

ARCHITECTURE AND THE ENVIRONMENT: AFRICAN CONSIDERATION OF SPATIAL AND HUMAN DEVELOPMENT

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Abstract

Housing is a very important aspect of human development. People who lack construction experience often overlook critical factors such as climate, building design and interior décor when constructing a house. Whereas, these analyses are important in order to arrive at a quality accommodation for human beings. Sometimes, the plan and willingness to create a pleasing environment through architectural work are impeded by the economic challenges of providing decent housing and the inadequate implementation of housing policies. The failure to adhere to guidelines for constructing or establishing a comfortable environment deprives inhabitants of the satisfaction of a contented life. Although some people do not see the relevance of the artist (the architect) in converting the environment into the pleasurable use of human beings, however, the focus of this research work therefore suggests how to improve the environment for the benefit of mankind. To achieve this, we shall employ the phenomenological method of research. The study concludes that prioritizing human well-being is crucial in architectural designs and environmental modifications.

Keywords: Architect, Bioclimatic, Interior decoration, House, Nature

Introduction

Arts and artists play great roles in the well-being of human beings. The works of art both beautify the environment and create sensational or psychological satisfaction for those who appreciate them. “Just as modern physics teaches that every physical object is the center of a field of force which radiation outwards occupies all space and time” (Auden, 1935, 11), so do architectural works in the thought and consciousness of those in whom they elicit profound satisfaction. The metaphysical nature of artworks has drawn the attention of many disciplines such as architecture, music, philosophy of art, psychology of art, etc. According to Okoye and Ukanwa (2019, 84), “Architecture is an aspect of material culture as well as an element of cultural identity”. The above authors state that Igbo traditional architecture reminds the indigenes of their cultural values and even reflects their belief, religion, social class and climate (Okoye and Ukanwa, 2019, 84). This means that there are two dimensions to what is known as architecture – the physical and the immaterial.

However, the role of the architect as an artist in modifying the natural environment is contestable. On the one hand, there is the opinion that nature in itself is beautiful, intelligent, and orderly (Nketo-Lumba, 2015, 121). This perception has little or no value for the artistic creation of the architect. On the other hand, there are arguments that despite the wonderful qualities of nature, the ability of an artist to add, change, or restructure nature produces the feeling of having achieved one's expectations (Chansigaud, 2013). These divergent points of view raise a pertinent

question: do architectural works contribute to the well-being of human beings? I argue that construction provides a framework for the fulfillment of the human person. In other words, construction is a process of using what is available in nature to create a suitable living condition; it involves harnessing natural elements to serve human beings properly. Effort in this direction explains the engagement of the architect in creating a satisfactory environment for mankind.

I am going to explain my point of view in three points: the first point will give a theoretical description of the parameters that architects look at before construction. The second point will examine the role of nature in providing a habitable environment for human beings. The third point will propose the African perspective in building advocating for the ecological architectural plan.

1. Theoretical Consideration in Creating the Plenitude for Human Existence

In recent times, the growth in science has given rise to different areas of specialization. Each discipline develops principles, methods, and objectives to affirm its authenticity and uniqueness, but also to show its importance in serving humankind. Even though the role of artists (architects) consists of making the mental picture of their clients, they also make projections of how their work would satisfy other people who are not their clients. These projections could be in terms of aesthetic value, cost of maintenance, comfort, or even in terms of exotic value.

According to Deleuze & Guattari (1942, 177), “When Dubuffet sought to define a certain state of art brut, he turned first to the house”. This is because the sketching of the plan requires the architect to have a certain disposition and competence. With regards to disposition, the nature of his work demands some quietness which would permit the architect to bring out his or her pure ideas to life. The process of producing a plan is done without any desire to outdo another person neither is it inspired by the expectation of the public; a particular work of art is rather brought into being because of the preoccupation to give human beings unique work that would add value to their well-being. It could be argued that houses are not the only works produced in the state of *art brut*, artists such as musicians, writers, and poets are equally obliged to carry out their activities with inherent qualities proper to a perfect realization of specific work.

In addition to the notion that “the house is part of a whole becoming, it is also life, the 'non-organic life of things'. In every possible mode, it is the junction of plans with a thousand orientations that defines the house-sensation” (Deleuze&Guattari, 1942, 170). This means that the artist (in this case, the architect) is bound to have a mental conception of the design (planning, building, and architectonics), the structure (layout, framework, make-up, shape), and the actual construction (style). The building has to reflect a specific purpose (Church, school, market, playground, etc.); it should be situated at a particular angle, considering natural forces and most especially the comfort of those who will use it. The conceptual grounds for undertaking the construction of any edifice become part of human accomplishment. For this work, I shall examine three conceptual aspects of creating the plenitude of human existence: bio-climatic factors, the compositional part/building plan, and the interior decoration.

a. Bio-climatic factors

For this work, I describe bio-climatic factors as a specific combination of temperature, rainfall, humidity, wind patterns, and sunlight that influence the distribution and abundance of life forms in a particular region or ecosystem. These factors affect the pattern of designing homes based on the climate of the region to provide an agreeable dwelling place. The bio-climatic factors are to be taken into consideration before building any structure, and they give orientation to the architect who is interested in them because of their importance in pleasuring the human person. This can be

achieved either with the use of modern apparatus (such as theodolite) or by having recourse to the natural distribution of trees, plants, and vegetation. Any of the above means is important to know the ideal angles to build a house.

From the foregoing, heating, ventilation, and cooling (HVAC) are indispensable means of controlling the climate inside any home. Supposing that a house is to be built in a cold climate, the architect would have to think of how to increase the interior temperature of the house by creating “blind walls” against wind, snow, and rain. Climate control can be achieved by making the best use of the heat gained on the southern side during the day through the passive systems; or through the use of bricks or stones. While the heat gained could be direct gain, indirect gain, or isolated gain, it is good to mention that bricks and stones that absorb heat during the day serve as insulators to maintain heat during the night. Before this century, continuous weather barriers outside, fireplaces, and wood stoves helped people to stay warm but in our time, modern appliances are used to heat the rooms to make them habitable for the occupants. In a related perspective, for the Igbo people of Nigeria, “climatic conditions are controlled mainly by two air masses, the equatorial maritime air mass from the south-east and the tropical air mass from the north-east, both of which are of tropical origin” (Nsude, 1987, 62; 76-78).

Conversely, in a tropical region, the architect will make an effort to use the natural vegetation to reduce the temperature to make the house good enough to live in. We know that the sun rises from the east and sets in the west. From where the sun rises, it heats everything that is before it because that is its route. If it is going to point in a direction, it could heat all day long, the architect will be obliged to put up a blind wall, and the person who is in the Church for example is protected. However, the user of the house enjoys the light. From this point of view, an architect might ask one or more of the following questions: if I place the house at this angle, will there be a sun that will rise at a certain time of the day and then pass at a certain time of the day? During the 24 hours of the day, where will the inhabitants be and at which angle will I place the building? Which time of the day is most useful to me about the sunlight and wind? Besides, the architect would probably think of the potential dangers (such as earthquakes, floods, and volcanic eruptions) of erecting any building. The angle of a building is very important, not just because of the aesthetic value but most importantly because of the comfort it could give to human beings who will use it.

b. Composition/building plan

Building plan is a graphic representation of what a home would look like after construction. This comprises the site plan, floor plan, elevation (external and internal elevations), and landscape plans. Essentially, the components just mentioned are put together to form what will eventually be called a house. What defines a house are floors, doors, windows, and French windows. Other parts which compose what we call a building are walls, ceilings, roofs, etc. My interest in what composes a house is to show that the function of each of these parts is very important for the comfort of those who will use the building. For instance, the doors of any building are means of going in and coming out of it. The windows are protective panels used to regulate the amount of sunlight in a house. The roof of any building is the external covering at the top. It is intended to prevent direct sunlight from heating human beings, to give them a shed when it rains, or to protect them from snowfall.

Meanwhile, the meaning of the wall differs depending on the context in which it is used. In sports especially football, it is “a row of players who stand ten yards away from where a free kick is taken to make scoring directly from the free kick more difficult” (Cambridge Dictionary, *Wall*), but in psychology, it would mean “a way of feeling or behaving that completely prevents two groups of people from communicating with or understanding each other”. (Cambridge

Dictionary, *Wall*). However, about buildings, walls are structures that serve to defend those who live in a building against strong wind, cold, and other threats. There are blind (or closed) walls and open walls. To have light, the builder takes advantage of the open walls, and to protect the occupants of the house from wind and heat, the builder takes advantage of blind walls. The blind walls are the external parts of the building that have neither doors nor windows while the open walls are parts of the building which have doors and windows. They are called open because they let sun and air in; while the other is called close because they defend human beings against excess wind.

Likewise, different functions are attributed to the wall, the ground floor, the roof, the panels (wall panel, window panel, floor panel, slope panel), the frames, etc. It is good to note that “it is on this compositional plane as on 'an abstract vectorial space' that geometrical figures - cone, prism, dihedron, strict plane - are traced” (Deleuze&Guattari, 1942, 177). Any of those components are capable of producing sensations of concern, enthusiasm, excitement, interest, pleasure, etc. The sentiment that a building plan elicits will be explained in detail as I focus on the interior decoration. It is however important to note that this depends on the techniques and the materials used in furnishing and finishing the building.

c. Interior decoration

According to Cottington (2005, 46), “decoration was 'the specter that haunts modernist painting'”. This is because the works of some painters do not allow those who see them to go beyond the visual pleasure to “the world of interiors”. Spectators are either incapable of transcending the external qualities they see due to a lack of understanding or are fixated on the here and now. Irrespective of the nuances in the meaning and use of the terms interior decoration, interior designer, and interior elevation, I would like to observe that they express the yearning for what is beyond the physical.

With regards to interior decoration, it should be noted that the appreciation varies in terms of differences in age (child, adolescent, adult), gender (male or female), socio-cultural backgrounds, lived experience and the sense given to a particular work of art, etc (Francès, 1979, 22). Another perspective in the appreciation of interior decoration has to do with “‘formal’ qualities of painting – colors, shapes, volumes, spaces, and their interrelations, independent of their mimetic value – (...) visual pleasure of decorative surfaces such as carpets or wallpaper” (Cottington, 2005, 45). It is important to explain that the use of particular elements of nature such as sunrise, moon, star, etc. in painting, is an imitation or representation of nature. This attitude of mimetic artists fashions the minds of human beings and their conscience to recognize that they have the same capacity to comprehend (epistemology), behave (psychology) and act (ethics). Contrary to Plato's critique of mimetic art in *The Republic* (Bk X), its significance should be understood against the background of Aristotle's empiricism.

In this regard, Cottington (2005, 45) remarked that Denis made screens and wall panels for the drawing rooms of wealthy Parisians and friezes for the city's public buildings, but I state that interior decoration is not limited to these. It comprises lightning types, furniture design and floor patterns. They create emotional effects on those who live in a building and add to their social importance (Auden, 1935, 2). Moreover, the internal state of being and involuntary physiological response or reaction to the representation of artwork which is part of *the finissage* of any building are manifestations of satisfaction and contentment. In a way, this could be the objective for which the architect undertook the project of construction.

An important element in interior decoration among the Igbo people of Nigeria is “the use of carved wooden doors as well as Uli painting” (Okoye and Ukanwa, 2019, 87). Different things

are given preeminent importance while considering Uli wall painting and mural decoration: although it is normal for most titled men to use carved wooden panels at the entrance of their compounds the paintings (of animals) on the walls have sacred representations. More so, the setting and organization of Igbo villages reinforce the idea of togetherness and oneness. I shall explore the next subtopic, natural consideration by showing how a perfect harmonization of nature's gift to mankind by the architect can procure the plenitude of human existence.

Natural Consideration in creating the Plenitude for Human Existence

It is worth noting that the term “nature has over sixty-five different meanings, which makes it a challenging subject to discuss the relationship between humans and nature (Congar, 1974, 687). Some authors argue in favour of the connection between human beings and nature (King, 2001, 64; Grasse, 1971, 19), while others argue against it (Casañas, 1980, 10). Nature can be described as that which in “appearance is neither standardized nor valued (...) until this appearance is annexed by art or by social movements that value it” (Francès, 1979, 21). As an artist, the architect re-creates the appearance of nature according to a particular vision of human beings. Deleuze & Guattari (1942, 166) are of the view that nature is not silent; nature speaks to human beings and adds value to the existence of human beings. They also believe that it would not be an exaggeration to say that in the absence of human society, nature can serve as a companion to human beings. In this sense, nature satisfies the deepest yearning of human beings – companionship.

However, it is the creativity of the artist that makes it possible for nature to be able to play this role. The architect finds nature already in existence. He does not create nature. The architect only influences our perception of what he or she has modified in nature. They present their work to us and through them, “appeal” to us to share in their accomplishment. Even though architects “discover” nature, they still must plan or prepare in advance by putting into an orderly arrangement what they see in nature. Aron (1987, 150) tries to interpret this job of the architect to mean that human beings have a responsibility towards the environment. This task does not destroy but develops the environment so that people can savour the effort of these specialists in construction.

The thought of nature permits one to talk about the habitat of animals. Deleuze & Guattari (1942, 174) relied on classical works to describe the life of birds in the rainforest in Australia and how a perfect choice of place of construction could create a feeling of accomplishment in human beings. By implication, art is not limited to the treatment of materials, but consists of the postures and colors of the body, in the songs composed by birds of their notes and cries of the animals that mark the territory. These authors do not distinguish between colors and sounds insofar as they become expressive (the philosophical concept of territory) (Deleuze & Guattari, 1942, 174). The therapeutic effect of living in the environment just described is beyond measure. Deleuze & Guattari (1942, 174) claim that it is these blocks of sensation in the territory, of colors, postures, and sounds, that sketch out a total work of art. This is why the planning of the cities should make provision for a holistic accomplishment of man in the following dimensions: acoustic, aesthetic, cultural, ecological, psychological, social, spiritual, etc.

From the above, it can be concluded that architects' most crucial responsibility is to plan and design structures that meet the various needs and desires of those who utilize them. In essence, their primary goal is to create buildings that cater to the diverse yearnings of their clients. “Planning is the process of particularizing and, ultimately, of harmonizing the demands of environment, use, and economy”. This involves creating space for various purposes – recreation,

refuse dump, shopping, worship, etc. Nonetheless, the traditional Igbo people of Nigeria do not build close to the evil forest because of the belief that they could be haunted by evil spirits (Nsude, 1987, 119).

Nevertheless, in a world dominated by the forces of industrialization and modernization, the natural considerations are either abandoned or, where they are considered, technicians try to manufacture what looks like nature (synthetic turf, camouflage trees, artificial flowers, animals, etc) just for aesthetic values and not for their significance in purifying nature (carbon dioxide removal). For instance, moss and algae could become serious problems in certain regions and under specific weather conditions. While the ecological impact of the endless expanding range of industrialization continues to be “politicized”, it seems reasonable to propose the African perspective as a solution to conceiving, designing, planning, and building modern cities.

African Consideration of Spatial and Human Development

The fact of thinking about the plenitude of human existence from the African point of view is an approach that intends to reveal the fundamental concern of every school of architecture about the threat of climatic change. By implication, the idea of improving the environment for the benefit of mankind should be ultimate. It is worthy to note that the African appreciation of art is determined by cultural developments which are at the same time divergent in terms of characteristics but convergent with regards to value. In other words, different historical experiences orient the creation of artistic works of architects but the importance given to them is almost always the same. This reality is widespread in the sub-Saharan region, especially when one takes a critical look at their belief system. From this perspective, the idea of “home” among the Igbo people of Nigeria expresses “the ideal world where everything is supposed to be at peace” (Nsude, 1987, 43). This truly depicts the philosophy that guides the architecture of the Igbo people.

From the foregoing, Nsude (1987, 92) states that Igbo architecture conforms to the Igbo cosmological worldview on the existence of three worlds and the association of god, the living, being forces, the dead, and the unborn. Hence, the architectural plan could make provision for temples in the form of *mbari* or *mbaja* (among the Owerri and Umuahia people); statues, drawings, and paintings that have religious connotations, and even shrines for market (which is considered a sacred institution) (Nsude, 1987, 110). There are many other sacred objects, carvings, and spaces in the architectural plan of the Igbo people that explain their religious life, social life, and philosophy of life. Based on their inclination and indebtedness towards Chukwu (God), the Igbo people see the home as a perfect place for the realization of all the ideals of religion and moral principles (Nsude, 1987, 99-100). This goes contrary to the objectives of building a house for prostitution, strip clubs, or for pimps/madams to hawk sex.

It can be said that in Africa,

building and transforming the environment are done according to cultural values and philosophical conceptions of the world. In making a shelter for their dwelling, human beings create forms of habitat and adapt spatial constructions between the tangible and the intangible. Using his knowledge and know-how, he expresses the artistic and architectural values and expressions of his community in the field of construction (Cisse, 2016, 2).

In most African villages, it is possible to still find houses that reflect traditional African

architecture but the cities are full of emerging “foreign” architecture that is “inappropriate and ill-suited to the economic and bio-climatic context (Cisse, 2016, 2). Some foreign architectural buildings are “inappropriate,” not because of the building designs but because of their geographical locations. Thus, the ambition to build houses that reflect foreign architectural designs divides people along social classes. On the one hand, this is evident in the noncompliance with specifications on whether to build a bungalow or upstairs. When a person builds upstairs where the development plan specifies that it should be a bungalow, this violates “dwellers' sense of belonging, privacy, enjoyment, self-worth and well-being” (Imrie, 2004, 422). On the other hand, defiance of regulatory laws of construction has motivated the enactment of laws for the demolition of “old buildings”, for instance, the destruction of part of the old Zaria city (Nsude, 1987, 36). In any case, those who go against the regulations of the development plan of a village/city/town forget that nonconformity goes against the “interest of public health and safety” (Imrie, 2004, 420).

African architecture is characterized by its objective to enhance architectural integrity and environmental quality, it is also imbued to promote adherence to green architectural principles of energy efficiency and utilization of local materials (Okoye and Ukanwa, 2019, 85). In their quest to know how African architecture is relived by urban dwellers Onuorah, Agbonome, and Obiadi (2023, 100) note that the goal of African architecture includes “maintaining cultural aspirations and ensuring housing pleasure in a harmoniously built environment”. The goals that guide construction in Africa are seen in the use of the same material to build a house irrespective of the design. This does not create class division but reinforces unity. From this point of view, traditional forms of construction among the Igbo people of Nigeria could either be circular and oval or square and rectangular. While the circular shape of the building reflects the ideal of social success and achievement, and the oval reflects the continuity of tradition, the square and rectangular shape of buildings indicate that there could be the possibility of future expansion (Okoye and Ukanwa, 2019, 85; Nsude, 1987, 74). Whatever meaning one chooses to give to the term “expansion”, it does not discriminate nor differentiate. This point of view gives one possibility to talk about traditional African architecture and modern/contemporary African architecture.

Traditional African architecture is represented in the practice of harmonizing inhabited space and landscape planning which continues among the Dogon people. They use techniques for interweaving the cultural and natural elements that make up their environment. They take advantage of what they find in nature (landscape, materials, etc.) to conceive and develop their socio-cultural realities as well as their religious beliefs and precepts (Cisse, 2016, 4). This tradition hopes that the materials in its immediate environment which have resisted harsh weather or climatic conditions could protect human beings and provide the latter with conducive habitat. In opposition to the disposition to use available resources in one's environment, the studies of Nsude (1987, 57) revealed that the Igbo people generally do not use stones for building, even when they are readily accessible. His research made it clear that this could be either due to a lack of traditional building mortar that is highly cohesive or a preference for mud houses in local conditions. In this regard, the capacity to explore, discover, and use available natural resources is being tested. In the same perspective, many cultures in Africa believe that human beings “have been charged to take care so that the initial energy put by God in nature grows according to the plan that He judiciously pre-established for him” (Buakasa, 1988, 33).

Conversely, modern/contemporary African architecture may consist of the use of local materials to realize modern structures. It is the application of ancient and modern techniques that are economical to maintain in construction. This could alter the social organization of life and modify

the values related to fraternity and communal life. Meanwhile, the idea of modern and contemporary African architecture raises important questions: “What is contemporary architecture in African architecture? What are the integrating elements of good contemporary architecture? Is it a creative concept? Or is it modern architecture that integrates local cultural values by using locally available, sustainable, and economically viable materials while respecting the landscape context” (Cisse, 2016, 7). However, the complete alteration of modern African architecture does not express the African way of life, culture and tradition (Nsude, 1987, 41).

Furthermore, the finishing of the building is always done with materials that are symbolic of humanity such as mud/clay (*ajaoto/ejaotto*, in Igbo language) (Chukwu, 2015, 8). In the pre-colonial era, Africans mixed mud with dyes and used it as paint to decorate the inner part of the building. The finishing was equally achieved through the use of materials that were symbolic of African civilization such as wood (for the suspended floor, which is replaced in most places by the use of floor tiles), a mat made from raffia palm was used for doors and window but has been replaced with wooden or metal doors and windows. While I do not advocate the use of those materials for finishing today, I would like to enumerate some of the values inherent in their use in the time past: injurious chemicals were not used as paint to beautify the house, theft was minimal, the cost of the building was not much and it did not create imaginary or physical categorization of people. This means that maintaining indigenous architecture in the sense of “continuity by employing and improving the underlying architectural principles of many generations of the people” (Nsude, 1987, 40) is very important.

Finally, African architecture should revolve around the ideals that Africans cherish. As a symbol of pride, I propose that government houses in the major cities in Africa (and state capitals) should bear the characteristics of what is indigenous to her people. Modernism has caused a disconnection between human beings and their buildings, and this has a great impact on the style of life especially, “the violation of collective memory acquired over centuries (Nsude, 1987, 37). This does not mean that a foreign architectural plan is bad but my objective is to draw attention to the fact that the social significance of architecture in Africa and Nigeria in particular should be seen and this should be manifested in the ardent desire, wish, and disposition of everyone.

Conclusion

This research reveals that architectural designs have consistently prioritized the well-being of humans. This shows that the most important factor in determining the appropriateness of a building is the level of comfort it provides to those who inhabit it. Aesthetic considerations come second to this primary concern. This idea obliges the architect to look for a good angle to build to control the effects of the heat (due to the direction of the sun) or cold (due to the direction of the wind). Architects of different cultures and civilizations take note of the comfort of human beings who will use the building they constructed, whether it is a residential, office, Church, market, etc. They are aware that the sun moves and that it could be captured or avoided depending on whether one wants heat or to escape cold. They also understand that good control of the bio-climatic factors can add to the beauty of the house and make the inhabitants comfortable.

The difference in architectural designs and constructions in the Western world and Africa could be attributed to several factors – belief, conservation/modernization, historical experiences/needs, technology, weather conditions, etc. In any case, traditional African architecture envisaged communal life in the same way modern architecture is planning for a more cohesive society where provisions are made for the establishment of different sectors that will cater to the multiple needs of human beings. To achieve its purpose, authorities have provided development plans and building plans.

Notwithstanding the expansion in the areas of industrialization and modernization, recent development plans of modern cities always make recourse to traditional realities/culture and the necessity to safeguard the environment. This tendency to integrate what is cultural and traditional is well represented in what I exposed as modern/contemporary African architecture. There, I examined the difficulty of taking from what is exotic and also the measures to take. The management of natural resources for the comfort of human beings is at the heart of most architectural artwork. Given further research on the impact of architectural works in helping humanity to lead a fulfilled life, I would like to ask: what aspect of the natural environment should be taken into consideration? Owing to the enormous work of arrangement, ordering, and care of nature, the architect and those in charge of urban planning could envisage models of construction that do not destroy the forest for various purposes during the stages of building. This will contribute to a balanced ecosystem.

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