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Maxwell Fry and Jane Drew Partners: The Contributions of British Architects to Built Environment in Colonial Nigeria, 1946-1959

R E S U M O

Este artigo analisa as contribuições de dois arquitetos britânicos, Maxwell Fry e Jane Drew no desenvolvimento da construção urbana na Nigéria após a Segunda Guerra Mundial. Ele analisa o desenvolvimento histórico do espaço público da Nigéria no que diz respeito à modernização das infra-estruturas, como bancos, escolas, escolas de formação de professores e a universidade como apoios à administração colonial na Nigéria. A agitação dos nacionalistas e a reconstrução pós-guerra facilitou e encorajou o império britânico no desenvolvimento de estruturas construtivas adequadas ao ambiente. Isto, em grande medida, influenciou a arquitetura nigeriana e o espaço construído. As linhas orientadoras do design deram lugar a espaços institucionais funcionais marcados por uma estética híbrida, entre a construção modernista e a influência colonial. O documento conclui que os projetos de Fry e Drew representam um marco e deram um contributo significativo para o desenvolvimento do espaço urbano construído na Nigéria colonial. Palavras-chave: Arquitetura; Britânico; Colonial; Ambiente; Nigéria.

A B S T R A C T

This paper examines the contributions of two British architects, Maxwell Fry and Jane Drew in the development of built environment in Nigeria after World War II. It analyses the historical development of the built environment in Nigeria's public space with respect to modernize infrastructures such as banks, schools, teachers training colleges and the university needed in support of the colonial administration in Nigeria. The agitation of the nationalists and postwar reconstruction facilitated and encouraged the British Empire to develop the edifice or structures that would be suitable for the environment. This, to a large extent, influenced the Nigerian architecture and built environment. Their design principles yielded functional institutional spaces and a hybrid aesthetics that signifies modernist construction and colonial influence. The paper concludes that the designs of both Fry and Drew represent a milestone and significant contribution to the development of built environment in colonial Nigeria. Keywords: Architecture; British; Colonial; Environment; Nigeria.

Introduction

Colonial rule was imposed by the British in 1851-1903 on the various entities that made up Nigeria. This created favourable conditions for the extraction of the surplus produce of the

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colonized for their home country in Britain. As correct as this may be, the colonial authorities deemed it necessary to build the Nigerian environment using the colonial funds and resources internally generated to develop unimaginable projects of some buildings that can be obviously described as symbols of colonial architecture in Nigeria (Usanlele, 2013).

After 1945, the colonialists sought to legitimize themselves in the face of the nationalist challenge with a development agenda. The British model of architecture was introduced with an agenda for development in African colonies (Killingray, 2003). Consequently, this led the colonial government to embark on the massive infrastructural developments of office buildings for the colonial civil services, foundation of a new university, establishment of prisons, hospital facilities, a university college hospital, the Railway station and construction of staff quarters for British expatriates, which were associated with the construction of a new built environment of the country (Killingray, 2003).

For the purpose of building a new environment, two famous British Architects were invited from England, Maxwell Fry and Jane Drew to design the building plan (Liscombe, 2006). These Architects were appointed by the colonial office to design permanent buildings. Both architects relied on the British model in the designing of structures founded by the colonial government in major Nigerian cities such as Ibadan, Port Harcourt, Kano, Jos as well as Enugu (Preston, 1981). In order to achieve the objective of this paper, it is divided into seven sections. The introductory section sets the tone of the entire study, the second examines the built environment and architecture in pre-colonial Nigeria, the third discusses colonial architecture of built environment found in British West Africa colonies, the fourth highlights the architectural designs of built environment in Nigeria, The fifth examines the impact of colonialism on building design and infrastructural development in Nigeria, The sixth analyses the contributions of Maxwell Fry and Jane Drew to the development of built environment in Nigeria, the seventh is the summary and conclusion on how British influence contributed to shape the development of social amenities and infrastructural development in Colonial Nigeria.

Despite the plethora of research on the contributions of Maxwell Fry and Jane Drew to the development of tropical modern architecture in West Africa and Africa in general, specifically, little has been written on their contributions to modern architecture in Nigeria, the most populous and perhaps most important British colony in West Africa. This paper focuses on tropical modern architecture in Nigeria with particular emphasis on the two famous British architects, whose contributions to the built environment in Nigeria during colonialism have outlived it. Hannah le Roux (2003) elucidates how colonial architecture has continually influenced tropical architectural culture long after independence. According to her, the influence of the metropolis on the culture of tropical architecture remained significant, even after independence. Drawing on the influence of modern architecture on tropical Africa, Hannah le Roux (2004) in another research maintains that In West Africa, British architects in Ghana, Togo, Nigeria and Sierra Leone aided in the production of infrastructures to serve governments and the transnational corporations that originated their business from the agriculture, minerals and cheap labour of the colonies. Most significantly, however, modern architecture in Nigeria arguably manifested in the education sector with the construction of the university college, Ibadan in 1948.

According to Fry (quoted in Jackson, 2011), the universities could form part of the moral betterment of post-war society. Fry wanted universities to express this purpose through their buildings and as such, it was the architect's 'function' to venture beyond mere utility and shelter. Fry still thought that an efficient and functional building was of utmost importance, but he relegated this to second place behind the main goal of producing an outward form representative of (the university) society. Thus, the University College established in Nigeria in 1948, was an attempt to present modern architecture in the tropics beyond the sphere of utility and shelter.

Jackson and Holland, argue that Ibadan was selected as a site to establish a new college in West Africa as it was less congested than Lagos, and with a burgeoning population of 400, 000 a new hospital was required in the city which might be planned in conjunction with the medical school. It was also a city, which had existed independently of the colonial regime and as such suited the nation building and nationalist agenda of the political landscape. However, the existing site conditions and occupants were not considered.

In his work, which focuses on Fry's and Drew's contributions to the modernist architecture in west Africa, Liscombe (2006) argues that the British policy on education led to an increase in construction of schools and educational facilities with an accelerated increase after the second world war. Conversely, Fajana (1972) argues that nationalist agitations also contributed to the construction of educational facilities generally in the British West African colonies.

Although, the university was one of many projects Fry and Drew designed across Nigeria, there were also other buildings such as banks and offices serving both political and social purposes. For example, university build had an assembly hall for up to 1,000 people, a tower to act as a symbol for the university and landmark in this low-rise project, clusters of residential colleges with bedrooms, private balconies and shared areas such as dining halls and common rooms, a theatre for lectures and performances and a library with electrical heating to keep books dry in humid conditions. The architectural works also introduced Nigeria's first waterborne sewerage system.

In order to make the history of colonial architecture and of modern designs of British architects in colonial Nigeria, data were retrieved from the colonial records available at the National Archives in Ibadan, oral interviews and information from books and in journals articles. The data obtained through these sources were analysed using qualitative and content analytical methods for the analysis of the study.

I - Built Environment and Architecture in Pre-colonial Nigeria.

Carroll, (1992) observes that the majority of the Nigerian people except the nomadic Fulani, the Ijaw and a few other groups before colonialism built their houses with mud. In his words, most of the buildings were mainly constructed with mud, clay, thatched roofs accompanied with a small window and doors for the entrance and the exit in the built area. The windows were usually small in size, they were created to prevent heat and cold, provide ventilation for the rooms within the building as well as light rays for effective vision inside the building. These windows are commonly referred to as *marasana* meaning you don't need to buy matches before you experience illumination. This implies the need for the kind of window provided for the building.

The passage in the living arrangement is long and is created to ease movement of people within the household and provide light rays in the building. The rooms in these mud houses are usually between six to eight rooms facing each other (Adedokun,2012). Usually, there is a central sitting room used as a parlour. The parlour is the focal point and a place of interaction among family members and visitors to the family households. The household head occupies the room near the entrance of the building to provide surveillance and security. Most times, the compound had a courtyard, it served as a means of moderating the microclimate (Jiboye, 2010). In addition, some sort of economic activities were carried out like drying of edible consumable items, garri production and dyeing of clothes.

The built environment and architecture in pre-colonial Nigeria was operationally conceptualized as any public or private space created by man for the purpose of living, relaxation, recreation, economic and religious purposes. Other places considered as the built environment are the residences of chiefs and important families, shrines to minor and major deities, markets; palaces and as well as houses of ordinary citizens. These markets were mainly traditional in nature. They are specially created for the purpose of trading in food items and other consumables. The markets found in most

Nigerian communities were open land space with no obvious building apartment except for stalls to stock and keep their goods. Usually, trees with wide branches provided shade for traders in the market. The seat used in the market were made of light wood and raffia palms (Vagale, 1972).

In these markets, architectural consideration was not given for the creation of car parks, public utility for sewage, or latrine areas for urination and defecation in the built environment. In both the markets and living environments, adequate and efficient support facility for the building like running water and power were hardly thought of. For their water needs, the people relied on flowing water from lakes, streams and hand dug wells available in the neighbourhood.

After the abolition of the Slave Trade in 1833, The Nigerian built environment began to develop a new architectural style in the building of houses for living purposes. The materials used for the construction of these building were got from woods, concrete, blocks and cement, which were imported from Britain. Similarly, the returnee slaves from Brazil and Sierra-Leonne developed distinctive hybrid architecture and constructed buildings with Brazillian, American and West Indian influences (Vlach, 1984).

Colonial Architecture in British West Africa

The term “Colonial Architecture” of British West Africa is contextualized in this study as an architectural form which originated from Britain that has been incorporated into public space in the colonies of British colonized environment of Nigeria, Ghana, Sierra-Leone, and Gambia. The British involvement in the building of the environment in West Africa synthesized the architecture of European culture in the design characteristics of new buildings like the prisons, the University College, government secretariat, European reserve areas and government hospital buildings.

The building of these structures by the Europeans provided an enabling environment for human activity ranging in scale from public buildings and parks or green space to the neighbourhood. It includes other supporting infrastructures such as water supply and energy networks. This was aimed at improving the community well-being with the construction of ‘aesthetically, healthy improved and environmentally friendly landscape and living structures. The colonialists through a coordinated development plan built an environment that combined physical elements, resources and energy to create a habitable living, working and recreational environment for the administrators in the colonies in British West Africa (Jackson, 2003)

At this point, the question may be raised, what are the political and social uses of colonial architecture? This can be answered in the sense that, the architectural designs created by colonial influence were established to maintain political dominion over the native people of the colony. Among the political institutions in which architectural designs and spaces were established are courts, police, prisons and the barracks. The political functions of these various types of architecture will be subsequently examined.

The colonial prisons were established to maintain law and order for those who disobeyed colonial authorities. These prisons were established to suppress indigenous native people of their right to self-determination and self-determination of their territory. They founded to serve as punishment for offenders found guilty of colonial laws. Were introduced as a measure to deal with any person who resisted positive social goals of peaceful co-existence in Nigeria. Archival evidenced suggests that inmates that were imprisoned were those who could not pay taxes levied by colonial government, debtors, starving paupers and lunatics. The first colonial prison in Nigeria was established in 1872 in Broad street Lagos by the British colonial government. (Killingray, 1999) described the architectural designs of the prison building as one of the earliest symbols of colonial administration. Most of them were built in the nineteenth century. These prison structures were built in Abeokuta(1880), Ado-Ekiti (1894), Ibadan (1899) Ilesa (1900), Calabar, Asaba, Benin, Sapele, Degema, and Port Harcourt in 1912.

The prisons were recognized by small towers, huge walls, and great gates. It usually consists of large rooms where inmates lived communally in unsupervised and unsanitary conditions. In design, galleries were provided but vocational and recreational spaces were hardly thought of and there was no special arrangement for them. This was unlike the prisons in Great Britain that were in existence during the colonial period. This point shows the fact that British model of architecture as introduced to the colonies in the British West Africa territories was only peripheral (Oladiti, 2003).

The court is also another important symbol of colonial architecture in the British colonies of West Africa. The court serves to protect British commercial interest in the colony. Through the courts the British imperial power was used to maintain Law and order. The court buildings generally regarded as symbols of justice in which legal proceedings take the form of theatrical conflicts that reveal truth. According to Edelman, (1995) the court building represent a social order and political support of the British established hierarchy of status and power. The design plan, setting and layout of the court represents the hierarchy of power that exists between the judge, jury, prosecutor, defense counsel, defendants and the public. The architectural building designs of the courts reveals messages of power and status that are directly derived from the architecture of the building (Goodsell, 1988).

The police are also another political institution established by the colonial government that regulate and enforces the law to maintain peaceful co-existence and stability in the society during the colonial period. The police building is both a public and private space that accommodates police officers and other members of staff. These buildings usually contain offices and accommodation for its personnel, vehicles along with locker rooms, temporary holding cells and interrogation rooms. These spaces created for the police performed the political function of maintaining discipline and public safety to curb and reduce crime in the society.

Barracks are also colonial buildings designed by the British imperial authorities, It was designed to serve as accommodation for soldiers, police and other security agencies for the safety and defense of the territory of the state. The political function of the barracks is to separate soldiers from the civilian population to reinforce discipline, training and esprit de corps. With the establishment of the West African Frontier Force in Kaduna, the first military base in Nigeria, the barrack was built to accommodate soldiers.

In addition, the railway station was another important colonial edifice found in the built environment in Nigeria. The establishment of the railway line was an important indicator to improve the transportation system and movements of goods, services and people from one location to another. However, the colonial economy strongly built the railway for transporting goods to export to Britain from the colony rather than easing commuter challenges in the colony. The establishment of the railway was credited to Sir Thomas Carter, who was the colonial governor of Lagos from 1891-1897. In 1893, he signed treaties and agreements with the native Egba and Ibadan chief's to enable colonial authorities to have control over routes and the right to build railways. The Public Works Department (PWD) under the secretary of the colonies began the construction of the railway line from Ebute-Meta on Lagos mainland extending to Abeokuta (Fouchard, 2001).



Plate 1a: Ticket Rooms Nigeria Railway Station Ebute-Metta, Lagos



Plate 1b: Nigeria Railway Buildings Ebute – Metta Lagos



Plate 1c: Nigeria Railway Corporation Signal & Communication Workshop Ebute – Metta Lagos.



Plate 1 d: Nigeria Railway Buildings Ebute – Metta Lagos



Plate 1e: Nigeria Railway Buildings Ebute - Metta Lagos

The PWD Survey and Engineering units undertook the land surveying and rail track constructions in the railway project, its architectural unit had equally designed and built the train station buildings. These building constituted part of Nigeria's vast colonial architectural heritage in Africa. At this point, the question may be raised about the PWD building programme. Were the PWD standardized practices employed in the construction of railway station buildings? Before answering this question it is pertinent to mention the roles and responsibilities of the public works department, under colonial authority. The PWD provided friendly service in maintaining the city's roads and sewers. It assisted the government in construction, maintenance, alteration and repair of the city infrastructures like power and water supply. In addition, it provided administrative, engineering and survey work of proposed built environment, sanitation, refuse collection and provided a standard specification for municipal construction.

However, due to limited funds and lack of qualified professionals to carry out the different tasks of the department, they were not totally effective as was obtainable in British Empire. Nevertheless, it might be right to conclude that standardized and best practices were used in the construction of the rail station building in Nigeria. This can be explained in the sense that the quality and material used for the building were not inferior or sub-standard and the original designs of the plan were not altered. Was there a 'type design' for rail station within the Imperial British Empire? The answer to this question is yes. The type design for rail station globally is structured to meet users need. Were there 'type designs' enforced by British standard? Yes, there are specific requirements and standards that was mandatory for the design of a railway station. This standard equipments includes a ticket room, arrivals, departures, waiting area, luggage units and administrative offices. Although there could be differences due to the number of users and the size of needed spaces. Where the designs direct replica of train stations from British metropolis, or did they reflect local realities? This can be answered in the sense that they are similar in design and layout but in construction and outlook, it reflected the tropical climate environment and the socio-cultural features of the people in West Africa.

Livsey, (2012) described colonial architecture as combining authoritarian tendencies. It intervened more deeply in the colonized societies while excluding the people from decision making. There buildings were approved by European planning authorities informed by race conception of development that upheld colonial authorities. Colonial architecture has also been described by an Architectural Historian as "Tropical Architecture". It was used as a description of modern Architecture

in Africa. The designs of the buildings by colonial authorities were mainly at the behest of the British colonial government. This was influenced by the criticism received on the colonial educational policy in Africa. This made the British colonial authority to become more responsive to the development needs of the region. The submission of these reports advocated for better educational provision for natives and this resulted in a major infrastructural building programme for schools in Ghana and the establishment of the University college Ibadan (Uduku, 2006).

The invitation of Maxwell Fry for the colonial civil service shortly after World War II in Ghana as the planning advisor to the colonial office in Accra and later in Nigeria can be described as the starting point of the era of “Tropical architecture” in West Africa colony. For example, in Ghana, the colonial government funded the First Gold Coast School Building Programme (1945-1950). Colonial architecture or Tropical architecture in this sense refers to the embodiment of environmental design and architectural technology within a tropical context. In the building of the structures, consideration was given to ‘comfort’ as perceived and measured in a warm humid climate, different from temperate zone. Colonial building architecture of school design was particularly suited to passive cooling approach with no designed central air-conditioning system for the building (Uduku, 2006).

At this point, the question may be raised, what is the contrast between popular and colonial architecture? The main difference between the popular and colonial architecture are the marked observable features of design framework patterns, material used for the building and functional activity or purpose for which the building is created to serve. Prominent among the design framework of colonial architecture is the political and social uses of the buildings. Similarly, consideration for climatic and topographic conditions of the land and weather are observed before buildings are erected. This was unlike popular architecture where consideration was not given to climatic and weather conditions. The materials used in the popular architecture were derived from muds, raffia palms as roofs and other materials.

Social and political uses of urban planning

The social and political uses of urban planning are vital to the distribution of infrastructure and social services for government personal and Europeans who settled in the colony. Colonial authorities working in tropical Africa created the opportunities for urban planning to ensure the development of important cities like Ibadan, Port Harcourt, Lagos, Kaduna, Enugu and Maiduguri.

Politically, this arrangement was viewed by the colonial government as an urban policy. This act was elaborative on the scope and content of the schemes and emphasis on development control that “adequate provisions were made for roads, buildings and other structure which includes provisions for parks, recreation centers, and other public utility services like transportation, communication, power and water supply. Furthermore, the 1946 acts was carefully institutionalize as a government agency named Local Planning Authorities henceforth (LPA).

The LPA was saddled with the responsibility for all aspects of urban planning through approved planning scheme and for the administration of existing town and country planning laws. The Nigerian Town and country planning ordinance No. 4 of 1946 was enacted on the 28th march, 1946 states that the local planning had the power by the laws of the land in towns, as well as control the development of new areas in the town in accordance with the approved plan of a particular location. In this regards, the town planning authorities were expected to carry out the following functions.

- Regulate the construction and development of new areas in the town.
- Make general development orders by prohibiting or restricting building operations in new areas.
- Declare certain areas of the town as marked for urban planning.

- Power to acquire land by agreement or compulsion and power to determine the terms of compensation, legal procedure and finance of town planning development scheme.
- Power to determine re-housing scheme, redistribution of holding and crown land
- Power to develop infrastructures such as housing, municipal transportation services and water supply to the community.
- Authority to conserve natural resources such as forests, wildlife, rivers, ports and catchment areas (source: NAI, 1950, Ibe div.file No.1400.voll) in addition, framed schemes for any planned areas were published in the gazette.

The town planning Acts of 1946 was introduced as a measure to bring comfort to the few Europeans sent by imperial Britain to carry out colonial policies. Thus, planning areas were restricted to the European reservation areas with less concern for those living in the native towns of the colony. The social and political uses of planning arise as a result of improving the social and well-being of people living within the European settlement. It involves the concerns of maintaining healthy living condition by averting diseases and illness associated with overcrowding, poor sanitation and exposure to environmental pollution. Besides, open spaces created through urban planning in the environments provide recreation and relaxation centers, preserving the natural environment, assists in the provision of green space and even urban storm management. Open spaces and parks have numerous health benefits in urban planning. Their social usages in urban planning have been used as playgrounds for children and adults, reduced stress levels and depression.

In addition, urban parks also contribute to the benefits of humans relation to the environment. These parks were created by the colonial town planning authorities to protect natural lands, ecological reserves, wetlands and other green areas critical to provide healthy habitats for humans, wildlife and plants within the environment. Natural landscapes are vital to preserve the ecosystems in the colonial estate. Similarly, parks also help to create human energy efficient to reduce global warming. Linear parks and open spaces in urban environment makes compact living attractive and viable. Trail networks link individual parks making them easier to walk and ride a bike. Green areas, gardens and planting of trees within the neighbourhood have assisted to fight global warming by reducing the greenhouse gases in the atmosphere and helping to cool cities. The planting of trees and vegetation in urban parks have helped to reduce storm water run-off and air pollution.

More so, it is also important to note that the effective use of land is also an important social function of urban planning. Government use land planning to manage the development of land within their jurisdiction. In doing so, planning authorities plan for the needs of the community while safeguarding natural resources. In urban planning, land use provides a vision for the future possibilities of development in the restricted areas earmarked for building purposes in the districts, cities or defined planning area. This will enhance the welfare of the people by creating convenient, equitable, healthful, efficient and attractive environments for present and future generations. Other areas of social usage of planning includes land layout of streets and tarring of roads, refuse collections, drainage of streams and swamps, and conservancy services. From the foregoing, it is clear that the planning authorities as an agency of government acted on the executive orders of the state through their directive approval and implementation of a planning scheme in colonial Nigeria.

Architectural Design of Fry and Drew in colonial Nigeria

The design of Fry and Drew were based on a tropical modernist framework. In their design for the University of Ibadan library, cross ventilation was a major consideration and the major artificial support was from ceiling fans and other innovative manually driven appliances. Thus, buildings were carefully aligned with consideration of prevalent breeze direction as well as shade

from the scorching sun. These ideas further drove their designs. They erected an enormous grille of concrete and fly gauze to protect the building from heat and insect (Uduku, 2006).

The grille celebrated both of its ability to cool and for its rough-hewn appearance Fry and Drew mainly incorporated their design to suit the climatic condition of the environment. Their building design in Nigeria's premier university was interpreted with the function of the institution. Fry argues that the 'university is a society of people with a purpose, and such society when it comes to building, wishes to express its purpose as clearly as possible, to safeguard and promote the civilization of this group'. He wanted the university to express this purpose through its buildings and as such it was his function as an Architect to design building plan beyond mere utility and shelter (Uduku, 2006).

This was reflected through the use of modular planning and standardized materials as well as the visual variety introduced by the movement of the sun and weather conditions. In the design of the architectural plan of most of the commission works assigned to them reinforced concrete and sandcrete construction were utilized. There was a good integration of formal and functional requirement for the environment. It was developed with specific expression of purpose and structure mediated by an abstract aesthetic capable of multiple rather than singular viewer's responses (Uduku, 2006).

Apart from the Kenneth Dike main Library constructed between 1951 and 1954, under colonial rule, Fry and Drew also designed the campus of the University College Ibadan (now University of Ibadan). This design included several other significant edifices such as the Trenchard Hall 1948-57, Sultan Bello dining Hall in the University of Ibadan 1950, the administrative wing and the central tower of the University of Ibadan, The courtyard of the faculty of Arts building 1955-56. Others included the headquarters of the Cooperative Bank building 1951 and Wudil Technical College in Kano in 1958. In their entire commissioned project designed in Nigeria they designed buildings that are friendly to the tropical climate, it caters for heat, humidity, sunlight, insects and soil erosion that can be overcome through design (Uduku, 2006).

In addition, creations of maximum cross ventilation and shading. Pierced external, pergolas and the use of double-skinned roofs were utilized as building materials for the building. To overcome the effect of soil erosion, buildings were erected along contour lines to take advantage of the view as well as the breeze and to increase the apparent monumentality and actual scenic diversity. Fry and Drew designed suitably to establish community togetherness with a balance between architectural cohesion and functional separation, it provides clear systems of circulation and user identification determined around point-of-entry and positioning of major administrative and communal spaces and creation of focal elements within each complex (Uduku, 2006).

In the coal mining town of Enugu, Fry and Drew delineate plans for new African compound housing. They used both text and diagram to indicate how an adaptation of neighbourhood unit scheme could be attuned to the local topography. Although, this was not achieved due to limited funding received from colonial authorities to build a neighbourhood unit. Nevertheless, their design acknowledged local knowledge, customs, and social practices. It took account of local topography and climatic conditions (Liscombe, 2006).

II - Building Design and Infrastructural Development in Nigeria

Modern architecture in Nigeria has its roots in colonialism. Building designs introduced during colonialism included the establishment of new institutions such as the armed forces, public service, hospitals and energy sector while the major infrastructure established during colonialism included electricity, tarred roads railways ports, pipe borne water, communication networks, health centers and schools. However, these colonial infrastructures served a few elites who lived in cities where the infrastructures could only be accessed. Thus, traditional infrastructure was modernized in the context of colonialism.

Rikkol and Gwatau, (2011) assents that modern architecture in Nigeria began with the advent of colonialism in the early nineteenth century with the coming of the colonialists but with modifications by the emancipated slaves from Brazil. Up to the middle twentieth century, the hybrid style produced by these two events was the dominant style. Particular consideration should be given to what (Osasona, 2007) refers to as “Colonially-aided Modifiers”. This postulation stems from other modifications which enhanced colonial architecture in Nigeria. According to him apart from the direct intervention of the British on the Nigerian built scape in terms of imposing their own archetypes, they were also responsible for creating the enabling environment for other influences to come into play. Of particular note are the building activities of the Agudas also known as the emancipados and the Saros of Lagos – two distinct socio-cultural groups of returnee slaves to Nigeria – who were repatriated to West Africa under the auspices of Britain after the abolition of the obnoxious slave trade. Both these groups had distinct “quarters” in Lagos with new forms of building designs.

The Afro-Brazilian architectural style introduced by the repatriates from South America especially from Brazil is characterized by multiple storeys (could be as many as three main), an attic, a double-loaded, exaggerated corridor (passagio), porches/ loggias and copious sculpted ornamentation. The architectural embellishment affects stucco-work (expressed as mouldings around window-openings and portals, quoins, plinths, column capitals, shafts and bases, and relief murals), as well as woodwork (generating carved balusters and door panels). They were mostly Catholics (aguda being colloquial Yoruba for Catholic), and a lot of their creative energy was directed at the construction of churches, in the Gothic revival style, as well as stately mansions for well-to-do merchants in Lagos (Osasona, 2007).

The Saros, on the other hand, were former slaves who had been repatriated to Freetown in Sierra Leone, and whose migration to Lagos had been facilitated by the British specialized in two-storey structures with living quarters on the first floor, and retail/ wholesale outlets and administrative spaces on the ground floor. Since the advent of the Agudas and Saros was facilitated by Britain, who was Nigeria’s colonizer, it is argued that their activities as modifiers of colonial architecture can be subsumed to be part of the impact of colonialism on modern architecture in Nigeria (Osasona, 2007).

The introduction of colonial architecture has led to the disappearance of traditional architecture namely the indigenous courtyard type of house in Nigerian urban centers and also open space architecture and settlement pattern, all of which have gone to the doldrums. The post-war architecture stimulated new attitudes to architecture such as the consideration of architecture primarily as a volume and not a mass, the reliance on new materials like reinforced concrete, steel and glass which rendered conventional for example the advent of colonial government in Hausa city changed the traditional life and culture of the people.

Therefore, Hausa traditional architecture is no longer in vogue; it has been overridden by modern technology and materials. This has led to the abandonment of old traditional settlement and villages for new state settlements and towns, disruption, and fragmentation of long standing extended family bonds coupled with increased personal freedom and decreased family sizes and disappearance of large family compounds and the introduction of new smaller nuclear family units (Agboola and Zango, 2014).

Under colonial rule, the physical appearance of the built environment in urban cities in Nigeria changed with the introduction of new building materials imported from Europe. These buildings represent the Colonial Style, whose character is nevertheless most distinctively represented by public and administrative buildings. Apart from prohibition and restriction of building operations in new areas, no specific building policy were enacted by the Town and Country Planning Act for town planning development schemes. The reason for this is not clear; perhaps this may be due to limited funds available by the colonial authorities to embark on massive building project for housing for all in the society.

There was never any framework or urban housing scheme for the natives except on a selective and uneven basis to the dependent territory (Home, 1983a.). For example, the large Yoruba towns of western Nigeria were virtually ignored by the town planners, apparently because of official reluctance to interfere with 'traditional' social structures. Town planning in Britain's colonies was thus intended to benefit the colonial officials and British commercial interest rather than the subject peoples (Home, 1990b). It is important to point out that in order to underpin their administration; the British colonialists needed various institutional and physical infrastructures. As such, warehouses, banks, schools, hospitals, residences, e.t.c, were built; these were serviced by railways, roads, bridges, piped water, electricity and other amenities.

The architectural forms – completely different from what was on ground – were variously expressed as timber-framed buildings, masonry structures (employing either fired brick or stone), or composite construction. For this purpose, building materials were imported from Britain (consisting of cement, slate roofing tiles, corrugated metal roofing sheets, processed timber and synthetic paints, among others); local unskilled labour was harnessed to expatriate expertise, to effect these building forms. The resultant acquisition of building skills, coupled with readily-available prototypes to copy from, gradually produced a crop of local interpretations of the colonial archetypes – particularly with respect to residences. In effect, traditional building practices became refined by more durable building materials and techniques, and more sophisticated formal expressions. Colonialism brought about investment in infrastructure and urbanization in Nigeria, which in turn brought about changes in the structure of cities. It introduced western planning tradition through the designation of Government Reserves Area.

Maxwell Fry and Jane Drew Partners in Colonial Nigeria.

During the colonial period, the activities of Maxwell Fry (1899-1987) and Jane Drew (1911-1996) marked a turning point in the development of Urban Planning and Architectural design of built environment in Africa as elsewhere in India and Modern European society. In the 1940's Fry and his wife Drew, were invited to design modern infrastructures similar to British model in the colonies of Ghana, Sierra-Leonne, Gambia and Nigeria that could be suitable for the purpose of schooling, office departments, banking halls, railway stations, prisons, police barracks, road construction and the building of an hospital.

These two British Architects were pioneers of British colonial architects whose works on design spanned two decades of sojourn in Africa. The duo designed some of the most progressive modern architecture in the twentieth century in the United Kingdom as well as contributing to the European modernism to Africa and Asia. Their works have been described by Jessica Holland as the barometer of twentieth-century architecture and design. In Nigeria, for example, Fry and Drew designed the Trenchard Hall, and Kenneth Dike Library of the University of Ibadan between 1946-1948, numerous schools, colleges and bank headquarters.

Maxwell Fry, a British Architect was trained in the suave neo-Georgian classicism of the school of Architecture at Liverpool University. In the 1930's, his architectural experimentation and creativity were modified by the evocation of natural and spiritual qualities through the use of extensive glazing, as can be seen at the Sun House in Hampstead or the House at Coombe in Surrey built in 1930-1934 respectively. Through his creativity, he designed modern housing with the objective of creating a universal social improvement with advanced low- cost housing and egalitarian educational construction. He espoused the social benefit of integrating educational with community facilities. In some of his designs on educational facilities, there was a functional arrangement of a single class and craft rooms linked to a curved polygonal hall and auditorium. These pattern of design were later introduced into the educational commissions undertaken by Fry and Jane Drew in the British colonies of West Africa.

Following his building designs, his reputation as an articulate and respected architect became noticeable due to his mercurial contribution to Modern Architecture Research (MARS) Group founded in 1934. As the British arm of the *Congres Internationaux de l' Architecture Moderne* (CIAM). He played a significant role in the production and subsequent refinement of the 1941-42 MARS London Plan, both as a civilian and as commissioned officer in the Corps of Royal Engineers. The plan was modeled around graduated traffic circulation and a sequence of Neighbourhood, Town and Borough units that combined modernist zoning with Garden city Layout and landscaping. A simplified version of the neighbourhood unit component would reappear in the building plan Fry drew with associate partners In Enugu, Nigeria, Commenting on the city layout existing in Ibadan on his first visit, Fry and his assistant Farm captures the city in the following words: "for more than hundred years development has proceeded with very little control and resulted in the creation of fantastic street system of formless roads and winding packs, in fact in many cases the streets are nothing more than spaces left over after house building has taken place".

Fry met Drew when he was working on the Modern Architecture Research Group (MARS) London Plan. Fry and Drew were both graduates of the Architectural Association. Drew belonged to a remarkable cadre of feminists active in the phase of modernism in tropical architecture. Fry and Drew married in 1942. Fry and Drew were deployed to West Africa and Nigeria in particular due to their experience and expertise in advance planning and design to new infrastructure intended for the strategic development of the built environment. On Fry's appointment as planning advisor, Drew was his assistant. The colonies of Africa offered them a more liberated sphere of activity engaged with traditional cultures admired by modernists for their natural integrity and vigour of expression. These were manifested in the British policy on educational advancement in the colonies of Africa.

In 1944, Fry and Drew sailed in a troopship to Port Harcourt. In his memoir, Fry reported that 'We came upon a colonial life relatively untouched by time and war'. They wrote further that they wished to test the 'singular beauty in the bundle of ideas governing the modern movement of architecture and this springing from the necessity of uniting the material and methods of modern industry with realities of art, by looking narrowly into the nature not only of materials and structures of the machine age, but into human needs they service... an approach and a method humane to all-embracing. Between 1946-1959, Fry and Drew were given assignments relating to infrastructural development and urban planning of the colonial Nigeria to building the environment. This became necessary due to postwar reconstruction and agitation from the people of Nigeria. The architectural design and drawing plan of Fry and Drew were utilized for the building of the environment especially with respect to cooperative Bank Assembly Hall, Ibadan in 1956, University College Ibadan 1948-1957, Teachers Training College, Wudil in Kano, 1958, Holy Cross Boys School, Lagos in 1955. Furthermore, it is instructive to note that Fry and Drew's partners designed the architectural plans of the Trenchard Hall, University of Ibadan, Faculty of Arts building, The dome of Sultan Bello Hall of residence for undergraduate students of the university of Ibadan

Trenchard Hall, University of Ibadan, Ibadan (1953-1954)

Trenchard Hall, University of Ibadan (plate 1a) was designed based on the tropical version of an international style common in temperate regions. The buildings were predominantly a frame structure constructed from reinforced concrete. Emphasis is on continuous fenestration, sun-shading devices, and recesses to allow for shading to curb solar radiation effects and overheating. It was a handsome blend of the Impington College Hall and the Contemporary Royal Festival Hall in London. The central tower overlooking the hall performed a variable terrain of the university site. The tower also performed a centralizing and locating role across the variable terrain of the university campus. The twelve-story tower was strongly patterned with apertures as shown in the Plate 1d below.



Plate 2a: Trenchard Hall, University of Ibadan, Ibadan (1953-1954)



Plate 2b Side View of Trenchard Hall, University of Ibadan.



Plate 2c: Side view of Trenchard Hall, University of Ibadan



Plate2d: The Central Tower, University of Ibadan, Ibadan



Plate 3a: The approach view of Kenneth Dike Library, University of Ibadan, Ibadan. The library was designed with access corridors on each bank and interior shutters to protect books from storm damage. The library was a five – story building.

Kenneth Dike Library, University of Ibadan, Ibadan (1953 – 54)

The use of glass louvres and concrete shading devices such as screen walling (Fig. 2b, c & d) on north and south-, west- and east-facing walls as a form of protection from direct sunlight and overheating

west and east facing walls are generally blank. Screen walling with insect filters from copper mesh also has been incorporated on each major elevation. The books were housed in the amply ventilated upper floors above the service floor, also elevated above grade to counteract the adverse effects of humidity and insects. The library has a functional prominence of precinct enhanced with strongly patterned wall apertures. The development of patterned templates for wall sunscreens (plate 2c & d) reached its peak in Fry and Drew's University of Ibadan library complex (1951); here the functions of materials, structure, comfort and aesthetics coalesce to achieve an entirely appropriate architectural response to the functional and programmatic responsibilities of a symbolic academic building in a tropical context.

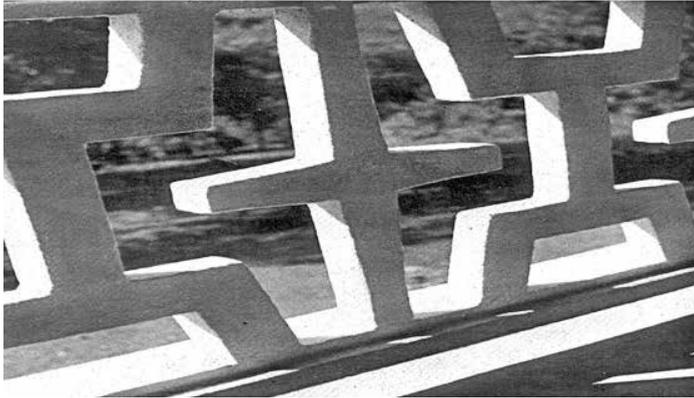


Plate 3b: Maxwell Fry and Jane Drew Patterned templates for wall sunscreens



Plate 3c: Faculty of Arts Building, University of Ibadan, Nigeria

A major modernist iconic significance of this building was on the elevation which was on Pilotis, which anticipates a design element adapted for the Academic Quadrangle at Simon Frazer University in British Columbia. The design entailed the acceptance of the superior durability (in the face of both climate and insects) of concrete and contemporary imported building technology. Plate 3a&b below illustrates the design of University of Ibadan Faculty of Arts Building. The hall was designed around courtyards so as to keep the main blocks oriented appropriately for optimum cross ventilation.



Plate 4: Sultan Bello dining Hall, University College, Ibadan. The hall comprised a shallow reinforced-concrete dome rising from slender elliptical ribs over semi enclosed walls.

This was reflected in Fry and Drew's confidence in the capacity of new form and technique to signify West Africa custom and identity and it is most sophisticated in the design of Sultan Bello dining Hall, University of Ibadan, Ibadan. The residential blocks for students were designed around courtyards as 'halls', the design keeps the main blocks oriented appropriately for optimum cross ventilation.

Next was the creation of maximum cross – ventilation and shading. Shading devices such as screen walls, recesses, and window hoods were adopted to screen off the effect of solar radiation on buildings and their interiors. It also included pierced external walls, pergolas and the use of double – skinned roofs. Emphasis is on continuous fenestration, sun-shading devices, and courtyard to allow cross-ventilation. The integration of sun-shading devices, cross ventilation, and appropriate building orientation were also major features in the design. The blocks focus in on the courtyard that is an external social space in its own right, being semi-overlooked by the screen wall clad residential blocks.

The building was also placed along contour lines to take advantage of the view as well as the breeze, and to increase the apparent monumentality and actual scenic diversity. There was also the establishment of a sense of secure community together with a balance between architectural cohesion and functional separation; the provision of clear systems of circulation and user identification determined around a point of entry which serves as a communal space and the creation of focal elements within each complex.

In designing the residential buildings, the architects increased the proportional planar and volumetric complexity of their design but retained the complexity of their design but retained a standard ten-foot module. They detached such service components as external stairways to heighten aesthetic effect in conjunction with increased diversity of ornamental pattern in the screen walling.

The wedding of the decorative effect, neither African nor European, with practical construction, produced a distinctive version of contemporary British modernism, termed New Eclecticism by the architectural historian and critic, J.M. Richards. The basic design of these blocks have not changed although these structures have been most affected by the phenomenal increase in student numbers and subsequent overcrowding of rooms in The University of Ibadan, built on a generous government commission, had a palette of materials based on framed concrete and infill breeze block construction. Pre-cast screen walling was also used extensively as were concrete louvres.

Holy Cross Boys' School – Lagos (1955)

This school was constructed on a swampy site in the central area of Lagos (Figure 6). The school comprises balconies, classrooms, and staff office areas. There was also the free flowing space of the pilotis, which later became filled in and used as 'functional' space. The pristine cool-white buildings beloved of the architectural photographers were generally unmaintainable in the high humidity West African climate where much of this architecture was situated. Holy cross school, Lagos was one of

the public schools that have a testimony to the design of Fry, Drew, and Partners that shows that most of their designs remain in use 50 years since the construction of the buildings.



Plate 5: Holy Cross Boys' School – Lagos

Women's Training College at Kano

The construction of the complex started in 1956 and was completed in 1960. It was another design by Fry and Drew. The domestic science facility comprises a severe circular building with removable screen topping a wide canopy pierced by a ventilator and butted into the adjoining dining hall. The design reflects the Euclidean idea of the technical and social process. The features recall some aspects of African building and cooking while implanting a more rationalist. Plate 6 below shows the view of domestic science facility of Maxwell Fry, Jane Drew, and associates of Teachers Training College, Kano, Nigeria.

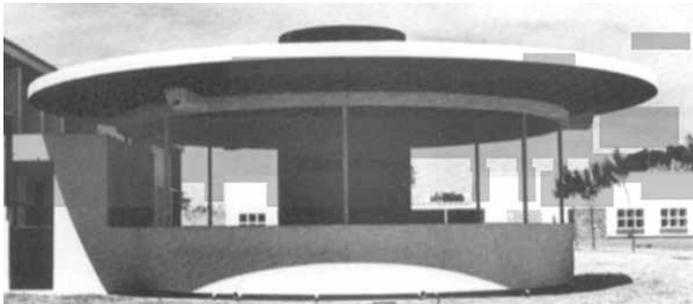


Plate 6: Women's Training College at Kano

Cooperative Bank Building Headquarters

The bank building was designed based on the tropical climatic condition of the region. It is a seven storey building with a functional prominence positioned with reinforced concrete. Specifically, cooperative bank building, Lagos was characterized with angularity, sharp edge, screen walls, vertical and horizontal depiction, and asymmetrical form.

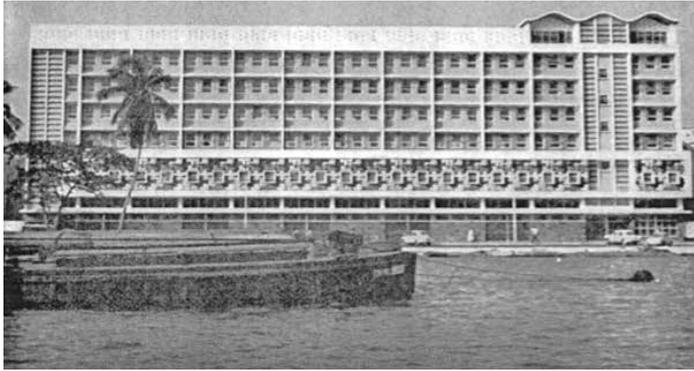


Plate 7: Cooperative Bank Building Headquarters, Ibadan

Conclusion

It has been demonstrated in this paper that colonialism laid the foundation of modern architecture and infrastructural development of the built environment in Nigeria. Indeed, the introduction of LPA, which majorly monitored and supervised construction and development of new areas in the colony in spite of the fact that planning was restricted to the areas reserved to European with less concern for those living in the native towns of the colony actually contributed immensely to modern urban planning and architecture in Nigeria. This paper also shows that the history of modern architecture in Nigeria is incomplete without referring to the works of Fry and Drew, whose contribution to the development of tropical modern architecture in West Africa in general and Nigeria in particular is significant. It noted that their designs represent a milestone and are significant to the development of the built environment, which have outlived colonialism. Their design principles yielded functional institutional spaces and a hybrid aesthetics that wed modernist construction and colonial influence in the modernized building infrastructures such as banks, schools, Teachers Training colleges and the University needed as a support to the colonial administration.

Notes

For details, see also, Report of the Commission on Higher education in West Africa, cmd.6655 (1945).

Colonial Architecture refers to the architectural style of building originated from British Empire to colonies in West Africa.

The term built environment in colonial Nigeria refers to the human-made surroundings that provide the setting for human activity, ranging in scale from buildings and parks or green space to neighborhoods and cities that can often include their supporting infrastructures, such as water supply or energy networks strictly financed by colonial authorities.

The architectural design of Fry and Drew outside the educational built environment in Nigeria over the period 1946-1959 comprises of the cooperative Bank building, Longman Green (Publishing) House and British Petroleum head office in Lagos, the Onitsha market in Aba and the Ahmadu Bello Stadium in Kaduna, Nigeria.

More details on the activities of building policy. See Memorandum on the general principles to be followed in the selection of sites for, and the laying out of, towns and European Residential Areas in Nigeria. Copy in CSO26/06914 (Nigerian National Archives, Ibadan). A revised version was issued in 1939 (copy in MN/X12, Nigerian National Archives, Ibadan)

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Interview with Mrs Sifawu Akangbe, Ibadan, July 10, 2015.

Interview with Madam Felicia Ayorinde, Lagos, July 12, 2015

Interview with Architect Sulaiman Olaniyan, Ogbomoso 7th July 2015.