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RESPONSE OF TRADITIONAL ARCHITECTURE TO MODERNISM IN NIGERIA: A CHRONOLOGICAL EXPLORATION OF IGALA RESIDENTIAL ARCHITECTURE

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Abstract

This research presents a comprehensive exploration of the impact of modernism on Igala architecture, tracing its evolution from pre-colonial times to the contemporary era. Employing a chronological and narrative approach, the study utilized archival research, field surveys, and interviews with local professionals, indigenous elders, and environmental experts to investigate the transformative effects of modernism on Igala architecture. Although limited by unavailable population data and a vast geographical spread, historical records and engagement with the study area provide valuable insights into the interplay between modernism and Igala building practices. The arrival of European colonizers in the nineteenth century disrupted indigenous traditions, leading to a fusion of European architectural styles with traditional Igala residential designs. This research highlights the resilience of the Igala people in preserving their architectural heritage. It serves as a crucial resource for architects, historians, and cultural preservationists, emphasizing the importance of preserving indigenous architectural practices amidst rapid globalization.

Keywords: Igala. Igala Architecture. Traditional Architecture. Nigeria Architecture. Building Pattern. Colonization. Transformation. European Architecture.

INTRODUCTION

Throughout history, from the late Stone Age when humans first constructed houses using mud and grasses, architecture has served as a reflection of a society's culture, traditions, and values. As noted by Okoye and Ukanwa (2019), a people's architectural style is influenced by both physical and cultural factors that are unique to their community. This sentiment aligns with McLennen's earlier assertion in 2006 that architecture, as the most conspicuous physical manifestation of a society, draws inspiration from and adapts to the distinct characteristics of its surroundings. As a result, the architecture of a place becomes closely intertwined with its identity, giving rise to designations such as Chinese Architecture, American Architecture, early Egyptian Architecture, Greek Architecture, Roman Architecture, and many others.

Presently, architecture in Nigeria is characterized by a collection of foreign influences, designs, motifs, models, and materials that bear little or no connection to the country's rich cultural heritage. This aligns with the perspective shared by Okere (1996), which suggests that Africa, including Nigeria, is now a convergence of diverse cultural streams. On one side, there exists the traditional culture with its various aspects, such as religion, social structure, language, values, and worldview. On the other side, Western culture, which includes influences from Christianity and Islam, has also made its way into the country, contributing to the cultural amalgamation. Consequently, the authentic Nigerian identity faces a crisis, as indigenous

cultures and traditions are rapidly fading away. Umar et al. (2019) have observed a prevailing trend where there is a strong preference for foreign architectural styles, aesthetics, elevations, and materials. Unfortunately, this preference has resulted in the neglect and decline of the use of local building concepts, leading to the gradual disappearance of traditional architecture along with its associated values. In essence, the current architectural landscape in Nigeria largely reflects imported influences, and the desire for foreign aesthetics has overshadowed the appreciation and continuation of the nation's traditional architectural practices and cultural values. This situation poses a challenge to preserving Nigeria's unique identity and cultural heritage in the face of increasing globalization and the dominance of Western influences.

The Igala ethnic group, like many others in Nigeria, possesses a unique and culturally rich traditional architecture that has undergone significant changes due to external influences and modernization. The arrival of European colonizers during the 19th century had a profound impact on the Igala region's architectural landscape, introducing foreign influences and materials that reshaped traditional building practices. Consequently, the Igala people have experienced a gradual disconnect from their architectural identity as the distinct elements and characteristics that once defined their traditional architecture are gradually being eroded. Although some efforts have been made in the past to document the features and values of traditional architecture among major ethnic groups like the Hausa, Yoruba, and Igbo (Domowchosky, 1990), as well as smaller groups like the Efik (Mbina, 2013) and Benin (Ekhaese et al., 2015), there has been a lack of conscious endeavors to identify and document the specific traditional architectural features and values of the Igala people. Additionally, the changes that have occurred over time, especially from a chronological perspective, have not been thoroughly studied or recorded.

Similar to the traditional architecture of various ethnic groups across Africa, the Igala traditional architecture dates back thousands of years before the year 1800 and has experienced evolutionary transformations. However, the absence of a deliberate effort to comprehensively document its unique features and the impact of changes over time has left a gap in understanding and preserving the architectural heritage of the Igala people. According to Chukwuali's assertion (2005:17), ethnic groups that do not actively and consciously preserve their cultural and architectural identities are at risk of assimilation by more dominant cultures. In the case of the Igala people, their architectural identity is distinct and unique. However, without proper investigation, documentation, preservation, and integration into contemporary architecture, this identity could be at risk of disappearing. Therefore, this study aims to trace the historical transformation of Igala traditional building patterns influenced by modernization. By doing so, it seeks to uncover the complex relationship between modernism and architectural evolution.

Recognizing the transformative impact of modernization on Igala architecture is vital for safeguarding Nigeria's indigenous architectural heritage amidst the prevailing forces of globalization. The study's specific objectives are as follows: (i) to depict the transformation of traditional architecture in Nigeria, with an emphasis on the role of colonization; (ii) to describe the inherent features of pre-colonial Igala traditional building patterns; (iii) to explore the

chronological timeline of transformation in Igala traditional building pattern from pre-colonial to contemporary times; and (iv) to examine the hybridization in Igala architecture, investigating how local design elements interacted with foreign influences to create distinctive architectural forms.

LITERATURE REVIEW

The Study Area

The study area is Igala land in Kogi State, North Central Nigeria. Nigeria is a country in West Africa comprised of thirty-six (36) states with Abuja as her capital (Fig. 1). The home of the Igala people is situated east of the River Niger and Benue confluence and astride the Niger in Lokoja, Kogi State of Nigeria. The area is approximately between latitude 6°30 and 8°40 north and longitude 6°30 and 7°40 east and covers an area of about 13,665 square kilometers (Oguagha, 1981).

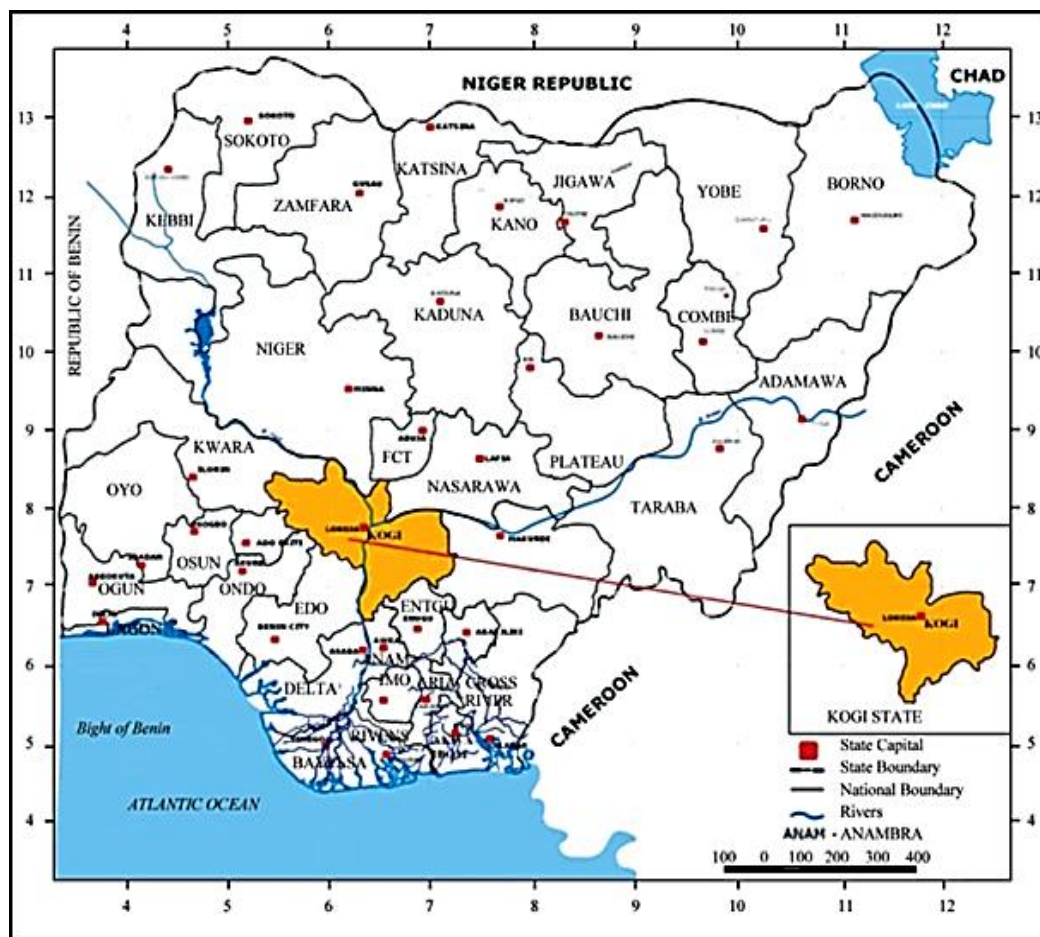


Figure 1: Map of Nigeria Showing Kogi State

Source: Kogi State Ministry of Land and Environment (2008)

The Igala people occupy nine Local Government Areas out of the twenty-one Local Government Areas of Kogi State. The Local Government Areas include; Ibadji, Idah, Igalamela-Odolu, Ofu, Dekina, Ankpa, Omala, Olamaboro and Bassa Local Government Areas (Fig. 2) (Egbunu, 2001). The Igala population is estimated at one million, five hundred thousand (1.5 million) according to the 2006 National Population Census, of which over 70% are subsistence farmers. The traditional Igala society is largely agrarian, although the people are also engaged in fishing and animal husbandry (Egbunu, 2001).

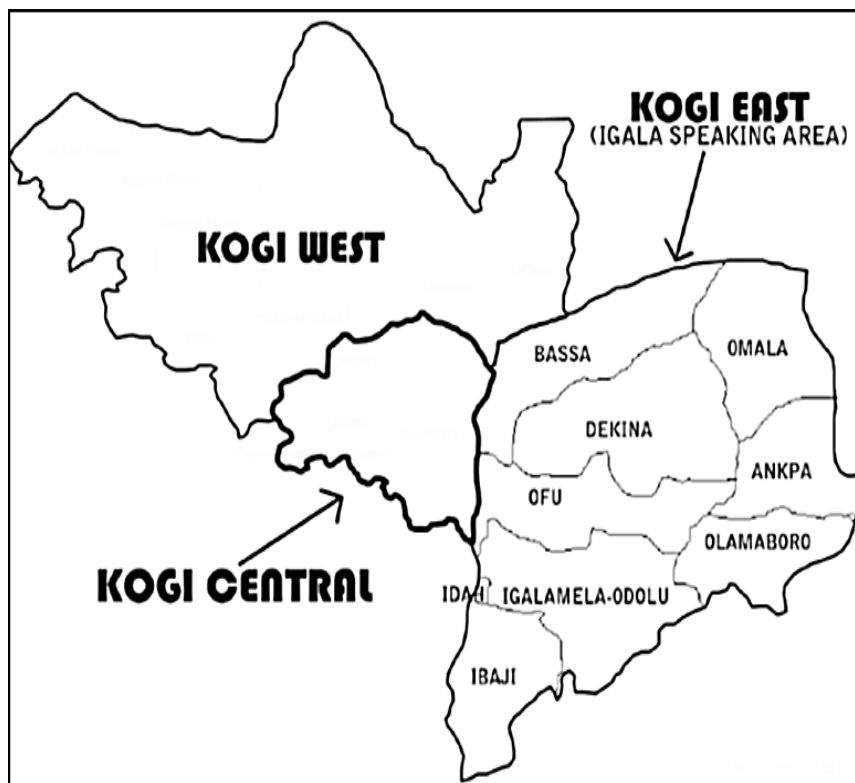


Figure 2: Map of Kogi State Showing the Local Government Areas Occupied by the Igala People

Source: Kogi State Ministry of Land and Environment (2008)

Transformation of Traditional Architecture in Nigeria

Several research studies have focused on investigating and documenting the transformations that have occurred in the traditional architecture of various ethnic groups in Nigeria, along with the driving forces behind these changes. For instance, Umar (2017) conducted a study on the Hausa traditional architecture, revealing how it has evolved in terms of geometric shapes, forms, planning concepts, building materials, and construction methods. The transformation was attributed to several factors, including socio-economic elements such as income, inheritance, western education, marriage, and the development of new building materials.

Likewise, Bert-Onkonkwo et al., (2017) conducted research on the Igbo traditional architecture and reported its transition from the traditional mud and thatch houses of olden days to modern houses constructed with bricks, blocks, cement, and concrete. They highlighted the significant influence of environmental and social factors during the colonial and post-colonial periods, which contributed to the transformation. Notably, the impact of Western architectural designs during colonial times played a dominant role in shaping the changes in traditional Igbo architecture. However, Chukwu (2015) observed that despite the intrusion of Western building designs in Igbo land, traditional Igbo architecture is still prevalent in many communities, particularly for specific groups of people. This is due to its adaptability and suitability to the local environmental conditions, its cost-effectiveness, and the easy availability of construction materials.

Jolaoso et al., (2019) conducted an assessment of the disappearing features of Yoruba traditional residential architecture in the 21st century. Their findings indicated that Yoruba traditional architecture has undergone significant changes in terms of spatial organization for domestic affairs, crafts, ceremonies, and entertainment. Additionally, they observed a diminishing of the traditional cultural character in Yoruba residential buildings. Despite these transformations affecting layout-planning, building designs, and the use of local materials, one enduring feature has been the courtyard element in Yoruba traditional architecture, which has persisted through the various phases of change. Various factors have contributed to the transformation in Yoruba traditional domestic architecture. These factors include socio-cultural infiltration, acculturation, formal development control, the nature of existing buildings, the practice of self-help housing approaches, increasing economic interests in rental income, a preference for foreign tastes/materials, and the adoption of new technologies.

Similarly, Ekhaese et al. (2015) highlighted the transformation process of Benin domestic architecture, which goes beyond mere changes in spatial arrangement. They emphasized that interactions between spaces and their activities within the domestic environment play a crucial role in defining new spaces. Factors such as climate change, technological advancements, socio-economic conditions, and socio-political characteristics of the people have been identified as key drivers of this transformation.

Colonial Influence on the Transformation of Architecture in Nigeria

As described by Tofa (2011), contemporary Nigerian architecture is characterized by post-modern buildings that emerged in the 1990s, as well as a burgeoning design concept influenced by new building materials mainly imported from China and Europe. The arrival of Europeans in Nigeria and the subsequent colonization of the country brought about significant changes, with foreign influences playing a vital role in shaping the architectural landscape. Various European activities contributed to the transformation of traditional architecture in Nigeria, and these factors have been highlighted in numerous studies. They include the slave trade, policies implemented by the colonial administration, the introduction of foreign building designs and construction materials, and the spread of Western religion and culture. European influence also led to the emergence of a new class of elite professionals, businessmen, and politicians in the country.

While the northern part of Nigeria experienced slower changes, the southern region was quicker in adopting foreign influences. As a result, there was a hybridization of African and European styles in various aspects of life, including religion, education, social dynamics, and family structure. This hybridization also extended to architecture, as evident in the adoption of single-unit houses and the shrinking of family sizes. Notably, the upper class housing in Nigeria, occupied by wealthy elites, politicians, and professionals, showcased European-inspired designs and materials introduced by the Europeans. These materials included bricks, concrete, corrugated iron roofing sheets, processed timber, metal bars, and glass. The ability of the elite class to afford such housing styles facilitated the adoption of these European-influenced architectural elements in their buildings (Uchegbu, 2007).

During the colonial period, there was a shift in the residential building style in Nigeria. Families began to live together in one single housing unit, where a central or focal point, usually a lounge or sitting room, served as the gathering space for family members to interact. Individual rooms were provided for each person to have their living space within the same dwelling. While some aspects of traditional African styles persisted, there were also noticeable changes in building materials and construction techniques. In this new style, a combination of mud and concrete was often used for constructing walls and floors. Additionally, corrugated iron roofing materials became popular due to their durability compared to traditional thatch leaves. Metal roofing even became a status symbol in some cases, signifying a certain level of wealth or modernization.

A common sight during this period was buildings with mud walls and floors, which were then plastered with concrete mortar to provide a smoother and more stable finish. Alternatively, some buildings had entirely mud walls and floors, but they were topped with corrugated iron roofing. This blending of traditional and modern materials and techniques represented the evolving architectural landscape during the colonial era.

RESEARCH METHODOLOGY

Sampling Technique

In order to select compounds for survey, nine local government areas were identified, and from each, a representative sample ward was randomly selected. Furthermore, 30 proficient students from the Department of Architecture at the Federal Polytechnic Idah were recruited as research assistants and extensively trained in survey techniques. A purposive sampling method was employed to purposively select 50 compounds from each ward, leading to a total of 450 compounds surveyed across the study area. This also formed the basis for questionnaire distribution and physical observation. The compounds were selected considering their demonstration of building patterns associated with the pre-colonial, colonial, post-colonial, and contemporary eras.

Research Design

This study employs a multi-method research design, comprising the following components:

Quantitative Survey Instrument (Questionnaire)

The survey questionnaire consisted of close-ended questions carefully crafted to address the study objectives and capture crucial aspects related to residential buildings. It sought information on the occupants' sources of ownership, instances that led to demolition and subsequent rebuilding (where applicable), past and current building materials, architectural patterns and forms, recent changes in construction materials and designs, occupancy density per room and household, reasons behind the shift from traditional to contemporary building pattern, and the perceived advantages or disadvantages of contemporary buildings compared to traditional patterns. To ensure inclusivity, questions were translated from English to Igala language where necessary.

Physical Observation

On-site observations of traditional building elements and construction process were conducted using observation schedule to complement the interview data. The physical observations contributed to a deeper understanding of materiality, craftsmanship, and the practical aspects of Igala architecture. Independent observations were made on the compound and buildings showing Igala architecture in the pre-colonial, colonial, post-colonial and contemporary periods. The observations were systematic and logical and were recorded using pencil and sketch pads. This was complemented with the use of photographic materials and presented as pictures.

Archival/Historical Research

Extensive reviews of existing literature were undertaken to collect data from relevant historical documents, texts, photographs, and artefacts related to Igala architecture. This archival research approach was crucial in offering valuable insights into the historical background and evolution of Igala residential architecture. The process of extracting information from these archived materials involved examining scholarly works related to the study, consulting documents maintained by organizations, and conducting a systematic review and analysis of these sources. This approach is aimed at identifying the core themes and issues pertaining to the subject of the study.

Ethnographic Method

Semi-structured interview was utilized to collect first hand narratives and experiences from key stakeholders, such as environmental professionals, traditional craftsmen, elders, and members of the Igala community. These interviews offered valuable perspectives on the interplay between tradition and modernism in the architectural evolution of the Igala people. The participants were purposively selected considering that they possessed adequate knowledge of Igala history and building patterns. The interview data was documented manually.

Oral Traditions and Cultural Proclivities

The study incorporated oral traditions and cultural proclivities, conveyed through storytelling and communal narratives, to contextualize the historical and contemporary significance of Igala architecture. This integration added an authentic cultural dimension to the research. Verbal interactions between the researcher and the indigenous people were carried out and these were recorded by taking notes using pen and note pads, this was complemented by anecdotal evidence based on the experience of the researchers who are indigenous persons to the study area.

Data Analysis

The collected data was analysed, focusing on identifying recurring themes, significant events, and transformations in Igala residential architecture over time. The interview data was subjected to thematic analysis, which involved identifying patterns within the data and correlating them with structured classifications obtained from the surveys. The narrative was constructed based on the synthesis of these findings, weaving together the historical context, cultural significance, and evolution of traditional architecture in response to modernism.

DATA PRESENTATION

Pre-colonial Igala Traditional Building Pattern (Period before 1860)

The Igala people possess a distinctive and culturally significant residential architecture that reflects their identity. This is evident in the layout of their compounds, the choice of building materials, and the construction techniques employed. Prior to 1860, during the pre-colonial era, the circular curvilinear building pattern was prevalent across the Igala region. The compound had a circular layout, although some regions in Igala land had rectilinear layouts even before the colonial period when rectangular house forms became prevalent. Each kindred within Igala land had individual compounds, and the number of houses within a compound was determined by the number of wives a man had. Agriculture was the primary livelihood, and successful farmers often married multiple wives to have more children, thereby increasing the labour force for their farming endeavours.

The Igala residential architecture drew inspiration from the circular house, reminiscent of the caves that were once inhabited by the Igala ancestors before the development of structured house-building practices. These caves offered circular voids and hollows, some of which occurred naturally, while others were carved, providing warmth, shelter, and defence against wild animals and reptiles. Similarly, the Igala traditional building pattern aimed to offer these essential requirements for the inhabitants. The houses were constructed with circular plans, mud walls, thatched roofs covering wooden supports or mud domes, and sometimes wattle and daub walls. The conical roof shape was a characteristic feature. The buildings stood independently and typically enclosed a courtyard that housed a reception house known as *Atakpa* in Igala language (Figures 3 and 4). This reception house served as a place of hospitality for visitors, aligning with Igala customs and traditions.

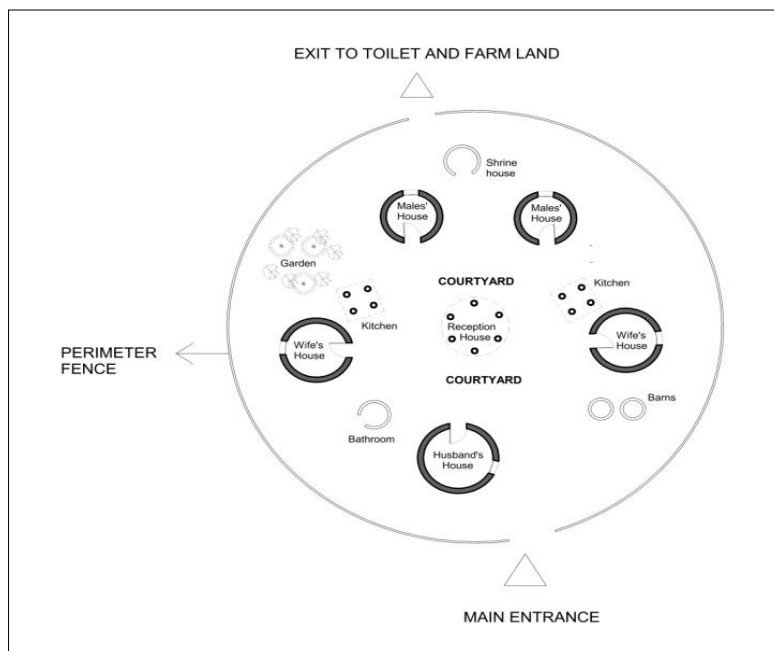


Figure 3: Plan of Typical Igala Traditional Building Pattern

Source: Emusa and Idakwoji (2023).

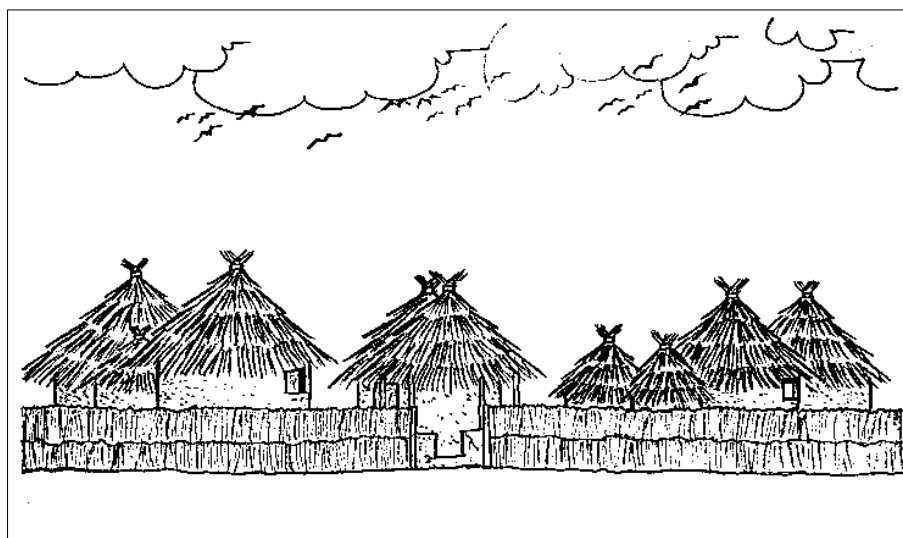


Figure 4: Elevation of typical Igala Traditional Building Pattern

Source: Emusa and Idakwoji (2023)

The courtyard, along with the reception house, played a crucial role in the socio-cultural and socio-economic life of the community, serving as a hub for social activities. Shrines were also incorporated into the compound to facilitate religious practices.

Security and privacy were essential aspects of Igala culture. Small windows with limited numbers were designed to enhance security and privacy within the households. Additionally, a perimeter fence marked the boundaries of the compound, featuring an entrance or opening known as 'Qna' in Igala language. This entrance, usually located close to the head of the compound's house (the husband), allowed him to screen visitors and trespassers effectively.

The practice of the circular curvilinear building pattern by the Igala people was facilitated by the availability of locally sourced traditional building materials. These materials were easily manipulated, making the construction process easy. Moreover, they were environmentally friendly and culturally significant, reinforcing the preference for traditional architectural practices that preserved the cultural identity of the people.

The pre-colonial Igala traditional building technology was shaped by tradition, the knowledge of the builders in accordance with the cultural norms, and the abundance of local building materials in the region. These materials, mainly obtained from the nearby forests and mangrove swamps, were employed with consistent application techniques. While each traditional compound exhibited its unique architecture, it was designed with consideration of its specific environment and the occupants' needs.

Common traditional building materials in Igala land include earth/mud (ikẹtẹ), timber/wood (oli), bamboo stem (ọtachọ), thatch (egbe), palm frond (im'ẹkpe), palm stem (oli-ekpe), and vegetable fiber/bush twine (ikwu). The use of these materials reflected the harmonious relationship between the Igala people and their natural environment, showcasing a sustainable and time-tested approach to construction.

Structure of the Pre-colonial Igala Traditional Building Pattern

The size of compounds in Igala land varied among different families, primarily because family sizes were not uniform. Larger families possessed larger compounds, while smaller families had relatively smaller ones. The number of houses within a compound corresponded to the size of the family, with smaller families having fewer houses and larger families having more. The organic nature of the traditional building pattern allowed for the flexible expansion of the compound as the family grew in size. Furthermore, the layout and design of the houses were tailored to accommodate various activities and the number of occupants. These activities encompassed sleeping, food preparation, food storage, animal husbandry, social interactions, religious practices, and security. Each activity was allocated a specific space within the compound, carefully planned to suit its purpose. Consequently, the construction techniques and layout of the houses varied according to the intended use of the space. The interior furniture within these traditional houses typically included bamboo beds, wooden logs as seats, and water pots (Fig. 5).

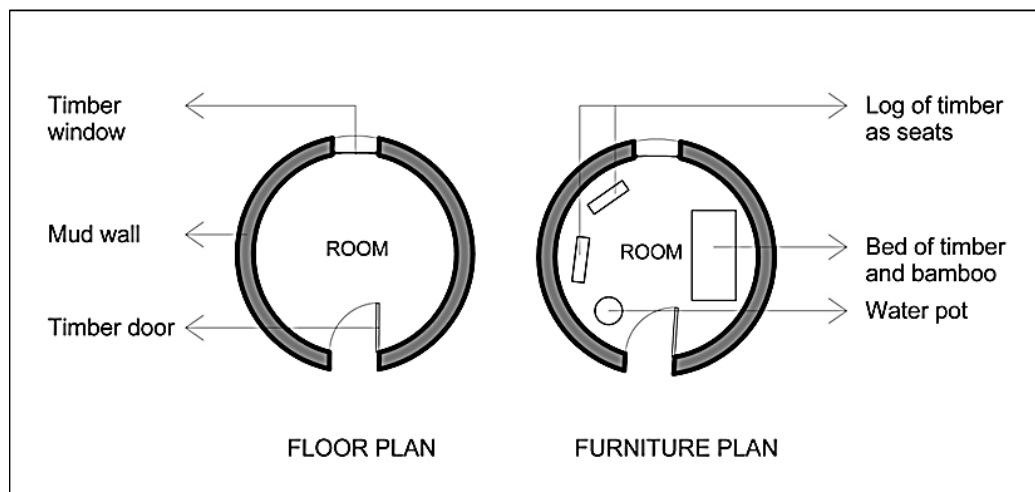


Figure 5: Plans of Typical Igala Traditional House

Source: Emusa (2021)

The floor plan and furniture plan depicted a typical example of the Igala traditional thatch house known as ‘unyi-egbe’ in Igala language. The major spaces in the traditional Igala building pattern include the following;

The Courtyard (Okolo)

The central courtyard, known as *Okolo* in the Igala traditional compound, serves as the core element of the Igala traditional building pattern, reflecting a well-structured social order and spatial organization that promotes the cultural and religious lifestyle of the community. The *Okolo* serves multiple functions; it accommodated the reception house, providing space for women to engage in household industries, acting as an occasional gathering place for family members, and serving as a supervised playground for children. Additionally, during the hot hours of tropical days and nights, the *Okolo* serves as a designated sleeping area. The size and boundaries of the *Okolo* are determined by the arrangement of the surrounding houses. This central courtyard is a significant aspect of the Igala traditional compound, facilitating essential aspects of the community's daily life and fostering a sense of cultural unity and identity.

The Reception House (Atakpa)

The *Atakpa* is a significant feature in the Igala traditional compound, centrally located opposite the main entrance. This unique space serves multiple purposes, such as welcoming visitors, hosting social gatherings, and acting as a workspace. Typically, there is one *Atakpa* in a typical Igala compound, but multiple *Atakpas* may indicate a polygamous setup. Similar to other traditional house forms in Nigeria, such as the Hausa *Zaure*, Igbo *Obi*, and Tiv *Ate*, the *Atakpa* stands out with its higher roof and curvilinear shape.

The *Atakpa* serves as the first point of contact for visitors and is furnished with raised earth seats and a horizontal timber for support. Although mainly used for relaxation and receptions, it also plays a role in the burial of deceased family members. Since it is within an enclosed

compound, privacy features like doors and windows are not necessary. The Igala pre-colonial *Atakpa* had a curvilinear shape. The *Atakpa*'s unique design with its conical thatched roof supported by timber posts, reflects the cultural identity of the Igala people (Fig. 6).

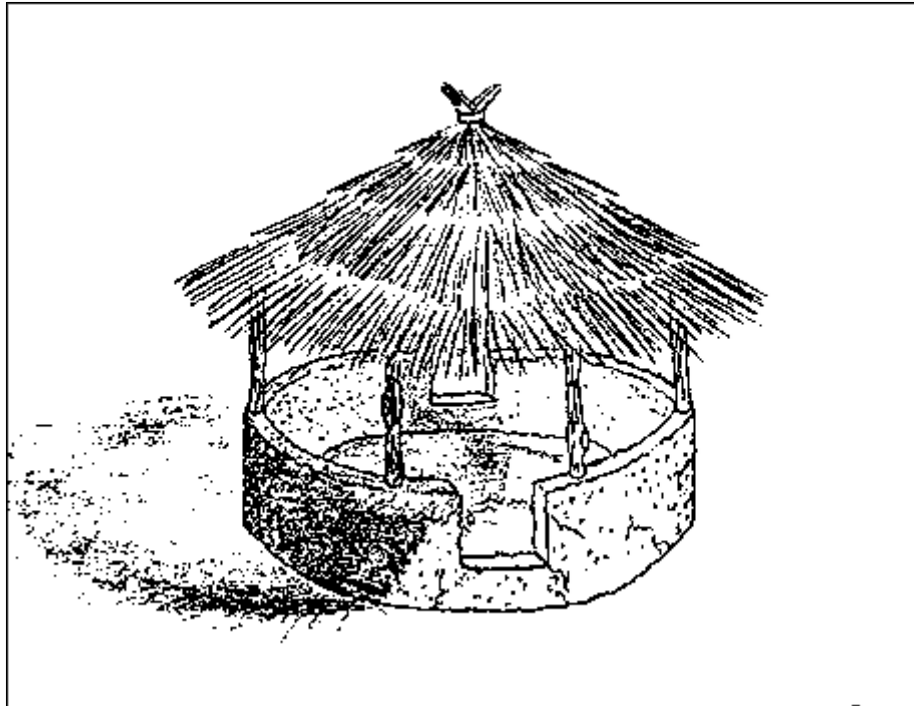


Figure 6: Igala Traditional Curvilinear Reception House

Source: Author's Sketch (2023)

Head of the Family's House (Unyi Eṅgbani)

It is essential to highlight that in the Igala building pattern, the sleeping houses maintained a consistent plan and structure, regardless of the occupants. The husband, known as *Eṅgbani*, who serves as the head of the family, had his sleeping house, referred to as 'Unyi Eṅgbani' or 'Unyi-udachi Eṅgbani' strategically positioned at the entrance of the enclosed compound, directly opposite those of his wife or wives. This specific location was chosen for security purposes, enabling the *Eṅgbani* to screen all visitors and intruders while closely overseeing the activities within the courtyard.

In this arrangement, the wives would enter the *Eṅgbani's* house only on invitation, following the customary practice of the man sleeping with his wives in turns in his house. Beds within the sleeping house were crafted from stems or midribs of palm fronds, expertly woven into a mat and placed on a raised frame constructed with bamboo. Typically, a traditional Igala house had a diameter ranging from 2.4m to 3.5m. A typical example of *Unyi Eṅgbani's* can be observed in Figure 7.

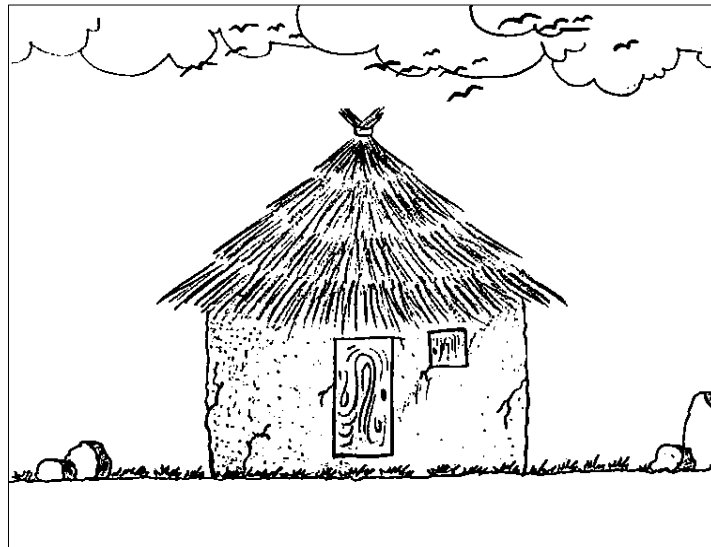


Figure 7: Igala Traditional Sleeping House

Source: Emusa and Idakwoji (2023)

Wives' Houses (Unyi Abobule) and Kitchen (Obuka)

In the pre-colonial period, the Igala society often practiced polygamy, and within such setups, the wives' houses, known as 'Unyi Abobule' or 'Unyi-udachi Abobule' were positioned opposite their husband's house, on the left and right sides, all facing the courtyard. In Igala traditional building pattern, sleeping houses all had similar form, materials and construction method (Fig. 7). Each wife's house accommodated not only herself but also her daughters and young children. These houses were exclusively designated for sleeping, and a depression on the earthen floor at the corner served as a water pot holder.

The preparation of food and cooking activities were carried out separately in their individual cooking places situated outside, adjacent to their houses. However, on certain occasions when a larger fire was required, cooking would be done in a communal cooking place. These communal kitchens, called 'Obuka', were constructed with timber posts supporting a thatched roof and walls made from thatch or vegetable materials, sometimes featuring dwarf mud walls.

In the traditional Igala sleeping house, perishable food items and foodstuffs were kept in baskets and clay pots, strategically placed on platforms at the corner of the room, elevated above the ground. Seats within the houses were crafted from carved stems of trees, such as the iroko. Additionally, the grown-up female children resided with their mothers until they were married. This cultural practice ensured close family ties and support within the household, fostering a sense of unity and continuity in the Igala community.

Adult Males' Houses (Unyi Abokule)

Younger male children in the traditional Igala setting remained with their mother until they reached an age where they could share rooms with their older brothers. Upon reaching that

stage, older males had their houses, referred to as ‘Unyi Abokele’ or ‘Unyi-udachi Abokele’ (Fig. 7), situated at the rear of the courtyard, separate from the women's houses. Unmarried young men continued to dine with their mothers and maintained their rooms within the compound until they eventually got married. Upon marriage, their parents allocated a site for them near their mother's house, resulting in the expansion of the compound in size and accommodating the newlyweds' needs. This practice allowed for a gradual increase in the compound's size as new generations were established within the family unit.

Animals’ Pen (Unyi Eñu-ọrẹ)

In the Igala community, families primarily raised domestic animals like goats, sheep, and chickens. Occasionally, they constructed frame structures with timber posts, bamboo stems, and palm fronds for shelter, but this was rare. More commonly, the animals were allowed to roam freely within the compound without confinement. Chickens sought refuge in their owners' house, where they also laid eggs and hatched chicks. The number of animals a family owned was considered a sign of prosperity and success. This practice of free-range rearing showcased the close bond between the Igala people and their animals, reflecting their sustainable and adaptive lifestyle in harmony with their natural environment.

Bathrooms (Unyi Ugwọla) and Toilets (Unyi Ubi-oko)

In the Igala traditional compound, the bathrooms, known as ‘Unyi Ugwọla’ were strategically situated near the sleeping houses to ensure privacy and convenience for the occupants. Typically, one bathroom served the entire compound, although separate bathrooms for males and females were occasionally constructed. The bathrooms were made of vertical timber posts held together with midribs or stems of palm fronds, forming a sturdy structure. Horizontal elements and bush twines were used at different heights to create privacy, and the gaps were filled with vertically arranged palm fronds. The bathrooms were typically round in shape, with an open top and a cloth-secured doorway for modesty. In contrast, in the pre-colonial period, the Igala traditional building pattern did not incorporate toilets (Unyi Ubi-oko), and people used nearby bushes and farmlands for such purposes. However, over time, toilets were introduced during the colonial, post-colonial, and contemporary periods, reflecting advancements in technology.

Food Barns (Aka)

The food barn, known as ‘Aka,’ was of great significance in the Igala traditional compound (Fig. 8). This importance stemmed from the central role of farming as the primary livelihood for the Igala people. The *aka* was constructed in various types and sizes to accommodate different food crops, with separate barns dedicated to tubers, cereals, and nuts. Strategically positioned near the compound's entrance, the barns served to display the man's wealth and success to visitors. In Igala culture, the number and size of the barn in a compound symbolized an individual's prosperity and achievements, reflecting the cultural value placed on agricultural success and abundance.



Figure 8: Igala Traditional Food Barn

Source: Emusa (2021).

Shrine house (Achékwu)

In modern times, the major religions practiced by the Igala people are Christianity and Islam, with only a few areas still adhering to traditional beliefs. In the pre-colonial era, the shrine house, known as '*Achékwu*', held great sacred importance and was positioned approximately 10m to 15m away from the courtyard. Constructed using bamboo stems and timber posts, the shrine house was occasionally concealed with palm fronds and did not require solid walls. It had a small floor area of less than 2sqm and housed images representing gods, while the roof was thatched. Some shrines persisted into the colonial period, adapting to the times by having corrugated iron sheet roofs. Despite the changes in roofing materials, the shrine's essential sacred significance remained preserved.

Perimeter fence (Ogba)

In the pre-colonial Igala traditional society, crime was low, and security concerns were limited. Despite this, individual compounds were protected by the construction of perimeter fences, serving purposes of privacy, boundary definition, and security. The compound entrance was controlled, with a primary entrance leading to the reception house and a secondary entrance for access to farms or bushes (See Figures 3 and 4). The size of the fence varied based on the compound's boundaries.

Changes in the Igala Residential Architecture

The study examined the evolution of Igala residential architecture across different historical periods, including the colonial, post-colonial, and contemporary eras. These transformational phases were categorized into distinct architectural epochs: the colonial movement, post-colonial movement, and contemporary movement. Each period was analysed to understand how Igala residential architecture underwent changes and adaptations over time.

Colonial Movement in Igala Land (1860 - 1960)

During the colonial era, European influence had a profound impact on Igala land, leading to a shift from communalism to individualism. The introduction of European culture gave rise to a new class of elite professionals, businessmen, and politicians. This foreign influence resulted in a hybridization of African and European styles in religion, education, and social life. The traditional polygamous family structure began to shrink, and single-unit houses emerged. The upper class adopted European building materials like concrete, corrugated iron roofing sheets, processed timber, metal bars, and glass, showcasing their wealth and status.

The arrival of Christianity and Islam led to the decline of Igala traditional religion, with shrines and perimeter fences gradually disappearing. Western architectural designs heavily influenced Igala traditional building patterns during this period. As European influences continued to take hold, the Igala people adapted their architectural practices, reflecting the changing dynamics of their society.

The pre-colonial Igala traditional building pattern persisted with notable modifications. The main components of the colonial Igala traditional building pattern included the husband's house, the wife (wives) house(s), adult males' house, animals' pen, courtyard, kitchen, storage area, impluvium (mainly in the South-east part of Igala land), and bathroom. The bushes were still used as toilet. These elements formed the essential features of the traditional architecture during the colonial era, reflecting a blend of traditional and colonial influences.

The changes that happened in the colonial Igala traditional building pattern include the following;

- i. Transition from curvilinear to rectilinear shapes using mud bricks.
- ii. Increase in the number of interior spaces within the houses.
- iii. Introduction of Christianity and Islam, leading to the eradication of shrines from the building pattern.
- iv. Integration of the reception house into the husband's house as a living room, while in some areas, it was relocated to the side of the courtyard.
- v. Introduction of bucket latrines and pit latrines by the elites, while open defecation continued in many areas.
- vi. Adoption of the impluvium in the south-east region of Igala land.
- vii. Elimination of the perimeter fence around compounds.

- viii. An increase in the number and size of windows.
- ix. Introduction of metal drums in courtyards to store water collected from corrugated iron roofs and streams.
- x. Replacement of thatch roofs with corrugated iron roofing sheets, resulting in hipped and pitched roof designs.
- xi. Phasing out of barns in favour of incorporating storage spaces within the building designs.

These changes reflect the influence of colonial practices, materials, and technologies on the traditional Igala architecture during the colonial era.

In the colonial period, the Igala traditional building materials were influenced by new construction practices and materials introduced by the Europeans. These included:

- i. Building foundation made from mud bricks, laterite/sand, stone aggregates, iron rods, and cement.
- ii. Floors constructed with mud/earth, laterite/sand, stone aggregates, and cement.
- iii. Structural frames and walls composed of mud, timber/bamboo, mud bricks, hollow sandcrete blocks, steel bars, iron rods, stone aggregates, sand, and cement.
- iv. Roofing materials such as timber/bamboo, galvanized iron sheets, asbestos roofing sheets, and steel nails.
- v. Ceiling materials including timber, asbestos ceiling sheets, and steel nails.
- vi. Doors and windows made from timber, steel, and glazed louver blades.
- vii. Building finishes comprising mud plaster, cement, and sand, wood panelling, PVC/ceramic tiles, stone, and paints.

These materials and techniques were integrated into the traditional Igala building pattern, reflecting the changing architectural practices and the influence of colonial-era construction methods.

Post-Colonial Movement in Igala Land (1960-1975)

During the post-colonial period in Igala land, significant changes occurred, driven by rapid urbanization and modernization. Traditional family units disintegrated into smaller independent units, leading to a neglect of tradition and culture. Modern building designs and materials were introduced, including the incorporation of storey buildings. Bungalows became the prevalent building design, with only a few elites opting for storey buildings.

The post-colonial Igala building pattern featured bungalows enclosed in perimeter fences with large steel gates. These fences defined the compound and accommodated the main building and additional facilities like gatehouses, boys' quarters, and suspended water tanks. Elite Muslims also constructed mosques within their compounds for religious activities. Building designs during this era typically included living rooms, dining rooms, master bedrooms,

bedrooms for wives and children, kitchens, storage spaces, bathrooms and water closets. Some buildings had garages or carports to accommodate vehicles. Toilets and bathrooms were incorporated into the building interior. In some compounds, exterior pit latrines were retained because children were sometimes not allowed to use the water closets in the buildings. Activities such as washing and drying of clothes were carried out outside the building, usually in a space provided at the rear of the compound. The post-colonial Igala building pattern marked a shift towards modernization, with more diverse building forms and the integration of modern amenities and infrastructure.

In the post-colonial period, the Igala traditional building pattern underwent significant changes, adopting modern building materials such as steel, plastic, and glass. These new materials allowed for more sophisticated technology and construction methods, resulting in durable and advanced buildings. The introduction of storey buildings, irregular shapes, and modern finishing marked a departure from the traditional architectural style. The use of concrete, steel columns, and beams, as well as mechanical and electrical fittings, contributed to the modernization of buildings.

Interior spaces now featured kitchens, storage areas, and bathrooms with tubs and water cistern toilets. Perimeter fences with steel gates, burglary proofs, and steel-framed glass windows were introduced for security purposes. Asbestos ceiling boards and iron cladding on steel frames became common in the post-colonial Igala building pattern. Ancillary facilities like gatehouses and suspended water tanks were also integrated into the compound design.

The increase in fenestrations and the use of hipped roofs with corrugated aluminium roofing sheets further distinguished the post-colonial Igala building style. Additionally, car garages were included in the interior of buildings. These changes reflected a departure from traditional cultural norms and an embrace of modern architectural influences and technology.

The following building materials were identified as the most predominantly used in the construction of the various building elements in Igala land in the post-colonial era;

- i. Foundation: Stone aggregates, sand/laterite, cement, and iron rods.
- ii. Floors: Stone aggregates, sand/laterite, cement, and polythene.
- iii. Structural frames and walls: Hollow sandcrete blocks, stone aggregates, sand, cement, iron rods, and timber.
- iv. Roof: Timber, galvanized iron sheets, corrugated aluminium sheets, steel, and felt made from coal tar.
- v. Ceilings: Timber, asbestos sheets, and steel nails.
- vi. Doors and windows: Aluminium, glass, and steel.
- vii. Electrical fittings: Timber poles, concrete poles, copper wire, filament/fluorescent lamps, ceiling fans, air conditioners, electric cookers, and electronic gadgets.
- viii. Mechanical fittings: Ceramic products, steel, plastic/rubber, and aluminium.
- ix. Finishing: Cement, sand, wood panelling, ceramic/PVC tiles, stone, and paint.

These modern materials and fittings were instrumental in transforming the architectural landscape of Igala land during the post-colonial period, providing greater durability and functionality to the buildings.

Contemporary Movement in Igala Land (1975 – to Date)

In the contemporary period, the Igala traditional building design underwent significant changes, embracing new building forms, large fenestrations, and modern construction techniques. The adoption of foreign building materials and sophisticated technology transformed the architectural landscape, but it also led to the erosion of the people's cultural identity. The modernization integrated the Igala people into a global image, but it resulted in a drift away from their pre-colonial architectural heritage. Contemporary Igala buildings no longer reflect the communal lifestyle and socio-cultural practices of the past. The traditional reception houses were replaced by living rooms, compromising privacy and social interactions. Indoor kitchens replaced outdoor cooking, and toilets were incorporated into living spaces, contrary to the traditional separation of such areas. The shift to single unit houses disrupted the communal living arrangements of extended families. The contemporary buildings also lacked the practicality and affordability of the traditional materials and construction techniques. Modern HVAC systems were introduced, whereas the traditional design provided natural temperature regulation suitable for the region's climate. As the Igala people adapted to modernization, they had to make compromises, leading to the diminishing influence of their culture and architectural identity.

In the contemporary era, the construction of houses in Igala land involves the use of a variety of modern building materials. Foundations are built using stone aggregates, sand/laterite, cement, and iron rods. Floors are constructed with stone aggregates, sand/laterite, cement, and polythene. For structural frames and walls, hollow sandcrete blocks, stone aggregates, sand, cement, iron rods, aluminium, glass, and timber are employed.

Roofing materials include timber, aluminium sheets, stone-coated roof tiles, rubber/polycarbonate materials, and steel. Ceilings can be made from timber, asbestos sheets, poly vinyl chloride sheet (PVC), and Plaster of Paris (POP). Doors and windows predominantly use aluminium and glass.

Electrical fittings feature timber poles, concrete poles, copper wire, LEED lamps, ceiling fans, air conditioners, cookers, heaters, closed-circuit television (CCTV), and electronic gadgets. Mechanical fittings include ceramic, steel, rubber/PVC, and aluminium components.

Finishing materials consist of cement, sand, wood panelling, vitrified, ceramic/marble tiles, stone, and paint. These contemporary building materials have transformed the architectural landscape in Igala land, reflecting the influence of modernization and technological advancements on construction practices.

CONCLUSION AND RECOMMENDATIONS

The study explores the influence of modernization on traditional architecture in Nigeria, with a focus on Igala residential architecture. Colonial activities, including slave trade, administrative policies, and the introduction of Western influences, led to a transformation in architectural practices. Modernization saw the emergence of single unit houses, foreign building materials like concrete, glass, and steel, and modern construction techniques. Additionally, the introduction of Western religion eroded traditional beliefs and practices, affecting architectural elements like shrines. This shift marked a significant evolution from traditional to modern architecture, reflecting the dynamic interplay between indigenous cultures and external influences in shaping Nigeria's architectural heritage.

The study identifies three distinct phases of transformation in Igala traditional architecture: the colonial movement, the post-colonial movement, and the contemporary movement. During the colonial period, rectilinear houses with mud bricks, timber, and galvanized iron roofing sheets emerged. In the post-colonial era, single-unit houses dominated, constructed mainly with sandcrete blocks, concrete, steel, aluminium, timber, and asbestos. The contemporary movement witnessed a complete departure from the pre-colonial traditional architecture, adopting new building forms, modern materials, and sophisticated construction techniques. However, the contemporary design does not reflect the communal lifestyle and cultural identity of the Igala people, altering their traditional building materials and replacing them with more durable and modern alternatives. The findings of this study are in line with previous research by Bert-Okonkwo et al. (2017); Jolaoso et al. (2019); Ekhaese et al. (2015); Emusa, 2021; Mahbubur R. and Moukhtar M. (2011), which also observed the fusion of African and European styles in various aspects of life, including religion, education, social dynamics, family structure, and architecture. The adoption of modern and foreign building materials and technology, the prevalence of single-unit houses, and the decrease in family sizes are evident examples of this hybridization.

The research underscores the dynamic relationship between cultural heritage and contemporary influences in shaping Igala traditional architecture, emphasizing the importance of striking a harmonious balance between preserving cultural identity and embracing progress in modern building designs.

This study advocates for further research to explore specific facets of Igala architecture, such as materials, spatial organization, and socio-cultural influences, in greater depth. A more comprehensive investigation in these areas would contribute to a deeper understanding of the evolution of Igala traditional architecture, providing valuable insights into its historical development and cultural significance. Such research endeavours can enhance the knowledge base of architectural scholars and practitioners, fostering a more profound appreciation of the traditional building practices and their relevance in the contemporary context.

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Statements and Declarations

Competing Interests

The authors have no competing interests to declare.

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