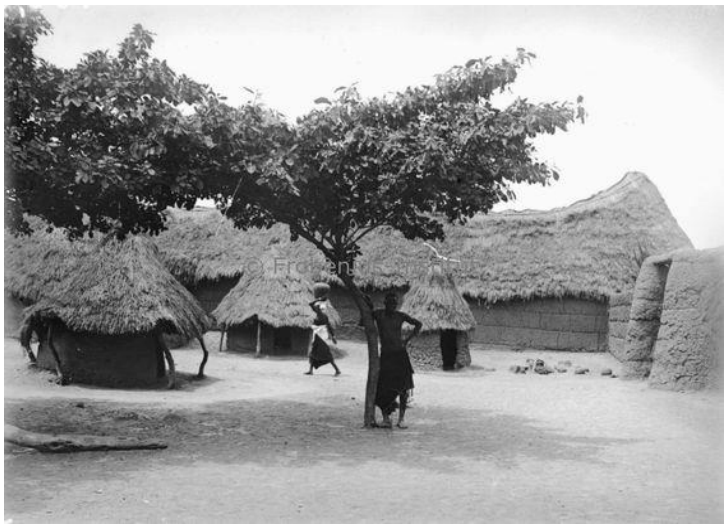


Plate xiii: Typical traditional Yoruba Compound.

Source: Frobenius-Institut (n.d)

The Yoruba have strong tradition and culture which is not farfetched in their architecture. Instances of this is seen in their sculptural carvings used as posts on verandas and shrines, most of which represent deities. According to Traditional Houses (n.d), the courtyard house, the neighbourhood and city squares are physical manifestations of the hierarchical social organization among the Yoruba. The Benin people have strong architectural similitude with the Yoruba, which may be due to common climatic factors, available building materials or cultural similarities. The noticeable housing in this region is rectilinear which incorporates courtyards for every family set up (Rikko & Gwatau, 2011).



Plate xiv: Traditional Yoruba Veranda.

Source: Kolawole, Naijatreks (n.d)

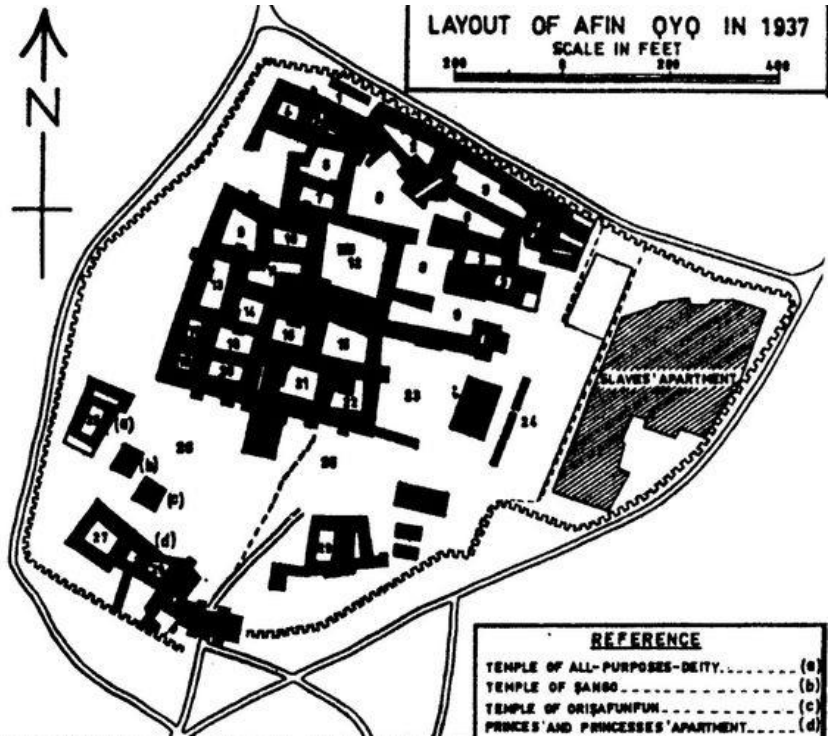


Figure 4: Typical layout of Yoruba Traditional Palace.

Source: Marten Quadralectics (n.d)

Demas Nwoko's Studio Complex, built in Ibadan, Oyo state in 1960, is an illustration of the regional architecture of the Yorubas. The materials used in the building construction include: cement block, cast concrete, stone, wood. As seen in Plate xv.

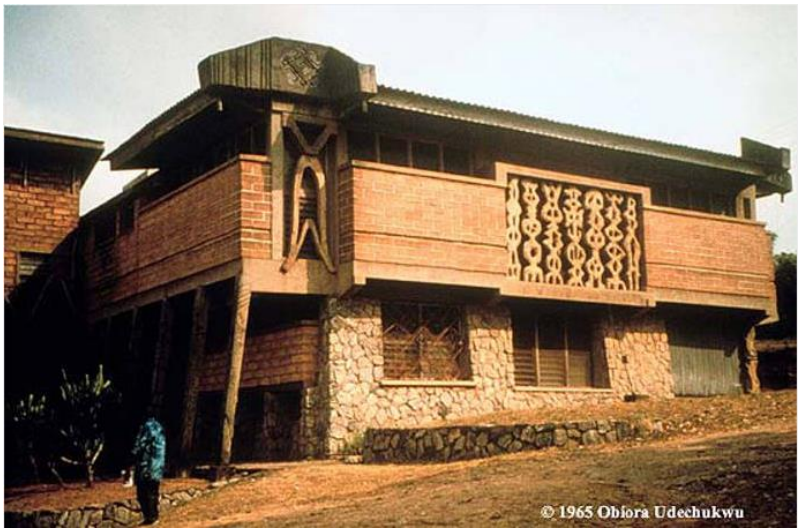


Plate xv: Regional depiction of the Yoruba architecture.

Source: Udechukwu (1965)

Rikko & Gwatau (2011) opined that urbanization, collision of cultural values, relics of the colonial experience and exposure to western education have all made what is imported from other cultures part of what is now passed down from one generation to another. Hence in view of the peculiar cultural and socio-economic circumstances in the light of our architectural development, the architecture must be relevant to the social environment and must deviate from western stereotypes.

It is the researcher's thesis that a Nigerian archetype lies in the informed fusion of our regional styles. This fusion is synthesised on the platform of Deconstructivism- sieving out the irrelevant components of the trio, while harnessing their intrinsic attributes.

2.4 Deconstructivism- an Architectural Philosophy

Jacques Derrida, an Algerian-born French philosopher is credited for propounding such a philosophy in literary criticism, and described it as "a method for analysing texts based on the idea that language is inherently unstable and shifting, and that the reader rather than author is central in determining the meaning" (Derrida, 1978). Deconstructivism is a philosophical attempt to transform existing seemingly "rational reasoning" in which the de-constructivist examines a "construct" with attempt at discovery of latent dilemma and posits a variation of existence of the construct. Deconstructivism will be viewed in error if concluded in one breadth to be a "new" architectural style rather than a reaction to existing ones. Such reaction is explored in this chapter as possible solution to Nigeria's archetype- one that reflects her "diversity and contrast" (Saibu, 2003). Deconstruction does not mean demolition, and its objective is not negative. However, it shakes the residual layers to show what is beneath it before reconstructing it again. (Hoteit, 2015). Peter Eisenman is considered the inventor of architectural deconstruction following his collaboration with Jacques Derrida. Eisenman received education both in Cornell and Cambridge University.

2.4.1 Theory of Deconstruction

According to Hoteit (2015), Intellectual, especially philosophical, currents of thought have always influenced architecture at the time it was created. The areas of philosophy tackled by deconstruction include:

a) The centrality of presence

b) Logo centrism

c) Phono centrism

d) The centrality of language

e) Binary oppositions

f) The undecidable.

i) The locus of presence

Both Derrida, Eisenman, and Libeskind were concerned with the "metaphysics of presence," which constitute the main subject of deconstructivist philosophy in architecture theory (Hoteit, 2015). This philosophy views a ‘present’ event as not disconnected from a past ‘present’ or a future present, rather it establishes a continuum of the events by reason of constant attachment and dependence of one event on the outcome of the succeeding one. According to Derrida (1978), “every so-called ‘present’, or ‘now’ point, is always already compromised by a trace, or a residue of a previous experience, that precludes us ever being in a self-contained ‘now’ moment.” In this context, Eisenman viewed the discourse of absence in the concept of trace. In architecture, this theory specifically allows the architect to examine previous compositional and structural elements that are viewed as ‘traditional,’ or even necessary to erect a building (Sam, 2013).

ii) Binary Oppositions

Derrida believed that binary opposition were inherent in western ideologies. Some examples of these oppositions include reason/passion, presence/absence, the self/the other, speech/writing, inside/outside, signifier/signified, and man/woman; the first component of the pair is always privileged over the second (Graves & Homi, 1988). In this regard, Hoteit (2015) reveals thus "this idea involves deconstructing the principle of causality, cause/effect, which was manifested in architecture by deconstructing the relationship between form and function, form and program, and structure and economy, among others." Frank Gehry is believed to apply the concept of binary opposition and free play in his works.

iii) The "Signifier and the Signified"

Sign vs. Element are explored here to find connection or separation. It did not enjoy complete acceptance in spoken language as pointed out in Saussure (2002). It suffered the same fate in architecture. Eisenman in his letter sent to Derrida confirms that the signified can be easily separated from the signifier in language without causing any problems, but this issue is completely different in architecture because present prevails on architecture through the strong presence of the signified. In architecture there is no such thing as the sign of a column or a window without the actual presence of a column or a window" (Eisenman, 2013). In an interview with Iman (2013), Eisenman reported that what has made architecture interesting for post-structuralism philosophy is that architecture is about the relationship of the sign to the signified, that the column, for instance, is the sign of the column and the column itself; or the wall is the sign of the wall and the wall itself.

iv) The "in-between concept"

When the oppositions suggested by Heidegger and Derrida are interpreted in the discipline of architecture they become more manageable: structure/decoration, abstraction/figuration, figure/ground, form /function, interior/exterior and so on, and with these as a frame of

reference, architecture can then start dis- covering the “in-betweens” by dissolving these oppositions through negotiation and compromise (Şengül & Serap, 2012). They stated further that based on this view of architecture, for any architectural work to be distinguished as creative it must transform, must cause a change in the environment, and perhaps a shift of views in the discipline as well.

v) The “Trace” concept

The Jewish Museum in Berlin shows the concept of trace and the erasing of the Holocaust to make it clearer and more impressive. It does not merely attempt to create distinctive, unconventional architecture as much as it unveils the architect’s desire to draw the audience’s attention to traces. These architects want visitors to realize, experience, and decipher the mysteries of traces (Hoteit, 2015). Hoteit explains that to follow a trace, one must dig deep in the near and distant past. This process can conjure various contradictory elements. Decentralization of any one element; some deconstructivist architects superimpose these findings. Thus, the design is produced, and the idea follows as its result.”

2.4.2 Conceptual Reality in Architectural Deconstructivism

The “transfer” of the concepts of deconstruction to architecture was not direct and literal; some concepts were modified and renamed to suit architecture. Moreover, iconic deconstructivist architects were not committed to all concepts of this philosophy; they were known to focus on one or two concepts in deconstruction and make them fundamental principles of their personal styles in architecture. Peter Eisenman focused on the concepts of presentness and trace, Daniel Libeskind concentrated on the concept of absence, and Frank Gehry focused on binary oppositions and free play. Finally, a deconstructivist architect is not as free as a reader or a philosopher; not all that one can do or apply in language and philosophy can be done and applied in architecture.

-Aida Hoteit, *Excerpt from Deconstructivism: Translation from Philosophy to Architecture*.

Deconstructivist architecture is an argument that identifies which terms of hierarchy (concepts or metaphors) are valued over which in the past, and for the purposes of reaching a “better truth” looks for ways such hierarchies can be undone and/or overturned, or how some polarity can be reversed (Şengül & Serap, 2012). As Hoteit (2015) adds “In a way, architecture, particularly contemporary architecture, is indebted to deconstructivism because it helped to break the monotony of modern architecture.”

2.5 Reactions to Architectural Deconstruction

Derrida’s philosophy of deconstruction did not enjoy the embrace of every philosopher in his time including oppositions from Naom Chomsky. A fate it experienced in Architecture-while some architects as well as critics welcomed its concept or imbibed its approach in their design ideation, with such description of it as “an architecture on a higher level, taken to the extreme” (Maina, 2008), others consider it “a purely formal exercise with little social significance and ambiguous meaning” (Essays, 2013) vehemently opposing its reason to the depths of declaring it as a “dead” movement.

2.5.1 Protagonists of Deconstructivism

Deconstructivist architecture focuses on seven international architects whose works mark the emergence of a new sensibility in architecture. The architects recognize the imperfectability of the modern world and seek to address, in Johnson's words, the "pleasures of unease." Obsessed with diagonals, arcs, and warped planes, they intentionally violate the cubes and right angles of modernism. Their projects continue the experimentation with structure initiated by the Russian Constructivists, but the goal of perfection of the 1920s is subverted. The traditional virtues of harmony, unity, and clarity are displaced by disharmony, fracturing, and mystery. The exhibition includes drawings, models, and site

plans for recent projects by Coop Himmelblau, Peter Eisenman, Frank Gehry, Zaha Hadid, Rem Koolhaas, Daniel Libeskind, and Bernard Tschumi.

– Phillip Johnson and Mark Wigley, *Excerpts from Deconstructivist Architecture*

i) Peter David Eisenman

Peter David Eisenman is attributed to initiating the architectural deconstructive movement. Eisenman (1990) believed in the functional role of architecture, but he suggests that architecture serves this role without symbolizing it. Speaking in Iman (2013) on textuality, Eisenman remarks "the work that I'm doing has much more to do with the text of architecture. And that didn't happen accidentally". In fact, Eisenman was interested in displacing form from its necessary relationships to function, meaning and aesthetics, without at the same time necessarily denying the presence of these conditions (Stefano, 2015). Eisenman's buildings boldly confront its observer with an ardent opposition to what will usually be perceived as "normal". Some of Eisenman's works considered here include: The Wexner Centre for Arts, Aronoff Centre for Design and Arts, Cincinnati seen in Plate xvi; Greater Columbus Centre, Ohio; University of Phoenix stadium, Arizona.

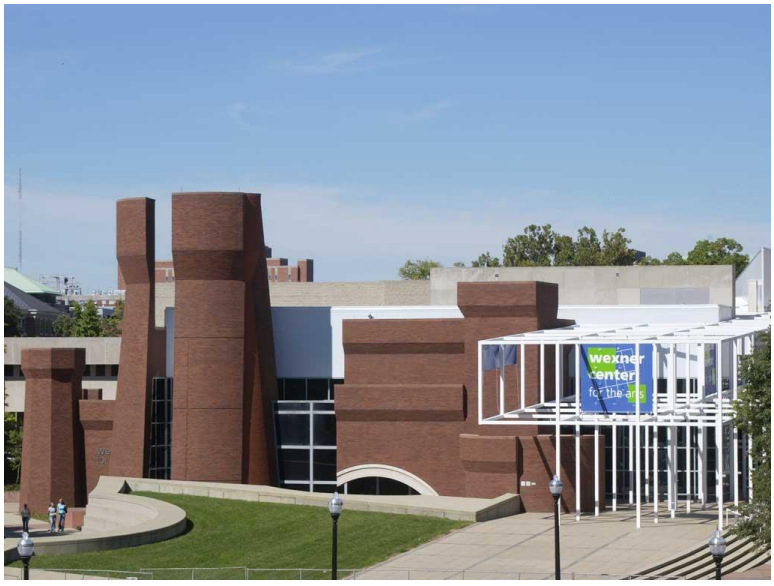


Plate xvi: Wexner Centre for Art, Cincinnati, Ohio by Peter Eisenman.
Source: Archidaily

ii) Frank Gehry

While Gehry shirks the Deconstructivist label, Gehry's work – particularly the Guggenheim – has been strongly associated with the architectural style that has been carried forth by a number of other architects around the world (Rogers, 2016). Gehry took the steps that would bring the architect to this point, drastically changing his own standard, somewhat boring suburban Santa Monica house into the groundwork for an entire architectural movement. Gehry literally deconstructed the house, ripping out sections and reassembling them into an eccentric fusion of traditional and modern aesthetics (Rogers, 2016).The octogenarian employs the sophistication of digital technology such as Computer Aided Three-dimensional Interactive Application (CATIA), for his complex curvilinear forms as utilized in his Solomon Guggenheim museum, Bilbau- which generated a ripple effect in Museum architecture (the Bilbau effect). Other works include: Vitra Design Museum, Wiel am Rhein; The Experience Music Project (EMP), Seattle, Washington; Serpentine Gallery Pavillion, London, UK; Jay Pritzker Music Pavilion, Chicago; Louis Vuitton Foundation Museum.



Plate xvii: Walt Disney Concert Hall, Los Angeles by Frank Gehry.
Source: Archidaily

iii) Zaha Hadid

Often named as the most prominent contemporary female architect, or singled out for notice because of her Iraqi Arab background, Hadid is significant beyond these accidents of birth for her intellectual toughness, her refusal to compromise on her ideas even when very few of them were being realized in concrete and steel (Thomson, 2005).



Plate xviii: Contemporary Arts Centre, Cincinnati by Zaha Hadid.
Source: Archidaily

It was until the new millennium that her stardom was ushered by her Ohio's Centre for contemporary Arts, seen in Plate xix above. Zaha Hadid eventually won the esteemed Pritzker award in 2004, considered the highest recognition of honour in architecture, making history as the first woman to ascend that height. Hadid's designs include: BMW Central Building, Leipzig; Galaxy Soho, Beijing, China; Centre for Contemporary Arts, Cincinnati; The Vitra fire station, Weil-am-Rhein, Germany.

iv) Daniel Libeskind

His most acclaimed works includes the Jewish Museum, concerning which he remarked "To this end, I have sought to create a new Architecture for a time which would reflect an understanding of history, a new understanding of Museums and a new realization of the relationship between program and architectural space. Therefore, this Museum is not only a

response to a particular program, but an emblem of Hope." (Libeskind, nd.). Other instances include Royal Ontario Museum, Toronto seen in Plate xx below.



Plate xxi: Royal Ontario Museum, Toronto, Canada.

Source: Studio Libeskind

v) Rem Khoolhas

Rem Koolhaas, has largely defied labels, variously categorized as Deconstructivist, Modernist and Humanist by critics… may at times be controversial for designs that seem visually disjointed or difficult to actually use, but in the Seattle Central Library (see Plate xxii below) he has helped create one of America's most notable structures, and one of the most important Deconstructivist buildings in the world (Rogers, 2016).



Plate xxiii: Seattle Central Library, USA by OMA+ LMN.

Source: Archdaily

vi) Coop Himmelblau

Cankaya (2007) pointed that "Coop Himmelblau's designs verge on the incomprehensible. 'Tough times demand tough architecture,' the firm's principles have said. They aim for transgressive forms at the limit of feasibility. By subverting conventional expectations, they hope to stimulate the viewer to react afresh. Taking aggression to an extreme, they built a tower, they set it on fire, calling the project Blazing Wing." Other works by the prolific architect includes: Apartment Building, Vienna; Rooftop remodelling, Vienna; Akron Arts Museum; UFA Cinema Centre, Dresden, Germany; Busan Cinema Centre, South Korea.

vii) Bernard Tschumi

In his description of Tschumi's *Parc de la Villette,* Rogers (2016) describes "its strange network of bright red structures designed, not for ordered relaxation and self-indulgence but interactivity and exploration. The park contains themed gardens, playgrounds for children, facilities dedicated to science and music and 35 architectural follies, all of which are inspired by the ideas of Deconstructivism." Bernard Tschumi was also directly influenced by Derrida. Some works of deconstruction perpetuated by Tschumi include: The Glass Video Gallery in Groningen, Netherlands; Lindner Athletic Centre, Cincinnati; Alésia Museum and Archaeological Park in France. Deconstructive Architecture is not a closed chapter. That is why its architecture will continue to excite shock, horrify and inflict a reaction (Valon, 2009).

2.5.2 Antagonists of Deconstructivism

As Mitchell (1994) explained "Many otherwise unmalicious people have in fact been guilty of wishing for deconstruction's demise…if only to relieve themselves of the burden of trying to understand it. This is, after all, a subject that has a reputation for being rather difficult." In response, Derrida stated "If one were to analyse the signs, the number of publications that mention deconstruction, the number of conferences that are being held, the number of people

who are referring to it, if only to say that it is dead, one could draw exactly the opposite conclusion" (Mitchell, 1994). Nikos Salingaros, one of the world's leading urbanists and architectural theorist, in his criticism stated “deconstructivists have disassociated themselves from the lessons derived from history and precedents, while distancing themselves from basic human needs and cultural context”. In “*Derrida Virus*”, Nikos (2016) stated “Derrida’s notion of deconstructivism became a dangerous virus which keep reproducing itself infinitely. Metaphorically, the virus has killed almost all connections to the past, to humanity, and to context. The resulting ills are manifested in many cities, but the trauma is well articulated in the work of Daniel Libeskind in the Ground Zero Proposal, the Seattle Public Library, and the Berlin Holocaust Museum.”

Frampton (1983), describes deconstructivist architecture as 'elitist and detached'. In his view this is justified by the self-alienation of an avant-garde without due cause. While Constructivism intended a synthesis, with the creation of a new architecture, Deconstructivist Architecture's anti-thesis, derives from the acceptance that global modernization is pushing those norms beyond the barriers. The two aspects of critical theory are found in deconstructivist architecture; that is analysis and urgency. As seen in Wexner, by Eisenman (Essays, 2013). According to Aleksandr (1988), “Deconstructionists, apparently, are allowed to “mis-read” for fun and profit as they please, but they would bind the rest of us to the more or less correct meaning of their intellectual enterprise.”

Deconstructionist thought does not attempt to solve all of humanity’s problems, it utters no statement on gender, medicine, wealth, ecstasy or sorrow, sports, sex, morality or religion. It has however permeated the fabric of sociology, literature, fashion design, and architecture by critical means of exploring the inherent dilemma within these constructs. The criticism of *decon* antagonists suggest possible ignorance or negligence of these dilemmas, perhaps they attribute the solution of these dilemmas to emanate from politics, religion or

perhaps they expect no solution- an indication of mitigation- the absence of creativity and innovation, the very absence of deconstructivism, the presence of which this research is committed to explore especially in the context of the Regional architecture of the Nigerian people.

2.6 Museum Buildings

Many people still think of museums as nice, quiet, perhaps dusty places that exist outside the frenetic pace of contemporary society. Nothing could be further from the reality of museum work. Museums are social institutions, and as such they are challenged with the issues of change that impact other institutions-technology, diversity, sustainability, competing demand, rising costs, and economic downturns- to name a few…In our era, which is dominated by the communications revolution, museums have become highly valued outside the traditional cultural realm as providers of content, leisure destinations, community forums, magnets for knowledge workers, and brandable entities that can revitalize communities large and small.

Gail Dexter Lord. *Excerpts from Manual of Museum Planning.*

2.6.1 Definition and Meaning of Museum

A museum is an institution where objects of scientific, historical, cultural and artistic artefacts are stored and exhibited. Originated from the Greek word *"mouseion"* which translates to "seat of the muses and designated a philosophical institution or a place of contemplation... museums have a long history, springing from what may be an innate human desire to collect and interpret and having discernible origins in large collections built up by individuals and groups before the modern era (Lewis, n.d). A survey of museums in America in the 1970s ended up defining museums as institutions devoted to educational or aesthetic purposes, with staff to care for and exhibit on a regular basis the animate and inanimate objects they own or use (Bassey, 1997). Thus, museums are a "meta-communications"

medium, communicating the natural heritage and contemporary arts with the aid of the most advanced communications media of their time" (Barry, Gail, & Lindsay , 2012).

2.6.2 History of Museum Buildings

2.6.2.1 Early Museums

The word museum was revived in 15th-century Europe to describe the collection of Lorenzo de' Medici in Florence, but the term conveyed the concept of comprehensiveness rather than denoting a building (Lewis, n.d). Royal collections initially featured solely portraits and later were expanded to display objects from the treasury. These collections were often used both as palace decoration for the royal families, but also as a way to emphasize the status of those individuals, especially during visits of foreign ambassadors and emissaries (Newhouse, 1998). The elites expanded their repertoire by possession of "cabinet of curiosity". Giebelhauseun (2006) explains that these cabinets often housed both artefacts and art pieces from foreign cultures. They also contain natural objects such as crystals, rocks, and horns from various animals (Newhouse, 1998) as in the Plate xxi below. It should be note-worthy that the means by which these artefacts were secured from "foreign countries" have aroused the attention of various historians, as will be further discussed.



Plate xxiv: Medieval Artefacts from Crusaders.

Source: Ancient resources (2016).

By the 17th century 'museum' was being used in Europe to describe collections of curiosities; the idea of an institution called a museum to preserve and display a collection to the public

was established in the 18th century. (Lewis, n.d). The European elites were the first to exhibit collections and antiquities in palaces and corridor spaces within their house premises for the public. These collections ranged from paintings, sculptures, pottery, artefacts etc. the act of collecting and display of curiosities objects also announced the fame of the elites. By the display of their collections they "manage the empirical explosion of materials that wider dissemination of ancient texts, increased travel, voyages of discovery, and more systematic forms of communication and exchange had produced." (Paula, 1993).

The Ashmolean museum (see Plate xxv below) built in 1678-1683 by Christopher Wren was the first built museum, exhibiting collections from the Palaeolithic to Modern era as in the Plate xxii below, often referred to as Modern museum. The foundation stone of the Ashmolean Museum was laid in 1679 by master mason and designer Thomas Wood in Broad Street, between the Sheldonian Theatre and Exeter College. The collections arrived by barge from Lambeth, and the Museum was completed with everything in its place and in special cabinets (Arthur, 2012). By mid-1970s, after the great building boom of the 1960s and early 1970s, many thought that the great era of museum building was clearly over and that the rapid expansion that had permitted the art rush of the 1960s was not likely to return for some time (Joan & James, 1993).



Plate xxvi: Ashmolean Temple.

Source: Bing.com/images (n.d)

The 18th century scholars of the Age of Enlightenment saw their ideas of the museum as superior and based their natural history museums on "organization and taxonomy" rather than displaying everything in any order after the style of Aldrovandi (Paula, 1993). This launched the inception of Museums of significance. Such as the Louvre Museum, Paris, opened in 1793, seen in Plate xxiii below. It ushered the transfer of arts from private buildings to public facilities; The Brunkenthal National Museum, Sibiu, Transylvania; Indian Museum, Kolkata. Established in 1814; The Charleston Museum, Southern United States opened in 1824. These museums were often accessible only by the middle and upper classes. When the British Museum opened to the public in 1759, it was a concern that large crowds could damage the artefacts. Prospective visitors to the British Museum had to apply in writing for admission, and small groups were allowed into the galleries each day. (British Museum, n.d).



Plate xxvii: Louvre Museum, Paris.
Source: Louvre official site

2.6.2.2 Modern Museums

The late 19th and early 20th century witnessed a boom in the Museum industry, a period denoted as “The Museum Period”, many American museums joined the Europeans to lead

world collection and exhibitions. While many American museums, both Natural History museums and Art museums alike, were founded with the intention of focusing on the scientific discoveries and artistic developments in North America, many moved to emulate their European counterparts in certain ways (including the development of Classical collections from ancient Egypt, Greece, Mesopotamia and Rome) (Museum, 2007). Perhaps the most significant new art museum of this period was the Museum of Modern Arts, completed in 1939 depicted in Plate xxiv below, according to the design of Phillip Goodwin and Edward Durell Stone. It adhered to the practices of modernism as far as colours and materials were concerned; white walls, glass, and steel were abundantly present. The exhibition galleries were relatively small, allowing for close-up viewing of works of arts (Wim, 2008).



Plate xxviii: Victoria and Albert Museum, London.
Source: Bing.com/images

2.6.2.3 Contemporary Museums

In his research, Sam (2013) found that there has been a direct shift in the purpose of the museum and its stance in the cultural landscape. He identifies the shift as" not causing, but reflected in the changes of museum design." Contemporary museums are social institutions

which have broadened the horizons of the collection-exhibition concept. In the words of Barry, Gail, & Lindsay (2012), museums have become places where people like to gather, preferred venues for memorable personal events like weddings or anniversaries, and forums for public debate of aesthetic or scientific concepts, while continuing to fulfil their primary social responsibilities. It features large and free spaces that do not necessarily conform to cube spaces, ambience and eloquent architectural statement. Wim (2008) suggests from recent examples that some architects and curators want to device gallery spaces in which the art and architecture together create a total environment, conducive to contemplation of the ideas behind the art on display. Succinct examples of the contemporary museums such as the Frank Gehry's Guggenheim Museum, Bilbau; Zaha Hadid's Contemporary Arts Centre, Cincinnati; most of which conform to deconstructivist architecture.

2.6.3 Types of Museums

The example of museum types commonly found, especially in the United States and UK and Germany include:

- Arts Museum
- Archaeology Museum
- Children Museum
- Military Museum
- Natural History Museum
- Science Museum
- University Museum

However, this research focusses on Arts and History, of the Nigerian people, hence it discusses only these branch of museum buildings.

2.6.3.1 Arts Museum

An Art museum, also known as an art gallery, is a space for the exhibition of art, usually visual art, and usually primarily paintings, illustrations, and sculpture including collections of applied art, including ceramics, metalwork, furniture, artist's books and other types of object (Museum, 2007). According to Thomas (2011) of the Virginia Association of Museum, Art museums often have larger budgets than other types of museums; the objects they care for tend to be very valuable financially as well as culturally, and acquiring the objects needed for an art exhibition can cost millions of dollars. Some art museums are "generalists," covering a broad spectrum of art across different cultures and eras.

2.6.3.2 History Museum

History museums cover the knowledge of history and its relevance to the present and future. Some cover specialized curatorial aspects of history or a particular locality; others are more general. Such museums contain a wide range of objects, including documents, artefacts of all kinds, art, archaeological objects. The scope of a history museum may either cover for a sum of different historic era or may concentrate on a single period of time. Thomas (2011) points out "exhibits and programs at history museums cover endless topics, but their common thread is to use artefacts to teach visitors about the past, to use the past to share lessons about how to better live the future."

2.6.4 Museum Planning

The planning process discussed here tackles the aspect of Architecture. Other areas such as management, staff, market analysis, etc. are not discussed. According to Barry, Gail, & Lindsay (2012), museum planning defines the study and practice of facilitating the preservation and interpretation of material culture by ordering all those components that comprise a museum into a constructed or renovated whole that can achieve its functions in a sustainable way with optimal efficiency. The architectural program must also contain what

The Menil Collection described as a "brief of ideas" explaining the philosophy of the museum, the image it wishes to project, and its conception of its programmatic role in the community (Joan & James, 1993).

Bailey (2012) explained that “all cultural institutions seek to share a story with their community. Performing arts centres do this through dance, music, and theatre; libraries and archives do this through collection, preservation, and documentation. As hybrid institutions museums bear the responsibility of communicating vast-often intricate-stories to an array of audiences, many of whom may not be acquainted with the museum setting.” Bailey’s approach involves firstly that all available information about the museum’s host community be gathered, and filtered through “*Meaningful*” filters to verify importance. Next, the meaningful information is filtered for obtaining “*Actionable*” parameters (to know what to do with the data). Finally, the “*Relevant*” information upon which to plan for the museum is obtained.

2.7 Museum Function

In their opinion Barry, Gail & Lindsay (2012), Museum collect, record, display, and interpret to their present, past, and future public the meanings of material culture of our lives- of our arts, histories, and sciences. Expressing further among the goals of a museum, the duo opines “to provide space and facilities that are both aesthetically pleasing and effective in preserving and interpreting museum collections for its visitors.” Wim (2008) explained “the idea that the museum now plays a role that the cathedral did in earlier times, that is a place where people gather in surroundings expressing their cultural ideals, can be found in many studies of the museum in the late twentieth century.” According to Barry, Gail & Lindsay (2012), the role of museums is extensive and becoming more so daily:

a) In their capacity as *collectors* of works of arts and artefacts in every field of human endeavour, museums are *mediators* of cultural, social, and scientific change. People consult the world to better understand the world, past, present and future.
b) In their capacity as *presenters* of new content, museums are *accelerators* of cultural change. People visit museums to find and debate their place in the world.
c) In their capacity as sources of *wonder and beauty*, museums are unique *leisure destinations* for pleasure and enjoyment.
d) In their capacity as *builders* of new structures or innovations or expansions of existing ones, museums are *patrons* of architecture, *promoters* of urban countryside renewal, and *placemakers*- even "branders" of cities and regions. People increasingly expect museum building projects to help solve some of the economic and social challenges facing their community.

With these in mind, the architect plans for a museum building beyond the scope of spaces, the architect considers the cultural, historic underlay of events in the region and proposes a design that affords the people's needs, while bearing in mind the limitation of his proposal. Such analysis is seen in many works of deconstructivist museums such as Jewish Museum, Berlin. Viewed from such a truly African perspective, a majority of museums as organised and run in most African countries serve more or less as agents of underdevelopment rather than developing the good and virile aspects of the socio-cultural values and institutions of African people (Bassey, 1997).

2.7.1 Benefits of museums

Research at the Smithsonian Institution has identified four main types of experiences that museum visitors cite as being most satisfying to them:

i. Object experiences, which involve seeing rare, valuable, or beautiful things
ii. Cognitive experiences, which involve gaining knowledge or enriching understanding

iii. Introspective experiences, which involve imagining other times and places or reflecting on the meaning of events

iv. Social experiences, which involve interacting with others or watching children learn

Most museums offer a mix of all or most of these experiences. However, object experiences are often dominant at art galleries, cognitive experiences at science museums, introspective experiences at history museums, and social experiences at children's museums (Linda, 2010). Explaining the next era of education to be "characterized by self-directed, experiential, social and distributed learning that is designed to foster the 21st-century skills of critical thinking, synthesis of information, innovation, creativity, teamwork and collaboration," Merritt (2012)of the Centre for the Future of Museums, an initiative of the American Alliance of Museums adds "In such a future, museums can play a critical role, both as resources for learners, and as teachers of teachers, sharing what they have learned from their last century of education."

2.7.2 Challenges faced by museums

The late twentieth century witnessed intense debate concerning the repatriation of religious, ethnic, and cultural artefacts housed in museum collections (Gulliford, 1992). Some of the common challenges faced in museum facilities include:

i. Security of artefacts

ii. Sufficiency of exhibition spaces

iii. Patronage

iv. Functional identity

v. Conservation/ Preservation of Artefacts.

2.8 Museum Buildings in Nigeria

Certainly, structures akin to museums are among the oldest institutions established in many African societies to stimulate the interest of certain cadres of people in the history of their

societies, the natural environment and man's relationship to these (Lurie, 1981). Nigeria's cultural heritage and artefacts, alike the early Europeans were displayed in palaces and priestly places, most of which suffered loss as they were carted away by colonialists. Meanwhile, the Nigerian Commission on Museum and Monuments is pursuing restitution and return, has adopted approaches that are firmly anchored within the framework of the foreign policy direction of the Federal Republic of Nigeria, which is principally dialogue rather than undue combativeness. An inventory on national museums in Nigeria include: Benin City National Museum (see Plate xxix); Esiẹ Museum; Gidan Makama Museum Kano; Jos Museum; Kaduna Museum; Kanta Museum; National Gallery of Modern Art, Lagos; Oron Museum.



Plate xxx: Benin City National Museum, Edo in Regional Style.
Source: Nnamdinanke.com

In Duthie (2011), we find that many European museum collections often contain objects and cultural artefacts acquired through imperialism and colonization. Some historians and scholars have criticized the British Museum for its possession of rare antiquities from Egypt, Greece, and the Middle East. This loot of artefacts, scars of imperialism, cataclysm of its after effect on our history and culture and the present and future state of Nigeria's people

and culture is what this research explores and communicate through a deconstructive design generation.

2.8.2 The missing Link

Following the problem statement of this research- the lack of a unique Contemporary Nigerian design archetype or style, the researcher draws the different approaches to Contemporary Modern Architecture in Nigeria and in its Museum buildings- a scenario which will be analysed qualitatively in the next chapter. On the strength of this *thesis*, the researcher further recommends the synthesis of a unique archetype, which while satisfying the essential qualities identified as sampled Architects' ideal, will also provide for the constraints. The research has thus far established the premise that architectural creativity is predicated upon deconstructivist concept of thought and perhaps the museum building typology offers the leverage for its most enjoyed expression. Deconstructivism empowers the architect with the virtues of a literary as well as a constructive critique of seeming characters of a construct or entity by exploring its latent weaknesses and suggesting possible ways of existence of the same. Such weakness is glaring in the contemporary Nigerian society, seeking exploration. It exists both in our cultural, historic, poetic, religious, and economic identity.

2.9 Deconstructivist Museums

Deconstructivist architecture does not aim to create iconic buildings. Rather it attempts to create memorable experiences in them (Valon, 2009). As Sam (2013) explains "the use of Deconstructivism in a museum setting reflects the need to excite and engage the viewer towards the exhibitions and collections of the museum itself." Starting from 1938, with the Museum of Modern Arts in New York, and continuing through the present day, museum directors and trustees have retained modernist and contemporary architects to create structures with aesthetic values as significant as the collections they were designed to hold…

Perhaps the most pressing problem confronting the architect of a museum today is how to generate a cutting-edge exterior design, which stimulates the imagination of the viewer (Scott, 2008).

This is the sort of aggressive, contradiction-uncovering reading for which deconstruction is known. It has imbued some philosophers with a new humility, made many literature professors wary of expounding on such things as an author's intent, alerted some law professors to cracks in the foundations of law and inspired groups of architects, artists and fashion designers to create works that display and make a virtue of contradictions in the way they were constructed. According to Sam (2013) "Though the philosophy regarding deconstruction can be used to interpret the design of buildings, it can also reference the questions regarding the museum as a concept and how that influences the building's design." Perhaps no other building typology has expressed the creativity of deconstruction since its inception as museums.

Wim (2008) stated "A museum that makes a stunning architectural statement can become a tourist attraction and revive the economy of a city or region. As a result, the architectural envelope is now as important as the inside." In his discuss on museum buildings (Wim, 2008) pointed out "The history of the museum as a building type reflects developments similar to those in other types, such as schools, libraries, movie theatres, and even churches… but recent examples suggest that some architects and curators want to devise gallery spaces in which the art and architecture together create a total environment, conducive to contemplation of the ideas behind the art on display." Such architects make a contribution to the number that comprise architectural deconstructivist. Newhouse (1998) describes that by using deconstruction within a museum's design, the architect can specifically shift the building from a passive repository to that of an active one.

2.9.1 Case Study of Jewish Museum, Berlin

Brief: Daniel Libeskind's design, which was created a year before the Berlin Wall came down, was based on three insights: it is impossible to understand the history of Berlin without understanding the enormous contributions made by its Jewish citizens; the meaning of the Holocaust must be integrated into the consciousness and memory of the city of Berlin; and, finally, for its future, the City of Berlin and the country of Germany must acknowledge the erasure of Jewish life in its history (Studio Libeskind, 2016). The Jewish Museum Berlin, depicted in Plate xxvi below, themes of combining Deconstructivism and socially contested history into a heterotopic site is the complex phenomenon that re-invents this new built environment (Cho, n.d).



Plate xxxi: Perspective view of the Museum.
Source: StudioLibeskind

- **Location:** Berlin, Germany
- **Client:** Stiftung Juedisches Museum Berlin
- **Architect:** Daniel Libeskind
- **Year:** 2011
- **Gross floor area:** 166,840 sq.ft

Concept: Amidst the social and cultural history Post-war Germany, exposing the damaging effects of the Holocaust, the capturing of the physical and spiritual journey linked to the experience of the Holocaust and its repercussions on the society of Jews and non-Jews as well as ingraining the disturbance into the memory of Berlin, the design sought to make amends by the acknowledgment, erasure and the integration of voids, through which, can the future of Berlin move on, but with a humane existence (Cho, n.d).

Plan: The museum plan has a zig-zag shape of broken Star of David with a characteristic central Holocaust Tower, its entrance is from the underground walkway through the adjourning Berlin Museum's 'baroque wing'. Outdoor spaces here include the Garden of Exile and the Museum Garden. See Figure 4 below for detail.

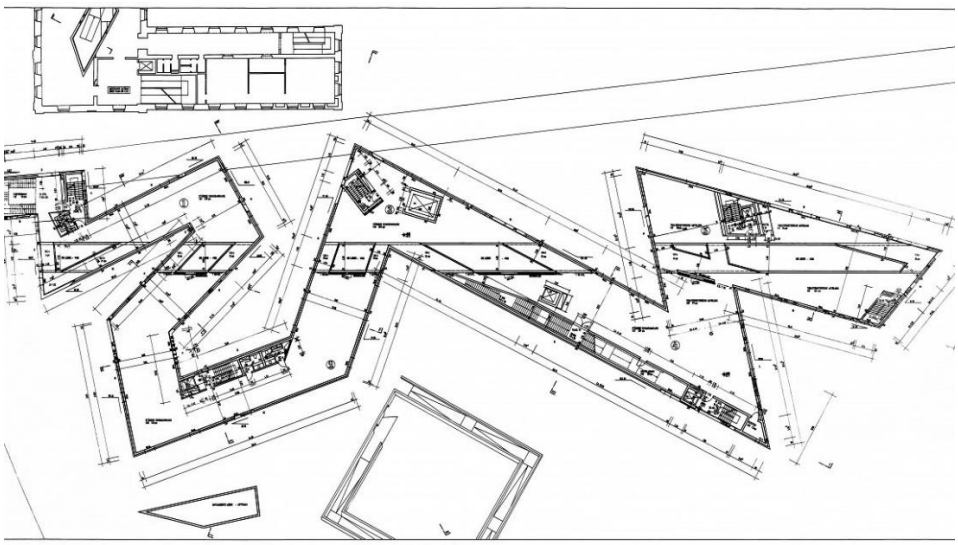


Figure 5: Floor plan of the Museum.
Source: StudioLibeskind.com

Building Form: The geometry of the star in these drawings is manipulated so that it can denote underlying structures that connect a generic building representation to a representation of the overall city pattern. In drawings the city is a continuation of buildings shaped according to an invisible, distorted star pattern (Fehmi & Nancy, 2012). See Figures 5 and 6 below.

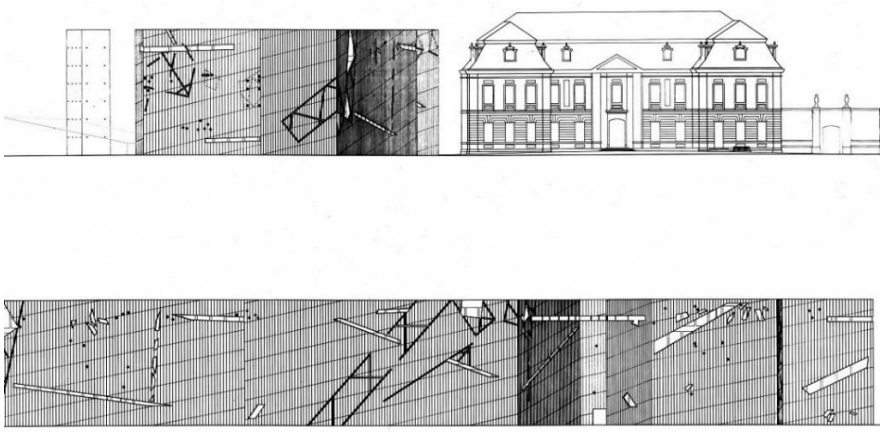


Figure 6: Elevations of the Museum.

Source: StudioLibeskind.com

In a subsequent drawing he put the matrix between the city and architecture and labelled it the *ghost*, again emphasizing the invisible mediation of the star…In another sequence of drawings Libeskind used the Star as a connecting element among places, including his Jewish Museum (Fehmi & Nancy, 2012).

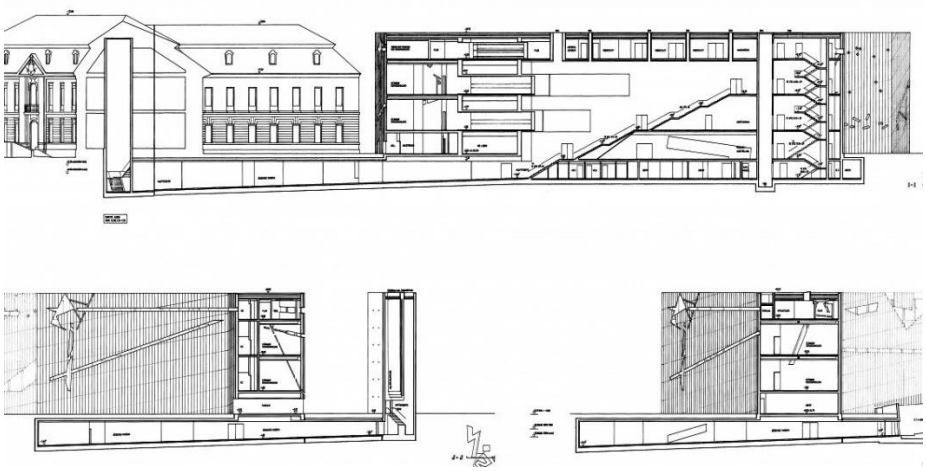


Figure 7: Cross section of the Museum.

Source: StudioLibeskind.com

Fehmi and Nancy (2012) explained further that in a group of drawings drawn not on a sketchbook but on a separate larger piece of sketch paper, Libeskind used the star specifically to establish a connection between the two components of his conceptualization.



Plate xxxii: Window as part of Star of David.

Source: StudioLibeskind.com

The zigzag and the distorted star are merged, as are the distorted, fragmented relations of the history of Germans and Jews. The voids (see plates Plate xxxiii and xxxiv) comprise fragments of the exploded star. Deriving the spatial configuration from the star diagram imbues the building with the meanings established in Libeskind's conceptual elaborations (Fehmi & Nancy, 2012).



Plate xxxv: Window as part of Star of David.

Source: StudioLibeskind.com

As Fehmi and Nancy (2012) explained, "Libeskind's manipulation of the components of the two diagrammatic representations and their coalescence is an example of how changes in a

physical representation can create corresponding changes in a conceptualization." The positioning of the incised windows is the connecting link symbolising the Jewish tradition and German Culture, and plotting the location of the citizens on a map of pre-war Berlin via the representation of a mapping system (Cho, n.d).

2.9.2 Case Study Deductions

Instances of vital deductions from the study above include:

i. The conception of the museum is based on the history of the Berlin Jews and Germans. In this way the design is contextualized to local users by tapping into their innate experience and memory.

ii. Multiple concepts can be used through integration to transform design idea into built form. However, the concepts must be guided by a design theme. In this case: *Between the lines.*

iii. The museum thus, presents itself as a place of tourism, illustrating a world where contemporary visitors are transformed into the world of social, cultural and historical significance (Cho, n.d).

iv. The study also shows that, regardless of whether design starts with a specific solution or with problem structuring, creativity in spatial design could be fostered through the construction of a meaningful and rich conceptual basis that consistently relates to a spatial configuration (Fehmi & Nancy, 2012).

CHAPTER THREE

3.1 RESEARCH METHODOLOGY

The research considers the development of architecture in Nigeria from the Traditional style, through the influence of the Colonial era which brought along an architectural intrusion that stifled the virtues of Nigeria's endemic style. It addresses the lack of identity of Contemporary Nigerian architecture, considering Regionalism as a suitable style to be developed in search for a Nigerian archetype. This development is proffered under the auspices of Deconstructivism- a philosophical as well as architectural movement that is concerned with abstract formations based on alterations of existing construct of forms, concepts and ideas. Hence the research approach, which is concerned with "plans and procedures for research that span the steps from broad assumptions to detailed methods for data collection, analysis and interpretation" (Creswell, 2014), will be subsequently discussed in this chapter.

3.2 Research Strategy

This research is Exploratory in nature as it considers data from Historic, Cultural, Philosophical, and scientific sources and perspectives primarily sourced by the researcher, and utilizes their combined relevance to solve an architectural problem. Oluigbo (2011) describes an exploratory research as the most appropriate approach for those studies that are addressing a subject about which there are high levels of uncertainty and ignorance about the subject, and when the problem is not very well understood. It tackles a new problem about which little is known and therefore the idea cannot be fully formulated from the beginning. It is geared at identifying the "salient factors or variables that might be found there and be of relevance to the research." (Oluigbo, 2011). The research strategy is an Applied- Case study- Exploratory- Qualitative sequential.

3.3 Research Design

Research design is the arrangements of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Oluigbo, 2011). The research design adopted for this study is the Qualitative approach. "A study is classified as qualitative if the purpose of the study is primarily to describe a situation, phenomenon, problem or event; if the information is gathered through the use of variables measured on nominal or ordinal scales (qualitative measurement scales); and if the analysis is done to establish the variation in the situation, phenomenon or problem without quantifying it" (Ranjit, 2011). According to Creswell (2014), Qualitative research is an approach for exploring and understanding the meaning individuals and groups ascribe to social or human problem. The process of research involves emerging questions and procedures… and the researcher making interpretations of the meaning of the data. "Qualitative methods develop theory, in contrast to quantitative approaches, through the use of in-depth interviews or observation. They are not mathematical in nature, but narrative" (Derry-Joe, 2016).

3.4 Research Methods

According to Creswell (2014), a research method focuses on forms of data collection, analysis, and interpretation that the researcher proposes for his studies. The research inculcates a Transformative paradigm, a theoretical framework that surrounds data acquisition and interpretation for making inference that is geared towards stylistic transformation, on the grounds that the problem definition arose from architects' concern on an architecture of identity for the Nigeria and that the regional style, when accentuated, is most promising for a national archetype- one that fulfils both climatic requirements as well as interesting form and functional considerations while inculcating the architectural relevance from each region. Ranjit (2011) testifies that through qualitative research

methodology you can find the diversity or spread of attitudes towards an issue but not their intensity and a combined overall indicator. This implies that the presence of regional elements can be indicated and ascertained, however it cannot be quantified into numerical values.

3.4.1 Visual Survey

Visual surveys traditionally consist of sets of photographs of buildings, streets, sidewalks, shopping centre, parks, and/or other examples of a region's built or natural environment taken from within the community, although some may be from other areas if a depiction of a certain design principle cannot be conveniently found in the survey area (Oluigbo, 2011). Visual Preference Survey, developed by Anton Nelessen and Associates in the 1990s, is a credible surveying technique that allows for public participation in assessing images with a rationale to build consensus on user requirements for proposed designs. Creswell (2014, p. 203) identified the purpose of visual survey as to "generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behaviour of this population." In this study, the researcher adopts the use of a Likert scale checklist in assessing the attitudes of elements across the selected samples of the research population.

The checklist was developed from literature review specifications and some field observations. As stated in Ranjit (2011) "In qualitative research, you can only explore the spread of attitudes and establish the types of attitudes prevalent." The prevalent attitude obtained from field work formed the research findings and serves as the basis of the Deconstructivist fusion. The checklist was used alongside unstructured interview questions asked to both the museum curators and ethnographers in every case selected. The survey design is cross-sectional. This implies that the data were collected at a single point in time.

Ranjit (2011) outlines the challenges in developing an attitudinal scale to include:

i) Which aspects of a situation or issue should be included when seeking to measure an attitude?
ii) What procedure should be adopted for combining the different aspects to obtain an overall picture?
iii) How can one ensure that a scale really is measuring what it is supposed to measure?

Attributes measured in the survey check list include: Regional introspection, Culture & identity, Design with nature and Building form/function. These attributes were arrived at from literature materials on Regional architecture including those of Frampton (1983), Dmochowski (1990), Habib (1985) and William (1982). Survey method possess the advantages of "economy of the design and the rapid turnaround in data collection" (Creswell, 2014).

3.4.2 Case Study

For the purpose of this research, the application of case studies will be utilized as both evaluative and exploratory. As evaluative, this involves the assessment of local case studies to ascertain their design philosophy and level of compliance with the Regional architecture and exploration of deconstructivist Museum buildings to ascertain their level of same, in order to "suggest modifications and alternatives" (Veal, 2006). The cases studied involved regional Museums across the Northern, south-eastern and South-western Nigeria, however its findings were not restricted to the museum typology alone as they were relevant to other typologies adapted to Regional architecture in Nigeria.

The case study selection criteria for this research include:

i. The architectural style adopted for the design of the museum facility, which can alternately be denoted by the time the facility was built.

ii. The geographical location of the museum, i.e. Northern, South-east, South-western Nigeria.

iii. The cadre of selected museum, i.e. National museums only. Especially those of History, Arts and Ethnography.

3.5 Population and Sample

While the population in a given research is the overall size of the individuals or bodies concerned in the study, its sample population is a representative fraction of that whole. The basic objective of any sampling design is to minimize, within the limitation of cost, the gap between the values obtained from your sample and those relevant in the study population (Ranjit, 2011). The research population for this study consist of Museum buildings in Nigeria. However, due to the rigorous task that will arise from collecting data from every museum building spread across Nigeria, a purposive sample of only Museums with bias on Regionalism in each both Northern, South-eastern and South-western regions in Nigeria is drawn. This allows the researcher analyse the elements of identity possessed by each, the flow of function and principle of design as basic variables for deconstruction. The inclusion of foreign Museum building(s) designed based on deconstructivism will be carried out to offer guideline and serve as descriptive tool of spatial deconstructivist configuration.

Ranjit (2011) lists the factors which may influence the selection of a sample in a qualitative research as including “the ease in accessing the potential respondents; your judgement that the person has extensive knowledge about an episode, an event or a situation of interest to you; how typical the case is of a category of individuals or simply that it is totally different from the others.” Stating that the researcher makes “every effort to select either a case that is similar to the rest of the group or the one which is totally different.” Here the researcher purposively samples museum facilities from the three (3) distinct regions that are

introspective of regional architecture, although the elements possess a varied degree of compliance given the relative scarcity of buildings of architectural regionalism.

3.5.1 Sampling Frame

The underlying premise in sampling is that a relatively small number of units, if selected in a manner that they genuinely represent the study population, can provide – with a sufficiently high degree of probability – a fairly true reflection of the sampling population that is being studied (Ranjit, 2011). The sample frame for this research involves as single stage sampling procedure; one in which the elements of the research population can be directly accessed, drawn from the publication by the National Commission for Museums and Monument, Nigeria. The Museums studied in this research include: Gidan Makama Museum, Kano; National Museum Onikan, Lagos; National Museum of Colonial History, Aba; National Museum Owerri, Imo. Each case represents the region in which it is located.

3.5.2 Method of Sampling

The sampling method for this research is non-probability (purposive sampling). "Purposeful sampling, collection of open-ended data, analysis of text or pictures, representation of information in figures and tables, and personal interpretation of the findings all inform qualitative methods" (Creswell, 2014). In non-probability sampling, the chance of selection of each element in a population is unknown, and is zero for some elements (Oluigbo, 2011). This method is also known as judgmental sampling. A stratified sampling approach, involving only National Museums in Nigeria was adopted for the study. Stratified sampling separates the sample population into strata based on specific characteristics that ease selection of representative sample. Such characteristics may include gender, organizational hierarchy, size of sample elements, etc. For this research, the strata consist of only National Museums in Nigeria.

3.6 Instruments for Data Collection

The instruments used for data collection for this study allows for collation of graphical, photographic and schematic data from the museum buildings understudied. The instruments include:

i) Sketch pad and pencils
ii) Digital Camera
iii) Check list
iv) Computer software etc.

3.6.1 Method of Data Collection

In an exploratory study of the *Socio-spatial Aspects of Traditional Souqs* by Ahood, Ashraf, & Fodil (2014), the researchers adopted the use of walk-through assessment in collecting data that pertained to spatial and socio-cultural characteristics of the *Souqs* (market). Firstly, an overview of the literature that relates to urban open spaces and shopping places was conducted (Ahood, Ashraf, & Fodil, 2014). Next, an examining of several other similar assessment tools leading to the identification of relevant attributes to measure. The tool is structured in form of a checklist, which in this study underlies four major aspects of Regionalism which serves as independent variables, and a few sub-attributes of each major aspect, rated on a five-point scale.

The evaluation strategy in this sense is considered to be impressionistic which increases the understanding of the physical environment and the social experience involved by focusing on specific factors (Ahood, Ashraf, & Fodil, 2014). The researcher toured the facility analysed in each case. Scores ranging from (1 - 5) are attributed to the rating, (where 1= absent, 5= very high). While the weight of each factor varies according to its contribution to the overall quality of the urban space - social fabric, they are treated equally in this assessment (Ahood, Ashraf, & Fodil, 2014).

3.6.2 Variables for the Study

The variables adopted for any research is best functional when related to the research questions and/or tools in the research instrument "so that a reader can easily determine how the data collection connects to the variables and questions/hypotheses" (Creswell, 2014). The independent variables include:

i) Regionalism: Nature & Place
ii) Culture & identity: Architectonics
iii) Design with nature
iv) Building form/function.

These form the major assessment tool adopted in the check list, are analysed in terms of sub-attributes that serve as checks as discussed in chapter four (4). See Table 1 for description.

Table 1: Description of Attributes.

s/n	PARAMETER	OPERATIONAL DEFINITION
Sense of Place	**Regional Introspection: Nature & Place**	Describes the correlation between the built form and the area of location. This produces a sense of place, which is a notable attribute of Regional architecture.
	Cultural & Identity: Architectonics	Describes the cultural inclination of the built form and environment. It can be identified through the adaptation of traditional materials and ornaments, forms and construction.
Sense of Space	**Design with Nature**	Describes the climate, topography and landscape of the region and how the building interacts with these elements. This is a major antidote to the rampaging of sick building syndrome of modern architecture.
	Building Function & Form	Describes spatial organization and circulation both in the indoor space and its relationship to the outdoor environment. This stretches regional sense of place by including a sense of place.

Source: Author, 2016

3.6.3 Method of Data Analysis

The collected data were analysed in two phases: the first involves editing raw data in order to detect error and omission and to effect possible corrections. Data here include sketches, photographs, etc. In the study by Ahood, Ashraf, & Fodil (2014) this was done by:

a) Analysing the numerical ratings by computation of average scores for each factor, then computation for the overall scores of the space.
b) Comparing the scores of the spaces.
c) Developing concluding comments and introducing supporting illustrations, while highlighting positive and negative aspects.

The second phase involves Classification- "a process of arranging data in groups or classes on the basis of common characteristics" (Research Methodology, n.d). Classification was carried out based on common attributes as well as shared attributes and *undecidables* between the selected case studies. This helps to convey research findings to a reader in a manner that allows for full grasp of the research "big picture" in the light of the minorities.

3.7 Interpretation of Findings

The validation of data and results in a qualitative research differ from those of quantitative researches which have well developed methods. The concept of validity as applied to measurement procedures or the research tools used to collect the required information is discussed in Ranjit (2011) to satisfy the following:

i. Is the research investigation providing answers to the research questions for which it was undertaken?
ii. If so, is it providing these answers using appropriate methods and procedures?

Hence the credibility of a qualitative research findings is obtained dependent on the strategy of the researcher towards the acquisition and interpretation of data and support from literature data. Creswell (2014) explains that research interpretation should “discuss the implications of the results for practice or for future research on the topic. This will require drawing inferences and conclusions from the results. It may involve discussing theoretical and practical consequences of the results.”

CHAPTER FOUR

4.1 DATA PRESENTATION AND ANALYSIS

This chapter introduces the physical description of the case studies selected and progress to analyse each facility, relating the findings with the existing literature and researches on Regional architecture in broad perspective before tailoring it to the Nigerian scenario. The facilities considered are all museums at National cadre, owned by the federal government. Yashim (1997) reveal that "the primary message of federal government-owned museums in Nigeria at the start was to inform the public about the relevance of archaeological material in the historical experience of the people of Nigeria." The proposed facility stretches this importance by unifying the now diversified Nigeria both in terms of its architecture, art and history, and function based on findings from elaborate studies of the existing physical models of each region.

4.2 Case Study

Case study and ethnographic research involve a detailed description of the setting or individuals, followed by analysis of the data for themes or issues (Stake, 1995). A complete description of the data analysis according to Creswell (2014) would be to "first describe the general process of analysis followed by the specific steps within the strategy". Saad (1981) explained, art and aesthetics are less concerned with objective or scientific assessment of artefacts; theirs is a realm shrouded with attitudes, perceptions, value judgements, ethics, personal preferences, metaphors, similes and myths. Hence the case study approach selected for this research is an integration of both qualitative observation and qualitative visual material. Creswel (2014) explains qualitative observation as when the researcher takes field notes on the behaviour and activities of individuals at the research site. While qualitative visuals may include photographs, video tapes, e-mails, etc. The advantages include researcher's first-hand experience with participants as well as unobtrusive data collection,

while it is challenged by difficulty in the interpretation of findings. The researcher has adopted a descriptive tool that cuts across the selected cases in terms of: concept, Plan, building form, materials and landscape features.

4.2.1 Gidan Makama National Museum, Kano

4.2.1.1 Brief History

Gidan Makama National museum, Kano, depicted in Plate xxxvi, was built in the 1440s as a palace for Muhammad Mansir, the *Makaman Kano*- a title accredited to him by his father who reigned in the ancient Kano state as a monarch. Muhammad collected artefacts from his voyages and spoils of war, with which he furnished his antiques. The building was converted to a museum many years later. The architecture of this facility is elite and possess strong similitude to many royal buildings in the city of Kano, as well as other regional Hausa architectural buildings.



Plate xxxvii: Gidan Makama, Kano.
Source: Author, (2016).

Location: Central Kano city, Nigeria

Type: Ethnographic Museum

Architect/ Builder: Abdullahi Burja

4.2.1.2 Concept

The facility is built to adapt to Traditional Hausa architecture of spaces and function revolving around a central courtyard or open space. The courtyard provides avenue for outdoor gathering and performance space, while also contributing to climatic factors of allowing for natural lighting and ventilation of the besieging structures.

4.2.1.3 Plan

The building plan as seen in Plate xxxviii, is majorly round floor unit areas at close distances from each other. This type of plan best provides privacy and hierarchy of spaces. The reception space- *Zaure*, is where guests or visitors at the museum are received before proceeding to other galleries within the complex.

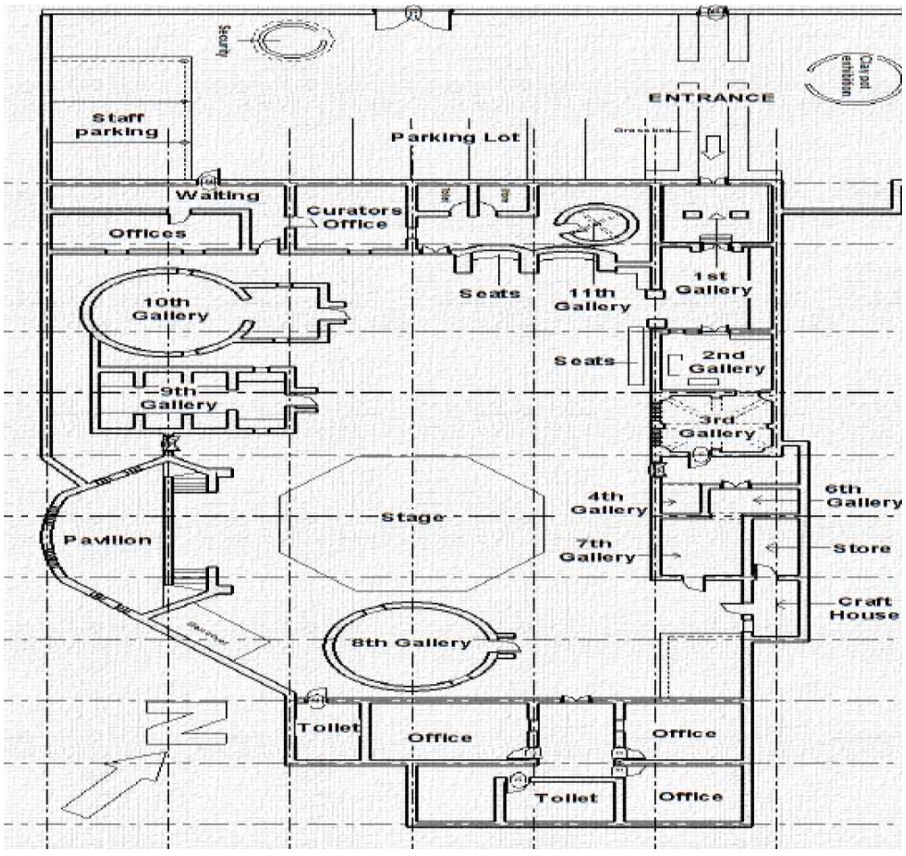


Plate xxxix: Gidan Makama Floor plan.

Source: Author, (2016).

4.2.1.4 Building Form

The building form as seen in Plate xl, follows the round shaped floor plan, with parapets over certain structures, whose ends have jotted projections. The facade shows majestic appeal following the thickness of walls, piers and stand-alone columns.



Plate xli: Gidan makama Courtyard.

Source: Author, (2016).

4.2.1.5 Construction Material

The materials and methods employed in the construction of Gidan Makama museum, Kano are discussed below under the following components:

a) **Floor:** The floors in all separated structures of the facility is of cement-stone finish. The researcher believes this finish was used in rescue of the dilapidated clay or sand floor which was the foremost floor finish material.

b) **Wall:** The walls are erected using *Tubali*- locally moulded conical bricks, composed of red clay and *makuba*-a type of dry grass, formed and heated to solidify. The walls are finished with clay plaster both interior and exterior. Find depictions in Plates xlii to xliii below.



Plate xliv: Mixture of clay and grass for moulding *Tubali*.

Source: Pinterest.com



Plate xlv: Clay plaster applied to building walls.

Source: Dmochowski (1990)



Plate xlvi: Exterior rendered wall finish.

Source: Author, (2016).



Plate xlvii: Interior rendered wall finish.

Source: Author, (2016).

c) **Doors and Windows:** the main doors are made of smelted black stones, while some other structures do not have any doors, except openings. The windows are of timber as well. A later introduced gallery building has glass windows with aluminium frames.

d) **Roof:** The roof beams are composed of *Azara* - a type of local wood bound together using cords and covered with mud to increase the stability of the beams. Azara is also used for the rafters and straws are laid on them to finish the roof system. The

roof carcass is exposed internally, hence there is no need for ceiling. This increases thermal cooling in the rooms.



Plate xlviii: Thatch roof and parapet walls on flat roof sections.

Source: Author, (2016).

e) **Landscape features:** The facility landscape is generally had concrete walkways and exposed earth flooring within the compound with sparse vegetation cover mainly consisting of shrubs at the entrance to the facility. A few trees found on the site do not show a pattern or visual logic by which they were panted.

4.3.1 National Museum of Colonial History, Aba

4.3.1.1 Brief History

The National Museum of Colonial History, Aba, was initially administrations building for British merchants in 1902. The building was dismantled from *Akwete* where it served its earliest function and assembled in *Ngwa* East where it served as collection point for palm produce both in Abia state. In 1985 the facility was converted to a museum and other ancillary departments, kitchen, canteen, craft spaces were developed to serve the museum function. This was the effort of Andrew Murray, Bernard Feig and Ekpo Eyo. The overall

structure complies with the regional architecture of the Igbo people with a characteristic inclusion of western architecture. See Plate xlix for depiction.



Plate l: National Museum of Colonial History, Aba.

Source: Author, 2(016).

Location: #6 Ikot Ekpene road, Aba, Abia state.

Type: History Museum

Architect/ Builder: Unknown

4.3.1.2 Concept

The initial concept was that of Colonial architecture following the British materials and methods. However, the inclusion of ancillary museum functions patterned the consulate building an *obi*- a central space where guests and visitors are entertained- the main exhibition in this case, and every other space and activity revolves around it. The elevation of exhibition building eloquently communicates hierarchy of space and function.

4.3.1.3 Plan

The museum plan as seen in Figure 8, is composed of one central exhibition gallery located centrally on the site, 3 administrative blocks arranged beside the exhibition, a craft shop, 4-

unit outdoor eating spaces, an outdoor kitchen. The positioning of the gallery simulates the *obi* of the Igbos.

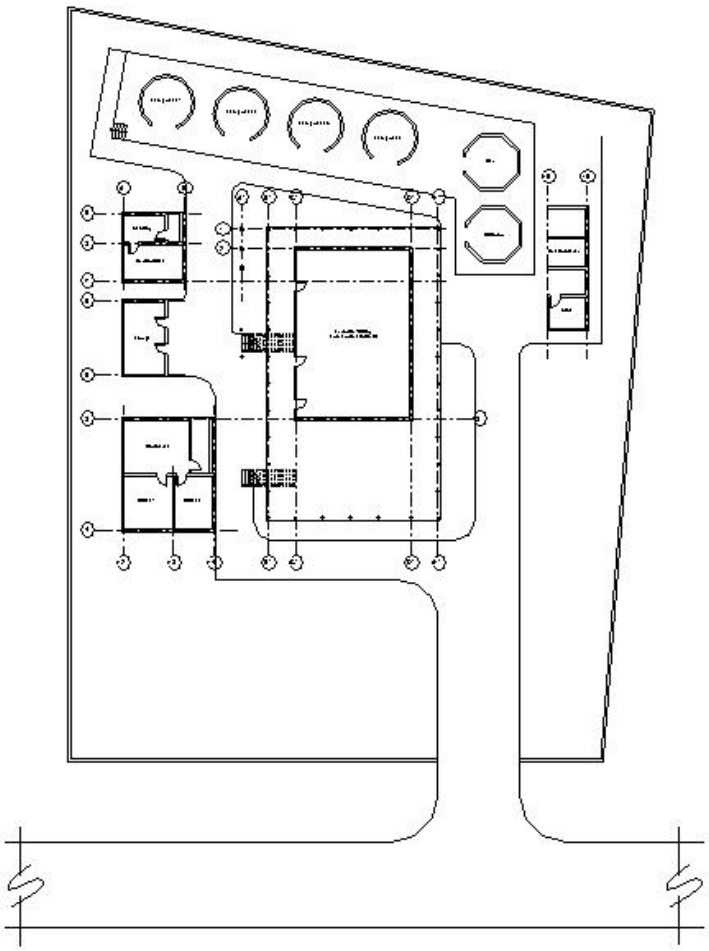


Figure 9: Sketch plan of the Museum.

Source: Author, (2016).

4.3.1.4 Building Form

The building is basically a composition of two separate forms. The main gallery and exhibition area are of rectangular plan and simple hipped roof, while the crafts shop, eatery and bar are of octagonal shaped plans with convergent roof. The blend of form here is simple, given the use of straight shapes of building plans. See plates li and lii below.



Plate liii: Exterior view of the Museum Gallery.

Source: Author, (2016)



Plate liv: Exterior view of the museum kitchen.

Source: Author, (2016).

4.3.1.5 Construction Material

The building materials used in the construction of the museum are discussed under the following categories:

i. **Floor:** The floor material around the offices area is of insitu-concrete, overlaid with vitrified ceramic floor tiles, the cafeteria and craft shop and sitting area below the

gallery is of insitu-concrete with finished with chippings and left to dry, giving the floor a rough finish that supports friction. Inside the main exhibition the floor if of timber joist floor with staggered soffit.

ii. **Walls:** The walls of the main gallery/ exhibition are built with timber planks and boards, supported on metallic steel posts that serve as suspension column as seen in Plate lv and plate lvi. The walls of the offices area are built with hollow sandcrete blocks, while those of the craft shop and kitchen areas are dwarf walls finished with brick slates, giving it a local regional appeal.



Plate lvii: View of Museum Gallery and Kitchen showing Building materials.

Source: Author, (2016)

iii. **Doors and Windows:** The main exhibition area have top-hung projected wooden windows, allowing for 100% lighting and ventilation of the gallery. The administrations offices are of double sash aluminium sliding windows which offer controlled lighting and ventilation at 50% maximum ventilation. See Plate lviii for description. The kitchen area and craft shops have no need for windows since they have dwarf walls all around.



Plate lix: Fenestration in Main Exhibition area.

Source: Author, (2016).



Plate lx: Fenestration in Admin offices.

Source: Author, (2016).

iv. **Roof:** The roofing types differ here with the building shape. The main exhibition and offices area have hipped roofs (See Plate lxi), while the eating areas, arts and craft area both have convergent roofs almost forming a cone as in northern Nigerian Hausa traditional huts as seen in Plate lxii. The ceiling within the exhibition gallery is of panelled timber, while bamboos are used to cover the bottom interior of roof within the craft shop and kitchen.



Plate lxiii: Hipped roof used over Exhibition area.

Source: Author, (2016).



Plate lxiv: Hipped roof used over Exhibition area.

Source: Author, (2016).

v. **Landscape features:** The museum sits on a well landscaped site, with expanse of green garden grasses covering non-circulation ground areas. Other elements of landscape include assorted shrubs, palm trees, stone chipped walkways and tarred car parking lots. The landscape also provides for outdoor gathering and event space.

4.4.1 National Museum Onikan, Lagos

4.4.1.1 Brief History

The National Museum Onikan, was commissioned on 19th March, 1957. The purpose-built museum houses many artefacts and collections obtained from donations, restitutions and seizures. Local exhibitions at the museum consist majorly of artefacts especially those of sculptures, carvings, archaeological equipment, ethnological terracotta heads, bronze statutes and traditional antiquities. One of the treasured possessions here is the vehicle in which Gen. Murtalla Mohammed was murdered. It serves as a head centre to the National Commission for Museums and Monuments. See depiction in Plate lxv below.



Plate lxvi: Approach of National Museum Onikan.

Source: Panoramio.com

Location: Broad Street**,** Onikan, Lagos.

Type: History Museum

Architect/ Builder: Unknown

4.4.1.2 Concept

The rectangular shape of the museum plan affords a central courtyard which in this case allows for appreciation of sculptures and paintings displayed around it, while also providing for natural lighting, ventilation and circulation. The main building adjourns with the library and information section assessed from the rear, having another courtyard space without sculptural exhibition. The inclusion of a cultural kitchen and workshop area makes the facility have the feel of a village setting with major activities revolving within the museum gallery and central courtyard.

4.4.1.3 Plan

The building is of rectangular plan with two floors, the administration offices are located on the first floor and other ancillary units such as library, canteen and craft village not integrated with the main building, having individual entrances but however, linked with walkways to the main building. See Figures 10 and 9 below for illustration.

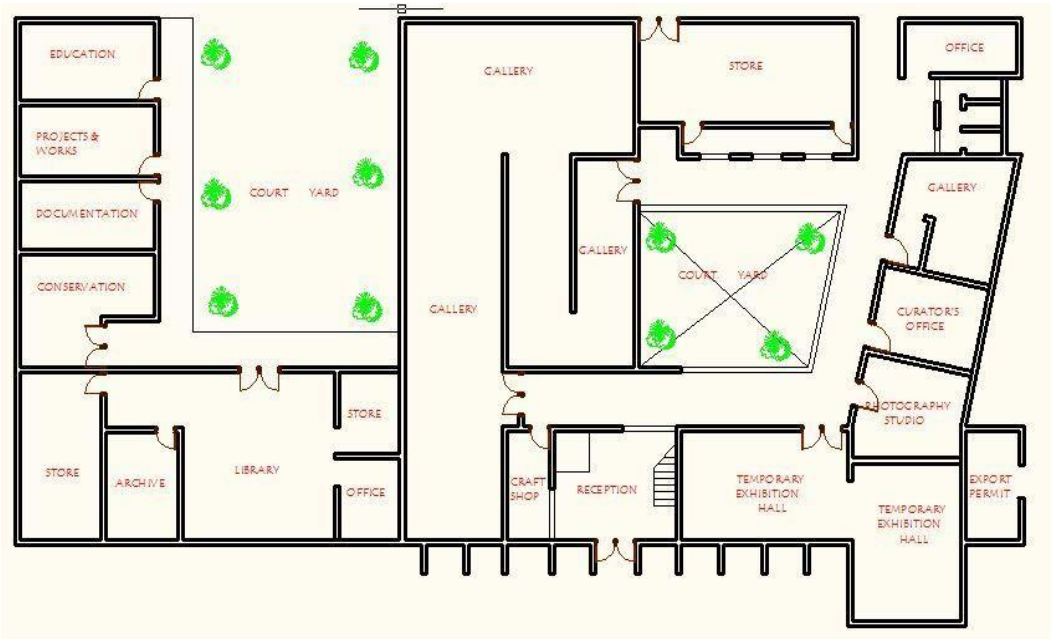


Figure 11: Museum ground floor plan.

Source: Author, (2016).

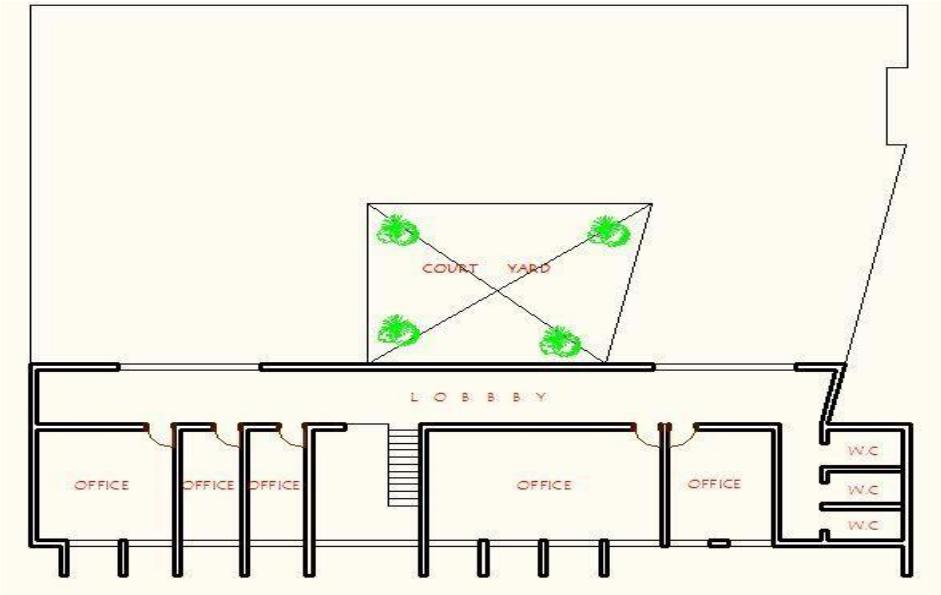


Figure 12: Museum first floor plan.

Source: Author, (2016).

4.4.1.4 Building Form

The building is completely a vertical projection of the plan, with the gallery and administration offices forming the central museum edifice (see Plate lxvii and lxviii below). The arts and crafts workshops are small units of individual hexagonal plan huts, projected similarly as the main building.



Plate lxix: Exterior façade of the museum.

Source: Author, (2016).



Plate lxx: Courtyard of the museum.

Source: Author, (2016).

4.4.1.5 Construction Material

The building materials used in the construction of the museum are discussed under the following categories:

vi. **Floor:** The building floor within the museum main exhibition, library, art shop and archive, and around the courtyard walkways is of insitu- concrete terrazzo floor finish with ebonite strips at intermediate centres. The floor material within the administration offices is vitrified ceramic floor finish.

vii. **Walls:** The walls of the building is mainly of sandcrete block with cement-sand plaster finish. The main entrance to the museum has screen side walls allowing for air movement, extended view range and aesthetic appeal. Stone finish is also used at the front wall of the museum which has a gentle curvature and adds to the aesthetic appeal of the museum (see Plate lxxi below). At the arts and craft area, the huts are built of dwarf walls with brick slate finish.



Plate lxxii: Courtyard of the museum.

Source: Author, (2016).

viii. **Doors and windows:** The main building has large windows that allows the admission of light and ventilation into the offices, while the exhibition galleries have small clerestory windows placed far apart from each other to admit minimal light into the galleries, preserving the artefacts from damages due to direct impact of light, and provide increased security of the artefacts. Swing doors provide access to the indoor gallery, library and offices. Here again, the eating spaces do not have doors since they have dwarf walls and are open to the outdoor spaces.

ix. **Roof:** The main building and attached facilities have low pitched roofs at two strata. The lower roof strata within the main building covers the walkways around the courtyard supported by concrete posts while the upper roof strata cover the indoor spaces. The same is obtained at the attached offices section.

x. **Landscape features:** The facility incorporates both natural landscape elements such as trees, shrubs and lawn both in the courtyard space and around the site, as well as artificial landscape elements such as massive walkways, sculpture garden and paved space. Part of the site is left undeveloped engulfed with free growing carpet grasses.

4.5 Checklist Survey

The checklist instrument is integrated in the walk-through procedure introduced by Ahood, Ashraf, & Fodil (2014). The checklist assessment tool allows the researcher to focus on specific attributes of regionalism as a yard stick across all samples studied. Its aim is to ascertain the variables with consistent relevance between the museums studied. The basic procedure in reporting the results of a qualitative study are to develop descriptions and themes from the data, to present these descriptions and themes that convey multiple perspectives from participants and detailed descriptions of the setting or individuals (Creswell, 2014). As introduced in the methodology chapter, the checklist used for this research is a 5-point Likert scale (rated from 1-5, where 1= absent, 5= very high) as discussed in Table 2 below:

Table 2: Description of Likert scale ratings.

Rating	Description
1	Describes the complete absence of an attribute. A scenario where there is no occurrence or presence of the criteria in question.
2	Describes the state of least presence of an attribute. A scenario in which the quality of an attribute is barely noticed, especially at a repeated glance. Quantifiable below 40%.
3	Describes the state of perceptible presence that satisfies an average pass mark. A scenario in which an attribute is a lay man can tell the presence of such without confusion. Such as could be rated at 40-55%.
4	Describes an obvious presence of a given attribute. Here it is likened to a maximum of 70% obviousness of a given criterion. This satisfies any degree to which an attribute is required.
5	Describes the full presence of a given attribute. A scenario in which the presence of an attribute is at its maximum without requirement or need for further increase. At this point the quality of the attribute is at its optimum level.

Source: Author, (2016)

4.5.1 Gidan Makama National Museum, Kano

Table 3: Checklist Result from assessing the Gidan Makama, Kano.

s/n	PARAMETERS	RATING				
		Absent	Low	Moderate	High	V. high
		1	2	3	4	5
	Regional Introspection: Nature & Place					
1.	Spatial morphology adapted to traditional					√
2.	Provision of courtyard/ open space(s)					√
3.	Exploration of different forms		√			
4.	Religious / Political / Historic introspection			√		
	Cultural & Identity: Architectonics					
5.	Use of indigenous building materials					√
6.	Use of ornaments and decorations				√	
7.	Indigenous skills and construction					√
	Design with Nature					
8.	Respect for natural topography of site			√		
9.	Respect for local climate					√
10	Preservation of natural vegetation		√			
	Building Function & Form					
11.	Functional consideration in circulation			√		
12.	Integration of modern pattern in building			√		
13.	Any other (ordering of spaces/zoning)			√		
	Average score (total score/no of attributes)					

Source: Author, (2016)

Observations

The buildings are separate unit structures linked by paths around a central courtyard space. Plaster finish is done by hand to create finger markings on building walls as in Traditional style. Building spaces and circulation are small and give feeling of an intimate scale. Also, staff members prefer climatic feel of spaces to functional introspection. Table 3 gives ratings as seen above.

4.5.2 National Museum of Colonial History, Aba

Table 4: Result from assessing the Museum of Colonial History, Aba.

s/n	PARAMETERS	RATING				
		Absent	**Low**	**Moderate**	**High**	**V. high**
		1	**2**	**3**	**4**	**5**
	Regional Introspection: Nature & Place					
1.	Spatial morphology adapted to traditional			√		
2.	Provision of courtyard/ open space(s)				√	
3.	Exploration of different forms			√		
4.	Religious / Political / Historic introspection				√	
	Cultural & Identity: Architectonics					
5.	Use of indigenous building materials					√
6.	Use of ornaments and decorations		√			
7.	Indigenous skills and construction			√		
	Design with Nature					
8.	Respect for natural topography of site				√	
9.	Respect for local climate					√
10	Preservation of natural vegetation				√	
	Building Function & Form					
11.	Functional consideration in circulation					√
12.	Integration of modern pattern in building					√
13.	Any other (Hierarchy/ Dominance)				√	
	Average score (total score/no of attributes)					

Source: Author, (2016)

Observations

The main exhibition building existed as British consulate building but was relocated and reassembled on current site in a typical Igbo setting. Hierarchy is achieved by suspending exhibition space on elevated support. Regionalism is significantly seen in kitchen, eatery and outdoor space planning. Outdoor space serves as performances and event area. Table 4 gives ratings as seen above.

4.5.3 National Museum Onikan, Lagos

Table 5: Checklist result from assessing National Museum Onikan, Lagos

s/n	PARAMETERS	RATING				
		Absent	**Low**	**Moderate**	**High**	**V. high**
		1	**2**	**3**	**4**	
	Regional Introspection: Nature & Place					
1.	Spatial morphology adapted to traditional			√		
2.	Provision of courtyard/ open space(s)					√
3.	Exploration of different forms		√			
4.	Religious / Political / Historic introspection	√				
	Cultural & Identity: Architectonics					
5.	Use of indigenous building materials			√		
6.	Use of ornaments and decorations		√			
7.	Indigenous skills and construction				√	
	Design with Nature					
8.	Respect for natural topography of site				√	
9.	Respect for local climate				√	
10	Preservation of natural vegetation			√		
	Building Function & Form					
11.	Functional consideration in circulation					√
12.	Integration of modern pattern in building				√	
13.	Any other (Hierarchy/ Dominance)				√	
	Average score (total score/no of attributes)					

Source: Author, (2016)

Observations

Hierarchy is achieved by zoning and positioning facility administration block on upper floor. This restricts public activity to the more spacious ground floor. Building walls do not bear carvings or decorative markings as is akin to the Traditional style. The courtyard space is not for gathering as in the North and South-east, it only serves climatic function of receiving natural light and ventilation. Courtyard walkways have forked posts and lower pitched roof.

4.6 COMPARATIVE ANALYSIS

4.6.1 Check List Analysis

The check list assessment is based on the average results obtained from the selected case studies, categorised under two distinct aspects of Regionalism: sense of place and sense of space as seen in Table 6 and depicted in Figure 13 below. The aim is to ascertain the level of Regional introspection before further analysis.

Table 6: Checklist results of the 3 sampled cases.

Aspect	Attribute	Case 1	Case 2	Case 3
Sense of Place	Regional Introspection: Nature & Place	3.75	3.50	2.75
	Cultural & Identity: Architectonics	4.67	3.33	4.66
	Average	**4.21**	**3.42**	**3.71**
Sense of Space	Design with Nature	3.33	4.33	3.67
	Building Function & Form	3.00	4.67	4.33
	Average	**3.17**	**4.50**	**4.00**
	Average score	3.69	3.96	3.86

Source: Author, (2016).

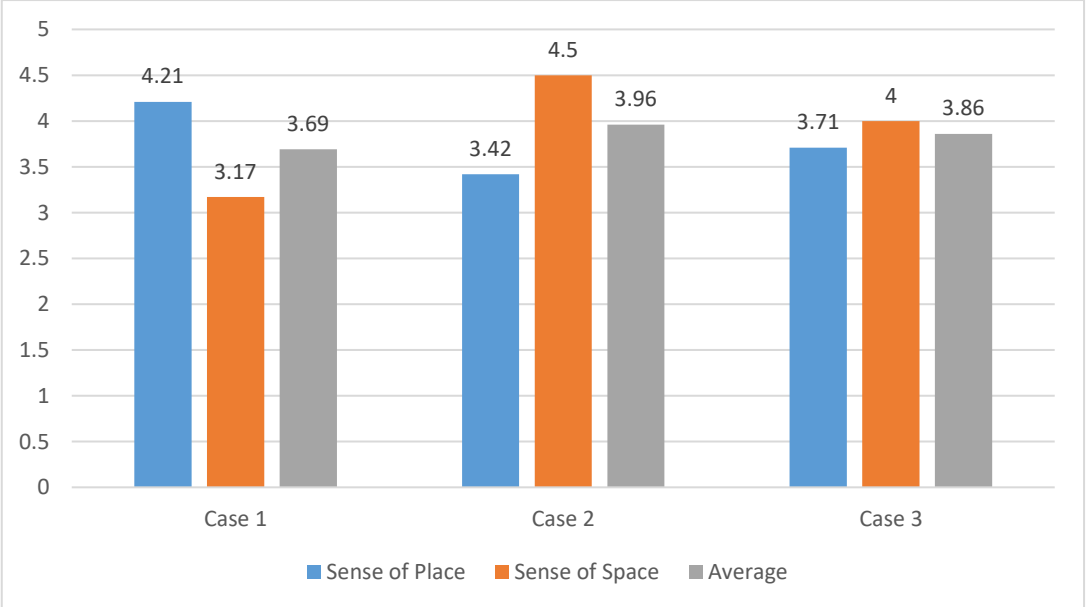


Figure 14: Average scores resulting from sampled cases.

Source: Author, (2016).

4.6.2 Walk-through Assessment

Conducting a walk-through assessment reveals various degrees of appropriateness… It offers a preliminary level of comparison between the spaces while developing a better understanding of both spatial and socio-cultural aspects (Ahood, Ashraf, & Fodil, 2014). Here it is used to measure the regional inclination of the case studies. The analysis based on the walk-through survey is carried out on each case study based on two broad aspects of regionalism: sense of place and sense of space, which is tailored to the independent variables introduced in the check list. It offers a preliminary level of comparison between the samples while developing a better understanding of Regional socio-cultural and spatial aspects.

4.6.1.1 Sense of Place

Regional Introspection: Nature & Place

Case 1 obtained the highest score while Case 3 received the lowest score in terms of regional introspection. Here the traditional and Islamic methodology of Hausa (case 1) architecture through form exploration and construction of the faculties account for greater rating than the rather silent religious intuition and multiple form exploration of the Yoruba (case 3). However, the provision of courtyard and open spaces was almost evenly rated among the three cases selected. See Figure 15 for chart below.

Cultural & Identity: Architectonics

Case 1 and case 3 recorded the highest rating with an almost equal margin while case 2 recorded the least rating in terms of cultural identity of the museums. The attainment of this score is partly due to the fact that cases 1 and 3 are built locally from the scratch, while the exhibition gallery which is the central structure in case 2 was initially a colonial architecture before it was converted to a national museum and other ancillary spaces followed the Igbo style. However, the use of locally obtained building material in construction is a shared value of cases 1 and 2 to a higher degree than is obtained in case 3.

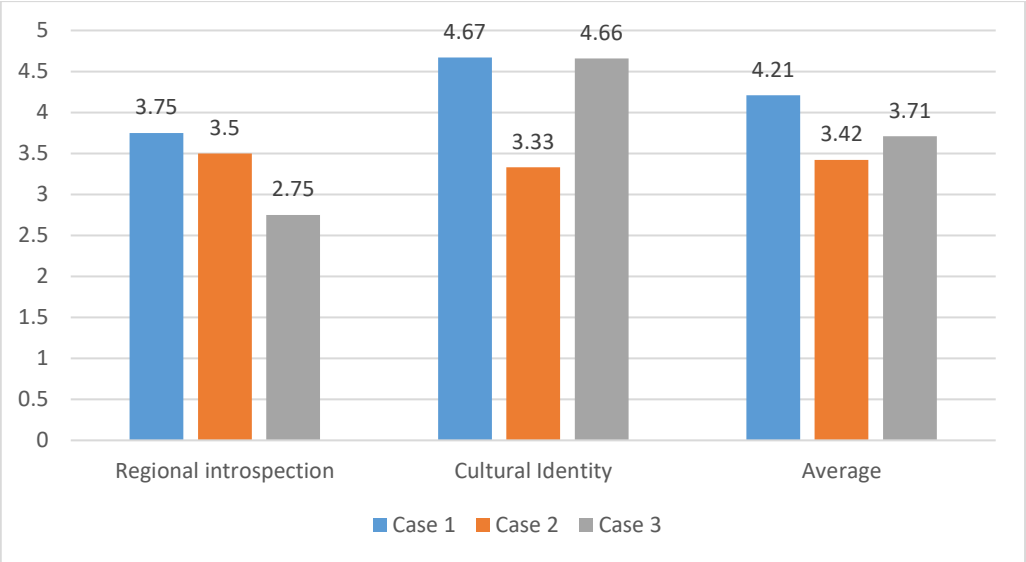


Figure 16: Average scores resulting from assessing sense of place of the 3 cases.

Source: Author, (2016).

4.6.1.2 Sense of Space

Design with Nature

Case 2 recorded the highest rating while case 1 recorded the least in terms of design with nature. There is a high respect for natural topography of site, local climate was considered in roof design and use of overhang to shade interior spaces in case 2. The choice of timber panels for ceiling as well as joist floor in case 2 accounts for indoor thermal comfort in the museum main gallery. Vegetative landscape including planted trees and green ground cover preserves the vegetative atmosphere of cases 2 and 3. The choice of mud for walls in case 1 is the only design means of regulating indoor climate. The mass concrete cover of the courtyard and absence of lawn for earth cover adds to the heat and glare of case 1.

Building Function & Form

Case 2 recorded the highest score while case 1 recorded the least in terms of building form and function. Anthropometric and functional spatial consideration account for merits in this category. Case 2 affords a close rating with case 1, as both consider hierarch of spaces in terms of building form. Spatial hierarchy is achieved on plan in case 1 by activity zoning.

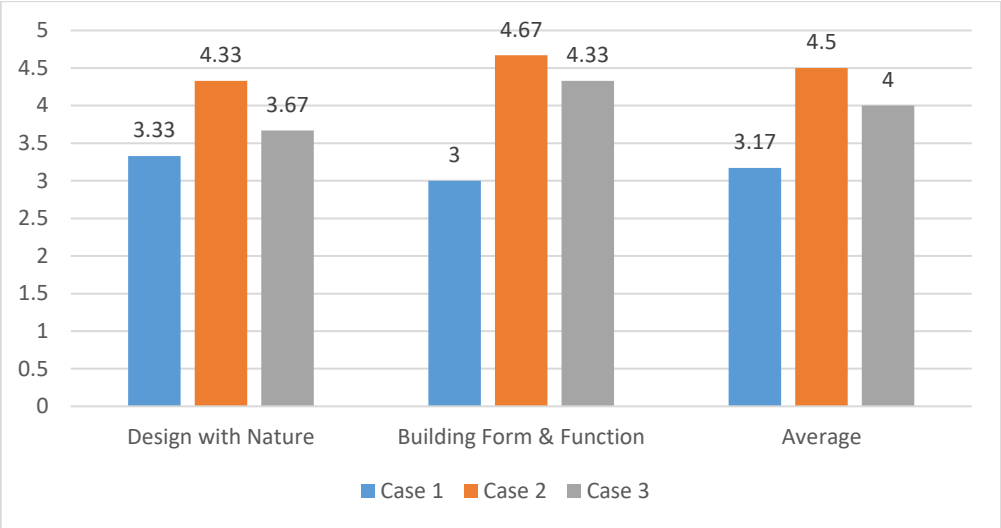


Figure 17: Average scores resulting from assessing sense of space of the 3 cases.

Source: Author, (2016).

4.6.3 Deconstructivist Fusion of the 3 Cases

Deconstructivist fusion entails the merging of the cases 1, 2, and 3 (see Figure 18). First by summation of values obtained from all attributes in the checklist and walk-through survey, then application of relevant principles of deconstructivism concerned with the relationship of the attributes at point of intersection at the node. The degree of rating increases with diameter of circle.

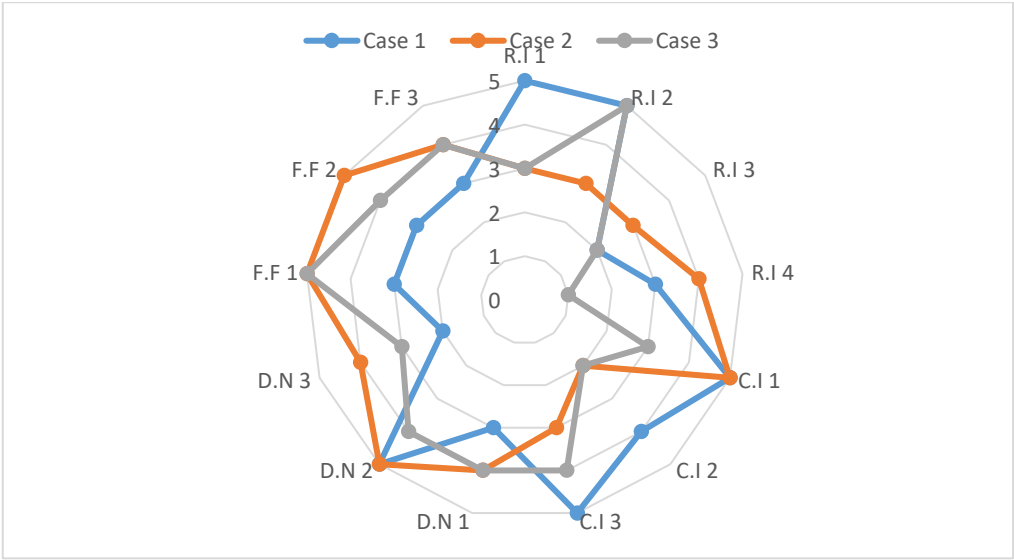


Figure 19: Fusion of sum of attributes of the 3 Cases.

Source: Author, (2016).

In the chart above the researcher denoted the attributes listed in the checklist using their initials, e.g. Regional introspection (R.I), building form and function (F.F), while the digit that follow denote the attribute number or position on the checklist. E.g. the third requirement under 'design with nature' category (Preservation of natural vegetation) is denoted (D.N 3). Intersection of nodes that exist on a single ring or consecutive rings between 3^{rd} -5^{th} rings with intersection at the upper ring is prioritised. Interpretation of the chart follows the following procedures:

Procedure 1: Determine nodes of 3 cases / closest upper node

- D.N.2- denoting respect for local climate. This obtained highest node connection for any given attribute at maximum circumferences (two 5^{th}, one 4^{th} ring).

Procedure 2: Determine nodes of 2 cases at consecutive rings

In three instances, ratings are obtained at two 5^{th} and one 3^{rd} ring instance.

- C.I.1- denoting use of indigenous building materials
- F.F.1- denoting functional consideration in circulation spaces
- R.I.2- denoting provision of courtyard/ open space(s).

In two instances, ratings are obtained at two 4^{th} and one 3^{rd} ring instance.

- F.F.3- denoting hierarchy/ ordering of spaces/ space zoning.
- D.N.1- denoting respect for natural topography of site.

Procedure 3: Determine least nodes without intersection/ diverse rings

a) R.I.4- denoting Religious / Political / Historic introspection. From the chart, this bears least influence on Nigeria's combined regional styles, at rings 1, 3, 4.

The result obtained from procedures 1-3 above prioritises the fusion of Nigeria's regional architectural attributes in three tiers of relationship that intertwine without a dominant union of the three intersects, only secondary unions. The numerical average for prioritising the higher attributes of the fused archetype is illustrated in Table 7 below:

Table 7: Numerical average of fusion of archetype.

CASES	SELECTED ATTRIBUTE				
	D.N 2	C.I.1	F.F.1	R.I.1	TOTAL
CASE 1	5	5	3	5	18
CASE 2	5	5	5	3	18
CASE 3	4	3	5	5	17

Source: Author, (2016).

From the Table above, the metrics for the fusion of the Nigerian archetype scenario necessary for national identity is thus derived:

Cases 1 and 2: 18/20 x 100% = 90%, Case 3: 17/20 x 100% = 85%

Cases 1 and 2 cumulative average:

90/300 x 100 = 30%

Case 3: cumulative average:

85/300 x 100 = 28.33%

The sum of all 3 percentages is thus 30% + 30% + 28.33% =88.33%. The remainder 11.67% is accounted for as **Undecidables** under Deconstructivism. This provides room for design freedom by the designer, it can also cater for the injection of contemporary values both in design and construction. From literature review of chapter two we find that the principle of deconstructivism that best apply here is the **Trace philosophy**, thus is adopted as tool for deconstruction. For the proposed Museum, this implies that the underlying history of the people is considered with respect to their experiences with Colonial masters. The influence of their origin be seen in their present presence- a deconstructivist language capable of showing past-presence relationship by architectural means. As Aida (2011, p. 7) noted, the new contextualism is the part not of regionalism but actually is part of realistic needs to improve the urban conditions.

The findings from the researcher's field work provides answers to the research questions asked in chapter one as follows:

Research Question 1

- *What are the negligible variables of Regionalism among the given areas which do not meet for national identity, hence redundant?*

Religious / Political / Historic introspection bears the least recorded influence on determining a national archetype from the chart in Fig. 4.6.3 above.

Research Question 2

- *What attributes are typical and representative of the Northern, Eastern and Western Nigeria's Regional style in space and form, which may provide a platform for deconstructivism?*

Results from procedures 1 and 2 respectively. Namely: climatic consideration, ordering of spaces/ space zoning/ hierarchy, site consideration, functional consideration in circulation spaces, use of indigenous building materials and provision of courtyard/ open space(s).

Research Question 3

- *Which architectural features best express a deconstructed national archetype for Nigerian regional styles?*

Result from procedure 1 only. Such features as verandas with arcs, recessed walls, overhanging roof and minimum window openings, all geared towards control of local climate of region.

4.7 Reliability of Findings

Denzin & Lincoln (1994, p. 114) identified the *Trustworthiness* (degree of reliability) of a qualitative research to anchor on four (4) indicators including: credibility, transferability, dependability and confirmability– and it is these four indicators that reflect validity and reliability in qualitative research. Haven considered the concept of validity in qualitative research, the researcher established validation of results through logical interpretation, a follow-up based on previous researches, and its internal validity is judged by the degree of focus group concordance with the findings. The interpretation of research findings is carried out by rigorous comparism and contrast of sample attributes in terms of central attribute between the regions, intersecting attribute between any two regions, and attributes that are unrelated. The intersecting as well as central attributes formed the basis of the *Deconstructivist fusion,* which in this research leads to the formation of new theory in design ideation in Nigeria's architecture- one that offers identity to the trio-region, and broadly, to the nation at large.

CHAPTER FIVE

5.0 SITE

5.1 Background Information of the Study Area

Abuja is Nigeria's capital, located along latitude 9.072264, & longitude 7.491302, placing it at the centre of the country, hence, equidistant to almost every border state in Nigeria (See Figure 20). It has a total area of 275.3 mi². Abuja's population in 2017 is 3,000,000 people. In light of the ethnic and religious divisions of Nigeria, plans had been devised since Nigeria's independence to have its capital in a location deemed neutral to all parties. The location was eventually designated in the centre of the country in the early 1970s as it signified neutrality and national unity (Abuja, 2013). Ground breaking for the development of Abuja commenced in the 1970's. More detailed design of the central areas of the capital, particularly its monumental core, was accomplished by Kenzo Tange, a renowned Japanese architect, with his team of city planners at Kenzo Tange and Urtec company (Abuja, 2013).

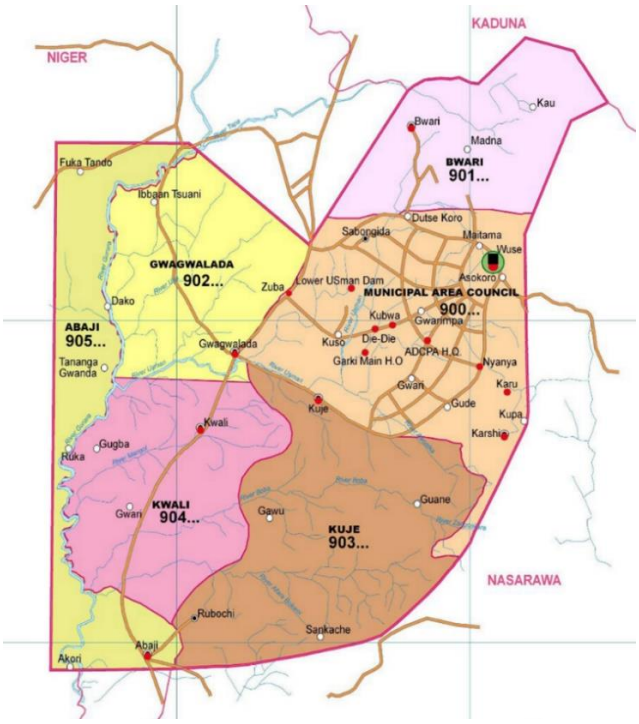


Figure 21: Map of Abuja, Nigeria.

Source: Bing.com, (2017).

5.2 Site Selection Criteria

This evaluation summarizes existing site data to identify the merits and constraints of each site. Site selection criteria can be developed from existing models of selection of similar facilities within a state or an area. It can also be obtained from local planning or Land use authorities. After identifying the site selection elements, the next step is to assign weighting factors to each element… following the assignment of the weighting factors, each selection element is evaluated according to established criteria and ranked on the simple five point scale from 0 to 4 (State of Alaska -Department of Education, 2011).

Site selection criteria broadly encompass Physical, Land use, Utilities and Environmental parameters. The following criteria are intended to serve as the basis for evaluating both the present and potential future characteristics of a site to determine its suitability for a museum. The site options are seen in Figure 22 below.

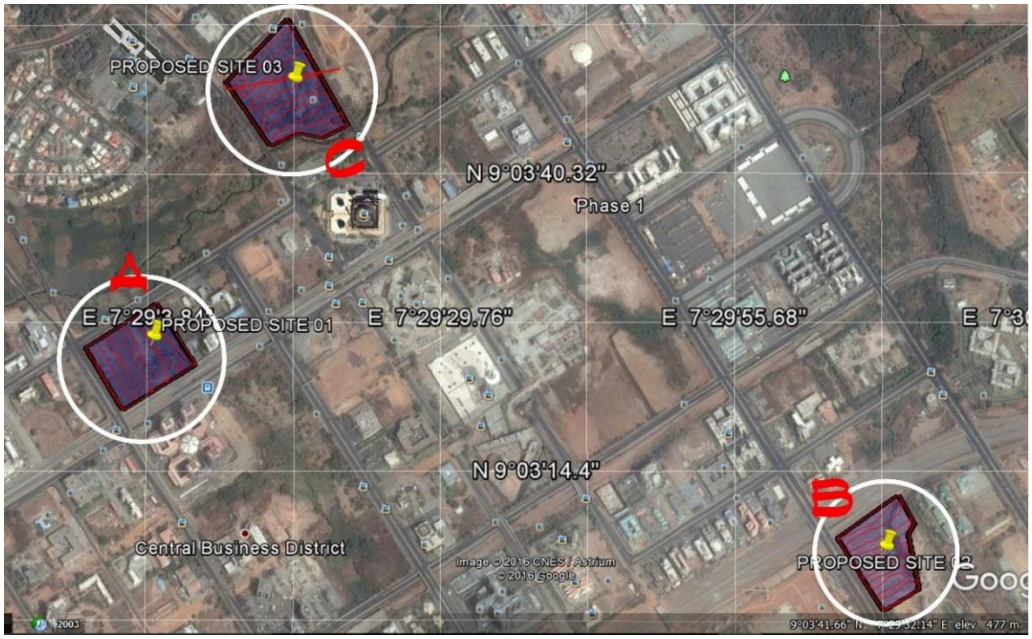


Figure 23: Site Options.

Source: Author, (2017).

From the Table 8 below, Option “C” scored the highest point among all three options with 150 points, emerging as the most suitable site for the proposed Museum.

Table 8: Site Selection Criteria.

S/N	SELECTION CRITERIA	W/F	RANKING SCORES		
			SITE A	SITE B	SITE C
01	Site Accessibility	5	5	3	5
02	Zoning Compliance	5	3	3	4
03	Security	5	4	4	4
04	Site Shape & Size	4	4	3	5
05	Future Expansion	4	2	4	3
06	Site Orientation	4	3	3	5
07	Topography	3	5	4	4
08	Neighbouring Facilities Compatibility	3	3	2	4
09	Pedestrian Access	3	3	2	3
	SUM TOTAL (WF X RS)		139	114	150

Source: Author, (2017).

Weighting Factors (W/F): 1 = not very important, 2 = somewhat important, 3 = important, 4 = very important, 5 = essential.

Criteria Ranking Scores: 1 = unacceptable, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

5.3 Site Location

The selected site for the proposed Museum facility, depicted in Figure 24 below is within the central business district (CBD). The site is located within Wuse Zone 2, along coordinates E7°29’3.84” and N9°03’40.32”. Wuse Zone 2 is surrounded by Gwarimpa and Kubwa to the South, Maitama, to the North, and Zuba, to the West side wing. Some major facilities around the site include: Abuja National mosque, Sheraton hotel and Ceddi Plaza.

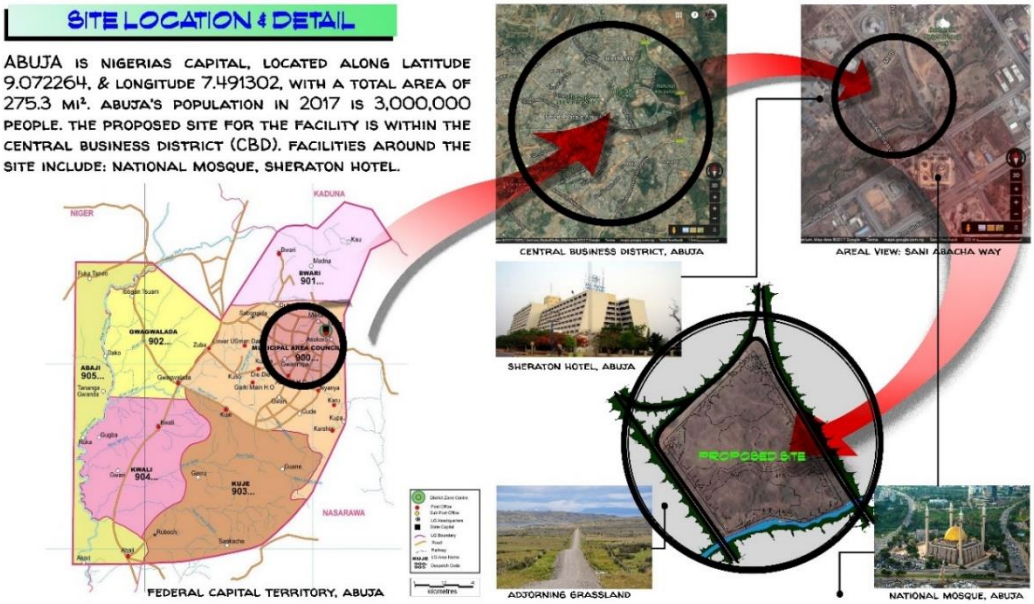


Figure 25: Site Location Map.

Source: Author, (2017).

5.4 Site Climate Analysis

Abuja experiences 3 seasons each year: a hot and humid rainy season from April to October; a dry season from October to April; and a brief windy season in between known as the harmattan season. This analysis entails a review of existing climatic data relevant to the study area for the purpose of proposing suitable design that can withstand site constraints, as well as be supported by the given climatic advantages of the site. It takes into consideration the major elements of climate including; temperature, wind, sunshine, humidity and rainfall.

5.4.1 Temperature

Temperature variation is usually a daily occurrence, however, if not accounted for, is capable of negatively impacting the thermal comfort within built spaces. In the dry season, daytime temperatures in Abuja can soar as high as 104°F (40°C) & evenings can be chilly, with temperatures dropping as low as 54°F (12°C). During rainy season average daytime temperatures reach around 86°F (30°C) while nights are relatively warm. See figure 17 below for infographics.

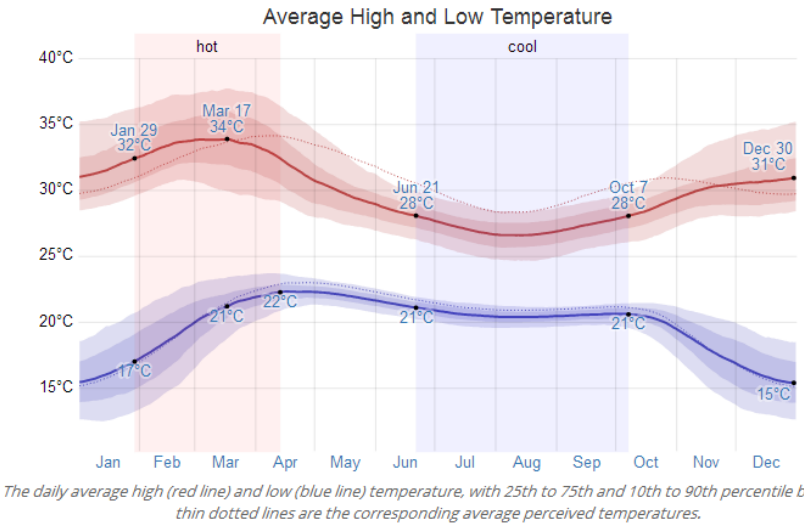


Figure 26: Abuja Rainfall Chart.

Source: Weather Spark, (2017).

5.4.2 Rainfall

Abuja is located within the Tropical climate, accounting for high rainfall and temperature for most part of the year. Abuja usually experiences an average of seven (7) months of rainfall. The highest rainfall is experienced between the months of July to September, the rainy season usually comes to a close in early October (see figure 18). The rainless period of the year lasts for 3.9 months, from November 13 to March 9. The least rain falls around December 25, with an average total accumulation of 0 millimetres (Weather Spark, 2017).

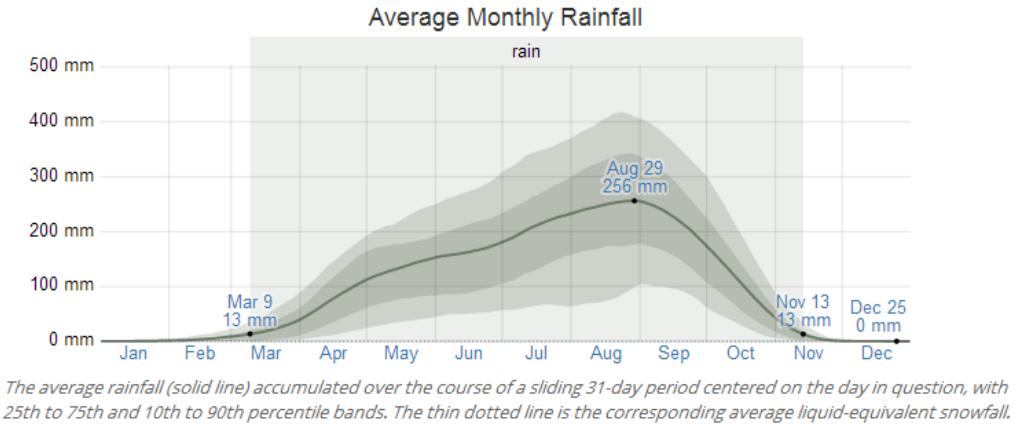


Figure 27: Abuja Rainfall Chart.

Source: Weather Spark, (2017).

5.4.3 Wind and Air Movement

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Abuja experiences mild seasonal variation over the course of the year. The calmer time of year lasts for 6.8 months, from May 2 to November 27 (figures 19 and 20). The calmest day of the year is October 20, with an average hourly wind speed of 3.4 kilometres per hour (Weather Spark, 2017).

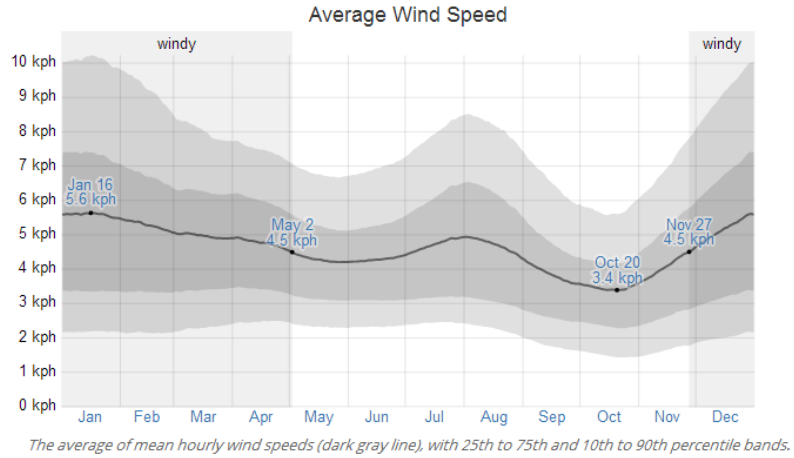


Figure 28: Abuja Rainfall Chart.

Source: Weather Spark, (2017).

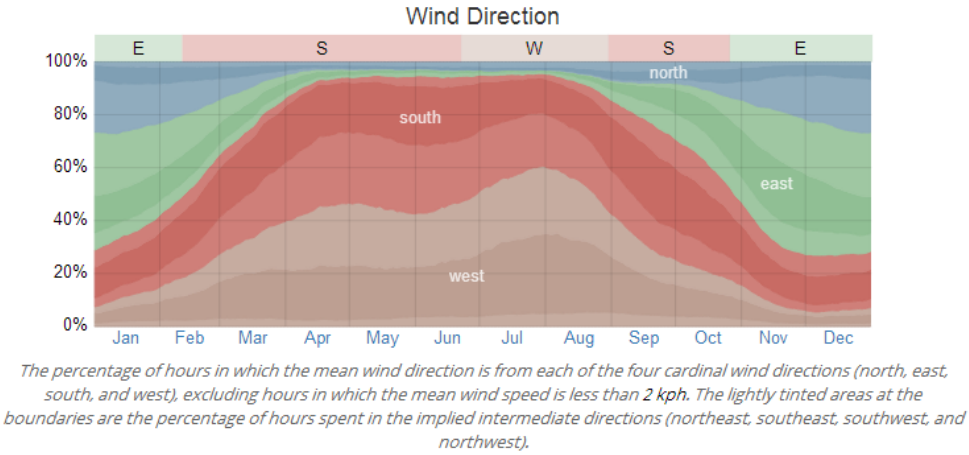


Figure 29: Abuja Rainfall Chart.

Source: Weather Spark, (2017).

5.4.4 Sunshine

Solar radiation entails a combination of ultra-violet ray, infrared or heat rays, visible light ray. Solar radiation is transmitted into the built environment majorly by direct radiation and conduction of the material envelope or building skin. Within Museums galleries, however, only a portion of the visible light ray is required. Also, material sensitivity including those of the artefacts and painting places a demand on controllable amount of the admitted light ray as their tolerance level varies. Light admitted into the Exhibition area should not be direct from the sun, ceiling or walls. Building orientation should be such that light is admitted into galleries majorly through the North wall, then secondarily through the South wall. Sunshine readings for Abuja is captured in figure 21 below.

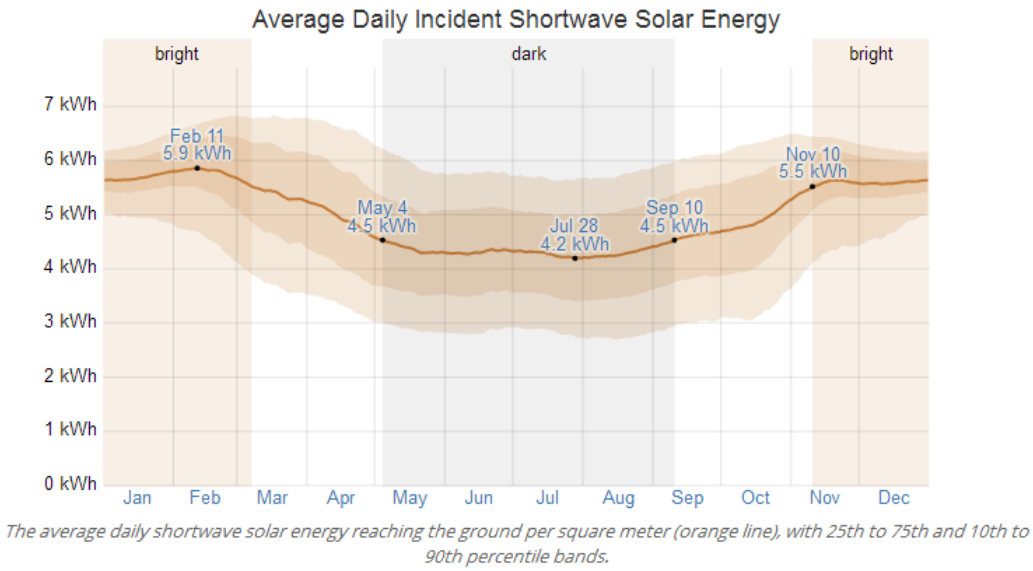


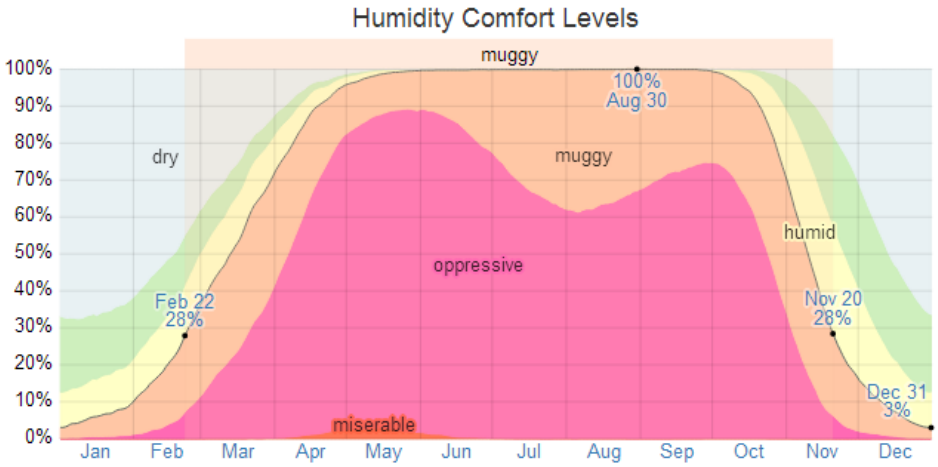
Figure 30: Abuja Sun Path.

Source: Weather Spark, (2017).

5.4.5 Humidity

Abuja experiences extreme seasonal variation in the perceived humidity (figure 22). The muggier period of the year lasts for 8.9 months, from February 22 to November 20, during which time the comfort level is muggy, oppressive, or miserable at least 28% of the time. The muggiest day of the year is August 30, with muggy conditions 100%of the time.

The least muggy day of the year is December 31, with muggy conditions 3% of the time (Weather Spark, 2017).



The percentage of time spent at various humidity comfort levels, categorized by dew point: dry < 13°C < comfortable < 16°C < humid < 18°C < muggy < 21°C < oppressive < 24°C < miserable.

Figure 31: Abuja Sun Path.

Source: Weather Spark, (2017).

5.5 Summary of Climate Analysis

Abuja climatic data as observed in the selected site is as summarized in figure 23 below.

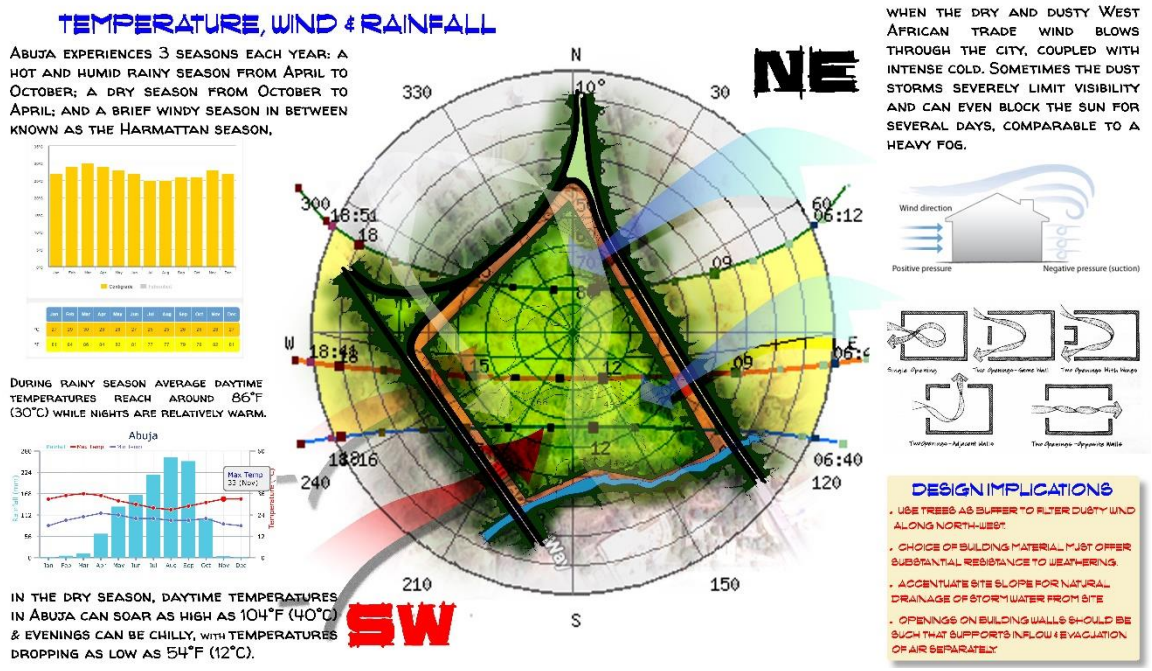


Figure 32: Summary of Climate Analysis.

Source: Author, (2017).

5.6 Site Features and Analysis

Site analysis entails the study of the available site properties and features including site shape and size, accessibility, topography, drainage, vegetation, pollution factor, etc. without proper site analysis, a given design may appear foreign or alien on a particular site due to the perceived lack of simplify it will possess with the site. Each analysis concludes with implication of findings on the proposed design.

5.6.1 Site Shape and Size

The proposed site is roughly trapezoidal in shape, measuring an estimated total area of 75348 sqmtr. This non- complex shape makes it easy to plan suitable ingress and egress from the site. Also, the size of the site allows for sufficient planning of spaces and reserve for future development, given that a number of activities may be introduced in the later years of the facility that may warrant for more undeveloped land area.

5.6.2 Site Access

The site is surrounded by access route from the North, East & West axes, with the North access serving as the busiest route. Either of the east or west can hence be utilized. However, owing to security consideration, at least one access road is reserved as a secured access to serve as route for delivery of artefacts and staff.

5.6.3 Topography and Drainage

The site gently slopes towards upper right side and the lower left side, creating a natural surface drainage. However, the site has series of undulations within its boundaries, which can be accentuated by use of landscape elements in the design process to give a natural ambience. Curvets will also be built along the left and right site borders to receive flood water and evacuate it into the city channel. See figure 24 below for details.



Figure 33: Site Topographic Section.

Source: Author, (2017).

5.6.4 Vegetation and Soil Cover

The proposed site is densely populated with large trees (see figure 25 below), lush of grasses & shrubs; an indication of soil fertility. The soil structure is compact and porous, draining rain water within short period of time, while also supporting the life load of trees. Some of the trees on site are to be retained during construction as part of the landscape elements. However, soil test provides the only accurate parameters upon which to build conclusive assessment of the bearing capacity of the site soil.



Figure 34: Site Topographic Section.

Source: Author, (2017).

5.6.5 Pollution Factors

The main pollution observed around the site is noise pollution. Noise pollution and exhaust fumes from cars along the north-west & south-west axis is transferred to the site due to air movement. The structures located along these axes also increase the noise level on site. However, by zoning the public spaces including car parks along the noise axis and placing the exhibition areas, gallery, offices, information and auditorium farther away from noise sources, its pollution becomes rather minimal to human comfort.

5.7 Summary of Site Analysis

This section discusses a summary of all the afore mentioned values of the site. The site analysis including site shape and size, vegetation and structures, accessibility, pollution factor and implication of findings on the proposed design is summarized in figure 26 below.

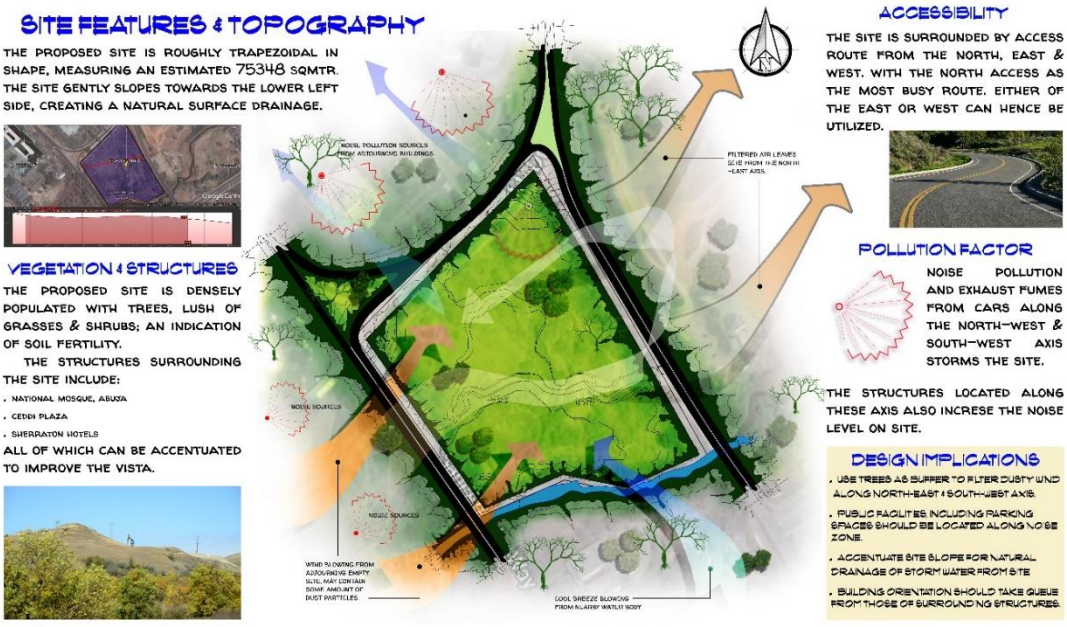


Figure 35: Summary of Site Analysis.

Source: Author, (2017).

CHAPTER SIX

6.0 DESIGN REPORT

To propose a National Museum of Art and History, which accounts for national identity within the federal capital territory (FCT). The proposed design is required to draw inspiration from the three (3) major geographic regions of the country namely; Northern, South-Eastern and South-Western Nigeria, in terms of their design and planning concept of place and space.

6.1 Preliminary Proposal

Design preliminary proposal include all design development studies and diagrammatic representations carried out in logical steps leading to a final proposal of the Museum model. The preliminaries include: spaces requirements, anthropometrics of users and spaces, etc.

6.2 Space Requirement

Space requirement provides a list of spaces necessary for the facility function. The major spaces required for the proposed museum are listed below.

i) Concourse

ii) Temporary exhibition

iii) Permanent Exhibition

iv) Gallery

v) Offices

vi) Auditorium and Cinema

vii) Cafeteria and snack bar

viii) Gift shop

ix) Outdoor spaces and Amphitheatre

x) Ancillary spaces

6.3 Schedule of Accommodation

Schedule of spaces involves a study of space standards and anthropometrics required in order to ascertain the minimum user space requirement and make provision of adequate circulation spaces both within the building and to provide standard offset from the building boundaries. Figures 27 and 28 below give details.

S/N	SPACES	UNIT	USERS	AREA/ PERSON (m²)	SUM AREA + CIRCULATION (m²)
	PUBLIC AREA				
01	PARKING LOT	300	300	12.5	3,750
02	ENTRANCE PORCH	1	-	0.6	25
03	CONCOURSE	1	-	0.6	90
04	RECEPTION	1	3	0.9	15
	SEMI PUBLIC AREA				
05	OFFICES	8	10	1.5	6
06	CONFERENCE ROOM	1	45	0.6	50
07	ARCHIVE	1	-	-	30
08	LECTURE ROOM	2	40	1	60
09	LIBRARY	1	40	2.5	100
	COMMERCIAL AREA				
10	GIFT SHOP	3	-	1	50
11	CAFETERIA	1	50	3	100
12	DELIVERY	2	3	15	45
13	STORAGE	3	-	25	75
14	KITCHEN	1	5	-	75
	ANCILLARY SPACES				
15	SECURITY UNIT	3	-	-	16
16	POWER PLANT & WASTE DISPOSAL	2	-	-	30

S/N	SPACES	UNIT	USERS	AREA/ PERSON (m²)	SUM AREA + CIRCULATION (m²)
	ARTS & EXHIBITION AREA				
17	FOYER	2	-	0.6	25
18	TEMP. EXHIBITION	1	100	1	150
19	PERM. EXHIBITION	1	100	1	150
20	GALLERY	1	50	1	100
21	DELIVERY	1	2	15	30
22	RESTORATION	1	4	1.5	20
23	CONSERVATION	1	3	1.5	20
24	OFFICES	3	3	1	16
25	ART WORKSHOP	1	5	2	50
	CINEMA & AUDITORIUM				
26	FOYER	2	-	0.6	-
27	TICKETS	2	4	5	20
28	CINEMA	2	150	0.5	100
29	THEATRE	1	500	0.8	400
30	AUDITORIUM	1	1,500	0.5	750
31	OFFICES	7	7	1.35	4.5
32	BACKSTAGE	2	5	2	10
33	IT SERVICES	2	-	1	20
34	CENTRAL COURTYARD	1	-	0.5	-

Figure 36: Schedule of Accommodation.

Source: Author, (2017).

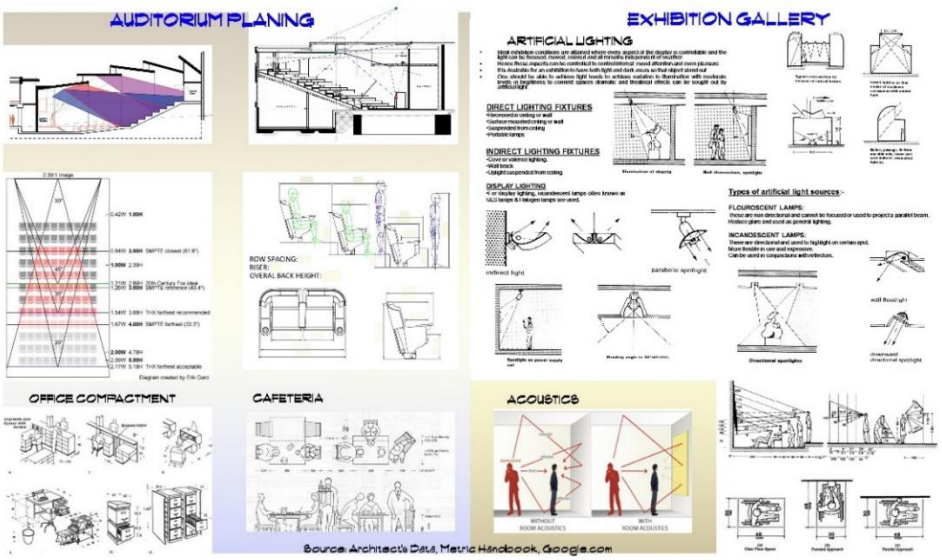


Figure 37: Anthropometrics & Ergonomics.

Source: Author, (2017).

6.4 Design Development

Design development discusses the series of steps and/or procedures required for the production of a design proposal. It involves both theoretical and conceptual bases of design synthesis. However, at this point, the researcher begins to make objective input which in the long run personalises the final design as an original development. The development process includes: Activity Zoning, Bubble diagram, Functional flow and Design concept formulation, all in sequential order.

6.4.1 Bubble Diagram

Bubble diagram is the most basic design development mechanism involving macro-spatial organization, in which the design spaces are arranged in close proximity bubbles, intersecting with other bubbles with which they share complementary function or relativity. Figure 29 below illustrates the spatial organisation for the proposed museum.

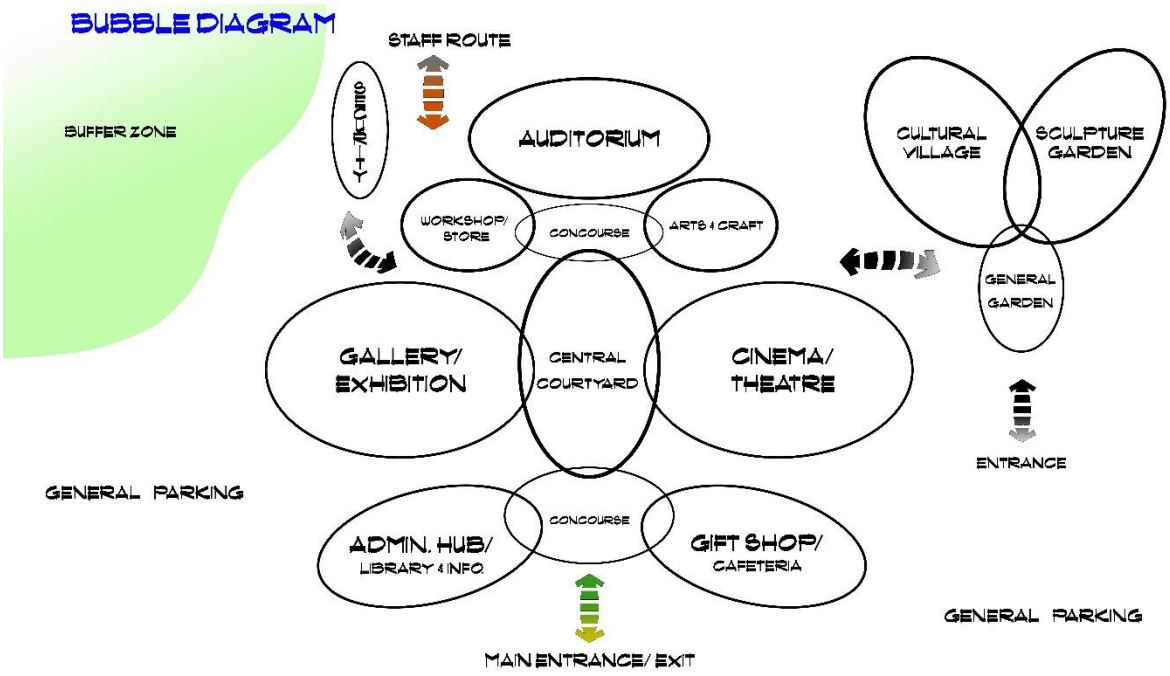


Figure 38: Bubble Diagram of Spaces.

Source: Author, (2017).

6.4.2 Activity Zoning / Functional Flow Chart

The Activity zoning/ functional flow chart illustrates both the activity grouping percentile as well as the micro-planning of the design spaces respectively. The activity zoning on the left-hand corner of the chart gives the corresponding zone of the design spaces along the right-hand corner of the chart. The arrow tipped dotted lines represent the movement from a given space or function to another, with the central courtyard as the general collection point of the all the four (4) zones. See figure 30 below for detail.

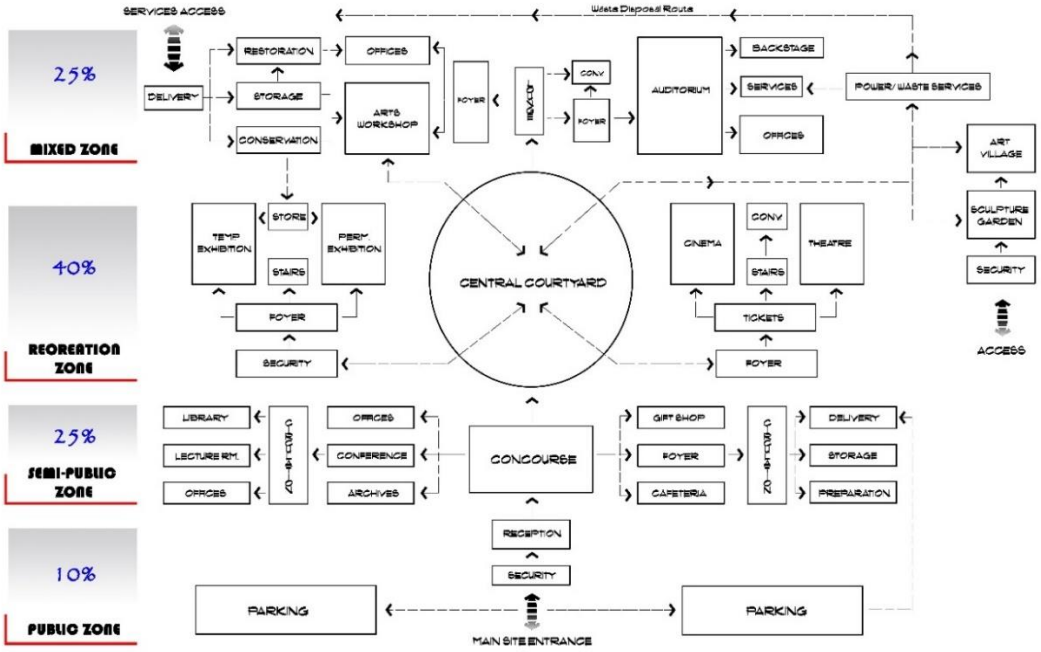


Figure 39: Functional Flow Chart.

Source: Author, (2017).

6.5 Design Consideration

In the architectural design of spaces several parameters clamour for attention, thereby presenting the architect the dilemma of prioritizing them. The purpose of design consideration is to order these parameters based on their significance or relevance to the facility. For the given museum, the parameters adopted for consideration are as follows: Security, Layout concept, lighting/ acoustics and Building materials and Design form (see figure 31).

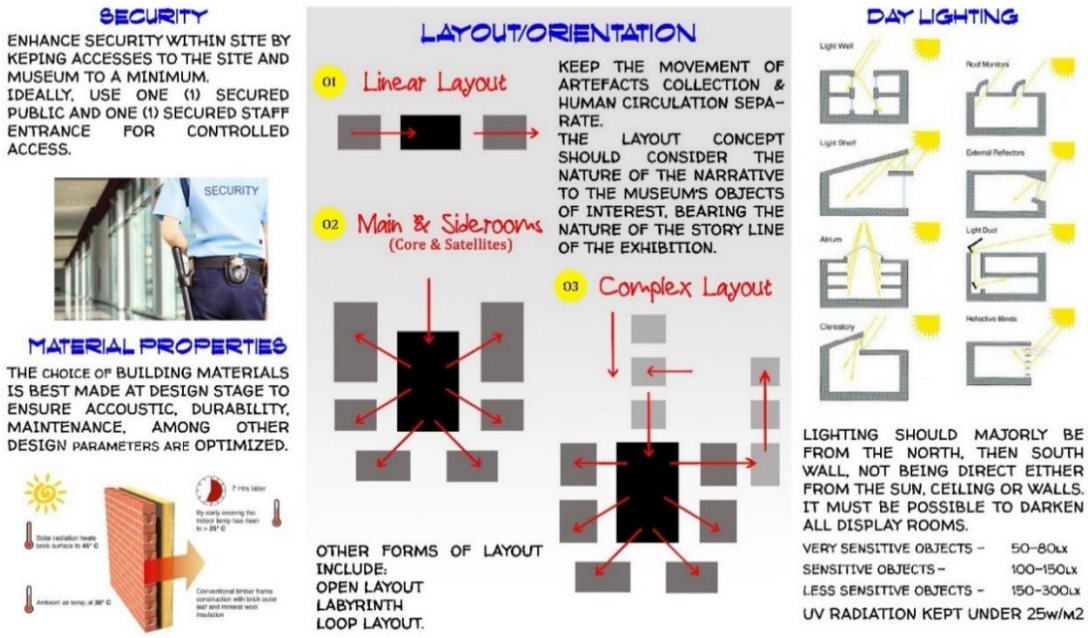


Figure 40: Design Consideration.

Source: Author, (2017).

6.5.1 Security

Security accounts for priority consideration in the design of Museums according to (Barry, Gail, & Lindsay , 2012). Enhance security by keeping accesses to the site and museum to a minimum. Ideally, use one secured public and one secured staff entrance for controlled security. Movement of artefacts and collections should be kept separate from human circulation. This ensures the safety of the artefacts from burglary. Use of security cameras also accentuate the security measures within the exhibition and galleries.

6.5.2 Layout Concept

Layout concepts explain the arrangement of macro-spaces on a site. General layout concepts usable in Museum buildings include: linear concept, Open layout, loop concept, main and side rooms, complex layout. The Complex layout concept considers the nature of the narrative to the museum’s object of interest, bearing the nature of the storyline of the exhibition.

6.5.3 Day Lighting

Daylighting is the controlled admission of natural light, direct sunlight, and diffused-skylight into a building to reduce electric lighting and saving energy. By providing a direct link to the dynamic and perpetually evolving patterns of outdoor illumination, daylighting helps create a visually stimulating and productive environment for building occupants, while reducing as much as one-third of total building energy costs (Gregg, 2017). Natural lighting should majorly be from the North wall, then South wall secondly. Lighting should not be direct either from the sun, ceiling or walls. It must be possible to darken all display rooms, hence the need for controllable lighting within exhibition spaces. Ultra violet (UV) radiation should not exceed 25w/m2. The intensity of required lighting measured in lux for different object types is given below:

Very sensitive objects: 50 - 80lx

Sensitive objects: 100 – 150lx

Less sensitive objects: 150 – 300lx

6.5.4 Evacuation/ Emergency response

During fire incidents or when there is need for evacuation from a building, the design should cater for quick and effective evacuation of occupants or users. Given that the proposed Museum is of national cadre, demanding provision of large adequate spaces for activities, as well as accommodate large number of users, the proposed design makes consideration of escapes through segmentation of buildings. Fire prone areas such as the kitchen and cafeteria are zoned away from areas accommodating large crowds e.g. Auditorium, Cinemas, Gallery. Also, by use of a central courtyard, it prevents direct transfer of fire from one block to another. Multiple site entrances as well as provision of spacious walkways large enough to accommodate emergency response vehicles have also been made around the facility to reduce emergency response time.

6.5.5 Building Form/ Material

Building form largely determines the way a building interacts with the physical and climatic features of a given site. For maximum building performance a building should take queue from site features including: site orientation, topography, site accesses, etc. Moving forward the building form should be such that relates favourably with prevailing wind direction, admit sufficient natural lighting, allow for easy evacuation of storm water from the building, as well as offer resistance to harsh weather conditions. The choice of building material is best envisaged at design stage bearing in mind the material properties and its suitability per function. For example, large exposed glazing does not favour indoor thermal comfort in tropical climate, hence the need for shading devices.

6.6 Design Concept/ Philosophy

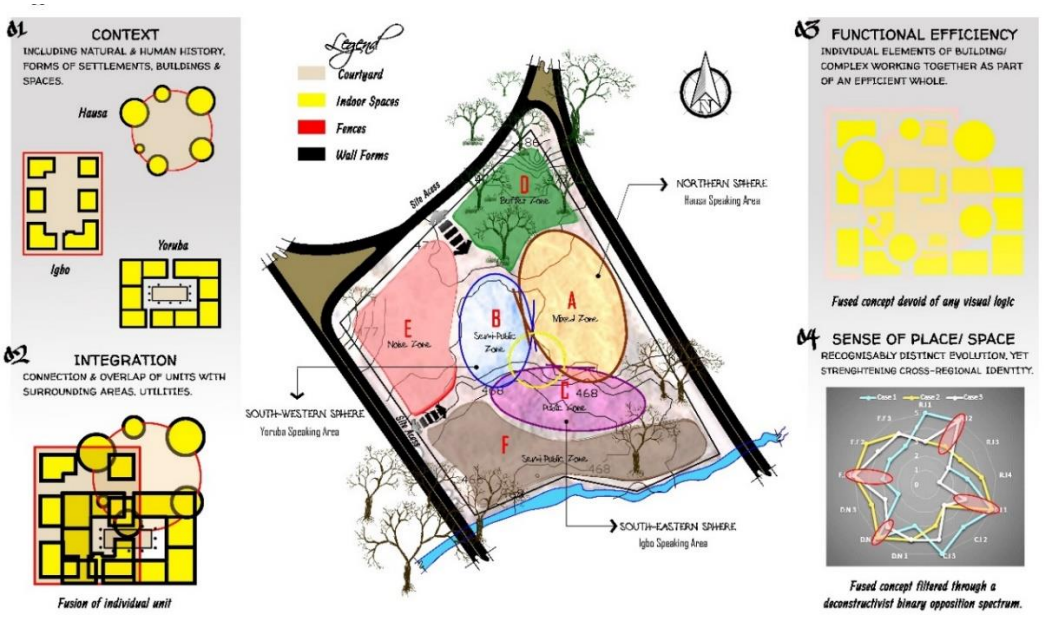


Figure 41: Design Concept.

Source: Author, (2017).

The philosophy for the design follows four chronological order as highlighted below:

i) Context: Including both natural and human history, forms of settlements, buildings and spaces. See figure 32.

ii) Integration: Connection and overlap with surrounding areas, utilities.

iii) Functional Efficiency: Individual elements working together as part of an efficient whole.

iv) Sense of Place/ Space: Recognisably distinct yet strengthen local identity.

6.7 Design Discussion

6.7.1 Plans

The Plans section gives graphic illustrations of both Site plan, Floor plans and First floor plan to scale 1:750, 1:250, 1:250 respectively. The spaces revealed include: Parking lots, pedestrian walkways, traffic routes, entrance porch, concourse, ICT hub, Administration units, Permanent and Temporary exhibition galleries, Commercial units, Cinema hall, public lounge, Auditorium, Art and craft workshop, conveniences and Outdoor sitting. See figures 33-35 for details.

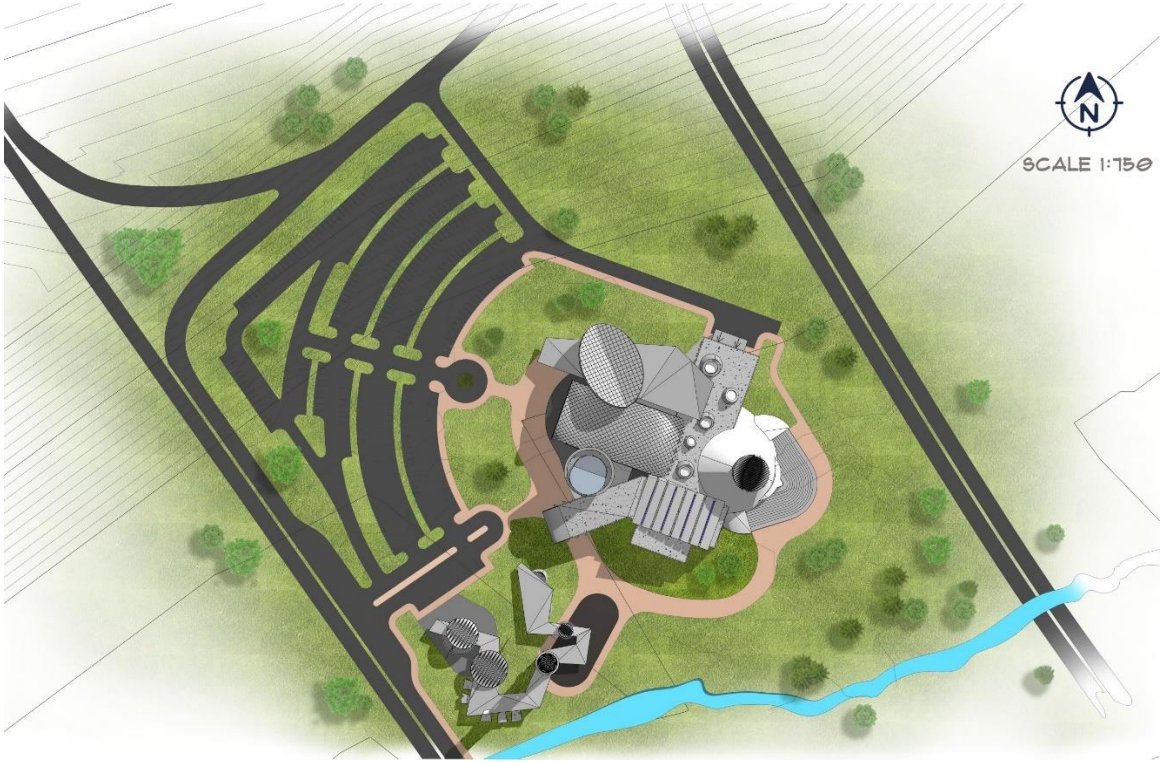


Figure 42: Site Plan.

Source: Author, (2018).

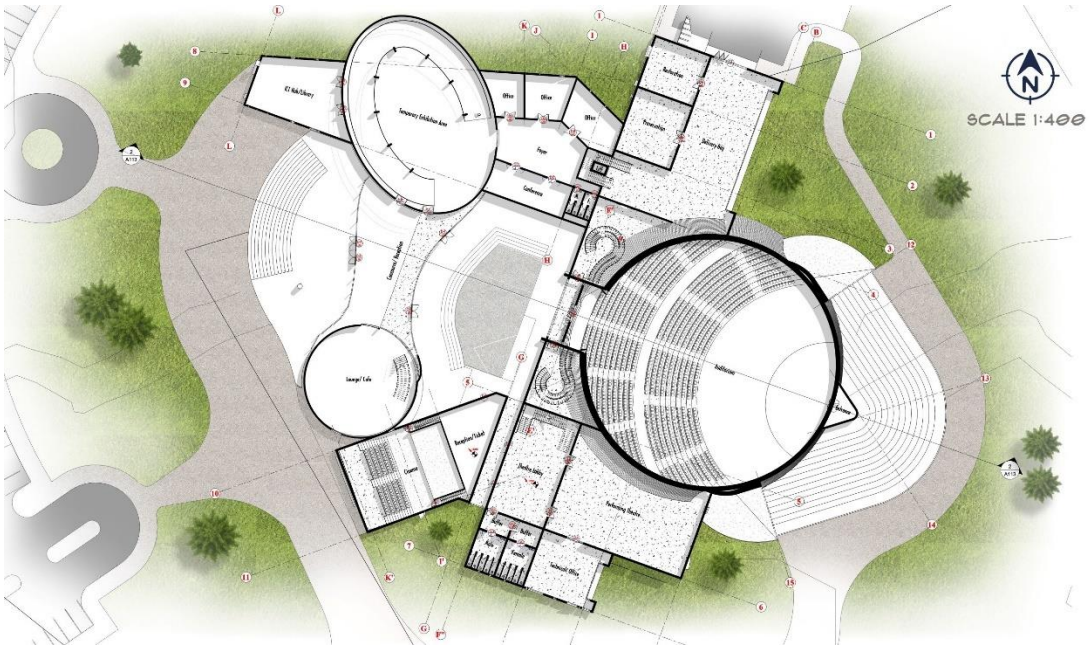


Figure 43: Ground floor plan.

Source: Author, (2018).

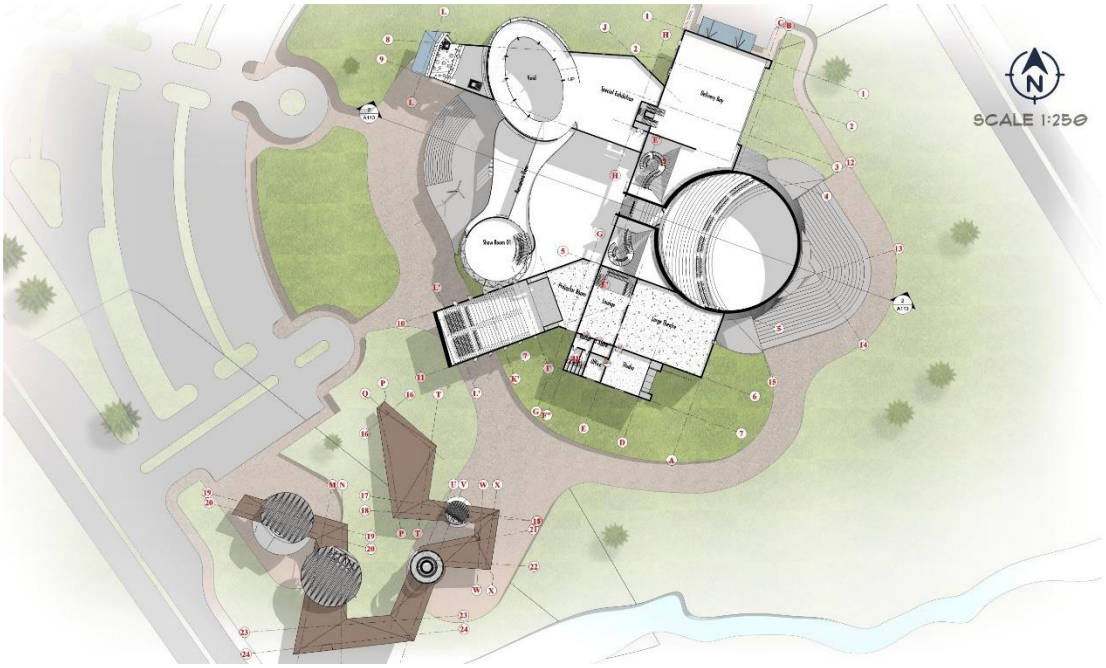


Figure 44: First floor plan.

Source: Author, (2018).

6.7.2 Sections

The Section views show the interior spaces of the Museum. The targeted spaces include: Auditorium, Art workshop, Concourse, Central courtyard, Cinema hall, Administration units and Commercial units. See figures 36-37 below.

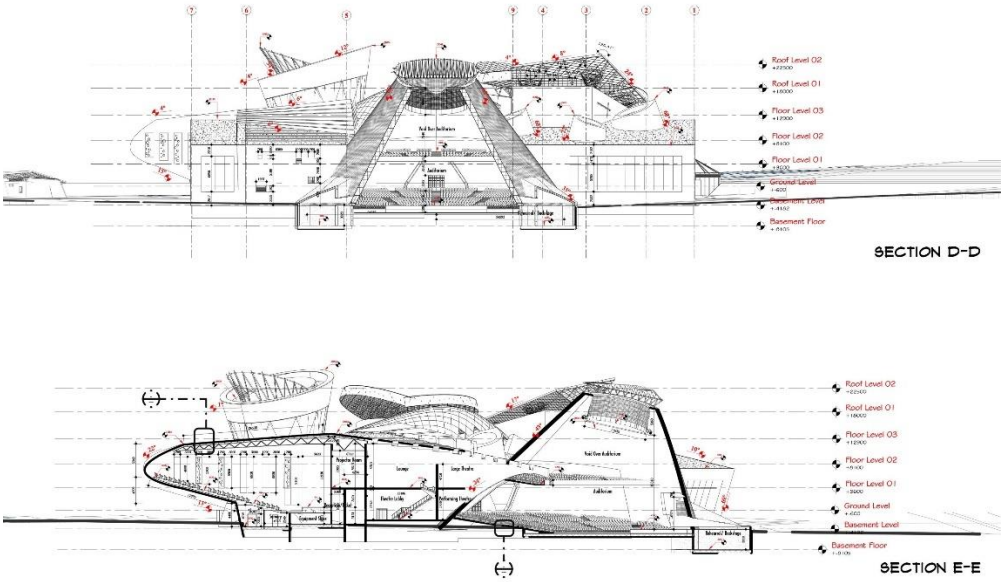


Figure 45: Sections A-A and B-B.

Source: Author, (2018).

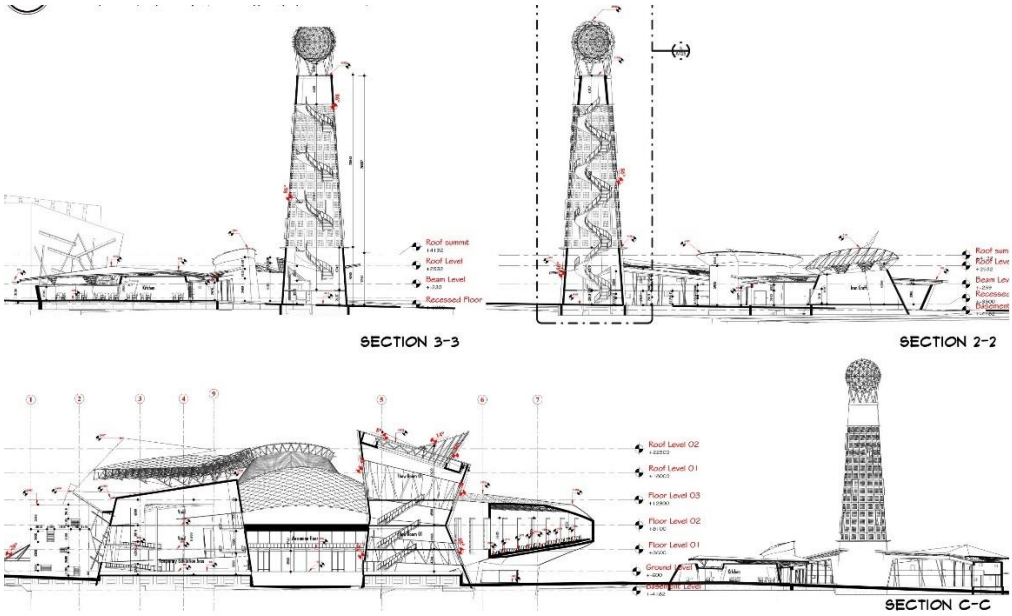


Figure 46: Sections C-C and D-D.

Source: Author, (2018).

6.7.3 Elevations

The front, left-hand, right-hand and rear elevations are seen in figures 38 and 39 below.

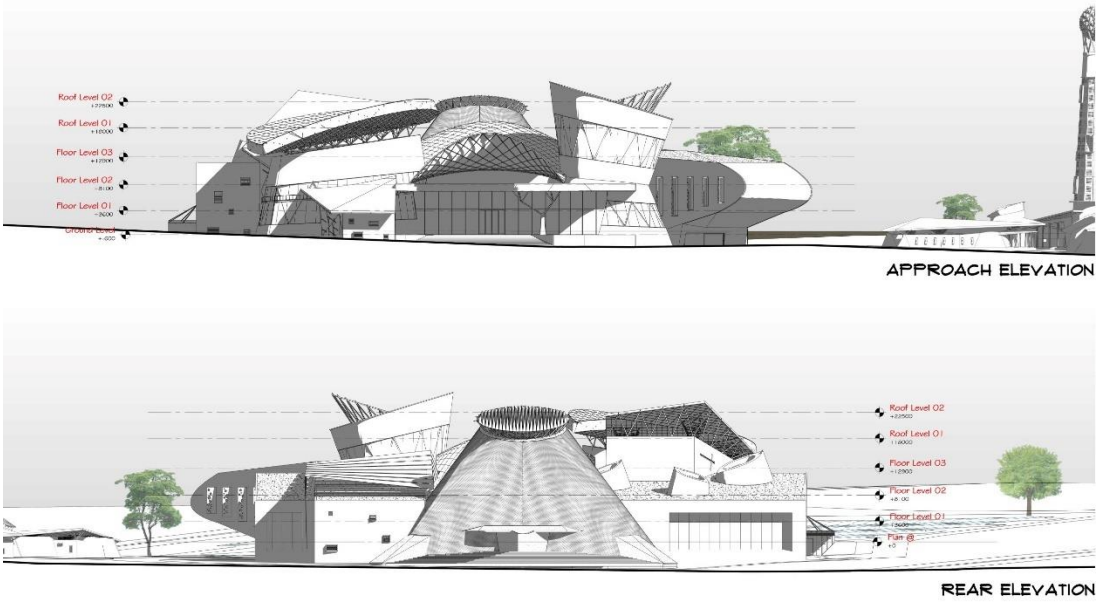


Figure 47: Approach/Rear Elevations.

Source: Author, (2018).

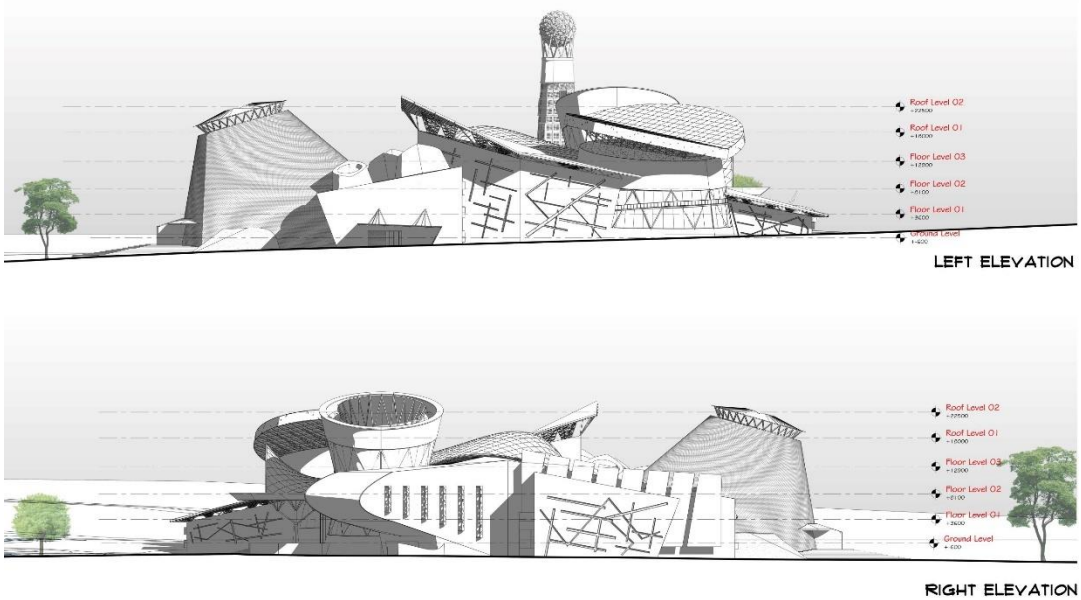


Figure 48: Left/Right hand Elevations.

Source: Author, (2018).

CHAPTER SEVEN

7.0 SUMMARY, CONCLUSION AND CONTRIBUTIONS TO KNOWLEDGE

7.1 Summary

Generally, Traditional architecture in all 3 regions (Hausa, Igbo and Yoruba), elaborated decorative finishes and carvings. This however is not typical of the regional architecture which commonly have a fine finish plaster. Local roofing and thatch materials like palms in the Igbo land, *Azara* in the north, gave way to timber, asbestos and zinc roofing. Features such as the rectangular plan of dwellings, frontal verandas and forked post were typical of the Igbos as also the Yoruba, while the Hausas have round floor plans. Courtyard spaces are however common between them with Igbos sometimes replacing courtyards with open compound spaces. There is extensive similitude between the Benin and Yoruba architecture of the South-west as there is between the Nupe and Hausa of northern Nigeria. Rectangular floor plan, elaborate decorative finish, sculptural columns, courtyards, and restricted number of doorways for ingress/egress, dominance of family head to member space allocation account for some similarities of the former while rounded plan and conical thatch-finished roof, hand patterned effect on plaster of walls and limited windows with single door way is only a few of many similarities of the latter. While the Yoruba as well as the Benin used zinc for roofing rather early it was not so for the Igbos and northern Nigeria which relied on thatch. It is noteworthy that the regional architecture of the northern, south-eastern and south-western regions bear great resemblance with and exert reliance upon their traditional styles of origin. Such reliance includes materials and methods of construction, shape of plan, etc. The use of parapet walls and decorative arches is an example in the northern Nigeria architectural feature that borrows from both traditional and religious influence respectively.

7.2 Conclusion

Haven highlighted a number of erroneous attempts at tackling the problem of architectural identity in Nigeria, Saad (1981) further quotes “we are not advocating tacking on pastiches on facades, introduction of meaningless arches, or the planting of horns and pinnacles on buildings that are European for all intent and purposes; we are talking about authentic analysis of the traditional architecture and the utilization of those elements and concepts that enhance the modern building in a meaningful way. The researcher has hence taken into intrinsic consideration, the elemental architectural values of each major region discussed in this research in terms of both their sense of space and sense of place. Furthermore, the research focussed on a search for new forms of expressing a Nigerian architype anchored on the fusion of our diverse planning concepts of curvilinear shapes for the Northern as well as rectilinear shapes for the South-Eastern and South-western regions. As explained in Saad (1981), “even though most of the patterns and motifs employed by decorators hardly carry any symbolic significance in themselves; the act of decorating one’s façade is in itself symbolic.” The use of motifs as well as other carvings and embellishments on the museum walls of the proposed design were done as abstract forms, without introspection to any of the single or combined region studied in this research, given that they mostly communicate a cultural and/or religious symbol akin to a local people. The design bears its unique symbolic motifs without themselves being regional in nature.

7.3 Recommendation

Until recently, only a few researches have been carried out towards synthesizing a national archetype for Nigeria, only through a continuous process of architectural researches towards this end can alternative and viable means of expressing our national identity be obtained. This section presents the reader with both a number of recommendations for the application of its findings, and areas for further research, as given below:

b) The research data and its interpretation does not specifically consider housing needs; hence its application should not involve housing typology.

c) The synthesized architype is applicable for the design of public spaces that require identity beyond regionalism, hence a national scale.

d) The research was carried out towards the formulation of a national archetype for the purpose of a national identity; hence it cannot be applied for any single region.

7.3.1 Areas for Further Research

This research was carried out on Museum building typology, with dependence on the Northern, South-eastern and South-western Nigerian regional styles, providing the opportunity for repeating the process in various scenarios. A few areas for further research suggested in this study include:

a) A research on the deconstructive potential of our traditional *dagi*, *ona* and *uli*, motifs towards synthesizing a national arts identity.

b) A study on the deconstructivism potential of African traditional architecture in synthesis of an African archetype.

7.4 Contribution to Knowledge

This research concludes with a list of valid contributions to knowledge as highlighted below:

i. Deconstructivism as an architectural style is the most suitable style that can merge the three (3) Regional Nigerian architectural styles to obtain a unique identity.

ii. It ranks the logical order of variables to achieve a national archetype as follows: respect for local climate, use of indigenous building materials, functional consideration in circulation spaces and provision of courtyard/ open space(s).

iii. It propounds the metrices for the fusion of the Nigerian archetype thus; 30%, 30%, 28.33%. of indigeneity sourced from Hausa, Igbo and Yoruba regions respectively.

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