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RESEARCH ARTICLE

ORGANIC ARCHITECTURE: AN HYPOTHETICAL VIEW ON THE PHILOSOPHY OF AFRICAN ARCHITECTURE BY AN AMERICAN ARCHITECT

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ABSTRACT

A unique feature of African Architecture is that buildings derive entirely from, or are products of their immediate environment. This architecture has often been dubbed primitive, retrogressive and belonging to the poverty-stricken. This derision, mostly by Africans themselves, has not helped the development of African Architecture; nor its rightful contribution to international architecture. Is the philosophy and content of African architecture so terribly at variance with the so-called modern aspiration? In this study, African architecture philosophy is generally examined alongside "Organic Architecture", by a foremost American modern architect – Frank Lloyd Wright. The similarities and curious area of convergence between these thoughts tend to portray Organic Architecture of the 20th century as an offshoot of African Architecture of 15th – 19th century. The study concludes that African architecture may have passed for the "Organic Architecture" of 15th – 19th century Africa.

INTRODUCTION

Prior to the penetration of European Colonialist into Africa, architecture philosophy in the continent was unique. Each of the many ethnic groups practised architecture that derived from its environment; the materials, the technology, the skill and manpower was obtainable within the immediate environment. In addition architecture responded to the climate and the social, economic and cultural values of each ethnic group or settlement. The practice of divergent, regional, peculiar or sub-environmental architecture that had originated in prehistoric Inca and Sumerian civilizations and later, Egypt, Greek and Roman Architectural practices began to converge gradually in the 18th century (Ogunniyi 1996), at the introduction of classicism. Classicism, a practice that combined the Greeks' and Romans' styles of architecture flagged off a process of standardization and systemization that are precursor to modern, international architecture. Today, architecture may have assumed a state of globalization (Globalized Architecture!) following the cumulative effect of three major development processes in the profession: The first is the European industrial Revolution of the late 18th century. This event manifested in rapid urbanization and industrial process, including development in building materials, technology, forms and shapes, etc. It is important to note that European Industrial Revolution was a response to problems in Europe (constituting only a relatively small percent of world population). The resulting solutions cannot be expected to respond to satisfy global social, cultural, economic and climatic needs. For instance, concrete, steel, plastics and many other building materials developed in the process cannot be expected to respond favorably to all climates of the world. Yet the world, including Africa and other third worlds embraced the "gains" of the Revolution; adopting these materials and their technology, regardless of their suitability to the socio-cultural, climatic and environmental conditions of the receiving community. The second wave of events that cumulated in today's state of Architecture is the various, so called modern movements. These movements - as Cubism, Art Noveau, Expressionism, Impressionism, Constructivism, Brutalism etc - were conscious of, and propagated certain opinions; or sought to change certain practices in their localities.

Even when the object of change could possibly be channeled to benefit the world, propagators only explored the benefits to their geographical areas of influence. For instance the concept of Brutalism (emphasis on form and materials) was predicated on the materials and forms predominant in Europe. Constructivism or emphasis on ease of construction did not explore construction materials and techniques from Africa, Asia and other third world countries. Yet these movements, and what they sought to correct or adopt were accepted and practised worldwide, especially in Africa and Asia where such practices had little or no relevance to their environments. The third major contributive factor to "Global Architecture" consists of postulates, philosophy and concepts of some

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notable 20th century Architects among whom are Le Corbusier (European), Ludwig Mies Van Dah Rohe (European) and Frank Lloyd Wright (American). Each of these holds a philosophy in Architecture that may not be agreeable even to the other two. Yet each has contributed a great deal to modern architecture through such philosophies. One of such philosophies is that by Frank Lloyd Wright. This philosophy tagged "Organic Architecture" is the area for examination in this study. The African philosophy on Architecture originated from Africa while the philosophy of "Organic Architecture" originated from Frank Lloyd Wright, an American architect. The comparison of these two philosophies of Architecture is the thrust of this paper. Are these theories similar in any respect? In what areas; if they are? What explanations are adduce able for any similarities in these philosophies from widely separated locations and time?

Previous Studies

Studies have shown incidents where certain similar architectural characteristics appear among people of different culture or living in different, distant, geographical locations. Saad and Ogunsusi (1996) showed the similarities in the housing architecture of the diverse (about 250 ethnic groups) peoples of Nigeria, each of which developed without crossbreeding ideas. Saad and Ogunsusi who observed that spaces used for private living such as bedrooms, sitting rooms, parlours are common to all homes whether Nigeria, African, Mid-eastern, Asian and European; referred to this phenomenon as "Unity in Diversity". In the history of traditional African architecture, Fatiregun (1999) showed similarities in forms, materials etc. in architectures across different cultures and peoples of Africa. Each of these cultures had little or no contact with the others until some of them became colonies of the same European country. Studies have also revealed instances where architectural philosophies differ within a geographical, even cultural environment.

In Europe, Functionalism, Brutalism, Constructivism, Expressionism, Impressionism are examples of architectural movements that formed the vogue at one time or the other. While some of these movements agree in certain respects, each also differs from others in some notable ways. Some of these movements even express opposing or contrary notions on design. For instance, while expressionism expresses honesty with nature and environment, impressionism emphasizes the expression of architects' personal, inner, or emotional feeling (Thames and Hudson, 1997). Certain essentially opposing architectural principles have been accepted in contemporary architecture. Whereas Frank Lloyd Wright (1867 to 1959), the American architect favoured organic architecture (or architecture deriving from its environment), the French nationalist architect – Le Corbusier (1887 to 1965), represented a school of philosophy which holds that: provided buildings are man-made, they should, rather than pretend to be in tune, be radically different from, and stand out in the environment. Thus a study of the principles and philosophies guiding modern architecture shows contributions of nationals from European and American continents. Little or no contribution have been attributed to or documented in favour of Africa. The hard earned contributions of the Egyptian architect – Hassan Fatty – became noticeable only after a dogged proclamation, publication and practicalization of "Architecture of Earth Materials" dubbed "Architecture for the Poor". Africa is acclaimed to have contributed the courtyard system to world architecture (Ogunniyi 1996). Has this region any earlier claim to the philosophy of "Organic Architecture" made popular only in the 20th century? What salient features of this philosophy is a carryover from African architecture? The trust of this study is to compare and relate the concepts of "Organic Architecture" and "African Traditional Architecture"

Essentials of Organic Architecture

In one of his many lecturers titled "Organic Architecture" the American Architect, Frank Lloyd Wright, also known as the Master of Organic Architecture, preferred to explain the philosophy of Organic Architecture by first, showing his disciples four attributes of Architecture that is Not Organic. These according to him are:

Function without form;
Form without function;
Details unrelated to masses;
Masses unrelated to anything but folly"

A little explanation of these attributes will make for a better understanding of architecture that is not organic, the opposite of which explains Organic Architecture.

Function Without form

This according to Frank, implies architecture that is functional, or satisfies functional requirement; but has no commensurate or befitting form. For the benefit of non-architect readers, architecture is functional when all purposed activities in the building can easily and effortlessly be carried out in the building. This implies short distances between different activity centers, and easy link between contiguous activities. Generally, the activity spaces within the building must be organized to relate in a workable and pleasant order. Effective day-lighting and air circulation within the activity spaces must be guaranteed to cap good functional attributes.

Form without Function

A good interpretation of architecture of form without function is that of a building, whose enclosing form or shape is logical, pleasant, and will generally evoke the interest of users and observers. Architecture displaying this quality of form will, however, still not be organic, if the organization of the activity spaces within the form is defective or purposeless to any minute degree.

Details Unrelated to Masses

This implies that every little aspect of the building must fall into a logical place and culminating in generally, good and wholistic building. In other words, every building element and component must be placed at the right and most befitting position in the building such that the entire building becomes flawless in composition. Thus, the entire building must be interesting as a whole, and each element contributing to this whole must be in the right position and of the right quality. Every detail must compliment other details in the building, and the building must present details united in a logical whole.

Masses Unrelated to Anything but Folly

This prescribes a relationship that must exist between the total form, the final shape resulting from the combination of all details with the setting or environment of the building. The warning here is that, any building, no matter how good and pleasant in itself, will fall short of Organic Architecture if such a building does not exist in harmony with its environment or, in a more relaxed word, surrounding. It should be noted that, it is in this last attribute that the concept or organic architecture is different from every other good architecture. This we shall explain shortly; but first we must get a good grasp of what architecture is really organic. Using similar poetic rhetorics and employing similar sequence of thoughts and argument like the master (Frank) himself, Organic Architecture will now imply:

Function with form:- Functional building with befitting form or shape.

Form with Function:- Good form or shape enclosing good functional relations.

Details Related to masses:- Every building element compliments the other to make a good whole.

Masses related to the Environment:- The total, resulting building, must be in harmony with the environment in which it is set. It must convincingly seem to emerge from the environment.

Frank further described Organic Architecture as a "protest against a split culture; against a split personality" i.e., no part of the building should be in disharmony or disagreement, with another part of the same building, or with the whole building, or indeed, with the environment. This last attribute and the phrases that follow is the central theme of Organic Architecture. The first three 'verses' – 1 to 3 – prescribe what is generally referred to as good architecture- relating function form and aesthetics-in a stable structure within a good budget. The forth prescribes how good Architecture should relate to the environment. Ogunniyi (2000) confirms this when he described Organic Architecture as that whose central principle holds that buildings must emerge or derive from their immediate environments. Watson (2012), referred to the principle as "indigenous of the soil, the time, the place and of man" Generally, Frank's buildings, especially in the country sides, exhibit so much harmony with their environments that the beginning and end of the building, the physical structure, ware often not easily discernable. Urabanowitch (undated)

African Architecture

Scolars of Tropical Sub-Sahara African Architecture seem to agree that the traditional African buildings are responses to the factors of climate, the available building materials in the building environment, religion or philosophy, technology, social and cultural leanings of the communities (Moughtin, 1985; Dmochowski, 1990; Fatiregun, 1999; Ogunniyi 2000). Sub-Saharan African climate includes the dry desert zones of West Africa, the Kalahari desert area and the dry Hon of Africa on one hand, the wet, forest, region on the other and the Tropical Savannah in between (Fatiregun, 1999). Among this seeming diversity is the general warm climate that often engender the incorporation of courtyards, (as in Sudan), flat roofs (as with Hausa and Fulani in northern Nigeria) and aerated corridors. Thus, the large, Nigerian, Yoruba extended family compound may incorporate two to three courtyards around which scores of rooms are arranged along single banking verandahs opening into the courtyards – all with earth walls. All the construction materials in the African traditional architecture derive wholly from their immediate environments. These include earth, stones, wood, limestone, pales, thatch, etc. In the traditional Nigerian Ibo compound, thatched house-stead's of grass over earth walls are interspersed among farmlands belonging to owners of riparian households. In Niger, Kaduna, Kogi and Kwara States of Nigeria, such house-steads of dry grass over earth or stake/pale supports, were and somehow, are still interspersed among dry grasses and leafless trees during the dry season. The resulting townscapes or country-scape is not only naturalistic, but constitutes an harmonious neighbourhood profile of dry grasses, leafless trees and tall anthills.

Organic and Sub-Saharan Architecture Comparism

A philosophical dichotomy is discernable in the many works of Frank Lloyd Wright. These consist on one hand, of his urban projects which exhibit little or no concept of Organic Architecture. Rather, apart from the entrance, they are closed to the exterior or external environment and activities are confined into the interior. Two Schemes in this category include the Guggenheim Museum, which consists of levels of concentric circles, like an inverted snail shell that increases its girth up-wards, but resting on the administrative ground floor. The open end of the inverted cone is covered with dome light. The other is the S.C Johnson and Son's chemical company's administrative building, built between 1936 and 1939 in Racine, Wiscosin. It also provided an in-turned image with no visual connection to the exterior (Mansbridge 1967). The bulk of other work of Frank consists of a large number of residential houses, a few religious buildings and resident - turned tourist interests. These are largely based on the philosophy of Organic Architecture some of which later incorporated the Praire Style.

We shall examine some of these and attempt to draw similarities between them and the diverse but related concepts of African Architecture. The first of such building is the Unitarian Church by Frank in Oak Park, between 1905 and 1907. The church was entirely Egyptianized in its expressive language (Thames and Hudson 1997). In 1917 to 1920, the same architect did the Barnsdall House in Los Angeles. This has been described by Themes and Hudson (op cited) as "massive, closed building volume, set under a heavy roof slab decorated with motifs derived from Mayan art (African) and compactly grouped around an inner courtyard". The courtyard concept itself originated in Sudan, Africa as a solution to the problem of ventilation in tropical architecture (Ogunniyi, 1996). The Millard Houses also called 'La miniature, built by the architect in Pasadena between 1921 and 1923 was built on similar principles. Organic Architecture subsists well in country sides, villages or any such places where adequate land is available for the building and the surrounds. "The Falling

Waters", the "Talieson West II" (in Arizonia) and the 'Willey House' are all set in sumptuous environment; affording the Architect enough latitude to relate the building with their environments. The first, 'Falling Waters' also called "Edgar Kaufman's House", was notably isolated in the country side. In this massive structure, the Architect like Africa traditional builders employed the abundant bricks in the environment as construction materials for the walls. The entire building is anchored to the bedrocks of the water, with the structure 'floating', as it seems, on water. This is similar to the Architecture of some riverine Africa. Specifically, the Ijaws of Southern Nigerian build their houses on wooden stilts to accommodate tidal waves (Fatiregun 1999). Water flows, uninterrupted under such traditional African houses much like was adopted by Frank Lloyed Wright in the Falling Waters. A stair from the banks or dry beds of the river also leads into the living area of such Ijaw houses like can be seen, also adopted in the Kaufmans House- where a stair from the apartment leads into the waters below. The 'Talieson West II' in Arizonia was Frank's personal house where he spent his winters. It was set in the desert region of Paradise Valley, near Scotsdale, Arizonia.

The entire structure was built with limestone and wood gathered from the site, much like what obtained in most part of Africa where limestone, pales, stakes, stones, earth and other building materials were got from the immediate environment of the buildings. One other unique and African in the Architecture of Talieson West II (Talieson West I is a Summer house by and for the same Architect, located elsewhere), is its harmony with the desert. At a distance, the observer can not identify the apartment among the very many boulders in the desert landscape. Talieson West II blends with the features of the desert like some mud houses among ant-hills or termitaria in Northern Africa – including the North central part of Nigeria. Because of this perfect harmony with the desert features, Talieson West II is often referred to as the house of the desert rather than in the desert (Urbanowitch undated). The "Willey House" in Mineapolis was constructed in 1934. Like Frank's other group of Usonian Houses, they were small, free-standing, single houses often with walls of clapboards and flat roofs covered with wooden slats; a facsimile of free-standing houses and Sudanese rectangular, mud houses with mud, flat roofs, in which wooden and bamboo materials were imbedded for strength. Frank's Usonian houses varied in forms, and were generally of low cost; a basic requirement for housing affordability in Africa then, till now.

The list of Frank's organic based buildings, fashioned after African concepts, is endless; especially among his many residential houses. The fact that Frank's work was more predominantly residential and that African Architecture was also predominantly so, may have provided a coincidental basis for the comparison of isolated buildings in relatively smaller scale than factories, civic buildings and complex churches. Even in his urban schemes, Franks buildings contain elements of Organic Architecture that adopt, or at least, share the principles of African Traditional Architecture. For instance the S.C Johnson Wax Factory, alluded to earlier, was, unlike his Organic Architecture, closed to the exterior. Yet the use of mushroom columns like thumbtacks, with flat circular heads shares the principle of the bi-fork, stake/pale columns of the Traditional African Architecture. Both carry the beams that distribute roof and upper floor loads on the columns.

Conclusions

It is not in contention that Architect, Frank Lloyd Wright (1876 – 1959) was innovator, originator and propagator of the philosophy of "Organic Architecture", Neither is it in context that the philosophy is among the few foremost crystallizers of Modern Architecture. Mie van dan Rohe, another Architect of modern repute, confirms the all-important contribution of Franks Architecture when he said "Wright's work presented an architectural world of unexpected force, clarity and language, and disconcerting richness of form" (Blacke 1996). However, a critical observation of this philosophy shows fundamental similarities between it and the guiding principles and dominant features of Traditional African Architecture, an unpopular architecture tradition that has existed long before the penetration of European Colonialists into Africa. The principles had been the vogue in important and powerful city-states, kingdoms and settlements along the coast of East Africa, in the Sudanic areas of West Africa, in the southernmost and northern parts of Africa from the ninth to the fifteenth centuries (Fatiregun, 1999): or about $(4 - 10)^{th}$ centuries before Frank Lloyd Wright was born. This finding, it must be hastely noted, does not reduce the importance or depth of Franks philosophy and its contribution to modern state of Architecture. The philosophy was innovated and propagated independently and delivered through the use of modern materials and technology. Rather, this study to highlight, from advantage of hindsight, the similar but unsung thoughts and principles of a people in the African continent of 9^{th} to 15^{th} centuries. Thus, apart from surgery (in medicine) and act of writing (modern literacy) which both have evidence of Africa origin, (notably Egypt), Africa also has a share in the origin in the architecture of tomb (Egypt) and now the philosophy and principles of Organic Architecture. Thus, Organic Architecture, with a form that is modern, a force or strength that is America may have had a spirit that is Africa!

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