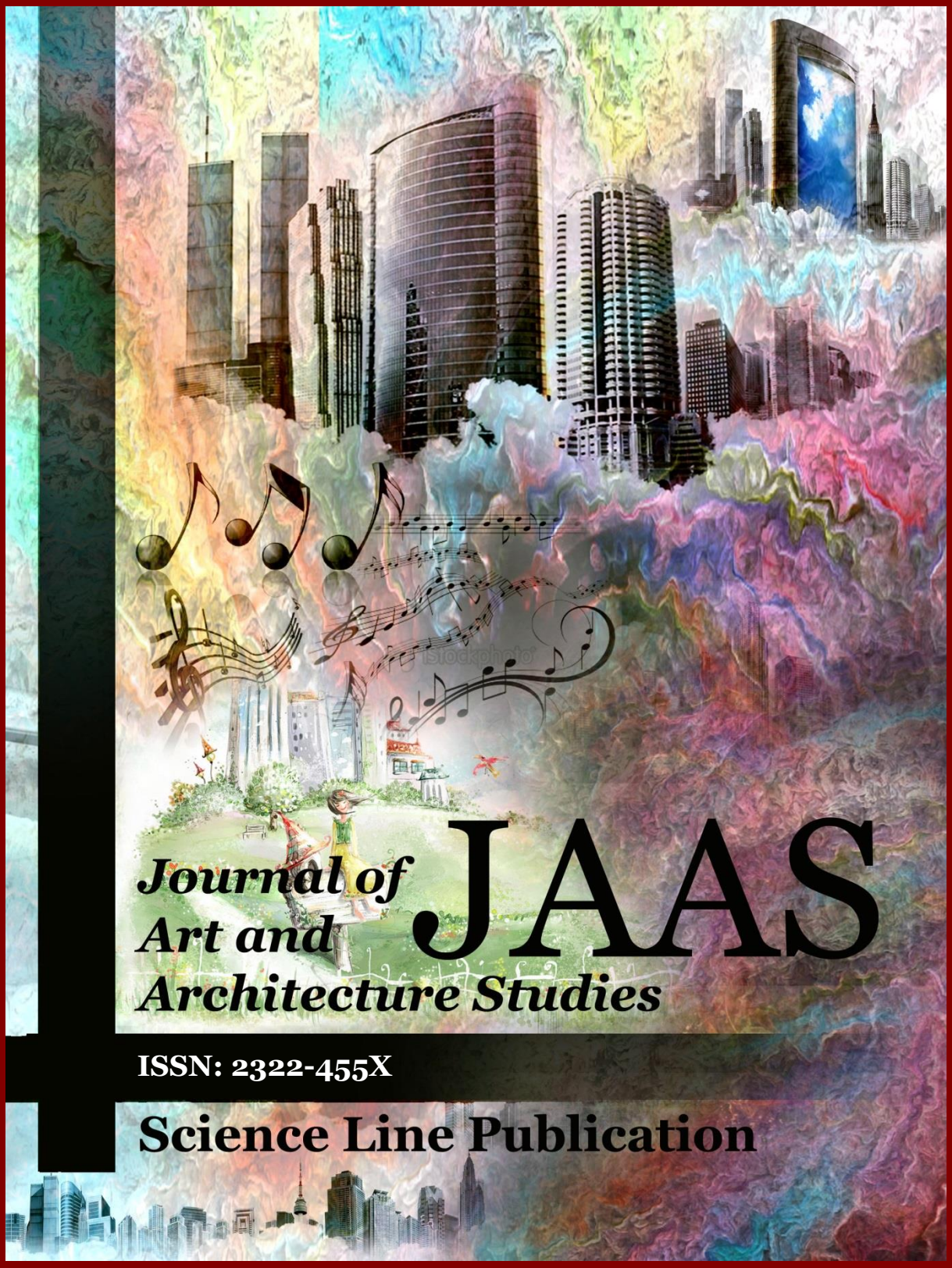
In the Name of God



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Research Paper

The role of modern building materials in reducing energy consumption and environmental pollution.

Ghaffarlu E and Ghaffarlu Sh.

J. Art Arch. Stud., 8(1): 01-06, 2019;
pii:S238315531900001-8

DOI: https://dx.doi.org/10.51148/jaas.2019.1

ABSTRACT
In today's life, human population growth is accompanied by an increase in fossil fuel consumption, which is a major source of conservation in nature. Energy conservation is one of the principles of sustainable architecture in which the architect is required to design the building in such a way as to meet the building's requirements Fossil fuels are minimized, but since the need for unconditional comfort and convenience has led to a growing need for energy in the domestic and industrial sectors, architects and designers of the building have taken it to meet this need and in parallel It considers the protection of the environment and fossil fuels. Today, human beings are pushing for better solutions and better solutions. For optimal use of energy, the use of intelligent building materials and materials in today's buildings is a timely response to changes that make the building more durable and enhances. It is possible that the discovery of intelligent materials is practical for architects to use this material, which is the most important advantage. They are encouraging the optimization and intelligent management of energy. The object of the study is to investigate the present research through objective observation. In fact, research has been conducted on the basis of a rational method and an analysis and description of the achievement of the research objectives. The method and method used are the research of the library method and the examination of written documents.

Keywords: Modern Materials, Smart Materials, Reducing Energy Consumption, Reducing Environmental Pollution

[Full text-PDF] [HTML] [ePub]

Research Paper

Indigenous forms and materials in Nigerian painting.

Abodunrin JA.

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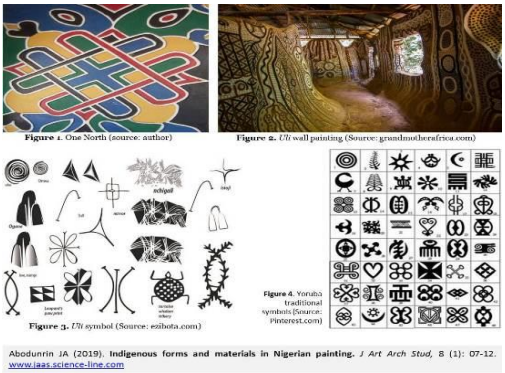

ABSTRACT
Paintings in Nigeria are characterized with various indigenous forms and materials which differentiate it from its counterpart all over the world. Over the years, there have been issues of identifying what makes Nigeria painting in form and content. However, this paper focuses on the highlight of the indigenous forms in Nigeria painting with a view of bringing into bear what constitutes pattern of forms from different geographical sphere of Nigeria. This paper observes the traditional symbols and elements that are found in indigenous Nigeria art forms that are used for the purposes of ethnic identification in Modern Nigeria painting. The study established that there is a wide range of regional artistic forms that are indigenous to Nigerian culture. In traditional paintings in Nigeria, all these regional forms are reflected in our works which the materials are locally sourced.

Keywords: Indigenous, Forms, Materials, Painting, Nigeria

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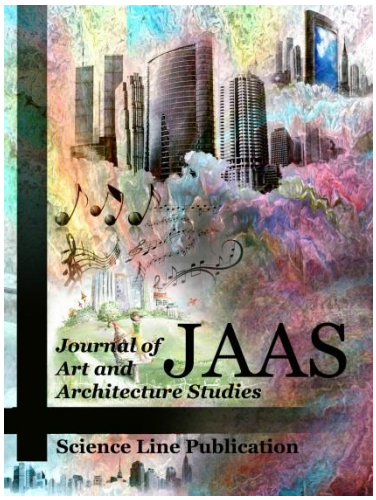

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THE ROLE OF MODERN BUILDING MATERIALS IN REDUCING ENERGY CONSUMPTION AND ENVIRONMENTAL POLLUTION

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Original Article

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ABSTRACT: In today's life, human population growth is accompanied by an increase in fossil fuel consumption, which is a major source of conservation in nature. Energy conservation is one of the principles of sustainable architecture in which the architect is required to design the building in such a way as to meet the building's requirements Fossil fuels are minimized, but since the need for unconditional comfort and convenience has led to a growing need for energy in the domestic and industrial sectors, architects and designers of the building have taken it to meet this need and in parallel It considers the protection of the environment and fossil fuels. Today, human beings are pushing for better solutions and better solutions. For optimal use of energy, the use of intelligent building materials and materials in today's buildings is a timely response to changes that make the building more durable and enhances. It is possible that the discovery of intelligent materials is practical for architects to use this material, which is the most important advantage. They are encouraging the optimization and intelligent management of energy. The object of the study is to investigate the present research through objective observation. In fact, research has been conducted on the basis of a rational method and an analysis and description of the achievement of the research objectives. The method and method used are the research of the library method and the examination of written documents.

KEYWORDS: Modern Materials, Smart Materials, Reducing Energy Consumption, Reducing Environmental Pollution

INTRODUCTION

Given the increasing population growth in recent years, the necessity of removing housing construction from the traditional way, and the use of modern materials and methods of industrialization has become more evident. One of the most important parameters affecting the increase of productivity in the building industry is the possibility of using modern materials and new methods of construction in different geographic conditions in terms of technical facilities in that area [1]. Materials used in buildings have a significant role to play in building the right architecture based on sustainable architecture and environmental protection [2]. Considering the reduction of energy reserves in the current situation, the use of modern and intelligent materials that are effective in reducing energy in buildings is one of the essential measures in the field of construction [3, 4]. In fact, the selection of modern and appropriate materials and equipment will reduce energy consumption and further health It contributes to the environment. Because of this, the materials reduce the amount of fuel consumed in buildings, reduce emissions of air and greenhouse gases, and cause less damage to the environment and energy and resources [5-8]. At present, the problem design and the necessity of the research have been addressed and then the goals and method of research is used.

The main objectives of this research is focusing architects and designers on the use of modern materials in order to reduce energy consumption and reduce environmental pollution in the design and implementation of the building, it is clear that replacing modern materials rather than traditional materials will be a major step towards reducing environmental pollution. In this research, analytical-descriptive method has been used. The method and tool used in the research are library method and review of written documents. Modern building materials

METHODOLOGY

Problem statement and research necessity

In human life today, population growth is associated with an increase in the consumption of fossil fuels, which is a major source of conservation in nature [9]. Energy conservation is one of the

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principles of sustainable architecture in which the architect is required It should be designed in such a way that the building's requirements for fossil fuels are minimized [2]. Nowadays, with the traditional materials often used in buildings, it does not meet the economic conditions and the density of building of modern cities, and the contradictions created by the impact Negative in terms of energy efficiency, it brings about a long time It is necessary, with the advent of modern materials that meet the economic and congestion of cities, to deal with energy losses in buildings and reduce the pollution caused by it for the environment.

RESULTS AND DISCUSSION

Accoya

Accoya wood is the result of research and studies over 80 years old. As a result of the combination of acetic processing and the implementation of the exclusive technology of cutting edges, the high quality wood produced by the brand Accoya is extremely suitable for outdoor applications. One of the uses of Accoya as a hinge on the structure is different buildings and buildings. This unique wood is used in outdoor applications and even in water. The wood treated with stelazing technology (Accoya wood) is one of the few woods that will last long years into the water without any worries. Due to the waterproof nature of the Accoya wood, this product has many applications such as window-to-door, deck-to-facade and bridges.

Extensive research and experiments on Accoya wood have shown that this unique wood will not bring any harm to the environment and will have a great contribution to the conservation of the environment. The use of Accoya in the woodwork has a significant impact on environmental preservation. Due to its endurance and durability, Accoya wood is also replaceable with non-resistant wood.

Accoya wood feature

Accoya wood uses much less energy in its production and use compared to other building materials such as cement, glass and aluminum, Compared to other materials such as aluminum, PVC and tropical hardwood (tropical hardwood from unstable forests supply). The Accoya leaves emit less greenhouse gas emissions. Accoya wood is more durable compared to wood such as Spruce and Red Meranti tropical hardwood, which are used as construction materials. The price of Accoya wood is more economical due to its unique features compared to the wood.

Figure 1. Accoya wood

EQUITONE

It is made of cement fibers and is used in the facade of the building. Cement fiber is made of cellulose and mineral materials reinforced by a matrix, which has a smooth and opaque fog. The EQUITONE Moda is manufactured at a maximum panel of 125 by 310 cm and can be used comfortably in any shape or dimension and in modular form. EQUITONE cement fibers have eating, perforating, and eating ability. Fixing methods include rivets, screws, glue and invisible fittings on wooden or metal frames. Creative architects and designers use EQUITONE cement fibers in interior design. EQUITONE has a wide range of color spectra, which is also suitable for interior design projects.

Performance and reliability

EQUITONE cement fibers are non-flammable and have a shelf life of over 50 years (Figure 2).

The Rainscreen views made with EQUITONE are thinner and lightweight, yet highly durable, which reduces energy and raw material consumption.

Figure 2: Cement fibers

Wall panel sandwich

It is a kind of building material that has two layers of electrostatic, scratch-resistant, different thicknesses and desired lengths in the interior and exterior facades, which are used with a grooved monolithic and slit-free design, and the sliding edges during installation make it more beautiful and more robust. The wall is injected between them and used to cover the wall is called wall panel sandwich.

Advantages of wall panel sandwich

Moisture and cryogenic insulation, soundproof and resistant to moisture, cold weather moisture, heat, moisture, weatherproof, rust, chemicals, vermin, colour variety, washable, hygienic, lightweight sandwich panel and ultimately weight loss, The speed of implementation and reducing the cost of prolonged projects, earthquake resistance, increasing the life of the building and facilities, and the ability to move and rebuild it from the sandwich panel wall panel.

Wallboard sandwich

To cover the walls of the cellars, sport niches, prefabricated pre-fabricated suites, villa buildings, sports halls and sports grounds, laboratory rooms and food industries.

Composite aluminium panel

Covering the building with large aluminum or aluminum panels of 4 mm thick thickness, consisting of two layers of aluminum sheet, and their inner core made of polyethylene or anti-fire minerals and a coating of PVDF resin (Aluminum composite Panels) is read.

Advantages of aluminium composite panel system

The beauty and luminance of the aluminium facade, easy maintenance, sound and sound isolation, ultra-infinite color variations, superb stability and long life in a variety of atmospheric conditions, the ability to select and execute very complex levels in the arc, the possibility of All types of machining, bending, roof piercing, quick and precise installation, excellent strength against earthquake, resistant to vibrations caused by the wind and its unwanted sounds, complete setup during installation and even after End of installation, minimum use of iron and non-contact aluminium and iron in the facade Thermal shock resistant, super sky and lower cost than traditional materials used in steel building structures.

Table 1. Comparison of the heat transfer coefficient of the sandwich panel with concrete, brick and fiberglass

	Wall Panel Sandwich								Concrete	Bricks	Fiberglass
Thickness (mm)	35	40	50	60	80	100	150	200	40	40	40
heat transfer (K/m2k)	0.51	0.45	0.36	0.30	0.22	0.18	0.12	0.09	16.25	14.8	0.88

Shapeshel

The advanced Shapeshel composite is nowadays widely used and increasingly used by architects (Figure 3). Take their imaginative projects. This unique material is used in the building's exterior as an external veneer panel, and can be used in commercial buildings as a focal point for creating a sense of inviting. Shapeshell is made with 3D CNC and is lightweight. It is resistant to chemical shock and chemical, and it is non-conductive. Another advantage of this material is its anti-flammability certificate in construction facades and full color rendering of this material.

Figure 3: Shape shell composite

Vacuum insulated panel

By making it possible to create more thin insulating layers than ordinary insulators, they are very suitable for construction applications and reduce the insulation thickness and consequently the thickness of the walls. Compared to traditional insulation materials (polystyrene), the thermal conductivity of these panels is more than ten times lower, which means that with the help of these materials, with the same thickness as traditional insulators, more heat resistance can be created. Brought up In other words, we need a thin layer of insulation to achieve the same thermal resistance

Therefore, new insulators have made it possible to achieve the highest thermal resistance with the thinnest insulating layer possible. The thermal transfer of vips is negligible and only about 4.0-5.0.

The shelf life of the VIP insulation panels is between 20 to 38 years old and in other cases average for 30 to 50 years, which few factors such as panel shell integrity, the amount of vacuum created, seamless quality, and installation affect it.

Smart glass (Figure 4)

Thermochemical glass. Using thermo-chemical coatings, you can create a smart glass that prevents heat from blocking light. The ability to cover to change the state between the absorption and reflection of light means using the benefits of solar heating in winter conditions and reflection at higher temperatures and preventing the fading of space. Meanwhile, in both cases, the illuminant light is ideal for lighting the space.

Electrochemical (EC) glass. In this system (EC), the glass unit is replaced by transparent films of thickness from 200 to 300 nm with varying colour intensities in the visible spectrum from clear to dark blue. The glass unit is connected to the power supply for varying the degree of transparency due to the different amounts of heat transfer. After the flow stops, the optical mode is maintained and there is no need for continuous current. When the glass darkens used, the thermal radiation decreases and therefore most of the radiation passes through the infrared spectrum.

Cellulose coating structure

This type of coating consists of synthetic fibers, cellulose, construction resins, mineral contaminants, resistant pigments, lubricants and other additives that are used in the form of dough and with the use of flexic acid trowels on the surface. This coating has many properties and can in fact be called the best and most beautiful alternative to paint and wall paper. These types of products are commonly referred to as Belek.

Cellulose coating properties

It is able to be applied to plaster and mortar in order to cover the underlying defects, moisture and

refrigeration, the high degree of colour variation, environmental comfort, washing ability, lack of smell and sensitivity, non-cracking, resistance to weathering, anti-static properties, applicability On all types of sub-work, high speed performance, fast and easy repair, fire-retardant, reduced reflection of light, lifespan of high-volume sound (textured surface). Cellulose coating properties is a very good insulating layer for reducing noise disturbance and preventing reflection of sound waves. It is remarkably (30% to 50%), which means the environment is acoustic. Lightweight (the weight of this coating is 400-700 gr/m), which is much lighter than gypsum weight and colour per square meter (17kg to 25kg), which reduces the weight of our stomach.

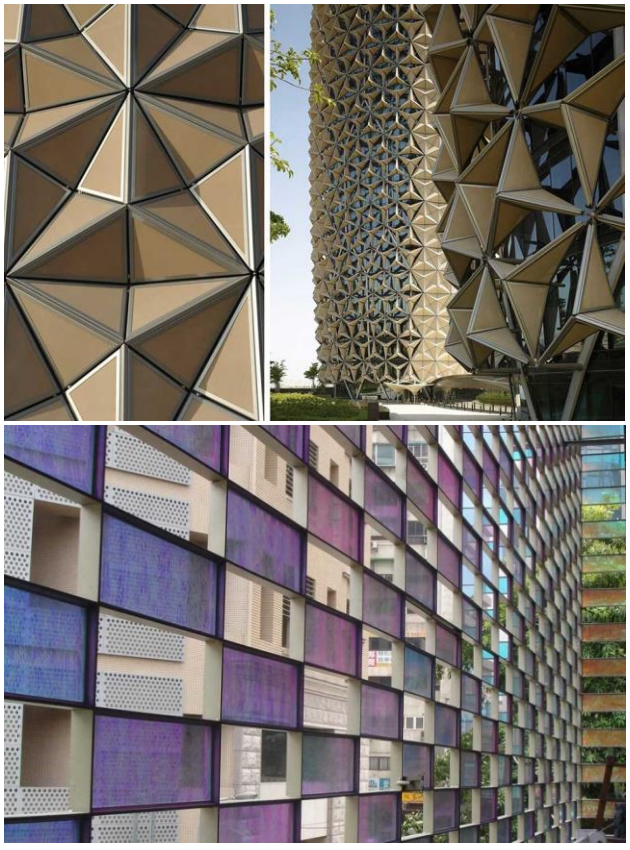

Figure 4: An example of the use of smart glasses

CONCLUSION

Research on new materials places new horizons in the process of designing and architectural design. Intelligence, and in particular the use of intelligent materials that react to environmental issues, saves, facilitates repair and maintenance of buildings, extends the useful life of more buildings and more innovative architectural designs [2]. The design of a flexible approach to sustainable development is important so that the adaptation of the building to the changing conditions of the users is consistent with the least cost and time with the new conditions and is responsive to a wider range of different needs of the residents. By the supply of intelligent materials, capabilities and lighting facilities will be provided to engineers and designers. The intelligent element, due to the type of application and strength, can contribute to the design and construction of buildings. The use of these materials increases the life of the building from 50 to 100 years and saves the cost of maintenance, which is far more expensive than construction. And the use of this material can reduce the negative environmental impacts and bring society closer to sustainable sustainability criteria.

Competing interests

The author declares that they have no competing interests.

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INDIGENOUS FORMS AND MATERIALS IN NIGERIAN PAINTING

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Original Article

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ABSTRACT: Paintings in Nigeria are characterized with various indigenous forms and materials which differentiate it from its counterpart all over the world. Over the years, there have been issues of identifying what makes Nigeria painting in form and content. However, this paper focuses on the highlight of the indigenous forms in Nigeria painting with a view of bringing into bear what constitutes pattern of forms from different geographical sphere of Nigeria. This paper observes the traditional symbols and elements that are found in indigenous Nigeria art forms that are used for the purposes of ethnic identification in Modern Nigeria painting. The study established that there is a wide range of regional artistic forms that are indigenous to Nigerian culture. In traditional paintings in Nigeria, all these regional forms are reflected in our works which the materials are locally sourced.

KEYWORDS: Indigenous, Forms, Materials, Painting, Nigeria

INTRODUCTION

Nigeria is known all over for her artistic heritage. People's culture is expressed through various art forms. Some of Nigeria indigenous arts and craft are: weaving, pottery, calabash decoration, dyeing, leather work, carving, basketry, wall and body painting. Painting during the pre-colonial period was a very unique tradition and cultural practice among the various Nigerian ethnic groups. However, indigenous forms are those features that are originating or occurring within Nigeria geographical space. Nigeria has an artistic tradition that dates back thousands of years; while much of the country's early art had a religious or spiritual significance, many of the traditional arts and crafts evolved over time to include practical and decorative items while many of the local arts and crafts are regional. Indigenous artists have adapted new techniques and materials in parallel with earlier traditional materials and techniques. Indigenous art continues to be a living and growing concern through which indigenous peoples express their beliefs, celebrate their tradition and look to the future [1].

Among the major culture in Nigeria, Yoruba, Hausa, Fulani, Kanuri and Igbo culture, body painting is the most conspicuous forms of indigenous painting that is noticeable and found among women during ceremonial occasions like wedding and religious festivities [2]. Body painting is a style of painting that is as old as tradition of the culture of the Nigerian people. It has different names to different Nigerian groups. It is known in Hausa, Fulani and Yoruba as the *laili* and Igbo as *uli*. The materials are usually plant/flower or bark extract of trees which is mixed with some other ingredients like lemon and cloves used to beautify the skin and fingers in artistically wrought patterns, this form of painting is ephemeral in nature and it is done on women during marriage ceremony. In addition, Campbell [3] observes that shrine painting is also an observable feature of painting practice in Yoruba religious activities. Shrine paintings generally unlike the plastic arts of the Yoruba are treated as one of a lesser art. The neglect of painting in the traditional studies could be attributed to gender-centric considerations as it is practiced almost exclusively by women in ephemeral and less permanent nature [3, 4]. The assertion is buttressed by Udechukwu [5] that there are several art forms which because of their transient and perishable nature have received less study. The surface used for this kind of painting is the wall, which gives an elaborate expression on the symbols and meaning of religious images as exemplified in the culture beliefs of the tradition of the people. Also, artists are now using commercially manufactured paints, rather than paints made from local, natural materials. However, they continue to paint the innermost areas of shrines with indigenous paint materials, paralleling the use of plain handwoven cloths (known as *jepe*) underneath

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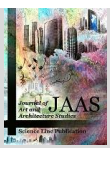

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successive layers of richly embellished machine-woven cloth panels of Oyo Yoruba masquerades.

Nigeria is a country that parades various architectural building with different forms and embellishment that are peculiar to our indigenous forms [6]. For example, architecture in the northern part of Nigeria is decorated with various symbols such as the northern knot. The Northern knot is another symbolic form found in the Northern part of Nigeria architecture which suggests an emotive symbol of Northern Nigerian power and political identity that was adopted by the region (Figure 1). The symbol was adopted in the 1950s when Nigerian elites were preparing for political independence from Britain. This symbol represents the unity in diversity which encapsulated in the One North philosophy that was used to fight for representation and privileges of Northern Nigeria. This symbol has become unique in arts and crafts objects as an entity for geographical identification of the region. Also, some of the wall paintings and etchings are Quranic verses with an artistic, calligraphic slant. The verses capture the imagination and to elicit aesthetic appreciation, but this is not an end in itself. This symbolic design has been incorporated into various artistic formations in the northern part of Nigeria ranging from architecture, textile, crafts and modern painting.

Figure 1. One North (source: author)

Among other things, this paper focuses on the highlight of the indigenous forms in Nigeria painting with a view of bringing into bear what constitutes pattern of forms from different geographical sphere of Nigeria. This paper observes the traditional symbols and elements that are found in indigenous Nigeria art forms that are used for the purposes of ethnic identification in Modern Nigeria painting. Also, the paper established the content of inculcating and adaptation of cultural elements, of theme, motif, patterns and folklores in the various regional paintings. Most of the scholarly works on this subject are directly on ethnic traditions, contemporary Nigerian art and the issue of regional identification of traditional motifs and values, but not on the overview of indigenous forms of painting in Nigeria as a whole.

For example, Okeke [7] traces *Uli* forms as lgbo penchant to beautify the body and most importantly as a tribute paid to a deity within the context of annual festivals of rededication and thanksgiving centered on the said deity. Okediji [8] described the iconography forms of Yoruba shrine painting as anthromorphic and Zoomorphic which are merely decorative, but are communicative symbols of the people's culture. Ottenberg [9] in his own case, attributed lgbo art forms into human sociability which commonly appeared on the faces, arms, legs and body of females, from girls to senior women and occasionally on the males, as well as the presence of *Uli* murals on houses and compound walls of lgbo living areas. Abokede [10] focuses on shrine painting in the upper Oke-Ogun area of Oyo State. His work concentrated on function, history and form of painting found in egungun shrine in upper Oke-Ogun area with no attention to the focus of this paper. Akinwumi [11] observed the state of Nigerian traditional linear art with particular reference from those found on Fulani body art and gourd art, cloth decoration of the Jukun, body and wall painting in the Edo town of Lueleha, Ibibio body painting and scarification, Igbo, *Uli* and *ichi* marks; *nsibidi* script of Cross River culture area and Yoruba shrine wall paintings. Campbell [4] covers several aspects of shrine paintings, which include the art historical documentation of the work, the classification and meaning of colour in Yoruba cosmology, the materials used in the production of shrine paintings. Smith [12] attempted to provide a comprehensive overview of *Uli* body and mural painting, and how it represents the synthesis of Igbo culture. In addition, the study explores the metamorphosis of *Uli* art, specifically how it has evolved the skilful of contemporary Igbo artists, both male and female. However, as rich as these scholarly works are, none has focused directly on the indigenous forms in Nigeria as products of image representation in modern painting, the gap which this study filled.

RESULTS AND DISCUSSION

Indigenous Symbols in Nigeria Painting

Generally, the forms of Nigeria indigenous painting are part of our history and have served specific purposes in the era of its creation. Such purposes may have been for either traditional or religious activities which defines the culture of such a tribe within Nigeria geography. For instance, the Igbos made bronze ceremonial vessels a part of their cultural heritage while the Yorubas have been known for their poetic and artistic history. They specialized in making sculptures which often represented a deity of some sort. The Hausa-Fulani art is somewhat associated with their daily way of living; such routines as farming and animal rearing. It is however mostly influenced by their religious beliefs and spirituality. In traditional paintings in Nigeria, all these regional forms are reflected in our works which the materials are locally sourced. The materials ranging from raw materials from plants and earth colours are used to depict various cultural themes of painting.

Indigenous forms are characterized with traditional subject, styles and techniques usable within Nigeria space. Nigeria is the populous African nation with several ethic groups which all vary in their socio-cultural affinities. Nigeria art forms from the time immemorial also different in the use of subject, style and material techniques. Indigenous artists in this context are the traditional artists whose their practices have taken into concentration their locality without western interference.

Traditional subject matter in artistic presentation described the focus and the intention of an artist. The physical content that is visually represented in a painting is the subject. The subject in painting could be in form of landscape, still-life, portraits, mural decoration, figural and non-figural composition. The subjects of representation in traditional or indigenous painting are human figures which embodied the vivid image of the Nigerian way of life combined with the magnificent history of the past. One of the major aspects of the subject lies in the fact that they draw their inspiration from the traditional folk heritage of the region. It also includes pictorial symbols such as mysterious animals, deities, gods, goddesses, ancestral deities and spirits. The indigenous painters drew objects, rendering their units rich and multicoloured dominated basically with primary colour in their composition. The paintings produced during this period were derived from traditional Yoruba mythology, deities, as well as, individual fantasies [13].

Artistic style is therefore the product of constant, recurring or coherent visual or conceptual traits. In painting, for example, a style might include characteristic of materials, brush strokes, colour combinations, subject matter, and technique of representation among several other reasons. Style may be associated with an entire culture within a particular time and place with a particular group of artists, with an individual artist and with a particular institution or school over a period of time [14]. Some artists develop a style and stick to it; while others have several styles, either simultaneously or sequentially. The style used by indigenous artists is between abstraction and naturalistic painting. The subjects are often decreasing of the size of objects proportionally with distance, muting of colour and decrease of the precision details. It often characterized by a childlike simplicity in its subject matter and techniques. They explored the world of Yoruba folklore expressions on dreams, nightmares and weird pictorial elements which are difficult to understand because of their surrealistic tendencies. They made use of bright colours, stylized and disjointed figures, as well as unconventional materials. The forms are original, spontaneous and naively created with utter disregard for the depth, space or any expected relationship of motif themes are most times derived from folktales, myths and religious stories. Among the traditional artists among the Yoruba, who have made significant impacts are Twins Seven Seven, Muriana Oyelami, Adebisi Fabunmi, Nike Okundaye, Jimoh Buraimoh.

Uli is the name given to the traditional designs drawn by the Igbo people of Nigeria. It is an art tradition in which simplified linear rendering of form is balanced by an immense understanding of the qualities of both positive and negative space [15]. *Uli* is an Igbo female body and wall painting tradition from southeastern Nigeria that is based on sinuous abstract forms derived from nature (Figure 2). The *Uli* rich art tradition has become the signature tune for identifying the Nsukka School of art. The calligraphic nature of Uli art (body painting/ decoration) influenced the products work (Figure 3). The philosophy of application of *Uli* art form as espoused by Uche Okeke and later supported by Chuka Amefuna, Chike Aniakor and El-Anasui was to intensify the search for Igbo-identity, thereby using the *Uli* linear forms to depict radical socio-political and cultural subject matters.

In the traditional culture of the Igbo, *Uli* art according to Wills [16] was an art of the women folk. The motifs and symbols or patterns employed in *Uli*

body and wall decoration were derived from different aspects of the people environment and world view. Some *Uli* were abstract with zigzag patterns and concentric circles, while others stood for house hold objects such as bowls, stools, pots, farm tools etc. Many represented animals and birds such as python, lizard, leopard, alligator, lion, monkey, eagle, owl, and kite, etc. or celestial bodies, the crescent moon and star [9]. It is pertinent to note that traditional *Uli* was employed in many social functions, such as title taking, marriages, memorial services for the dead, harvest rites and ritual performances. This perharps is the reason why Ottenberg [9] says that *Uli* designs which commonly appeared on the faces, arms, legs and body of females, from girls to senior women and occasionally on the males, as well as the presence of *Uli* murals on houses and compound walls of Igbo living areas suggest human sociability.

Figure 2. *Uli* wall painting (Source: grandmotherafrica.com)

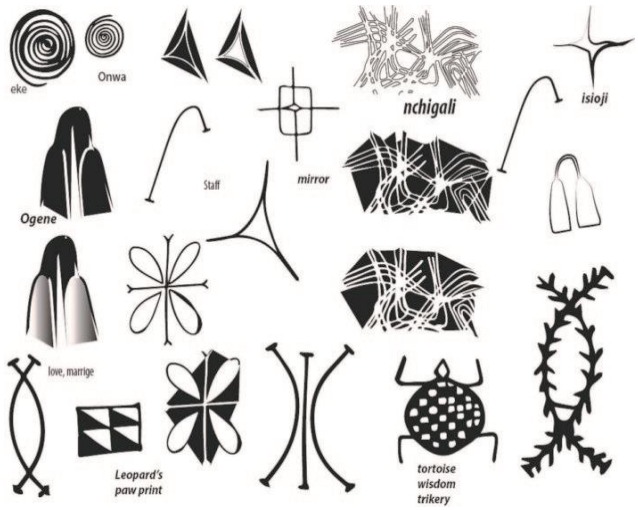

Figure 3. *Uli* symbol (Source: ezibota.com)

On the other hand, *Ona* has also played a great role in the works of some of the Yoruba artists (Figure 4). *Ona* is a Yoruba word that has a wide application. *Ona* refers to decoration, pattern, ornament, embellishment, design composition, form, plan and motif. Okediji [17] explains the use of *Ona* for embellishment of traditional sculpture in wood. Such examples are found on decorations on *Opon Ifa* (Ifa Divination tray) *Osa Sango* (Sango Axe) *Opo* (House posts) doors and window carvings. *Ona* is also noticeable in traditional Yoruba pottery. The Yoruba, generally, like adornment for their body. The sources by which traditional Yoruba artists derived the *Ona* motifs or pattern are from nature, animals, birds, man-made objects, insects, plants and dreams (Figure 4). The ONA group of artists which crystallise in Lle-Ife in 1989 are united by their aim to incorporate traditional Yoruba decorative motifs in an art of social comment. Members of the ONA group have conducted research into digenous painting and experimented with materials ranging from clay and calabashes to plastic chippings and plastic sheets. The ONA artists are predominantly Yoruba and include Don Akatakpo, Bolaji Campbell, Kindle Filani, Tunde Nasiu, Moo Ogundipe, Tayo Ojomo, Mayo Okedij, Idowu Otun and Tola Wewe [18].

Figure 4. Yoruba traditional symbols (Source: Pinterest.com)

Most of these symbolic forms or icons are reflected and adapted into indigenous painting in Nigeria. However, the study is descriptive examination of the indigenous forms and materials in Nigeria painting by Nigerian artists and it

unravels what constitutes indigenous forms in Nigeria and how it has been used to achieve indigenous painting that translates into modern styles and techniques.

Artists and indigenous painting in Nigeria

Artists like their counterparts in different parts of Africa have drawn some of their inspirations from indigenous forms and in so doing have contributed to the creation of an amalgamated national identity, but also continue to give art tradition a life line. The creative and visual talents noticed among many Nigerian artists no doubt is an indication that they have responded to the dynamics of change and continuity. However, indigenous artists are those that have identified themselves in terms of themes, materials, subject matter and techniques that are imbued in our tradition and culture. Most of them did not attend any form of formal education; they learn the trade through apprenticeship. These categories of artists do not believe in Western ideology in the use of forms for artistic practice.

Indigenous paintings are those that drew reference from Nigeria indigenous traditions as those found on Fulani body art and gourd art, cloth decoration of the *Jukun*, body and wall painting, Ibibio body painting and scarification, Igbo, *Uli* and *ichi* marks; *nsibidi* script of Cross River culture area and Yoruba shrine wall paintings. There are different Schools and ideologies that have developed different experiments and innovations towards Nigerian identity. Members of Osogbo School, founded by Ulli Beier in the earl 1960, have also explored Yoruba spirituality in several media. Leading Osogbo artists include the painter and musician Taiwo Olaniyi, popularly known as Twins Seven Seven, painter and writer Amos Tutuola; and sculptors such as Asiru Olatunde, Adebisi Akanji, Susanne Wenger [19].

Like other aspects of visual arts, themes and concepts which oftentimes associated with the origin and cultural heritage of respective artists have also developed gradually and significantly in modern Nigerian painting. They have become varied, rich and interesting. For instance, Ben Enwonwu painted dancers from various ethnic groups in Nigeria based on their mystic theme. In his paintings, he depicted Yoruba, Hausa, Fulani and Igbo themes, which were mostly geared towards a call for unity and peace in Nigeria [20]. Also, Uche Okeke and his contemporaries took painting to new horizons and experimented with new visual imageries that were derived from traditional African aesthetics from which they created paintings that adequately represented Nigeria, and of course, Africa at large through the use of indigenous elements and forms [21]. Artists from traditional periods until the present time have engaged themselves with beautiful landscapes and seascapes spiced with rich vegetation, alluring and exotic flowers, and cattle rearer, Fulani maids with their milk calabashes decorated and often balanced on their heads, market scenes and so on. Others are in the area of architecture (palaces of traditional rulers: Obas, Obis, Emirs, and Chiefs), festivals (like the Durbar, Eyo, Egungun and Arugungu) mother and child, fishermen as well as other interesting events within Nigeria cultural society [22]. In the early 60s in the North, some radical students changed their art styles fromcthst ancient traditions and even ignored the realistic approach being taught by expatriates to what could be termed the 'New African' concept. This concept was an admixture of traditions and modernism.

During this period till today, Aristotle created new sensations in their bid to speak in authentic African Odom's in the modern era. Many of these progenitors carried their ideologies to other formal schools or workshops to greater vibrant artistic revolutions. Other artists of the 70s such as Shina Yusef. Joshua Akande, Dele Jegede, David Dale, Nelson-Cole, Kolade Oshinowo and Gani Odutokun also followed the efforts of the latter, who essentially, being followed by the majority of the recent 'Zaria School' graduates are characterized by elongated of forms, with elegant Northern architecture and human figures. Their themes are usually humane and rendered in discernible images [23]. However the ULI, ONA and the NORTHERN SYMBOLS are charged with significant styles that if continued, could lead to an authentic, modern artistic culture from Nigeria. The adaptations of the indigenous forms in Nigeria could generate remarkable recognition worldwide. The forms are ingeniously employed to serve modern and universal artistic development.

CONCLUSION

It was established that there is a wide range of regional artistic forms that are indigenous to Nigerian culture. In traditional paintings in Nigeria, all these regional forms are reflected in our works which the materials are locally sourced. The materials ranging from raw materials from plants and earth colours are used to depict various cultural themes**.** The preponderance of traditional materials gave rise to stylization and modification of forms to

create themes, which are essentially imbued with naturalistic characteristic. The indigenous painting looks flattened, exaggerated and elongated in a mannerist tendency. The designs are also cubistic and when his subjects are viewed critically, such naturalistic elements are evident. The pattern/motifs are now applied on textiles and used in all sort of visual art such as painting. There are group of artists known as the *Ona* and Nsukka groups and few artists from the North which are known for reviving the art of indigenous forms in modern times and using art mediums of today like gouche, watercolour, acrylic and so on.

Competing interests

The author declares that they have no competing interests.

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(Revised on 26 February 2019)

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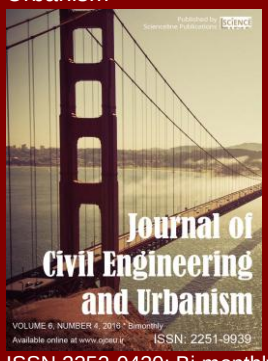

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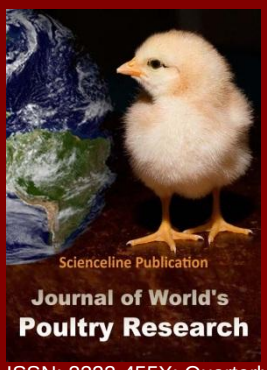

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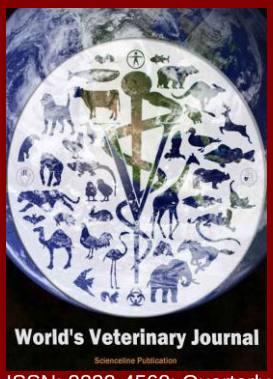

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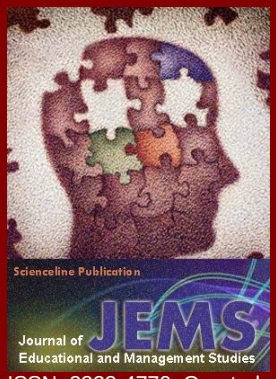

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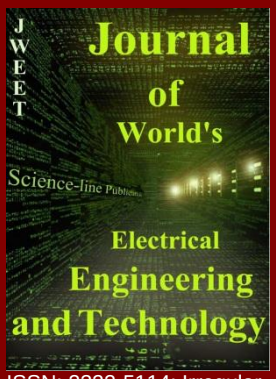

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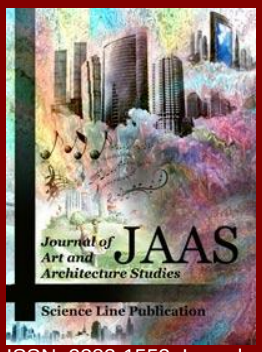

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