

SPIRIT AND MEANING OF SPACE IN BENIN DOMESTIC ARCHITECTURE NIGERIA

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Abstract

The domestic architecture of a place describes the people culture, religion and beliefs while the meaning of domestic space reveals the spirit of domestic architectural. Consequently, the difference in houses size, height and ornamentation across Benin City is dependent on some dynamics. Benin domestic architecture across the city showing modifications along timeline/periods, as houses were identified cross sectionally from 40BC – 2100A.D. The paper examined meaning of domestic spaces in Benin house-types collected across the city. The study used triangulation method (i.e. questionnaire, space syntax and interview guide) to describe meaning of spaces. The finding was discussed along activities spaces (like cooking and eating, household storage, sleeping arrangement, personal hygiene, outdoor, receiving guest, worship socialization, ceremonies and festival). The research result revealed that meaning of domestic spaces in domestic architecture can explain the spirit of the space, the people's culture and social ideology.

Keywords: Spirit, Benin Architecture, Domestic Architecture, Benin Domestic Architecture, Meaning and Spirit of Space.

1 INTRODUCTION

The meaning of space in Edo traditional courtyard house determine importance attached to each space. The differences in typology across entire Benin depend on several underlying forces but the design, pattern, organization, style, meaning and use show transformation across different timelines. The multiple courtyards house since the days of *Ogisos* typify the Benin architecture called "*Ikun concept*" i.e. Impluvium design (Ekhaese and Ediae, 2014). However, the study discusses/interprets the meaning of spaces in Benin domestic architecture across residential zones. Admittedly Space means several things to different disciplines that is why in anthropology, space is an empirical problem and a dimension or representation of culture itself. Sociologists approach the concept of space from norms, values and family influence on construction in and around the home. In architecture, space is either a theoretical or a design problem. House with several spaces is often viewed as a built form, and house is perhaps one of the most complex buildings of all (Ekhaese, 2011). Different arrangements of same number of elements have different properties in buildings that have different internal spatial configurations, affecting space meaning (Crooke, 2005). Anthropology, psychology, sociology and architecture focus on either spatial type and physical boundaries or cultural and behavioural codes (Asquith, 2008). An integrated approach from architecture, anthropology, sociology and behavioural studies has been used in the study to help understand space meaning, since the concept of domestic space is multi-dimensional in nature (Mallet, 2004). Giorgi, et al (2007) analysed space meaning, and household members' relationships as a continuous variable defined primarily by social context in which they occur, territoriality and concept of ambiguity are recognised (Valsiner, 2007). Abbey & Valsiner (2005) explained that it is established to avoid misuse and get a sense of stability. According to *Obobaifo* the Director of Institute for Benin Studies, "*The meaning, of space in Benin architecture has over the century remained very sacred, a cultural symbol and a determine beliefs drawn from its organization, use and accessibility. Accessibility in Benin domestic space is determined by cultural requirements like age, sex, familiarity, relationship*". The paper however, defined domestic space as 'acquired significance/importance' to a domestic setting where things exist/move to explain the meaning, across the different zones (Osman, 2003).

2 THEORETICAL/CONCEPTUAL DISCOURSE

2.1 Theory of Domestic Architecture

Conferring from Le Corbusier, Architecture is a thing of art, a phenomenon of emotions, lying outside questions of construction and beyond them. The purpose of construction is to make things hold together; of architecture to move us. Architectural emotion exists when the work rings within us in tune with a universe whose laws we obey, recognize and respect. When certain harmonies have been attained, the work captures us. Architecture is a matter of "harmonies," it is a "pure creation of the spirit. Human culture is very strongly linked to domestic architecture. Indeed, the inseparableness of human being and its architecture, at least has been one of the main discussions of philosophy (Amit-Cohen, 2009). In conventional philosophy and psychology, the relationship between person and architecture has been reduced to either an idealist or realist perspective. In an idealist view, domestic architecture is a function of a person who acts on culture and architecture through consciousness and, therefore, actively knows and shapes his/her world. In contrast, a realist view sees the person as a function of its domestic architecture in that it acts generate reactions on persons. However the foundation of a house, a settlement or a town has been a religious act. Architecture is a key interface and defines our being- in-the- world (Levine, 2004). Where natural environment is gradually disappearing, architecture takes a strategic role in creating places i.e. a 'genius loci' (Huang, 2010). In Roman mythology a genius loci was the protective spirit of a place. Modern architecture tried to analyse the site based on scientific parameters and optimization like sun angles and circulation distances. (Riley and Harvey, 2005). The genius loci can used to describe a traditional cities like Benin, Nigeria (Ekhaese, 2011). In contemporary usage, "genius loci" usually refers to a location's distinctive atmosphere/ "spirit of place". The postmodernists' reintroduction of "genius loci" into actually built architecture, did not go beyond a naive and formalistic repetition of long surpassed historic concepts (Sandford, 2006) . Most people are charmed by the specific atmosphere of places, which developed over centuries or have been very well planned and seem to convey unity, rightness and an atmosphere (Seamon, 2002). Harmony with Human culture and architecture can be reproduced through a complex cultural process resulting in the concept of domestic architecture. The architect has to take into account multitude of phenomena to be able to create architecture with meaning. Therefore, Architecture must go beyond an aesthetical exercise and a technological construction to be able to create 'genius loci' (Taylor, and Tallmadge, 2009). The theories of domestic architecture inform the need for inclusive processes and evidence of change in heritage conservation. (Starke, 2003).

2.2 Concept of Domestic Space

The concept of domestic space required a projected assessment on designers' intended meaning and user's perception towards the physical features of these spaces (Amit-Cohen, 2008). The intended meaning has a direct influence to users' mindset that relates closely to the present and future psychological experience and feelings. In general the quality of spaces can be categorized into two physical characteristics: positive space and negative space. A space is considered as positive space when it has a distinct and definite shape but considered as a negative space if it is shapeless and valueless (Lisovsky, 2004). Samadi and Hasbullah, (2008) describe positive space as a space with multifunction qualities, e.g. space use as a sleeping, meeting, worship, eating, storage, socialization, circulation, art appreciation and display, receiving guest, and so on. Users play positive roles within the existing physical setting of positive spaces. Negative space sometimes lacks a sense of place and its physical character is deficient specific geometrical form and experience related in users mind. However, physical characteristic influences by tangible and intangible factors in spaces provide an effect on people's perception to the spaces. The concept of domestic space recognizes the surrounding of heritage buildings (Crooke, 2005) . Activity choice by users reflects the life of the domestic space. Therefore, the paper analyze the users' perception in other to explain the meaning and spirit of domestic spaces in Benin domestic architecture.

2.3 Concept of Spirit of place and Meaning of Space

'Spirit of Place' is a translation of the Latin genius loci. For the Romans and many other cultures, the world was a sacred space occupied by pantheon of gods and spirits. Every forest grove, mountain, river, village and town was the home of its own spirit that gave identity to that place by its presence and actions. With advancement, gods of places have lost their powers, so the expression 'spirit of place' now has a mostly secular meaning that refers to distinctive identity of somewhere. Spirit of

place mostly has to do with natural landmarks/remarkable built forms (Yen, 2006) . A place with distinctive spirit/identity is attractive to artists and tourists. Architects considered things such as scale, use of local building materials, shapes of spaces, color, picturesqueness, order and harmony, as important but none essential. So it best to use term like “the quality without a name” to characterize places that are recognized as attractive and distinctive (Kayali, 2007). Spirit of place is both an inherent and an emergent property. While it seems to lie within landforms and built forms, it arises incrementally through accumulation of physical changes and associations that come from somewhere being lived in for a long time. Rarely does spirit of place seem to be a product of deliberate design. The Taj Mahal, and Frank Lloyd Wright’s Falling Water might be rare examples. Ordinarily, a designer concerned with spirit of place might be to create layouts and a built environment that will encourage its emergence to set the scene for its development (Chiao, 2007). Space has many elements, such as welcoming, compassion, curiosity, humor, that are each embody. When these elements are brought into relationships, it is an act of “being” Kind. Spirit of Space sets elements apart from other communication/conflict resolution tools (Davis, 2007). Space has a physical dimension that can support/impede ability to feel productive, healthy and connected with work and others. Paying attention to simple hospitality (food, drink), energy and personality reflect items/goals for work (artwork, color, dramatic or elegant furniture) create your own unique Space. Space moves into “systems” perspective when “stranger” are invited. “Stranger” refers to any individual not involved in conversation, with different background, perspective, skin color, gender, geographic orientation, or any other seemingly different quality (Peter et, al, 2010). Space has potential to transform human heart and groups /organizations. When spaces are considered it creates an approach that promotes understanding. The approach is especially relevant to the concept of ‘spirit of place’, as it enable local people to state the place experience, define heritage value and construct their own sense of identity (Corsane, 2007a).

3 METHODOLOGY

The study examined data collected in Benin City, which includes samples of architectural floor plans of houses in the City and socio-physical characteristics of each house-type. For this study, Benin metropolis has been zoned into three architectural periods/timelines (i.e. traditional courtyard house periods 40BC-1900AD, the institutional/tenement house periods 1960AD-2000AD and the contemporary house periods 2001AD-Till date). Data collection engaged the used measured drawings, photographs, physical characteristics of houses and observed space usage. 1054 houses were selected and documented across residential zones in Benin- City based on the field survey; the study identified several house-types and has grouped them across three housing periods as shown in table 1. The selections and documentation of the house- types were based on observations and interviews. Ultimately, certain characteristics were adopted for classification of the identified house-types. Space syntax (justified graphs and convex break-up maps) was used to analysis and interpret meaning of spaces in houses identified.

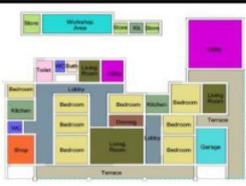
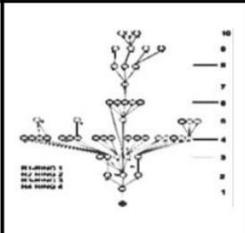
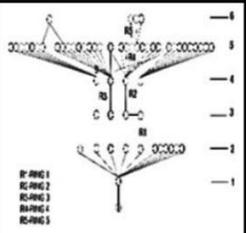
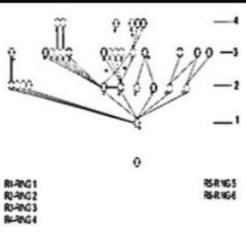
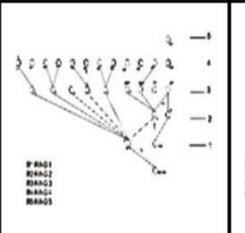
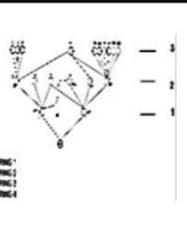
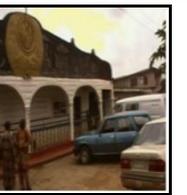
4 FINDINGS AND DISCUSSION

House- types were subjected to the gamma-analysis, the finding showed that traditional Edo houses design revolves around public and private spaces as the main cultural definer of Benin heritage. It identifies the distinctive generative aspects of domestic space meaning of houses in Benin, through the provision of visual. The space syntax analysis forms basis for interpretation of space meaning in domestic Benin houses and underlying social/ cultural aspects that shaped the houses. For the purpose of Gamma-analysis, results were collected from across Benin four residential zones, under three broad categories of houses. – 1. Traditional courtyard house in the City’s old unplanned areas. 2. Institutional/tenement houses, in low/middle income-planned neighbourhoods. 3. Contemporary house in high income planned zones. These three categories vary considerably in architectural form, morphological patterns, spatial organization of functions and degree to which both professionals and occupants have influenced the final product. Hillier and Hanson, (1984), used space syntax to analyse and interpret internal spatial structures, social meaning, use and organization of spaces in a house, interface between residents and visitors who enter the house, mode of adjacency and permeability was used to show human relations in spatial configuration of built environment. The concept of social analysis of space ought to be experience through its form, function and space (Markus, 1993). And it follows this sequence: (a.) Defining the space system, (b.) Analysing the system of syntactic relations, using original sources. (c.) Permeability graphs, or justified graphs (J-Graph), were drawn for each house plan, using the ‘main entrance’ to the house as starting position.

4.1 Traditional Courtyard House Periods 40BC-1900AD

The traditional courtyard design is categorised into two a. The Palace Compound Courtyard House-Types - “*Eguei Oto-Eghodo*” b. The Family Compound Courtyard House -Types. - “*Owa Eken*” *Ikun design*. The traditional courtyard house is divided into front activity section which is the male domain and back activity section which is female domain (Adeokun, Ekhaese and Isaac, 2014). The cooking and eating section has a kitchen both inside and outside the main house, and sleeping section is organized such that bedrooms are on different levels and arranged around courtyards. The personal hygiene section (toilets, shower areas) is at the back as it is the most un-hygienic space in the compound. The outdoor/guest section is very large and used very regularly. There is usually a separate section for women, which includes harem, menstruation room, storage of household goods and cooking area (kitchen) as shown in table 1

Table 1: Traditional Courtyard House Periods 40BC-1900AD

				
Floor Plan of Palace Compound Courtyard House	Floor Plan of Typical Family Compound Courtyard House	Floor Plan of an Adapted Family Compound Courtyard House	Floor Plan of Modified Family Compound Courtyard House	Floor Plan of Hybrid Family Compound Courtyard House
				
J-Graph for Space Permeability Palace Compound Courtyard House	J-Graph for Space Permeability of Family Compound Courtyard House	J-Graph for Space Permeability Adapted Family Compound Courtyard House	J-Graph for Space Permeability (Modified Courtyard House)	J-Graph for Space Permeability Hybrid Family Compound Courtyard House
				

Source: Ekhaese 2014

4.2 Institutional/Tenement House Periods 1960AD-2000AD

The cooking, eating and household goods storage activity section is very important in Benin corridor/apartment setting. Personal hygiene activity section is located both outside and inside the main house as shown in table 2. The entrance leads to a space for receiving visitors, ceremonies and relaxation. Outdoor/guest activity section consist of terraces and balconies, guestroom and living room. Worship section in traditional courtyard house has been transformed into prayer altar, while socialization, ceremonies occur in open spaces or large halls where available in common corridor and apartment house (see table 2), Benin corridor house has habitable rooms on both sides of the central corridor, with kitchens, toilets and bathrooms on the secondary corridor/courtyard to the rear of the building (see plan a in table 2). This is typically called the “face me I face you” house.

Table 2: The Institutional/Tenement House Periods 1960AD-

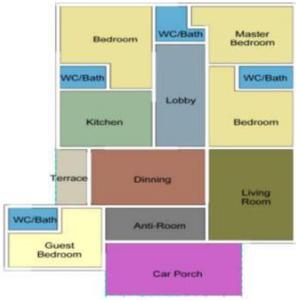
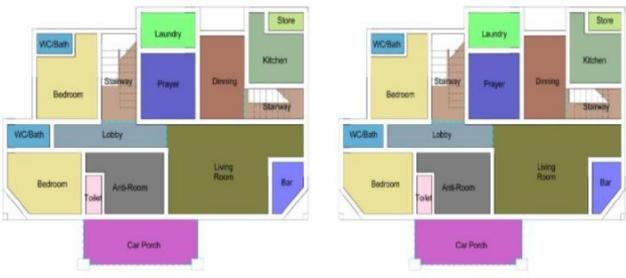
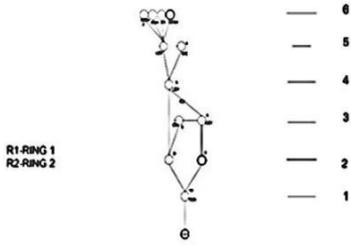
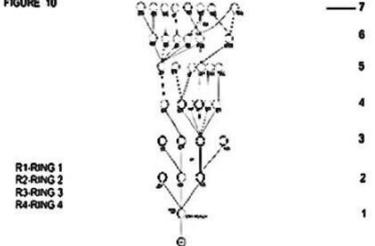
<p>a. Floor Plan of tenement/ Common Corridor House (face me I face you)</p>	<p>b. Floor Plan of Semi-Detached Double Floor House</p>	<p>c. Floor Plan of Semi-Detached Single Floor House</p>
<p>J-Graph for Space Permeability tenement or Common Corridor House</p>	<p>J-Graph for Space Permeability Semi-Detached Double Floor House</p>	<p>J-Graph for Space Permeability Semi-Detached Single Floor House</p>

Source: Ekhaese 2014

4.3 The Contemporary House Periods 2001AD-Till Date.

Contemporary Benin domestic houses are detached/semi-detached, reception spaces (living room, dining) are separated by lobby/corridors from sleeping activity section. Personal hygiene activity section has new meaning with additional visitors convenience located inside the main house, very often as en-suite bedroom including a laundry. Outdoor/guest activity section has additional spaces such as halls, ante-room, sit-out and car porch organized to receive guest in the entrance section. Outdoor activity sections is typically well defined with well-trimmed grass, flower beds and shrubs, worship, socializing, ceremonies and festivals are done in prayer room, mini-chapel and outdoor garden as shown in plan b of table 3.

Table 3: The Contemporary House Periods 2001AD-Till Date.

 <p>A detailed floor plan of a detached bungalow house. The layout includes a central living room and dining area, a kitchen, a guest bedroom, and a master bedroom. There are multiple WC/Bath units, a lobby, a terrace, and a car porch.</p>	 <p>Two floor plans for a detached double floor villa house. The ground floor shows a living room, dining area, kitchen, and car porch. The upper floor shows bedrooms, a prayer room, and a laundry area.</p>
<p>a. Floor Plan of Detached Bungalow House</p>	<p>b. Ground and Upper Floor Plan of Detached Double Floor Villa House</p>
 <p>A J-graph for a detached bungalow house showing space permeability levels from 1 to 6. The graph is a vertical branching structure with nodes representing different rooms and spaces.</p>	 <p>FIGURE 10: A justified graph for a detached double floor villa house showing space permeability levels from 1 to 7. The graph is a vertical branching structure with nodes representing different rooms and spaces.</p>
<p>J-Graph for Space Permeability Detached Bungalow House</p>	<p>Justified Graph for Space Permeability Detached Double Floor Villa House</p>
 <p>A photograph of a detached bungalow house with a light-colored facade, arched windows, and a covered entrance.</p>	 <p>A photograph of a detached double floor villa house with a modern design, large windows, and a covered entrance.</p>

Source: Ekhaese 2014

4.4 Justified Graph (J-Graph) of the Three Categories

4.4.1 Traditional Courtyard House

From the j-graph of the palace compound courtyard house type in table 1 space permeability shows that there are eleven levels. J- graph for family compound courtyard house, show six levels of space permeability. The j-graph for a modified family compound courtyard house has five levels, because it combines the design family traditional courtyard house with contemporary house. The J-graph of hybrid family compound courtyard house for space permeability shows four levels. The J-graph of adapted family compound courtyard house for space permeability shows four levels. Level one represents entrance into the house eating section (bedrooms, atriums). And harem for wives with access to the cooking section (kitchen) at the back activities section for wives harem, menstruation room, household goods storage and cooking area. Spatial interpretation of outdoor and guest section in traditional courtyard house from the j-graph, reveal that it the least controlled, shallowest level, least segregated, least integrated and with less complexity. For personal hygiene and sleeping space while levels six which contains, sleeping and circulation (corridors) space. The permeability graph and values of Syntactic analysis reveal, that in- spite of the apparent informality of the traditional house design according to table 1 show ordered arrangement of two parallel branching trees or linearly ordered branching trees linked to each other at one, two, or more levels. Other analysis parameters (Integration, Control, and Depth) indicate that: Personal Hygiene (menstrual/delivery room), cooking and eating and Household Goods Storage section is among the most segregated and controlled spaces in a Benin traditional house setting.

4.4.2 *The Institutional/Tenement House*

In the institutional/tenement house-type personal hygiene space, is at the same level with main house. It is sometimes attached to bedrooms, children's bedroom, visitors bedroom and they shares similar syntax values. It is among the most integrated, moderately controlled, deeper in the house and in the master's bedroom it is highly segregated, strong controlled, and deeply located. The kitchen and Household Goods Storage is highly segregated, very controlled, and located, deep in the house. Data obtained from syntax measurements indicates that among the most integrated, highly segregated and deep spaces is the worship section restricted to individual family prayer altar/room. Socializing and celebration section is now converted to living room, entrance porch and sometimes open green area where available. The semi-detached single floor house j-graph has five levels of space permeability available. The j-graph in common corridor/tenement house has six levels of spatial permeability. In Institutional/ apartment house like any other house level one is entrance to the building leading to level two which contains space for circulation (long corridor), in the "Face Me I Face You" house or living room for receiving guest and a melting point for everybody in the house, While level five is for back door activities, like cooking and eating space, outdoor space and storage space for household goods, there are different family living together and sharing common facilities, therefore privacy is not emphasized, that why level two connects all space together. Personal hygiene space at the back of the tenement house.

4.4.3 *Contemporary House*

In contemporary house, the inclusion of other spaces likes laundry, makes the personal hygiene spaces highly segregated, very controlled, and located, deep in the house. The J-graph of a detached bungalow house in table 3 shows five levels of space permeability. Level one shows access to the house, with bedrooms appearing in different levels because of degree of privacy attached to each room. The detached double floor villa house has a j- graph that shows nine levels of space permeability. From the J- graph level one is access to the house through car porch or 'sit out', this leads to level two which is for receiving visitors (living room), circulation (lobby), sleeping (guest bedroom), personal hygiene (guest room convenience), storage (pantry). On the next floor, Level five encompasses outdoor space (balcony), leading to level six which contains sleeping (bedroom), personal hygiene (W.C and bath), and circulation (lobby) space. The space permeability in j-graph of semi-detached house shows that there are eleven levels because it is a double floor house connected by space (staircase) at level six. As in all contemporary house levels one is entrance leading to level 2 which is space for receiving visitors, ceremonies and relaxation. Level three is for circulation (lobby) and access that connect sleeping section (bedroom). The master bedroom and female bedroom share similar syntax values. From data obtained in the contemporary house it is clear that the most segregated, most integrated, moderately controlled and deeper spaces are master bedroom, guest bedroom and conveniences. Outdoor and guest section is well defined and mildly controlled. Storage spaces have the lowest integration values, highest control values, and lowest depth. Worship and socializing, ceremonies and festival section has depth, mild segregation and is highly controlled. Spaces for gathering and worship play an important role in the social, cultural, intellectual and spiritual life of member of a community (Jiwani, 2006).

5 CONCLUSION

Analysis showed that domestic spaces in all three house categories (i.e. traditional courtyard house, institutional/tenement house and contemporary house) are labelled in similar ways, but the observed variation is in house size. In other words, the three house categories have similar activity sections across Benin-City. However, Contemporary houses introduced a range of new spaces such as hall, and convenience, patio, garage, car porch, anti-room (foyer), gym, study, laundry. Smaller houses from traditional or institutional category have fewer spaces and may not have spaces labelled as shop/dining. The assessment of each convex break-up map in the three houses categories, reveal some similarities in morphological patterns of traditional and institutional house. J-Graphs corresponding to both house reflect, split of house into male and female domains, composed of two parallel sets of branching trees each branch represents a separate sex domain connected to each other at different levels. J- graphs of contemporary house show one branching tree containing both male and female quarters and surrounded by linearly related sets of open spaces and circulation areas. Results from analysis of general syntax measurements- Control, Complexity, Integration and Connectivity indicate, fairly, connected, complex, non-linearly ordered networks. The results of analytical procedures of Space Syntax and Graph Theory show further evidence of transformation in

spatial organization of the three house categories. Values of syntax measurements like Integration, Depth, and Control reveal a modification in space location and organization in the three plans. In measurements, depth values differ between spatial location of male and female spaces in Traditional and institutional plans. In both settings, female spaces are at least one level deeper than male spaces of same function. This space distinction disappears in contemporary plans where male and female spaces of similar functions share all three syntactic values. Syntactic values show considerable modification in allocation of specific spaces within house categories. For instance, storage position transformed from highly segregated, to relatively segregated, to highly integrated in traditional, institutional, and contemporary houses respectively. The status of female courtyard (harems courtyard) as most integrated and most uncontrolled in traditional house has been reduced to circulation lobby, and hall in institutional and contemporary settings respectively. Furthermore, syntax values show modifications in kitchen position from segregated and deep in traditional and institutional house to moderately integrated and highly uncontrolled in contemporary houses. Bathrooms and toilets position transformed from segregated and deep in traditional to sharing similar integration and control values in all three house categories.

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